SECTION 02 82 00

ASBESTOS REMOVAL

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This asbestos abatement Project will consist of the removal and disposal of asbestos containing materials (ACM), debris removal and decontamination of spaces at the State University of New York (SUNY) – Purchase Campus located at 735 Anderson Hill Road, Purchase, New York 10577.

B. The work shall include but not be limited to the removal of the following:

Item	Qty	Location
Decontamination & Debris Removal	8,000 sq. ft.	Basement
Wall & Ceiling Plaster Removal	12,000 sq. ft.	Basement

C. The Contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor and materials necessary to perform the Work.

D. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent shall apply.

E. Working hours shall be as required and approved by the Owner. Asbestos abatement activities including, but not limited to, work area preparation, gross removal activities, cleaning activities, waste removal, etc. may need to be performed during 'off-hours' (including nights and weekends). In addition, multiple mobilizations may be required to perform the work identified in this project. The Contractor shall coordinate and schedule all Work with the facility and Owner's representative.

1.02 SPECIAL JOB CONDITIONS

A. Any special job conditions, including variances obtained by the Owner, are described below.
   1. Contractor shall perform debris cleanup and decontamination in accordance with attached NYSDOL approved Variance #16-0598.

1.03 PERMITS AND COMPLIANCE

A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and local laws, rules, and regulations pertaining to Work practices, protection of Workers, authorized visitors to the site, persons, and property adjacent to the Work.

B. Perform asbestos related Work in accordance with New York State Industrial Code Rule 56 (as amended January 11, 2006 and herein referred to as Code Rule 56, 40 CFR 61, and 29 CFR 1926, as specified herein unless otherwise modified by relief granted by NYSDOL in the form of an approved variance from said regulation. Where more stringent requirements are specified, adhere to the more stringent requirements.

C. The Contractor must maintain current licenses pursuant to New York State Department of Labor and Department of Environmental Conservation for all Work related to this Project, including the removal, handling, transport, and disposal of asbestos containing materials. For Projects in New York City, licenses related to Local Law 70/85 must also be maintained.

D. The Contractor must have and submit proof upon request that any persons employed by the Contractor to engage in or supervise Work on any asbestos Project have a valid NYS asbestos handling certificate pursuant to Code Rule 56.

E. The Contractor shall comply fully with any variances secured from regulatory agencies by the Owner in the performance of the Work. Should the Contractor choose to apply for any variance, approval of the Owner is first required.

F. Failure to adhere to the Project Documents shall constitute a breach of the Contract and the Owner shall have the right to and may terminate the Contract provided, however, the failure of the Owner to so terminate shall not relieve the Contractor from future compliance.

1.04 SUBMITTALS

A. Pre-Work Submittals: Within 7 days prior to the pre-construction conference, the Contractor shall submit 3 copies of the documents listed below for review and approval prior to the commencement of asbestos abatement activities:
   1. Contractor license issued by New York State Department of Labor.
   2. A list of Projects performed within the past two (2) years and include the dollar value of all Projects. Provide Project references to include Owner, consultant, and air monitoring firm's name, contact persons, address, and phone number.
   3. Progress Schedule:
      a. Show the complete sequence of abatement activities and the sequencing of Work within each building or building section.
      b. Show the dates for the beginning and completion of each major element of Work including substantial completion dates for each Work Area, building, or phase.
   4. Project Notifications: As required by Federal and State regulatory agencies together with proof of transmittal (i.e. certified mail return receipt).
   5. Building Occupant Notification: As required by regulatory agencies.
   6. Abatement Work Plan: Provide plans that clearly indicate the following:
      a. All Work Areas/containments numbered sequentially.
      b. Locations and types of all decontamination enclosures.
      c. Entrances and exits to the Work Areas/containments.
      d. Type of abatement activity/technique for each Work Area/containment.
      e. Number and location of negative air units and exhaust. Also provide calculations for determining number of negative air pressure units.
      f. Proposed location and construction of storage facilities and field office.
      g. Location of water and electrical connections to building services.
      h. Waste transport routes through the building to the waste storage container.
   7. Disposal Site/Landfill Permit from applicable regulatory agency.
   8. NYS Department of Environmental Conservation Waste Transporter Permit.

B. On-Site Submittals: Refer to Part 3.01.D for all submittals, documentation, and postings required to be maintained on-site during abatement activities.

C. Project Close-out Submittals: Within 30 days of project completion, the Contractor shall submit 4 copies of the documents listed below for review and approval prior to the Contractor's final payment.

1. **Originals** of all waste disposal manifests, seals, and disposal logs.
2. OSHA compliance air monitoring records conducted during the Work.
3. Daily progress log, including the entry/exit log.
4. A list of all Workers used in the performance of the Project, including name, social security number, NYS DOL certification number and type of certification (i.e. supervisor, asbestos handler, etc.).
5. For each Worker used in the performance of the Project, submit the Worker's Acknowledgment Statement.
6. Disposal Site/Landfill Permit from applicable regulatory agency.
7. Final project notifications and variances, if applicable.

1.05 PRE-CONSTRUCTION CONFERENCE

A. Prior to start of preparatory Work under this Contract, the Contractor shall attend a pre-construction conference attended by Owner, Facility Personnel, and Environmental Consultant.

B. Agenda for this conference shall include but not necessarily be limited to:
   1. Contractor's scope of Work, Work plan, and schedule to include number of workers and shifts.
   2. Contractor's safety and health precautions including protective clothing and equipment and decontamination procedures.
   3. Environmental Consultant's duties, functions, and authority.
   4. Contractor's Work procedures including:
      a. Methods of job site preparation and removal methods.
      b. Respiratory protection.
      c. Disposal procedures.
      d. Cleanup procedures.
      e. Fire exits and emergency procedures.
   5. Contractor's required pre-work and on-site submittals, documentation, and postings.
   6. Contractor's plan for twenty-four (24) hour Project security both for prevention of theft and for barring entry of unauthorized personnel into Work Areas.
   7. Temporary utilities.
   8. Handling of furniture and other moveable objects.
   9. Storage of removed asbestos containing materials.
   10. Waste disposal requirements and procedures, including use of the Owner supplied waste manifest and container seals.

C. In conjunction with the conference the Contractor shall accompany the Owner and Environmental Consultant on a pre-construction walk-through documenting existing condition of finishes and furnishings, reviewing overall Work plan, location of fire exits, fire protection equipment, water supply and temporary electric tie-in.

1.06 APPLICABLE STANDARDS AND REGULATIONS

A. The Contractor shall comply with the following codes and standards, except where more stringent requirements are shown or specified:

B. Federal Regulations:
   1. 29 CFR 1910.1001, "Asbestos" (OSHA)
   2. 29 CFR 1910.1200, "Hazard Communication" (OSHA)
   3. 29 CFR 1910.134, "Respiratory Protection" (OSHA)
   4. 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)
   5. 29 CFR 1926, "Construction Industry" (OSHA)

6. 29 CFR 1926.1101, "Asbestos, Tremolite, Anthophyllite, and Actinolite" (OSHA)
7. 29 CFR 1926.500 "Guardrails, Handrails and Covers" (OSHA)
8. 40 CFR 61, Subpart A, "General Provisions" (EPA)
9. 40 CFR 61, Subpart M, "National Emission Standard for Asbestos" (EPA)
10. 49 CFR 171-172, Transportation Standards (DOT)

C. New York State Regulations:
1. 12 NYCRR, Part 56, "Asbestos", Industrial Code Rule 56 (DOL) (amended January 11, 2006).
2. 6 NYCRR, Parts 360, 364, Disposal and Transportation (DEC)
3. 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (DOH)

D. Local Regulations:
1. New York City Local Law 70/85, Storage and Disposal (DOS)

E. Standards and Guidance Documents:
1. American National Standard Institute (ANSI) Z88.2-80, Practices for Respiratory Protection
2. ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems
3. EPA 560/585-024, Guidance for Controlling Asbestos Containing Materials in Buildings (Purple Book)
4. EPA 530-SW-85-007, Asbestos Waste Management Guidance
5. ASTM Standard E1368 “Standard Practice for Visual Inspection of Asbestos Abatement Projects.”

1.07 NOTICES

A. The Contractor shall provide notification of intent to commence asbestos abatement activities as indicated below.
1. At least ten (10) Working days prior to beginning abatement activities, send written notification to:

U.S. Environmental Protection Agency
National Emissions Standards for Hazardous Air Pollutants (NESHAPS) Coordinator
26 Federal Plaza
New York, NY 10007.

2. At least ten (10) days prior to beginning abatement activities send written notification to:

New York State Department of Labor
Division of Safety and Health, Asbestos Control Program.
State Office Campus
Building 12 - Room 454
Albany, NY 12240

B. The Contractor is required to send notifications to regulatory agencies via mail or package delivery service that will provide proof of delivery and receipt.

C. The Contractor shall post and/or provide Building Occupant Notification at least 10 days prior to beginning abatement activities as required by Code Rule 56.

1.08 PROJECT MONITORING AND AIR SAMPLING

A. The Owner shall engage the services of an Environmental Consultant (the Consultant) who shall serve as the Owner's Representative in regard to the performance of the asbestos abatement Project and provide direction as required throughout the entire abatement Project period.

B. The Contractor is required to ensure cooperation of its personnel with the Consultant for the air sampling and Project monitoring functions described in this section. The Contractor shall comply with all direction given by the Consultant during the course of the Project.

C. The Consultant shall provide the following administrative services:
   1. Review and approve or disapprove all submittals, shop drawings, schedules, and samples.
   2. Assure that all notifications to governmental agencies by the Contractor are submitted in a timely manner and are correct in content.
   3. Review and approve the Contractor's OSHA compliance testing laboratory.

D. The Consultant shall staff the Project with a trained and certified person(s) to act on the Owner's behalf at the job site. This individual shall be designated as the Abatement Project Monitor (APM).
   1. The APM shall be on-site at all times the Contractor is on-site. The Contractor shall not be permitted to conduct any Work unless the APM is on-site (except for inspection of barriers and negative air system during non-working days).
   2. The APM shall have the authority to direct the actions of the Contractor verbally and in writing to ensure compliance with the Project documents and all regulations. The APM shall have the authority to Stop Work when gross Work practice deficiencies or unsafe practices are observed, or when ambient fiber concentrations outside the removal area exceed .01 f/cc or background level.
      a. Such Stop Work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected.
      b. Standby time required to resolve the situation shall be at the Contractor's expense.
   3. The APM shall provide the following services:
      a. Inspection of the Contractor's Work, practices, and procedures, including temporary protection requirements, for compliance with all regulations and Project specifications.
      b. Provide abatement Project air sampling as required by applicable regulations (NYS, AHERA) and the Owner. Sampling will include background, work area preparation, asbestos handling, and final cleaning and clearance air sampling.
      c. Verify daily that all Workers used in the performance of the Project are certified by the appropriate regulatory agency.
      d. Monitor the progress of the Contractor's Work, and report any deviations from the schedule to the Owner.
      e. Monitor, verify, and document all waste load-out operations.
      f. Verify that the Contractor is performing personal air monitoring daily, and that results are being returned and posted at the site as required.
      g. The APM shall maintain a log on site that documents all project related and Consultant and Contractor actions, activities, and occurrences.

   4. The following minimum inspections shall be conducted by the APM. Additional inspections shall be conducted as required by Project conditions. Progression from one phase of Work to the next by the Contractor is only permitted with the written approval of the APM.

a. Pre-Construction Inspection: The purpose of this inspection is to verify the existing conditions of the Work Areas and to document these conditions.
b. Pre-Commencement Inspection: The purpose of this inspection is to verify the integrity of each containment system prior to disturbance of any asbestos containing material. This inspection shall take place only after the Work Area is fully prepped for removal.
c. Work Inspections: The purpose of this inspection is to monitor the Work practices and procedures employed on the Project and to monitor the continued integrity of the containment system. Inspections within the removal areas shall be conducted by the APM during all preparation, removal, and cleaning activities at least twice every Work shift. Additional inspections shall be conducted as warranted.
d. Pre-Encapsulation Inspection: The purpose of this inspection is to ensure the complete removal of Asbestos Containing Material (ACM), from all surfaces in the Work Area prior to encapsulation.
e. Visual Clearance Inspection: The purpose of this inspection is to verify that: all materials in the scope of work have been properly removed; no visible asbestos debris/residue remains; no pools of liquid or condensation remains; and all required cleanings are complete. This inspection shall be conducted before final air clearance testing.
f. Post-Clearance Inspection: The purpose of this inspection is to ensure the complete removal of ACM, including debris, from the Work Area after satisfactory final clearance sampling and removal of all isolation and critical barriers and equipment from the Work Area.
g. Punch List Inspection: The purpose of this inspection is to verify the Contractor's certification that all Work has been completed as contracted and the existing condition of the area prior to its release to the Owner.

