

RIVERVIEW GARDENS

SCHOOL DISTRICT

1370 Northumberland – St. Louis, Missouri 63137
Telephone: 314-869-2505 ☎ Fax: 314-388-6001

Note: The Riverview Gardens School District will not accept any bids which are received after the published bid opening time and date indicated below and will not be responsible for any bids mailed or delivered to any address other than those above. No exceptions!

FORMAL BID PROPOSAL BID OPENING SCHEDULE

BID NUMBER: RFP 275

BID TITLE: Classrooms Ceiling and Floor Abatement at Highland Elementary School 174 Shepley, St. Louis, MO 63137

MANDATORY BID CONFERENCE: January 12, 2023 at 10 am

BID OPENING DATE: **January 26, 2023**
1370 Northumberland Dr., St. Louis, MO 63137

BID OPENING TIME: **2:00 p.m. CST,**

VENDOR NAME: _____

MAILING ADDRESS: _____

VENDOR TELEPHONE NO.: _____

VENDOR FAX NO.: _____

VENDOR E-MAIL ADDRESS _____

All items contained in this bid shall be as specified or RGSD approved equal. For any item(s) proposed which is other than as specified, a complete and detailed cut and description for each item(s) must accompany the bid, if the item(s) is to be considered. Please carefully read each section of this bid.

I/WE UNDERSTAND AND AGREE THAT NEITHER THE AWARD OF THIS BID TO ME/US BY THE

DISTRICT'S BOARD OF TRUSTEES NOR RECEIPT BY ME/US OF A NOTICE OF ACCEPTANCE OF THIS BID SHALL CONSTITUTE THE MAKING OF A CONTRACT BETWEEN RGSD AND ME/US, WHICH SHALL BE CONDITIONED UPON THE EXECUTION BY BOTH RGSD AND ME/US OF A FORMAL, WRITTEN AGREEMENT.

PLEASE SUBMIT ORIGINAL BID DOCUMENTS AND THREE COPIES.

PROPOSAL FORM

**Board of Trustees
Riverview Gardens School District
St. Louis, Missouri**

Ladies and Gentlemen:

I/We, propose to furnish and deliver all items and/or to perform all services according to all sections of this bid document (Proposal Form, Instructions and Conditions, detailed written Specifications, and Addenda if applicable) and in the quantities at the indicated prices, as called for in the document(s). All quantities indicated have been checked very closely, and both unit price and total price (where requested) have been submitted with the understanding that we shall be responsible for making complete and satisfactory delivery accordingly, within the timeframe agenda (if applicable).

All items contained in this bid shall be as specified or RGSD approved equal. For any item(s) proposed which is other than as specified, a complete and detailed cut and description for each item(s) must accompany the bid, if the item(s) is to be considered. Please carefully read each section of this bid.

I/WE UNDERSTAND AND AGREE THAT NEITHER THE AWARD OF THIS BID TO ME/US BY THE DISTRICT'S BOARD OF TRUSTEES NOR RECEIPT BY ME/US OF A NOTICE OF ACCEPTANCE OF THIS BID SHALL CONSTITUTE THE MAKING OF A CONTRACT BETWEEN RGSD AND ME/US, WHICH SHALL BE CONDITIONED UPON THE EXECUTION BY BOTH RGSD AND ME/US OF A FORMAL, WRITTEN AGREEMENT.

Respectfully submitted,

COMPANY _____

ADDRESS _____

PHONE _____

FAX _____

E-MAIL ADDRESS _____

SIGNED _____

WRITE OUT
SIGNATURE _____

TITLE _____

RIVERVIEW GARDENS

SCHOOL DISTRICT

1370 Northumberland – St. Louis, Missouri 63137
Telephone: 314-869-2505 ☎ Fax: 314-388-6001

DATE _____

CIRCLE THE OPERATING STATUS OF YOUR BUSINESS AS INDICATED BELOW:

MINORITY OWNED WOMAN OWNED NON-MINORITY

REQUEST TO ADD VENDOR (Substitute Form W-9)

To be completed by RGSD School/Location:

Location Requesting Vendor Addition ___ Multiple locations within District _____

To Be Completed by Vendor: Please complete all sections and return with submitted proposal.

Will your company accept purchase orders? ___ Yes ___ No

Will your company accept purchasing/credit card? ___ MC/Visa ___ American Express

Note: An original RGSD purchase order is required for all material purchases. Do not accept any order without an original RGSD purchase order.

Product Line _____

PARENT COMPANY NAME: _____

D/B/A NAME: _____

Order Address: _____

City: _____ State: _____ Zip: _____

Physical Address: _____

City: _____ State: _____ Zip: _____

Contact Person: _____

REMITTANCE ADDRESS:

Vendor Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: (____) _____ Fax (____) _____

Email Address: _____

Federal Tax ID/Social Security #: _____

Select One

Minority Code: ___ Woman & Minority ___ Minority

 ___ Non-Minority ___ Woman

Select One

Type of Entity ___ Individual/Sole Proprietor ___ Corporation

 ___ Partnership ___ Other _____

*****RGSD accepts no responsibility for orders filled without a valid purchase order.**

Submitted By: Signature

Date

FOR INTERNAL USE ONLY

Vendor Number: _____

1099: ____ Yes ____ No

Completed By: _____

Date: _____

FEDERAL WORK AUTHORIZATION PROGRAM ("E-VERIFY")

Pursuant to Missouri Revised Statute 285.530, all business entities awarded any contract in excess of five thousand dollars (\$5,000) with a Missouri public school district must, as a condition to the award of any such contract, be enrolled and participate in a federal work authorization program with respect to the employees working in connection with the contracted services being provided, or to be provided, to the Riverview Gardens School District (to the extent allowed by E-Verify). In addition, the business entity must affirm the same through sworn affidavit and provision of documentation. In addition, the business entity must sign an affidavit that it does not knowingly employ any person who is an unauthorized alien in connection with the services being provided, or to be provided, to the Riverview Gardens School District (the District).

Accordingly, your company:

- a) agrees to have an authorized person execute the attached "Federal Work Authorization Program Affidavit" attached hereto as Exhibit A and deliver the same to the District prior to or contemporaneously with the execution of its contract with the District;
- b) affirms it is enrolled in the "E-Verify" (formerly known as "Basic Pilot") work authorization program of the United States, and are participating in E-Verify with respect to your employees working in connection with the services being provided (to the extent allowed by E-Verify), or to be provided, by your company to the District;
- c) affirms that it is not knowingly employing any person who is an unauthorized alien in connection with the services being provided, or to be provided, by your company to the District;
- d) affirms you will notify the District if you cease participation in E-Verify, or if there is any action, claim or complaint made against you alleging any violation of Missouri Revised Statute 285.530, or any regulations issued thereto;
- e) agrees to provide documentation of your participation in E-Verify to the District prior to or contemporaneously with the execution of its contract with the District (or at any time thereafter upon request by the District), by providing to the District an E-Verify screen print-out (or equivalent documentation) confirming your participation in E-Verify;
- f) agrees to comply with any state or federal regulations or rules that may be issued subsequent to this addendum that relate to Missouri Revised Statute 285.530; and
- g) agrees that any failure by your company to abide by the requirements a) through f) above will be considered a material breach of your contract with the District.

By: _____
(Signature)

Printed Name and Title: _____

For and on behalf of: _____
(Company name)

EXHIBIT A

FEDERAL WORK AUTHORIZATION PROGRAM AFFIDAVIT

I, _____, being of legal age and having been duly sworn upon my oath, state the following facts are true:

1. I am more than twenty-one years of age; and have first-hand knowledge of the matters set forth herein.
2. I am employed by _____ (hereinafter "Company") and have authority to issue this affidavit on its behalf.
3. Company is enrolled in and participating in the United States E-Verify (formerly known as "Basic Pilot") federal work authorization program with respect to Company's employees working in connection with the services Company is providing to, or will provide to, the District, to the extent allowed by E-Verify.
4. Company does not knowingly employ any person who is an unauthorized alien in connection with the Services Company is providing to, or will provide to, the District.

FURTHER AFFIANT SAYETH NOT.

By: _____
(Individual signature)

For _____
(Company name)

Title: _____

Subscribed and sworn to before me on this _____ day of _____, 200____.

NOTARY PUBLIC

My commission expires

The Special Administrative Board of the Riverview Gardens School District (hereafter referred to as "RGSD") is soliciting sealed, written formal bid proposals from qualified vendors (hereafter referred to as "Vendor") for the purchase of furniture, equipment, supplies, materials, labor or services as outlined in the following specifications. Sealed bids shall be received by RGSD, in the Business Office of the Riverview Gardens School District, 1370 Northumberland, St. Louis, Missouri- 63137, until the time specified on the Bid Opening Schedule (front page of the formal bid document), at which time all bids shall be publicly opened and read aloud. Neither dating of the bid form nor placing the bid in the mail by this date shall meet legal requirements; the formal bid document must be **received in the Business Office** of the Riverview Gardens School District on or before the date and time stated.

RGSD reserves the right to reject any and all bids received and to waive any and all informalities. Vendors are encouraged to very carefully read all sections of this bid document prior to submitting a bid proposal.

It is the basic philosophy of RGSD to extend to all responsible Vendors equal consideration and the assurance of unbiased judgment in determining whether their product or service meets specifications and the educational needs of the school district. RGSD shall fairly evaluate all formal bid proposals submitted and base all decisions on the "lowest and best" bid concept, purchasing only those products and/or services which meet the specifications as written. All decisions rendered shall strive to achieve the greatest value from every tax dollar expended. RGSD shall make no discrimination based on race, color, creed, religion, or national origin, in either the product evaluation process or in transacting business with Vendors or Vendor representatives.

The advertising and publishing of this formal bid has met all legal requirements of the Missouri State statute and policies of the RGSD Board of Education, hence the requirement to offer public notice of the intent of RGSD to solicit bids via this bid document has been satisfied.

This document is to serve as an invitation to all qualified vendors to extend to RGSD, an offer, for the sale of all products and/or services specified herein. It is the purpose of this bid document to clearly define "open" and "competitive" product or service bid specifications. All items on this bid are to be **as specified or RGSD approved equal**.

Addenda: Vendor shall acknowledge the receipt of all addenda which were issued during the course of this formal bid. If specified in the text of the addenda, in addition to acknowledging receipt of the addenda below, the addenda may require additional information required for the bid (e.g., pricing), in which case the Addenda shall not only be acknowledged below but shall be completed and attached to the bid at the time the bid proposal is submitted. Receipt of the following Addenda issued during the course of this formal bid is hereby acknowledged:

| | | | |
|-----------------|--|------|--|
| Addendum Number | | Date | |
| Addendum Number | | Date | |
| Addendum Number | | Date | |

It is acknowledged that this formal bid proposal consists of the following sections: **PROPOSAL FORM, INSTRUCTIONS AND CONDITIONS, SPECIFICATIONS** and any **ADDENDA** (if applicable). The detailed specifications section may include blueprints, drawings, or other documents which shall be deemed to be a part of these written specifications. I/We understand that each form is to be signed as required in the specifications, and unless this has been done, the bid proposal may be considered incomplete and therefore rejected. Likewise, it is understood that the submission of all documents called for in the detailed specifications shall be submitted as defined in the specifications, and that failure to do so may result in rejection of the bid in part or in total. I/We, the undersigned, do hereby understand and accept all sections of this bid document and all addenda (if applicable) under which this quotation is being submitted and agree to perform in compliance with the specification requirements as set forth herewith.

I/We further agree that RGSD reserves the right to award the order, if awarded, within forty-five (45) calendar days from the date of the bid opening, unless otherwise indicated in the written specifications which follow. Consequently, I/We agree not to request permission to withdraw the quotation after bids have been publicly opened for this period of time. Having carefully examined all elements of the specifications and addenda, I/we propose to furnish all furniture, equipment, supplies, materials, labor or services required according to the written bid specifications in connection with this bid and do hereby submit the following formal bid proposal, for the total amounts indicated on the proposal form pages, where requested in the bid document.

The individual signing this Bid Proposal shall be a responsible officer of the company and shall be authorized to sign on behalf of the company.

**** End Proposal Form Section of This Bid Document ****

INSTRUCTIONS AND CONDITIONS

Preparation of Bid Proposals

Vendors should adhere to all of the instructions and conditions as contained in this section of the bid as well as all other sections of these bid specifications; failure to do so may result in rejection of the bid.

All bid proposals must be completed in ink or typewritten; all bids must be manually signed. No erasures shall be permitted; mistakes may be crossed out and corrections inserted adjacent. All corrections (including "white-out") must be initialed in ink by the person signing the bid proposal. The proposal must be signed with the firm or corporate name and by a responsible officer or employee of the firm. Vendor is to acknowledge receipt of any and all addenda (if any) re bid specifications and/or drawings which are published for this bid. All addenda shall be acknowledged as outlined in the Proposal Form section of this bid document.

Vendors should respond by using the proposal form and all other sections of this bid document without alterations, where information is requested. For every item proposed, the "Unit Price," "Total Price," (where requested), and "Quoting On" lines must be completed. All information concerning warranties, delivery dates, etc., where requested, must be completed by the Vendor; all "checklists" must be completed and submitted with the bid, if required in the specifications.

Pages on which there are no items being quoted by the Vendor, may be detached, and only those pages which contain a quoted item(s), along with the signed proposal form (both pages of the proposal form) and all other documents stated in the detailed specifications need be returned. On pages in which there are both items being quoted and items for which a price quotation is not being offered, the Vendor shall indicate "No Bid" on the "Total Price" line for all items not being offered for bid.

Prices must be stated in units specified hereon; i.e., in the units of measure indicated (per each, or dozen, case, etc.). RGSD shall not be responsible for pricing which does not conform to the unit of measure indicated, and likewise RGSD has no authority to amend a unit price once submitted even if the error is obvious. Pricing must be stated in U.S. dollars and cents and shall be offered in a known amount; i.e., a bid which simply states "My bid is \$1.00 lower than the lowest bid received" shall not constitute a legal bid proposal.

Submission of Bid Proposals

Bids, once completed, should be placed in an opaque envelope with the Vendor name and bid number as they appear on the proposal form written on the envelope, in order that the bid may be accurately registered upon receipt. A responsible official who is a legal representative of the Vendor must sign the attached proposal form, in order for the bid to be valid and acceptable. A bid which is not signed is not binding on the part of the Vendor and therefore does not constitute an informality which may be waived by RGSD. Should a return label not be included with the bid document, address the outside of the envelope as follows:

| IF MAILED | IF DELIVERED |
|-----------------------------------|-----------------------------------|
| Riverview Gardens School District | Riverview Gardens School District |
| Finance Office | Finance Office |
| Attention: Dr. Lavon Singleton | Attention: Dr. Lavon Singleton |
| Chief Financial Officer | Chief Financial Officer |
| 1370 Northumberland Drive | 1370 Northumberland Drive |
| St. Louis, MO 63137 | St. Louis, MO 63137 |

In addition, the following information should be indicated on the outside of the bid envelope: (a) Vendor Name and Address and (b) Bid Name and Number and Bid Opening Date, as listed on the Bid Opening Schedule. If a bid is opened prematurely because of failure to adhere to this requirement, the bid will be rejected.

If the District's Business Office is closed for any reason, including but not limited to inclement weather, an emergency situation or any other act of nature, which closure prevents the opening of bids at the previously advertised date and time, all bids received shall be publicly opened and read aloud on the next work day that the District's Business Office shall be open for business at the previously advertised time. The new date and time of bid opening, as determined in accordance with this paragraph, shall not be advertised, and all Vendors, upon submission of a bid proposal, shall be deemed to have knowledge of and shall have agreed to the provisions of this paragraph. In such event, bids shall be received by the District until the new date and time of the bid opening as set forth herein. RGSD shall not be held responsible for the receipt of any bids the delivery of which was attempted and failed due to the closure of the Business Office. Each Vendor shall be required to ensure the delivery and receipt of its bid by RGSD's Business Office prior to the date and time of bid opening.

EVALUATION CRITERIA, PROCESS AND CONTRACT AWARD EVALUATION CRITERIA

The following criteria will be used with the weighted values below to evaluate each proposal received. The District reserves the right to request clarification to the proposal in order to evaluate all proposals:

| Criteria | Value |
|---|------------|
| Total price and effectiveness of proposal | 30 |
| Overall Proposal | 5 |
| Prior working relationship with the district | 15 |
| Vendor's experience and demonstrated expertise | 30 |
| M/WBE Participation | 20 |
| Total Points Possible | 100 |

Modification and Withdrawal of Bids and Late Bids

Bid proposals should be verified before submission for accuracy and correctness, since RGSD shall not be responsible for any errors for which the Vendor is responsible. Bids may be modified or withdrawn by written notice or in person from the Vendor, if received in the Business Office prior to the time set forth in the Bid Opening Schedule; no telephone oral withdrawals shall be accepted. Notations written by the vendor on the outside of the bid envelope stating that an amount is to be "added" or "deducted" from the pricing structure submitted on the bid document sealed inside the envelope shall not be deemed permissible; all such notations shall be ignored relative to pricing submitted by the vendor. The pricing submitted on the form(s) provided by RGSD shall be deemed to constitute the legal pricing offered by the vendor and it is that pricing which shall prevail and for which the vendor shall be accountable.

NO bids may be accepted, modified or withdrawn which are received in the Business Office, after the time set for the opening of bids. NO EXCEPTIONS! Any and all bids received after the bid opening time and date indicated on the Bid Opening Schedule shall be refused and marked "Late Bid" and returned to the Vendor, unopened. No formal bid proposals may be "faxed" and no telegraphic modifications may be made to any bid proposal once received by RGSD; all changes shall be made prior to the bid opening **on the document** submitted to RGSD.

Acceptance and Award of Bid Proposals

The Vendor's bid proposal, once submitted and accepted as a valid bid by RGSD, shall be deemed by both parties to constitute a legal and binding offer on the part of the Vendor to sell to RGSD as per the terms of the bid specifications, all products and/or services contained therein. Bid proposals are subject to acceptance by RGSD at any time within forty-five (45) calendar days following the bid opening date. Consequently, all price quotations shall be effective for a minimum of forty-five (45) calendar days and a maximum period as indicated in the specifications. All bids must be valid for the effective dates stated in the specification, if applicable.

