ADDENDUM NO. 2

to the Contract Documents for

New Bedford High School Infrastructure Upgrades – Phase 2: Fire Alarm & HVAC

New Bedford, Massachusetts

Mount Vernon Group Inc.
47 North Second St
New Bedford, MA 02740

Addendum Date: September 30, 2014

TO ALL BIDDERS AND SUB-BIDDERS

This Addendum modifies, amends, and supplements designated parts of the Contract Documents for New Bedford High School Infrastructure Upgrades – Phase 2 : Fire Alarm & HVAC, New Bedford, Massachusetts set dated September 17, 2014 and is hereby made a part thereof by reference and shall be as binding as though inserted in its entirety in the locations designated hereunder. It shall be the responsibility of each General Bidder and all Filed Sub-Bidders to notify all sub-contractors and suppliers he/she proposes to use for the various parts of the works, of any changes or modifications contained in this Addendum. No claims for additional compensation because of the lack of knowledge of the contents of this Addendum will be considered.

THE NUMBER OF THIS ADDENDUM MUST BE INSERTED IN PARAGRAPH B. OF THE "FORM FOR SUB-BID" AND IN PARAGRAPH B. OF THE "FORM FOR GENERAL BID"

THIS ADDENDUM CONSISTS OF PAGES NUMBERED: **AD2-1** through **AD2-2**

THIS ADDENDUM CONSISTS OF DRAWINGS: N/A.

THIS ADDENDUM CONSISTS OF SKETCHES: N/A

THIS ADDENDUM CONSISTS OF SPECIFICATIONS:
00 00 01 – Table of Contents (Updated)
00 03 25 – Form For Sub-Bid
00 30 00 – Form For General Bid
02 28 20 : Asbestos Remediation

CHANGES TO THE PROJECT MANUAL

SECTION 00 03 25 – FORM FOR SUB-BID

ITEM 01 See attached new and revised Form for Sub-Bid

SECTION 00 30 00 – FORM FOR GENERAL BID

ITEM 01 See attached new and revised Form for General Bid

SECTION 02 28 20 – ASBESTOS ABATEMENT

ITEM 01 Insert Specification Section 02 28 20 – Asbestos Remediation

General

ITEM 01 City of New Bedford General Conditions of the Contract
Replace Working Hours within Article I with new revised Work Hour Requirements. See Attached.

ITEM 02 ***The Following Paragraph from Addendum # 1 Shall be Deleted in its Entirety: :***

SECTION 09 30 00 – Tiling
Item 01, 3.03, Repair, Cleaning, and Protection. Add the Following:
" Tiling File Sub Shall be Responsible for All Required Tile Demolition as required to Install new and repairs to Pool Tile. "

GENERAL:

The Following is a Clarification as it relates to the Minority Business Enterprise (MBE) and Women Business Enterprise (WBE) participation requirements:

The City of New Bedford requires any public work construction project over $50,000 to allow for Minority Business Enterprise (MBE) and Women Business Enterprise (WBE) participation. The City requires MBE participation of at least 11% of the total bid and WBE participation of at least 5% of the total bid – equaling 17% in total.

If the required MBE/WBE percentages cannot be met for the project, the referenced "Request for Waiver" form must be completed and timely submitted. The Request for Waiver provides the bidder with the opportunity to explain in writing the reasons for failing to comply with the above referenced EEO/AA requirements. Please note that in order for the "Request for Waiver" to be approved, the contractor must show that good faith efforts were undertaken to comply with the percentage goals, as specified. Please see "Request for Waiver" for additional information/instruction regarding requisite steps to properly submit a waiver of MBE/WBE participation.

SECTION 00 00 01

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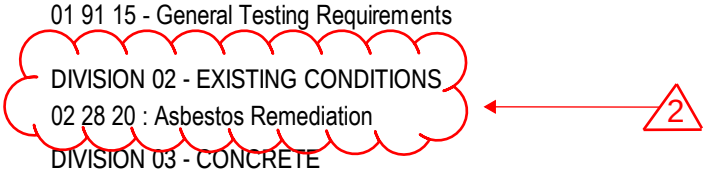

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SECTION 00 03 25

FORM FOR SUB-BID

FROM:

_____

_____

_____

TO:

and
ALL GENERAL BIDDERS EXCEPT THOSE EXCLUDED:

A. The undersigned proposes to furnish all labor and materials required for completing, in accordance with the hereinafter described Contract Documents, including Plans, Specifications and Addenda, all the Work specified in Section No. _____ SUB-TRADE _____ of the Specifications and in any Plans specified in such Section, prepared by Mount Vernon Group Architects, Inc., 47 N. Second Street, New Bedford, MA 02740 for the New Bedford High School Infrastructure Upgrades - Phase 2: Fire Alarm/HVAC Massachusetts, for the Contract Sum of:

_____

_____DOLLARS ($_____)

B. This sub-bid includes Addenda numbered ___,____,____,____,____,____,____,____,____,____,____,___

C. This sub-bid

_____May be used by all General Bidders except:_____

_____May be used only by the following General Bidders:_____

(To exclude General Bidders, insert "X" on one line only and fill in the blank following that line. Do not answer "C" if no General Bidders are excluded.)

D. The undersigned agrees that, if he is selected as a Sub-bidder, he will, within five (5) days, Saturdays, Sundays and legal holidays excluded, after presentation of a subcontract by the General Bidder selected as the General Contractor, execute with such General Bidder a subcontract in accordance with the terms of this sub-bid, and contingent upon the execution of the General Contract, and, if requested so to do in the general bid by such General Bidder, who shall pay the premiums therefor, or if prequalification is required pursuant to Section 44D3/4, furnish a performance and payment bond of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority, in the full sum of the subcontract price.

If prequalification is required pursuant to Section 44D3/4 of MGL Chapter 149, the undersigned sub-bidder further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as required therein and that all the cost of all such premiums is included in the amount set forth in Item A of this sub-bid.

E. The names of all persons, firms, and corporations furnishing to the undersigned labor or labor and materials for the class or classes or part thereof of Work for which the provisions of the Section of the Specifications for this sub-trade require a listing in this paragraph, (including the undersigned if customarily furnished by persons on his own payroll and in the absence of a contrary provision in the specifications) the name of each such class of Work or part thereof and the bid price for each such class of Work or part thereof are:

Name:	Class of Work:	Bid Price:

(Do not give bid price for any class or part thereof furnished by the undersigned.)

F. The undersigned agrees that the above list of bids to the undersigned represents bona fide bids based on the Drawings, Plans, Specifications and Addenda and that, if the undersigned is awarded the Contract, they will be used for the Work indicated at the amounts stated, if satisfactory to the Awarding Authority.

G. The undersigned further agrees to be bound to the General Contractor by the terms of the herein before described Plans, Specifications (including all General Conditions stated therein) and Addenda, and to assume toward the General Contractor by all the obligations and responsibilities that the General Contractor, by those documents, assumes toward the Owner.