E. The Consultant shall provide abatement Project air sampling and analysis as required by applicable regulations (New York State and/or AHERA). Sampling will include background, work area preparation, asbestos handling, and final cleaning and clearance air sampling.
1. Unless otherwise required by applicable regulations, the Consultant shall have samples analyzed by Phase Contrast Microscopy (PCM). Results shall be available within 24 hours of completion of sampling.
2. Samples shall be collected as required by applicable regulations (New York State and/or AHERA) and these specifications. If Transmission Electron Microscopy (TEM) clearance air sampling is utilized by the owner, the clearance criteria and sampling protocols must be in compliance with AHERA. If PCM air sample analysis results exceed the satisfactory clearance criteria, then TEM analysis of the entire set of clearance air samples may be used, provided that a standard NIOSH/ELAP accepted laboratory analysis method is utilized that shall report each air sample result in fibers per cubic centimeter.
3. If the air sampling during any phase of the abatement project reveals airborne fiber levels at or above .01 fibers/cc or the established background level, whichever is greater, outside the regulated Work Area, Work shall stop immediately and corrective measures required by Code Rule 56 shall be initiated. Notify all employers and occupants in adjacent areas. The Contractor shall bear the burden of any and all costs incurred by this delay.
4. The Environmental Consultant shall submit copies of all elevated air sampling results collected during abatement and all final air clearance results to the Commissioner of Labor.

1.09 CONTRACTOR AIR SAMPLING

A. In addition to the requirements of OSHA 1926.1101, the Contractor shall be required to perform personal air monitoring every Work shift in each Work Area during which abatement activities occur in order to determine that appropriate respiratory protection is being worn and utilized.

B. The Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term exposures to indicate compliance with the permissible exposure and excursion limits.

C. The Contractor's laboratory analysis of air samples shall be conducted by an NYS DOH ELAP approved laboratory, subject to approval of the Environmental Consultant.

D. Results of personnel air sample analyses shall be available, verbally, within twenty-four (24) hours of sampling and shall be posted upon receipt. Written laboratory reports shall be delivered and posted at the Work site within five (5) days. Failure to comply with these requirements may result in all work being stopped until compliance is achieved.

1.10 PROJECT SUPERVISOR

A. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:
   1. The Project Supervisor shall hold New York State certification as an Asbestos Supervisor.
   2. The Project Supervisor shall meet the requirements of a "Competent Person" as defined by OSHA 1926.1101 and shall have a minimum of one year experience as a supervisor.
   3. The Project Supervisor must be able to read and write English fluently, as well as communicate in the primary language of the Workers.

B. If the Project Supervisor is not on-site at any time whatsoever, all Work shall be stopped. The Project Supervisor shall remain on-site until the Project is complete. The Project Supervisor cannot be removed from the Project without the written consent of the Owner and the Environmental Consultant. The Project Supervisor shall be removed from the Project if so requested by the Owner.

C. The Project Supervisor shall maintain the bound Daily Project Log that also includes the entry/exit logs as required by New York State Department of Labor and section 2.03 of the specifications and the Waste Disposal Log required by section 4.04 of the specifications.

D. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor shall be the primary point of contact for the Asbestos Project Monitor.

1.11 MEDICAL REQUIREMENTS

A. Before exposure to airborne asbestos fibers, provide Workers with a comprehensive medical examination as required by 29 CFR 1910.1001, and 29 CFR 1926.1101.
   1. This examination is not required if adequate records show the employee has been examined as required by 29 CFR 1910.1001, and 29 CFR 1926.1101 within the past year.

2. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos fibers and within thirty (30) calendar days before or after the termination of employment in such occupations.

1.12 TRAINING

A. As required by applicable regulations, prior to assignment to asbestos Work instruct each employee with regard to the hazards of asbestos, safety and health precautions, and the use and requirements of protective clothing and equipment.

B. Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1910.134, and 29 CFR 1926.1101. Provide respirator training and fit testing.

1.13 RESPIRATORY PROTECTION

A. Select respirators from those approved by the Mine Safety and Health Administration (MSHA), and the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

B. Respirators shall be individually fit-tested to personnel under the direction of an Industrial Hygienist on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual. Fit-test records shall be maintained on site for each employee.

C. Where fiber levels permit, and in compliance with regulatory requirements, Powered Air Purifying Respirators (PAPR) are the minimum allowable respiratory protection permitted to be utilized during gross removal operations of OSHA Class I or OSHA Class II friable ACM.

D. No respirators shall be issued to personnel without such personnel participating in a respirator training program.

E. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101.

F. A storage area for respirators shall be provided by the Contractor in the clean room side of the personnel decontamination enclosure where they will be kept in a clean environment.

G. The Contractor shall provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the work day. Filters will be removed and discarded during the decontamination process. Filters cannot be reused. Filters must be changed if breathing becomes difficult.

H. Filters used with negative pressure air purifying respirators shall not be used any longer than one eight (8) hour work day.

I. Any authorized visitor, Worker, or supervisor found in the Work Area not wearing the required respiratory protection shall be removed from the Project site and not be permitted to return.

J. The Contractor shall have at least two (2) Powered Air Purifying Respirators stored on site designated for authorized visitors use. Appropriate respirator filters for authorized visitors shall be made available by the Contractor.

1.14 DELIVERY AND STORAGE

A. Deliver all materials to the job site in original packages with containers bearing manufacturer's name and label.

B. Store all materials at the job site in a suitable and designated area.
   1. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover.
   2. Protect materials from unintended contamination and theft.
   3. Storage areas shall be kept clean and organized.

C. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris as herein specified.

1.15 TEMPORARY UTILITIES

A. Shut down and lock out all electrical power to the asbestos Work Areas.

B. Provide temporary 120-240 volt, single phase, three wire, 100 amp electric service with Ground Fault Circuit Interrupters (GFCI) for all electric requirements within the asbestos Work Area.
   1. Where available, obtain from Owner's existing system. Otherwise provide power from other sources (i.e. generator).
   2. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.
   3. Provide wiring and receptacles as required by the Environmental Consultant for air sampling equipment.
   4. All power to the Work Area shall be brought in from outside the area through GFCI's at the source.

C. Provide temporary lighting with "weatherproof" fixtures for all Work Areas including decontamination chambers.
   1. The entire Work Area shall be kept illuminated at all times.
   2. Provide lighting as required by the Environmental Consultant for the purposes of performing required inspections.

D. All temporary devices and wiring used in the Work Area shall be capable of decontamination procedures including HEPA vacuuming and wet-wiping.

E. Utilize domestic water service, if available, from Owner's existing system. Provide hot water heaters with sufficient capacity to meet Project demands.

PART 2 PRODUCTS

2.01 PROTECTIVE CLOTHING

A. Provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.

B. Provide sufficient quantities of protective clothing to assure a minimum of four (4) complete disposable outfits per day for each individual performing abatement Work.

C. Eye protection and hard hats shall be provided and made available for all personnel entering any Work Area.

D. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

2.02 SIGNS AND LABELS

A. Provide warning signs and barrier tapes at all approaches to asbestos Work Areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

1. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum 20" x 14" displaying the following legend.

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

2. Provide 3" wide yellow barrier tape printed with black lettered, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos Work Area. Install tape 3' to 4' AFF.

B. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris and other products contaminated with asbestos.

1. Provide asbestos danger labels of sufficient size to be clearly legible, displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

2. Provide the following asbestos labels, of sufficient size to be clearly legible, for display on waste containers (bags or drums) which will be used to transport asbestos contaminated material in accordance with United States Department of Transportation 49 CFR Parts 171 and 172:

RQ HAZARDOUS
SUBSTANCE
SOLID, NOS
ORM-E, NA 9188
ASBESTOS

3. Generator identification information shall be affixed to each waste container indicating the following printed in indelible ink:
   Generator Name
   Facility Name
   Facility Address

2.03 DAILY PROJECT LOG

A. Provide a Daily Project Log. The log shall contain on title page the Project name, name, address and phone number of Owner; name, address and phone number of Environmental Consultant; name, address and phone number of Abatement Contractor; emergency numbers including, but not limited to local Fire/Rescue department and all other New York State Department of Labor requirements.

B. All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted.

C. All persons entering and exiting the Work Area shall sign the log and include name, social security number, and time.

D. The Project Supervisor shall document all Work performed daily and note all inspections required by Code Rule 56, i.e. testing and inspection of barriers and enclosures.

2.04 SCAFFOLDING AND LADDERS

A. Provide all scaffolding and/or staging 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 and ladders shall comply with all applicable OSHA construction industry standards.

B. Provide scaffolding and ladders as required by the Environmental Consultant for the purposes of performing required inspections.

2.05 SURFACTANT (AMENDED WATER)

A. Wet all asbestos-containing materials prior to removal with surfactant mixed and applied in accordance with manufacturer's printed instructions.

B. Approved Manufacturer:
   1. International Protective Coatings Corp.: Serpiflex Shield
   2. American Coatings Corp.: EPA 55 Asbestos Removal Agent
   3. Certified Technologies: CerTane 2075 Penetrating Surfactant

2.06 ENCAPSULANT

A. Encapsulant shall be tinted or pigmented so that application when dry is readily discernible.

B. Approved Manufacturer:
   1. International Protective Coatings Corp.: Serpiflex Shield
   2. American Coatings Corp.: FNE High Temperature Sealant
   3. Certified Technologies: CerTane 1000 Post Removal Encapsulant

2.07 DISPOSAL BAGS, DRUMS, AND CONTAINERS

A. Provide 6 mil polyethylene disposal bags printed with asbestos caution labels. Bags shall also be imprinted with U.S. Department of Transportation required markings.

B. Provide 30 or 55 gallon capacity fiber, plastic, or metal drums capable of being sealed air and water tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos caution labels on lids and at one-third points around drum circumference to assure ready identification.

C. Containers and bags must be labeled in accordance with 40 CFR Part 61 NESHAPS and Code Rule 56. When the bags/containers are moved to the lockable hardtop dumpster from the waste decontamination system washroom, the bags must also be appropriately labeled with the date they are moved on the bag/container in waterproof markings.

D. Labeled ACM waste containers or bags shall not be used for non-ACM waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not shall be handled and disposed of as ACM waste.

2.08 HEPA VACUUM EQUIPMENT

A. All dry vacuuming performed under this contract shall be performed with High Efficiency Particulate Absolute (HEPA) filter equipped industrial vacuums conforming to ANSI Z9.2.

B. Provide tools and specialized equipment including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

C. Approved Manufacturers:
   1. Hako Minuteman
   2. Micro-Trap Inc.
   3. Control Resource Systems, Inc.

2.09 POWER TOOLS

A. Any power tools used to drill, cut into, or otherwise disturb asbestos material shall be manufacturer equipped with HEPA filtered local exhaust ventilation.

2.10 POLYETHYLENE SHEETING

A. All polyethylene (plastic) sheeting used on the Project (including but not limited to sheeting used for critical and isolation barriers, fixed objects, walls, floors, ceilings, waste container) shall be at least 6 mil fire retardant sheeting.

B. Decontamination enclosure systems shall utilize at least 6 mil opaque fire retardant plastic sheeting. At least 2 layers of 6 mil reinforced fire retardant plastic sheeting shall be used for the flooring.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Should visible emissions or water leaks be observed outside the Work Area, immediately stop Work and institute emergency procedures per Code Rule 56. Should there be elevated fiber levels outside the Work Area, immediately stop Work, institute emergency procedures per Code Rule 56, and notify all employers and occupants in adjacent areas. All costs incurred in decontaminating such non-Work Areas and the contents thereof shall be borne by the Contractor, at no additional cost to the Owner.

B. Medical approval, fit test reports, Worker Acknowledgments, and NYS DOL certificates shall be on site prior to admittance of any Contractor's employees to the asbestos Work Area.

C. The following submittals, documentation, and postings shall be maintained on-site by the Contractor during abatement activities at a location approved by the Abatement Project Monitor:
   1. Contractor license issued by New York State Department of Labor.
   2. Certification, Worker Training, Medical Surveillance, Acknowledgments:
      a. New York State Asbestos Handler certification cards for each person employed in the removal, handling, or disturbance of asbestos.
      b. Evidence that Workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
      c. Documentation that Workers have been fit tested specifically for respirators used on the Project.
      d. Worker's Acknowledgments: Statements signed by each employee that the employee has received training in the proper handling of asbestos containing materials; understands the health implications and risks involved; and understands the use and limitations of the respiratory equipment to be used.
   3. Daily OSHA personal air monitoring results.
   4. NYS Department of Health ELAP certification for the laboratory that will be analyzing the OSHA personnel air samples.
   5. NYS Department of Environmental Conservation Waste Transporter Permit.
   6. Project documents (specifications and drawings.)
   7. Notifications and variances (site specific and applicable.) Ensure that the most up-to-date notifications and variances are on-site.
   8. Applicable regulations.
   9. Material Safety Data Sheets of supplies/chemicals used on the Project.
   10. Approved Abatement Work Plan.
   11. List of emergency telephone numbers.
   12. Magnahelic manometer semi-annual calibration certification.
   13. Waste Disposal Log.
   14. Daily Project Log.

D. The following documentation shall be maintained on-site by the Abatement Project Monitor during abatement activities:
   1. Contractor license issued by New York State Department of Labor.
   2. Air Sample Log.
   3. Air sample results.
   4. Project Monitor Daily Log
   5. Asbestos Survey Report.
   6. A copy of ASTM Standard E1368 "Standard Practice for Visual Inspection of Asbestos Abatement Projects."

E. The Work Area must be vacated by building occupants prior to decontamination enclosure construction and Work Area preparation.

