FLOOR TILE AND MASTIC &
MOLD ABATEMENT SPECIFICATIONS

Bay Pines VA Medical Center
Building 100, 5A Rooms 145 & 147
10000 Bay Pines Boulevard
Bay Pines, Florida

VRG Project No.: 15950-90008

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SECTION 02 82 13.19
ASBESTOS FLOOR TILE AND MASTIC & MOLD ABATEMENT

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ASBESTOS FLOOR TILE AND MASTIC & MOLD ABATEMENT SPECIFICATIONS

PART 1 – GENERAL

This Abatement Specifications Document was taken from Master Specifications provided by the Veterans Administration; specifically 'Asbestos Floor Tile and Mastic Abatement' (Section 02 82 13.19). These generic specifications have been modified by VRG Services, LLC to address the specifics of this project.

1.1 SUMMARY OF THE WORK

1.1.1 CONTRACT DOCUMENTS AND RELATED REQUIREMENTS

Drawings, general provisions of the contract, including general and supplementary conditions and other Division 01 specifications, shall apply to the work of this section. The contract documents show the work to be done under the contract and related requirements and conditions impacting the project. Related requirements and conditions include applicable codes and regulations, notices and permits, existing site conditions and restrictions on use of the site, requirements for partial owner occupancy during the work, coordination with other work and the phasing of the work. In the event the Asbestos/Mold Abatement Contractor discovers a conflict in the contract documents and/or requirements or codes, the conflict must be brought to the immediate attention of the Contracting Officer for resolution. Whenever there is a conflict or overlap in the requirements, the most stringent shall apply. Any actions taken by the Contractor without obtaining guidance from the Contracting Officer shall become the sole risk and responsibility of the Asbestos/Mold Abatement Contractor. All costs incurred due to such action are also the responsibility of the Asbestos/Mold Abatement Contractor.

1.1.2 EXTENT OF WORK

Below is a brief description of the estimated quantities of asbestos flooring materials to be abated, and a general description of mold contaminated building materials to be abated. These quantities and/or descriptions are for informational purposes only and are based on the best information available at the time of the specification preparation. The Contractor shall satisfy himself as the actual quantities to be abated, including site conditions. Nothing in this section may be interpreted as limiting the extent of work otherwise required by this contract and related documents.

A. Removal, clean-up and disposal of ACM flooring in an appropriately regulated area(s) in the following approximate quantities:

   400 square feet of asbestos-containing black mastic and asbestos-contaminated floor tile from Building 100 5A-145/147 as identified in VRG's Limited NESHAP Renovation Survey Report dated November of 2015. A copy of this report is included in Appendix B.

B. Removal, clean-up and disposal of mold contaminated building materials, including wall, ceiling and flooring systems (not previously addressed as ACM), in an appropriately contained area(s) in the following locations:

5A: 145 Shower/Toilet Room, including the common wall between 145 and 147, and all ceiling systems in these rooms.

1.1.3 TASKS

The work tasks are summarized briefly as follows:

A. Pre-abatement activities including pre-abatement meeting(s), inspection(s), notifications, permits, submittal approvals, regulated area preparations, emergency procedures arrangements, and Asbestos and Mold Hazard Abatement Plans for asbestos/mold abatement work.

B. Abatement activities including removal, clean-up and disposal of ACM and mold waste, recordkeeping, security, monitoring, and inspections.

C. Cleaning and decontamination activities including final visual inspection, air monitoring and certification of decontamination.

1.1.4 ABATEMENT CONTRACTOR USE OF PREMISES

A. The Contractor and Contractor's personnel shall cooperate fully with the VA representative/consultant to facilitate efficient use of buildings and areas within buildings. The Contractor shall perform the work in accordance with the VA specifications, drawings, phasing plan(s), as applicable, and in compliance with any/all applicable Federal, State and Local regulations and requirements.

B. The Contractor may use existing facilities in the building strictly within the limits indicated in Contract Documents as well as the approved VA Design Construction Procedure. VA Design Construction Procedure drawings of partially occupied buildings will show the limits of regulated areas; the placement of decontamination facilities; the temporary location of bagged waste; the path of transport to outside the building; and the temporary waste storage area for each building/regulated area. Any variation from the arrangements shown on drawings shall be secured in writing from the VA representative through the pre-abatement plan of action.

1.2 VARIATIONS IN QUANTITY

The quantities and locations of ACM as described and the extent of work included in this section are estimated which are limited by the physical constraints imposed by occupancy of the buildings and accessibility to ACM and mold. Accordingly, minor variations (+/- 5%) in quantities of ACM and mold within the regulated area are considered as having no impact on contract price and time requirements of this contract. Where additional work is required beyond the above variation, the contractor shall provide unit prices for newly discovered ACM and mold, and those prices shall be used for additional work required by the contractor.

1.3 STOP REMOVAL

If the Contracting Officer; their field representative; (the facility Safety Officer/Manager or their designee, or the VA Professional Industrial Hygienist/Certified Industrial Hygienist (VPIH/CIH)) presents a verbal Stop Removal Order, the Contractor/Personnel shall immediately stop all removal and maintain HEPA filtered negative

pressure air flow in the containment and adequately wet any exposed ACM and/or secure mold contaminated materials. If a verbal Stop Removal Order is issued, the VA shall follow-up with a written order to the Contractor as soon as it is practical. The Contractor shall not resume any removal activity until authorized to do so in writing by the VA Contracting Officer. A Stop Removal Order may be issued at any time the VA Contracting Officer determines abatement conditions/activities are not within VA specification, regulatory requirements, or that an imminent hazard exists to human health or the environment. Work stoppage will continue until conditions have been corrected to the satisfaction of the VA. Standby time and costs for corrective actions will be borne by the Contractor, including the VPIH/CIH time. The occurrence of any of the following events shall be reported immediately by the Contractor's competent person to the VA Contracting Office or field representative using the most expeditious means (e.g., verbal or telephonic), followed up with written notification to the Contracting Officer as soon as practical. The Contractor shall immediately stop removal and/or disturbance activities and for asbestos projects initiate fiber reduction activities:

A. Airborne PCM analysis results equal to or greater than 0.01 f/cc outside a regulated area or >0.05 f/cc inside a regulated area;
B. Breach or break in regulated area containment barrier(s);
C. Less than –0.02" WCG pressure in the regulated area;
D. Serious injury/death at the site;
E. Fire/safety emergency at the site;
F. Respiratory protection system failure;
G. Power failure or loss of wetting agent; or
H. Any visible emissions observed outside the regulated area.

1.4 DEFINITIONS

1.4.1 GENERAL

Definitions and explanations here are neither complete nor exclusive of all terms used in the Contract Documents, but are general for the work to the extent they are not stated more explicitly in another element of the Contract Documents. Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated therein.

1.4.2 GLOSSARY

Abatement - Procedures to control environmental hazards. Includes removal, encapsulation, enclosure, demolition, and renovation activities related to asbestos-containing materials (ACM) and/or mold contaminated building materials.
Adequately Wet - Sufficiently mixed or penetrated with liquid to prevent the release of particulates. If visible emissions are observed, then that material has not been adequately wetted.
Aerosol - Solid or liquid particulate suspended in air.
Aggressive Method - Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact ACM.
Aggressive Sampling - EPA AHERA defined clearance sampling method using air moving equipment such as fans and leaf blowers to aggressively disturb and maintain residual fibers in the air after abatement.

AHERA - Asbestos Hazard Emergency Response Act. Asbestos regulations for schools issued in 1987.
Aircell - Pipe or duct insulation made of corrugated cardboard which contains asbestos.
Airlock – An enclosure permitting entrance and exit to or from a contaminated area and a clean area. Airlfow is always from the clean area into the contaminated area.
Air Monitoring - The process of measuring the fiber content of a known volume of air collected over a specified period of time.
Air Sample Filter - The filter used to collect fibers which are then counted. The filter is made of mixed cellulose ester membrane for PCM (Phase Contrast Microscopy) and polycarbonate for TEM (Transmission Electron Microscopy).
Amended Water - Water to which a surfactant (wetting agent) has been added to increase the penetrating ability of the liquid.
Asbestos - Includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated or altered. Asbestos also includes PACM, as defined below.
Asbestos Hazard Abatement Plan (AHAP) - Asbestos work procedures required to be submitted by the contractor before work begins.
Asbestos-Containing Material (ACM) - Any material containing more than one percent (1%) asbestos.
Asbestos-Contaminated Elements (ACE) - Building elements such as ceilings, walls, lights, or ductwork that are contaminated with asbestos.
Asbestos-Contaminated Soil (ACS) – Soil found in the work area or in adjacent areas, such as crawlspaces or pipe tunnels, which is contaminated with asbestos-containing material debris and cannot be easily separated from the material.
Asbestos-Containing Waste (ACW) Material - Asbestos-containing material or asbestos-contaminated objects requiring disposal.
Asbestos Project Monitor – Properly trained and/or certified person conducting asbestos abatement clearance inspections and/or clearance air sampling. Some states require that any such person be licensed as an asbestos project monitor.
Asbestos Waste Decontamination Facility - A system consisting of drum/bag washing facilities and a temporary storage area for cleaned containers of asbestos waste. Used as the exit for waste and equipment leaving the regulated area. In an emergency, it may be used to evacuate personnel.
Authorized Person - Any person authorized by the VA, the Contractor, or government agency and required by work duties to be present in regulated areas.
Authorized Visitor - Any person approved by the VA; the Contractor; or any government agency representative having jurisdiction over the regulated area (e.g., OSHA, Federal and State EPA).
Barrier - Any surface that isolates the regulated area and inhibits fiber migration from the regulated area.

Containment Barrier - An airtight barrier consisting of walls, floors, and/or ceilings of sealed plastic sheeting which surrounds and seals the outer perimeter of the regulated area.
Critical Barrier - The barrier responsible for isolating the regulated area from adjacent spaces, typically constructed of plastic sheeting secured in place at openings such as doors, windows, or any other opening into the regulated area.
Primary Barrier – Plastic barriers placed over critical barriers and exposed directly to abatement work.

Secondary Barrier - Any additional plastic barriers used to isolate and provide protection from debris during abatement work.

Breathing Zone - The hemisphere forward of the shoulders with a radius of about 150-225 mm (6-9 inches) from the worker's nose.

Bridging Encapsulant - An encapsulant that forms a layer on the surface of the ACM.

Building/Facility Owner - The legal entity, including a lessee, which exercises control over management and recordkeeping functions relating to a building and/or facility in which abatement activities take place.

Bulk Testing - The collection and analysis of suspect asbestos-containing materials.

Categories of Water (HCRC S500) –

Category 1 Water – Water originating from a source that does not pose substantial harm to humans. Also referred to as “clean water”.

Category 2 Water – Water containing a significant degree of chemical, biological and/or physical contamination and having the potential to cause discomfort or sickness if consumed by or exposed to humans. Also referred to as “gray water”.

Category 3 Water – Grossly unsanitary water, containing pathogenic agents, arising from sewage or other contaminated water sources and having the likelihood of causing discomfort or sickness if consumed by or exposed to humans. This category includes all forms of seawater, ground surface water and rising water from rivers or streams. Also referred to as “black water”.

Certified Industrial Hygienist (CIH) - A person certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.

Class I Asbestos Work - Activities involving the removal of thermal system insulation (TSI) and surfacing ACM, and presumed asbestos-containing material (PACM).

Class II Asbestos Work - Activities involving the removal of ACM which is not TSI or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing, siding shingles, and construction mastic.

Clean Room/Changing Room - An uncontaminated room having facilities for the storage of employee's street clothing and uncontaminated materials and equipment.

Clearance Sample - The final air sample taken after all abatement work has been done and visually inspected. Performed by the VA's professional industrial hygiene consultant and/or CIH (VPIH/CIH).

Closely Resemble - The major workplace conditions which have contributed to the levels of historic exposure, are no more protective than conditions of the current workplace.

Competent Person - In addition to the definition in 29 CFR 1926.32(f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f); in addition, for Class I and II work who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for Supervisor. For mold abatement activities, the Competent Person would have similar responsibility.

Contractor's Professional Industrial Hygienist (CPIH/CIH) - The Contractor’s industrial hygienist. The industrial hygienist must meet the qualification requirements of a PIH and may be a certified industrial hygienist (CIH).

Count - Refers to the fiber count or the average number of fibers greater than five (5) microns in length with a length-to-width (aspect) ratio of at least 3 to 1, per cubic centimeter of air.
Crawlspace – An area which can be found either in or adjacent to the work area. This area has limited access and egress, and may contain ACM and/or ACS.
Decontamination Area/Unit - An enclosed area adjacent to and connected to the regulated area and consisting of an equipment room, shower room, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated.
Demolition - The wrecking or taking out of any load-supporting structural member.

VA Total – Means a building or substantial part of the building is completely removed, torn or knocked down, bulldozed, flattened, or razed, including removal of building debris.

Disinfectant or Biocide Sanitizing Solutions – One of three groups of antimicrobials registered by the EPA for public health uses. The EPA considers an antimicrobial to be a disinfectant when it destroys or irreversibly inactivates infectious or other undesirable organisms, but not necessarily their spores
Disposal Bag - Typically 6-mil thick sift-proof, dustproof, leak-tight container used to package and transport waste from regulated areas to the approved landfill. Each bag/container must be labeled and marked in accordance with EPA, OSHA and DOT requirements.
Disturbance - Activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. Disturbance includes cutting away small amounts of ACM or PACM, no greater than the amount that can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or disposal bag which shall not exceed 60 inches in length and width.
Drum - A rigid, impermeable container made of cardboard fiber, plastic, or metal which can be sealed in order to be sift-proof, dustproof, and leak-tight.
Employee Exposure - The exposure to airborne asbestos that would occur if the employee were not wearing respiratory protection equipment.
Encapsulant - A material that surrounds or embeds asbestos fibers in an adhesive matrix and prevents the release of fibers.
Encapsulation - Treating ACM with an encapsulant.
Enclosure - The construction of an air tight, impermeable, permanent barrier to control the release of particulate matter from a material and also eliminate access to the material.
Equipment Room - A contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.
Excursion Limit (EL) – Refer to Permissible Excursion Limit (PEL) definition below.
Fiber - A particulate form of asbestos, 5 microns or longer, with a length to width (aspect) ratio of at least 3 to 1.
Fibers per Cubic Centimeter (f/cc) - Abbreviation for fibers per cubic centimeter, used to describe the level of particulate fibers in air.
Filter - Media used in respirators, vacuums, or other machines to remove particulate from air.
Firestopping - Material used to close the open parts of a structure in order to prevent a fire from spreading.