H. The undersigned offers the following information as evidence of his qualifications to perform the Work as bid upon according to all the requirements of the Plans and Specifications:

1. Have been in business under present business name _____years.
2. Ever failed to complete any Work awarded? _____ (if yes, briefly explain)

3. List one or more recent buildings with name of General Contractor and Architect on which you served as Sub-contractor for Work of similar character as required for this project.

	BUILDING TYPE	ARCHITECT	GENERAL CONTRACTOR	CONTRACT AMOUNT
a.				
b.				
c.				

4. Bank Reference:_____

I. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44F.

The undersigned further certifies under penalties of perjury that this sub-bid is in all respects bona fide, fair, and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction Work in the Commonwealth under the provisions of sections twenty-nine F. of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

A bid deposit, in the amount of 5% of the proposed Contract Price, conditioned upon the faithful performance by the bidder of the agreements contained in this bid, shall be attached to this proposal. The undersigned agrees that, if he or she is designated as the successful bidder, but fails to execute a contract in accordance with the agreements contained in this bid, this bid security shall become the property of the Awarding Authority as liquidated damages.

TAXES: As required by MGL Chapter 62c, Section 49A, the undersigned certifies that he or she has complied with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

The undersigned hereby agrees that this bid shall be valid for a period of 30 days, Saturdays, Sundays, and legal holidays excluded, after the date designated for opening of the General Bids.

The undersigned agrees to furnish the following information prior to the time established for execution of the Contract.

1. Certificate of Corporate Vote, or names of Partners in a Partnership.
2. Massachusetts Foreign Corporation Certificate, if applicable.

DATE_____ _____
(Name of Sub-Bidder)

_____
By

_____
(Title and Name of Person Signing)

_____
(Business Address)

_____ _____
(Business Telephone No.) (City and State)

Note: If Bidder is a corporation, indicate State of Incorporation under signature; if a partnership, give full names of all partners.

The following information is furnished under the penalties of perjury:

If a corporation:

Incorporated in what State _____

President _____

Treasurer _____

Secretary _____

If you are a foreign (out of state) corporation, are you registered with the Secretary of the Commonwealth in accordance with the provisions of Chapter 181 of the General Laws,

Sections 3 and 5 _____

If you are selected by the General Contractor and awarded the sub-contract for this Work, you are required under Massachusetts General Laws Chapter 30, Section 39L to obtain from the Secretary of State, Foreign Corporation Section, Room 136 State House, a certificate stating that your corporation is registered, and furnish said certificate to this Awarding Authority.

If a Partnership: (Name all partners.)

Business Address _____

Name of Partner _____

Residence _____

Name of Partner _____

Residence _____

END OF FORM FOR SUB-BID

SECTION 00 30 00

FORM FOR GENERAL BID

FROM:

_____

_____

_____

TO:

A The undersigned proposes to furnish all labor and materials required for New Bedford High School Infrastructure Upgrades, New Bedford, Massachusetts, in accordance with the accompanying Plans and Specifications prepared by the Mount Vernon Group Architects, Inc., 47 N. Second Street, New Bedford, Massachusetts 04720, (508) 991-7500, for the Contract Price specified below, subject to additions and deductions according to the terms of the Specifications,

B. This bid includes addenda numbered ___,____,____,____,____,____,____,____,____,____,____,___,

C. The Proposed Contract Price is _____

_____DOLLARS ($_____)

D. The subdivision of the proposed Contract Price is as follows:

Item 1: The work of the General Contractor, being all work other than that covered by Item 2,

$_____

_____Dollars ($_____)

Item 2: Filed Sub-Bids as follows:

SUB-TRADE	NAME OF SUB-BIDDER	AMOUNT	BOND REQUIRED
Section 23 00 01 Mechanical	_____	$_____	_____
Section 26 00 01 Electrical	_____	$_____	_____

TOTAL OF ITEM 2 $

_____

E. The undersigned agrees that each of the above-named sub-bidders will be used for the Work indicated at the amount stated, unless a substitution is made.

The undersigned agrees that if he is selected as General Contractor, he will promptly confer with the Awarding Authority on the question of Sub-bidders and that the Awarding Authority may substitute for any sub-bid listed above a sub-bid duly filed with the Awarding Authority by another sub-bidder for the sub-trade, against whose standing and ability the undersigned makes no objection; and that the undersigned will use all such finally selected sub-bidders at the amount named in their respective sub-bids and be in every way responsible for them and their Work as if they had been originally named in this General Bid the total Contract Price being adjusted to conform thereto.

The undersigned agrees that, if he is selected as General Contractor, he will within (5) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, execute a Contract in accordance with the terms of this General Bid and furnish a performance bond and also a labor and materials or payment bond each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of one hundred percent (100%) of the Contract Price, the premiums for which are to be paid by the General Contractor and are included in the Contract Price.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

The undersigned hereby certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any other rule or regulation promulgated thereunder.

The undersigned certifies that he shall comply with the provisions of the "Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program" as set forth in the contract, Article XII, included under Section 00900 Labor Standard of the Commonwealth

Should the notice to contractors, bid form, contract, plans or specifications require submission of special data to accompany the bid, the awarding authority reserved the right to rule the bidder's failure to submit such data an informality and to receive said bid subsequently, within reasonable time as set by the awarding authority.

DATE_____ _____
(Print Name of General Bidder)

Federal Employees Identification
Number _____ _____
(Signature) (Title)

_____
(Business Address)

_____
(Telephone No.)

(City, State and Zip Code)

END OF FORM FOR GENERAL BID

SECTION 02 28 20

ASBESTOS REMEDIATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. All of the Contract Documents, including Drawings, General Conditions, and all Sections of Division 1- General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

A. The Work of this Section shall include, but not be limited to, furnishing and installation of the following:

1. All labor, material, equipment, and services specified herein or reasonably necessary for and incidental to removal and legal disposal of Asbestos Containing Materials (ACM).
2. The complete isolation of the Work area for the duration of the Work so as to prevent asbestos contaminated dust or debris from passing beyond the isolated areas, removal, and disposal of ACM.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Carefully examine all of the Contract Documents for requirements which affect the Work of this Section.

B. Other Specification Sections which directly relate to the Work of this Section.

1.04 POTENTIAL ASBESTOS HAZARDS

A. The disturbance or dislocation of ACM 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.

B. 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 ACM, 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 regulations of applicable federal, state and local agencies.

C. If the Contractor failed to comply with the requirements of the specifications, the Owner's Representative (Project Monitor) may present a written stop of Work order. The Contractor must immediately and automatically stop all Work until authorized in writing by the Project Monitor to commence Work. All costs related to delays shall be at the Contractor's expense.

1.05 DEFINITIONS

A. Abatement: Procedures to control fiber release from ACM. Includes encapsulation, enclosure, and removal.

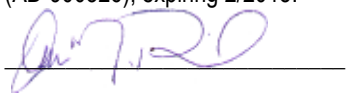
B. Air Monitoring: The process of measuring the fiber content of a specific volume of air in a stated period of time.