F. All demolition necessary to access asbestos containing materials for removal must be conducted within negative pressure enclosures by licensed asbestos handlers. Demolition debris may be disposed of as construction and demolition debris provided the Abatement Project Monitor determines that it is not contaminated with asbestos and there has been no disturbance of ACM within the enclosure. If the demolition debris is determined to be contaminated or ACM has been disturbed, it must be disposed of as asbestos waste.

3.02 PERSONNEL DECONTAMINATION ENCLOSURE

A. Provide a personnel decontamination enclosure contiguous to the Work Area. The decontamination enclosure shall be attached to the Work Area and not located within it unless isolation barriers are installed. If the decontamination chamber is accessible to the public it shall be fully framed and sheathed to prevent unauthorized entry.

B. Access to the Work Area will be from the clean room through an air-lock to the shower and through an air lock to the equipment room. Each airlock shall be a minimum of three feet from door to door. Additional air locks shall be provided as required by Code Rule 56 for remote decontamination enclosures.

C. The decontamination enclosure ceiling and walls shall be covered with one layer of opaque 6 mil polyethylene sheeting. Two layers of reinforced polyethylene sheeting shall be used to cover the floor.

D. The entrance to the clean room shall have a lockable door. Provide suitable lockers for storage of Worker's street clothes. Storage for respirators along with replacement filters and disposable towels shall also be provided.

E. Provide a temporary shower with individual hot and cold water supplies and faucets. Provide a sufficient supply of soap and shampoo. There shall be one shower for every six Workers. The shower room shall be constructed in such a way so that travel through the shower chamber shall be through the shower. The shower shall not be able to be bypassed.

F. Shower water shall be drained, collected and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

G. The equipment room shall be used for the storage of tools and equipment. A walk-off pan filled with water shall be located in the Work Area outside the equipment room for Workers to clean foot coverings when leaving the Work Area. A labeled 6 mil plastic ACM waste bag for collection of contaminated clothing shall be located in this room.

H. The personal decontamination enclosure shall be cleaned and disinfected minimally at the end of each Work shift and as otherwise directed by the Asbestos Project Monitor.

3.03 WASTE DECONTAMINATION ENCLOSURE

A. Provide a waste decontamination enclosure contiguous to the Work area. The decontamination enclosure shall be attached to the Work Area and not located within it unless isolation barriers are installed. If the decontamination chamber is accessible to the public it shall be fully framed and sheathed to prevent unauthorized entry.

B. The waste decontamination enclosure system shall consist of a holding area, air lock and washroom. The airlock shall be a minimum of three feet from door to door. The entrance to the holding area shall have a lockable door.

C. The decontamination enclosure ceiling and walls shall be covered with one layer of opaque 6 mil polyethylene sheeting on walls and ceiling. Two layers of reinforced polyethylene sheeting shall be used to cover the floor.

D. Where there is only one egress from the Work Area, the holding area of the waste decontamination enclosure system may branch off from the personnel decontamination enclosure equipment room, which then serves as the waste wash room.

E. The waste wash room water shall be drained, collected, and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

F. In small asbestos Projects where only one egress from the Work Area exists, the shower room may be used as a waste washroom. In this instance, the clean room shall not be used for waste storage, but shall be used for waste transfer to carts, which shall immediately be removed from this enclosure.

3.04 WORK AREA ENTRY AND EXIT PROCEDURES

A. Access to and from the asbestos Work Area is permitted only through the personnel decontamination enclosure unless otherwise stipulated in a Site Specific Variance.

B. Workers shall sign the entry/exit log upon every entry and exit.

C. The following procedures shall be followed when entering the Work Area:
   1. Before entering the Work Area, Workers shall proceed to the clean room, remove all street clothes, and don protective clothing, equipment, and respirators.
   2. Workers shall proceed from the clean room through the shower room and the equipment room and into the Work Area.

D. The following procedures shall be followed when exiting the Work Area:
   1. Before leaving the Work Area, gross asbestos contamination will be removed by brushing, wet cleaning and/or HEPA vacuuming.
   2. In the equipment room, Workers shall remove disposable clothing, but not respirators, and shall place clothing in plastic disposal bags for disposal as contaminated debris prior to entering the shower room.
   3. Workers shall shower thoroughly while wearing respirators, then wash respirator with soap and water prior to removal.

4. Upon exiting the shower, Workers shall don new disposable clothing if the Work shift is to continue or street clothes to exit area. Under no circumstances shall Workers enter public non-Work Areas in disposable protective clothing.

E. If remote decontamination enclosures are permitted by Code Rule 56 or a Site Specific Variance, workers shall wear two disposable suits for all phases of Work. Workers exiting the work area shall HEPA vacuum the outer suit, enter the airlock, remove the outer suit and then place it back into the Work Area. A clean second suit shall be donned before exiting the airlock and proceeding to the decontamination enclosure or another work area via the designated pathway required by Code Rule 56.

3.05 WORK AREA PREPARATION

A. Asbestos danger signs shall be posted at all approaches to the asbestos Work Area. Post all emergency exits as emergency exits only on the Work Area side, post with asbestos caution signs on the non-Work Area side. Provide all non-Work Area stairs and corridors accessible to the asbestos Work Area with warning tapes at the base of stairs and beginning of corridors. Warning tapes shall be in addition to caution signs.

B. Shut down and lock out the building heating, ventilating, and air conditioning systems. Electrical systems and circuits shall also be shut down unless permitted to remain active per Code Rule 56 and appropriately protected and labeled. Provide temporary electric power and lighting as specified herein.

C. All surfaces and objects within the Work Area shall be pre-cleaned using HEPA vacuuming and/or wet-wiping methods. Dry sweeping and any other methods that raise dust shall be prohibited. ACM shall not be disturbed during pre-cleaning.

D. Movable objects within the Work Area shall be HEPA vacuumed and/or wet-wiped and removed from the Work Area.

E. All non-movable equipment in the Work Area shall be completely covered with 2 layers of polyethylene sheeting, at least 6 mil in thickness, and secured in place with duct tape and/or spray adhesive.

F. Provide enclosure of the asbestos Work Area necessary to isolate it from unsealed areas of the building in accordance with the approved asbestos Work plan and as specified herein.

G. Provide critical barriers by sealing off all openings including but not limited to windows, diffusers, grills, electrical outlets and boxes, doors, floor drains, and any other penetrations of the Work Area enclosure, using 2 layers of at least 6 mil polyethylene sheeting.

H. Provide isolation barriers by installing temporary framing and sheathing at openings larger than 32 square feet forming the limits of the asbestos Work Area. Sheathing thickness must be a minimum of 3/8 inch and all sheathing shall be caulked and the Work Area side sealed with two layers of 6 mil polyethylene sheeting.

I. Isolation barriers shall be installed at all elevator openings in the Work Area. .Elevators running through the regulated abatement work area shall be shut down or isolated as per Code Rule 56. Elevator controls shall be modified so that elevators bypass the Work Area

J. Provide two layers of 6 mil polyethylene sheeting over all floor, wall, and ceiling surfaces. Isolation barriers shall also be covered with two layers (for a total of four layers). Sheeting

shall be secured with spray adhesive and then sealed with duct tape. All joints in polyethylene sheeting shall overlap 12" minimum. Carpeting left in place shall be covered with 3/8 inch plywood sheathing prior to plasticizing.

K. Unless otherwise specified for removal, the Contractor shall either protect all fiberglass insulation on piping, ductwork, tanks, etc. in the Work Area using two layers of six mil polyethylene or remove the insulation as asbestos containing waste. If the Contractor elects to remove the fiberglass insulation, he shall be responsible for reinsulation if reinsulation of removed ACM is part of the Contract or Project.

L. Frame out emergency exits. Provide double layer 6 mil polyethylene sheeting and tape seal opening. Post as emergency exits only. Within the Work Area, mark the locations and directions of emergency exits throughout the Work Area using exit signs and/or duct tape.

M. Remove all items attached to or in contact with ACM only after the Work Area enclosure is in place. HEPA vacuum and wet wipe with amended water all removed items prior to their removal from the Work Area and before the start of asbestos removal operations.

N. Suspended ceiling tiles shall only be removed after Work Area preparation is complete. If possible, non-contaminated ceiling tiles shall be HEPA vacuumed and removed from the Work Area before asbestos removals begin. Contaminated ceiling tiles shall be disposed of as asbestos waste.

3.06 NEGATIVE AIR PRESSURE FILTRATION SYSTEM

A. Provide a portable asbestos filtration system that develops a minimum pressure differential of negative 0.02 in. of water column within all full enclosure areas relative to adjacent unsealed areas and that provides a minimum of 4 air changes per hour in the Work Area during abatement and 6 air changes for non-friable flooring and/or mastic removal .

B. Such filtration systems must be made operational after critical and isolation barriers are installed but before wall, floor, and ceilings are plasticized and shall be operated 24 hours per day during the entire Project until the final cleanup is completed and satisfactory results of the final air samples are received from the laboratory.

C. The system shall include a series of pre-filters and filters to provide High Efficiency Particulate Air (HEPA) filtration of particles down to 0.3 microns at 100% efficiency and below 0.3 microns at 99.9% efficiency. Provide sufficient replacement filters to replace pre-filters every 2 hours, secondary pre-filters every 24 hours, and primary HEPA filters every 600 hours of operation.

D. A minimum of one additional filtration unit of at least the same capacity as the primary unit(s) shall be installed and fully functional to be used during primary unit (s) filter changing and in case of primary failure.

E. At no time will the unit exhaust indoors, within 15 feet of a receptor, including but not limited to windows and doors, or adversely affect the air intake of the building. Exhaust ducting shall not exceed 25’ in length. Provide construction fencing at ground level exhaust termination locations per Code Rule 56.

F. Upon electric power failure or shut-down of any filtration unit, all abatement activities shall stop immediately and only resume after power is restored and all filtration units are fully

operating. For shut-downs longer than one hour, all openings into the Work Area, including the decontamination enclosures, shall be sealed.

G. The Contractor shall provide a manometer to verify negative air pressure. Manometers shall be read twice daily and recorded within the Daily Project Log.

H. There shall be at least a 4 hour settling period after the Work Area is fully prepared and the negative filtration units have been started to ensure integrity of the barriers.

I. Once installed and operational, the Contractor's Supervisor shall conduct daily inspections of the Work Area to insure the airtight integrity of the enclosure and operation of the negative air system. Findings shall be recorded within the Daily Project Log. Inspections shall also be conducted on days when no abatement activities are in progress per Code Rule 56 (i.e. weekends).

3.07 REMOVAL OF ASBESTOS CONTAINING MATERIALS

A. Asbestos-containing materials shall be removed in accordance with the Contract Documents and the approved Asbestos Work Plan. Only one type of ACM shall be abated at a time within a Work Area. Where there are multiple types of ACM requiring abatement, Code Rule 56 procedures for sequential abatement shall be followed.

B. Sufficiently wet asbestos materials with a low pressure, airless fine spray of surfactant to ensure full penetration prior to material removal. Re-wet material that does not display evidence of saturation.

C. One Worker shall continuously apply amended water while ACM is being removed.

D. Perform cutting, drilling, abrading, or any penetration or disturbance of asbestos containing material in a manner to minimize the dispersal of asbestos fibers into the air. Use equipment and methods specifically designed to limit generation of airborne asbestos particles. All power operated tools used shall be provided with HEPA equipped filtered local exhaust ventilation.

E. Upon removal of ACM from the substrate, the newly exposed surfaces shall be HEPA vacuumed and/or wet cleaned. Surfaces must be thoroughly cleaned using necessary methods and any required solvents to completely remove any adhesive, mastic, etc.

F. All removed material shall be placed into 6 mil plastic disposal bags or other suitable container upon detachment from the substrate. Cleanup of accumulations of loose debris or waste shall be performed whenever there is enough accumulation to fill a single bag or container and minimally at the end of each workshift.

G. Large components shall be wrapped in two layers of 6 mil polyethylene sheeting. Sharp components likely to tear disposal bags shall be placed in fiber drums or boxes and then wrapped with sheeting.

H. Power or pressure washers are not permitted for asbestos removal or clean-up procedures unless approved in a Site Specific Variance.

I. All open ends of pipe and duct insulation not scheduled for removal shall be encapsulated using lag cloth.

J. All construction and demolition debris determined by the Environmental Consultant to be contaminated with asbestos shall be handled and disposed of as asbestos waste.

K. The use of metal shovels, metal dust pans, etc. are not permitted inside the work area.

3.08 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION AND REMOVAL PROCEDURES

A. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the Work Area before moving such items into the waste decontamination enclosure system airlock by persons assigned to this duty. The persons in the Work Area shall not enter the airlock. No gross removal operations are permitted when waste transfer is in progress.

B. The containers and equipment shall be removed from the airlock by persons stationed in the washroom during waste removal operations. The external surfaces of containers and equipment shall be cleaned a second time by wet cleaning.

C. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated 6 mil plastic bags or sheeting, as the item's physical characteristics demand, and sealed airtight.

D. The clean recontainerized items shall be moved into the airlock that leads to the holding area. Workers in the washroom shall not enter this airlock.

E. Containers and equipment shall be moved from the airlock and into the holding area by persons dressed in clean personal protective equipment, who have entered from the holding area.