Friable Asbestos-Containing Material - Any material containing more than one percent (1%) asbestos as determined using the method specified in appendix A, Subpart F, 40 CFR 763, section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
Fungicidal Agents – A coating material that contains an EPA registered fungicide that inhibits the spread and growth of mold with the ability to withstand moist and humid conditions.
Glovebag - Not more than a 60 x 60 inch impervious plastic bag-like enclosure affixed around an ACM, with glove-like appendages through which materials and tools may be handled.
High Efficiency Particulate Air (HEPA) Filter – An ASHRAE MERV 17 filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.
HEPA Vacuum - Vacuum collection equipment equipped with a HEPA filter system capable of collecting and retaining asbestos fibers.
Homogeneous Area - An area of surfacing, TSI or miscellaneous ACM that is uniform in color, texture and date of application.
HVAC - Heating, Ventilation and Air Conditioning
Industrial Hygienist (IH) - A professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards. Meets definition requirements of the American Industrial Hygiene Association (AIHA).
Industrial Hygienist Technician (IH Technician) - A person working under the direction of an IH or CIH who has special training, experience, certifications and licenses required for the industrial hygiene work assigned. Some states require that an industrial hygienist technician conducting asbestos abatement clearance inspection and clearance air sampling be licensed as an asbestos project monitor.
Intact - ACM that has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.
Lockdown - Applying encapsulant, after a final visual inspection, on all abated surfaces at the conclusion of ACM removal prior to removal of critical barriers.
Mold Control Area – An area where mold removal operations are being performed which is isolated by physical boundaries to prevent the spread of biological agents or debris.
National Emission Standards for Hazardous Air Pollutants (NESHAP) - EPA's rule to control emissions of asbestos to the environment (40 CFR Part 61, Subpart M).
Negative Initial Exposure Assessment - A demonstration by the employer which complies with the criteria in 29 CFR 1926.1101 (f)(2)(iii), that employee exposure during an operation is expected to be consistently below the PEL.
Negative Pressure - Air pressure which is lower than the surrounding area, created by exhausting air from a sealed regulated area through HEPA equipped filtration units. OSHA requires maintaining -0.02" water column gauge inside the negative pressure enclosure.
Negative Pressure Respirator - A respirator in which the air pressure inside the facepiece is negative during inhalation relative to the air pressure outside the respirator facepiece.
Non-Friable ACM - Material that contains more than 1 percent (1%) asbestos but cannot be crumbled, pulverized, or reduced to powder by hand pressure.
Non-Porous Material – A material that does not absorb nor is easily penetrated by liquids, especially water. Generally, non-porous

materials have a permeable factor of less than one (1). Some examples are metal, glass, plastic, ceramic tile, etc.
Organic Vapor Cartridge - The type of cartridge used on air purifying respirators to remove organic vapor hazardous air contaminants.
Outside Air - The air outside buildings and structures, including, but not limited to, the air under a bridge or in an open ferry dock.
Owner/Operator - Any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated, or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.
Penetrating Encapsulant - Encapsulant that is absorbed into the ACM matrix without leaving a surface layer.
Personal Protective Equipment (PPE) – Equipment designed to protect user from injury and/or specific job hazard. Such equipment may include protective clothing, hard hats, safety glasses, and respirators.
Personal Sampling/Monitoring - Representative air samples obtained in the breathing zone for one or more workers within the regulated area using a filter cassette and a calibrated air sampling pump to determine exposure.
Permissible Exposure Limit (PEL) - The level of exposure OSHA allows for an 8-hour time weighted average (TWA). For asbestos fibers, the 8-hour TWA PEL is 0.1 f/cc of air, and the 30-minute Excursion Limit (EL) is 1.0 f/cc.
Phase Contrast Microscopy (PCM) - The NIOSH 7400 Method, Issue 2 is used to determine the fiber levels in air for personal samples and clearance air testing.
Pipe Tunnel – An area, typically located adjacent to mechanical spaces or boiler rooms, in which the pipes servicing the heating system in the building are routed to allow the pipes to access heating elements. These areas may contain asbestos pipe insulation, asbestos fittings, or asbestos-contaminated soil.
Polarized Light Microscopy (PLM) - Light microscopy using dispersion staining techniques and refractive indices to identify and quantify the type(s) of asbestos present in a bulk sample.
Polyethylene Sheeting - Strong plastic barrier material 4 to 6 mils thick, semi-transparent, flame retardant per NFPA 241.
Positive/Negative Fit-Check - A method of verifying the seal of a facepiece respirator by temporarily occluding the filters and breathing in (inhaling), and then temporarily occluding the exhalation valve and breathing out (exhaling) while checking for inward or outward leakage of the respirator respectively.
Presumed ACM (PACM) - TSI, surfacing, and flooring material installed in buildings prior to 1981. If the building Owner has actual knowledge, or should have known through the exercise of due diligence that other materials are ACM, they too must be treated as PACM. The designation of PACM may be rebutted pursuant to 29 CFR 1926.1101 (b).
Professional IH - An IH who meets the definition requirements of AIHA; meets the definition requirements of OSHA as a "Competent Person" at 29 CFR 1926.1101 (b); has completed two specialized EPA approved courses on management and supervision of asbestos abatement projects; has formal training in respiratory protection and waste disposal; and has a minimum of four (4) projects of similar complexity with this project of which at least three (3) projects serving as the supervisory IH. The PIH may be either the VA’s PIH (VPIH) of Contractor’s PIH (CPIH/CIH).
Project Designer - A person who has successfully completed the training requirements for an Asbestos Abatement Project Designer as required by 40 CFR 763 Appendix C, Part I; (B)(5).

Protection Factor (PF) - A value assigned by OSHA/NIOSH to indicate the expected protection provided by each respirator class, when the respirator is properly selected and worn correctly. The number indicates the reduction of exposure level from outside to inside the respirator facepiece.
Qualitative Fit-Test (QLFT) - A fit-test using a challenge material that can be sensed by the wearer if leakage in the respirator occurs.
Quantitative Fit-Test (QNFT) - A fit-test using a challenge material which is quantified outside and inside the respirator thus allowing the determination of the actual fit factor.
Regulated Area - An area established by the Contractor and/or Owner to demarcate where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work may accumulate; and a work area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the PEL.
Regulated ACM (RACM) - Friable ACM; Category I non-friable ACM that has become friable; Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or; Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation operation.
Removal - All operations where ACM, PACM and/or RACM is taken out or stripped from structures or substrates, including demolition operations. Operations to remove biological agents.
Renovation - Altering a facility, or one or more facility components in any way, including the stripping or removal of asbestos from a facility component which does not involve demolition activity.
Repair - Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM or PACM attached to structures or substrates.
Shower Room - The portion of the PDF where personnel shower before leaving the regulated area.
Supplied Air Respirator (SAR) - A respiratory protection system that supplies minimum Grade D respirable air per ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989.
Surfacing ACM - A material containing more than 1 percent (1%) asbestos that is sprayed, troweled on or otherwise applied to surfaces for acoustical, fireproofing and other purposes.
Surfactant - A chemical added to water to decrease water's surface tension thus making it more penetrating into ACM.
Thermal System ACM - A material containing more than 1 percent (1%) asbestos applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain.
Transmission Electron Microscopy (TEM) - A microscopy method that can identify and count asbestos fibers. NIOSH TEM Method 7402 can be used when it is necessary to confirm fibers counted by PCM as being asbestos. The AHERA TEM analysis may be used for background, area and clearance samples when required by this specification, or at the discretion of the VPIH/CIH as appropriate.
VA Professional Industrial Hygienist (VPIH/CIH) – The Department of Veterans Affairs Professional Industrial Hygienist must meet the qualifications of a PIH, and may be a Certified Industrial Hygienist (CIH).
VA Representative - The VA official responsible for on-going project work.

Visible Emissions - Any emissions, which are visually detectable without the aid of instruments, coming from ACM/PACM/RACM/ACS or ACM waste material.
Waste/Equipment Decontamination Facility (W/EDF) – The area in which equipment is decontaminated before removal from the regulated area.
Waste Generator - Any Owner or operator whose act or process produces asbestos-containing waste material.
Waste Shipment Record - The shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.
Wet Cleaning - The process of thoroughly eliminating, by wet methods, any particulate contamination from surfaces or objects.

1.4.3 REFERENCED STANDARDS ORGANIZATIONS

The following acronyms or abbreviations as referenced in contract/ specification documents are defined to mean the associated names. Names and addresses may be subject to change.

A. VA Department of Veterans Affairs
810 Vermont Avenue, NW
Washington, DC 20420

B. AIHA American Industrial Hygiene Association
2700 Prosperity Avenue, Suite 250
Fairfax, VA 22031
703-849-8888

C. ANSI American National Standards Institute
1430 Broadway
New York, NY 10018
212-354-3300

D. ASTM American Society for Testing and Materials
1916 Race St.
Philadelphia, PA 19103
215-299-5400

E. CFR Code of Federal Regulations
Government Printing Office
Washington, DC 20420

F. CGA Compressed Gas Association
1235 Jefferson Davis Highway
Arlington, VA 22202
703-979-0900

G. CS Commercial Standard of the National Institute of Standards and Technology (NIST)
U. S. Department of Commerce
Government Printing Office
Washington, DC 20420

H. EPA Environmental Protection Agency
401 M St., SW
Washington, DC 20460
202-382-3949

I. MIL-STD Military Standards/Standardization Division
Office of the Assistant Secretary of Defense
Washington, DC 20420

I. NEC National Electrical Code (by NFPA)

J. NEMA National Electrical Manufacturer's Association
2101 L Street, NW
Washington, DC 20037

K. NFPA National Fire Protection Association
1 Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101
800-344-3555

L. NIOSH National Institutes for Occupational Safety and Health
4676 Columbia Parkway
Cincinnati, OH 45226
513-533-8236

M. OSHA Occupational Safety and Health Administration
U.S. Department of Labor
Government Printing Office
Washington, DC 20402

N. UL Underwriters Laboratory
333 Pfingsten Rd.
Northbrook, IL 60062
312-272-8800

1.5 APPLICABLE CODES AND REGULATIONS

1.5.1 GENERAL APPLICABILITY OF CODES, REGULATIONS, AND STANDARDS

A. All work under this contract shall be done in strict accordance with all applicable Federal, State, and local regulations, standards and codes governing asbestos and mold abatement, and any other trade work done in conjunction with abatement activities. All applicable codes, regulations and standards are adopted into this specification and will have the same force and effect as this specification.

B. The most recent edition of any relevant regulation, standard, document or code shall be in effect. Where conflict among the requirements or with these specifications exists, the most stringent requirement(s) shall be utilized.

C. Copies of all standards, regulations, codes and other applicable documents, including this specification and those listed in Section 1.5, shall be available at the worksite in the clean change area of the worker decontamination system.

1.5.2 CONTRACTOR RESPONSIBILITY

The Abatement Contractor (Contractor) shall assume full responsibility and liability for compliance with all applicable Federal, State and Local regulations related to any and all aspects of the asbestos and

mold abatement project. The Contractor is responsible for providing and maintaining licensing, training, accreditations, medical exams, medical records, personal protective equipment (PPE) including respiratory protection and respirator fit-testing, as required by applicable Federal, State and Local regulations. The Contractor shall hold the VA and VPIH/CIH consultants harmless for any Contractor's failure to comply with any applicable work, packaging, transporting, disposal, safety, health, or environmental requirement on the part of himself, his employees, or his subcontractors. The Contractor will incur all costs of the CPIH/CIH, including all sampling/analytical costs to assure compliance with OSHA/EPA/State requirements related to failure to comply with the regulations applicable to the work.

1.5.3 FEDERAL REQUIREMENTS

Federal requirements which govern some aspect of asbestos abatement include, but are not limited to, the following regulations.

A. Occupational Safety and Health Administration **(OSHA)**
   1. Title 29 CFR 1926.1101 - Construction Standard for Asbestos
   2. Title 29 CFR 1910.132 - Personal Protective Equipment
   3. Title 29 CFR 1910.134 - Respiratory Protection
   4. Title 29 CFR 1926 - Construction Industry Standards
   5. Title 29 CFR 1910.20 - Access to Employee Exposure and Medical Records
   6. Title 29 CFR 1910.1200 - Hazard Communication
   7. Title 29 CFR 1910.151 - Medical and First Aid

B. Environmental Protection Agency (EPA)
   1. 40 CFR 61 Subpart A and M (Revised Subpart B) - National Emission Standard for Hazardous Air Pollutants (NESHA) – Asbestos
   2. 40 CFR 262.11 – Hazardous Waste Determination
   3. 40 CFR 763.80 - Asbestos Hazard Emergency Response Act (AHERA)

C. Department of Transportation (DOT)
   Title 49 CFR 100-185 – Transportation

1.5.4 STATE REQUIREMENTS

State requirements that apply to the asbestos abatement work, disposal, clearance, etc., include, but are not limited to, the following:

Florida Administrative Code, Chapter 469:

- Rule 62-257.301(1)
- Rule 62-204.100(4)
- Rule 62-257.100(2)
- Rule 62-257.100(4)

Florida Administrative Code, Chapter 468:

- Rule 31-31, Licensing of Mold Remediation Contractors

1.5.5 LOCAL REQUIREMENTS

If local requirements are more stringent than federal or state standards, the local standards are to be followed.

Pinellas County, Florida Code of Ordinances: Sections 58-145, 58-146, 58-147 and 58-148.

1.5.6 STANDARDS

A. Standards which govern asbestos and/or mold abatement activities include, but are not limited to, the following:
   1. American National Standards Institute (ANSI) Z9.2-79 - Fundamentals Governing the Design and Operation of Local Exhaust Systems
   2. ANSI Z88.2 - Practices for Respiratory Protection
   3. Underwriters Laboratories (UL) 586-90 - UL Standard for Safety of HEPA filter Units, 7th Edition.

B. Standards which govern encapsulation work include, but are not limited to, the following:
   1. American Society for Testing and Materials (ASTM)

C. Standards which govern the fire and safety concerns in abatement work include, but are not limited to, the following:
   1. National Fire Protection Association (NFPA) 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.
   2. NFPA 701 - Standard Methods for Fire Tests for Flame Resistant Textiles and Film.
   3. NFPA 101 - Life Safety Code

1.5.7 EPA GUIDANCE DOCUMENTS

A. EPA guidance documents which discuss asbestos abatement work activities are listed below. These documents are made part of this section by reference. EPA publications can be ordered from (800) 424-9065.

B. Guidance for Controlling ACM in Buildings (Purple Book) EPA 560/5-85-024

C. Asbestos Waste Management Guidance EPA 530-SW-85-007

D. A Guide to Respiratory Protection for the Asbestos Abatement Industry EPA-560-OPTS-86-001

E. Guide to Managing Asbestos in Place (Green Book) TS 799 20T July 1990

1.5.8 NOTICES

A. State and Local agencies: Send written notification as required by state and local regulations, including the local fire department, prior to beginning any work.

B. Notification may be required by the Pinellas County Department of Environmental Management, Air Quality Division, 10 work days prior to the commencement of asbestos abatement activities.

C. Copies of notifications shall be submitted to the VA for the facility's records in the same time frame notification are given to EPA, State, and Local authorities.

1.5.9 PERMITS/LICENSES

A. The contractor shall apply for and have all required permits and licenses to perform asbestos and mold abatement work as required by

Federal, State, and Local regulations. This shall include proper licensing of personnel employed by the Contractor for the task(s) performed.

1.5.10 POSTING AND FILING OF REGULATIONS

A. Maintain two (2) copies of applicable federal, state, and local regulations. Post one (1) copy of each at the regulated area where workers will have daily access to the regulations and keep another copy in the Contractor's office.

1.5.11 VA RESPONSIBILITIES

Prior to commencement of work:

A. Notify occupants adjacent to regulated areas of project dates and requirements for relocation, if needed. Arrangements must be made prior to starting work for relocation of desks, files, equipment and personal possessions to avoid unauthorized access into the regulated area. **Note: Notification of adjacent personnel is required by OSHA in 29 CFR 1926.1101 (k) to prevent unnecessary or unauthorized access to the regulated area.**

B. Submit to the Contractor results of background air sampling; including location of samples, person who collected the samples, equipment utilized, calibration data and method of analysis. During abatement, submit to the Contractor, results of bulk material analysis and air sampling data collected during the course of the abatement. This information shall not release the Contractor from any responsibility for OSHA compliance.