Award of contract shall be made to the responsible Vendor whose bid, conforming to the specifications, is deemed to be the most advantageous to RGSD, price and all other factors considered. The Vendor acknowledges the right of RGSD to reject the bid, in part or in total, if the Vendor fails to submit the data required in the specifications, or if the bid is in any way incomplete or irregular. Under no circumstances may a Vendor deliver, install, or perform any service as specified in these specifications without written authorization from RGSD (i.e., a duly issued purchase order or signed contract). All formal bid proposals shall be approved by the Board of Trustees prior to the award of the bid.

The Vendor shall be issued a purchase order document, which shall be deemed acceptance of the bid proposal offer made by the Vendor, for all items and/or services approved by the Board of Trustees and awarded as a result of this bid. However, if in the opinion of RGSD a contract document is required to authorize the award of the bid, Vendor agrees to sign and execute all such contract documents as required in the written specifications. NOTE: if Vendor policy requires that RGSD sign Vendor contract documents, a sample of all such documents shall be included with the bid proposal and shall become a part of the Vendor's bid proposal.

No Response to Bid Quotation

Due to the ever-increasing postal rates, it is necessary to remove the names of Vendors from bid mailing lists which do not respond in writing to formal bid proposals which are mailed to them. Henceforth, it shall be interpreted that a Vendor no longer wishes to remain on the bid mailing list for any bid, unless the Vendor offers a bid proposal or returns the cover sheet of the bid marked "NO BID - Please Leave Name on Active Bid Mailing List." Likewise, for the Board's information, please indicate on a sheet of your company's letterhead, the reason(s) why your company is not submitting a bid proposal in response to these specifications at this time. Failure to respond at all to an offer to bid shall result in the removal from the bid mailing list. It shall be the responsibility of the Vendor to notify RGSD in writing if the Vendor relocates or if there is a change of address.

Rejection of Bid Proposals

RGSD reserves the exclusive right to reject the bid of any Vendor in part or total for reasons deemed appropriate, such as a documented past experience(s) in which the Vendor failed to perform according to stated specifications once awarded the bid, suspicious financial responsibility of the Vendor, instances in which Vendor offered references were checked with resulting negative connotations, etc. RGSD reserves the right

to accept the "lowest and best" bid, which in their judgment, assures RGSD the product(s) or service(s) having the best performance and the highest level of function, quality and value. Any Vendor which does not indicate on the "Quoting On" line for each item on which a quotation is submitted, exactly what is being offered, may expect that item to be rejected, due to the fact that what is being offered cannot be clearly identified and compared to what is specified.

Approved Equal

It is the intent of this document to clearly define "open" and competitive product or service bid specifications. All items on this bid are to be as specified or RGSD approved equal; RGSD shall reserve the exclusive right to determine products and or services which are approved as equal to those specified herein. Reference in these specifications to and the use of the name and model number of any article, product, material or item of furniture and equipment by proprietary name, manufacturer or manufacturer's model or catalog number in describing an item, is intended to establish a standard of type, quality and design, and is therefore not intended to limit competition. Vendors may submit bid proposals for products which are of a different manufacturer and model number from that which is specified, provided the herein procedure is adhered to exactly. However vendors are encouraged to offer products of those manufacturers and model numbers specified, if at all possible.

For any item(s) which is proposed, which is other than as specified (brand name and number), it is the responsibility of the Vendor to submit, with the bid proposal, a manufacturer's published detailed cut and description, catalog, or other descriptive document, explaining in detail, exactly what is being proposed. Likewise, any support literature for any item(s) proposed which is other than as specified (manufacturer and model number), shall be clearly labeled as to the **Vendor's Name**, the **Item Number** as appears in the specifications and the **Item Name**. It shall be the responsibility of the Vendor to insure that a detailed, technical description is provided for all items which shall allow for an accurate comparison to the item specified. All such support documentation shall be submitted with the bid proposal and shall be organized in one of the following manners:

- (a) Bound Volume of Pages - for each item, a picture and detailed product specification (for the exact manufacturer and model number proposed) shall be pasted on an 8 1/2" X 11" sheet of paper and bound in a cover with the Vendor's Name on the outside of the cover. The item number and item name as listed in the bid specifications shall be indicated at the top of each page. The support literature shall be organized in a bound volume in order by item number. Preferably, only one item shall be placed on each page.
- (b) Published Catalog - it shall be permissible to submit with the bid, a general or manufacturer's product catalog clearly indicating the detailed product information concerning the proposed product; however, if this method is utilized, it shall be the responsibility of the Vendor to place beside the product manufacturer and model number on the "Quoting On" line the correct **page number** in the catalog which is submitted, on which the product may be found. RGSD shall not research catalog table of contents or indexes attempting to locate items which are offered on this bid.

In addition it shall be the responsibility of the Vendor to clearly define any deviations that exist from specifications, if any, between what is proposed and what is specified, for each item offered, which is other than as specified. All such information relating to product deviations may be placed in the bid proposal either on the page below the item specification or on a separate sheet. If a separate sheet is utilized, the page shall be entitled "Proposed Product Deviations" and each item shall be clearly labeled as to number and name as they appear in the specifications. Failure to provide such documenting evidence to support any such item offered and/or any significant product deviations may result in rejection of the item(s) involved.

Pre-Bid Approval of Items

Preference shall be given to those manufacturers and models which have been granted pre-bid approval based on past performance. Vendors are encouraged to request approval of their brands and models for each item(s) which are to be offered via bid in the future, in order to meet specifications as listed on this bid. All such requests shall be made in writing to the Chief Financial Officer. After the bid has been published, all decisions as to product approved equals shall be made following the bid opening. Where applicable, for the products and/or services to be provided in the specifications, preference shall be granted to those Vendors

which offer local sales and service, parts inventories, user training orientation, etc. In the case of "tie bids", all factors being equal, the local vendor shall be recommended to the Board of Trustees for approval.

Net Prices

In all cases, prices quoted are to be net including all applicable discounts. A separate price shall be offered for each item and not in combination with other items (unless the grouping of items is otherwise allowed as defined in the specifications). Unit price shall prevail in case of a conflict between unit and total price (extension); written price shall prevail in case of a conflict between written and enumerated pricing. Vendors are instructed to round off all unit pricing and extensions to the nearest whole cent; i.e., round the pricing to **two** places to the right of the decimal point only. The RGSD mainframe computer database is designed to accept only pricing which is stated in this manner. All items for which pricing is submitted which is other than two places to the right of the decimal shall be accepted; however, all digits beyond a whole cent (more than two places to the right of the decimal) shall be ignored in the bid analysis process and the unit price indicated on the purchase order shall be to the nearest whole cent for each item involved.

Freight

The Vendor agrees to deliver all items prepaid (F.O.B. DESTINATION), to an inside point or points of receipt within the District. If multiple delivery sites are required for items in the bid, either the total number of or the exact address of all such sites shall be indicated in the specifications section of the bid document. All costs for delivery, drayage or freight, for the packing or unpacking, loading and unloading of said articles, are to be borne by the Vendor, and should be included in the unit price.

Taxes

Vendor pricing shall not include any taxes (unless specified), since RGSD is tax exempt there from. Federal Excise Tax Exemption Certificates shall be executed when required upon request by the Vendor.

Grouping of Items

As stated above, no grouping of items shall be allowed unless otherwise defined in the detailed specifications. Most items are to be offered for bid on an "individual" basis and shall be awarded accordingly. However, certain circumstances may arise in which it is to the advantage of RGSD to group items offered for bid. In certain instances, for the purpose of continuity and to insure product compatibility and design, and to minimize the freight costs involved, similar items may be grouped in the specifications and therefore shall constitute a single unit for bid purposes. All items in each such grouping shall be purchased from one Vendor. In order to be eligible for consideration for award of the bid for any group of items, a price quotation must be offered for ALL items in the grouping and a total price given for all items included in the grouping; award of the bid shall be made following careful analysis of the "lowest and best" bid offered for the entire group of items. Failure to offer a quotation for all items in a group may constitute a "No Bid" for the entire group of items.

Payment and Invoicing

Unless otherwise indicated in the detailed specifications of this bid document, it is mutually understood that RGSD shall make remittance in a **single lump sum** payment **following satisfactory delivery of all items** listed on the purchase order or following satisfactory performance (final inspection) of all services as specified in the contract. RGSD remits by "completed purchase order" only; remittance shall not be made upon receipt of partial shipments or performance, or the receipt of invoicing for same, but only after all items included on the purchase order or contained in the contract are delivered and/or satisfied. Payments are remitted once and/or twice per month after approval by the Board of Education.

Consequently, vendors agree to submit a single itemized invoice (original and duplicate) to RGSD, Business Office, 1370 Northumberland, St. Louis, Missouri, 63137, following the delivery of all items and/or services as indicated on the purchase order or contract. Multiple invoice documents (numbers) for the same purchase order or contract shall not be acceptable; following satisfactory delivery of ALL items and/or performance of ALL services indicated on the purchase order, only one invoice shall be submitted per purchase order or per contract, which shall be for all items and/or services contained on the order or in the contract. Following satisfactory invoicing as defined above and after receipt of all items on the purchase order and/or full performance of all services specified, payment shall be made in full to the Vendor within forty-five (45) calendar days from either the date of delivery or the receipt of satisfactory invoicing, as specified above, (in the Business Office), for the complete order or contract, whichever occurs last.

Delivery Instructions

Information containing product delivery instructions for each item specified, shall be so indicated in the specifications. The specifications shall indicate if delivery is to be made to one central location or to multiple locations within the school district. Vendor agrees to adhere to delivery date schedules, as requested in the specifications.

Default and Delays

Upon failure of the Vendor to deliver all of the items ordered or to render service, within the time set or allowed, the successful Vendor shall be considered in default, in which case RGSD reserves the right to terminate the purchase order or contract and to purchase similar supplies, services, or furniture and equipment, on the open market or secure the manufacture, delivery, and installation thereof by contract or otherwise. The Vendor shall be charged with any cost occasioned by RGSD whether said cost is the same as originally accepted or any excess cost.

Damage to School Property

Any damage or loss to RGSD property as a result of any action by the Vendor in the delivery, execution or performance of any item or service stated in these specifications, shall be repaired or replaced to the satisfaction of designated RGSD personnel, at the Vendor's cost, within a reasonable time.

Assemble and Set In Place

It shall be the Vendor's responsibility to furnish, deliver, unload from the delivery vehicle, completely assemble, and set in place and where specified to completely install and make ready for operation to the satisfaction of RGSD all items offered for bid in these specifications. All Vendor personnel shall be legally licensed and fully qualified in the performance of the various areas of installation expertise. Items requiring unpacking shall be unpacked, assembled and set in place by the successful Vendor, at Vendor expense, as directed by the designated representative of RGSD. Where specified, all items shall be furnished, delivered, set in place, and made ready for operation, by the Vendor at Vendor's expense.

Removal of Debris

Where applicable, Vendor owned materials and equipment may be stored on the job site but the contractor shall maintain full responsibility for the stored items and full responsibility for any acts of vandalism or damage to RGSD owned property as a result of the vandalism. Any materials of a flammable nature must be stored at least 50' from the nearest building. Vendor must maintain the premises free from accumulations of waste, debris and rubbish caused by the execution of the contract, as a result of this bid. Upon completion of all work, crates, boxes, and packing material shall be removed from the point of work or delivery by the Vendor, at Vendor expense, and the premises are to be left free of debris.

Complying With Specifications

All material furnished must be in conformity with the specifications and shall be subject to inspection and approval by

RGSD following delivery. The right is reserved to reject and return at the risk and expense of the Vendor such portion or the entirety of any shipment which may be deemed defective or fail to comply with specifications. If rejected, it shall be held for disposition at the expense and risk of the Vendor. Vendors shall be required to replace that defective portion or the entire order according to specifications without additional cost to RGSD. Any items which may be lost or damaged in transit from the manufacturer to RGSD shall be replaced or restored to the original good condition by the Vendor at no cost to RGSD, to the satisfaction of RGSD.

If required in the detailed specifications, each Vendor and subcontractor(s), together, should visit the site and take such other steps as may be necessary to ascertain the nature and location of the work to be performed, and the general and local conditions which could affect the work or the cost thereof. All visits to the sites shall be made at the Vendor's expense.

Guarantee

Each Vendor, by presenting a bid under these specifications, binds himself to make positive that all goods are fully up to the standards set by the specifications. Should it be discovered within a reasonable period of time from the date of purchase order or contract that such goods or services are not up to standard, RGSD shall have the right to have such goods or services replaced by others conforming to the standard requirements

and the entire expense be borne by the Vendor. The Vendor shall agree to guarantee and warrant all equipment provided as a result of this bid for a period equal to the stated guaranty/warranty in the specifications. All such warranties shall provide the coverage as indicated in the specifications.

Samples

RGSD reserves the right to request of any Vendor offering a product for sale via this bid an exact sample for evaluation for any product proposed. Vendor agrees to submit requested sample(s) within ten (10) calendar days from notification of the sample request. Should the Vendor not adhere to this sampling procedure, the item(s) in question may be rejected on these grounds. Samples must be furnished upon request only, free of expense to RGSD and if not destroyed by tests, shall be returned at the Vendor's expense upon request. Samples are to be submitted to the Business Office to the attention of the Chief Financial Officer, 1370 Northumberland, and St. Louis, Missouri, 63137. Samples are to represent exactly what the Vendor actually proposes to furnish. Samples shall be properly identified as to bid number, bid date, name of Vendor, and item number as it appears on the bid. Once the bid is awarded, RGSD reserves the right to subject actual shipment samples to randomized testing. In cases when a sample is sent to testing laboratory for analysis in light of specifications, and the tests results indicate that the sample does not comply with specifications, the cost of the test shall be charged to the Vendor submitting the failing sample. The right is reserved to keep the successful Vendor's sample for comparison with actual shipment. Said sample may be returned to the Vendor or accepted as delivery according to order.

Compliance with Laws

If required due to the nature of the specifications contained herein, the Vendor shall give all notices, pay all fees, and comply with all local city, state, and federal laws, codes, ordinances, rules and regulations bearing on the successful conclusion of an order for supplies, services, or equipment. Vendor is to secure and pay for all permits, governmental fees, licenses and assessments necessary to perform all work as outlined in the specifications. The Vendor shall comply with all fire, safety and security regulations.

Insurance

It shall be the responsibility of the Vendor, once awarded the contract, to procure and maintain at Vendor expense, any insurance coverage equal in coverage to the minimum requirements applicable to the nature and scope of the project as set forth in these specifications. Vendor shall insure the delivery of all products delivered as a result of this bid until such time as all products are received by RGSD, inspected and approved.

Liability and Relationship of Parties

The Vendor shall, and hereby does, indemnify and hold harmless RGSD from any and all claims, suits, actions, judgments, settlements, damages, awards, costs and expenses of any kind or nature whatsoever arising from or out of any assertion or complaint by a third party or parties of any injury or damage resulting from the performance of this agreement by Vendor. Without limiting the generality of the foregoing sentence, as relates to this bid document and any succeeding document(s) as a result of this formal bid, the Vendor (which shall include the vendor of award, the product manufacturer whom the Vendor represents, any subcontractor(s) of either, or any other party acting as an agent of the Vendor or manufacturer) shall hold RGSD, it's officers, agents, servants, and employees harmless from liability of any nature or kind whatsoever against the publisher or author, manufacturer or agent for the use by RGSD of any copyrighted or copyrighted composition, secret process, patented or unpatented invention, article, environment-sensitive material, or appliance furnished or used under this bid proposal.

Any architects, consulting engineers, or other defined agents acting in behalf of RGSD with regard to this formal bid, shall be deemed to be extensions of RGSD and therefore all terms and conditions in this bid document shall equally apply to said third parties just as they do to RGSD. Neither this bid nor any succeeding document(s) as a result of this formal bid, shall constitute nor create a partnership or joint venture between RGSD (or any agent acting in behalf of RGSD) and the Vendor, nor does it create a business relationship between the parties other than that specifically provided for by the terms of this agreement.

Non-Mentioned Items

Any standard manufacturer's parts, components, other equipment or related accessories not specifically mentioned by name or included in these specifications but which are normally a part of the equipment and furnishings necessary to complete the installation or insure the performance of the item, which are normally

advertised and sold as a part of the "total product", shall be deemed to be included in the bid and shall therefore be furnished by the Vendor under the framework of this bid, at no additional cost to RGSD.

RGSD Responsibilities

With regard to installation as per these specifications, it shall be the responsibility of RGSD to provide all electrical, gas and water services (stub outs) to the products as required and in compliance with the manufacturer's product specifications. Floor drains shall be provided by RGSD. However, any and all product connections required to interface the product with electrical, gas, water and drain facilities, whether indicated on attached project plans, drawings and specifications, including all addenda issued pursuant to this bid, shall be solely the responsibility of the Vendor. RGSD shall allow Vendor access to any facilities involved in these specifications during normal business hours in compliance with RGSD's approved schedule. Upon written request from a Vendor, RGSD may consider special work hours if required to complete a delivery or a project with an impending deadline. Likewise, if applicable, upon written request from the Vendor, RGSD shall allow Vendor access to any project plans, blueprints or other detailed specifications which may not be included within this bid document, but which could reasonably be expected to have a bearing on the bid proposal. All such written requests shall be forwarded to the Business Office to the attention of the Chief Financial Officer.

Product Colors, Finishes and Color Combinations

Where applicable and indicated in the specifications, color selection of all product finishes and furnishings which have been pre-selected by RGSD, shall be adhered to as closely as possible by the Vendor. There are situations in which it is very important to RGSD that all of the products included in the bid or various sections of the bid, be color coordinated in order that a pleasing decorative atmosphere conducive to instruction be established. It shall be the responsibility of the Vendor to submit as a part of the bid, where required in the specifications, proposed manufacturer's color samples for all items offered for which a specific color is indicated. Failure to do so may result in rejection of any and all items involved in that section.

Adjustments in the Quantities to Be Purchased

All quantities indicated in this bid are projected based on an established need and are stated in "good faith" by RGSD and represent the known quantities which shall be purchased via this bid; however, in order to insure budgetary compliance, a situation may arise in which the quantities indicated for one or more items listed for bid may have to be amended.

Deletions - All quantities listed in these specifications are subject to adjustment; RGSD shall reserve the right to delete any and all items entirely and/or to reduce quantities in number prior to issuing a purchase order at the unit price(s) quoted in the Vendor's bid.