F. The cleaned containers of asbestos material and equipment shall be placed in water tight carts with doors or tops that shall be closed and secured. These carts shall be held in the holding area pending removal. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.

G. The exit from the decontamination enclosure system shall be secured to prevent unauthorized entry.

H. Where the waste removal enclosure is part of the personnel decontamination enclosure, waste removal shall not occur during shift changes or when otherwise occupied. Precautions shall be taken to prevent short circuiting and cycling of air outward through the shower and clean room.

3.09 WORK AREA DECONTAMINATION, CLEANING, AND CLEARANCE PROCEDURES

A. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed unless modified by a Site Specific Variance.

B. First Cleaning:
   1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.
   2. All surfaces in the Work Area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and may either be decontaminated prior to removal from the Work Area or disposed of as asbestos waste.

3. The Abatement Project Monitor shall conduct a visual inspection of the Work Area for cleanliness and completion of abatement.
4. The Contractor shall then apply a thin coat of encapsulant to all surfaces in the Work Area that were not the subject of removal. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results. Encapsulants shall be pigmented or tinted to provide an indication for completeness of coverage. The Abatement Project Monitor shall determine adequacy of coverage.
5. After the encapsulant has been applied and the required waiting/settling and drying time has elapsed, the first layer of polyethylene sheeting shall then be removed and bagged.

C. Second Cleaning
1. All surfaces in the Work Area shall be HEPA vacuumed and then wet cleaned.
2. The Abatement Project Monitor shall conduct a second visual inspection of the Work Area for cleanliness.
3. After the required waiting/settling and drying time has elapsed, the second layer of polyethylene sheeting shall be removed and bagged

D. Third Cleaning
1. All surfaces in the Work Area shall be HEPA vacuumed and then wet cleaned.
2. The Abatement Project Monitor shall conduct a third visual inspection of the Work Area for cleanliness.
3. After the required waiting/settling and drying time has elapsed, aggressive final clearance air sampling shall then be conducted by the Environmental Consultant provided no visible asbestos debris/residue; pools of liquid, or condensation remains.
4. Upon receipt of satisfactory final clearance air sampling results, the negative air pressure equipment can then be shut down and the isolation and critical barriers removed. Following this, the decontamination enclosures shall be removed.

E. After isolation and critical barriers are removed, the Abatement Project Monitor and Contractor's Supervisor shall inspect the Work Area for cleanliness. If necessary, additional cleaning shall be performed by the Contractor as directed by the Abatement Project Monitor.

F. As a result of any visual inspection by the Asbestos Project Monitor or should air sampling results indicate high fiber levels, the Contractor will clean or reclean the affected areas at no additional expense to the Owner.

3.10 RESTORATION OF UTILITIES, FIRESTOPPING, AND FINISHES

A. After final clearance, remove locks and restore electrical and HVAC systems. All temporary power shall be disconnected, power lockouts removed and power restored. All temporary plumbing shall be removed.

B. Finishes damaged by asbestos abatement activities including, but not limited to, plaster/paint damage due to duct tape and spray adhesives, and floor tile lifted due to wet or humid conditions, shall be restored prior to final payment.
1. Finishes unable to be restored shall be replaced under this Contract.
2. All foam and expandable foam products and materials used to seal Work Area openings shall be completely removed upon completion of abatement activities.

C. All penetrations (including, but not limited to, pipes, ducts, etc.) through fire rated construction shall be firestopped using materials and systems tested in accordance with ASTM E814 on Projects where reinsulation is part of the required work.

PART 4 DISPOSAL OF ASBESTOS WASTE

4.01 TRANSPORTATION AND DISPOSAL SITE

A. The Contractor's Hauler and Disposal Site shall be approved by the Owner.

B. The Contractor shall give twenty-four (24) hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal working hours unless otherwise specified. No waste may be taken from the site unless the Contractor and Environmental Consultant are present and the Environmental Consultant authorizes the release of the waste as described herein.

C. All waste generated as part of the asbestos project shall be removed from the site within ten (10) calendar days after successful completion of all asbestos abatement work.

D. Upon arrival at the Project Site, the Hauler must possess and present to the Environmental Consultant a valid New York State Department of Environmental Conservation Part 364 Asbestos Hauler's Permit. The Environmental Consultant may verify the authenticity of the hauler's permit with the proper authority.

E. The Hauler, with the Contractor and the Environmental Consultant, shall inspect all material in the transport container prior to taking possession and signing the Asbestos Waste Manifests.

F. Unless specifically approved by the Owner, the Contractor shall not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The Hauler must travel directly to the disposal site as identified on the notifications with no unauthorized stops.

4.02 WASTE STORAGE CONTAINERS

A. All waste containers shall be fully enclosed and lockable (i.e. enclosed dumpster, trailer, etc.). No open containers will be permitted on-site (i.e. open dumpster with canvas cover, etc.) unless specifically permitted by a Site Specific Variance.

B. The Environmental Consultant shall verify that the waste storage container and/or truck tags (license plates) match that listed on the New York State Department of Environmental Conservation Part 364 permit. Any container not listed on the permit shall be removed from the site immediately.

C. The container shall be plasticized and sealed with two (2) layers of 6 mil polyethylene. Once on site, it shall be kept locked at all times, except during load out. The waste container shall not be used for storage of equipment or contractor supplies.

D. While on-site, the container shall be labeled with EPA Danger signage:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

E. The New York State Department of Environmental Conservation Asbestos Hauler's Permit number shall be stenciled on both sides and back of the container.

F. The container is not permitted to be loaded unless it is properly plasticized, has the appropriate danger signage affixed, and has the permit number appropriately stenciled on the container.

G. Before an enclosed container is removed from the Project Site for transportation to the Disposal Site, a seal will be placed on the door(s) of the container by the Environmental Consultant. The door(s) shall also be locked. The seals and locks shall be removed at the Disposal Site by the operator of the Disposal Facility and the seals shall be returned by the Disposal Facility to the Contractor.

H. If a lined and sealed open-top container is used pursuant to a Site Specific Variance, a seal is not required.

I. The Owner may initiate random checks at the Disposal Site to insure that the procedures outlined herein are complied with.

4.03 OWNER'S AND HAULER'S ASBESTOS WASTE MANIFESTS

A. An Asbestos Waste Manifest shall be provided to the Owner and shall be utilized in conjunction with the Asbestos Hauler's Manifest.

B. The Owner's Manifest and the Hauler's Manifest shall be completed by the Contractor and verified by the Environmental Consultant that all the information and amounts are accurate and the proper signatures are in place.

C. The Manifests shall have the appropriate signatures of the Environmental Consultant, the Contractor, and the Hauler representatives prior to any waste being removed from the site.

D. Copies of the completed Owner's Manifest and the Hauler's Manifest shall be retained by the Environmental Consultant and the Contractor and shall remain on site for inspection.

E. Upon arrival at the Disposal Site, the Owner's Manifest and the Hauler's Manifest shall be signed by the Disposal Facility operator to certify receipt of ACM covered by the manifest.

F. The Disposal Facility operator shall return the original Owner's Manifest and the Hauler's Manifest and the container seals to the Contractor.

G. The Contractor shall forward copies of the Owner's Manifest and the Hauler's Manifest and the container seals to the Environmental Consultant within 14 days of the waste container being removed from the site. Failure to do so may result in payment being withheld from the Contractor.

H. The Contractor shall utilize a Waste Disposal Log. This log shall be maintained by the Project Supervisor and shall be kept on site at all times.

I. Originals of all waste disposal manifests, seals, and disposal logs shall be submitted by the Contractor to the Owner with the final close-out documentation.

Appendix ‘A’
NYSDOL Approved Variance #16-0598
&
CONTAMINATION ASSESSMENT
FOR
ASBESTOS CONTAINING MATERIALS
PERFORMED AT:

SUNY Purchase
Administration Building
735 Anderson Hill Road
Purchase, NY 10577

Division of Safety and Health
Engineering Services Unit

Department of Labor
W. Averell Harriman State Office Campus
Building 12, Room 154, Albany, NY 12240
www.labor.ny.gov
518-457-1536

May 20, 2016

Adelaide Environmental Health Associates
1511 Rte 22 STE C24
Brewster, NY 10509

RE: File No. 16-0598

Dear Sir/Madam:

STATE OF NEW YORK
DEPARTMENT OF LABOR
DIVISION OF SAFETY AND HEALTH

The attached is a copy of Decision, dated, 5/20/2016, which I have compared with the original filed in this office and which I DO HEREBY CERTIFY to be a correct transcript of the text of the said original.

If you are aggrieved by this decision you may appeal within 60 days from its issuance to the Industrial Board of Appeals as provided by Section 101 of the Labor Law. Your appeal should be addressed to the Industrial Board of Appeals, State Office Building Campus, Building 12, Room 116, Albany, New York, 12240 as prescribed by its Rules and Procedure, a copy of which may be obtained upon request.

WITNESS my hand and the seal of the
NYS Department of Labor, at the City of
Albany, on this day of 5/20/2016.

Edward A. Smith, P.E.
Associate Safety and Health Engineer

STATE OF NEW YORK
DEPARTMENT OF LABOR
STATE OFFICE BUILDING CAMPUS
ALBANY, NEW YORK 12240-0100

Variance Petition

Of

Adelaide Environmental Health Associates, Inc
Petitioner's Agent on Behalf of

SUNY Purchase
Petitioner

in re

Premises: Administration Basement
735 Anderson Hill Road
Purchase, NY 10577

Basement Friable Debris Cleanup & Friable Plaster Removal

File No. 16-0598

DECISION

Case(s) 1 - 4

ICR 56

The Petitioner, pursuant to Section 30 of the Labor Law, having filed Petition No. 16-0598 on May 19, 2016 with the Commissioner of Labor for a variance from the provisions of Industrial Code Rule 56 as hereinafter cited on the grounds that there are practical difficulties or unnecessary hardship in carrying out the provisions of said Rule; and the Commissioner of Labor having reviewed the submission of the petitioner dated May 18, 2016; and

Upon considering the merits of the alleged practical difficulties or unnecessary hardship and upon the record herein, the Commissioner of Labor does hereby take the following actions:

Case No. 1	ICR 56-7.10(a,b,c)
Case No. 2	ICR 56-7.11(e)

Case No. 3	ICR 56-9.1(b,c)
Case No. 4	ICR 56-9.1(f)(1)

VARIANCE GRANTED. The Petitioner's proposal for interior cleanup of friable debris and removal of friable plaster in the basement, quantities as listed in the attached proposal, at the subject premises in accordance with the attached 26-page stamped copy of the Petitioner's submittal, is accepted; subject to the Conditions noted below:

THE CONDITIONS

1. As written with modifications as noted.

2. All non-porous walls, ceilings, fixtures, and movable and fixed objects contaminated with asbestos debris shall be cleaned as part of this abatement project. All porous materials, debris and waste generated shall be disposed of as RACM.

3. Usage of this variance is limited to those asbestos removals identified in this variance or as outlined in the Petitioner's proposal.

In addition to the conditions required by the above specific variances, the Petitioner shall also comply with the following general conditions:

GENERAL CONDITIONS

1. A copy of this DECISION and the Petitioner's proposals shall be conspicuously displayed at the entrance to the personal decontamination enclosure.

2. This DECISION shall apply only to the removal of asbestos-containing materials from the aforementioned areas of the subject premises.

3. The Petitioner shall comply with all other applicable provisions of Industrial Code Rule 56-1 through 56-12.

4. The NYS Department of Labor Engineering Service Unit retains full authority to interpret this variance for compliance herewith and for compliance with Labor Law Article 30. Any deviation to the conditions leading to this variance shall render this variance Null and Void pursuant to 12NYCRR 56-12.2. Any questions regarding the conditions supporting the need for this variance and/or regarding compliance hereto must be directed to the Engineering Services Unit for clarification.

5. This DECISION shall terminate on August 20, 2016.

Date: May 20, 2016

MARIO J. MUSOLINO
ACTING COMMISSIONER OF LABOR

By

Edward A. Smith, P.E.
Associate Safety and Health Engineer

PREPARED BY: Ravi Pilar, P.E.
Senior Safety and Health Engineer

REVIEWED BY: Edward A. Smith, P.E.
Associate Safety and Health Engineer

160598

State of New York - Department of Labor
Division of Safety and Health
Engineering Services Unit
State Office Building Campus
Albany, NY 12240

May 18, 2016

Re: Petition for Variance, SUNY Purchase – Administration Building – Basement - Debris

Question 9 - Reason for Request

Nature of Work: The asbestos work is to be performed on the basement floor at the SUNY Purchase Administration Building in Purchase, New York. There was debris found in the basement during an inspection for an upcoming renovation project. A contamination assessment was performed and only the areas listed in the assessment and Question 11 are to be decontaminated.