1.5.12 SITE SECURITY

A. Regulated area access is to be restricted only to authorized, trained/accredited and protected personnel. These may include the Contractor's employees, employees of Subcontractors, VA employees and representatives, State and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to commencing the project and be posted in the clean room of the decontamination unit.

B. Entry into the regulated area by unauthorized individuals shall be reported immediately to the Competent Person by anyone observing the entry. The Competent person shall immediately notify the VA.

C. A log book shall be maintained in the clean room of the decontamination unit. Anyone who enters the regulated area must record their name, affiliation, time in, and time out for each entry.

D. Access to the regulated area shall be through a critical barrier doorway. All other access (doors, windows, hallways, etc.) shall be sealed or locked to prevent entry to or exit from the regulated area. The only exceptions for this requirement are the waste/equipment load-out area which shall be sealed except during the removal of containerized asbestos waste from the regulated area, and emergency exits. Emergency exits shall not be locked from the inside; however, they shall be sealed with poly sheeting and taped until needed.

E. The Contractor's Competent Person shall control site security during abatement operations in order to isolate work in progress and protect adjacent personnel. A 24-hour security system shall be provided at the entrance to the regulated area to assure that all entrants are logged in/out and that only authorized personnel are allowed entrance.

F. The Contractor will have the VA's assistance in notifying adjacent personnel of the presence, location and quantity of ACM in the regulated area and enforcement of restricted access by the VA's employees.

G. The regulated area shall be locked during non-working hours and secured by VA security guards.

1.5.13 EMERGENCY ACTION PLAN AND ARRANGEMENTS

A. An Emergency Action Plan shall be developed by the Contractor prior to commencing abatement activities and shall be agreed to by the Contractor and the VA. The Plan shall meet the requirements of 29 CFR 1910.38 (a) and (b).

B. Emergency procedures shall be in written form and prominently posted in the clean room and equipment room of the decontamination unit. Everyone, prior to entering the regulated area, must read and sign these procedures to acknowledge understanding of the regulated area layout, location of emergency exits and emergency procedures.

C. Emergency planning shall include written notification of police, fire, and emergency medical personnel of planned abatement activities; work schedule; layout of regulated area; and access to the regulated area, particularly barriers that may affect response capabilities.

D. Emergency planning shall include consideration of fire, explosion, hazardous atmospheres, electrical hazards, slips/trips and falls, confined spaces, and heat stress illness. Written procedures for response to emergency situations shall be developed and employee training in procedures shall be provided.

E. Employees shall be trained in regulated area/site evacuation procedures in the event of workplace emergencies.

1. For non life-threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the regulated area to obtain proper medical treatment.
2. For life-threatening injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove them from the regulated area, and secure proper medical treatment.

F. Telephone numbers of any/all emergency response personnel shall be prominently posted in the clean room, along with the location of the nearest telephone.

G. The Contractor shall provide verification of first aid/CPR training for personnel responsible for providing first aid/CPR. OSHA requires medical assistance within 3-4 minutes of a life-threatening injury

and/or illness. Bloodborne Pathogen training shall also be verified for those personnel required to provide first aid/CPR.

H. The Emergency Action Plan shall provide for a Contingency Plan in the event that an incident occurs that may require the modification of the Asbestos and Mold Hazard Abatement Plan during abatement. Such incidents include, but are not limited to, fire; accident; power failure; negative pressure failure; and supplied air system failure. The Contractor shall detail procedures to be followed in the event of an incident assuring that asbestos/mold abatement work is stopped and wetting is continued until correction of the problem.

1.5.14 PRE-CONSTRUCTION MEETING

Prior to commencing the work, the Contractor shall meet with the VA Certified Industrial Hygienist (VPCIH) to present and review, as appropriate, the items following this paragraph. The Contractor's Competent Person(s) who will be on-site shall participate in the pre-start meeting. The pre-start meeting is to discuss and determine procedures to be used during the project. At this meeting, the Contractor shall provide:

A. Proof of Contractor and Business licensing for both asbestos and mold, as applicable.
B. Proof the Competent Person(s) is trained and accredited and approved for working in this State. Verification of the experience of the Competent Person(s) shall also be presented.
C. A list of all workers who will participate in the project, including experience and verification of training and accreditation.
D. A list of and verification of training for all personnel who have current first-aid/CPR training. A minimum of one (1) person per shift must have adequate training.
E. Current medical written opinions for all personnel working on-site meeting the requirements of 29 CFR 1926.1101 (m).
F. Current fit-tests for all personnel wearing respirators on-site meeting the requirements of 29 CFR 1926.1101 (h) and Appendix C.
G. A copy of the Asbestos and Mold Hazard Abatement Plan. In these procedures, the following information must be detailed, specific for this project.
    1. Regulated area preparation procedures;
    2. Notification requirements procedure of Contractor as required in 29 CFR 1926.1101 (d);
    3. Decontamination area set-up/layout and decontamination procedures for employees;
    4. Abatement methods/procedures and equipment to be used; and
    5. Personal protective equipment to be used.
H. At this meeting the Contractor shall provide all submittals as required.
I. Procedures for handling, packaging and disposal of asbestos and mold waste.
J. Emergency Action Plan and Contingency Plan Procedures.

1.6 PROJECT COORDINATION

The following are the minimum administrative and supervisory personnel necessary for coordination of the work.

1.6.1 PERSONNEL

A. Administrative and supervisory personnel shall consist of a qualified Competent Person(s) as defined by OSHA in the Construction Standards and the Asbestos Construction Standard; Contractor Professional Industrial Hygienist and Industrial Hygiene Technicians. These employees are the Contractor's representatives responsible for compliance with these specifications and all other applicable requirements.

B. Non-supervisory personnel shall consist of an adequate number of qualified personnel to meet the schedule requirements of the project. Personnel utilized on-site shall be pre-approved by the VA representative. A request for approval shall be submitted for any person to be employed during the project giving the person's name; social security number; certifications, licenses and/or qualifications; accreditation card with color picture; Certificate of Worker's Acknowledgment; and Affidavit of Medical Surveillance and Respiratory Protection and current Respirator Fit Test.

C. Minimum qualifications for Contractor and assigned personnel are:
   1. The Contractor has conducted within the last three (3) years, three (3) projects of similar complexity and dollar value as this project; has not been cited and penalized for serious violations of federal (and state, county and/or city as applicable) EPA and OSHA asbestos regulations in the past three (3) years; has adequate liability and occurrence insurance for asbestos and mold work as required by the state; is properly licensed in applicable states; has adequate and qualified personnel available to complete the work; has comprehensive Asbestos and Mold Hazard Abatement Plans for the work; and has adequate materials, equipment and supplies to perform the work.
   2. The Competent Person has four (4) years of abatement experience of which two (2) years were as the Competent Person on the project; meets the OSHA definition of a Competent Person; has been the Competent Person on two (2) projects of similar size and complexity as this project within the past three (3) years; has completed EPA AHERA/OSHA/State/Local training requirements/accreditation(s) and refreshers; and has all required OSHA documentation related to medical and respiratory protection.
   3. The Contractor Professional Industrial Hygienist/CIH (CPIH/CIH) shall have five (5) years of monitoring experience and supervision of asbestos and mold abatement projects; has participated as senior IH on five (5) abatement projects, three (3) of which are similar in size and complexity as this project; has developed at least one (1) complete Asbestos and Mold Hazard Abatement Plan; has trained abatement personnel for three (3) years; has specialized EPA AHERA/OSHA training in asbestos abatement management, respiratory protection, waste disposal and asbestos inspection; has completed the NIOSH 582 Course or equivalent, Contractor/Supervisor course; and has appropriate medical/respiratory protection records and/or documentation.
   4. The Abatement Personnel shall have completed the EPA AHERA/OSHA asbestos abatement worker course; have training on the Asbestos and Mold Hazard Abatement Plan of the Contractor; has one (1) year of asbestos and mold abatement experience within the past three (3) years of similar size and complexity; has applicable medical and

respiratory protection documentation; and has certificate(s) of training/current refresher and State accreditation/license.

All personnel should be in compliance with OSHA construction safety training as applicable and submit certification.

1.7 RESPIRATORY PROTECTION

1.7.1 GENERAL - RESPIRATORY PROTECTION PROGRAM

The Contractor shall develop and implement a written Respiratory Protection Program (RPP) which is in compliance with the January 8, 1998, OSHA requirements found at 29 CFR 1926.1101 and 29 CFR 1910.Subpart I;134. ANSI Standard Z88.2-1992 provides excellent guidance for developing a respiratory protection program. All respirators used must be NIOSH approved for asbestos and mold abatement activities. The written RPP shall, at a minimum, contain the basic requirements found at 29 CFR 1910.134(c)(1)(i-ix) - Respiratory Protection Program.

1.7.2 RESPIRATORY PROTECTION PROGRAM COORDINATOR

The Respiratory Protection Program Coordinator (RPPC) must be identified and shall have two (2) years experience coordinating RPP of similar size and complexity. The RPPC must submit a signed statement attesting to the fact that the program meets the above requirements.

1.7.3 SELECTION AND USE OF RESPIRATORS

The procedure for the selection and use of respirators must be submitted to the VA as part of the Contractor's qualifications. The procedure must written clearly enough for workers to understand. A copy of the Respiratory Protection Program must be available in the clean room of the decontamination unit for reference by employees or authorized visitors.

1.7.4 MINIMUM RESPIRATORY PROTECTION

Minimum respiratory protection shall be a half face, HEPA filtered, air purifying respirator when fiber levels are maintained consistently at or below 0.1 f/cc. A higher level of respiratory protection may be provided or required, depending on fiber levels. Respirator selection shall meet the requirements of 29 CFR 1926.1101 (h); Table 1, except as indicated in this paragraph. Abatement personnel must have a respirator for their exclusive use.

1.7.5 MEDICAL WRITTEN OPINION

No employee shall be allowed to wear a respirator unless a physician or other licensed health care professional has provided a written determination they are medically qualified to wear the class of respirator to be used on the project while wearing whole body impermeable garments and subjected to heat or cold stress.

1.7.6 RESPIRATOR FIT TEST

All personnel wearing respirators shall have a current qualitative/quantitative fit-test which was conducted in accordance with 29 CFR 1910.134 (f) and Appendix A. Quantitative fit tests shall be done for PAPRs which have been put into a motor/blower failure mode.

1.7.7 RESPIRATOR FIT CHECK

The Competent Person shall assure that the positive/negative pressure user seal check is done each time the respirator is donned by an employee. Head coverings must cover respirator head straps. Any situation that prevents an effective facepiece to face seal as evidenced by failure of a user seal check shall preclude that person from wearing a respirator inside the regulated area until resolution of the problem.

1.7.8 MAINTENANCE AND CARE OF RESPIRATORS

The Respiratory Protection Program Coordinator shall submit evidence and documentation showing compliance with 29 CFR 1910.134 (h) Maintenance and Care of Respirators.

1.8 WORKER PROTECTION

1.8.1 TRAINING OF ABATEMENT PERSONNEL

Prior to beginning any abatement activity, all personnel shall be trained in accordance with OSHA 29 CFR 1926.1101 (k)(9) and any additional State/Local requirements. Training must include, at a minimum, the elements listed at 29 CFR 1926.1101 (k)(9)(viii). Training shall have been conducted by a third party, EPA/State approved trainer meeting the requirements of EPA 40 CFR 763 Appendix C (AHERA MAP). Initial training certificates and current refresher and accreditation proof must be submitted for each person working at the site.

1.8.2 MEDICAL EXAMINATIONS

Medical examinations meeting the requirements of 29 CFR 1926.1101 (m) shall be provided for all personnel working in the regulated area, regardless of exposure levels. A current physician's written opinion as required by 29 CFR 1926.1101 (m)(4) shall be provided for each person and shall include in the medical opinion the person has been evaluated for working in a heat and cold stress environment while wearing personal protective equipment (PPE) and is able to perform the work without risk of material health impairment.

1.8.3 PERSONAL PROTECTIVE EQUIPMENT

Provide whole body clothing, head coverings, foot coverings and any other personal protective equipment as determined by conducting the hazard assessment required by OSHA at 29 CFR 1910.132 (d). The Competent Person shall ensure the integrity of personal protective equipment worn for the duration of the project. Duct tape shall be used to secure all suit sleeves to wrists and to secure foot coverings at the ankle. Worker protection shall meet the most stringent requirements.

1.8.4 REGULATED AREA ENTRY PROCEDURE

The Competent Person shall ensure that each time workers enter a regulated area they remove ALL street clothes in the clean room of the decontamination unit and put on new disposable coveralls, head coverings, a clean respirator, and then proceed through the shower room to the equipment room where they put on non-disposable required personal protective equipment.

1.8.5 DECONTAMINATION PROCEDURE

The Competent Person shall require all personnel to adhere to following decontamination procedures whenever they leave the regulated area.

A. When exiting the regulated area, remove all disposable PPE and dispose of in a disposal bag provided in the regulated area.

B. Carefully decontaminate and clean the respirator. Put in a clean container/bag.

1.8.6 REGULATED AREA REQUIREMENTS

The Competent Person shall meet all requirements of 29 CFR 1926.1101 (o) and assure that all requirements for Class I regulated areas in 29 CFR 1926.1101 (e) are met as applicable to Class II work. All personnel in the regulated area shall not be allowed to eat, drink, smoke, chew tobacco or gum, apply cosmetics, or in any way interfere with the fit of their respirator.

1.9 DECONTAMINATION FACILITIES

1.9.1 DESCRIPTION

Provide each regulated area with separate personnel decontamination facilities (PDF) and waste/equipment decontamination facilities (W/EDF). Ensure that the PDF are the only means of ingress and egress to the regulated area and that all equipment, bagged waste, and other material exit the regulated area only through the W/EDF.

1.9.2 GENERAL REQUIREMENTS

All personnel entering or exiting a regulated area must go through the PDF and shall follow the requirements at 29 CFR 1926.1101 (j)(1) and these specifications. All waste, equipment and contaminated materials must exit the regulated area through the W/EDF and be decontaminated in accordance with these specifications. Walls and ceilings of the PDF and W/EDF must be constructed of a minimum of three (3) layers of 6-mil opaque fire retardant polyethylene sheeting and be securely attached to existing building components and/or an adequate temporary framework. A minimum of three (3) layers of 6-mil poly shall also be used to cover the floor under the PDF and W/EDF units. Construct doors so that they overlap and secure to adjacent surfaces. Weight inner doorway sheets so that they close quickly after release. Put arrows on sheets so they show direction of travel and overlap. If an adjacent area(s) is occupied, construct a solid barrier on the occupied side(s) to protect the sheeting and reduce potential for non-authorized personnel entering the regulated area.

1.9.3 TEMPORARY FACILITIES TO THE PDF AND W/EDF

The Competent Person shall provide temporary water service connections to the PDF and W/EDF. Backflow prevention must be provided at the point of connection to the VA system. Water supply must be of adequate pressure and meet requirements of 29 CFR 1910.141 (d)(3). Provide adequate temporary overhead electric power with ground fault circuit interruption (GFCI) protection. Provide a sub-panel equipped with GFCI protection for all temporary power in the clean room. Provide adequate

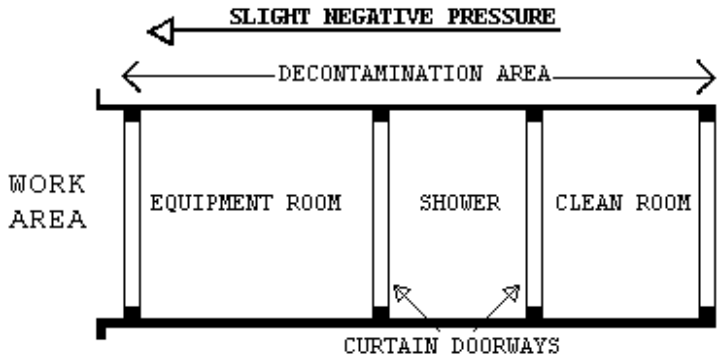
lighting to provide a minimum of 50 foot candles in the PDF and W/EDF. Provide temporary heat, if needed, to maintain 70°F throughout the PDF and W/EDF.