C. Asbestos: The name given to a number of naturally occurring hydrated mineral silicates that possess a unique crystalline structure are incombustible and are separable into fibers. Asbestos includes Chrysotile, Crocidolite, Amosite, Anthophyllite, and Actinolite.

D. ACM: Any material containing more than 1% by weight of asbestos of any type or mixture of types. State laws may vary in their definition of asbestos containing material.

E. Authorized Visitor: The Owner, the Designer, or a representative of any regulatory or other agency having jurisdiction over the project.

F. Designer: Commonwealth of Massachusetts licensed Designer Ammar Dieb, Universal Environmental Consultants (AD-900326), expiring 2/2015.



G. Enclosure: All herein specified procedures necessary to complete enclosure of all ACM behind airtight, impermeable, permanent barriers.

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

I. Removal: All herein specified procedures necessary to strip all ACM from the designated areas and to dispose of these materials at an acceptable site.

J. 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.

1.06 CONTRACTOR USE OF PREMISES

A. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary, obtain and pay for such storage off site.

1.07 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. Provide a full time Site Supervisor with all appropriate state licenses, 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 Competent Person as required by 29CFR 1926 for the Contractor and is the Contractor's representative responsible for compliance with all applicable federal, state and local regulations. This person must have completed a course at an EPA Training Center or equivalent certificate course in asbestos abatement procedures, have had a minimum of two years on the job training and meet any additional requirements set forth in 29 CFR 1926 for a Competent Person. The Site Supervisor must be certified by the Commonwealth.

B. Contractor shall provide proof of such certification to the Designer not less than 10 days (Document Submission Date) prior to commencing any Work. The accredited Supervisor must be at the Work site at all times while Work is in progress.

1.08 SPECIAL REPORTS

A. Except as otherwise indicated, submit special reports directly to the Project Monitor within one day of occurrence requiring special report, with copies to all others affected by the occurrence.

B. When an event of unusual and significant nature occurs at the site (examples: failure of negative pressure system, rupture of temporary enclosures, unauthorized entry into work areas), prepare and submit a special report listing date and time of event, chain of events, response by Contractor's personnel, evaluation of results, and similar pertinent information. When such events are known or predictable in advance, advise the Project Monitor in advance at earliest possible date.

C. Prepare and submit special reports of significant accidents, at the site and anywhere else work is in progress related to this project. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss.

1.09 PERMITS AND NOTIFICATIONS

A. Secure all permits related to asbestos removal, hauling, and disposition and provide timely notification as may be required by federal, state and local authorities including the Health department. Notify the Regional Office of the United States Environmental Protection Agency (USEPA) in accordance with 40 CFR 61.22 (d)(1) and provide copies of the notification to the Designer and the State Environmental Regulatory Agency 10 Working days prior to commencement of the Work.

B. No later than the Document Submission Date, notify the local fire and police department, in writing, of proposed asbestos abatement Work. Advice the fire department of the nature of the asbestos abatement Work, and the necessity that all firefighting personnel who may enter the Work site in the case of fire wear self contained breathing apparatus. Provide one copy of the notices to the Designer prior to commencing the project.

C. Submit proof to the Designer that all required permits, site location, and arrangements for transport and disposal of ACM have been obtained.

1.10 RESPIRATOR PROGRAM

A. Establish a respirator program as required by ANSI Z88.2 and 29 CFR l926.1101 (h), l926.l03, and l9l0.l34.

1.11 CODES AND REGULATIONS

A. 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.

B. The Contractor shall assume full responsibility and liability for the compliance with all applicable federal, state, and local regulations pertaining to Work practices, hauling, disposal, and protection of Workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records or personnel as required by the applicable federal, state, and local regulations. The Contractor shall hold the Owner, Designer and, Owner's Representative harmless for failure to comply with any applicable Work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

1.12 REFERENCE STANDARDS

A. Unless otherwise indicated, all referenced standards shall be the latest edition available at the time of bidding. Any requirements of these specifications shall in no way invalidate the minimum requirements of the referenced standards. Comply with the provisions of the following codes and standards, except as otherwise shown or specified. Where conflict exists, the more stringent requirements shall apply.

B. U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA) requirements, which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

1.13 SUBMITTALS

A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - MA CHPS Submittals, and Section 01 81 13 - MA CHPS Requirements, or as otherwise required for completion and transmittal of all documents required for MA CHPS Certification, in accordance with requirements of the Contract Documents.

B. Submit all required licenses and certification required under MGLC.149 S 44D and 453 CMR 6.00.

C. Submit a copy of the written respirator program.

D. Submit manufacturer's certification that vacuums, ventilation equipment, and other equipment required to contain airborne asbestos fibers conform to ANSI Z9.2. Manufacturer's brochures without certifications are not acceptable.

E. Submit a detailed plan of the Work procedures to be used in the removal of materials containing asbestos. Such plan shall include location of asbestos control areas, decontamination units, layout of decontamination units, location of access routes to asbestos control areas, interface of trades involved in the construction, sequencing of asbestos related Work, disposal plan, type of wetting agent and asbestos sealer to be used, air monitoring, and a detailed description of the method to be employed in order to control pollution.

F. Submit a plan for emergency actions.

G. Submit the name, address, and telephone number of the testing laboratory selected for the personal air monitoring of airborne concentrations of asbestos fibers to meet Federal and State OSHA regulations, including Short Term Exposure Limit sampling (STEL). The laboratory must have satisfactorily completed the NIST Proficiency Analytical Testing (PAT) Program and be licensed by the appropriate state agency. Submit the certification that persons counting the samples have been judged proficient by successful completion of the NIOSH 582 course (or equivalent) or be listed in the AIHA Asbestos Analysts Registry (AAR). All OSHA required air monitoring should be done in accordance with the most current NIOSH 7400 method.

H. Submit the design of the negative pressure system.

1. Number of negative air machines required and the calculations necessary to determine the number of machines.
2. Description of projected airflow within the Work area and methods required providing adequate airflow in all portions of the Work area.
3. Manufacturers product data and certifications for the machines to be used.
4. Location of machines in the Work area.
5. Location of pressure differential measurement equipment.
6. Manufacturers product data on equipment used to monitor pressure differential.

I. Submit for approval the form of security and safety log, which will be maintained on the project.

J. Submit written evidence that the landfill to be used for disposal of asbestos is approved for disposal of asbestos by the Department of Environmental Protection.

K. Submit proof that training requirements as specified in 29CFR l926.1101 (k) (3) and by appropriate state agencies has been complied with.

L. Submit a description of the plans for construction of decontamination enclosure systems and for isolation of the Work areas in compliance with this specification and applicable regulations.

M. Submit a schedule including Work dates, shift time, number of employees, dates of start and completion of all Work, asbestos abatement, inspection and clearance monitoring, each phase of refinishing, and final inspections). Schedule shall be updated with each partial payment request.