Based on the above information and reasoning, we are requesting relief from standard full containment requirements during the removal of the referenced materials. We feel the requested relief is justified and the proposed abatement means and methods outlined in Question 11 (attached) are sufficient to contain any asbestos fibers that may be released during abatement activities and will sufficiently protect the Abatement Workers, Facility Employees/Occupants and the General Public. Specific Relief is requested from the following sections:

Section - Title	Reason / Proposed Plan for Protection w/o literal compliance
56-7.10	Based on the fact that all of the surfaces will need to be decontaminated throughout the work areas we are proposing critical/isolation barriers only.
56-7.11(e)	There will not be a full containment as containments shall be critical/isolation barriers only.
56-9.1(b)&(c)	In as much as there will be only isolation/critical barriers constructed we are requesting relief from 1st and 2nd cleaning and propose only one final cleaning and visual inspection. Wait times will be per 56-9.1(f).

Proposed means and methods for abatement operations are present in Question 11.

160598

State of New York - Department of Labor
Division of Safety and Health
Engineering Services Unit
State Office Building Campus
Albany, NY 12240

May 18, 2016

Re: Petition for Variance, SUNY Purchase – Administration Building – Basement - Debris

Question 10 – Hardship Description

Nature of Work: The asbestos work is to be performed on the basement floor at the SUNY Purchase Administration Building in Purchase, New York. There was debris found in the basement during an inspection for an upcoming renovation project. A contamination assessment was performed and only the areas listed in the assessment and Question 11 are to be decontaminated.

In addition, this facility needs to decontaminate these areas as quickly as possible to have access to the buildings mechanical systems and fire alarm systems.

160598

State of New York - Department of Labor
Division of Safety and Health
Engineering Services Unit
State Office Building Campus
Albany, NY 12240

May 18, 2016

Re: Petition for Variance, SUNY Purchase – Administration Building – Basement - Debris

Question 11 - Proposed Methods

As stated in Question 9, the asbestos containing materials to be affected as a part of the decontamination project at SUNY Purchase Administration Building in Purchase, New York is the debris that was discovered during the renovation inspection. We propose the following work methods be utilized during removal operations in the specified areas:

The following materials and associated quantities are to be included in the abatement:

- Debris: Approximately 8,000 Square Feet in the Basement
- Plaster: Approximately 12,000 Square Feet in the Basement

- The associated area will be vacant and will remain so during all abatement operations.

- Signage shall be in accordance with 12NYCRR Part 56. .

- A Large Project Personal and Waste decontamination unit set-up which complies with ICR 56-7 shall be constructed and attached to the work areas. The unit(s) will be fully sheathed and lockable and shall remain operational until satisfactory final clearance air sample results are achieved.

- Critical barriers will be installed on all openings. With the containment constructed, negative air will be established within the work area creating at a minimum, eight (8) air changes per hour and -.02" W.C. minimum. Once the containment is constructed and negative air established, a 4-hour pre-abatement settling period will be observed.

- A pre-abatement inspection by the Project Monitor to verify work area integrity will take place and then removal operations will commence.

- All debris and contaminated movable objects within the area will be decontaminated and/or removed as asbestos. All cleanable surfaces will be wet wiped and/or HEPA vacuumed. Any non cleanable surfaces will be disposed of as asbestos containing material.

- The ceiling and wall plaster will be removed using wet manual methods with a drop cloth underneath.

- Upon completion of removal and cleaning operations an eight hour waiting/drying period shall be observed. After the waiting/drying period a final visual inspection will be performed by the project monitor. Following this visual clearance, if it passes, aggressive clearance air samples will be run.

- If the final air clearance does not pass then another cleaning will commence along with another eight hour waiting/drying period and another set of air clearances.

- All critical/isolation barriers shall remain in place until satisfactory clearance air sample results are achieved.

- All waste will be double-bagged, labeled, and moved from the work area to the waste decontamination unit and finally to a lined dumpster.

We request that this variance expire on 5/31/17 or upon the projects completion, whichever comes first.

Utilizing the proposed methods would in no way compromise the security or safety of the General Public, Facility Employees/Occupants, or any workers involved with the project, and would also allow the timely completion of the abatement operations.

If you have any questions or require any additional information, please feel free to contact Jason Fullum of Adelaide Environmental Health Associates at (845) 278-7710.

160598

Adelaide
Environmental Health Associates, Inc.

1511 Route 22, Suite C24
Brewster, NY 10509 845.278.7710

90 State Street, Suite 700
Albany, NY 12207 518.874.0617

1967 Wehrle Drive, Suite One
Buffalo, NY 14221 716.402.4580

E-mail: adelaidemail@adelaidellc.com
Fax: 845.278.7750

CONTAMINATION ASSESSMENT FOR ASBESTOS CONTAINING MATERIALS

PERFORMED AT:

SUNY Purchase
Administration Building
735 Anderson Hill Road
Purchase, New York 10577
Adelaide Project# SP:16011.01-VA

PREPARED FOR:

Mr. Sean Connolly
SUNY Purchase – Capital Facilities Planning
735 Anderson Hill Road
Purchase, New York 10577

PREPARED BY:

Jason Fullum
May 18, 2016

REVIEWED BY:

Stephanie A. Soter
President

1.0 BACKGROUND/PURPOSE

Adelaide Environmental Health Associates, Inc. (Adelaide) was retained by SUNY Purchase to perform a contamination assessment for asbestos in the basement of the Administration Building at SUNY Purchase in Purchase, New York. During an inspection for a renovation project there was asbestos debris discovered in the basement. The assessment was performed on May 13th, 2016 by Adelaide representatives Robert See (NYS asbestos inspector and air sampling technician).

2.0 EXECUTIVE SUMMARY OF ASSESSMENT RESULTS

Adelaide collected eleven (11) bulk debris samples and fourteen (14) air samples from the above mentioned areas. One (1) bulk debris sample was positive for asbestos and all of the air samples were less than 0.01 f/cc except for one which was 0.011 f/cc and later analyzed under TEM methodology and found to be <0.002 f/cc.

2.1 Summary of Asbestos Containing Materials:

Sample #	Material Sampled	Approximate Quantity	Condition	Areas Affected
4D	Debris	8,000 SF	Sig. Damaged	Entire Basement

A site specific variance needs to written by a certified project designer and approved by NYS DOL prior to any decontamination work in the basement. See Appendix C.

2.2 Negative Material List:

All material is positive for asbestos.

3.0 ASBESTOS FIELD PROCEDURES AND ANALYSIS METHODOLOGY

3.1 INSPECTION

Guidelines used for the inspection were established by the U.S. Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, DOC# 560/5-85-024 and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA). Field information was organized as per the AHERA concept of a homogeneous area (HA); that is, suspect Asbestos Containing Materials (ACM) with similar age, appearance, and texture were grouped together, sampled and assessed for condition.

For the purposes of this inspection, suspect ACM has been placed in three material categories: thermal, surfacing, and miscellaneous.

Surfacing materials are those that are sprayed on, troweled on or otherwise applied to surfaces for fireproofing, acoustical, or decorative purposes (e.g., wall and ceiling plaster).

Thermal materials are those applied to heat pipes or other structural components to prevent heat loss or gain or prevent water condensation (e.g., pipe and fitting insulation, duct insulation, boiler flue).

Miscellaneous materials are interior building materials on structural components, structural members or fixtures, such as floor and ceiling tiles, etc. and do not include surfacing material or thermal system insulation.

3.2 SAMPLING

SURFACING MATERIALS

Surfacing materials were grouped into homogeneous sampling areas. A homogeneous area contains material that is uniform in color and texture and appears identical in every other respect. Materials installed at different times belong to different sampling areas. Homogeneous areas were determined on per floor basis.

The following protocol was used for determining the number of samples to be collected:

- At least three bulk samples were collected from each homogeneous area that is 1,000 square feet or less.
- At least five bulk samples were collected from each homogeneous area that is greater than 1,000 square feet but less than or equal to 5,000 square feet.
- At least seven bulk samples were collected from each homogeneous area that is greater than 5,000 square feet.

THERMAL SYSTEM INSULATION (TSI)

The concept of homogeneous sampling areas applies equally well to thermal insulation as to surfacing material. A "typical" building may contain multiple insulated pipe runs from any combination of the following categories:

- Hot water supply and/or return
- Cold water supply
- Chilled water supply
- Steam supply and/or return
- Roof or system drain

The following protocol was used for determining the number of samples to be collected.

- Collect at least three bulk samples from each homogeneous area of thermal system insulation.

- Collect at least one bulk sample from each homogeneous area of patched thermal system insulation if the patched section is less than 6 linear or square feet.
- In a manner sufficient to determine whether the material is ACM or not ACM, collect a minimum of three bulk samples from each homogeneous insulated mechanical system tee, elbow, and valve.

Bulk samples are not collected from any homogeneous area where the certified inspector has determined that the thermal system insulation is fiberglass, foam glass, or rubber.

MISCELLANEOUS MATERIALS

Miscellaneous materials are grouped into different homogeneous areas and at least two bulk samples are collected from each homogeneous area as per the clarification letter from the EPA and the Professional Abatement Contractors of New York, Inc in November of 2007.

3.3 ANALYSIS

Bulk samples of suspect ACM were analyzed by Polarized Light Microscopy (PLM) with dispersion staining, as described in 40CFR Part 763 and the National Emissions Standard for Hazardous Air Pollutants (NESHAPS).

The New York State (NYS) Department of Health has recently revised the PLM Stratified Point Counting Method. The new method, Polarized Light Microscopy for Identifying and Quantitating Asbestos in Bulk Samples can be found as Item 198.1 in the Environmental Laboratory Accreditation Program (ELAP) Certification manual.

The State of New York ELAP has determined that analysis of NOB materials is not reliably performed by PLM. Therefore, if PLM yields negative results for a non-friable material, it must be confirmed by Transmission Electron Microscopy (TEM) analysis. All NOB samples were initially analyzed by utilizing PLM methodology.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This survey concluded that the materials listed in Section 2.0 Executive Summary tested ***positive for the presence of asbestos.***

Asbestos: *These areas must be abated prior to building demolition or renovation if they are to be disturbed. Contaminated areas must be vacated and isolated. (refer to Appendix C)*

5.0 REPORT CERTIFICATIONS

Adelaide Environmental Health Associates certifies that the information contained herein is based on the physical and visual inspections conducted by Adelaide and data collected during the inspection survey.

160598

EMSL Analytical, Inc.

307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031613407
Customer ID: ADEL50
Customer PO:
Project ID:

Attention: Adelaide Associates, LLC
1511 Route 22
Suite C-24
Brewster, NY 10509

Phone: (845) 278-7710
Fax: (845) 278-7750
Received Date: 5/14/2016 11:27 AM
Analysis Date: 5/17/2016
Collected Date: 5/13/2016

Project: SP:16011.01-VA/ SUNY PURCHASE/ 735 ANDERSON HILL ROAD, PURCHASE, NY 10577

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos
Sample ID 1D *031613407-0001*		**Description** **Homogeneity**	BASEMENT/ SPACE 0011 - DEBRIS Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Brown		32.00% Ca Carbonate 21.00% Non-fibrous (other) 47.00% Quartz	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID 2D *031613407-0002*		**Description** **Homogeneity**	BASEMENT/ SPACE 0020 - DEBRIS Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Brown/White		34.00% Ca Carbonate 16.00% Non-fibrous (other) 50.00% Quartz	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID 3D *031613407-0003*		**Description** **Homogeneity**	BASEMENT/ SPACE 0016 - DEBRIS Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Brown		45.00% Gypsum 23.00% Non-fibrous (other) 32.00% Quartz	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID 4D *031613407-0004*		**Description** **Homogeneity**	BASEMENT/ SPACE 0015 - DEBRIS Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Brown		98.41% Non-fibrous (other)	**1.59% Chrysotile**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID 5D *031613407-0005*		**Description** **Homogeneity**	BASEMENT/ SPACE 0023 - DEBRIS Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Gray		33.00% Non-fibrous (other) 67.00% Quartz	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Initial Report From: 05/17/2016 11:21:32

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031613407
Customer ID: ADEL50
Customer PO:
Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos
Sample ID 6D *031613407-0006*		**Description**	BASEMENT/ STAIRWELL AT SPACE 0024 - DEBRIS		
		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Brown	3.00% Cellulose	52.00% Ca Carbonate 4.00% Mica 41.00% Non-fibrous (other)	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID 7D *031613407-0007*		**Description**	BASEMENT/ HALL NEW SPACE 0001 - DEBRIS		
		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Brown/Gray/White	8.00% Cellulose	12.00% Ca Carbonate 23.00% Gypsum 25.00% Non-fibrous (other) 32.00% Quartz	**None Detected**
Sample is very inhomogenous.					
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID 8D *031613407-0008*		**Description**	BASEMENT/ SPACE 0008 - DEBRIS		
		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Brown		33.00% Ca Carbonate 19.00% Non-fibrous (other) 48.00% Quartz	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID 9D *031613407-0009*		**Description**	BASEMENT/ SPACE 0007 - DEBRIS		
		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Brown/Gray		34.00% Ca Carbonate 20.00% Non-fibrous (other) 46.00% Quartz	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**
Sample ID 10D *031613407-0010*		**Description**	BASEMENT/ SPACE 0009 - DEBRIS		
		Homogeneity	Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Tan		45.00% Gypsum 20.00% Non-fibrous (other) 35.00% Quartz	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Initial Report From: 05/17/2016 11:21:32

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031613407
Customer ID: ADEL50
Customer PO:
Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos
Sample ID 11D *031613407-0011*		**Description** **Homogeneity**	BASEMENT/ SPACE 0004 - DEBRIS Homogeneous		
PLM NYS 198.1 Friable	5/17/2016	Tan		30.00% Gypsum 25.00% Non-fibrous (other) 45.00% Quartz	**None Detected**
PLM NYS 198.6 VCM					**Not Analyzed**
PLM NYS 198.6 NOB					**Not Analyzed**
TEM NYS 198.4 NOB					**Not Analyzed**

Initial Report From: 05/17/2016 11:21:32

160598

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031613407
Customer ID: ADEL50
Customer PO:
Project ID:

Test Report:Asbestos Analysis of Bulk Material

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods . The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date: 5/14/2016 Sample Receipt Time: 11:27 AM
Analysis Completed Date: 5/17/2016 Analysis Completed Time: 6:01 AM

Analyst(s):

Deen Liang PLM NYS 198.1 Friable (9)

Emily Myint PLM NYS 198.1 Friable (2)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or Other Approved Signatory

NOB = Non Friable Organically Bound N/A = Not Applicable VCM = Vermiculite Containing Material

-In New York State, TEM is currently the only method that can be used to determine if NOB materials can be considered or treated as non -asbestos containing. All samples examined for the presence of vermiculite when analyzed via NYS 198.1.