Additions - If an "additions" clause is to be implemented with reference to the quantities to be purchased as a result of this bid, it will appear in the detailed specifications section of this document. If there is no reference to the purchase of additional quantities the quantities to be purchased shall be as published herein.

Follow-Up Services

The Vendor shall agree to provide to RGSD as part of this bid, at no additional cost, all required user orientation as to the proper use and care for all equipment sold as a result of this bid.

Ambiguities

Should questions arise or ambiguities exist regarding any part of parts of the specifications as published, the Vendor shall notify the Chief Financial Officer, (314) 869-2505, at least five (5) calendar days prior to the published bid opening date, in order that a written clarification (addendum) from the Business Office can be made known to all Vendors participating in the bid. No addendum concerning clarification of published specifications shall be issued following five (5) calendar days prior to the published bid opening date, unless it is to extend the bid opening date. Interpretation of and subsequent modifications to these specifications shall be made by addenda only; RGSD shall not be responsible for any interpretation of the documents other than as set forth in these specifications or in RGSD authorized written and published addenda. Should ambiguities exist between this section of the bid (Instructions and Conditions), and the stated specifications which follow, the specifications shall prevail and shall be taken to be the correct interpretation for this bid.

Exceptions to These Instructions and Conditions and/or Specifications

The Vendor, when through a voluntary and independent action, places the signature on the proposal form, fully agrees to accept and comply with all instructions and conditions and all other requirements defined in the detailed specifications and outlined in all other documents pertaining to the bid document. Should any Vendor take exception with any part(s) of these instructions and conditions, or any part(s) of the specifications which follow, it is the responsibility of the Vendor to so acknowledge such differences in detail on a separate sheet(s), and attach and submit said sheet(s) with the bid; all such exceptions shall become a part of this bid.

DOCUMENTATION OF SURETY

A performance bond will be required from the successful contractor on this project, and consequently, all bidders shall submit, with their bid, a Bid Bond or Certified Check made payable to the school district, in the amount of 5% of the Base Bid shall accompany the Bid Package on October 21, 2021 2:00 p.m., as a guarantee that the bidder, if awarded the Contract, will furnish a 100% Performance and Payment Bond; execute the Contract; and proceed with the work. Upon failure to do so, he shall forfeit the deposit or amount of the Bid Bond as liquidated damages, and no mistakes or errors on the part of the Bidder shall excuse the Bidder or entitle him to a return of the deposit or Bid Bond.

The bonds must be written by a Corporate Surety Company that is acceptable to the District and that meets the following minimum standards

- Licensed pursuant to the Missouri Insurance Code
- Listed on the United States Department of the Treasury's Listing of Approved Sureties (Dept. Circular 570) in the amount of \$5,000,000.
- The Bid Bond shall be valid for one hundred twenty (120) days following the deadline for submission of proposals.
- The Bid Bond must be accompanied by an original signed and notarized Power of-Attorney bearing the seal of the issuing surety company and reflecting that the signatory to the bond is a designated Attorney-in-Fact.
- All bonds must be written by an insurance company that is rated in the A.M. Best key Rating Guide – Property & Casualty with a policy holder's rating of "A-" or better and a Financial size category of Class VII or larger.

Prevailing Wage Statement

****Must be returned with RFP Response and be included as component of response**

All services offered in response to this solicitation shall be performed by employees receiving the prevailing wage rate and working under conditions prevalent in the locality where the contract is to be performed. Any respondent whose employees receive less than such prevailing wage rate, or work under less favorable conditions than those prevalent in the locality, shall not be considered to be a responsive bidder.

By affixing an authorized signature below, the vendor certifies compliance with the above prevailing wage requirements. Failure to sign this provision may result in your offer being considered non-responsive to this solicitation.

Signed: _____

Authorized Signature

Printed Name

Vendor Name

Date: _____

BID PROPOSAL FORM

(Contract Title and Bid Number, if applicable)

(Description of goods/services being bid)

The undersigned proposes to furnish and deliver the above goods/services pursuant to the bid specification and made part hereof:

Amount in words

\$ _____ Amount in numbers

Company Name
Security #

Federal I.D. # or Social

Address

Signature of Authorized Agent

Print

Name

Title: _____

Telephone Number

Date

Fax Number

E-mail address

Scope of Services

AHERA TECHNICAL SPECIFICATION FOR:

**CLASSROOM ASBESTOS ABATEMENT
HIGHLAND ELEMENTARY SCHOOL
174 SHEPLEY ROAD
ST. LOUIS, MISSOURI**

Prepared for:

**RIVERVIEW GARDENS SCHOOLS
1370 NORTH UMBERLAND DRIVE
ST. LOUIS, MISSOURI 63137**

Prepared by:

**ENVIRONMENTAL CONSULTANTS, LLC
#6 MEADOW HEIGHTS PROFESSIONAL PARK
COLLINSVILLE, ILLINOIS 62234
(618) 343-3590**

DECEMBER 6, 2022

DOCUMENT TO BE RETAINED INDEFINITELY

MISSOURI ACCREDITED PROJECT DESIGNER
Jim Yasitis, Certificate Number 7118100721MOPI508

HIGHLAND ELEMENTARY SCHOOL
ASBESTOS ABATEMENT
RIVERVIEW GARDENS SCHOOLS
INDEX TO PROJECT MANUAL

DIVISION 0 - BIDDING REQUIREMENTS

- 00100 - Instruction to Bidders
- 00300 - Bid Form

DIVISION 1 - GENERAL REQUIREMENTS

- 01013 - Summary of Work
- 01043 - Project Coordination
- 01091 - Definitions and Standards
- 01092 - Codes, Regulations, and Standards
- 01301 - Submittals
- 01410 - Air Monitoring - Test Laboratory Services
- 01503 - Temporary Facilities
- 01513 - Temporary Pressure Differential and Air Circulation System
- 01526 - Temporary Enclosures
- 01560 - Worker Protection
- 01562 - Respiratory Protection
- 01563 - Decontamination Units
- 01601 - Materials and Equipment
- 01632 - Product Substitutions
- 01701 - Project Closeout
- 01711 - Project Decontamination
- 01712 - Cleaning and Decontamination Procedures
- 01714 - Work Area Clearance

DIVISION 2 - SITE WORK

- 02062 - Non-Asbestos Demolition
- 02081 - Removal of Asbestos-Containing Materials
- 02084 - Disposal of Waste Materials

DIVISION 16 - GENERAL ELECTRIC REQUIREMENTS

SECTION 00100 - INSTRUCTIONS TO BIDDERS

To be considered, Bids shall be made in accordance with these Instructions to Bidders. Failure to comply with these Instructions or any requirements of the Bidding Documents may be cause for rejection of the bid.

CONTRACT DOCUMENTS: Bonafide Prime Bidders may obtain documents at the Pre-Bid Meeting or a copy of the Documents may be obtained from Environmental Consultants, LLC, (618) 632-5440.

EXAMINATION: Bidders shall carefully examine the Documents and the construction site to obtain first-hand knowledge of existing conditions. Contractors will not be given extra payment for conditions, which can be determined by examining the site.

PATENT REQUIREMENTS: The Contractor shall pay all royalties and license fees. Contractor shall protect, defend, indemnify, and save harmless the Owner and the Environmental Consultant from all liabilities, judgments, costs, damages, and expense which may in any way come against the Owner and or Environmental Consultant by reason of the use of any material, machinery, devices, equipment or processes furnished or used in the performance of the Work for which patents or licensing agreements exist or by reason of the use of designs furnished by the Contractor for which patents or licensing agreements exist, but the Contractor shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents.

The Contractor is hereby notified that certain procedures and systems that Contractor may choose to employ to perform certain requirements specified herein, specifically the use of a particular negative air system in conjunction with HEPA filtered exhaust equipment, are registered, patented processes. The Contractor shall be responsible for all royalties and license fees in relation to such patents and shall hold harmless and indemnify the Owner and Environmental Consultant from and against all claims, losses, damages, and expenses including reasonable attorneys' fees, arising out of any failure on the part of the Contractor to properly comply with patent requirements.

QUESTIONS:

Bidders shall submit questions about the Bidding Documents to the Environmental Consultant in writing. Replies will be issued to all Bidders of Record by Addenda and will become part of the Contract Documents. The Environmental Consultant and Owner will not make oral clarifications. The Environmental Consultant must receive questions at least three (3) calendar days before the Bid opening date.

SUBSTITUTIONS: Substitutions will not be allowed before the receipt of the Bids.

BID FORM: Bids shall be made on an unaltered Bid Form as included in Bid Form Section 00300. Submit two (2) copies of the Bid Form. Fill in all blank spaces on the Bid Form; failure to do so may be cause for rejection.

Any additional Stipulation on the Bid Form or qualifications in any manner may be cause for rejection. The Bid Form shall be signed by the person or persons legally authorized to bind the Bidder to a contract.

If erasures or other changes appear on the forms, the person signing the Bid must initial each such erasure or change.

BID SUBMITTAL: The Bid Form, with required attachments, shall be submitted in a sealed envelope. The front of the envelope shall contain the Bidder's name; the name of the project, the Owner's name, and date and time of Bid Opening shall also appear on the envelope.

It is the Bidder's responsibility, by whatever method he chooses, to ensure that his Bid is received before the time set and at the place identified for receipt of Bids. Any Bid sent by the mail shall be enclosed in another envelope clearly marked "Bid Envelope Enclosed".

Mark "Sealed Bid for Highland Elementary School – Classroom Asbestos Abatement" on the outside of the envelope.

WITHDRAWAL AND MODIFICATION: Once the Bid is submitted, it may be withdrawn before the scheduled opening time only upon receipt of a request signed by a person legally authorized to bind the Bidder to contract. If a Bid is withdrawn, it may not be resubmitted. Bids received after the time and date for receipt of Bids will be returned unopened. Oral, telephonic, or telegraphic modifications to the Bid will not be considered. After the time and date designed for the receipt of Bids, a Bid may not be modified, withdrawn, or canceled by the Bidder during the time period stipulated in the Bid Form.

CONSIDERATION OF BIDS: It is the intent of the Owner to award a contract to the Bidder whom Owner deems most qualified upon a consideration of all relevant factors, including price. The Owner reserves the right to reject any or all Bids and to waive any informality.

POST BID INFORMATION: Each Bidder shall be prepared, if requested by the Owner through the Environmental Consultant, to present evidence, within three (3) days of the request of his experience, qualifications, and financial ability to carry out the terms of the contract.

EXECUTION OF THE CONTRACT: The successful Bidder shall furnish all required Insurance Certificates, sign the Agreement Form, the Indemnification Agreement and deliver the documents to the Environmental Consultant upon presentation of the Agreement Form.

PERFORMANCE AND PAYMENT BONDS: The successful bidder shall furnish in addition to the above requirements and Performance and Payment Bond in the amount of

100% of the total contract. A duly authorized surety company shall write the performance and payment bonds to the Owner.

END OF SECTION 00100

**BID FORM
HIGHLAND ELEMENTARY SCHOOL
ASBESTOS ABATEMENT
RIVERVIEW GARDENS SCHOOLS**

DATE: _____

FIRM NAME: _____

CONTACT NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

TELEPHONE NUMBER: (_____) _____

FAX NUMBER: (_____) _____

TO: Business Office
Riverview Gardens Schools
1370 North Umberland Drive
St. Louis, Missouri 63137

RE: Highland Elementary School
Asbestos Abatement
Riverview Gardens Schools
St. Louis, Missouri

Having examined all Bidding Documents including the General Conditions and Specifications prepared by Environmental Consultants LLC, for the project entitled above, dated April 28, 2022 including Addenda Nos. _____ **visited the site and examined all conditions affecting work**, the Undersigned proposes to furnish all labor, materials, and equipment and appliances required by said work for the COMPLETE WORK for a stipulated Sum as follows:

BASE BID:

Demolition, removal, and disposal of asbestos containing acoustical ceiling, floor tile and mastic from Classrooms #5, #6, #7, #8, #9, #10, #11, #12, #14 and #16 at Highland Elementary School per the project specifications. All work shall be performed in accordance with the Contract Documents including the Project Specifications and General Conditions.

_____ DOLLARS (\$_____)

ALTERNATE BID #1 (ADD/DEDUCT):

Demolition, removal, and disposal of asbestos containing acoustical ceiling, floor tile and mastic from one classroom at Highland Elementary School per the project specifications. All work shall be performed in accordance with the Contract Documents including the Project Specifications and General Conditions.

_____ DOLLARS (\$_____)

AGREEMENT:

If Undersigned is notified of proposal acceptance within 90 calendar days after the time designated for the receipt of bids, he agrees to execute a Contract for the above work, for the Stated Compensation.

TIME OF COMPLETION:

If Undersigned negotiates above-mentioned Agreement with the Owner, he agrees to complete the work in accordance with the project schedule in these specifications.

COMMERCIAL GENERAL LIABILITY COVERAGE INCLUDING ASBESTOS ABATEMENT LIABILITY:

A. Undersigned agrees, if awarded contract and if directed by Owner, to provide insurance coverage including asbestos abatement liability as follows:

| <u>Type of Coverage</u> | <u>Minimum Limits</u> |
|--|-----------------------|
| I. Worker's Compensation | Statutory |
| II. Commercial General Liability - Including Asbestos Abatement And Contractor's Pollution Liability | \$5,000,000.00 |
| III. Automobile Liability | \$1,000,000.00 |
| IV. Bodily Injury and Property Damage | \$500,000.00 |

■ Contractor agrees that the insurance coverage to be obtained by Contractor shall expressly (1) identify the owner and Environmental Consultants LLC "as additionally insured" and (2) provide the owner and Environmental Consultants LLC with a "Hold Harmless Agreement".

Contractor's insurance company will carry an A.M. Best rating of "A-VIII" or better.

B. Stipulated sum (Base Bid) includes costs for all Insurance Coverage including asbestos abatement liability at the Standard Limit as defined in the specifications and Contract Documents.

LIQUIDATED DAMAGES: The Contractor agrees to pay the Owner **Three Thousand Dollars (\$3,000.00) per day for each calendar day** that the asbestos removal work extends beyond the completion date set in the Construction Schedule. Liquidated damages shall be deducted from the final Contract Sum due to Contractor. Liquidated damages shall be charged per phase of the schedule as shown in the project specifications.

LIST OF SUBCONTRACTORS

Undersigned agrees, if notified of the acceptance of this Proposal, that he will utilize the following subcontractors for the following noted types of work, and that all other work not listed below will be handled directly by the Undersigned. No substitutions shall be made in the employment of subcontractors without written approval by the Owner.

| <u>Subcontractor</u> (Name, Address, Telephone Number) | <u>Type of Work</u> |
|---|------------------------------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| ■ | (Use additional page if necessary) |

* * * * *

Name of Bidder: _____

Signed by: _____

Date: _____

Title: _____

Bidder's Address: _____

Bidder's Telephone Number: _____

Missouri Asbestos Abatement Contractor Registration Number

Bid must be signed by a person or persons authorized to bind the bidder to a contract. Failure to complete the Bid Form may be cause for rejection of Bid.

SECTION 01013 - SUMMARY OF WORK

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings, general provisions of Contract Documents, including but not limited to other Division-1 Specification Sections, apply to Work of this section.

PROJECT/WORK IDENTIFICATION:

General: Project name is the Highland Elementary School – Classroom Asbestos Abatement as shown on Contract Documents prepared by the Environmental Consultant, Environmental Consultants, LLC. The Project Manual is dated April 28, 2022.

Contract Documents: The Contract Documents set forth the Contract Work and related requirements and conditions that have an impact on the Project. Related requirements and conditions that are contained in the Contract Documents include, but are not limited, to the following:

Applicable codes and regulations.

Notices and permits.

Existing site conditions and restrictions on use of the site.

Work to be performed by the Owner and/or separate Contractors.

Alterations to and coordination with existing work.

Work to be performed concurrently by separate contractors.

Work to be performed subsequent to Work under this Contract.

Summary by References: Work of the Contract can be summarized by reference to the Contract, General Conditions, Supplementary General Conditions, Specification Sections, Addenda and Modifications to the Contract Documents issued subsequent to the initial printing of this Project Manual and including, but not limited to, printed material referenced by any of these Contract Documents.

Project Schedule: The Contractor shall complete this project starting after the notice to proceed has been issued within 18 working shifts for Phase 1 and 10 working shifts for Phase 2. Notification shall be sent to St. Louis County Air Pollution Control Asbestos Division for this project.

Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the Work of the Contract can be summarized as the proper removal and disposal of the following estimated quantities of asbestos-containing materials:

Highland Elementary School – Base Bid

- Removal and Disposal of approximately 10,200 square feet of asbestos containing acoustical ceiling material, floor tile and floor tile adhesive from Classrooms #5, #6, #7, #9, #10, #11, #12, #14 and #16. The asbestos abatement contractor shall be responsible for all asbestos containing or asbestos contaminated building materials from the ceiling to the roof deck of each area within the project scope. Items may include but not limited to pipe insulation, pipe fitting insulation, overspray, insulation materials, etc. that cannot be decontaminated. The asbestos abatement contractor will be responsible for the removal and proper disposal/recycling of the lighting fixtures within each room. As well, the abatement contractor as part of the base bid will be required to remove and dispose of the asbestos containing mastic in its entirety, any carpeting, filler compound, yellow adhesive, or other material.

Contractor shall be able to work in the building during the hours of 7:00 a.m. to 4:00 p.m., Monday through Friday. The actual hours the Contractor plans to work must be submitted with the required work plan and cannot exceed eight hours per workday without approval by the owner and Environmental Consultants, LLC.

The Contractor may perform work during hours outside of the above stated time if submitted with the bid and approved in writing by the Owner. In addition, the Contractor may work during hours outside those submitted with the bid if the Contractor agrees to compensate the owner representative appropriately and the request is approved in writing by the Owner.

All Work under this section is to be performed while utilizing proper personal protection as specified in Section 01560 and proper respirator protection as specified in Section 01562.

1. Disable or lock out ventilation systems, if any, within the area as specified in Section 01526.
2. Install Critical Barriers as Specified in Section 01526. Critical barriers shall be placed on all windows, vents, doors, and other access into or out of the work areas.
3. Install Primary Barriers as Specified in Section 01526, including at a minimum two (2) layers of 6-mil plastic on the floors and walls within the work areas. Each layer of primary barrier shall be installed separately in order to remove one barrier individually of the other.
3. Install Temporary Pressure Differential and Air Circulation System in accordance with Section 01513.