N. Submit copies of all notifications.

O. Submit copy of asbestos license.

1.14 REPORTING

A. Maintain on site a daily log documenting the dates and time of the following items, as well as other significant events:
1. Minutes of meetings: purpose, attendees, and brief discussion
2. Visitations: authorized and unauthorized
3. Personnel: by name, entering and leaving the Work area
4. Special or unusual events

B. Documentation with confirmation signature of Owner's on-site representative of the following:

1. Inspection of Work area preparation prior to start of removal and daily thereafter.
2. Removal of waste materials from Work area and transport and disposal at approved site.

C. Provide two bound copies of this log to the Owner's Representative with the application for final payment.

D. 15% of the Contract will be held until original copies of the Waste Shipment Records are submitted.

1.15 AIR MONITORING

A. Throughout the entire removal and cleaning operations, air monitoring will be conducted to ensure that the Contractor is complying with the EPA and OSHA regulations and any applicable state and local government regulations. The Owner will provide an Project Monitor (Universal Environmental Consultants) to take air samples at the job site at no cost to the Contractor.

B. The purpose of the Owner's air monitoring will be to detect faults in the Work area isolation such as:
1. Contamination of the building outside of the Work area with airborne asbestos fibers,
2. Failure of filtration or rupture in the negative pressure system,
3. Contamination of the exterior of the building with airborne asbestos fibers.
4. Should any of the above occur, the Contractor should immediately cease asbestos activities until the fault is corrected. Work shall not recommence until authorized by the Designer.

1.16 AIRBORNE FIBER COUNTS

A. If any air sample taken outside of the work area exceeds the base line established below, immediately and automatically stop all work. If this air sample was taken inside the building and outside of critical barriers around the work area, immediately erect new critical barriers to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, and floor).
1. Decontaminate the affected area in accordance with the procedures outlined in DECONTAMINATION OF WORK AREA.
2. Respiratory protection shall be worn in affected area.

3. Leave critical barriers in place until completion of work and ensure that the operation of the negative pressure system in the work area results in a flow of air from the balance of the building into the affected area.
4. 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 WORK AREA CLEARANCE.
5. A final inspection after removal of poly shall be completed by the Contractor's Supervisor and the Project Monitor.

B. The following procedure will be used to resolve any disputes regarding fiber types when a project has been stopped due to excessive airborne fiber counts. "Airborne Fibers" referred to above include all fibers regardless of composition as counted in the NIOSH 7400 Procedure. If work has stopped due to high airborne fiber counts, air samples will be secured in the same area by the Project Monitor for analysis by electron microscopy. "Airborne Fibers" counted in samples analyzed by Scanning or Transmission Electron microscopy shall be only asbestos fibers, but of any diameter and length. Subsequent to analysis by electron microscopy the number of "Airborne Fibers" shall be determined by multiplying the number of fibers, regardless of composition, counted by the NIOSH 7400 procedure by a number equal to asbestos fibers counted divided by all fibers counted in the electron microscopy analysis.

C. If Electron microscopy is used to arrive at the basis for determining "Airborne Fiber" counts in accordance with the above paragraph, and if the average of airborne asbestos fibers in all samples taken outside the work area exceeds the base line, then the cost of such analysis will be born by the Contractor, at no additional cost to the Owner.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Plastic Sheet: 9-mil minimum thickness, unless otherwise specified, in sizes to minimize the frequency of joints.

B. Tape: Capable of sealing joints of adjacent sheets of plastic and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under dry and wet conditions, including use of amended water. Provide tape, which minimizes damage to surface, finishes.

C. Cleaning Materials: Use materials recommended by manufacturer of surface to be cleaned. Use cleaning materials only on surfaces recommended by the cleaning material manufacturer.

D. Impermeable Containers: Suitable to receive and retain any asbestos containing or contaminated materials until disposal at an approved site. Containers must be both air and watertight.

E. Provide metal or fiber drums with tightly fitting lids and double thickness 6 mil plastic bags capable of being sealed, and sized to fit within the drums.

2.02 EQUIPMENT

A. Supply the required number of asbestos air filtration units to the site in accordance with these specifications. Each unit shall include the following:
1. Cabinet: Constructed of steel or other durable materials able to withstand damage from rough handling and transportation. Cabinet shall be factory sealed to prevent asbestos containing dust from being released during use, transport, or maintenance. Access to and replacement of all air filters shall be from intake end. Unit shall be mounted on casters or wheels.
2. Fans: Rate capacity of fan according to useable air moving capacity under actual operating conditions. Use centrifugal type fan.
3. HEPA Filters: The final filter shall be the HEPA type. The filter media (folded into closely pleated panels) must be completely sealed on all edges with a structurally rigid frame. A continuous rubber gasket shall be located between the filter and the filter housing to form a tight seal.

4. Each filter shall be individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles. Testing shall be in accordance with Military Standard Number 282 and Army Instruction Manual I36-300-I75A. Each filter shall bear a UL 586 label to indicate ability to perform under specified conditions. Each filter shall be marked with the name of the manufacturer, serial number, airflow rating, efficiency and resistance.
5. Prefilters: 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. The first stage prefilter shall be a low efficiency type (e.g., for particles I0 um and larger). The second stage (or intermediate) filter shall have a medium efficiency (e.g., effective for particles down to 5 um). Prefilters and intermediate filters shall be installed either on or in the intake grid of the unit and held in place with special housings or clamps.
6. Instrumentation: Each unit shall be equipped with a Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed. A table indicating the useable air handling capacity for various static pressure readings on the Magnahelic gauge shall be affixed near the gauge for reference, or the Magnahelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) air delivery at that point. Provide units equipped with an elapsed time meter to show the total accumulated hours of operation.
7. Safety and Warning Devices: The unit shall have an electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter. Units shall be equipped with automatic shutdown system to stop fan in the event of a major rupture in the HEPA filter or blocked air discharge. Indicator lights are required to indicate normal operation, too high a pressure drop across the filters (i.e., filter overloading), and too low of a pressure drop (i.e., major rupture in HEPA filter or obstructed discharge).
8. Electrical Components: Provide electrical components, which are approved by the National Electrical Manufacturers Association (NEMA), and Underwriter's Laboratories (UL). Each unit shall be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet shall be grounded.

2.03 DANGER SIGNS AND LABELS

A. Provide and display danger signs at each location where airborne concentrations of asbestos fibers may be in excess of 0.0l fibers/cc. Post signs at such a distance from such a location so that an employee may read the signs and take necessary protective steps before entering the area marked by the signs. Post signs at all approaches to Work areas or areas containing excessive concentrations of airborne asbestos fibers.

B. The sign shall also contain a pictorial representation of possible danger or hazard, such as a skull and cross bone, or other suitable warning as approved by the Designer. Sign shall meet the requirements of 29CFR I926.200.

C. A sample of the signs to be used shall be submitted to the Designer for approval prior to beginning Work area preparation.