-NYS Guidelines for Vermiculite containing samples are available at http ://www.wadsworth.org/labcert/elapcert/forms/VermiculiteInterimGuidance_Rev070913.pdf EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations . Interpretation and use of test results are the responsibility of the client. Samples were received in good condition unless otherwise noted.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. This report may contain data that is not covered by the NVLAP accreditation .

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

Initial Report From: 05/17/2016 11:21:32

Adelaide Environmental Health Associates, Inc
1511 Route 22, Suite C24
Brewster, NY 10509
845-278-7710
845-278-7750 - fax

OrderID: 031613407

Site Address: SUNY Purchase	Date: 05/13/16	Inspector(s) Robert See
735 Anderson Hill Road		031613407
Purchase, NY 10577	Project #: SP:16011.01-VA	

Sample ID #	Homogeneous Area	Floor Level	Sample Location/Description	Quantity (In Feet)	Friable NonFriable	Condition g, d, p, s
1D	1	B	Space 0011 Debris			
2D	2		0020			
3D	3		0016			
4D	4		0015 ✓			
5D	5		0023 ✓			
6D	6		Stairwell at Space 0024 Debris		16 MAY 4 PM 11:27	
7D	7		Hall Near Space 0001 Debris			
8D	8		Space 0008 Debris			
9D	9		Space 0007 Debris			
10D	10		Space 0009 Debris			
11D	11		Space 0004 Debris			

FINAL LABORATORY RECEIVED

Special Instructions/ Turnaround Time:

Stop at 1st Positive per Homogenous Area **24 hr TAT**

E-Mail Results to AdelaideLabResults@adelaidellc.com

Relinquished by: [signature]
Received by: [signature] 5/14/16 11:22am
Relinquished by:
Received by:

Emily Mynit 5:17 LC 10:15A

DC 5/17/16 6:20pm

Page 1 of 1

16.0598

160598

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com manhattanlab@emsl.com

EMSL Order:	031613399
CustomerID:	ADEL50
CustomerPO:	
ProjectID:	

Attn: **Adelaide Associates, LLC**
1511 Route 22
Suite C-24
Brewster, NY 10509

Phone:	(845) 278-7710
Fax:	(845) 278-7750
Received:	05/14/16 11:26 AM
Analysis Date:	5/15/2016
Collected:	5/13/2016

Project: **16011.01-VA/ SUNY PURCHASE/ SUNY PURCHASE COLLEGE/ 735 ANDERSON HILL ROAD PURCHASE, NY 10577**

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method, Revision 3, Issue 2, 8/15/94

Sample	*Location*	*Sample Date*	*Volume (liters)*	*Fibers*	*Fields*	*LOD (fib/cc)*	*Fibers/ mm²*	*Fibers/ cc*	*Notes*
1A *031613399-0001*	IWA/ SPACE 3005	5/13/2016	1200.00	14.5	100	0.002	18.5	0.006	
2A *031613399-0002*	IWA/ HALLWAY 3009 NEAR SPACE 3001	5/13/2016	1200.00	21.5	100	0.002	27.4	0.009	
3A *031613399-0003*	IWA/ SPACE 2004A	5/13/2016	1200.00	8	100	0.002	10.2	0.003	
4A *031613399-0004*	IWA/ SPACE 2012	5/13/2016	1200.00	28	100	0.002	35.7	0.011	
5A *031613399-0005*	IWA/ SPACE 1004D	5/13/2016	1200.00	9	100	0.002	11.5	0.004	
6A *031613399-0006*	IWA/ SPACE 1002K	5/13/2016	1200.00	8.5	100	0.002	10.8	0.003	
7A *031613399-0007*	PRESIDENTS RESIDENCE	5/13/2016	1200.00	<5.5	100	0.002	<7.01	<0.002	
8A *031613399-0008*	FIELD BLANK	5/13/2016		<5.5	100		<7.01		Field Blank
9A *031613399-0009*	FIELD BLANK	5/13/2016		<5.5	100		<7.01		Field Blank

The results reported have been blank corrected as applicable.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.25, 21-50 fibers = 0.22, 51-100 fibers = 0.18. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.29. The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL. The test results contained within this report meet the requirements of NELAP unless otherwise noted. Results have been blank corrected as applicable. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC-IHLAP Accredited #102581, NYS ELAP 11505, NJ NY022, CT PH-0170, MA AA000170

Initial report from 05/15/2016 10:55:28

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com manhattanlab@emsl.com

EMSL Order:	031613399
CustomerID:	ADEL50
CustomerPO:	
ProjectID:	

Attn: **Adelaide Associates, LLC**
1511 Route 22
Suite C-24
Brewster, NY 10509

Phone:	(845) 278-7710
Fax:	(845) 278-7750
Received:	05/14/16 11:26 AM
Analysis Date:	5/15/2016
Collected:	5/13/2016

Project: **16011.01-VA/ SUNY PURCHASE/ SUNY PURCHASE COLLEGE/ 735 ANDERSON HILL ROAD PURCHASE, NY 10577**

The samples in this report were submitted to EMSL for analysis by Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method, Revision 3, Issue 2, 8/15/94. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	5/14/2016	Sample Receipt Time:	11:26 AM
Analysis Completed Date:	5/15/2016	Analysis Completed Time:	6:31 AM

Analyst(s):

George Souffrant

George Souffrant PCM NYS ELAP (9)

Samples reviewed and approved by:

James Hall

James Hall, Laboratory Manager
or other approved signatory

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.25, 21-50 fibers = 0.22, 51-100 fibers = 0.18. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.29. The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL. The test results contained within this report meet the requirements of NELAP unless otherwise noted. Results have been blank corrected as applicable. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC-IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 05/15/2016 10:55:28

THIS IS THE LAST PAGE OF THE REPORT.

Adelaide Environmental Health Associates, Inc.

90 State Street, Suite 700
Albany, NY 12207
Phone # 518.874.0617

1511 Route 22, Suite C24
Brewster, NY 10509
Phone # 845.278.7710
Fax # 845.278.7750

1967 Wehrle Drive, Suite One
Buffalo, NY 14221
Phone # 716.402.4580

03161339 9

Site Address: SUNY Purchase College	Client: SUNY Purchase	Project #: SP:16011.01-VA	Date: 5-15-16
735 Anderson Hill Road		Technician: Robert See	
Purchase, NY 10577	Client Proj #:	Work Area: Campus Areas	Page of

Sample ID # / Lab ID #		Sample location	Time On / Time Off	Flow On / Flow Off	Average Flow	Total Minutes	Volume
1A	(IWA)		1315	15	15	80	1200
	OWA	Space 3005	1435	15			
2A	(IWA)		1317	15	15	80	1200
	OWA	Hallway 3004 near space 3001	1437	15			
3A	(IWA)		1319	15	15	80	1200
	OWA	Space 2004A	1439	15			
4A	(IWA)		1321	15	15	80	1200
	OWA	Space 2012	1441	15			
5A	(IWA)		1323	15	15	80	1200
	OWA	space 1004D	1443	15			
6A	(IWA)		1325	15	15	80	1200
	OWA	space 1002K	1445	15			
7A	IWA		1630	15	15	80	1200
	OWA	President's Residence	1750	15			
	IWA						
	OWA						
	IWA						
	OWA						
	IWA						
	OWA						

FIELD BLANKS		Sample Type	Turnaround
8A	FB	☐ Background	☐ IMMEDIATE
9A	FB	☐ Dailies	☐ 12 Hrs
		☐ Finals	☒ 24 Hrs
		☒ Reference	☐ Other

CHAIN OF CUSTODY

Technician Signature/ Relinquished by:		Date: 5/13/16	Time: 1800
Received By:	Samantha LaGrassa	Date: 5/14/16	Time: 11:26am
Relinquished By:		Date:	Time:
Received By:	George Souffrant	Date: 5-15-16	Time: 6:32 Am

Fax Results to:

E-mail Results to: AdelaideLabResults@adelaideinc.com

Verbal Results to:

DryCal was used for Rotometer No. 00399 Date Last Calibrated: 5/12/16

NOTE: For TEM samples only, analyze OWA samples *only* if IWA samples fail

Page 1 of 1

OrderID: 03161339 9

160598

160598

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com manhattanlab@emsl.com

EMSL Order:	031613399
CustomerID:	ADEL50
CustomerPO:	
ProjectID:	

Attn: **Adelaide Associates, LLC**
1511 Route 22
Suite C-24
Brewster, NY 10509

Phone:	(845) 278-7710
Fax:	(845) 278-7750
Received:	05/14/16 11:26 AM
Analysis Date:	5/16/2016
Collected:	5/13/2016

Project: **16011.01-VA/ SUNY PURCHASE/ SUNY PURCHASE COLLEGE/ 735 ANDERSON HILL ROAD PURCHASE, NY 10577**

Test Report: Asbestos Analysis of Air Samples by Transmission Electron Microscopy via NIOSH Method 7402

Sample	Volume (Liters)	Non Asbestos Fibers	PCM F/cc	Asbestos Type(s)	Asbestos Fibers	Asbestos % of total	7402 Adjusted (TEM) F/cc	Notes
4A	1200	3	0.011			0	**<0.002**	
031613399-0004								

NIOSH 7402 method only reports fibers > 5µm in length and > 0.25µm in width.
This method requires a minimum of 2 field blank analyses per set.The above results are not blank corrected
Average number of asbestos fibers on field blanks: n/a
Average number of non-asbestos fibers on field blanks: n/a

Analyst(s)

Wioletta Bis (1)

James Hall, Laboratory Manager
or other approved signatory

Initial report from 05/17/2016 09:11:16

THIS IS THE LAST PAGE OF THE REPORT.

Adelaide Environmental Health Associates, Inc.

90 State Street, Suite 700
Albany, NY 12207
Phone # 518.874.0617

1511 Route 22, Suite C24
Brewster, NY 10509
Phone # 845.278.7710
Fax # 845.278.7750

1967 Wehrle Drive, Suite One
Buffalo, NY 14221
Phone # 716.402.4580

031613399

Site Address: SUNY Purchase College	Client: SUNY Purchase	Project #: SP:16011.01-VA	Date: 5-15-16
735 Anderson Hill Road		Technician: Robert See	
Purchase, NY 10577	Client Proj #:	Work Area: Sampled Areas	Page of

Sample ID # / Lab ID #		Sample location	Time On / Time Off	Flow On / Flow Off	Average Flow	Total Minutes	Volume
1A	(IWA)		1319	15	15	80	1200
	OWA	Space 3005	1435	15			
2A	(IWA)		1317	15	15	80	1200
	OWA	Hallway 3009 near space 3001	1437	15			
3A	(IWA)		1319	15	15	80	1200
	OWA	Space 2004A	1439	15			
4A	(IWA)		1321	15	15	80	1200
	OWA	Space 2012	1441	15			
5A	(IWA)		1323	15	15	80	1200
	OWA	space 1004D	1443	15			
6A	(IWA)		1325	15	15	80	1200
	OWA	space 1002K	1445	15			
7A	IWA		1630	15	15	80	1200
	OWA	President's Residence	1750	15			
	IWA						
	OWA						
	IWA						
	OWA						
	IWA						
	OWA						

FIELD BLANKS		Sample Type	Turnaround
8A	FB	☐ Background	☐ IMMEDIATE
9A	FB	☐ Dailies	☐ 12 Hrs
		☐ Finals	☒ 24 Hrs
		☒ Reference	☐ Other

CHAIN OF CUSTODY

Technician Signature/ Relinquished by:	Date: 5/13/16	Time: 1800
Received By:	Date: 5/14/16	Time: 11:26am
Relinquished By:	Date:	Time:
Received By: George Souffrant	Date: 5-15-16	Time: 6:32 Am

Fax Results to: E-mail Results to: AdelaideLabResults@adelaidellc.com Verbal Results to:

DryCal was used for Rotometer No. 00399 Date Last Calibrated: 5/12/16

NOTE: For TEM samples only, analyze OWA samples *only* if IWA samples fail

OrderID: 031613399

160598

160598

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com manhattanlab@emsl.com

EMSL Order:	031613401
CustomerID:	ADEL50
CustomerPO:	
ProjectID:	