4. Install three (3) stage (including 2 airlocks) "wet" Decontamination Unit as specified in Section 01563.
5. Notify Environmental Consultant of need for pre-abatement inspection. Do not proceed with the Work until authorized by the Environmental Consultant.
6. Upon approval from Environmental Consultant, proceed with removal as specified in Section 02081, utilizing Personnel Protection as specified in Section 01560, and proper respiratory protection in accordance with Section 01562.
7. Upon completion of removal Work, perform Project Decontamination in accordance with Section 01711.
8. Perform inspection of Work Area and prepare Environmental Consultants, LLC visual inspection form in accordance with Section 01711.
9. Notify Environmental Consultant of need for Final Certification of Visual Inspection. Do not proceed further until authorized by Environmental Consultant.
10. Upon authorization of Environmental Consultant, apply "lockback" in accordance with Section 01711 and continue to maintain and monitor Work Area engineering controls until Work Area Clearance is performed in accordance with Section 01714.
11. If Work Area fails to meet Clearance Criteria as specified in Section 01714, Contractor shall repeat steps 8 - 10 and shall be responsible for all costs for additional clearance testing. Once Work Area meets Clearance Criteria in accordance with Section 01714, Contractor shall proceed to step 13.
12. Remove engineering controls and perform Project Closeout procedures to include "Punch List" items in accordance with Section 01701.

The Work includes the removal of asbestos-containing materials according to the requirements of the following: and the specification sections indicated:

General and Administrative Requirements: are set forth in the following specification sections:

01013 Summary of the Work
01043 Project Coordination
01091 Definitions and Standards
01301 Submittals
01601 Materials and Equipment
01701 Project Closeout

Abatement Work: requirements are set forth in the following specification sections, listed here according to the sequence of the Work:

01092 Codes, Regulations and Standards: sets forth-governmental regulations and industry standards, which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits known to the Owner which must be applied for and received, or which must be given to governmental agencies before start of Work.

01503 Temporary Facilities: sets forth the support facilities needed such as electrical and plumbing connections for the decontamination units.

01526 Temporary Enclosures: details the requirements for the sheet plastic barriers isolating the Work Area from the balance of the building.

01410 Test Laboratory Services: describes air monitoring by Owner so that the building beyond the Work Area will remain uncontaminated. Air monitoring to determine required respiratory protection is the responsibility of the Contractor.

01563 Decontamination Units: explains the setup and operation of the personnel and material decontamination units.

01513 Temporary Pressure Differential and Air Circulation System: sets forth the procedures to set up pressure differential isolation and ventilation of the Work Area.

01560 Worker Protection: describes the equipment and procedures for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.

01562 Respiratory Protection: sets forth the procedures and equipment required for adequate protection against inhalation of asbestos hazards.

Asbestos Removal Work Procedures: are described in the following specification sections:

02081 Gross Removal of Asbestos-Containing Materials

02084 Disposal of Waste Materials

Decontamination of the Work Area: to be performed after completion of abatement Work is described in the following sections:

01711 Project Decontamination: describes the sequence of cleaning and decontamination procedures to be followed during removal of the sheet plastic barriers isolating a Work Area.

01714 Work Area Clearance: describes the analytical methods used to determine if the work Area has been successfully cleaned of contamination.

01701 Project Closeout: details the closeout procedures to end the project once abatement work is complete including final paperwork requirements.

PLAN OF ACTION:

Submit a detailed plan of the procedures proposed for use in complying with the requirements of this Project Manual. Include in the plan the location and layout of decontamination areas, the sequencing of asbestos Work, the interface of trades involved in the performance of Work, methods to be used to assure the safety of building occupants and visitors to the site, disposal plan including location of approved disposal site, and a detailed description of the methods to be employed to control potential pollution. Expand upon the use of portable HEPA ventilation system, closing out of the building's HVAC system, method of removal to prohibit visible emissions in Work Area, and packaging of removed asbestos debris. The Environmental Consultant prior to commencement of Work must accept the plan.

POTENTIAL ASBESTOS HAZARD:

The disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workers and building occupants. Apprise all workers, supervisory personnel, subcontractors, and consultants who will be at the job site of the seriousness of the hazard and of proper Work procedures, which must be followed.

Where in the performance of the Work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos-containing materials, take appropriate continuous measures as necessary to protect all building occupants from the potential hazard of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with all applicable laws, rules, and regulations of federal, state, and local agencies.

STOP WORK:

If the Owner, the Environmental Consultant, or the Owner's Representative presents a written stop work order, immediately and automatically stop all Work. Do not recommence Work until authorized in writing by the Environmental Consultant.

ASBESTOS-CONTAINING MATERIALS:

Asbestos-containing materials are known to be present at the Project Site. If any materials other than those previously identified by the Owner are found which are suspected of containing asbestos, notify the Environmental Consultant immediately.

A copy of the bulk sampling survey conducted by the Owner is available for review upon request.

CONTRACTOR USE OF PREMISES:

General: The Contractor shall limit its use of the Project Site to the Work indicated.

Keep driveways and entrances serving the Project Site clear and available to the Owner and his employees at all times. Do not use these areas for parking or storage of materials.

OWNER OCCUPANCY:

The building may be occupied at the time of commencement of this project, and it will be the abatement contractor's responsibility to secure all work areas from personnel within the building; Furthermore, the environmental safety of the personnel within the building will be the abatement contractors' responsibility; The abatement contractor shall incorporate into his bid necessary items for the protection of the personnel within the building.

SUBMITTALS:

Before the Start of Work: Submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved.

Plan of Action: Submit as a written report a job specific plan of action regarding the protection of the personnel within the building and the security of the work areas during the asbestos abatement operations.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01013

SECTION 01043 - PROJECT COORDINATION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not limited to:

- Administrative and supervisory personnel.
- Progress Meetings.
- Pre-Construction Conference.
- Daily Log.
- Special reports.
- Contingency Plans.

ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

General Superintendent: Provide a full-time General Superintendent who is experienced in administration and supervision of asbestos abatement Projects including Work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Contractor's Representative responsible for compliance with all applicable federal, state, and local regulations, particularly those relating to asbestos-containing materials. The Owner, owner's representative and Environmental Consultants, LLC prior to start of the project, must approve the general superintendent.

Experience and Training: The General Superintendent must have completed a supervisor's course at an EPA and Missouri approved training center in asbestos abatement procedures and have had a minimum of four (4) years on-the-job training in asbestos abatement procedures.

Competent Person: The General Superintendent is to be a Competent Person as required by OSHA.

Accreditation: The General Superintendent is to be accredited as an Asbestos Abatement Supervisor in accordance with the AHERA regulation 40 CFR Part 763, Subpart E, Appendix C and Title 10 of the Missouri Code of State Regulations.

DAILY LOG:

Daily Log: Maintain at the Project Site, a daily log that includes, but is not limited to, the following documentation:

- Meetings: purpose, attendees, brief discussion.
- Visitors: authorized and unauthorized.

- Personnel, by name and social security number, entering and leaving the Work Area.
- Special or unusual events, i.e., barrier breaching, equipment failures, accidents.
- Personal air monitoring tests and test results.
- Documentation of Contractor's activities at the jobsite.
- Submit copies of this log at final closeout of Project as a Project closeout submittal.

SPECIAL REPORTS:

General: Except as otherwise indicated, submit special reports to the Environmental Consultant within one day of occurrence requiring special report.

Reporting Unusual Events: When an event of an unusual and significant nature occurs at site (examples: failure of pressure differential system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, and response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Environmental Consultant in advance at earliest possible date.

CONTINGENCY PLAN:

Contingency Plan: Prepare a contingency plan for emergencies including fire, accident, power failure, pressure differential system failure, supplied air system failure, or any other event that may require modification or abridgement of decontamination or Work Area isolation procedures. Include in plan specific procedures for decontamination or Work Area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

Post: in clean room of Personnel Decontamination Unit telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company, etc.

NOTIFICATIONS

Notify other entities at the jobsite of the nature of the asbestos abatement activities, location of asbestos-containing materials, requirements relative to asbestos set forth in these specifications and applicable regulations.

Notify emergency service agencies including fire, ambulance, police, or other agencies that may service the abatement Work site in case of an emergency. Notification is to include methods of entering Work Area, emergency entry and exit locations, modifications to fire notification or fire fighting equipment, and other information needed by agencies providing emergency services.

Notifications of Emergency: Any individual at the job site may notify emergency service agencies, if necessary, without effect on this Contract or the Contract Sum.

SUBMITTALS

Before the Start of Work: Submit the following to the Environmental Consultant for review. No Work shall begin until these submittals are returned with the Environmental Consultant action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

- Contingency Plans: for emergency actions.
- Telephone Numbers: and location of emergency services.
- Notifications: sent to emergency service agencies.
- Resume: of general superintendent.
- Accreditation: submit evidence in form of training course certificate for General Superintendent as an asbestos abatement supervisor.

Staff Names: Within two (2) days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties, and responsibilities; list their addresses and telephone numbers. Post copies of the list in the Project meeting room, the temporary field office, and at each temporary telephone.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01043

SECTION 01091 - DEFINITIONS AND STANDARDS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

SUMMARY

General Explanation: A substantial amount of specification language constitutes definitions for terms found in other Contract Documents, including the Drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in Contract Documents are defined in this Section.

General Requirements: The provisions or requirements of Division-1 sections apply to entire Work of Contract.

SUBMITTALS:

Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

DEFINITIONS:

General: Definitions contained in this Article are not necessarily complete but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.

Environmental Consultant: An authorized employee of the Riverview Gardens Schools that has the authority to act on the Owner's behalf in regard to the Work specified herein.

Indicated: This term refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.

Directed: Terms such as "directed", "requested", "authorized", "selected", "accepted", "required", and "permitted" mean "directed by the Environmental Consultant", "requested by the Environmental Consultant, and similar phrases. However, no implied meaning shall be interpreted to extend the Environmental Consultant's responsibility into the Contractor's area of construction supervision.

Accepted: The term "accepted," where used in conjunction with the Environmental Consultant's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Environmental Consultant stated in General and Supplementary Conditions. Such acceptance shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.

Regulations: The term "Regulations" includes laws, statutes, ordinances, rules, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.

Furnish: The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."

Install: The term "install" is used to describe operations at Project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."

Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."

Installer: An "Installer" is an entity engaged by the Contractor, either as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

Project Site: is the space available to the Contractor for performance of the Work, either exclusively or in conjunction with others performing other construction as part of the Project. The extent of the Project Site may or may not be identical with the description of the land upon which the Project is built.

Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

Owner's Representative: This is an authorized employee of the Riverview Gardens Schools and/or Environmental Consultants, LLC.

General Superintendent: This is the Contractor's Representative at the Work site. This person will be the Competent Person required by OSHA in 29 CFR 1926.

DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:

Accredited or Accreditation (when referring to a person or laboratory): A person or laboratory accredited in accordance with Section 206 of Title II of the Toxic Substances Control Act (TSCA).

Air Cell: Insulation normally used on pipes and duct Work that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.

Air Monitoring: The process of measuring the fiber content of a specific volume of air.

Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.

Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining

respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

Asbestos-Containing Material (ACM): Any material containing more than 1% of asbestos of any type or mixture of types.

Asbestos-Containing Waste Material: Any material, which is or is suspected of being or any material contaminated with an asbestos-containing material, which is to be removed from a Work Area for disposal.

Asbestos debris: Pieces of ACBM that can be identified by color, texture, or composition, or dust, if the dust is determined by an accredited inspector to be ACM.

Authorized Visitor: The Owner, the Environmental Consultant, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state, and local regulatory or other agency having authority over the Project.

Barrier: Any surface that seals off the Work Area to inhibit the movement of fibers.

Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.

Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.

Demolition: The wrecking or taking out of any building component, system, finish, or assembly of a facility together with any related handling operations.

Disposal Bag: A properly labeled 6-mil thick leak-tight plastic bag used for transporting asbestos waste from Work and to disposal site.

Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.

Bridging encapsulant: an encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.

Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.

Encapsulation: Treatment of asbestos-containing materials, with an encapsulant.

Enclosure: The construction of an airtight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.

Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.

Friable Asbestos Material: Material that contains more than 1.0% asbestos and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

Glovebag: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long-sleeve gloves, which are designed to enclose an object from which an asbestos-containing material is to be removed.

HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.

High-efficiency particulate air filter: (HEPA) refers to a filtering system capable of trapping and retaining 99.97 percent of all monodispersed particles 0.3 microns in diameter or larger.

Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

Personal Monitoring: Sampling of the fiber concentrations within the breathing zone of an employee.

Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans recirculated air or generates a constant air flow from adjacent areas into the Work Area.

Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.

Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.

Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

Work Area: The area where asbestos-related Work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work Area is a Regulated Area as defined by 29 CFR 1926.

Assignment of Specialists: The Specification requires that specialists who are recognized experts in the operations to be performed shall perform certain specific construction activities. The specialists must be engaged for those activities, and the assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.

This requirement should not be interpreted to conflict with enforcement of building codes or regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

Trades: Use of titles such as "carpentry" is not intended to imply that accredited or unionized individuals of a corresponding generic name, such as "carpenter", must perform certain construction activities. It also does not imply that specified requirements apply exclusively to tradespersons of the corresponding generic name.

INDUSTRY STANDARDS

Applicability of Standards: Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.

Referenced industry standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.

Unreferenced industry standards are not directly applicable to the Work, except as a general requirement of whether the Work complies with recognized construction industry standards.

Publication Dates: Where compliance with an industry standard is required, comply with standard in effect as of date of performance of the Work.

Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Environmental Consultant for a decision before proceeding.

Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances of uncertainty to the Environmental Consultant for decision before proceeding.

Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.

Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.

Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in the Specifications or other contract documents, they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction or other entity applicable to the context of the text provision. Refer to "The Encyclopedia of Associations", published by Gale Research Company, available in most libraries.

Trade Union Jurisdictions: The Contractor shall maintain, and require subcontractors to maintain, complete current information on jurisdictional matters, regulations, and pending actions, as applicable to construction activities. The manner in which Contract Documents have been organized and subdivided is not intended to indicate trade union or jurisdictional agreements.

Discuss new developments at Project meetings at the earliest feasible dates. Record relevant information and actions agreed upon.

Assign and subcontract construction activities and employ tradesmen and laborers in a manner that will not unduly risk jurisdictional disputes that could result in conflicts, delays, claims and losses.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION – 01091

SECTION 01092 - CODES, REGULATIONS, AND STANDARDS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

SUMMARY

This section sets forth-governmental regulations and industry standards, which are included and incorporated herein by reference and made a part of the Specification. This section also sets forth those notices and permits, which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of Work.

Requirements include adherence to Work practices and procedures set forth in applicable codes, regulations, and standards.

Requirements include obtaining permits, licenses, inspections, releases, and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

SUBMITTALS:

Before Start of Work: Submit the following to the Environmental Consultant for review. No Work shall begin until these submittals are returned with Environmental Consultant's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:

Notices: Submit notices required by federal, state, and local regulations together with proof of timely transmittal to agency requiring the notice.

Permits: Submit copies of current valid permits required by state and local regulations.

Licenses: Submit copies of all State and local licenses and permits necessary to carry out the Work of this Contract.

CODES, REGULATIONS AND STANDARDS

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, and standards 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.

Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local laws, rules, ordinances, and regulations pertaining to the Work, including, but not limited to work practices, storage, 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.

Federal Requirements: which govern asbestos abatement work or storage, hauling and disposal of asbestos waste materials include regulations enforced by the following agencies:

OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA).

DOT: U. S. Department of Transportation.

EPA: U. S. Environmental Protection Agency (EPA).

State and Local Requirements: Abide by all state and local requirements, which govern asbestos abatement, Work, and storage, and hauling and disposal of waste materials including Title 10 of the Missouri Code of State Regulations and the St. Louis County Department of Health Asbestos Rules and Regulations.

NOTICES:

U.S. ENVIRONMENTAL PROTECTION AGENCY

Send written notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAP Contact on date contract is awarded.

STATE AND LOCAL AGENCIES:

Send written notification as required by Missouri's asbestos regulations, (Title 10 of Missouri Code of State Regulations, Section 10-6.080) to state and local agencies per St. Louis County Department of Health Asbestos Rules and Regulations, on date contract is awarded. Send to:

St. Louis County
Air Pollution Control Program
111 South Meramec Avenue
St. Louis, Missouri 63105

PERMITS:

Permit: If required, waste is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for asbestos waste materials, as required, for transporting of asbestos waste materials to a disposal site.

LICENSES:

Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the Work of this Contract.

POSTING AND FILING OF REGULATIONS

Posting and Filing of Regulations: Post all notices required by applicable federal, state, and local regulations. Maintain two (2) copies of applicable federal, state, and local regulations and standards. Maintain one copy of each at job site. Keep one copy of each on file in Contractor's office.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01092

SECTION 01301 - SUBMITTALS

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:

- Shop Drawings
- Product Data
- Miscellaneous Submittals

Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:

- Notifications
- Permits
- Applications for Payment
- Insurance certificates
- List of Subcontractors

SUBMITTAL PROCEDURES

Coordination: 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.

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

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.

The Environmental Consultant reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

The Environmental Consultant will promptly advise the Contractor when a submittal being processed must be delayed for coordination.

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

No extension of Contract Time or increase in Contract amount will be authorized because of failure to transmit submittals to the Environmental Consultant sufficiently in advance of the Work to permit processing.

Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Environmental Consultant using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

On the transmittal record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

SUBMITTAL SCHEDULE

Before Start of Work: All submittals required prior to Start of Work must be submitted and accepted prior to issuance of Notice to Proceed.

PRODUCT DATA

Collect Product Data into a single submittal. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, etc. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

- Manufacturer's printed recommendations.
- Compliance with recognized trade association standards.
- Compliance with recognized testing agency standards.
- Application of testing agency labels and seals.
- Notation of dimensions verified by field measurement.
- Notation of coordination requirements.
- Material Safety Data Sheets.

Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

Submittals: Submit 2 copies of each required submittal. The Environmental Consultant will retain one and will return one copy to the Owner.

Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

MISCELLANEOUS SUBMITTALS:

Material Safety Data Sheets: Process Material Safety Data Sheets as "Product Data."