2.04 PERSONNEL DECONTAMINATION UNIT

A. Prior to any asbestos abatement work, including placement of plastic on walls that will contact or disturb asbestos containing surfaces, or removal of light fixtures or any items on asbestos containing surfaces, construct a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Changing Room, Shower Room, 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 remove equipment or materials through Personnel Decontamination Unit. Provide temporary lighting within decontamination units.

B. Build suitable framing or use existing rooms, with the Project Monitor's written approval, connected with framed in tunnels if necessary; line with 6 mil plastic; seal with tape at all lap joints in the plastic for all enclosures and decontamination enclosure system rooms. Decontamination units and access tunnels constructed outside must be constructed with tops made of 5/8" plywood, or approved equal. In all cases, access between contaminated and uncontaminated rooms or areas shall be through an airlock. In all cases, access between any two rooms within the decontamination enclosure systems shall be through a curtained doorway.

C. Provide a changing (clean) room 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 Clean Room and the rest of the building. Locate so that access to work area from Clean Room is through Shower Room. Separate Clean Room from the building by a sheet polyethylene flapped doorway.

D. 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.

E. An existing room may be utilized as the changing room if it is suitably located and of a configuration whereby workmen may enter the Clean Room directly from the Shower Room. Protect all surfaces of room with sheet plastic. Authorization for this must be obtained from the Project Monitor in writing prior to start of construction.
   1. Maintain floor of changing room dry and clean at all times. Do not allow overflow water from shower to wet floor in Changing Room.
   2. Damp wipe all surfaces twice after each shift change with a disinfectant solution.
   3. Provide a continuously adequate supply of disposable bath towels.
   4. Provide posted information for all emergency phone numbers and procedures.
   5. Provide one storage locker per employee.
   6. Provide all other components indicated on the contract drawings.

F. Provide a completely water tight operational shower to be used for transit by cleanly dressed workers 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.

G. 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 floor in shower pan at elevation of top of pan.
   1. Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.
   2. Separate this room from the Clean and Equipment Rooms with airtight walls fabricated of 6-mil polyethylene.
   3. Provide showerhead and controls.
   4. Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.
   5. Provide a soap dish and a continuously adequate supply of soap and maintain in sanitary condition.
   6. Arrange so that water from showering does not splash into the Clean or Equipment Rooms.
   7. 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.
   8. Provide flexible hose shower head Pump wastewater to drain and provide 20 micron and 5 micron wastewater filters in line to drain or waste water storage. Locate filter hose inside shower unit so that water lost during filter changes is caught by shower pan and pumped to exterior filtering system.

H. Provide equipment room for contaminated area; work equipment; footwear and additional contaminated work clothing are to be left here. This is a change and transit area for workers. Separate this room from the work area by a 6-mil polyethylene flap doorway.
   1. Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.
   2. Separate this room from the Shower Room and work area with airtight walls fabricated of 6-mil polyethylene.

I. Separate work area from the Equipment Room by polyethylene barriers. 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 after each shift change.

2.05 EQUIPMENT DECONTAMINATION UNITS

A. In areas with only one access, it may be impossible to utilize a separate Equipment Decontaminate Unit. In this case, all equipment and waste materials will exit through the Personnel Decontamination Chambers.

B. When two accesses to the work area are available, provide an Equipment Decontamination Unit consisting of a serial arrangement of rooms, Clean Room, Holding Room, 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.

C. Provide an enclosed shower unit located in work area just outside Wash Room as an equipment, bag and container cleaning station.

D. Provide Wash Room for cleaning of bagged or contained asbestos containing waste materials passed from the work area. Construct Wash Room of 2 by 4 inch (minimum) wood 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 flaps of 6 mil polyethylene sheeting, or rigid self-closing doors.

E. Provide Holding Room as a drop location for bagged ACM passed from the Wash Room. Construct Holding Room of 2 by 4 inch (minimum) wood framing and polyethylene sheeting, at least 6-mil in thickness and located so that bagged materials cannot be passed from the Wash Room through the Holding Room to the Clean Room.

F. Provide Clean Room to isolate the Holding Room from the building exterior. Construct Clean Room of 2 by 4-inch (minimum) wood framing and polyethylene sheeting, at least 6-mil in thickness and locate to provide access to the Holding Room from the building exterior. Separate this room from the exterior by flaps of 6 mil polyethylene sheeting, or rigid self-closing doors.

2.06 PERSONNEL PROTECTION

A. Prior to commencement of work, the workers shall be instructed in, and shall be knowledgeable of, the hazards of asbestos exposure; use and fitting of respirators; protective dress; use of showers; entry and exit from work areas, and all aspects of work procedures and protective measures.

B. It is the responsibility of the Contractor to assure that all personnel entering the work area wear approved respirator and protective clothing.

C. All asbestos abatement workers shall receive training and shall be accredited as required by 40 CFR 763.90(g). Training and accreditation shall be in accordance with 40 CFR 763, Appendix C to Subpart E. Training shall also be provided to meet the requirements of OSHA Regulations contained in 29 CFR l926.

D. Prior to the start of work, the Contractor shall provide medical examinations for all employees in accordance with 29CFR l926.1101 (m). All employees hired by the Contractor after start of work shall have medical examinations in accordance with this paragraph before being put to work.

E. Maintain complete and accurate records of employee's medical examinations, during employment, for a period of 30 years after termination of employment and make records of the required medical examinations available for inspection and copying to: The Assistant Secretary of Labor for Occupational Safety and Health, the Director of The National Institute for Occupation Safety and Health (NIOSH), authorized representatives of either of them, and an employee's physician upon the request of the employee or former employee.

F. Provide personnel exposed to airborne concentrations of asbestos fibers with fire retardant disposable protective whole body clothing, head covering, gloves, and foot coverings. Provide gloves to protect hands. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape. Contractor shall require and monitor the use of complete protective clothing. A competent person designated by the contractor in accordance with 29CFR l926.1101 shall periodically examine protective clothing worn by employees in the work area for rips or tears. When rips or tears are detected, they shall be immediately mended or replaced.

G. Provide goggles to personnel engaged in asbestos operations when the use of a full-face respirator is not required.

H. Provide authorized visitors with suitable protective clothing, headgear, eye protection and footwear, whenever they are required to enter the work area, to a maximum of 3 changes for 3 visitors per day. One of the sets of protective clothing must be available for full time use by the Project Monitors.

I. Provide all persons with personally issued and marked respiratory equipment approved by NIOSH and OSHA. The appropriate respiratory protection will be selected according to the most recent Massachusetts regulations.

J. Once all visible asbestos material has been removed during decontamination, cartridge type respirators will be allowed during the final cleanup, provided the measured airborne concentrations do not exceed 0.1 fibers per cubic centimeter. Where respirators with disposable filters are employed, provide sufficient filters for replacement as required by the worker or applicable regulation.