Attn: **Adelaide Associates, LLC**
1511 Route 22
Suite C-24
Brewster, NY 10509

Phone:	(845) 278-7710
Fax:	(845) 278-7750
Received:	05/14/16 11:27 AM
Analysis Date:	5/14/2016
Collected:	5/13/2016

Project: **16011.01-VA/ SUNY PURCHASE/ SUNY PURCHASE COLLEGE 735 ANDERSON HILL ROAD PURCHASE, NY 10577**

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method, Revision 3, Issue 2, 8/15/94

Sample	*Location*	*Sample Date*	*Volume (liters)*	*Fibers*	*Fields*	*LOD (fib/cc)*	*Fibers/ mm²*	*Fibers/ cc*	*Notes*
10A *031613401-0001*	IWA/ SPACE 0004 NEAR STAIRS	5/13/2016	1200.00	9	100	0.002	11.5	0.004	
11A *031613401-0002*	IWA/ NEAR SPACE 0001	5/13/2016	1200.00	6	100	0.002	7.64	0.002	
12A *031613401-0003*	IWA/ SPACE 0011	5/13/2016	1200.00	7	100	0.002	8.92	0.003	
13A *031613401-0004*	FIELD BLANK	5/13/2016		<5.5	100		<7.01		Field Blank
14A *031613401-0005*	FIELD BLANK	5/13/2016		<5.5	100		<7.01		Field Blank

The results reported have been blank corrected as applicable.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.25, 21-50 fibers = 0.22, 51-100 fibers = 0.18. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.29. The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL. The test results contained within this report meet the requirements of NELAP unless otherwise noted. Results have been blank corrected as applicable. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC-IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 05/15/2016 11:02:21

160598

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com manhattanlab@emsl.com

EMSL Order:	031613401
CustomerID:	ADEL50
CustomerPO:	
ProjectID:	

Attn: **Adelaide Associates, LLC**
1511 Route 22
Suite C-24
Brewster, NY 10509

Phone:	(845) 278-7710
Fax:	(845) 278-7750
Received:	05/14/16 11:27 AM
Analysis Date:	5/14/2016
Collected:	5/13/2016

Project: **16011.01-VA/ SUNY PURCHASE/ SUNY PURCHASE COLLEGE 735 ANDERSON HILL ROAD PURCHASE, NY 10577**

The samples in this report were submitted to EMSL for analysis by Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method, Revision 3, Issue 2, 8/15/94. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	5/14/2016	Sample Receipt Time:	11:27 AM
Analysis Completed Date:	5/14/2016	Analysis Completed Time:	8:13 PM

Analyst(s):

Samantha Stuhler

Samantha Stuhler PCM NYS ELAP (5)

Samples reviewed and approved by:

James Hall

James Hall, Laboratory Manager
or other approved signatory

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.25, 21-50 fibers = 0.22, 51-100 fibers = 0.18. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.29. The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL. The test results contained within this report meet the requirements of NELAP unless otherwise noted. Results have been blank corrected as applicable. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC-IHLAP Accredited #102581, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 05/15/2016 11:02:21

Adelaide Environmental Health Associates, Inc.

90 State Street, Suite 700
Albany, NY 12207
Phone # 518.874.0617

1511 Route 22, Suite C24
Brewster, NY 10509
Phone # 845.278.7710
Fax # 845.278.7750

1967 Wehrle Drive, Suite One
Buffalo, NY 14221
Phone # 716.402.4580

03613401

OrderID: 03613401

Site Address: SUNY Purchase College 735 Anderson Hill Road Purchase, NY 10577	Client: SUNY Purchase Client Proj #:	Project #: SP:16011.01-VA Technician: Robert See Work Area: Basement	Date: 5-13-16 Page of

Sample ID # / Lab ID #		Sample location	Time On / Time Off	Flow On / Flow Off	Average Flow	Total Minutes	Volume
10A	(IWA) circled / OWA	Space 0004 Near Stairs	1545 / 1705	15 / 15	15	80	1200
11A	(IWA) circled / OWA	Near Space 0001	1546 / 1706	15 / 15	15	80	1200
12A	(IWA) circled / OWA	Space 0011	1547 / 1707	15 / 15	15	80	1200
	IWA / OWA						
	IWA / OWA						
	IWA / OWA						
	IWA / OWA						
	IWA / OWA						
	IWA / OWA						
	IWA / OWA						

FIELD BLANKS		Sample Type	Turnaround
13A	FB	☐ Background	☐ IMMEDIATE
14A	FB	☐ Dailies	☐ 12 Hrs
		☐ Finals	☐ 24 Hrs
		☒ Reference	☐ Other

CHAIN OF CUSTODY

	Date	Time
Technician Signature/ Relinquished by: [signature]	5-13-16	1800
Received By: [signature]	5/14/16	11:27am
Relinquished By:		
Received By:		

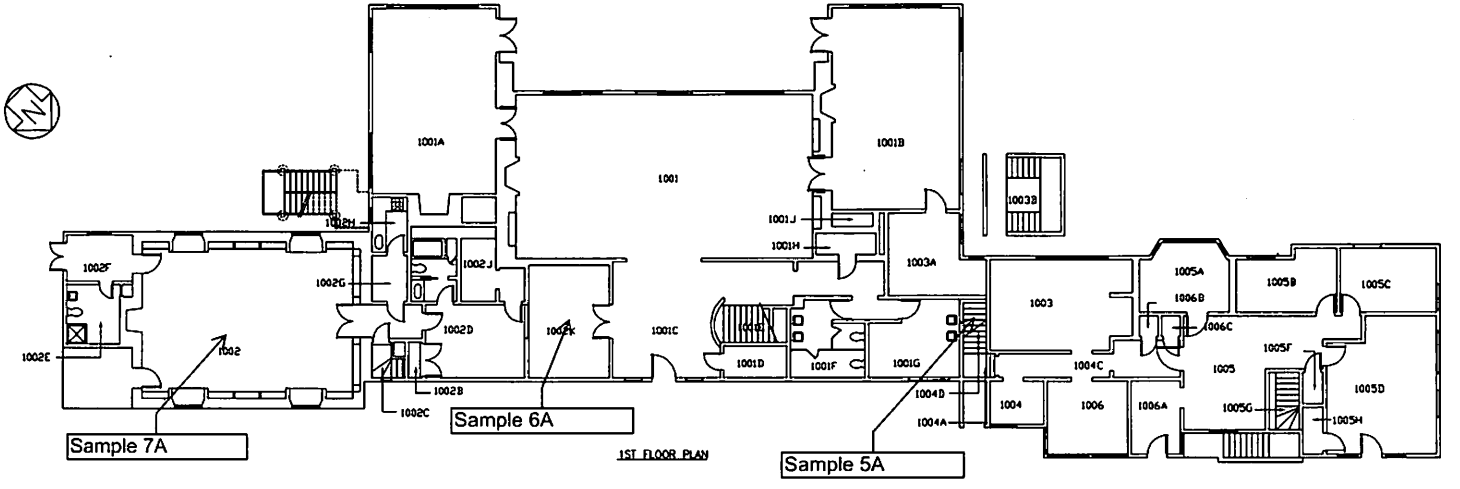
Fax Results to:
E-mail Results to: AdelaideLabResults@adelaidellc.com
Verbal Results to:

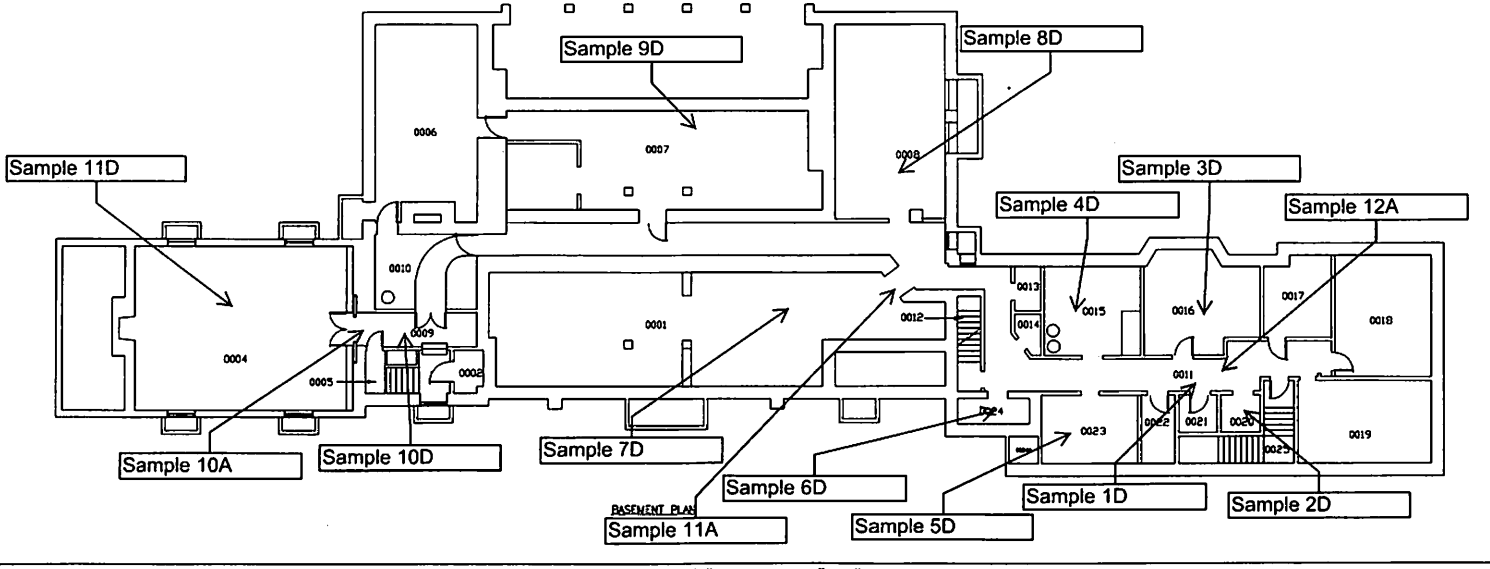
DryCal was used for Rotometer No. 00399 Date Last Calibrated: 5/12/16