Standards: Where submittal of a copy of standards is indicated, and except where copies of standards are specified as an integral part of a "Product Data" submittal, submit a single copy of standards for the Environmental Consultant's use. Where workmanship, whether at the project site or elsewhere is governed by a standard, furnish additional copies of the standard to fabricators, installers and others involved in the performance of the Work.

Closeout Submittals: Refer to section 01701 and to individual sections of this Specification for specific submittal requirements of project closeout information.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01301

SUBMITTAL CHECKLIST

The submittals required from the Contractor include, but are not limited to the following:

01013 Summary of Work

Before Start of Work:
Plan of Action
Pre-construction Inspection

01043 Project Coordination

Before Start of Work:
Contingency Plans
Telephone Numbers
Notifications sent to emergency service agencies
Accreditation of all workers
Staff Names:
Periodically During Work:
Daily Logs
Event Reports
Accident Reports

01092 Codes, Regulations, and Standards

Before Start of Work:
Licenses
Notifications
Permits
Periodically During Work:
None

01513 Temporary Pressure Differential and Air Circulation System

Before Start of Work:
Pressure Differential System Design
HEPA Filtered Fan Units: Product Data
Periodically During Work:
None

01560 Worker Protection

Before Start of Work:
AHERA and state Accreditation Certificate: for each worker and supervisor.
Certificate of Worker Acknowledgement: for each worker and supervisor.
Report from Medical Examination: for each worker and supervisor.
Periodically During Work:
None

01562 Respiratory Protection

Before Start of Work:
Product Data.
NIOSH and MSHA Certifications.
Respiratory Protection Program: written manual.

Respiratory Protection Program: form at end of section.
Periodically During Work:
None

02084 Disposal of Waste Materials

Before Start of Work:

Waste Hauler License, if required
Name and address of disposal facility
Disposal facility contact person and telephone number
Chain of Custody form
Waste Manifest form
Label Samples

Periodically During Work:

Copies of manifests and disposal site receipts

END OF SUBMITTAL CHECKLIST

SECTION 01410 - AIR MONITORING - TEST LABORATORY SERVICES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

Air Monitoring: Work Area clearance is described in Section 01714 Work Area Clearance.

DESCRIPTION OF THE WORK

Not in Contract Sum: This section describes Work being performed by the Owner. This Work is not in the Contract Sum.

This section describes air monitoring carried out by the Owner to verify that the building beyond the Work Area and the outside environment remains uncontaminated. This section also sets forth airborne fiber levels both inside and outside the Work Area as action levels, and describes the action required by the Contractor if an action level or permissible exposure limit is met or exceeded.

AIR MONITORING:

Work Area Isolation: The purpose of the Owner's air monitoring is to detect faults in the Work Area isolation such as:

- Contamination of the building outside of the Work Area with airborne fibers,
- Failure of filtration or rupture in the differential pressure system,
- Airborne fiber contamination inside the Work Area.

Should any of the above occur, immediately cease asbestos abatement activities until the fault is corrected. Do not recommence Work until authorized in writing by the Environmental Consultant.

Work Area Airborne Fiber Count: The Owner will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be to detect airborne fiber concentrations, which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.

Work Area Clearance: To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Owner will sample and analyze air per Section 01714 Work Area Clearance.

Phase Contrast Microscopy (PCM) will be performed for clearance sampling and will be performed to on daily air monitoring if the Environmental Consultant representatives and the owner deem it necessary for more thorough results.

The Owner will conduct air monitoring throughout the course of the Project with the exception of OSHA personnel monitoring required by the Contractor. OSHA personnel sampling will be completed by a Missouri licensed and accredited Air Sampling Professional or Missouri accredited Air Sampling Technician and signed off by a MDNR Air Sampling Professional that will be on-site for the entire working shifts during abatement process to accurately monitor the abatement contractor's workforce. The OSHA samples will be required to be analyzed on-site by an AAR registered analyst and/or by a NVLAP accredited laboratory and results will be posted on-site by the next work shift or a stop work order may be issued to determine the necessity of increasing respiratory protection.

STOP ACTION LEVELS:

Inside Work Area: Maintain an average airborne count in the Work Area of less than 0.1 fibers per cubic centimeter. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work shift or 8-hour period exceeds 0.1 fibers per cubic centimeter, stop all Work, leave Pressure Differential System in operation and notify Environmental Consultant. After correcting cause of high fiber levels, do not recommence Work for 24 hours unless otherwise authorized, in writing, by Environmental Consultant.

If airborne fiber counts exceed 0.5 fibers per cubic centimeter for any period of time, cease all Work except corrective action until fiber counts fall below 0.1 fibers per cubic centimeter and notify Environmental Consultant. After correcting cause of high fiber levels, do not recommence Work for 24 hours unless otherwise authorized, in writing, by Environmental Consultant.

Outside Work Area: If any air sample taken outside of the Work Area exceeds the base line or 0.01 f/cc, immediately and automatically stop all Work except corrective action. The Environmental Consultant will assess the source of the high reading and so notify the Contractor in writing.

If the high reading was the result of a failure of Work Area isolation measures, initiate the following actions:

Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (eg. wall, ceiling, and floor).

Require that respiratory protection as set forth in Section 01562 Respiratory Protection is worn in affected area until area is cleared for reoccupancy in accordance with Section 01714 Work Area Clearance.

Leave Critical Barriers in place until completion of Work and ensure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.

If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room, as set forth in Section 01563 Decontamination Units, at entry point to affected area.

After Certification of Visual Inspection in the Work Area, remove critical barriers separating the Work Area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01714 Work Area Clearance.

If the high reading was the result of other causes, initiate corrective action as determined by the Environmental Consultant.

Effect on Contract Sum: Complete corrective Work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities. The Contract Sum and schedule may be adjusted for additional Work caused by high airborne fiber counts beyond the Contractor's control.

ANALYTICAL METHODS:

The Owner in analyzing filters used to collect air samples will use the following methods. Sampling rates may be varied from printed standards to allow for high volume sampling.

Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 method.

SAMPLE VOLUMES:

General: The Air Sampling Professional will determine the number and volume of air samples taken by the Owner. Sample volumes may vary depending upon site conditions and the analytical method used.

SCHEDULE OF AIR SAMPLES:

Before Start of Work:

The Owner will secure Air Samples to establish a base line before start of Work.

Sample cassettes: Samples will be collected on 25 mm. cassettes as follows:

PCM: 0.8 micrometer mixed cellulose ester.

Sampling sensitivity is as follows:

Detection Limit for PCM analysis as set forth in the analytical method used.

Base Line: an action level expressed in fibers per cubic centimeter, which is the largest of the following:

Average of the PCM samples collected at each Work Area

0.01 fibers per cubic centimeter

Daily:

From start of Work of Section 01526 Temporary Enclosures through the Work of Section 01711 Project Decontamination, the Owner may be taking the following samples on a daily basis.

Samples will be collected on 25 mm. cassettes with the following filter media:

PCM: 0.8 micrometer mixed cellulose ester.

| Location Sampled | Number of Samples | Analysis Method | Detection Limit Fibers/cc | Minimum Volume (Liters) | Rate LPM |
|--|-------------------|-----------------|--------------------------------------|----------------------------|-------------|
| Each Work Area | 1 | PCM | 0.01 OR AS REQUIRED BY CONDITIONS | 1,200 | 1-10 |
| Outside Each Work Area at Critical Barrier | 1 | PCM | 0.01 OR AS REQUIRED BY CONDITIONS | 1,200 | 1-10 |
| Clean Room | 1 | PCM | 0.01 | 1,200 | 1-10 |
| Equip Decon | 1 | PCM | 0.01 OR AS REQUIRED BY CONDITIONS | 1,200 | 1-10 |
| Output Pressure Differential Sys | 1 | PCM | 0.01 OR AS REQUIRED BY CONDITIONS | 1,200 | 1-10 |

Additional samples may be taken at Owner's or Environmental Consultant's discretion. If airborne fiber counts exceed allowed limits, additional samples will be taken as necessary to monitor fiber levels.

LABORATORY TESTING:

The services of a testing laboratory will be employed by the Owner to perform laboratory analyses of the air samples. For PCM samples, microscope and technician will be set up at the job site, or samples will be sent on a daily basis to the laboratory, so that verbal reports on air samples can be obtained within 24 hours. For TEM samples, samples will be sent on a daily basis to the laboratory, so that verbal reports on air samples can be obtained within 48 hours. The Contractor will have access to air monitoring tests and results upon request.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

ADDITIONAL TESTING:

Upon written notice and authorization from the Owner and Environmental Consultants, LLC, the Contractor may conduct his own air monitoring and laboratory testing. All air sampling conducted by the Contractor shall comply with these specifications and specifically in accordance with Section 01410. If he elects to do this, the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner.

END OF SECTION - 01410

SECTION 01503 - TEMPORARY FACILITIES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

DESCRIPTION OF REQUIREMENTS:

General: Provide temporary electric and water sources for this project and/or provide temporary facilities as required herein or as necessary to carry out the Work.

SUBMITTALS

Before the Start of Work: Submit the following to the Environmental Consultant for review.

Scaffolding/Lifts: Submit list of rolling and fixed scaffolding and/or lifts intended for use on the Project. Submit sufficient detail to indicate compliance with applicable worker safety regulations or other requirements.

Temporary Electrical Service: Submit data on temporary electrical source to be used on project.

Temporary Water Service: Submit data on temporary water source to be used on this project

Ground Fault Circuit Interrupters (GFCI): Submit product data.

Lamps and Light Fixtures: Submit product data.

Fire Extinguishers: Submit product data. Submit schedule-indicating location at job site.

PART 2 - PRODUCTS

MATERIALS AND EQUIPMENT:

General: Provide new or used materials and equipment that is undamaged and in serviceable condition. Provide only materials and equipment that is recognized as being suitable for the intended use, by compliance with appropriate standards.

SCAFFOLDING:

Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the Work of this Contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.

Equip rungs of all ladders, etc. with an abrasive non-slip surface.

Provide a nonskid surface on all scaffold surfaces subject to foot traffic.

WATER SERVICE:

Temporary Water Service Connection: All connections to the Owner's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.

Water Hoses: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each Work Area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.

Hot Water: may be secured from the building hot water system, provided backflow protection is installed at point of connection as described in this section under Temporary Water Service connection.

ELECTRICAL SERVICE:

General: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.

Voltage Differences: Provide identification warning signs at power outlets, which are other than 110-120-volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for Work operations.

Ground Fault Protection: Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI) equipped with test button and reset switches for all circuits to be used for any purpose in Work Area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA, or other authority.

Electrical Power Cords: Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas of Work.

Lamps and Light Fixtures: Provide general service incandescent lamps or fluorescent lamps of wattage indicated or required for adequate illumination as required by the Work of this section. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage

by construction operations. Provide vapor tight fixtures in Work Area and decontamination units. Provide exterior fixtures where fixtures are exposed to the weather or moisture.

FIRST AID:

First Aid Supplies: Comply with governing regulations and recognized recommendations within the construction industry.

FIRE EXTINGUISHERS:

Fire Extinguishers: Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.

PART 3 - EXECUTION

SCAFFOLDING:

If scaffolding and/or lifts are to be rented, the contractor must submit a letter from the rental company stating that the rental company is aware of what the scaffolding/lifts are to be used for.

During the erection and/or moving of scaffolding/lifts, care must be exercised so that the polyethylene is not damaged.

Clean as necessary, debris from non-slip surfaces.

At the completion of abatement Work, clean all construction aids within the Work Area, wrap in one layer of 6-mil polyethylene sheet and seal before removal from the Work Area.

INSTALLATION, GENERAL:

General: Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire Project adequately and result in minimum interference with the performance of the Work.

Require that tradesmen accomplishing this Work be licensed as required by local authority for the Work performed.

Relocate, modify, and extend services and facilities as required during the course of Work so as to accommodate the entire Work of the Project.

WATER SERVICE:

General: Water connection (without charge) to Owner's existing water system is limited to one 3/4" pipe-size connection, and a maximum flow of 10 gpm each to hot and cold-water supply. Install using vacuum breakers or other backflow preventer as required by local authority. Hot water shall be

supplied at a minimum temperature of 100 degrees F. Supply hot and cold water to the Decontamination Unit in accordance with Section 01526.

Maintain hose connections and outlet valves in leakproof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pan as it accumulates.

ELECTRICAL SERVICE:

General: Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of Work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe Work and traffic conditions in every area of Work.

Lockout: Lockout all existing power through the Work Area as described below. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below or by existing power outside the Work Area.

Lockout power to Work Area by switching off all breakers serving power or lighting circuits in Work Area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent or Owner's designated Representative.

Lockout power to circuits running through Work Area wherever possible by switching off all breakers serving these circuits. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Sign and date danger tag. Lock panel and supply keys to Contractor, Owner and Environmental Consultant. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocutation hazard."

Temporary Electrical Panel: **Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the Work.** Connect temporary panel to existing building electrical system. Protect with circuit breaker or fused disconnect. Locate temporary panel within the Project Site, outside of the Work Area and away from heavy traffic areas, unless otherwise directed by Environmental Consultant in writing.

Power Distribution System: Provide circuits of adequate size and proper characteristics for each use. In general, run wiring overhead, and rise vertically where wiring will be least exposed to damage from construction operations.

Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) leading into the Work Area.

Temporary Wiring: in the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices.

SANITARY FACILITIES:

Toilets: Use of the Owner's existing toilet facilities, will be permitted, so long as these facilities remain outside the work area and are properly maintained and cleaned daily.

FIRE EXTINGUISHERS:

Fire Extinguishers: Comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Locate fire extinguishers where they are most convenient and effective for their intended purpose but provide not less than one extinguisher in each Work Area in Equipment Room and One outside Work Area in Clean Room.

END OF SECTION - 01503

SECTION 01513 - TEMPORARY PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

SUBMITTALS

Before Start of Work: Submit design of pressure differential system to the Environmental Consultant for review. Do not begin Work until submittal is returned with the Environmental Consultant's approval indicating that the submittal is returned for unrestricted use. Include in the submittal, at a minimum:

- Number of HEPA filtered fan units required and the calculations necessary to determine the number of machines
- Anticipated pressure differential across Work Area enclosures
- Manufacturer's product data on the HEPA filtered fan units to be used
- Location of the machines in the Work Area
- Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power
- Description of Work practices to ensure that airborne fibers travel away from workers
- Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of the Work Area

PART 2 - PRODUCTS

HEPA FILTERED FAN UNITS:

General: Supply the required number of HEPA filtered fan units to the site in accordance with these specifications. Use units that meet the following requirements.

Cabinet: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches to fit through standard-size doorways. Provide units whose cabinets are:

Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance

Arranged to provide access to and replacement of all air filters from intake end

Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions.

HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.

Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.

Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3-micron dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.

Provide filters that are marked with: the name of the manufacturer, serial number, airflow rating, efficiency and resistance, and the direction of test airflow.

Prefilters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of prefiltration are required. Provide units with the following prefilters:

First-stage prefilter: low-efficiency type (e.g., for particles 100 micron and larger)

Second-stage (or intermediate) filter: medium efficiency (eg, effective for particles down to 5 microns)

Provide units with prefilters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.

Instrumentation: Provide units equipped with:

Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed

Elapsed time meter to show the total accumulated hours of operation

Safety and Warning Devices: Provide units with the following safety and warning devices:

Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter

Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge

Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red). Audible alarm if unit shuts down due to operation of safety systems

Electrical Components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be

equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.

PART 3 - EXECUTION

PRESSURE DIFFERENTIAL ISOLATION

Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

Relative Pressure in Work Area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of:

0.02 inches of water.

Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation by the following procedure:

Establish required air circulation in the work area, personnel, and equipment decontamination units.

Establish isolation by increased pressure in adjacent areas or as part of seals where required.

Exhaust a sufficient number of units from the work area to develop the required pressure differential.

The required number of units is the number determined above plus one additional unit.

Vent HEPA filtered fan units to outside of building unless authorized by Environmental Consultant.

- Mount units to exhaust directly or through disposable ductwork.
- Use only new ductwork except for sheet metal connections and elbows.
- Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.
- Use inflatable, disposable plastic ductwork in lengths not greater than 50 feet.
- Use spiral wire-reinforced flex duct in lengths not greater than 100 feet.
- Arrange exhaust as required to inflate duct to a rigidity sufficient to prevent flapping.
- If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet of spiral wire reinforced flex duct after direction change.

AIR CIRCULATION IN THE WORK AREA:

Air Circulation: For purposes of this section air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.

Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the Work Area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.

Determining the Air circulation Requirements: Provide a fully operational air circulation system supplying a minimum of the following air circulation rate:

4 air changes per hour

Determine Number of Units needed to achieve required air circulation according to the following procedure:

Determine the volume in cubic feet of the Work Area by multiplying floor area by ceiling height. Determine total air circulation requirement in cubic feet per minute (CFM) for the Work Area by multiplying this volume by the air change rate and dividing by 60.

Air Circulation Required in Cubic Feet of Air per Minute (CFM) =

$$\frac{\text{Volume of Work Area (cu. ft.)} \times \text{Number of air changes per hour}}{60 \text{ (minutes per hour)}}$$

Divide the air circulation requirement (CFM) above by capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics.

Number of Units Needed =

$$\frac{\text{Air circulation Requirement (CFM)}}{\text{Capacity of Unit with Loaded Filters (CFM)}}$$

Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.

EXHAUST SYSTEM:

Isolation and air circulation in the Work Area are to be accomplished by an exhaust system as described below.

Exhaust all units from the Work Area to meet air circulation requirements of this section.

Location of HEPA Filtered Fan Units:

Locate fan unit(s) so that makeup air enters Work Area primarily through the decontamination units and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA

filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.

Place End of Unit and intake duct or its exhaust duct through an opening in the plastic barrier or wall covering. Seal plastic around the unit or duct with tape.

Vent to Outside of Building, unless authorized by the Environmental Consultant. The building must remain secure at all times.

Supplemental Makeup Air Inlets: Provide where required for proper air flow through the Work Area in locations accepted by the Environmental Consultant by making openings in the plastic sheeting that allow air from outside the building into the Work Area. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes, meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry. Weight the bottom of the flaps.

AIR CIRCULATION IN DECONTAMINATION UNITS:

Pressure Differential Isolation: Continuously maintain the pressure differential required for the Work Area in the:

Personnel Decontamination Unit: across the Shower Room with the Equipment Room at a lower pressure than the clean room.