K. If the permissible respirators fail to provide sufficient protection against volatile emitted by any sealant used, the services of a qualified Project Monitor will be procured, at the Contractor's expense, to determine proper respiratory protection. The Owner will not be liable for the cost of increased respiratory protection.

L. Select respirators from those approved by the Mine Safety and Health Administration (MSHA), Department of Labor, or the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services. All personal wearing negative pressure respirators shall have respirator fit tests within the last six months and signed statements shall be available.

PART 3 - EXECUTION

3.01 SCOPE OF WORK

The asbestos abatement project will be performed in several phases to be coordinated by the General Contractor. It is the asbestos contractor's responsibility to comply with the phasing schedule. Commencement of asbestos abatement in each phase may change. Changing, decreasing and increasing of phases, size, location and scope of Work shall not constitute compensation by the Owner or any of his representatives. The Designer shall determine hours of Work. The Contractor will be required to perform Work in multiple areas at the same time at no additional cost to the Owner.

LOCATION	TYPE OF MATERIAL	APPROXIMATE QUANTITY
Various Locations	Unit Vents	36 Total
	Vinyl Floor Tiles and Mastic	800 SF
	Damproofing on Walls	800 SF

Specific Notes:

1. It's the Asbestos Contractor's responsibility to inspect the site and confirm condition and quantities prior to the submission of his/her bid package. It is also the Asbestos Contractor's responsibility to review the demolition drawings, notes and phasing configurations. The contractor must include in his/her bid the entire scope of work listed above.

2. Dismantle, remove and dispose as ACM of the unit vents as indicated on drawings. Remove all related ACM insulation, fiberboard, damproofing that were found inside and behind.
3. Remove and dispose as ACM of all types of flooring materials and mastic as needed to remove the existing unit vents and install new.
4. Remove and dispose as ACM of damproofing found on walls behind the unit vents.

3.02 JOB CONDITIONS

A. Do not commence asbestos abatement Work until:

l. Arrangements have been made for disposal of waste at an acceptable site. Submittal must be made no later than the Document Submission Date.
2. Arrangements have been made for containing and disposal of wastewater resulting from wet stripping or filtering through a 5-micron filter.
3. Work areas and decontamination enclosure systems and parts of the building required to remain in use are effectively segregated.
4. Tools, equipment, and material waste receptors are on hand.
5. Arrangements have been made for building security.
6. All other preparatory steps have been taken and applicable notices posted and permits obtained.
7. Pre-clean all areas prior to abatement.
8. Clean all routs used to transport ACM.

B. The contractor is required to set up and test the emergency generator in the presence of the Project Monitor.

C. All materials resulting from demolition Work, except as specified otherwise shall become the property of the Contractor and shall be disposed of as specified herein.

3.03 INSPECTION AND PREPARATION

A. Examine the areas and conditions under which asbestos will be abated and notify the Designer in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in an acceptable manner.

B. Before any Work commences, post danger signs in and around the Work Area to comply with 29 CFR l926.1101 (k)(l) as required by federal and state regulations, and as specified herein.

C. Pre-clean each area prior to setting up containment and remove all visible ACBM debris.

D. Clean all routes used to transport the ACM bags from the abated areas.

E. Asbestos abatement activities shall be performed using the glovebag method, mini-containment or full containment depending on each scope of work. Type of enclosures will be determined by the contractor and the on-site project monitor at no additional cost to the owner.

3.04 WORK PROCEDURE

A. Perform asbestos related Work in accordance with 29CFR l926.1101 and as specified herein. Use wet removal procedures. Personnel shall wear and utilize protective clothing and equipment as specified herein. Eating, smoking, or drinking shall not be permitted in the asbestos control area. Removal of lights and other objects in contact with asbestos containing materials is considered as asbestos abatement activities. Thus, individuals involved in such activities must meet all requirements of federal and state regulations for asbestos abatement Workers, including training and medical examinations.

B. Each Worker and authorized visitor shall, upon entering the job site, remove street clothes in the Clean Change Room and put on a respirator and clean protective clothing before entering the equipment room or the Work area. All Workers shall remove gross contamination before leaving the Work area. All clothing (coveralls, head covers, boots, etc.) shall be removed and properly disposed of before leaving equipment room. Naked, with the exception of their respirators, the Workers shall proceed to the Shower Room. Under the shower, respirators will be removed and cleaned. Cleaned respirators will be placed in suitable clean plastic bags and carried by employees to Clean Room. Soap, towels, etc., shall be furnished by the Contractor. The Contractor shall maintain proper sanitary conditions. The contractor's designated competent person shall insure that these practices are being adhered to.

C. Following showering and drying off, each Worker and authorized visitor shall dispose of towels as contaminated waste, and proceed directly to the Clean Change Room and dress in clean clothes at the end of each day's Work, or before eating, smoking, or drinking. Before re-entering the Work area from the Clean Change Room, each Worker and authorized visitor shall put on the applicable respirator and shall dress in clean protective clothing. Contaminated Work footwear shall be stored in the equipment room when not in use in the Work area. Upon completion of asbestos abatement, dispose of footwear as contaminated waste.

D. Contaminated Work footwear shall be stored in the equipment room when not in use in the Work area. Upon completion of asbestos abatement, dispose of footwear as contaminated waste or double bag for use at next site.

E. Workers removing waste containers from the Equipment Decontamination Enclosure shall enter the holding area from outside wearing a respirator and dressed in clean coveralls. No Worker shall use this system as a means to leave or enter the washroom or the Work area.

F. Workers shall not eat, drink, smoke, or chew gum or tobacco in asbestos abatement Work areas.

G. Workers shall be fully protected with respirators and protective clothing immediately prior to the first disturbance of asbestos containing or contaminated materials and until final cleanup is completed. This includes the removal of any equipment in contact with ACM such as lights, HVAC grills, etc.

3.05 PREPARATION OF THE WORK AREA

A. Seal off the Work area by sealing large openings such as open doors, elevator doors, and passageways with a critical barrier. The critical barrier shall constitute the outermost boundary of the asbestos abatement project Work area. Plastic sheeting on open framing is not a suitable critical barrier. Critical barriers may be erected of a suitable solid construction material such as plywood, sheet-rock, gypsum board, or other related materials.

B. Prior to any asbestos abatement Work, clean the proposed Work areas using HEPA filtered vacuum equipment and wet cleaning methods as appropriate. Methods that raise dust, such as dry seeping or vacuuming with equipment not equipped with HEPA filters will not be permitted. Dispose of all cloths, which are used for cleaning as contaminated waste.

C. Shut down electric power. Provide temporary power and lighting and ensure safe installation of temporary power sources and equipment per applicable electrical code requirements. Provide 24-volt safety lighting and provide ground-fault interrupter circuits as power source for lights and electrical equipment.

D. Seal off all openings, including but not limited to corridors, doorways, windows, skylights, ducts, grills, diffusers, and any other penetrations of the Work areas, with 6-mil plastic sheeting and sealed with tape.