1.9.4 PERSONNEL DECONTAMINATION FACILITY (PDF)

1. Clean Room: The clean room must be physically and visually separated from the rest of the building to protect the privacy of personnel changing clothes. The clean room shall be constructed of at least three (3) layers of 6-mil opaque fire retardant poly to provide an air tight room. Provide a minimum of two (2) 900 mm (3 foot) wide 6-mil poly opaque fire retardant doorways. One doorway shall be the entry from outside the PDF and the second doorway shall be to the shower room of the PDF. The floor of the clean room shall be maintained in a clean, dry condition. Shower overflow shall not be allowed into the clean room. Provide one (1) storage locker per person. A portable fire extinguisher, minimum 10 pounds capacity, Type ABC, shall be provided in accordance with OSHA and NFPA Standard 10. All persons entering the regulated area shall remove all street clothing in the clean room and dress in disposable protective clothing and respiratory protection. Any person entering the clean room does so either from the outside with street clothing on or is coming from the shower room completely naked and thoroughly washed. Females required to enter the regulated area shall be ensured of their privacy throughout the entry/exit process by posting guards at both entry points to the PDF so no male can enter or exit the PDF during her stay in the PDF.
2. Shower Room: The Competent Person shall assure that the shower room is a completely water tight compartment to be used for the movement of all personnel from the clean room to the equipment room and for the showering of all personnel going from the equipment room to the clean room. Each shower shall be constructed so water runs down the walls of the shower and into a drip pan. Install a freely draining smooth floor on top of the shower pan. The shower room shall be separated from the rest of the building and from the clean room and equipment room using air tight walls made from at least three (3) layers of 6-mil opaque fire retardant poly. The shower shall be equipped with a shower head and controls, hot and cold water, drainage, soap dish and continuous supply of soap, and shall be maintained in a sanitary condition throughout its use. The controls shall be arranged so an individual can shower without assistance. Provide a flexible hose shower head, hose bibs and all other items shown on Shower Schematic. Waste water will be pumped to a drain after being filtered through a minimum of a 100 micron sock in the shower drain; a 20 micron filter; and a final 5 micron filter. Filters will be changed a minimum of daily or more often as needed. Filter changes must be done in the shower to prevent loss of contaminated water. Hose down all shower surfaces after each shift and clean any debris from the shower pan. Residue during asbestos abatement operations is to be disposed of as asbestos waste.
3. Equipment Room: The Competent Person shall provide an equipment room which shall be an air tight compartment for the storage of work equipment/tools, reusable personal protective equipment, except for a respirator and for use as a gross decontamination area for personnel exiting the regulated area. The equipment room shall be separated from the regulated area by a minimum three (3) foot wide door made with two (2) layers of 6-mil opaque fire retardant poly.

The equipment room shall be separated from the regulated area, the shower room and the rest of the building by air tight walls and ceiling constructed of a minimum of three (3) layers of 6-mil opaque fire retardant poly. Damp wipe all surfaces of the equipment room after each shift change. Provide an additional loose layer of 6-mil fire retardant poly per shift change and remove this layer after each shift. If needed, provide a temporary electrical sub-panel equipped with GFCI in the equipment room to accommodate any equipment required in the regulated area.

4. The PDF shall be as follows: Clean room at the entrance followed by a shower room followed by an equipment room leading to the regulated area. Each doorway in the PDF shall be a minimum of two (2) layers of 6-mil opaque fire retardant poly.

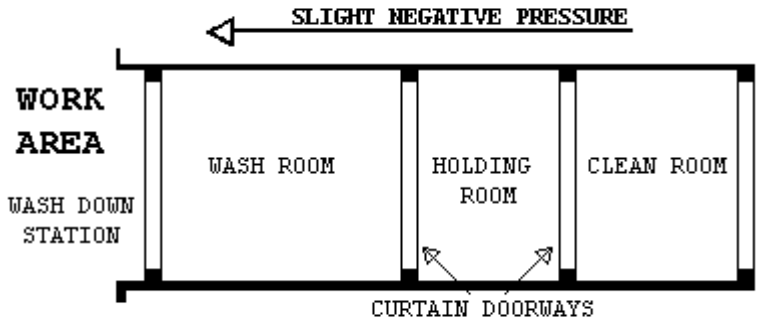


1.9.5 WASTE/EQUIPMENT DECONTAMINATION FACILITY (W/EDF)

The Competent Person shall provide an W/EDF consisting of a wash room, holding room, and clean room for removal of waste, equipment and contaminated material from the regulated area. Personnel shall not enter or exit the W/EDF except in the event of an emergency. Clean debris and residue in the W/EDF daily. All surfaces in the W/EDF shall be wiped/hosed down after each shift and all debris shall be cleaned from the shower pan. The W/EDF shall consist of the following:

1. Wash Down Station: Provide an enclosed shower unit in the regulated area just outside the Wash Room as an equipment bag and container cleaning station.
2. Wash Room: Provide a wash room for cleaning of bagged or containerized waste materials passed from the regulated area. Construct the wash room using 2x4 inch wood framing and three (3) layers of 6-mil fire retardant poly. Locate the wash room so that packaged materials, after being wiped clean, can be passed to the Holding Room. Doorways in the wash room shall be constructed of two (2) layers of 6-mil fire retardant poly.
3. Holding Room: Provide a holding room as a drop location for bagged materials passed from the wash room. Construct the holding room using 2x4 inch wood framing and three (3) layers of 6-mil fire retardant poly. The holding room shall be located so that bagged material cannot be passed from the wash room to the clean room unless it goes through the holding room. Doorways in the holding room shall be constructed of two (2) layers of 6-mil fire retardant poly.

4. Clean Room: Provide a clean room to isolate the holding room from the exterior of the regulated area. Construct the clean room using 2x4 inch wood framing and two (2) layers of 6-mil fire retardant poly. The clean room shall be located so as to provide access to the holding room from the building exterior. Doorways to the clean room shall be constructed of two (2) layers of 6-mil fire retardant poly. When a negative pressure differential system is used, a rigid enclosure separation between the W/EDF clean room and the adjacent areas shall be provided.
5. The W/EDF shall be as follows: Wash Room leading to a Holding Room followed by a Clean Room leading to outside the regulated area. See diagram.



1.9.6 WASTE/EQUIPMENT DECONTAMINATION PROCEDURES

At the Washdown Station in the regulated area, thoroughly wet clean contaminated equipment and/or sealed polyethylene bags and pass the bags into Wash Room after visual inspection. When passing anything into the Wash Room, close all doorways of the W/EDF, other than the doorway between the Washdown Station and the Wash Room. Keep all outside personnel clear of the W/EDF. Once inside the Wash Room, wet clean the equipment and/or bags. After cleaning and inspection, pass items into the Holding Room. Close all doorways except the doorway between the Holding Room and the Clean Room. Workers from the Clean Room/Exterior shall enter the Holding Room and remove the decontaminated/cleaned equipment/bags for removal and disposal. These personnel will not be required to wear PPE. At no time shall personnel from the clean side be allowed to enter the Wash Room.

PART 2 - PRODUCTS, MATERIALS AND EQUIPMENT

2.1 MATERIALS AND EQUIPMENT

2.1.1 GENERAL REQUIREMENTS (ALL ABATEMENT PROJECTS)

Prior to the start of work, the Contractor shall provide and maintain a sufficient quantity of materials and equipment to assure continuous and efficient work throughout the duration of the project. Work shall not start unless the following items have been delivered to the site and the CPIH/CIH has submitted verification to the VA's representative.

A. All materials shall be delivered in their original package, container or bundle bearing the name of the manufacturer and the brand name (where applicable).

B. Store all materials subject to damage off the ground, away from wet or damp surfaces and under cover sufficient enough to prevent damage or contamination. **Flammable and combustible materials cannot be stored inside buildings.** Replacement materials shall be stored outside of the regulated area until abatement is completed.

C. The Contractor shall not block or hinder use of buildings by patients, staff, and visitors to the VA in partially occupied buildings by placing materials/equipment in any unauthorized location.

D. The Competent Person shall inspect for damaged, deteriorating or previously used materials. Such materials shall not be used and shall be removed from the worksite and disposed of properly.

E. Polyethylene sheeting for walls in the regulated area shall be a minimum of 4-mils. For floors and all other uses, sheeting of at least 6-mil shall be used in widths selected to minimize the frequency of joints. All polyethylene sheeting shall be opaque white or black in color. **Fire retardant poly shall be used throughout.**

F. The method of attaching polyethylene sheeting shall be agreed upon in advance by the Contractor and the VA and selected to minimize damage to equipment and surfaces. Method of attachment may include any combination of moisture resistant duct tape, furring strips, spray glue, staples, nails, screws, lumber and plywood for enclosures or other effective procedures capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions.

G. Proper installation and plumbing hardware, showers, hoses, drain pans, sump pumps and waste water filtration system shall be provided by the Contractor.

H. An adequate number of HEPA vacuums, scrapers, sprayers, nylon brushes, brooms, disposable mops, rags, sponges, staple guns, shovels, ladders and scaffolding of suitable height and length as well as meeting OSHA requirements, fall protection devices, water hose to reach all areas in the regulated area, airless spray equipment, and any other tools, materials or equipment required to conduct the abatement project. All electrically operated hand tools, equipment, electric cords shall be connected to GFCI protection.

I. Special protection for objects in the regulated area shall be detailed (e.g., plywood over carpeting or hardwood floors to prevent damage from scaffolds, water and falling material).

J. Disposal bags – Two (2) layers of 6-mil poly for asbestos waste shall be pre-printed with labels, markings and address as required by OSHA, EPA and DOT regulations. For mold waste, non-labeled two (2) layers of 6-mil poly will be acceptable.

K. The VA shall be provided an advance copy of the MSDS as required for all hazardous chemicals under OSHA 29 CFR 1910.1200 - Hazard

Communication in the pre-project submittal. Chlorinated compounds shall not be used with any spray adhesive, mastic remover or other product. Appropriate encapsulant(s) shall be provided.

L. OSHA DANGER demarcation signs, as many and as required by OSHA 29 CFR 1926.1101(k)(7), shall be provided and placed by the Competent Person. All other posters and notices required by Federal and State regulations shall be posted in the Clean Room.

M. Adequate and appropriate PPE for the project and number of personnel/shifts shall be provided. All PPE issued must be based on a written hazard assessment conducted under 29 CFR 1910.132(d).

2.1.2 NEGATIVE PRESSURE FILTRATION SYSTEM

The Contractor shall provide enough HEPA negative air machines to continuously maintain a pressure differential of -0.02" water column gauge (WCG). The Competent Person shall determine the number of units needed for the regulated area by dividing the cubic feet in the regulated area by 15 and then dividing that result by the cubic feet per minute (CFM) for each unit to determine the number of units needed to continuously maintain a pressure differential of -0.02" WCG. Provide a standby unit in the event of machine failure and/or emergency in an adjacent area.

NIOSH has done extensive studies and has determined that negative air machines typically operate at ~50% efficiency. The contractor shall consider this in their determination of number of units needed to continuously maintain a pressure differential of -0.02" WCG. The contractor shall use eight (8) air changes per hour or double the number of machines, based on their calculations, or submit proof their machines operate at stated capacities, at a 2" pressure drop across the filters.

2.1.3 DESIGN AND LAYOUT

A. Before start of work, the Contractor shall submit the design and layout of the regulated area and the negative air machines. The submittal shall indicate the number of, location of and operating capacity of negative air machines. The point(s) of exhaust, air flow within the regulated area, anticipated negative pressure differential, and supporting calculations for sizing shall be provided. In addition, submit the following:
   1. Method of supplying power to the units and designation/location of the panels.
   2. Description of testing method(s) for correct air volume and pressure differential.
   3. If auxiliary power supply is to be provided for the negative air machines, provide a schematic diagram of the power supply and manufacturer's data on the generator and switch.

2.1.4 NEGATIVE AIR MACHINES (HEPA UNITS)

A. Negative Air Machine Cabinet: The cabinet shall be constructed of steel or other durable material capable of withstanding potential damage from rough handling and transportation. The width of the cabinet shall be less than 30" in order to fit in standard doorways. The cabinet must be factory sealed to prevent asbestos fibers from being released during

use, transport, or maintenance. Any access to and replacement of filters shall be from the inlet end. The unit must be on casters or wheels.

B. Negative Air Machine Fan: The rating capacity of the fan must indicate the CFM under actual operating conditions. Manufacturer's typically use "free-air" (no resistance) conditions when rating fans. The fan must be a centrifugal type fan.

C. Negative Air Machine Final Filter: The final filter shall be a HEPA filter. The filter media must be completely sealed on all edges within a structurally rigid frame. The filter shall align with a continuous flexible gasket material in the negative air machine housing to form an air tight seal. Each HEPA filter shall be certified by the manufacturer to have an efficiency of not less than 99.97%. Testing shall have been done in accordance with Military Standard MIL-STD-282 and Army Instruction Manual 136-300-175A. Each filter must bear a UL586 label to indicate ability to perform under specified conditions. Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

D. Negative Air Machine Pre-Filters: The pre-filters, which protect the final HEPA filter by removing larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. A first stage pre-filter shall be a low efficiency type for particles 10 micron or larger. A second stage pre-filter shall have a medium efficiency effective for particles down to 5 micron or larger. Pre-filters shall be installed either on or in the intake opening of the NAM and the second stage filter must be held in place with a special housing or clamps.

E. Negative Air Machine Instrumentation: Each unit must be equipped with a gauge to measure the pressure drop across the filters and to indicate when filters have become loaded and need to be changed. A table indicating the CFM for various pressure readings on the gauge shall be affixed near the gauge for reference or the reading shall indicate at what point the filters shall be changed, noting CFM delivery. The unit must have an elapsed time meter to show total hours of operation.

F. Negative Air Machine Safety and Warning Devices: An electrical/ mechanical lockout must be provided to prevent the fan from being operated without a HEPA filter. Units must be equipped with an automatic shutdown device to stop the fan in the event of a rupture in the HEPA filter or blockage in the discharge of the fan. Warning lights are required to indicate normal operation; too high a pressure drop across filters; or too low of a pressure drop across filters.

G. Negative Air Machine Electrical: All electrical components shall be approved by the National Electrical Manufacturer's Association (NEMA) and Underwriters Laboratories (UL). Each unit must be provided with overload protection and the motor, fan, fan housing, and cabinet must be grounded.

H. It is essential that replacement HEPA filters be tested using an “in-line” testing method, to ensure the seal around the periphery was not damaged during replacement. Damage to the outer HEPA filter seal could

allow contaminated air to bypass the HEPA filter and be discharged to an inappropriate location. The Contractor will provide written documentation of test results for negative air machine units with HEPA filters changed by the Contractor, or documentation when changed and tested by the Contractor filters.