Equipment Decontamination Unit: Across the Holding Room with the Washroom at a lower pressure than the Clean Room.

Air Circulation: Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.

Air Movement: Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room.

USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section 01503 "Temporary Facilities."

Testing the System: Test pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to Environmental Consultant.

Demonstrate Condition of Equipment for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:

- Squareness of HEPA Filter
- Condition of Seals
- Proper operation of all lights
- Proper operation of automatic shut down if exhaust is blocked
- Proper operation of alarms

Demonstrate Operation of the pressure differential system to the Environmental Consultant. This demonstration will include, but not be limited to, the following:

- Plastic barriers and sheeting move lightly in toward Work Area
 - Curtain of decontamination units move lightly in toward Work Area
 - There is a noticeable movement of air through the Decontamination Unit.
 - Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room.
 - Use smoke tubes to demonstrate a definite motion of air across all areas in which Work is to be performed.
 - Use a continuous read differential pressure meter or manometer to demonstrate the required pressure differential. **This is mandatory for all containments.**
- If the pressure differential system is not sufficient, as determined by the Environmental Consultant, additional machines may be required at no additional cost to the Owner.

Use of System During Abatement Operations:

Start fan units before beginning Work (before any asbestos-containing material is disturbed). After abatement Work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the Work Area is complete. Do not turn off units at the end of the Work shift or when abatement operations temporarily stop.

Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the Environmental Consultant in writing. Supply sufficient pre-filters to allow frequent changes.

Start abatement Work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement Work, and do not resume until power is restored and fan units are operating again.

At completion of abatement Work, allow fan units to run as specified under section 01711, to remove airborne fibers that may have been generated during abatement Work and cleanup and to purge the Work Area with clean makeup air.

Dismantling the System:

When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, decontaminate exterior of machine and seal intake to the machine with 6-mil polyethylene to prevent asbestos contamination from the filters.

Royalties, Patents and Licensing:

The Contractor shall pay all royalties and license fees. The Contractor shall protect, defend, indemnify, and save harmless the Owner or Environmental Consultant from all liabilities, judgements, costs, damages, and expenses which may in any way come against the Owner or Environmental Consultant by reason of the use of any material, machinery, devices, equipment or processes furnished or used in the performance of the Work for which patents or licensing agreements exist or by reason of the use of designs furnished by the Contractor for which patents or licensing agreements exist.

The Contractor is hereby notified that certain procedures and systems that the Contractor may choose to employ to perform certain requirements specified herein, specifically the use of a particular negative air system in conjunction with HEPA filtered exhaust equipment, is registered, patented processes. The Contractor shall be responsible for all royalties and license fees in relation to such patents and shall hold harmless and indemnify the Owner and Environmental Consultant from and against all claims, losses, damages, and expenses, including reasonable attorney's fees, arising out of any failure on the part of the Contractor to properly comply with patent requirements.

END OF SECTION - 01513

SECTION 01526 - TEMPORARY ENCLOSURES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

All containments are to be constructed in accordance with AHERA, Title 10 of the Missouri Code of State Regulations, St. Louis County Department of Health Asbestos Rules and Regulations and these specifications unless a waiver is requested and granted by the proper authorities and the environmental consultant. The Environmental Consultant prior to submittal to the proper authorities shall review all waivers.

SUBMITTALS:

Spray Cement: Submit following:

Product description including major components and solvents.

Manufacturer's installation instructions. Indicate portions applicable to the Project.

Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for spray cement material proposed for use on the Work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

PART 2 - PRODUCTS

SHEET PLASTIC:

Polyethylene Sheet: A single polyethylene film, 6 mil thick, in the largest sheet size possible to minimize seams, clear, frosted, or black as indicated.

MISCELLANEOUS MATERIALS:

Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive, which is formulated to stick aggressively to sheet polyethylene.

Spray Cement: Provide spray adhesive in aerosol cans, which is specifically formulated to stick tenaciously to sheet polyethylene.

Fire Rated Gypsum Board: Provide fire rated gypsum board when building a hard barrier between the work area and occupied areas.

PART 3 - EXECUTION

SEQUENCE OF WORK:

Carry out Work of this section sequentially. Complete each activity before proceeding to the next.

GENERAL:

Work Area: The location where asbestos-abatement Work occurs. It is a variable of the extent of Work of the Contract. It may be a portion of a room, a single room, a complex of rooms, or an exterior space. A "Work Area" is considered contaminated during the Work and must be isolated from the balance of the building and decontaminated at the completion of the asbestos-control Work.

Completely isolate the Work Area from other parts of the building on the outside so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the Work, clean those areas in accordance with the procedures indicated in Section 01711. Perform all such required cleaning or decontamination at no additional cost to owner.

Place all tools, scaffolding, staging, etc. necessary for the Work in the area to be isolated prior to completion of Work Area isolation.

Disable ventilating systems or any other system bringing air into or out of the Work Area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.

Power to Work Area:

Lockout power to the Work Area by switching off all breakers serving power or lighting circuits in Work Area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent.

Inspection Windows: Install inspection windows as required. Install windows in locations where the largest amount of work can be viewed. Each inspection window is to have an 18" X 18" viewing area fabricated from 1/4" acrylic or polycarbonate sheet. Install window with top at 6'-6" above floor height in a manner that provides unobstructed vision from outside to inside of the Work Area. Protect window from damage from scratching, dirt or any coatings used during the work. A sufficient number of windows are to be installed to provide observation of all portions of the Work Area that can be made visible from adjacent areas.

EMERGENCY EXITS:

Provide emergency exits as set forth below:

Emergency Exits: At each existing exit door from the Work Area provide the following means for emergency exiting:

Arrange exit door so that it is secure from outside the Work area but permits exiting from the Work Area.

Mark outline of door on Primary and Critical Barriers with luminescent paint or tape at least 1" wide. Hang a retractable blade razor knife on a string adjacent outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of razor knife. Paint inside the door outline, the words "EMERGENCY EXIT" no higher than three feet (3') off of the floor with luminescent paint or tape in letters at least one foot high and 2" thick.

CONTROL ACCESS:

Isolate the Work Area to prevent entry into building(s), Work Area(s) or surrounding controlled areas by unauthorized personnel. Areas of the interior hallway, in which asbestos containment areas will be present due to connections of classrooms shall control access using a hard barrier constructed of 2' x 4' framing and plywood or an approved substitute. These hard barriers shall be moved in conjunction with the asbestos containments allowing access for other trades to areas remediated previously.

Provide Warning Signs at each door leading to Work Area reading as follows:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

Provide spacing between respective lines at least equal to the height of the respective upper line.

ALTERNATE METHODS OF ENCLOSURE:

Alternate methods of containing the Work Area may be submitted to the Environmental Consultant for review in accordance with procedures set forth. Do not proceed with any such method(s) without prior written acceptance from the Environmental Consultant.

RESPIRATORY AND WORKER PROTECTION:

Before proceeding beyond this point in providing Temporary Enclosures:

Provide Worker Protection per Section 01560
Provide Respiratory Protection per Section 01562
Provide Personnel Decontamination Unit per Section 01563

CRITICAL BARRIERS:

Completely Separate the Work Area(s) from other portions of the building, and the outside by closing all openings with sheet plastic barriers at least two layers of 6-mil in thickness.

Where the work area is immediately adjacent to an occupied area, the Abatement Contractor shall construct a rigid, hard barrier comprised of fire rated sheetrock/gypsum board, screwed to studs placed 24" on center. This barrier shall be framed and painted on the occupied side to match the existing surroundings.

Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors, speakers, etc. in the Work Area with duct tape alone or with polyethylene sheeting at least 6-mil in thickness, taped securely in place with duct tape. Maintain seal until all Work including Project Decontamination is completed. Power to lighting fixtures shall be disconnected prior to sealing with polyethylene sheeting to avoid melting or burning of sheeting or contractor may opt to use fire retardant poly.

Provide Sheet Plastic barriers at least 6 mil in thickness as required to seal openings completely from the Work Area into adjacent areas.

Exterior Windows critical barriers will require the use of black or colored 6 mil thick plastic sheeting

Provide Pressure Differential System per Section 01513.

Clean housings and ducts of all overspray materials prior to erection of any Critical Barrier that will restrict access.

PREPARE AREA:

Scaffolding/Lifts: If fixed scaffolding/lifts are to be used to provide access, HEPA vacuum and wet clean area prior to scaffolding/lift installation.

Remove all general construction items such as cabinets, casework, door and window trim, moldings, ceilings, trim, etc., which cover the surface of the Work as required to prevent interference with the Work.

Clean All Surfaces in Work Area with a HEPA filtered vacuum or by wet wiping, prior to the installation of primary barrier.

PRIMARY BARRIERS:

Protect building and other surfaces in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry, or high airborne fiber levels by covering with a primary barrier as described below.

Sheet Plastic: Protect surfaces in the Work Area as follows unless a waiver has been submitted and approved. Perform Work in the following sequence.

Cover all floors in Work Area including "Critical Barrier" sheet plastic barriers with, at a minimum, two (2) layers of polyethylene sheeting, at least 6-mil in thickness, mechanically supported and sealed with duct tape or spray-glue in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the wall covering with duct tape or as otherwise indicated on the Contract Documents or in writing by the

Environmental Consultant. Contractor may opt to submit a waiver from these requirements.

Cover all walls in Work Area including "Critical Barrier" sheet plastic barriers with, at a minimum, two (2) layers of polyethylene sheeting, at least 6-mil in thickness, mechanically supported and sealed with duct tape or spray-glue in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the floor or wall covering with duct tape or as otherwise indicated on the Contract Documents or in writing by the Environmental Consultant.

Stairs and Ramps: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide 3/4" exterior grade plywood treads securely held in place, over plastic. Do not cover rungs or rails with any type of protective materials.

Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting, which has been damaged by abatement operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

STOP WORK: If the Critical or Primary barrier falls or is breached in any manner, stop Work immediately. Do not start Work until authorized in writing by the Environmental Consultant.

EXTENSION OF WORK AREA: If the Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add affected area to the Work Area, enclose it as required by this Section of the Specification and decontaminate it as described in Section 01711 Project Decontamination.

END OF SECTION - 01526

SECTION 01560 - WORKER PROTECTION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

DESCRIPTION OF WORK:

This section describes the equipment and procedures required for protecting Workers against asbestos contamination and other workplace hazards except for respiratory protection.

RELATED WORK SPECIFIED ELSEWHERE:

Respiratory Protection: is specified in Section 01562.

WORKER TRAINING:

AHERA Accreditation: All workers are to be accredited as Abatement Workers as required by the AHERA regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

State and Local License: All workers are to be trained, certified, and accredited as required by all state and local codes and regulations including Title 10 of the Missouri Code of State Regulations.

Train, in accordance with OSHA, all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper Work procedures and personal and area protective measures.

MEDICAL EXAMINATIONS:

Provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as minimum meet OSHA requirements. In addition, provide an evaluation of the individual's ability to wear a respirator and to work in environments capable of producing heat stress in the worker, signed by a physician.

SUBMITTALS:

Before Start of Work: Submit the following to the Environmental Consultant for review. Do not start Work until these submittals are returned with Environmental Consultant's action stamp indicating that the submittal is returned for unrestricted use.

AHERA Accreditation: Submit copies of certificates from an EPA and Missouri approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the AHERA Regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

State and Local License: Submit evidence that all workers have been trained, certified, and accredited as required by all state and local codes and regulations, including but not limited to Title 10 of the Missouri Code of State Regulations.

Certificate of Worker Acknowledgement: Submit signed copy of the Certificate of Worker's Acknowledgement, for each worker who is to be at the job site or enter the Work Area.

Report from Medical Examination: conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:

Date of Examination

Name and Social Security Number

Physicians Written Opinion from examining physician including at a minimum the following:

Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.

Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.

PART 2 - EQUIPMENT

PROTECTIVE CLOTHING:

Coveralls: Provide disposable full-body coveralls with attached head and foot coverings and require that all workers in the Work Area wear them, at all times. Provide a sufficient number for all required changes, for all workers in the Work Area. Provide the Environmental Consultants, LLC representative with a minimum of 10 Tyvek brand coveralls for each shift of work.

Boots: Provide Work boots with non-skid soles, where required by OSHA. Provide boots at no cost to workers. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material. Thoroughly clean, decontaminate and bag boots before removing them from the Work Area.

Hard Hats: Provide head protection (hard hats) as required by OSHA for all Workers, and provide 3 spares for use by Environmental Consultant, Project Administrator, and Owner. Require hard hats to be worn at all times that Work is in progress that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the Work. Thoroughly clean and decontaminate hard hats before removing them from the Work area.

Goggles: Provide eye protection (goggles) as required by OSHA for all workers involved in demolition, scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from the Work Area at the end of the Work.

Gloves: Provide Work gloves, if required, to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from the Work Area. Dispose of as asbestos-contaminated waste at the end of the Work.

Ear Protection: Provide ear protection, if required, to all workers and require that they be worn at all times in the Work Area.

ADDITIONAL PROTECTIVE EQUIPMENT:

Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Environmental Consultant, Project Administrator, and other authorized representatives who may inspect the job site. Provide two (2) new PAPR respirators and ten (10) complete coveralls and, where applicable, eight (8) respirator filter changes per shift.

PART 3 - EXECUTION

GENERAL:

Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the Work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

Each time Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall with attached head and foot coverings and a clean respirator. Proceed through shower room to equipment room and put on Work boots. In the event of a remote decontamination facility, workmen must use double layered disposable coveralls and a clean respirator into the containment.

DECONTAMINATION PROCEDURES:

Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:

Negative Pressure or Powered Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:

When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room and place in disposable bag. When a remote decontamination unit is acceptable the workmen must remove the outer disposable coverall folding it outward away from their body and place this suit in a disposable bag. The remaining suit should be HEPA vacuumed off and wet wiped along with the

respiratory protection and another disposable suit donned prior to proceeding to the remote decontamination location.

Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid exposure to asbestos fibers while showering. The following procedure is required as a minimum:

- Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.
- With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.
- Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breathe.
- Carefully wash facepiece of respirator inside and out.
- If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this may short out and destroy battery.
- Shower completely with soap and water.
- Rinse thoroughly.
- Rinse shower room walls and floor prior to exit.
- Proceed from shower to Changing Room and change into street clothes or into new disposable Work items.

Within Work Area:

Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat or drink, workers shall follow the procedure described above, and then dress in street clothes before entering the non-Work Areas of the building. No smoking or chewing o tobacco products will be allowed on the premises.

END OF SECTION - 01560

SECTION 01562 - RESPIRATORY PROTECTION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

DESCRIPTION OF WORK:

Instruct and train each worker involved in proper respiratory use and require that each worker always wear a properly fitted respirator in the Work Area from the start of any operation, which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the environmental hazard encountered in the Workplace or as required for other toxic or oxygen-deficient situations encountered.

STANDARDS:

Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards 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 were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.

OSHA - U.S. Department of Labor, Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1001, and Section 1910.134. 29 CFR 1926.58.

CGA - Compressed Gas Association, Inc., New York, Pamphlet G-7, "Compressed Air for Human Respiration", and Specification G-7.1 "Commodity Specification for Air".

CSA - Canadian Standard Association, Rexdal, Ontario, Standard Z180.1-1978, "Compressed Breathing Air".

ANSI - American National Standard Practices for Respiratory Protection, ANSI Z88.2-1980.

NIOSH - National Institute for Occupational Safety and Health

SUBMITTALS:

Before Start of Work submits the following to the Environmental Consultant for review. Do not begin Work until these submittals are returned with the Environmental Consultant's action stamp indicating that the submittal is returned for unrestricted use.

Product Data: Submit manufacturer's product information for each component used, including NIOSH Certifications for each component in an assembly and/or for entire assembly.

Respiratory Protection Program: Submit outline of Contractor's written respiratory protection program manual as required by OSHA 1926.58.

Respiratory Protection Schedule: Submit "Respiratory Protection schedule" on the form included at the end of this Section.

DELIVERY:

Deliver replacement parts, etc., not otherwise labeled by NIOSH to job site in manufacturer's containers.

PART 2 - EQUIPMENT

AIR PURIFYING RESPIRATORS

Respirator Bodies: Provide half or full-face type respirators. Equip fullface respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.

Filter Cartridges: Provide, at a minimum, P100 HEPA type filters labeled with NIOSH Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH Certification.

Non-permitted respirators Do not use quarter face respirators.

PART 3 - EXECUTION

GENERAL:

Respiratory Protection Program: Comply with ANSI Z88.2 - 1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910 and 1926.

Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01714.

Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be half mask negative pressure respirators with high efficiency filters.

FIT TESTING:

Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a competent person. Fit types of respirators to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing have been provided.

On a Weekly Basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.

Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 (1980).

TYPE OF RESPIRATORY PROTECTION REQUIRED:

Provide Respiratory Protection as indicated on the "Respiratory Protection Schedule" at the end of this section. Where this schedule does not apply, consult Environmental Consultant for level of respiratory protection required.

PERMISSIBLE EXPOSURE LIMIT (PEL):

8-Hour Time Weighted Average (TWA) and Ceiling Concentration of asbestos fibers to which any worker may be exposed shall not exceed 0.01 fibers/cubic centimeter

Fibers: For purposes of this section, fibers are defined as all fibers regardless of composition as counted in the NIOSH 7400 procedure.

Electron Microscopy: If Electron Microscopy is used to determine airborne fiber levels, only asbestos fibers will be enumerated, but fibers of any size detected by the testing of Section 01714 Work Area Clearance will be counted.

AIR PURIFYING RESPIRATORS:

Negative pressure - half or full facepiece: Supply a sufficient quantity of respirator filters, so that workers can change filters during the Workday. Require that respirators be decontaminated, and filters discarded, each time a worker leaves the Work Area. Require that new filters be installed each time a worker re-enters the Work Area. Store respirators and filters at the job site in the changing room and protect from exposure to asbestos prior to their use.

Powered air purifying - half or full facepiece: Supply a sufficient quantity of high efficiency particulate air respirator filters approved for asbestos so that workers can change filters at any time that flow through the filter decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, be decontaminated each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

END OF SECTION - 01562

SECTION 01563 - DECONTAMINATION UNITS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

DESCRIPTION OF WORK:

Provide Personnel and Equipment Decontamination facilities. Require that the Personnel Decontamination Unit be the only means of ingress and egress for the Work Area. Require that all materials exit the Work Area through the Equipment Decontamination Unit.