E. Maintain emergency and fire exits from the Work areas, or establish alternative exits satisfactory to the local fire officials. Coordinate project with local fire and police departments, and Owner's Representative.

F. Pre-clean non-removable furniture, book shelving, equipment, heat fans, fire alarms, pipes, ductwork, wires and conduits, lockers, skylights, speakers, and other fixed objects within the proposed Work areas, using HEPA filtered vacuum equipment and wet cleaning methods as appropriate prior to abatement activities, and enclose with minimum 6 mil plastic sheeting sealed with tape.

3.06 MAINTENANCE OF ENCLOSURE SYSTEMS

A. Ensure that barriers and plastic linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each Work period.

B. Use smoke methods to test effectiveness of barriers when directed by the Project Monitor.

3.07 CONTROL ACCESS

A. Permit access to the work area only through the Decontamination Unit. All other means of access shall be closed off and sealed and warning signs displayed on the clean side of the sealed access.

B. Large openings such as open doorways and passageways shall be sealed as a critical barrier. The critical barrier shall constitute the outmost boundary of the asbestos abatement project work area.

C. Where the area adjacent to the work area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with nominal 2 by 4 inch (minimum) wood or metal studs l6 inches on centers, securely anchored to prevent movement, covered with minimum l/4 inch thick hardboard, l/2 inch gypsum wall board, or l/2 inch plywood.

D. Plastic sheeting on open framing is not a suitable critical barrier. All cracks, seams, and openings in critical barriers shall be caulked or otherwise sealed, so as to prevent the movement of asbestos fibers out of the work area.

3.08 ISOLATION OF WORK AREA

A. Completely separate the work area from other portions of the building, and the outside by sheet plastic barriers at least 6 mil in thickness, or by sealing with duct tape.

B. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into 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 work area decontamination is completed. All lighting fixtures shall have had power shut off.

3.09 NEGATIVE PRESSURE

A. Establish negative pressure in the work area by installation of High Efficiency Particulate Air (HEPA) filter air-purifying devices. Comply with ANSI Z9.2, Local Exhaust Ventilation Requirements. Maintain system in operation 24 hours per day until decontamination of the work area is completed and area has been certified clean by air monitoring tests and visual inspections. Discharge of asbestos fibers to the outside of the building will not be permitted.

B. Size negative air pressure system(s) to provide a minimum of one air change every l5 minutes for the area under negative pressure. Locate the exhaust unit(s) so that makeup air enters the work area primarily through the decontamination unit and traverses the work area as much as possible. The intent is to provide the air change specified in each work area (room), not just the specified negative pressure. Place the end of the unit or its exhaust duct through an opening in the plastic barrier or wall covering. Seal the plastic around the unit or duct with tape. Wherever possible, the units shall exhaust to the outside of the building. Whenever impossible to duct outside, the HEPA units will be run in tandem.

3.10 REMOVAL OF ASBESTOS CONTAINING MATERIALS

A. Thoroughly wet ACM 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 or removal Encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for water or removal Encapsulant to penetrate material thoroughly. If a removal Encapsulant is used, apply in strict accordance with manufacturer's written instructions.

B. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

C. Remove saturated ACM 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.

D. For the removal of vinyl floor tile, paper and mastic (flooring material), the entire work area at a minimum shall be under the following work rules:

1. Seal all critical barriers.
2. Protect all wall surfaces where or appropriate applicable.
3. Negative air units with HEPA filtration shall be used in the area.
4. The ACM shall be removed until all visible debris is removed.
5. All floor surfaces shall be encapsulated.
6. Removal and disposal shall be in accordance with DLS, DEP, and EPA regulations.

3.11 DECONTAMINATION OF WORK AREA

A. Maintain premises and public properties free from accumulation of waste, debris, and rubbish, caused by operations. Remove visible accumulations of asbestos material and debris. Wet clean all surfaces within the Work area.

B. Remove the plastic sheets from walls and floors only. Take proper care in folding up plastic sheeting to minimize dispersal of residual asbestos containing debris.

C. Leave the windows, doors, and HVAC vents sealed. Maintain HEPA filtered negative air pressure systems; air filtration and decontamination enclosure systems in service.

D. Remove all debris from floor of Work area. This includes all trash, scraps of lumber, pipes, etc. and all visible asbestos debris. The asbestos debris is primarily deteriorated pipe insulation that has fallen to the ground. Dispose of all debris removed as asbestos contaminated waste. HEPA vacuum the entire floor.

E. In areas that have dirt floors, remove at least one inch of dirt or until visually clean.

F. Clean all surfaces in the Work area and any other contaminated areas with water and with HEPA filtered vacuum equipment. After cleaning the Work area, wait 24 hours to allow for settlement of dust, and again wet clean and clean with HEPA filtered vacuum equipment all surfaces in the Work area. After completion of the second cleaning operation, perform a complete visual inspection of the Work area to ensure that the Work area is free of visible asbestos debris. The negative pressure system may be shut down only after clean air has been achieved.

G. Include sealed drums and all equipment used in the Work area in the cleanup and remove from Work areas, via the equipment decontamination enclosure system, at an appropriate time in the clean sequence.

H. Conduct cleaning and disposal operations to comply with applicable ordinances and antipollution laws. Do not burn or bury rubbish and waste materials on job site. Do not dispose of volatile wastes in storm or sanitary drains. Do not dispose of wastes into streams or waterways.

I. Store volatile wastes in covered metal containers during Work hours and remove from premises at end of Workday. Prevent accumulation of wastes, which create hazardous conditions. Provide adequate ventilation during use of volatile or noxious substances.

J. If the Project Monitor, within 24 hours after the second cleaning, finds visible accumulations of asbestos debris in the Work area, repeat the wet cleaning until the Work area is in compliance, at no additional expense to the Owner.

K. Remove the first layer of plastic sheet from walls and floors only. Take proper care in folding up plastic sheeting to minimize dispersal of residual asbestos containing debris.

L. Leave the windows, doors, and HVAC vents sealed. Maintain HEPA filtered negative air pressure systems; air filtration and decontamination enclosure systems in service.

M. Following the final visual inspection by the Project Monitor, after the removal of ACM and decontamination of Work areas, and while space enclosures systems remain in place, seal all surfaces from which ACM has been removed to assure immobilization of any remaining fibers. Use a colored sealant so that complete coverage may be ensured by a visible inspection by the Project Monitor to verify that asbestos-containing material has been adequately removed. Apply sealer in accordance with manufacturer's recommendations using airless spray equipment.

N. Clearance air test samples will be taken by Project Monitor 24 hours after the encapsulation. Aggressive air sampling will be conducted using 20" rotating fans, leaf blowers, or other devices as selected by the Project Monitor. If the Work area is found visually clean and encapsulated, clearance air samples will be made to determine fiber concentrations. Analysis will be made using Phase Contrast Microscopy.