2.1.5 PRESSURE DIFFERENTIAL

The fully operational negative air system within the regulated area shall continuously maintain a pressure differential of -0.02" water column gauge. Before any disturbance of any asbestos material, this shall be demonstrated to the VA by use of a pressure differential meter/manometer as required by OSHA 29 CFR 1926.1101(e)(5)(i). The Competent Person shall be responsible for providing, maintaining, and documenting the negative pressure and air changes as required by OSHA and this specification.

2.2 CONTAINMENT BARRIERS AND COVERINGS IN THE REGULATED AREA

2.2.1 GENERAL

A. Using critical barriers, seal off the perimeter to the regulated area to completely isolate the regulated area from adjacent spaces. All surfaces in the regulated area must be covered to prevent contamination and to facilitate clean-up. Should adjacent areas become contaminated as a result of the work, the Contractor shall immediately stop work and clean up the contamination at no additional cost to the VA. Provide firestopping and identify all fire barrier penetrations due to abatement work as specified in Section 3.1.4.8; FIRESTOPPING.

B. Place all tools, scaffolding, materials and equipment needed for working in the regulated area prior to erecting any plastic sheeting. All uncontaminated removable furniture, equipment and/or supplies shall be removed by the VA from the regulated area before commencing work. Any objects remaining in the regulated area shall be completely covered with two (2) layers of 6-mil fire retardant poly sheeting and secured with duct tape. Lock out and tag out any HVAC/electrical systems in the regulated area.

2.2.2 CONTROLLING ACCESS TO THE REGULATED AREA

Access to the regulated area is allowed only through the personnel decontamination facility (PDF). All other means of access shall be secured and OSHA DANGER demarcation signs posted as required by OSHA. If the regulated area is adjacent to, or within view of an occupied area, provide a visual barrier of 6 mil opaque fire retardant poly to prevent building occupant observation. If the adjacent area is accessible to the public, the barrier must be solid (fire resistant drywall/gypsum board) and constructed in such a manner as to be capable of withstanding the negative pressure.

2.2.3 CRITICAL BARRIERS

Completely separate any operations in the regulated area from adjacent areas using two (2) layers of 6-mil fire retardant poly and duct tape. Individually seal with two (2) layers of 6-mil poly and duct tape all HVAC openings into the regulated area. Individually seal all lighting fixtures, clocks, doors, windows, convectors, speakers, or any other

objects/openings in the regulated area. Heat must be shut off any objects covered with poly.

2.2.4 SECONDARY BARRIERS

A loose layer of 6-mil poly shall be used as a drop cloth to protect the primary layers from debris generated during the abatement. This layer shall be replaced as needed during the work and at a minimum one (1) time per work day.

2.2.5 EXTENSION OF THE REGULATED AREA

If the enclosure of the regulated area is breached in any way that could allow contamination to occur, the affected area shall be included in the regulated area and constructed as per this section. Decontamination measures must be started immediately and continue until air monitoring indicates background levels are met.

2.2.6 FIRESTOPPING

A. Through penetrations caused by cables, cable trays, pipes, ducts, sleeves, conduits, etc. must be firestopped with a fire-rated firestop system providing an air tight seal.

B. Firestop materials that are not equal to the ratings of the wall or ceiling penetrated shall be brought to the attention of the VA Representative. The Contractor shall list all areas of penetration, the type of sealant used, and whether or not the location is fire rated. Any discovery of penetrations during abatement shall be brought to the attention of the VA representative immediately. All walls, floors and ceilings are considered fire rated unless otherwise determined by the VA Representative or Fire Marshall.

C. Any visible openings, whether or not caused by a penetration, shall be reported by the Contractor to the VA Representative for a sealant system determination. Firestops shall meet ASTM E814 and UL 1479 requirements for the opening size, penetrant, and fire rating needed.

2.3 MONITORING, INSPECTION AND TESTING

2.3.1 GENERAL

A. Perform throughout abatement work monitoring, inspection and testing inside and around the regulated area in accordance with the OSHA requirements and these specifications. OSHA requires that the employee exposure to asbestos must not exceed 0.1 fibers per cubic centimeter (f/cc) of air, averaged over an 8-hour work shift. The CPIH/CIH is responsible for, and shall inspect and oversee, the performance of the Contractor IH Technician. The IH Technician shall continuously inspect and monitor conditions inside the regulated area to ensure compliance with these specifications. In addition, the CPIH/CIH shall personally manage air sample collection, analysis, and evaluation for personnel, regulated area, and adjacent area samples to satisfy OSHA requirements. Additional inspection and testing requirements are also indicated in other parts of this specification.

B. The VA will employ an independent industrial hygienist (VPIH/CIH) consultant and/or use its own IH to perform various services on behalf of the VA. The VPIH/CIH will perform the necessary monitoring,

inspection, testing, and other support services to ensure that VA patients, employees, and visitors will not be adversely affected by the abatement work, and that the abatement work proceeds in accordance with these specifications, that the abated areas or abated buildings have been successfully decontaminated. The work of the VPIH/CIH consultant in no way relieves the Contractor from their responsibility to perform the work in accordance with contract/specification requirements, or to perform continuous inspection, monitoring and testing for the safety of their employees, and to perform other such services as specified. The cost of the VPIH/CIH and their services will be borne by the VA except for any repeat of final inspection and testing that may be required due to unsatisfactory initial results. Any repeated final inspections and/or testing, if required, will be paid for by the Contractor.

C. If fibers counted by the VPIH/CIH during asbestos abatement work, either inside or outside the regulated area, utilizing the NIOSH 7400 air monitoring method, exceed the specified respective limits, the Contractor shall stop work. The Contractor may request confirmation of the results by analysis of the samples by TEM. The request must be in writing and submitted to the VA's representative. The cost for the confirmation of results will be borne by the Contractor for both the collection and analysis of samples, and for the time delay that may/does result for this confirmation. Confirmation sampling and analysis will be the responsibility of the CPIH/CIH with review and approval of the VPIH/CIH. An agreement between the CPIH/CIH and the VPIH/CIH shall be reached on the exact details of the confirmation effort, in writing, including such things as the number of samples, location, collection, quality control on-site, analytical laboratory, interpretation of results and any follow-up actions. This written agreement shall be co-signed by the IH's and delivered to the VA's representative.

2.3.2 SCOPE OF SERVICES OF THE VPIH/CIH CONSULTANT

A. The purpose of the work of the VPIH/CIH is to: assure quality; adherence to the specification; resolve problems; prevent the spread of contamination beyond the regulated area; and assure clearance at the end of the project. In addition, their work includes performing the final inspection and testing to determine whether the regulated area or building has been adequately decontaminated. All air monitoring is to be done utilizing PCM/TEM. The VPIH/CIH will perform the following tasks:

1. Task 1: Establish background levels before abatement begins by collecting background samples. Retain samples for possible TEM analysis.
2. Task 2: Perform continuous air monitoring, inspection, and testing outside the regulated area during actual abatement work to detect any faults in the regulated area isolation and any adverse impact on the surroundings from regulated area activities.
3. Task 3: Perform unannounced visits to spot check overall compliance of work with contract/specifications. These visits may include any inspection, monitoring, and testing inside and outside the regulated area and all aspects of the operation except personnel monitoring.
4. Task 4: Provide support to the VA representative such as evaluation of submittals from the Contractor, resolution of conflicts, interpret data, etc.

5. Task 5: Perform, in the presence of the VA representative, final inspection and testing of a decontaminated regulated area at the conclusion of the abatement to certify compliance with all regulations and VA requirements/specifications.
6. Task 6: Issue certificate of decontamination for each regulated area and project report.

B. All documentation, inspection results and testing results generated by the VPIH/CIH will be available to the Contractor for information and consideration. The Contractor shall cooperate with and support the VPIH/CIH for efficient and smooth performance of their work.

C. The monitoring and inspection results of the VPIH/CIH will be used by the VA to issue any Stop Removal orders to the Contractor during abatement work and to accept or reject a regulated area or building as decontaminated.

2.3.3 MONITORING, INSPECTION AND TESTING BY CONTRACTOR CPIH/CIH

The Contractor’s CPIH/CIH is responsible for managing all monitoring, inspections, and testing required by these specifications, as well as any and all regulatory requirements adopted by these specifications. The CPIH/CIH is responsible for the continuous monitoring of all subsystems and procedures which could affect the health and safety of the Contractor’s personnel. Safety and health conditions and the provision of those conditions inside the regulated area for all persons entering the regulated area is the exclusive responsibility of the Contractor/Competent Person. The person performing the personnel and area air monitoring inside the regulated area shall be an IH Technician, who shall be trained and shall have specialized field experience in sampling and analysis. The IH Technician shall have successfully completed a NIOSH 582 Course or equivalent, and provide documentation. The IH Technician shall participate in the AIHA Asbestos Analysis Registry or participate in the Proficiency Analytic Testing program of AIHA for fiber counting quality control assurance. The IH Technician shall also be an accredited EPA AHERA/State Contractor/Supervisor (or Abatement Worker) and Building Inspector. The IH Technician shall have participated in a minimum of five (5) abatement projects collecting personal and area samples, as well as responsibility for documentation on substantially similar projects in size and scope. The analytic laboratory used by the Contractor to analyze the samples shall be AIHA accredited for asbestos PAT and approved by the VA prior to start of the project. A daily log shall be maintained by the CPIH/CIH or IH Technician, documenting all OSHA requirements for air personal monitoring for asbestos in 29 CFR 1926.1101 (f), (g) and Appendix A. This log shall be made available to the VA representative and the VPIH/CIH upon request. The log will contain, at a minimum, information on personnel or area samples, other persons represented by the sample, the date of sample collection, start and stop times for sampling, sample volume, flow rate, and fibers/cc. The CPIH/CIH shall collect and analyze samples for each representative job being done in the regulated area, i.e., removal, wetting, clean-up, and load-out. No fewer than two (2) personal samples per shift shall be collected and one (1) area sample per 1,000 square feet of regulated area where abatement is taking place, and one (1) sample per shift in the clean room area shall be collected. In addition to the continuous monitoring required, the CPIH/CIH will perform inspection and testing

at the final stages of abatement for each regulated area as specified in the CPIH/CIH responsibilities. Additionally, the CPIH/CIH will monitor and record pressure readings within the containment daily with a minimum of two (2) readings (one (1) at the beginning and one (1) at the end of a shift) and submit the data in the daily report.

2.4 HAZARD ABATEMENT PLAN

The Contractor shall establish a Hazard Abatement Plan (HAP) in printed form and loose leaf folder consisting of simplified text, diagrams, sketches, and pictures that establish and explain clearly the procedures to be followed during all phases of the work by the Contractor's personnel. The HAP must be modified as needed to address specific requirements of this project and the specifications. The HAP shall be submitted for review and approval to the VA prior to the start of any abatement work. The minimum topics and areas to be covered by the HAP are:

A. Minimum Personnel Qualifications
B. Emergency Action Plan/Contingency Plans and Arrangements
C. Security and Safety Procedures
D. Respiratory Protection/Personal Protective Equipment Program and Training
E. Medical Surveillance Program and Recordkeeping
F. Regulated Area Requirements - Containment Barriers/Isolation of Regulated Area
G. Decontamination Facilities and Entry/Exit Procedures (PDF and W/EDF)
H. Negative Pressure Systems Requirements
I. Monitoring, Inspections, and Testing
J. Removal Procedures for ACM and Mold
K. Removal of Contaminated Soil (if applicable)
L. Encapsulation Procedures for ACM
M. Disposal of ACM and Mold Waste
N. Regulated Area Decontamination/Clean-up
O. Regulated Area Visual and Air Clearance
P. Project Completion/Closeout

2.5 SUBMITTALS

2.5.1 PRE-START MEETING SUBMITTALS

Submit to the VA a minimum of 14 days prior to the pre-start meeting the following for review and approval. Meeting this requirement is a pre-requisite for the pre-start meeting for this project:

A. Submit a detailed work schedule for the entire project reflecting contract documents and the phasing/schedule requirements from the CPM chart.

B. Submit a staff organization chart showing all personnel who will be working on the project and their capacity/function. Provide their qualifications, training, accreditations, and licenses, as appropriate. Provide a copy of the "Certificate of Worker's Acknowledgment" and the "Affidavit of Medical Surveillance and Respiratory Protection" for each person.

C. Submit a Hazard Abatement Plan developed specifically for this project, incorporating the requirements of the specifications, prepared, signed and dated by the CPIH/CIH.

D. Submit the specifics of the materials and equipment to be used for this project with manufacturer names, model numbers, performance characteristics, pictures/diagrams, and number available for the following:

1. Supplied air system, negative air machines, HEPA vacuums, air monitoring pumps, calibration devices, pressure differential monitoring device and emergency power generating system.
2. Waste water filtration system, shower system, containment barriers.
3. Encapsulants, surfactants, hand-held sprayers, airless sprayers, and fire extinguishers.
4. Respirators, protective clothing, personal protective equipment.
5. Fire safety equipment to be used in the regulated area.

E. Submit the name, location, and phone number of the approved landfill(s); proof/verification the landfill is approved for ACM disposal; the landfill's requirements for ACM waste; the type of vehicle to be used for transportation; and name, address, and phone number of subcontractor, if used. Proof of asbestos training for transportation personnel shall be provided.

F. Submit required notifications and arrangements made with regulatory agencies having regulatory jurisdiction and the specific contingency/emergency arrangements made with local health, fire, ambulance, hospital authorities and any other notifications and/or arrangements.

G. Submit the name, location and verification of the laboratory and/or personnel to be used for analysis of air and/or bulk samples. Personal air monitoring must be done in accordance with OSHA 29 CFR 1926.1101(f) and Appendix A. And area or clearance asbestos air monitoring in accordance with EPA AHERA protocols.

H. Submit the following evidence of qualifications. Make sure that all references are current and verifiable by providing current phone numbers and documentation.

1. Asbestos and Mold Abatement Company: Project experience within the past three (3) years; listing projects first most similar to this project: Project Name; Type of Abatement; Duration; Cost; Reference Name/Phone Number; Final Clearance; and Completion Date
2. List of project(s) halted by owner, A/E, IH, regulatory agency in the last three (3) years: Project Name; Reason; Date; Reference Name/Number; Resolution
3. List asbestos regulatory citations (e.g., OSHA), notices of violations (e.g., Federal and state EPA), penalties, and legal actions taken against the company including and of the company’s officers (including damages paid) in the last three (3) years. Provide copies and all information needed for verification.

I. Submit information on personnel: Provide a resume; address each item completely; copies of certificates, accreditations, and licenses. Submit an affidavit signed by the CPIH/CIH stating that all personnel

submitted below have medical records in accordance with OSHA 29 CFR 1926.1101(m) and 29 CFR 1910.20 and that the company has implemented a medical surveillance program and written respiratory protection program, and maintains recordkeeping in accordance with the above regulations. Submit the phone number and doctor/clinic/hospital used for medical evaluations.

1. CPIH/CIH and IH Technician: Name; years of abatement experience; list of projects similar to this one; certificates, licenses, accreditations for proof of AHERA/OSHA specialized asbestos training; professional affiliations; certificates/licenses pertinent to mold abatement work; number of workers trained; samples of training materials; samples of HAP(s) developed; medical opinion; and current respirator fit test.
2. Competent Person(s)/Supervisor(s): Number; names; social security numbers; years of abatement experience as Competent Person/Supervisor; list of similar projects in size/complexity as Competent Person/Supervisor; as a worker; certificates, licenses, accreditations; proof of AHERA/OSHA specialized asbestos training; mold training; maximum number of personnel supervised on a project; medical opinion (asbestos/mold surveillance and respirator use); and current respirator fit-test.
3. Workers: Numbers; names; social security numbers; years of abatement experience; certificates, licenses, accreditations; training courses in asbestos and mold abatement, and respiratory protection; medical opinion (asbestos/mold surveillance and respirator use); and current respirator fit-test.