RELATED WORK SPECIFIED ELSEWHERE:

Refer to Section 01503 Temporary Facilities for electrical requirements and requirements relative to connection of decontamination facilities to building systems such as water, sewer, and electrical.

SUBMITTALS

Before the Start of Work: Submit the following to the Environmental Consultant for review. Do not begin work until these submittals are returned with Environmental Consultant's approval indicating that the submittal is returned for unrestricted use or final-but-restricted use.

Personnel Decontamination Unit: Provide shop drawing showing location and assembly of personnel decontamination units.

Equipment Decontamination Unit: Provide shop drawing showing location and assembly of equipment decontamination units.

Filters: Provide product data and shop drawing of installation on decontamination unit.

Sump Pump: Provide product data.

PART 2 - PRODUCTS

Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6.0-mil thick as indicated, clear, frosted, or black as indicated.

Reinforced Polyethylene Sheet: Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, polyethylene film that conforms to requirements. Provide largest size possible to minimize seams, 6.0 mil thick as indicated, frosted or black as indicated.

Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive, which is formulated to stick aggressively to sheet polyethylene.

Spray Adhesive: Provide spray adhesive in aerosol cans, which is specifically formulated to stick tenaciously to sheet polyethylene.

Shower Head and Controls: Provide a factory-made showerhead producing a spray of water, which can be adjusted for spray size and intensity. Feed shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid. **Provide, at a minimum, one (1) showerhead for every eight (8) workers.**

Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes through primary filter and output of primary filter passes through secondary filter.

Primary Filter - Passes particles 20 microns and smaller

Secondary Filter - Passes particles 5 microns and smaller

Sump Pump: Provide totally submersible waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster, or other materials washed off during decontamination procedures without damage to mechanism of pump. Adjust float switch so that a minimum of 3" remains between top of liquid and top of sump pan.

PART 3 - EXECUTION

PERSONNEL DECONTAMINATION UNIT:

Provide a Personnel Decontamination Unit constructed of sufficient framing and polyethylene sheeting at least 6 mil in thickness, in a serial arrangement consisting of connected rooms or spaces, Changing Room, Drying Room, Shower Room, Airlock and Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through Personnel Decontamination Unit.

Changing Room (clean room): Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.

- Construct, using polyethylene sheeting, at least 6-mil in thickness, to provide an airtight seal between the Changing Room and the rest of the building.
- Locate so that access to Work Area from Changing Room is through Shower Room.
- Separate Changing Room from the building by a sheet plastic flapped doorway.
- Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require Workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.

- An existing room may be utilized as the Changing Room if it is suitably located and of a configuration whereby workers may enter the Changing Room directly from the Shower Room. Protect all surfaces of room with sheet plastic as set forth in Section 01526 Temporary Enclosures. Authorization for this must be obtained from the Environmental Consultant in writing prior to start of construction. Submit written request detailing layout and protective measures proposed.
- Maintain floor of changing room dry and clean at all times. Do not allow overflow water from shower to wet floor in changing room.
- Provide posted information for all emergency phone numbers and procedures.

Drying Room: Provide a drying room as an airlock and a place for workers to dry after showering. Construct room by providing a pan continuous with or draining to Shower Room pan. Install a freely draining wooden or non-skid metal floor in pan at elevation of top of pan. Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.

Separate this room from the Changing Room and Shower Room by a triple flapped sheet plastic doorway fabricated of 6-mil polyethylene.

Provide a continuously adequate supply of disposable bath towels.

Shower Room: Provide a completely watertight operational shower to be used for transit by workers wearing proper personnel protection and respiration, heading for the Work Area from the Changing Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.

- Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden or non-skid metal floor in shower pan at elevation of top of pan.
- Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.
- Separate this room from the Drying Room and Airlock with splashproof entrances with doors arranged in the following configuration:
 - At each entrance to the Shower Room construct a doorframe out of nominal 2" x 4" lumber with 1-1/2" sides and 1-1/2" top and bottom. Attach to this doorframe two overlapping flaps of elastomeric membrane material, fastened at the top and sides. Overlap the flaps a minimum of 6" in a direction that presents a shingle-like configuration to the water stream from the shower. Overlap bottom by 1-1/2" minimum. Arrange so that any air movement out of the Work Area will cause the flaps to seal against the door frame.
- Provide showerhead and controls.
- Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.
- Provide a soap dish and a continuously adequate supply of soap and maintain in sanitary condition.
- Arrange so that water from showering does not splash into the Changing or Equipment Rooms.
- Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.

- Provide flexible hose shower head.
- Pump wastewater to drain or to storage for use in amended water. If pumped to drain, provide 20 micron and 5-micron wastewater filters in line to drain or waste water storage. Contractor must receive approval from building owner and the local sewer district prior to discharge into sewer. Change filters daily or more often if necessary. Locate filters so that a shower pan catches water lost during filter changes.

Airlock: Provide an airlock between Shower Room and Equipment Room. This is a transit area for workers. Separate this room from Equipment Room by a triple flapped sheet plastic doorway.

Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.

Separate this room from the Equipment Room and Shower Room with triple flapped doorways fabricated of 6-mil polyethylene.

Equipment Room (contaminated area): Require work equipment, footwear, and additional contaminated Work clothing to be left here. This is a change and transit area for workers.

Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.

Separate this room from the Shower Room and Air Lock with triple flapped doorways fabricated of 6-mil polyethylene.

Provide a drop cloth layer of sheet plastic on floor in the Equipment Room. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

Airlock: Provide an airlock between Equipment Room and Work Area. This is a transit area for workers.

Separate this room from Equipment Room and Work Area by a triple flapped sheet plastic doorway fabricated of 6-mil polyethylene.

Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.

Work Area: Separate Work Area from the Equipment Room by triple flapped doorways fabricated of 6-mil polyethylene. If the airborne asbestos level in the Work Area is expected to be high, add an intermediate cleaning space between the Equipment Room and the Work Area. Damp wipe clean all surfaces as needed.

Decontamination Sequence: The Contractor shall require that all workers adhere to the following sequence when entering or leaving the Work Area.

Entering Work Area: Worker enters Changing Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room.

Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.

Worker proceeds to Work Area.

Exiting Work Area:

Before leaving the Work Area, require the worker to remove all gross contamination and debris from coveralls and feet.

The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.

Extra work clothing such as boots, hard hats, goggles, and gloves are to be stored in contaminated end of the Equipment Room.

Disposable coveralls are placed in a bag for disposal as asbestos waste.

Require that Decontamination procedures found in Section 01560 be followed by all individuals leaving the Work Area.

After showering, the worker moves to the Changing Room and dresses in either new coveralls for another entry or street clothes if leaving.

EQUIPMENT DECONTAMINATION UNIT (Load-Out):

Provide an Equipment Decontamination Unit consisting of a serial arrangement of rooms, Clean Room, Airlock, Holding Room, Airlock and Wash Room for removal of equipment and material from Work Area. Do not allow personnel to enter or exit Work Area through Equipment Decontamination Unit. The equipment decontamination unit shall remain secured when not loading out equipment or debris.

Arrange with airlocks between rooms as required below.

Wash Down Station: Provide an enclosed Shower Unit located in Work Area just outside Washroom as an equipment, bag, and container cleaning station.

Fabricate waterproof floor extending 6' - 0" beyond Wash Down station in all directions. Install seamless waterproof membrane over area and extend over curbs on all four sides. Form curbs from 2" x 4" lumber laid on the flat.

Do not allow water to collect on waterproof membrane. Remove continuously with wet vacuum(s) or mop(s).

Washroom: provide washroom for cleaning of bagged or containerized asbestos-containing waste materials passed from the Work Area.

Construct washroom of wood, metal or plastic framing and polyethylene sheeting, at least 6-mil in thickness and located so that packaged materials, after being wiped clean, can be passed to the Holding Room.

Separate this room from the Work Area by a triple flapped door of 6-mil polyethylene sheeting.

Provide a drop cloth layer of plastic on floor in the Washroom. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

Airlock: Provide an airlock between Washroom and Holding Room. This is a transit area.

Separate this room from Washroom and Holding Room with triple flapped sheet plastic doorways fabricated of 6-mil polyethylene.

Separate this room from the rest of the building and adjacent spaces with airtight walls fabricated of 6 mil polyethylene.

Holding Room: Provide Holding Room as a drop location for bagged asbestos-containing materials passed from the Washroom. Construct Holding Room of wood, plastic or metal framing and polyethylene sheeting, at least 6 mil in thickness.

Separate this room from Washroom and the Clean Room by triple flapped doors fabricated from 6-mil sheet plastic.

Separate this room from the rest of the building and adjacent spaces with airtight walls fabricated of 6 mil polyethylene.

Airlock: Provide an airlock between Holding Room and Clean Room. This is a transit area.

Separate this room from adjacent Holding Room and Clean Room by triple flapped sheet plastic doorways fabricated of 6-mil polyethylene.

Separate this room from the rest of the building and adjacent spaces with airtight walls fabricated of 6 mil polyethylene.

Clean Room: provide Clean Room to isolate the Holding Room from the building exterior. If possible, locate to provide direct access to the Holding Room from the building exterior.

Erect Critical and Primary Barriers as described in Section 01526 "Temporary Enclosures" in an existing space. If no space exists, construct Clean Room of wood, plastic, or metal framing and polyethylene sheeting, at least 6-mil in thickness.

Separate this room from the exterior by a triple flapped door of 6-mil polyethylene sheeting.

Load-out Area: The load-out area is the transfer area from the building to a truck or dumpster. It may be the Clean Room of the Equipment Decontamination unit or a separate room or loading dock area.

Decontamination Sequence: Take all equipment or material from the Work Area through the Equipment Decontamination Unit according to the following procedure:

At wash down station, thoroughly wet clean contaminated equipment or sealed polyethylene bags and pass into Washroom.

When passing equipment or containers into the Washroom, close all doorways of the Equipment Decontamination Unit, other than the doorway between the Wash down Station and the Washroom. Keep all outside personnel clear of the Equipment Decontamination Unit.

Once inside the washroom, wet clean the bags and/or equipment and place into second disposable bag.

When cleaning is complete, pass items into Holding Room. Close all doorways except the doorway between the Holding room and the Clean Room.

Workers from the building exterior enter Holding Area and remove decontaminated equipment and/or containers for disposal.

Require these workers to wear full protective clothing and appropriate respiratory protection.

At no time is a worker from an uncontaminated area to enter the enclosure during this sequence.

CONSTRUCTION OF THE DECONTAMINATION UNITS:

Walls and Ceiling: Construct airtight walls and ceiling using polyethylene sheeting, at least 6-mil in thickness. Attach to existing building components or a temporary framework.

Floors: Use 2 layers (minimum) of 6-mil polyethylene sheeting to cover all surfaces in all areas of the Decontamination Units. Use only clear plastic to cover floors.

Flap Doors: Fabricated from three (3) overlapping sheets with openings a minimum of three feet (3') wide. Configure so that sheeting overlaps adjacent surfaces. Weigh sheets at bottoms as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of six feet (6') between entrance and exit of any room. Provide a minimum of three feet (3') between doors to airlocks.

Visual Barrier: Where the Decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6-mil in thickness so that worker privacy is maintained, and Work procedures are not visible to building occupants.

Alternate methods of providing Decontamination facilities may be submitted to the Environmental Consultant for acceptance. Do not proceed with any such method(s) without written authorization of the Environmental Consultant.

Electrical: Provide sub panel at Changing Room to accommodate all equipment. Power sub-panel directly from a building electrical panel. Connect all electrical branch circuits in Decontamination unit and particularly any pumps in shower room to a ground-fault circuit protection device.

CLEANING OF DECONTAMINATION UNITS:

Clean debris and residue from inside of Decontamination Units on a daily basis. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.

If the Changing Room of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Changing Room as an inner section of the new Equipment Room.

SIGNS:

Post an approximately 20" x 14" inch manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

LEGEND

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

Provide spacing between respective lines at least equal to the height of the respective upper line.

Post an approximately 10 inch by 14-inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:

LEGEND

NOTATION

NO FOOD, BEVERAGES OR TOBACCO PERMITTED

3/4" Block

ALL PERSONS SHALL DON PROTECTIVE
CLOTHING (COVERINGS) BEFORE
ENTERING THE WORK AREA

3/4" Block

ALL PERSONS SHALL SHOWER IMMEDIATELY
AFTER LEAVING WORK AREA AND BEFORE
ENTERING THE CHANGING AREA

3/4" Block

END OF SECTION - 01563

SECTION 01601 - MATERIALS AND EQUIPMENT

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and procedural requirements governing the Contractor's selection of products for use in the Project.

Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

DEFINITIONS

Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well recognized meanings in the construction industry.

"Products" are items purchased for use in performing the Work or for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

"Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature that is current as of the date of the Contract Documents.

"Foreign Products", as distinguished from "domestic products," are items substantially manufactured (50 percent or more of the product's value) outside of the United States and its possessions or produced or supplied by entities substantially owned (more than 50 percent) by persons who are not citizens of nor living within the United States and its possessions.

"Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined, or otherwise fabricated, processed, or installed to form a part of the Work.

"Equipment" are products that may be either operational or fixed.

Operational Equipment are products with operating parts, whether motorized or manually operated, which requires temporary or permanent service connections, such as wiring or piping.

Fixed Equipment are products necessary for accomplishing the Work that are used as a temporary facility during the Work and removed afterward.

QUALITY ASSURANCE

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

PRODUCT DELIVERY, STORAGE, AND HANDLING

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

Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.

Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.

Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.

PART 2 - PRODUCTS

PRODUCT SELECTION

General Product Requirements: Provide products that contain 0% asbestos and that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.

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

Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

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

Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.

Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01601

SECTION 01701 - PROJECT CLOSEOUT

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and procedural requirements for Project closeout, including but not limited to:

- Inspection procedures.
- Project record document submittal.
- Final cleaning.
- Final paperwork submission.

SUBSTANTIAL COMPLETION

Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documents for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.

If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete Work, and reasons the Work is not complete.

Advise Owner of pending insurance change over requirements.

Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.

Inspection Procedures: On receipt of a request for inspection, the Environmental Consultant will either proceed with inspection or advise the Contractor of unfulfilled requirements. The Environmental Consultant will accept the Work following inspection or advise the Contractor of Work that must be completed or corrected before the Work is accepted.

The Environmental Consultant will repeat inspection when requested and assured that the Work has been substantially completed.

Results of the completed inspection will form the basis of requirements for final acceptance.

Reinspection Procedure: The Environmental Consultant will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items the completion of which has been delayed because of circumstances acceptable to the Environmental Consultant.

Upon completion of reinspection, the Environmental Consultant will accept the Work, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for Final Acceptance.

- If necessary, reinspection will be repeated; however, the Contractor shall be responsible for and pay all costs for reinspections starting with the second re-inspection conducted at a Project Site. Reinspection costs will be deducted from the Contract amount, by executed Change Order, prior to Final Payment.

Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and Modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and Modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation.

Upon completion of the Work, submit record Specifications to the Environmental Consultant for the Owner's records.

CLOSEOUT DOCUMENTS:

Prepare and submit two (2) copies of all closeout documents required for the Project to the Environmental Consultant. Closeouts should be tabbed and organized as indicated below. The closeout documentation is required 30 days from the completion of each phase of the project. **If the closeout documentation is not provided within 30 days from the completion of each phase of the project the abatement contractor will be charged a fee of \$250.00 per day for each day over the 30-day period.**

Section 1: Project Summary

- A. List Project name, address, and project number
- B. Dates when Work was performed
- C. Scope of Work
- D. Contractor's name and address
- E. Name of Contractor's Project Manager
- F. Environmental Consultant's name and address
- G. Any other pertinent information

Section 2: Contract Administration Documentation

- A. Proof of Missouri State Registration
- B. Name, AHERA and State Accreditation Certificates of Each Worker
- C. Worker's Medicals, Fit Tests & Certification of Acknowledgement
- D. 10 Day Missouri/NESHAP Notification

- E. Asbestos Abatement Permit from Issuing Agency
- F. Insurance Certificates
- G. Copy of all executed Change Orders
- H. Payment Applications
- I. Fully executed waste Manifest(s), Landfill Receipts and Chain of Custody
- J. Waste Hauler's Permit & License
- K. Contractor's Daily Log Reports

Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records, and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Environmental Consultant.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

FINAL CLEANING

General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".

Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION 01701

SECTION 01711 - PROJECT DECONTAMINATION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

DESCRIPTION OF REQUIREMENTS:

General: Decontamination of the Work Area following asbestos abatement.

The pressure differential system shall be used to remove airborne fibers generated by the abatement Work.

RELATED WORK SPECIFIED ELSEWHERE:

Removal of Gross Debris is integral with the performance of abatement work and as such is specified in the appropriate Work Section(s) of these Specifications:

Section 02081 Removal of Asbestos-Containing Materials

Work Area Clearance: Air testing and other requirements, which must be met before release of Contractor and reoccupancy of the Work Area, are specified in Section 01714 Work Area Clearance.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

GENERAL:

Work of This Section includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials in the space.

Work of This Section includes the cleaning, decontamination, and Removal of temporary facilities installed prior to abatement Work, including:

Critical Barriers erected by Work of Section 01526
Decontamination Unit erected by Work of Section 01563
Pressure Differential System installed by Work of Section 01513

Work of This Section includes the cleaning, and decontamination of all surfaces (ceiling, walls, floor) of the Work Area, and all equipment in the Work Area.

START OF WORK:

Previous Work: During completion of the asbestos abatement work specified in other Sections, one layer of polyethylene sheeting installed on floor will have been removed and disposed of along with any debris generated by the asbestos abatement Work.

Start of Work: Work of this Section involves cleaning of critical barriers and the final layer of polyethylene.

CLEANING:

Cleaning: Carry out cleaning of all surfaces of the Work Area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (Note: A HEPA vacuum may fail if used with wet material.) Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue cleaning until there is no visible debris on plastic sheeting or other surfaces.

Contractor's Testing: At the completion of cleaning, visually inspect all surfaces. Reclean if any dust, debris, etc. is found. At completion of this inspection, contractor may want to sweep entire Work Area including walls, ceilings, ledges, floors, and other surfaces in the Work Area with exhaust from forced-air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). Do not direct forced-air equipment at any seal in any Critical Barrier. If any debris or dust is found repeat the cleaning. Continue this process until no debris dust or other material is found while sweeping of all surfaces with forced-air equipment.