3.12 WORK AREA CLEARANCE

A. The Work is complete when the Work area is visually clean and airborne fiber levels have been reduced to the level specified below. When this has occurred, the Asbestos Contractor will notify the Project Monitor that the area is ready for clearance.

B. The number and volume of air samples taken and analytical methods used by the Project Monitor will be in accordance with the schedule given below. Sample volumes given may vary depending upon the analytical instruments used.

C. Phase Contrast Microscopy (PCM) will be used for all testing.

D. **Costs for the initial testing required for clearance will be paid by the Owner. Should the initial testing fail, the Asbestos Contractor will reimburse the Designer for the cost of all additional testing based on $90.00 per hour for project monitor and $30.00 per PCM sample.**

3.13 DISPOSAL OF ASBESTOS CONTAINING MATERIAL AND ASBESTOS CONTAMINATED WASTE

A. As the Work progresses, and to prevent exceeding available storage capacity on site, remove sealed and labeled containers of asbestos waste and dispose of such containers at an authorized disposal site in accordance with the requirements of disposal authority.

B. Comply with 29 CFR l926.1101.

C. Seal all asbestos and asbestos contaminated waste material in rigid fiber or metal drums lined with double thickness 6-mil, sealable plastic bags. Label the drums and the plastic bags; transport and dispose of, all in accordance with the applicable OSHA and EPA regulations. At the conclusion of the job, place all polyethylene material, tape, cleaning material and clothing in the plastic lined drum. Seal, correctly label and dispose of as asbestos waste material.

D. Transport the sealed drums to the approved waste disposal site. The sealed plastic bags may be removed from the drums and placed into the burial site unless the bags have been broken or damaged. Leave damaged bags in the drums and bury the entire contaminated drum. Uncontaminated drums may be recycled. The sealed bags or drums must be covered the day of disposal. Contractor shall obtain trip tickets at the landfill to document disposal of asbestos containing materials. A form must be signed, not initialed, by all parties. Copies of all trip tickets shall be submitted to the Designer.

E. If a rental vehicle is used to transport asbestos waste, Contractor shall provide to the vehicle's owner a written statement as to the intended use of the vehicle. A copy of such notice, signed by the vehicle owner, shall be provided to the Designer prior to transporting materials in the vehicle. Two layers of 6-mil plastic sheet shall be placed on the floor and walls of the rental vehicle prior to loading any containers of asbestos waste.

3.14 DISPOSAL OF NON-CONTAMINATED WASTE

A. Remove from the site all non-contaminated debris and rubbish resulting from abatement operations. Transport materials removed from demolished areas and dispose of off site in a legal manner.

3.15 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

A. After asbestos abatement work and decontamination is complete, relocate objects moved to temporary locations in the course of the work to their former positions. Re-secure mounted objects removed in the course of the work in their former positions and assure that they are in working order.

3.16 FINAL CLEAN UP

A. Employ experienced workers or professional cleaners for final cleaning. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials, from exposed to view interior and exterior finished surfaces. Polish surfaces so designated.

3.17 ALTERNATE CONTAINMENT SYSTEM

A. In lieu of the containment system previously described consisting of a decontamination enclosure system utilizing curtained doorway, and a negative air system to exhaust sufficient air to achieve one air change every 15 minutes, the following system will be allowed:

B. Construct a decontamination unit consisting of a totally enclosed Equipment Room, Shower Room, Air Locks, and Clean Room as described above except that instead of curtained doorways between rooms, doorways shall be solid core rigid wooden or fiberglass doors. Door at entrance into Clean Room from the uncontaminated area shall contain a HEPA filter. This doorway shall have gasketted seals around the HEPA filter and the edges of the door to provide a tight seal. HEPA filter shall be mounted in the door securely using a mechanical fastening system. Each door shall be equipped with a self-closing mechanism.

C. Negative pressure units as described previously shall be utilized to create a pressure differential of 0.02 inches of water between the work area and the outside uncontaminated area. Only the required air volume to create the negative pressure shall be exhausted through the HEPA filter unit outside the work area. Additional HEPA filter units shall be located within the work area to provide for air circulation.

END OF SECTION

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substantially all of the Work has been completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the Work.
Superintendent: The licensed construction supervisor who is an employee of the Contractor designated to be in full-time attendance at the Site throughout the prosecution and progress of the Work and who shall have complete authority to act for the Contractor.
Work: The Work defined in Article 1 of the Owner - Contractor Agreement, Article II, Section 2 of these General Conditions of the Contract and otherwise in the Contract Documents.
Working Hours:

Work Hours shall be between the hours of 3:00 P.M. till 11:00 P.M. Monday through Friday. (Second Shift)
No work will be allowed during the day without the written approval from The Owner

All terms that this Contract defines may be used with or without initial capital letters. Other terms, abbreviations and references are defined as they appear herein. Words and abbreviations that are not defined in the Contract Documents but which have recognized technical or trade meanings are used in accordance with those meanings. For additional definitions of terms, abbreviations and references refer to the *Supplementary General Conditions, or Specifications.*

ARTICLE II: EXECUTION OF THE CONTRACT, SCOPE OF WORK, INTERPRETATION OF CONTRACT DOCUMENTS

1. Execution.
The execution of the Owner – Contractor Agreement by the Contractor is a representation that the Contractor has visited the Site, has become familiar with local conditions under which the Work is to be performed and has correlated personal observations with requirements of the Contract Documents.

2. Scope of Work.
The Work consists of the Work identified in the Contract Documents. The Work comprises the completed construction required by the Contract Documents and includes all labor, tools, materials, supplies, equipment, permits, approvals, paperwork, calculations, submittals, and certificates necessary to develop, construct and complete the Work in accordance with all Laws, and all construction and other services required to be supervised, overseen, performed or furnished by Contractor or that the Contract Documents require the Contractor to cause to be supervised, overseen, performed or furnished. The Contractor shall provide and perform for the Contract Price all of the duties and obligations set forth in the Contract Documents.

3. Interpretation.

A. The Plans and Specifications and other Contract Documents are to be considered together and are intended to be mutually complementary, so that any work shown on the Plans though not specified in the Specifications, and any work specified in the Specifications though not shown on the Plans, is to be executed by the Contractor as a part of this Contract.

B. All things that in the opinion of the Designer may be reasonably inferred from the Plans, Specifications and other Contract Documents are to be executed by the Contractor. The Designer shall determine whether the detail Plans conform to the general Plans and Contract Documents, except as may be otherwise determined by the Awarding Authority.

C. The tables of contents, titles, headings and marginal notes or sub-scripts contained herein are solely to facilitate references, are not intended to be construed as provisions of the Contract, and in no way affect the interpretation of the provisions to which they refer.

D. Where reference is made in the Contract Documents to publications, standards, or codes issued by associations or societies, such reference shall be interpreted to mean the current edition of such publications, standards, or codes, including revisions in effect on the date of the Advertisement, notwithstanding any reference to a particular date. The foregoing sentence shall not apply to the dates, if any, specified with respect to insurance policy endorsement forms.