NOTE: For TEM samples only, analyze OWA samples *only* if IWA samples fail

Analyzed by: Sam Strickler 5/14/16 8PM

160598

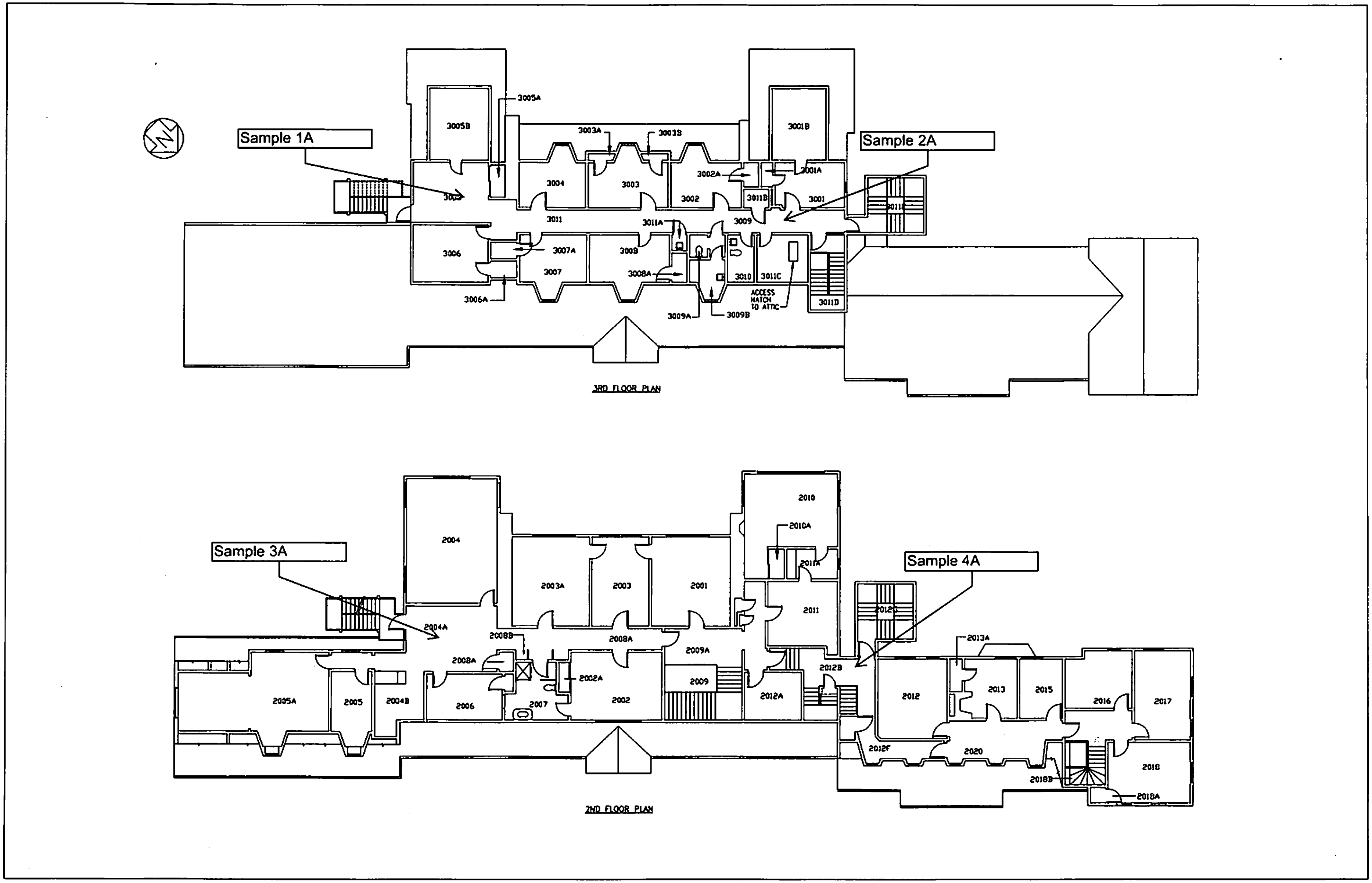




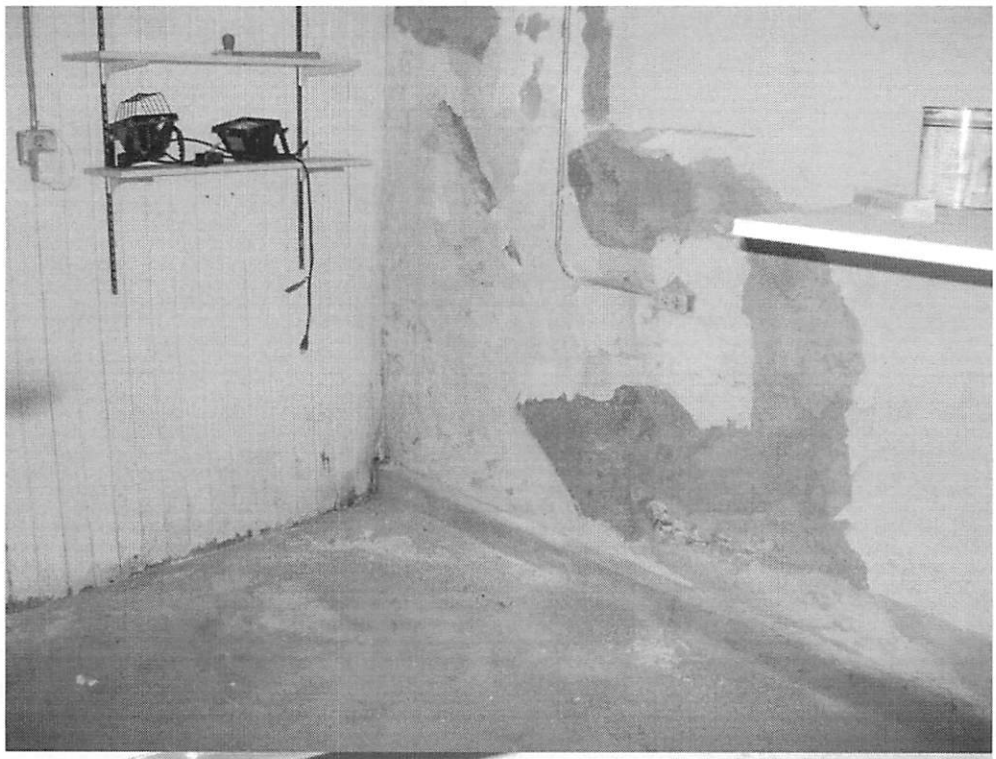
ADMINISTRATION BUILDING 1/8" SCALE @ 24"X36"

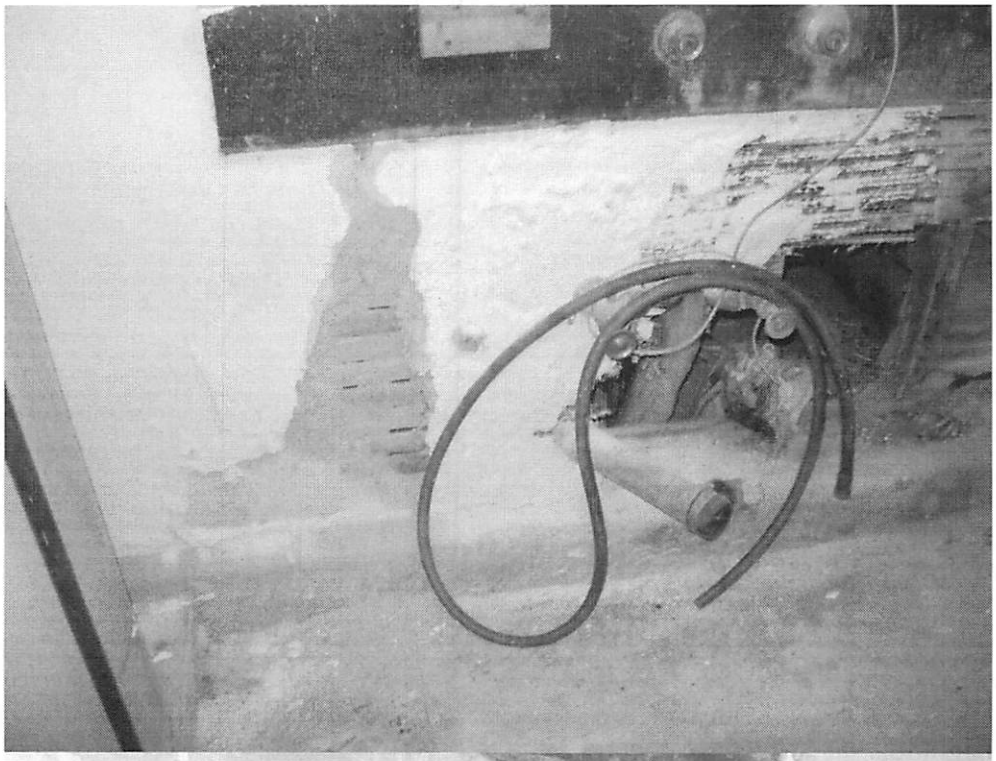
160598

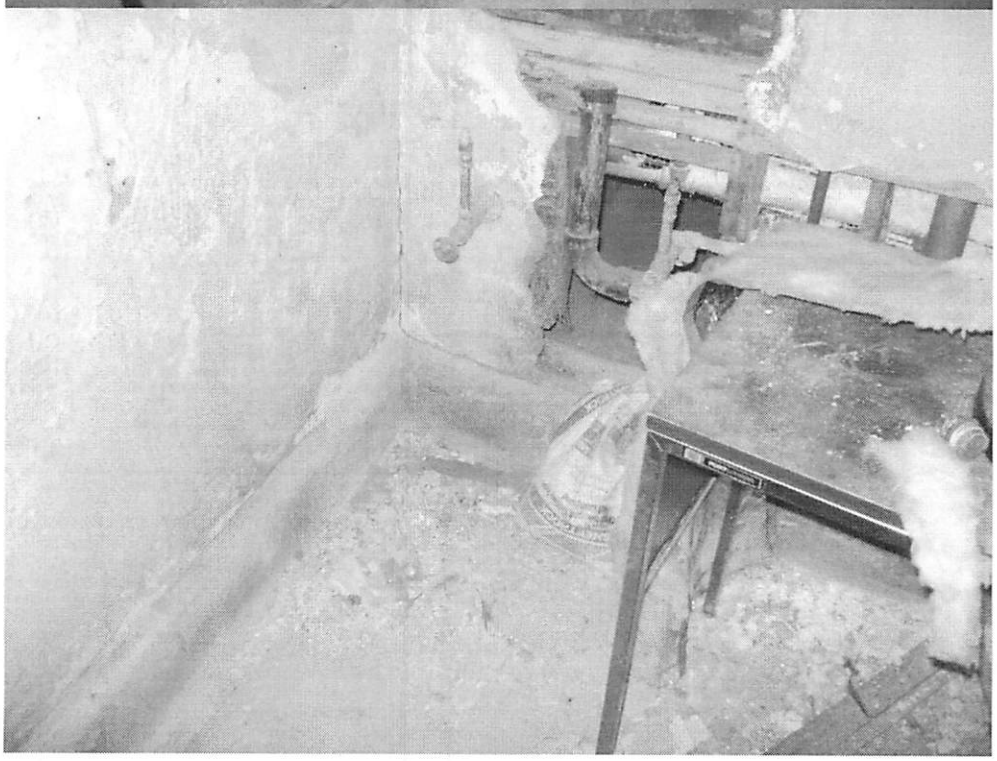
160598

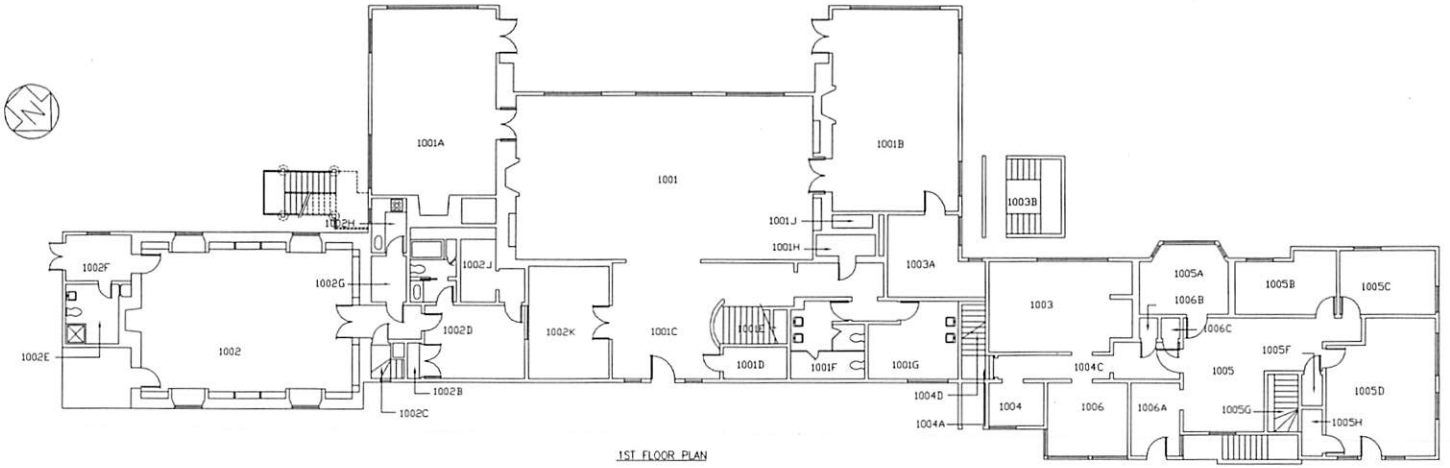


ADMINISTRATION BUILDING 1/8" SCALE @ 24"X36"

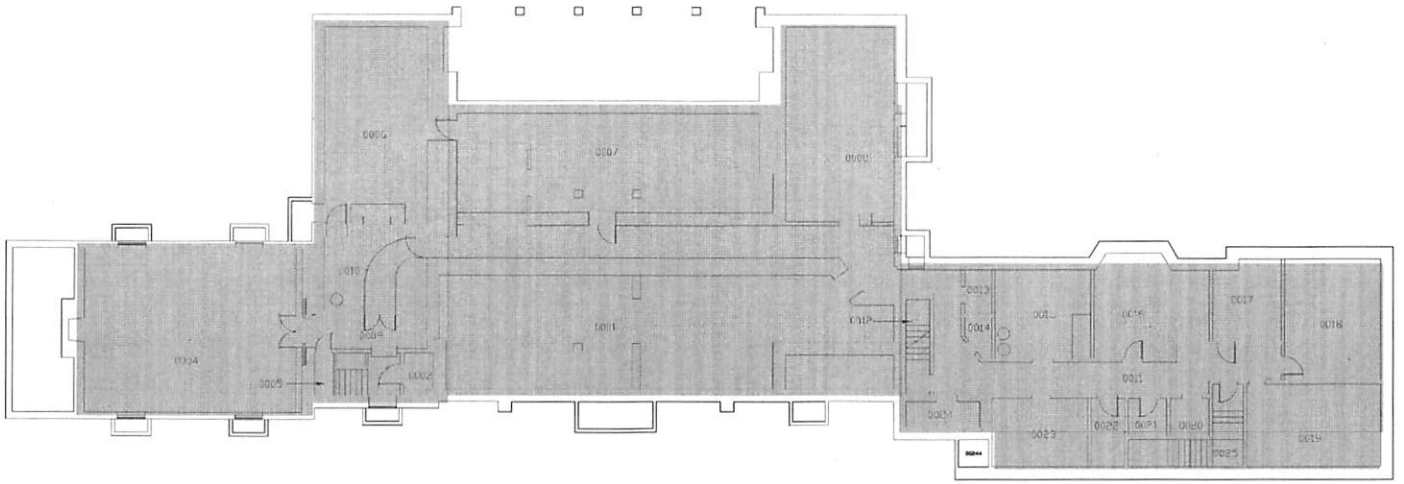








1ST FLOOR PLAN



BASEMENT PLAN

Asbestos Debris

ADMINISTRATION BUILDING 1/8" SCALE @ 24"X36"

160598