J. Submit copies of State license for asbestos abatement contracting services and State license for asbestos business organization; copy of State license for mold abatement contracting services; copy of insurance policy, including exclusions with a letter from agent stating in plain language the coverage provided and the fact that asbestos and mold abatement activities are covered by the policy; copy of the HAP incorporating the requirements of this specification; information on who provides your training, how often; who provides medical surveillance, how often; who performs and how is personal air monitoring of abatement workers conducted; a list of references of independent laboratories/IH's familiar with your air monitoring and Hazard Abatement Plans; copies of monitoring results of the five (5) referenced projects listed and analytical method(s) used.

K. Rented equipment must be thoroughly decontaminated prior to returning to the rental agency.

L. Submit, before the start of work, the manufacturer's technical data for all types of encapsulants, chemicals, fungicides and biocides. This includes, but is not limited to, all Safety Data Sheets (SDS), and application instructions.

2.5.2 SUBMITTALS DURING ABATEMENT

A. The Competent Person shall maintain a daily log at the regulated area documenting the dates and times of the following: purpose, attendees and summary of meetings; all personnel entering/exiting the regulated area; document and discuss the resolution of unusual events such as barrier breeching, equipment failures, emergencies, and any cause for

stopping work; representative air monitoring and results/TWAs/ELs. Submit this information daily to the VPIH/CIH.

B. The CPIH/CIH shall document and maintain the inspection and approval of the regulated area preparation prior to start of work and daily during work.

1. Removal of any plastic barriers.
2. Visual inspection/testing by the CPIH/CIH or IH Technician prior to application of lockdown encapsulant.
3. Packaging and removal of waste from the regulated area.
4. Disposal of waste materials; copies of Waste Shipment Records and landfill receipts to the VA's representative on a weekly basis.

2.5.3 SUBMITTALS AT COMPLETION OF ABATEMENT

The CPIH/CIH shall submit a project report consisting of the daily log book requirements and documentation of events during the abatement project, including Waste Shipment Records signed by the landfill's agent. It will also include information on the containment and transportation of waste from the containment with applicable Chain of Custody forms. The report shall include a certificate of completion, signed and dated by the CPIH/CIH, in accordance with Attachment #1. All clearance and perimeter area samples must be submitted. The VA Representative will retain the abatement report after completion of the project, and provide copies of the abatement report to VAMC Office of Engineer and the Safety Office.

PART 3 - EXECUTION

3.1 PRE-ABATEMENT ACTIVITIES

3.1.1 PRE-ABATEMENT MEETING

The VA representative, upon receipt, review, and substantial approval of all pre-abatement submittals and verification by the CPIH/CIH that all materials and equipment required for the project are on the site, will arrange for a pre-abatement meeting between the Contractor, the CPIH/CIH, Competent Person(s), the VA representative(s), and the VPIH/CIH. The purpose of the meeting is to discuss any aspect of the submittals needing clarification or amplification and to discuss any aspect of the project execution and the sequence of the operation. The Contractor shall be prepared to provide any supplemental information/documentation to the VA's representative regarding any submittals, documentation, materials or equipment. Upon satisfactory resolution of any outstanding issues, the VA's representative will issue a written order to proceed to the Contractor. No abatement work of any kind described in the following provisions shall be initiated prior to the VA written order to proceed.

3.1.2 PRE-ABATEMENT INSPECTIONS AND PREPARATIONS

Before any work begins on the construction of the regulated area, the Contractor will:

A. Conduct a space-by-space inspection with an authorized VA representative, and prepare a written inventory of all existing damage in those spaces where asbestos abatement will occur. Still or video

photography may be used to supplement the written damage inventory. Document will be signed and certified as accurate by both parties.

B. The VA Representative, the Contractor, and the VPIH/CIH must be aware of AEQA 10-95 indicating the failure to identify asbestos in the areas listed as well as common issues when preparing specifications and contract documents. Ensure the following areas are inspected on the project: Lay-in ceilings concealing ACM; ACM behind walls/windows from previous renovations; inside utility chases/walls; transite piping/ductwork/sheets; behind radiators; lab fume hoods; transite lab countertops; roofing materials; below window sills; water/sewer lines; electrical conduit coverings; crawl spaces (previous abatement contamination); flooring/mastic covered by carpeting/new flooring; exterior insulated wall panels; on underground fuel tanks; and steam line trench coverings.

C. Ensure that all furniture, machinery, equipment, curtains, drapes, blinds, and other movable objects required to be removed from the regulated area have been cleaned and removed or properly protected from contamination.

D. If present and required, remove and dispose of carpeting from floors in the regulated area. If ACM floor tile is attached to the carpet while the Contractor is removing the carpet, that section of the carpet will be removed under full containment conditions and will be disposed of as asbestos waste.

E. Inspect existing firestopping in the regulated area. Correct as needed.

3.1.3 PRE-ABATEMENT CONSTRUCTION AND OPERATIONS

A. Perform all preparatory work for the regulated area in accordance with the approved work schedule and with this specification.

B. Upon completion of all preparatory work, the CPIH/CIH will inspect the work and systems and will notify the VA's representative when the work is completed in accordance with this specification. The VA's representative may inspect the regulated area and the systems with the VPIH/CIH, and may require that upon satisfactory inspection, the Contractor's employees perform all major aspects of the approved HAP, especially worker protection, respiratory systems, contingency plans, decontamination procedures, and monitoring to demonstrate satisfactory operation. The operational systems for respiratory protection and the negative pressure system shall be demonstrated for proper performance.

C. The CPIH/CIH shall document the pre-abatement activities described above and deliver a copy to the VA's representative.

D. Upon satisfactory inspection of the installation of and operation of systems, the VA's representative will notify the Contractor in writing to proceed with abatement work in accordance with this specification and all applicable regulations.

3.2 REGULATED AREA PREPARATIONS

3.2.1 DANGER SIGNS

Post OSHA DANGER signs meeting the specifications of OSHA 29 CFR 1926.1101 at any location and approaches to the regulated area where airborne concentrations of asbestos may exceed the PEL. Signs shall be posted at a distance sufficiently far enough away from the regulated area to permit any personnel to read the sign and take the necessary measures to avoid exposure. Signs will be posted following construction of the regulated area enclosure, and shall remain in place until final visual inspections and clearance air testing has been completed.

During mold abatement activities, signs bearing language warning approaching personnel of the potential hazard shall be posted at all potential access points to the regulated area.

3.2.2 CONTROLLING ACCESS TO THE REGULATED AREA

Access to the regulated area is allowed only through the personnel decontamination facility (PDF). All other means of access shall be secured, and OSHA Danger demarcation signs posted as required by OSHA. If the regulated area is adjacent to or within view of an occupied area, provide a visual barrier of 6-mil opaque fire retardant poly sheeting to prevent building occupant observation. If the adjacent area is accessible to the public, the barrier must be solid as specified elsewhere in the Contract Documents.

3.2.3 SHUT DOWN - LOCK OUT ELECTRICAL

Shut down and lock out/tag out electric power to the regulated area. Provide temporary power and lighting. Insure safe installation including GFCI of temporary power sources and equipment by compliance with all applicable electrical code requirements and OSHA requirements for temporary electrical systems. Electricity shall be provided by the VA.

3.2.4 SHUT DOWN - LOCK OUT HVAC

Shut down and lock out/tag out heating, cooling, and air conditioning system **(HVAC)** components that are in, supply or pass through the regulated area.

Investigate the regulated area and agree on pre-abatement condition with the VA's representative. Seal all intake and exhaust vents in the regulated area with duct tape and two (2) layers of 6-mil poly. Also, seal any seams in system components that pass through the regulated area. Remove all contaminated HVAC system filters and place in labeled 6-mil poly disposal bags for disposal as asbestos waste.

3.2.5 SANITARY FACILITIES

The Contractor shall provide sanitary facilities for abatement personnel, and maintain them in a clean and sanitary condition throughout the abatement project.

3.2.6 WATER FOR ABATEMENT

The VA will provide water for abatement purposes. The Contractor shall connect to the existing VA system. The service to the shower(s) shall be supplied with backflow prevention.

3.2.7 PREPARATION PRIOR TO SEALING OFF

Place all tools, materials and equipment needed for working in the regulated area prior to erecting any plastic sheeting. Remove all uncontaminated removable furniture, equipment and/or supplies from the regulated area before commencing work, or completely cover with two (2) layers of 6-mil fire retardant poly sheeting and secure with duct tape. Lock out and tag out any electrical and/or HVAC systems in the regulated area.

3.2.8 CRITICAL BARRIERS

Completely separate any openings into the regulated area from adjacent areas using fire retardant poly at least 6-mils thick and duct tape. Individually seal with two (2) layers of 6-mil poly and duct tape all HVAC openings into the regulated area. Individually seal all lighting fixtures, clocks, doors, windows, convectors, speakers, or any other objects in the regulated area. Heat must be shut off any objects covered with polyethylene sheeting.

3.2.9 FLOOR BARRIERS

If floor removal is not being done in certain areas within the regulated area, all such floors shall be covered with two (2) layers of 6-mil fire retardant poly and brought up the wall a minimum of 12 inches.

3.2.10 PRE-CLEANING MOVABLE OBJECTS

Pre-cleaning of asbestos-contaminated items shall be performed by the Contractor after the enclosure has been erected and negative pressure has been established in the work area. After items have been pre-cleaned and decontaminated, they may be removed from the work area for storage until the completion of abatement in the work area.

Pre-clean all movable objects within the regulated area using a HEPA filtered vacuum and/or wet cleaning methods as appropriate. After cleaning, these objects shall be removed from the regulated area and carefully stored in an uncontaminated location.

3.2.11 PRE-CLEANING FIXED OBJECTS

Pre-cleaning of asbestos-contaminated items shall be performed after the enclosure has been erected and negative pressure has been established in the work area.

Pre-clean all fixed objects in the regulated area using HEPA filtered vacuums and/or wet cleaning techniques as appropriate. Careful attention must be paid to machinery behind grills or gratings where access may be difficult but contamination may be significant. Also, pay particular attention to wall, floor and ceiling penetrations behind fixed items. After pre-cleaning, enclose fixed objects with 2 layers of 6-mil poly and seal securely in place with duct tape. Objects (e.g.,

permanent fixtures, shelves, electronic equipment, laboratory tables, sprinklers, alarm systems, closed circuit TV equipment and computer cables) which must remain in the regulated area and that require special ventilation or enclosure requirements should be designated here along with specified means of protection. Contact the manufacturer for special protection requirements.

3.2.12 PRE-CLEANING SURFACES IN THE REGULATED AREA

Pre-cleaning of asbestos-contaminated items shall be performed after the enclosure has been erected and negative pressure has been established in the work area

Pre-clean all surfaces in the regulated area using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb ACM during this pre-cleaning phase.

3.2.13 EXTENSION OF THE REGULATED AREA

If the regulated area barrier is breached in any manner that could allow the passage of asbestos fibers or debris, the Competent Person shall immediately stop work, continue wetting, and proceed to extend the regulated area to enclose the affected area as per procedures described in this specification. If the affected area cannot be enclosed, decontamination measures and cleanup shall start immediately. All personnel shall be isolated from the affected area until decontamination/cleanup is completed as verified by visual inspection and air monitoring. Air monitoring at completion must indicate background levels are not exceeded.

3.3 REMOVAL OF CLASS II ASBESTOS FLOORING MATERIALS:

3.3.1 GENERAL

All applicable requirements of OSHA, EPA, and DOT shall be followed during Class II work. Keep materials intact whenever possible; do not disturb; keep materials wet while working; wrap/bag as soon as possible with two (2) layers of 6-mil plastic for disposal.

3.3.2 REMOVAL OF FLOORING MATERIALS:

A. All requirements of OSHA Flooring agreement provisions shall be followed:

1. The Contractor shall provide enough HEPA negative air machines to effect >-0.02” WCG pressure. Provide a standby unit in the event of machine failure and/or emergency in an adjacent area. The Contractor shall use double the number of machines, based on their calculations, or submit proof their machines operate at stated capacities, at a 2" pressure drop across the filters.
2. Flooring shall be removed intact, as much as possible.
3. Mechanical chipping or sanding is not allowed without VA consent.
4. Flooring may be removed with an infra-red heating unit operated by trained personnel following the manufacturer’s instructions.
5. Wet clean and HEPA vacuum the floor after removal of flooring.

3.3.3 REMOVAL OF MASTIC

A. All chemical mastic removers must be low in volatile organic compound (VOC) content, have a flash point greater than 200° Fahrenheit, contain no chlorinated solvents, and comply with California Air Resources Board (CARB) thresholds for VOCs (effective January 1, 2010).

B. A negative air machine(s) as required under flooring removal shall be provided.

C. Follow all manufacturers' instructions in the use of the mastic removal material.

D. Prior to application of any liquid material, check the floor for penetrations and seal before removing mastic.

3.4 DISPOSAL OF CLASS II ASBESTOS WASTE MATERIAL:

3.4.1 GENERAL

Dispose of ACM waste and debris which is packaged in accordance with these specifications, OSHA, EPA and DOT. The landfill requirements for packaging must also be met. Transport will be in compliance with 49 CFR 100–185 regulations. Disposal shall be done at an approved landfill. Disposal of non-friable ACM shall be done in accordance with applicable regulations. All asbestos waste shall be placed in doubled and properly labeled 6-mil plastic bags. Waste transported through occupied facilities shall be done so in a cart covered with 6-mil plastic sheeting.

3.5 PROJECT DECONTAMINATION (ASBESTOS)

3.5.1 GENERAL

A. The VA must be notified at least 24 hours in advance of any waste removed from the containment,

B. The entire work related to project decontamination shall be performed under the close supervision and monitoring of the CPIH/CIH.

C. If the asbestos abatement work is in an area which was contaminated prior to the start of abatement, the decontamination will be done by cleaning the primary barrier poly prior to its removal and cleanings of the surfaces of the regulated area after the primary barrier removal.

D. If the asbestos abatement work is in an area which was uncontaminated prior to the start of abatement, the decontamination will be done by cleaning the primary barrier poly prior to its removal, thus preventing contamination of the building when the regulated area critical barriers are removed.

3.5.2 REGULATED AREA CLEARANCE

Air testing and other requirements which must be met before release of the Contractor and re-occupancy of the regulated area space are specified in Final Testing Procedures.

3.5.3 WORK DESCRIPTION

Decontamination includes the clearance air testing in the regulated area and the decontamination and removal of the enclosures/facilities installed prior to the abatement work including primary/critical barriers, PDF and W/EDF facilities, and negative pressure systems.

3.5.4 PRE-DECONTAMINATION CONDITIONS

A. Before decontamination starts, all ACM waste from the regulated area shall be collected and removed, and the secondary barrier of poly removed and disposed of along with any gross debris generated by the work.

B. At the start of decontamination, the following shall be in place:

1. Critical barriers over all openings consisting of two (2) layers of 6-mil poly which is the sole barrier between the regulated area and the rest of the building or outside.
2. Decontamination facilities for personnel and equipment in operating condition.