VISUAL INSPECTION:

Temporary lighting: Provide a minimum of 100-foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide handheld lights providing 150-foot candles at 4 feet capable of reaching all locations in Work Area.

Lifts: Provide ladders, scaffolding, and lifts as required providing access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

After Final Cleaning, perform a Complete Visual Inspection of the entire Work Area including: all surfaces, ceiling, walls, floor, decontamination unit, all plastic sheeting, seals over ventilation openings, doorways, windows, and other openings; look for debris from any sources, residue on surfaces, dust, or other matter. If any debris, residue, dust, or other matter is found, repeat final cleaning, and continue decontamination procedure from that point. When the area is visually clean, complete the visual inspection certification (this inspection is not complete until confirmed in writing, on the certification by Project Superintendent) and notify Environmental Consultants LLC of need for a final Certification of Visual Inspection. The Environmental Consultant will conduct a visual inspection of the area. If area is not deemed visually clean by the Environmental Consultant, Contractor shall reclean and reinspect as specified above.

FINAL CLEANING:

Cleaning: Remove final layer of polyethylene. This cleaning will be performed on existing wall, floor and ceiling surfaces and critical barriers. Carry out cleaning of all surfaces of the Work Area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (Note: A HEPA vacuum may fail if used with wet material.) Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue cleaning until there is no visible debris on plastic sheeting or other surfaces.

Contractor's Testing: At the completion of the final cleaning, visually inspect all surfaces. Reclean if any dust, debris etc. is found. At completion of this inspection, contractor may want to sweep entire Work Area including walls, ceilings, ledges, floors, and other surfaces in the Work Area with exhaust from forced-air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). Do not direct forced-air equipment at any seal in any Critical Barrier. If any debris or dust is found repeat the cleaning. Continue this process until no debris dust or other material is found while sweeping of all surfaces with forced-air equipment.

LOCKBACK:

Encapsulation of substrate: After the Work Area is certified by the Environmental Consultant to be visually clean, Contractor may perform Encapsulation of substrate by use of a tinted lockdown. Maintain Pressure Differential System in operation during Encapsulation Work. Perform Work only after meeting the following requirements:

Surfaces to be covered have met the requirements for a visual inspection in this Section.

FINAL AIR SAMPLING TEM:

Transmission Electron Microscopy (TEM): After the Work Area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedure for Transmission Electron Microscopy set forth in Section 01714 Work Area Clearance:

If Release Criteria are not met, repeat Final Cleaning, and continue Decontamination Procedure from that point. **Contractor shall be responsible for all costs incurred for all required additional clearance testing performed by the Owner or Environmental Consultant.**

If Release Criteria are met, proceed to Work of this Section on Removal of Work Area Isolation.

REMOVAL OF WORK AREA ISOLATION:

After all requirements of this Section and Section 01714 Work Area Clearance have been met:

Shut down and remove the Pressure Differential System. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.

Remove Personnel Decontamination Unit.

Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon Removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Environmental Consultant, are found then the entire area affected shall be decontaminated as specified in Section 01712 Cleaning & Decontamination Procedures.

Remove all equipment, materials, and debris from the Work site.

Dispose of all asbestos-containing waste material as specified in Section 02084 Disposal of Waste Material.

SUBSTANTIAL COMPLETION OF ABATEMENT WORK:

Asbestos Abatement Work is Substantially Complete upon meeting the requirements of this section and Section 01714 Work Area Clearance, including submission of Certificates of Visual Inspection.

CERTIFICATE OF VISUAL INSPECTION:

A Certificate of Visual Inspection certification is to be completed by the Contractor for each Work Area. Upon completion of the required certification, the Contractor shall request a visual inspection by the Environmental Consultant. Submit completed Certificates with Application for Final Payment.

END OF SECTION - 01711

SECTION 01712 - CLEANING AND DECONTAMINATION PROCEDURES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

DESCRIPTION OF THE WORK:

The extent of cleaning and decontamination Work includes:

- HEPA Vacuuming and Wet Cleaning Work Areas
- Cleaning of Contaminated Objects
- Decontamination of Rooms or Spaces

RELATED WORK SPECIFIED ELSEWHERE:

Work Area Clearance: Specified in Section 01714 Work Area Clearance

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTIONS

GENERAL:

Complete the following (where applicable) prior to start of Work of this section:

- 01560 Worker Protection
- 01562 Respiratory Protection

PRE-CLEANING:

All Work Areas shall be pre-cleaned prior to the initiation of any asbestos removal as follows:

HEPA vacuum or wet-clean all floors and all other horizontal surfaces.

Dispose of all debris, filters, mopheads, protective clothing and other equipment in accordance with Section 02084 of this Specification.

WET CLEANING:

Accomplish wet cleaning during decontamination with paper towels or disposable rags:

Immerse paper towel or rag in container of water with surfactant, wring out, fold into quarters, wipe surface once and refold to a fresh face of cloth. Proceed in this manner until all available faces of paper towel or rag have been used.

Do not place rags back in container to rinse out or for any other purpose. If a used towel or rag comes in contact with water, empty container, rinse, and refill.

HEPA Vacuuming Requirements:

Surfaces that cannot be wet cleaned shall be cleaned using a HEPA vacuum. Surfaces containing damaged friable ACM shall not be cleaned.

HEPA vacuum all surfaces in the room starting at the ceiling, then top of walls and work downward to the floor.

HEPA vacuum the floor using a floor attachment with rubber floor seals and adjustable floor to attachment height. Adjust the height so that the rubber seals just touch carpeted floors and are within 1/16" of hard surface floors. Vacuum the floor in parallel passes with each pass overlapping the previous by one half the width of the floor attachment. At the completion of one cleaning, vacuum the floor a second time a right angle to the first, utilizing the same procedure.

HEPA filtered fan units shall be in operation during cleaning Work.

CLEANING AND DECONTAMINATING OBJECTS

Perform all Work of decontaminating objects wherever possible on a plastic drop cloth.

HEPA vacuum all surfaces of object and immediate area before moving the object.

Pick-up object, if possible, and HEPA vacuum all surfaces.

Hand to off-sheet Worker who will wet-clean object, if possible, and pass out of Work Area for placement in storage location.

Decontaminate area where object was located by HEPA vacuuming twice, in two perpendicular directions. Wet clean if necessary to remove any debris.

DECONTAMINATION OF ROOMS:

General: These procedures apply to any rooms adjacent to a Work Area, which become contaminated by fiber migration or gross debris.

Shut down all ventilation into space.

Seal entry to Work Area with 6 mil polyethylene. Slit polyethylene for entry. Install a flap to cover the slit automatically; tape slit closed after entry.

Install Differential Pressure System in accordance with Section 01513.

HEPA vacuum all surfaces in the room starting at the ceiling, then top of walls and work downward to the floor.

HEPA vacuum the floor using a floor attachment with rubber floor seals and adjustable floor to attachment height. Adjust the height so that the rubber seals just touch the floor if carpeted and are within 1/16" of hard surface floors. Vacuum the floor in parallel passes with each pass overlapping the previous by one half the width of the floor attachment. At the completion of one cleaning, vacuum the floor a second time at right angles to the first.

Operate HEPA filtered fan unit in space for 24 hours minimum.

At completion of Decontamination Work, workers decontaminate in accordance with Section 01560.

Secure area from occupancy until air-monitoring results per Section 01714 Work Area Clearance indicate area has passed clearance criteria.

END OF SECTION - 01712

SECTION 01714 - WORK AREA CLEARANCE

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to other Division-1 Specification Sections, apply to this Section.

Visual Inspection: required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.

Air Monitoring: performed by the Owner during abatement Work, is described in Section 01410 Test Laboratory Services.

SUMMARY

This Section sets forth post-abatement airborne fiber concentrations in the Work Area and describes testing procedures the Owner will use to measure these levels.

Retesting required due to Contractor's failure to meet final air sampling criteria shall be paid for by the Contractor by executed Change Order prior to final payment.

VISUAL INSPECTION:

Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been accepted by the Environmental Consultants LLC representative.

CONTRACTOR RELEASE CRITERIA:

The Asbestos Abatement Work Area is Cleared when the Work Area is visually clean and airborne fiber concentrations have been reduced to less than 0.01 f/cc or 70 structures per millimeter squared, whichever is applicable.

Air Monitoring:

To determine if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the Owner will secure samples and analyze them according to the following procedures.

Aggressive Sampling procedures as described below will be followed.

Air Monitoring Samples will be secured as indicated below. If the area meets the clearance criteria, Work of Section 01711 can continue

Aggressive Sampling:

Air Samples will be taken using aggressive sampling techniques, if required, as follows:

Before sampling pumps are started, the exhaust from forced-air equipment (leaf blower with an approximately 1 horsepower electric motor) will be swept against all walls, ceilings, floors, edges, and all other surfaces in the room.

Air samples will be collected in areas subject to normal air circulation away from room corners, obstructed locations, and sites near windows, doors, or vents.

Schedule of Air Samples: Phase Contrast Microscopy:

In each homogeneous Work Area after completion of all cleaning Work, samples will be taken and analyzed as follows:

Samples will be collected on 25 mm. cassettes with an 0.8 mixed cellulose ester in a cassette with a conductive extension cowl.

Detection Limit: 0.01 fibers per cubic centimeter

Analysis: Fibers on each filter will be measured using the NIOSH Method 7400 entitled "Fibers" published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987.

Fibers: referred to in this section include fibers regardless of composition as counted by the NIOSH 7400 Method.

Release Criteria: Decontamination of the Work Site is complete when every Work Area sample is below 0.01 f/cc above and the 95% Upper Confidence Level is at or below the Detection Limit. If any sample is above the Detection Limit, then the decontamination is incomplete and recleaning per section 01711 Project Decontamination is required.

Schedule of Air Samples: Transmission Electron Microscopy:

In each homogeneous Work Area after completion of all cleaning Work, samples will be taken and analyzed as follows:

Samples will be collected on 25 mm. cassettes with a 0.45 mixed cellulose ester in a cassette with a conductive extension cowl.

Detection Limit: 0.005 structures per cubic centimeter

Analysis: Fibers on each filter will be measured using the NIOSH Method 7402 entitled "Fibers" published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987.

Fibers: referred to in this section include fibers regardless of composition as counted by the NIOSH 7402 Method.

Release Criteria: Decontamination of the Work Site is complete when every Work Area sample is below 70 s/cc above and the 95% Upper Confidence Level is at or below the Detection Limit. If any sample is above the Detection Limit, then the decontamination is incomplete and recleaning per section 01711 Project Decontamination is required

LABORATORY TESTING:

PHASE CONTRAST MICROSCOPY:

The services of a testing laboratory (Third Party Air Monitor) will be employed by the Owner to perform laboratory analysis of the air samples. A microscope and technician will be set up at the job site, or samples will be sent daily so that verbal reports on air samples results can be obtained within 24 hours. A complete record of air monitoring tests and results can be furnished to the Contractor upon request.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION - 01714

SECTION 02081 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to Division-1 Specification Sections, apply to this Section.

GENERAL:

Work of this Section applies to removal of asbestos-containing materials that include, but are not limited to, the following:

- Removal of Acoustical Ceiling Material
- Removal of Asbestos Contaminated Materials
- Removal of Floor Tile
- Removal of Floor Tile Adhesive
- Removal of Pipe Fitting Insulation
- Removal of Pipe Insulation

RELATED WORK SPECIFIED ELSEWHERE:

Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.

Project Decontamination procedures after Removal of the Primary Barrier are specified in Section 01711 Project Decontamination.

Disposal of waste materials is specified in Section 02084 Disposal of Waste Materials.

SUBMITTALS:

Before Start of Work: Submit the following to the Environmental Consultant for review. Do not start Work until these submittals are returned with Environmental Consultant's action stamp indicating that the submittal is returned for unrestricted use.

Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.

NESHAP Certification: Submit certification from manufacturer of surfactant, removal encapsulant and mastic remover that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet or remove Asbestos-Containing Materials to which it is applied as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).

Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material, mastic remover and solvent proposed for use on the Work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

PART 2 - PRODUCTS:

Wetting Materials: For wetting prior to disturbance of ACM, use amended water.

Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6.0 mil thick as indicated, clear, frosted, or black as indicated.

Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive, which is formulated to stick aggressively to sheet polyethylene.

Spray Cement: Provide spray adhesive in aerosol cans, which is specifically formulated to stick tenaciously to sheet polyethylene.

Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos-Containing Waste Material.

Fiberboard or Metal Drums: Provide heavy-duty leak tight fiberboard or metal drums, if required, with tight sealing locking metal tops.

PART 3 - EXECUTION

WORKER PROTECTION:

Before beginning Work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

Thoroughly wet to satisfaction of Environmental Consultant, Asbestos-Containing Materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water to penetrate material thoroughly. Spray material repeatedly during the Work process to maintain a continuously wet condition. Perforate outer covering of any installation which has been painted and/or jacketed in order to allow penetration of amended water or use injection equipment to wet material under the covering. Where necessary, carefully strip away while simultaneously spraying amended water on the installation to minimize dispersal of asbestos fibers into the air.

Mist Work Area continuously with amended water whenever necessary to reduce airborne fiber levels.

Remove saturated Asbestos-Containing Material in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit.

Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing.

Friable Materials: Spray with a mist of amended water. Allow amended water to saturate material to substrate. Remove material and hand-place in a disposal bag. Do not allow to drop to floor. Remove any residue with stiff bristle nylon hand brush.

All materials shall be disposed of in accordance with Section 02084 of this Specification.

END OF SECTION - 02081

SECTION 02084 - DISPOSAL OF WASTE MATERIALS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract Documents, including, but not limited to Division-1 Specification Sections, apply to this Section.

DESCRIPTION OF THE WORK:

This section describes the disposal of Waste Materials. Disposal includes packaging, transportation, and disposal of all waste materials.

DISPOSAL FACILITIES:

For asbestos-containing waste, the contractor shall use list in their proposal which landfill they are proposing to use. The Owner has the right to make the final selection on the landfill

SUBMITTALS:

Before Start of Work: Submit the following to the Environmental Consultant for review. Do not start Work until these submittals are returned with Environmental Consultant's action stamp indicating that the submittal is returned for unrestricted use.

Copy of state or local license for waste hauler, if required.

Sample of labels to be used. Include label identifying the name of the waste generator and the location at which the waste was generated.

Chain of Custody form and sample of Waste Shipment Record as required by NESHAP.

Submit fully executed copies of all manifests and disposal site receipts including grid location of disposed materials to the Owner and Environmental Consultant as required by NESHAP.

PART 2 - PRODUCTS:

Disposal Bags for Asbestos Waste: Provide 6 mil thick leak-tight polyethylene bags labeled with three labels with text as follows:

First Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

Second Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule. Published November 21, 1986, and revised February 17, 1987:

RQ HAZARDOUS
SUBSTANCE,
SOLID, NOS,
ORM-E, NA 9188
(ASBESTOS)

Third Label: Affix a label to each waste container with the following, in accordance with USEPA National Emission Standards for Hazardous Air Pollutants; asbestos NESHAP revision, Final Rule, 40 CFR Part 61, published November 20, 1990:

Name, Address and Telephone number of Contractor

Asbestos Abatement
Highland Elementary School
Riverview Gardens Schools
174 Shepley Road
St. Louis, Missouri

PART 3 - EXECUTION

Comply with the following sections during all phases of this Work:

Section 01560 Worker Protection
Section 01562 Respiratory Protection

GENERAL:

All waste is to be hauled by a waste hauler with all required licenses from all state and local authorities with jurisdiction.

Load all asbestos-containing waste material in disposal bags or leak-tight drums in accordance with all state and local landfill regulations.

Protect interior of truck or dumpster with Critical and Primary Barriers as described in Section 01526 Temporary Enclosures.

Mark vehicle used to transport waste during loading and unloading with signs specified in accordance with USEPA, National Emission Standard for Hazardous Air Pollutants; Asbestos NESHAP Revision, Final Rule, 40 CFR 61.149(d)(1). Published November 20, 1990:

DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD
Authorized Personnel Only

Carefully load containerized waste in fully enclosed dumpsters, trucks, or other appropriate vehicles for transport. Exercise care before and during transport, to ensure that no unauthorized persons have access to the material.

Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster. Truck or dumpster shall be locked at all times when not loading or unloading.

Do not transport disposal-bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.

At disposal site unload containerized waste:

Sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to Work Site for rebagging. Clean entire truck and contents using procedures set forth in section 01711 Project Decontamination.

Retain receipts from landfill for materials disposed.

Indicate grid where each load is disposed at the landfill.

At completion of hauling and disposal of each load, submit fully executed Waste Shipment Record and, if applicable, landfill receipt to Owner with a copy to the Environmental Consultant with the Application for Payment for the construction period covered by the application submitted, or within 35 days from the date the waste was accepted by the initial transporter.

The contractor is responsible for performing all disposal work in accordance with local, state, and federal regulations governing asbestos waste.

END OF SECTION - 02084

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

The abatement contractor will be responsible for supplying Environmental Consultants, LLC with 10 each 16-gauge 100 ft. extension cords in proper working condition with adequate electrical service to each for the sole use of the Environmental Consultants. As well as the electrical extension cords, the abatement contractor will be responsible for 3 each 3-way extension plugs for use by the Environmental Consultant. These extension cords and 3-way extension plugs are for the Environmental Consultants use only and cannot be utilized by the abatement contractor during this project. These extension cords must be connected to the electrical supply utilizing a GFCI and must remain operational for the entire project. If any of these cords are not functioning at any time during the project, the Environmental Consultant may implement a stop work order until the electrical situation is corrected at no additional cost to the Owner or Environmental Consultant.

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract Documents, including, but not limited to Division-1 Specification Sections, apply to this Section.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

DESCRIPTION OF WORK

Includes the furnishing of all labor, material, tools, supervision, etc., required to disconnect, remove, and replace electrical components as necessary in order to facilitate asbestos abatement procedures.

Any removal of electrical equipment, conduit, wire, etc., shall be done as required. Items deemed reusable will be stored in a manner, which facilitates reuse. Damage to equipment due to poor workmanship on the part of the contractor shall be replaced at his expense.

Any existing electrical work obstructing the removal of materials listed in other sections of these specifications of impeding the progress of asbestos abatement will be removed according to guidelines previously stated.

END OF SECTION - 16000