3.5.5 CLEANING

Carry out a first cleaning of all surfaces of the regulated area including items of remaining poly sheeting, tools, scaffolding, ladders/staging by wet methods and/or HEPA vacuuming. Do not use dry dusting/sweeping/air blowing methods. Use each surface of a wetted cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible residue from abated surfaces or poly or other surfaces. Remove all filters in the air handling system and dispose of as ACM waste in accordance with these specifications. The negative pressure system shall remain in operation during this time. Additional cleaning(s) may be needed as determined by the CPIH/VPIH/CIH.

3.6 REMOVAL OF MOLD-CONTAMINATED BUILDING MATERIALS

3.6.1 GENERAL

Keep materials intact whenever possible; minimize disturbance of mold-contaminated building materials; keep materials wet while working; wrap/bag as soon as possible with two (2) layers of 6-mil plastic for disposal.

3.6.2 REMOVAL OF MOLD

A. The Contractor shall provide enough HEPA negative air machines to effect >-0.02″ WCG pressure with discharge to the outside of the building. Provide a standby unit in the event of machine failure and/or emergency in an adjacent area. The Contractor shall use double the number of machines, based on their calculations, or submit proof their machines operate at stated capacities, at a 2" pressure drop across the filters.

C. To the extent of the scope defined elsewhere in the Contract Documents, drywall walls and ceilings, suspended ceiling systems and ceramic tile on walls and floors shall be removed intact, as much as possible. Clean studs, flooring and other exposed building components to remain, with a

fungicide approved by the VA Representative. Coat all cleaned surfaces with a mold inhibitor approved by the VA Representative.

D. Package all waste in doubled 6-mil polyethylene bags. Waste may be disposed of as general construction debris.

E. Prior to the application of any liquid material, check the floor for penetrations and seal before use.

3.7 VISUAL INSPECTION AND ASBESTOS AIR CLEARANCE TESTING

3.7.1 GENERAL

Notify the VA representative 24 hours in advance for the performance of the final visual inspection and air clearance testing. The final visual inspection and testing will be performed by the VPIH/CIH after the final cleaning.

3.7.2 VISUAL INSPECTION

Final visual inspection will include the entire regulated area, the PDF, all poly sheeting, seals over HVAC openings, doorways, windows, and any other openings. If any debris, residue, dust or any other suspect material is detected, the final cleaning shall be repeated at no cost to the VA. Dust/material samples may be collected and analyzed at no cost to the VA at the discretion of the VPIH/CIH to confirm visual findings. When the regulated area is visually clean, the final testing can be done.

3.7.3 ASBESTOS AIR CLEARANCE TESTING

A. After an acceptable final visual inspection by the VPIH/CIH and VA Representative, the VPIH/CIH will perform the final clearance testing. Air samples will be collected and analyzed in accordance with procedures for AHERA in this specification. If work is less than 260 lf/160 sf/35 cf, five (5) PCM samples shall be collected for clearance and a minimum of one (1) field blank. If work is equal to or more than 260 lf/160 sf/35 cf, AHERA TEM sampling shall be performed for clearance. TEM analysis shall be done in accordance with procedures for EPA AHERA in this specification. If the release criteria are not met, the Contractor shall repeat the final cleaning and continue decontamination procedures until clearance is achieved. **All additional VPIH inspection and testing (time and related expenses incurred) will be borne by the Contractor**.

B. If release criteria are met, proceed to perform the abatement closeout and to issue the certificate of completion in accordance with these specifications.

3.7.4 FINAL AIR CLEARANCE PROCEDURES

A. Contractor's Release Criteria: Work in a regulated area is complete when the regulated area is visually clean and airborne fiber levels for each sample have been reduced to or below 0.01 f/cc as measured by PCM, or below 70 structures per square millimeter (s/mm^2) for each sample by AHERA TEM, as applicable.

B. Air Monitoring and Final Clearance Sampling: To determine if the elevated airborne fiber counts encountered during abatement operations

have been reduced to the specified level, the VPIH/CIH will secure samples and analyze them according to the following procedures:

1. Fibers Counted: “Fibers” referred to in this section shall be either all fibers regardless of composition as counted in the NIOSH 7400 PCM method or asbestos fibers counted using the AHERA TEM method.
2. Aggressive Sampling: All final air testing samples shall be collected using aggressive sampling techniques except where soil is not encapsulated or enclosed. Samples will be collected on 0.8μ MCE filters for PCM analysis, and 0.45μ Polycarbonate filters for TEM analysis. A minimum of 1,200 liters of air shall be collected for clearance samples using calibrated pumps. Before pumps are started, initiate aggressive air mixing sampling as detailed in 40 CFR 763 Subpart E (AHERA) Appendix A (III)(B)(7)(d). Air samples will be collected in areas subject to normal air circulation away from corners, obstructed locations, and locations near windows, doors, or vents. After air sampling pumps have been shut off, circulating fans shall be shut off. The negative pressure system shall continue to operate.

3.8 ABATEMENT CLOSEOUT AND CERTIFICATE OF COMPLIANCE

3.8.1 COMPLETION OF ABATEMENT WORK

A. After thorough decontamination, complete abatement work upon meeting the regulated area clearance criteria and fulfilling the following:

1. Remove all equipment, materials, and debris from the project area.
2. Package and dispose of all waste as required.
3. Repair or replace all interior finishes damaged during the abatement work.
4. Fulfill other project closeout requirements as specified elsewhere in this specification.

3.8.2 CERTIFICATE OF COMPLETION BY CONTRACTOR

The CPIH shall complete and sign the "Certificate of Completion" in accordance with Attachment 1 at the completion of the abatement and decontamination of the regulated area.

3.8.3 WORK SHIFTS

All work shall be done during administrative hours (8:00 AM to 4:30 PM) Monday through Friday, excluding Federal Holidays. Any change in the work schedule must be submitted in writing at least 24 hours in advance of the requested change, and approved by the VA Representative in writing.

ATTACHMENT #1

CERTIFICATE OF COMPLETION

DATE: _____ VA Project #: _____

PROJECT NAME: _____ Abatement Contractor: _____

VAMC/ADDRESS: _____

1. I certify that I have personally inspected, monitored and supervised the abatement work of (specify regulated area or Building):

   which took place from / / through / /

2. That throughout the work all applicable requirements/regulations and the VA's specifications were met.
3. That any person who entered the regulated area was protected with the appropriate personal protective equipment and respirator, and that they followed the proper entry and exit procedures and the proper operating procedures for the duration of the work.
4. That all employees of the Abatement Contractor engaged in this work were trained in respiratory protection, were experienced with abatement work, had proper medical surveillance documentation, were fit-tested for their respirator, and were not exposed at any time during the work to asbestos without the benefit of appropriate respiratory protection.
5. That I performed and supervised all inspection and testing specified and required by applicable regulations and VA specifications.
6. That the conditions inside the regulated area were always maintained in a safe and healthy condition and the maximum fiber count never exceeded 0.5 f/cc, except as described below.
7. That all abatement work was done in accordance with OSHA requirements and the manufacturer’s recommendations.

CPIH/CIH Signature/Date: _____

CPIH/CIH Print Name: _____

Abatement Contractor Signature/Date: _____

Abatement Contractor Print Name: _____

ATTACHMENT #2

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME: _____ DATE: _____

PROJECT ADDRESS: _____

ABATEMENT CONTRACTOR'S NAME: _____

WORKING WITH ASBESTOS CAN BE HAZARDOUS TO YOUR HEALTH. INHALING ASBESTOS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCERS. IF YOU SMOKE AND INHALE ASBESTOS FIBERS, YOUR CHANCES OF DEVELOPING LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the Owner for the above project requires that: You must be supplied with the proper personal protective equipment including an adequate respirator and be trained in its use; you must be trained in safe and healthy work practices and in the use of the equipment found at an asbestos abatement project; and you must receive/have a current medical examination for working with asbestos. These things shall be provided at no cost to you. By signing this certificate you are indicating to the Owner that your employer has met these obligations.

RESPIRATORY PROTECTION: I have been trained in the proper use of respirators and have been informed of the type of respirator to be used on the above indicated project. I have a copy of the written Respiratory Protection Program issued by my employer. I have been provided for my exclusive use, at no cost, with a respirator to be used on the above indicated project.

TRAINING COURSE: I have been trained by a third party, State/EPA accredited trainer in the requirements for an AHERA/OSHA Asbestos Abatement Worker training course, 32 hours minimum duration. I currently have a valid State accreditation certificate. The topics covered in the course include, as a minimum, the following:

Physical Characteristics and Background Information on Asbestos
Potential Health Effects Related to Exposure to Asbestos
Employee Personal Protective Equipment
Establishment of a Respiratory Protection Program
State of the Art Work Practices
Personal Hygiene
Additional Safety Hazards
Medical Monitoring
Air Monitoring
Relevant Federal, State and Local Regulatory Requirements, Procedures, and Standards
Asbestos Waste Disposal

MEDICAL EXAMINATION: I have had a medical examination within the past 12 months which was paid for by my employer. This examination included: health history, occupational history, pulmonary function test, and may have included a chest X-ray evaluation. The physician issued a positive written opinion after the examination.

Signature: _____

Printed Name: _____

Social Security Number: _____

Witness: _____

ATTACHMENT #3

AFFIDAVIT OF MEDICAL SURVEILLANCE, RESPIRATORY PROTECTION AND TRAINING/ACCREDITATION

VA PROJECT NAME AND NUMBER: _____

VA MEDICAL FACILITY: _____

ABATEMENT CONTRACTOR'S NAME AND ADDRESS: _____

1. I verify that the following individual

   Name: _____ Social Security Number: _____

   who is proposed to be employed in asbestos abatement work associated with the above project by the named Abatement Contractor, is included in a medical surveillance program in accordance with 29 CFR 1926.1101(m), and that complete records of the medical surveillance program as required by 29 CFR 1926.1101(m)(n) and 29 CFR 1910.20 are kept at the offices of the Abatement Contractor at the following address.

   Address: _____

2. I verify that this individual has been trained, fit-tested and instructed in the use of all appropriate respiratory protection systems and that the person is capable of working in safe and healthy manner as expected and required in the expected work environment of this project.

3. I verify that this individual has been trained as required by 29 CFR 1926.1101(k). This individual has also obtained a valid State accreditation certificate. Documentation will be kept on-site.

4. I verify that I meet the minimum qualifications criteria of the VA specifications for a CPIH.

Signature of CPIH/CIH: _____ Date: _____

Printed Name of CPIH/CIH: _____

Signature of Contractor: _____ Date: _____

Printed Name of Contractor: _____

ATTACHMENT #4

ABATEMENT CONTRACTOR/COMPETENT PERSON(S) REVIEW AND ACCEPTANCE OF THE VA'S ASBESTOS SPECIFICATIONS

VA Project Location: _____

VA Project #: _____

VA Project Description: _____

This form shall be signed by the Asbestos Abatement Contractor Owner and the Asbestos Abatement Contractor's Competent Person(s) prior to any start of work at the VA related to this Specification. If the Asbestos Abatement Contractor's/Competent Person(s) has/have not signed this form, they shall not be allowed to work on-site.

I, the undersigned, have read VA's Asbestos Specification regarding the asbestos abatement requirements. I understand the requirements of the VA's Asbestos Specification and agree to follow these requirements as well as all required rules and regulations of OSHA/EPA/DOT and State/Local requirements. I have been given ample opportunity to read the VA's Asbestos Specification and have been given an opportunity to ask any questions regarding the content and have received a response related to those questions. I do not have any further questions regarding the content, intent and requirements of the VA's Asbestos Specification.

At the conclusion of the asbestos abatement, I will certify that all asbestos abatement work was done in accordance with the VA's Asbestos Specification and all specified ACM was removed properly and no fibrous residue remains on any abated surfaces.

Abatement Contractor Owner's Signature _____ Date _____

Abatement Contractor Competent Person(s) _____ Date _____

APPENDIX A
VPIH/CIH LICENSES & CERTIFICATIONS

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ASBESTOS LICENSING UNIT
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

(850) 487-1395

VRG SERVICES LLC
ROBERT BLAIR GREENE
5405 CYPRESS CENTER DR
SUITE 110
TAMPA FL 33609

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Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ZA476 ISSUED: 11/17/2015

ASBESTOS BUSINESS ORGANIZATION
VRG SERVICES LLC
ROBERT BLAIR GREENE

IS LICENSED under the provisions of Ch 469 FS.
Expiration date : NOV 30, 2017 L1511170001958

DETACH HERE

RICK SCOTT, GOVERNOR KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT

LICENSE NUMBER	
ZA476	

The ASBESTOS BUSINESS ORGANIZATION
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2017

VRG SERVICES LLC
ROBERT BLAIR GREENE
4902 113TH AVENUE NORTH
CLEARWATER FL 33609

ISSUED: 11/17/2015 DISPLAY AS REQUIRED BY LAW SEQ # L1511170001958

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ASBESTOS LICENSING UNIT
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

(850) 487-1395

GREENE, ROBERT BLAIR
GLE ASSOCIATES INC
4300 W CYPRESS STREET SUITE 400
TAMPA FL 33607

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Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

EA0000009 ISSUED: 11/30/2014

ASBESTOS CONSULTANT - ENGINEER
GREENE, ROBERT BLAIR
GLE ASSOCIATES INC

IS LICENSED under the provisions of Ch.469 FS.
Expiration date : NOV 30, 2016 L1411300002420

DETACH HERE

RICK SCOTT, GOVERNOR KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT

LICENSE NUMBER
EA0000009

The ASBESTOS CONSULTANT - ENGINEER
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2016

GREENE, ROBERT BLAIR
GLE ASSOCIATES INC
4300 W. CYPRESS STREET
SUITE 400
TAMPA FL 33607

ISSUED: 11/30/2014 DISPLAY AS REQUIRED BY LAW SEQ # L1411300002420

ABIH®

american board of industrial hygiene®

organized to improve the practice of industrial hygiene
proclaims that

Robert B. Greene

having met all requirements of
education, experience and examination, and
ongoing maintenance,
is hereby certified in the

COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH

Certificate Number	**6773 CP**
Awarded:	**July 21, 1995**
Expiration Date:	**December 1, 2016**

American Board of Industrial Hygiene ABIH

Chair ABIH

Executive Director ABIH

M·E·T·A

Mayhew Environmental Training Associates

INCORPORATED

Certificate # ME547BB046E14749D

James Riser

has on 6/3/2015, in Tampa, FL
completed the requirements for asbestos accreditation under Section 206 of TSCA Title II, 15 USC 2646

Asbestos Project Designer Refresher

as approved by FL
and the US EPA under 40 CFR 763 (AHERA)
from 6/3/2015 to 6/3/2015 and passed the associated exam on 6/3/2015
with a score of at least 70%

Bill Young
Instructor

Thomas Mayhew
President

KANSAS MAYHEW EST. 1985 INC. 1987 ENVIRONMENTAL TRAINING ASSOCIATES SAFETY IN GOD ALONE

Training Provider #: FL49-0001221
Course #: 150603ASBPDRFL302

SSN: XXX-XX-7391
Expiration: 6/3/2016

P.O. Box 4693 - Lawrence, KS. 66047 - 800.444.6382
www.metaenvironmental.net

APPENDIX B
NESHAP Limited Asbestos Survey for Building 100, 5A Various Rooms and Corridor

LIMITED NESHAP RENOVATION
ASBESTOS SURVEY REPORT

Bay Pines VA Medical Center
Building 100, 5A
Rooms 119, 121, 124, 132, 132a, 133, 134, 144, 145, 147
and Adjacent Corridor
10000 Bay Pines Boulevard
Bay Pines, Florida 33744

VRG Project No.: 15950-90008

Prepared for:

Ms. Darlene Powell, CHSP, HEM
Bay Pines VAHCS
PO Box 5005
Bay Pines, Florida 33744

November 2015

Prepared by:

4902 113th Avenue North
Clearwater, Florida 33760
813-999-2009 • Fax 813-849-0330

November 17, 2015

Ms. Darlene Powell, CHSP, HEM
Bay Pines VAHCS
PO Box 5005
Bay Pines, FL 33744

RE: Limited NESHAP Renovation Asbestos Survey Report
Bay Pines VA Building 100-5A
Rooms 119, 121, 124, 132, 132a, 133, 134, 144, 145, 147 and Adjacent Corridor
Bay Pines, Florida

VRG Project No.: 15950-90008

Dear Ms. Powell:

VRG Services, LLC (VRG) performed a limited survey for asbestos-containing materials (ACM) on November 13, 2015, at the above referenced facility, located in Bay Pines, Florida. The survey was performed by Mr. James Riser with VRG. This report outlines the sampling and testing procedures, and presents the results along with our conclusions and recommendations.

VRG appreciates the opportunity to serve as your consultant on this project. If you should have any questions, or if we can be of further service, please do not hesitate to contact us.

Sincerely,
VRG Services, LLC

James E. Riser
Senior Project Manager

Robert B. Greene, PE, PG, CIH, LEED AP
Vice President
Asbestos Consultant, EA 0000009

JER/RBG/dd

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TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 INTRODUCTION

The purpose of this limited renovation survey was to identify accessible asbestos-containing materials (ACMs) and their general locations within Building 100 of the Bay Pines VA, located at 10000 Bay Pines Boulevard in Bay Pines, Florida. The survey was limited to Rooms 119, 121, 124, 132, 132a, 133, 134, 144, 145, 147 and the adjacent corridor.

The survey was conducted pursuant to National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR 61) requirements, associated with the scheduled renovation plans. The survey was performed on November 13, 2015, by Mr. James Riser an Environmental Protection Agency/Asbestos Hazard Emergency Response Act (EPA/AHERA) accredited inspector. The scope of this survey did not include demolition of any building components, evaluation of architectural plans, quantification of materials for abatement purposes, or removal cost estimating.

1.2 FACILITY DESCRIPTION

A summary of the facility investigated is outlined in the table below.

Facility Type:	Hospital
Construction Date:	Circa 1983
Number of Floors:	Five
Structural	
Foundation:	Concrete Slab
Wall Support:	Concrete Block
Exterior Finish:	Not In Scope (NIS)
Roof Support:	Concrete
Roof System Type:	NIS
Mechanical/Plumbing	
HVAC Type:	Cooling Tower/Chiller with Air Handling Units
Duct Type:	Metal and Fiberglass
Pipe Insulation:	None Observed
Interior	
Wall Substrate:	Drywall and Joint Compound
Wall Finishes:	Paint, Vinyl Cove Base, Ceramic Tile
Floor Substrate:	Concrete
Floor Finishes:	Vinyl Floor Tile, Ceramic Tile
Ceiling System:	Drywall and Joint Compound, Suspended Ceiling System
Ceiling Finishes:	Paint, Suspended Ceiling Tiles

2.0 RESULTS

2.1 ASBESTOS SURVEY PROCEDURES

The limited survey was performed by visually observing accessible areas of the building scheduled for renovation activities. An EPA/AHERA accredited inspector performed the visual observations (refer to **Appendix B** for personnel qualifications).

After the overall visual survey was completed, representative sampling areas were determined. The surveyor delineated homogeneous areas of suspect materials and samples of each material were obtained, in general accordance with regulations as established by the Occupational Safety and Health Administration (OSHA) and NESHAP. The field surveyor determined sample locations based on previous experience. Both friable and non-friable materials were sampled. A friable material is one that can be crushed when dry by normal hand pressure. This survey did not include the demolition of building components to access suspect material.

After completion of the fieldwork, the samples were delivered to GLE Associates, Inc., a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory for analysis. The samples were analyzed by Polarized Light Microscopy (PLM) coupled with dispersion staining, in general accordance with EPA-600/R-93/116. Utilizing this procedure, the various asbestos minerals (chrysotile, amosite, crocidolite, actinolite, tremolite, and anthophyllite) can be determined. The percentages of asbestos minerals in the samples were visually determined by the microscopist. Please note that the EPA designates all materials containing greater than 1% asbestos as an “asbestos-containing material” (ACM).

Regulated Asbestos-Containing Material (RACM) is defined as (a) Friable asbestos materials, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Category I and Category II non-friable ACM, as defined by the EPA:

- Category I non-friable ACM means asbestos containing packings, gaskets, resilient floor covering, asphalt roofing products, and pliable sealants and mastics that are in good condition and not friable, containing more than 1 percent asbestos, as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, PLM.
- Category II non-friable ACM means any material, excluding Category I non-friable ACM, containing more than 1 percent asbestos as determined using the methods specified in Appendix E, Subpart E, 40 CFR Part 763 Section 1, PLM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

2.2 IDENTIFIED SUSPECT ASBESTOS-CONTAINING MATERIALS

A total of 30 samples of suspect building materials were collected from the facility during the survey, representing 10 different homogeneous areas. The results of the laboratory analyses are included in **Appendix A**, and approximate sample locations and the approximate extent to which ACM was observed to be present are indicated on the Asbestos Location Plan in **Appendix C**.

Due to the damage that could be caused by destructive sampling techniques and/or restricted accessibility, the following materials were assumed to contain asbestos minerals and were not sampled:

1. Mirror Mastic
2. Fire Doors

A summary of the homogenous sampling areas of suspect ACM determined to be present is outlined in the following table:

TABLE 2.2-1: SUMMARY OF HOMOGENEOUS SAMPLING AREAS
BAY PINES VA – BUILDING 100, 5A-119, 121, 124, 132, 132A, 133, 134, 144, 145, 147 AND ADJACENT CORRIDOR

HA #	HOMOGENEOUS MATERIAL DESCRIPTION	HOMOGENEOUS MATERIAL LOCATION	FRIABILITY (F /NF)	% ASBESTOS*	# OF SAMPLES COLLECTED	APPROXIMATE QUANTITY	ACM CATEGORY
CT-01	2'x2'/2'x4' Fissured Ceiling Tile	Rooms 132, 145, 147 and Corridor	F	ND	3	NIS	NA
CT-02	2'x2' Pencil Hole Ceiling Tile	Rooms 121, 124, 133, 134 and 144	F	ND	3	NIS	NA
CT-03	2'x2'/2'x4' Fissured 'Worm' Ceiling Tile	Rooms 119, 121 and Corridor	F	ND	3	NIS	NA
DW-01	Drywall and Joint Compound	Walls Throughout and Various Ceilings	NF	ND	3	NIS	NA
FT-01	**12"x12" Beige Mottled Floor Tile and Black Mastic**	**Rooms 121, 145, 147 and Corridor**	**NF**	**ND – Tile 5% - Mastic**	**3**	**850 SF**	**CAT I**
FT-02	**12"x12" Dark Beige Mottled Floor Tile and Black Mastic**	**Corridor**	**NF**	**ND – Tile 5% - Mastic**	**3**	**100 SF**	**CAT I**
FT-03	**12"x12" Orange Floor Tile and Black Mastic**	**Corridor**	**NF**	**ND – Tile 5% - Mastic**	**3**	**100 SF**	**CAT I**
M-01	1"x1" Ceramic Floor Tile and Grout/Thin-Set	Rooms 119, 124, 132, 132a, 133, 134, 143 and 144	NF	ND	3	NIS	NA
M-02	4"x4" Ceramic Wall Tile and Grout/Thin-Set	Rooms 119, 124, 132, 132a, 133, 134, 143 and 144	NF	ND	3	NIS	NA
VB-01	Brown Cove Base and Adhesive	Rooms 121, 145, 147, and Corridor	NF	ND	3	NIS	NA
M-03	**Mirror Mastic**	**Rooms 119, 143 and 144**	**NF**	**Assumed**	**NA**	**NIS**	**CAT I**
M-04	**Fire Door Insulation**	**Doors Throughout**	**F**	**Assumed**	**NA**	**NIS**	**RACM**

ASBESTOS CONTENT Expressed as percent	* = The facility owner has the option of point-counting by polarized light microscopy (PLM) those RACM whose asbestos content is less than 10% in order to more accurately determine the asbestos content therein.				
	PC = Results based on Point-Count analysis				
FRIABILITY	F = Friable Material	NF = Non-Friable Material			
ACM CATEGORY	RACM = Regulated ACM	CAT I = Category I non-friable ACM	CAT II = Category II non-friable ACM		
ABBREVIATIONS:	NA = Not Applicable	ND = None Detected	NIS = Not in Scope	C = Chrysotile	A = Amosite
	HA = Homogeneous Area	SF = Square Feet	LF = Linear Feet	CF = Cubic Feet	

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 GENERAL

Asbestos-containing materials (ACMs) were identified in the scope of this survey. General and specific conclusions and recommendations are provided below.

The EPA, OSHA and the State of Florida have promulgated regulations dealing with asbestos. For commercial building owners, the EPA NESHAP (40 CFR 61) regulations require removal of RACM, prior to conducting activities which might disturb the material. They also deal with notification, handling and disposal of asbestos.

The EPA recommends that an Operations and Maintenance (O&M) Program be developed for any facilities with ACM, and this Program should address all ACM (known and/or assumed) - present. The O&M Program establishes notification and training requirements along with special procedures for working around the ACM. The O&M Program would remain in effect until all asbestos is removed.

Category I and Category II non-friable materials, as defined by the EPA, may remain within a facility during renovation/demolition with no potential cessation of work, provided they remain undisturbed and/or non-friable. However, there is no guarantee that these materials will remain non-friable. If the materials become friable, then they are classified as RACM.

RACM, as defined by the EPA, must be removed prior to renovation or demolition activities that may disturb the materials.

The OSHA regulations deal with employee exposure to airborne asbestos fibers. The regulations restrict employee exposure, and require special monitoring, training and handling procedures when dealing with asbestos. Additionally, OSHA has regulations that may supersede the EPA regulations. In order to protect the worker, OSHA has established a permissible exposure limit (PEL), which limits employee exposure to airborne fiber concentrations. OSHA requires objective evidence that the PEL will not be exceeded, as justification that personal air monitoring and engineering controls will not be required. OSHA has also established rules requiring the containerization and labeling of asbestos waste.

The State regulations require that anyone involved in asbestos consulting activities be a licensed asbestos consultant and that anyone involved in asbestos abatement, with the exception of roofing materials, be a licensed asbestos abatement contractor.

3.2 SPECIFIC

Mastic Associated with Resilient Floor Coverings

This material is defined by the EPA as a Category I non-friable material. Based upon the observed condition of the material, this material does not appear to present a significant issue at the time of the survey. We recommend that the identified ACM be maintained as part of an O&M Program and periodically monitored for any changes in condition. Additionally, we recommend that a licensed asbestos abatement contractor properly remove and dispose of the ACM prior to conducting renovation activities that might disturb the ACM.

Assumed Materials

Mirror mastic and fire door insulation, where accessible within the facility surveyed, appeared to be in generally good condition and does not present a significant issue, as observed, at the time of the survey. We recommend that these materials be maintained as part of an O&M Program and periodically monitored for any changes in condition. Additionally, should planned renovation and/or demolition activities involve the disturbance of these materials, we recommend that they be sampled and analyzed for asbestos content, and if determined to be ACM, be properly removed and disposed by a licensed asbestos abatement contractor prior to conducting such activities.

4.0 LIMITATIONS AND CONDITIONS

As a result of previous renovations, there may be hidden materials, such as floor tile, sheet vinyl flooring, insulation, etc. These materials may be found in various areas hidden under existing flooring materials or in wall cavities. Any materials found during construction activities, either not addressed in this survey report, or similar to the ACM identified in this survey report should be assumed to be ACM until sampling and analysis documents otherwise.

Because of the hidden nature of many building components (i.e. within mechanical chases), it may be impossible to determine if all of the suspect building materials have been located and subsequently tested. Destructive testing in some instances is not a viable option. We cannot, therefore, guarantee that all potential ACM has been located. For the same reasons, estimates of quantities and/or conditions are subject to readily apparent situations, and our findings reflect this condition. We do warrant, however, that the investigations and methodology reflect our best efforts based upon the prevailing standard of care in the environmental industry.

The Florida Department of Environmental Protection (FDEP) has issued an interpretation regarding the testing of concrete flooring, walls and roofing materials, which states that “if concrete will be recycled or reused, the concrete must be sampled and analyzed for the presence of asbestos prior to the commencement of activities that may release asbestos fibers into the environment”, and that “all of the different layers or types of concrete in a sample must be analyzed, individually, using the method specified in Appendix E, subpart E, 40 CFR Part 763,

Section 1, Polarized Light Microscopy, with point-counting", as applicable. Under the presumption that the Client will not be reusing/recycling the concrete, this additional sampling and analysis of concrete is not included with our scope of work. However, if requested by the Client, VRG will perform this work as an additional service.

The information contained in this report was prepared based upon specific parameters and regulations in force at the time of this report. The information herein is only for the specific use of the client and VRG. VRG accepts no responsibility for the use, interpretation, or reliance by other parties on the information contained herein, unless prior written authorization has been obtained from VRG.

APPENDIX A
Analytical Results and Chain of Custody

SUMMARY OF BULK SAMPLE ANALYSIS

Bay Pines VA - Building 100 5A

15950-90008

Sample	Sample Type	Fiber Type	
CT-01A	2x2 & 2x4 Fissured Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
CT-01B	2x2 & 2x4 Fissured Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
CT-01C-QC	2x2 & 2x4 Fissured Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
CT-02A	2x2 Pencil Hole Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
CT-02B	2x2 Pencil Hole Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
CT-02C	2x2 Pencil Hole Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
CT-03A	2x2 & 2x4 Fissure/Worm Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
CT-03B	2x2 & 2x4 Fissure/Worm Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
CT-03C	2x2 & 2x4 Fissure/Worm Ceiling Tile	70% 30%	Mineral Wool Perlite, Quartz, Calcite
DW-01A	Drywall & Joint Compound	100%	Gypsum, Quartz, Calcite, Clay
DW-01B	Drywall & Joint Compound	100%	Gypsum, Quartz, Calcite, Clay

Analyst / Approved Signatory:

Darryl Neldner

* Polarized Light Microscopy coupled with dispersion is the technique used for identification in accordance with EPA 600/M4-82-020, EPA 600/R-93/116, and NIOSH Method 9002.

** The percentage of each component is visually estimated. The result of this analysis relate only to the material tested. The report shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. (>1% greater than one percent, <1% less than one percent) QC - Sample reanalyzed for QA/QC.

Analysis performed by GLE Associates, Inc. NVLAP Code 102003-0, CO AL-17485, TX 30-0337

Feedback regarding laboratory performance should be addressed to lab@gleassociates.com.

Report Date: 11/13/2015

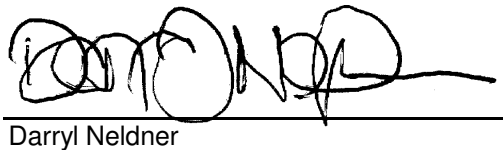
SUMMARY OF BULK SAMPLE ANALYSIS

Bay Pines VA - Building 100 5A

15950-90008

Sample	Sample Type		Fiber Type
DW-01C	Drywall & Joint Compound	100%	Gypsum, Quartz, Calcite, Clay
FT-01A-QC	12x12 Beige Mottled Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic	**5%**	**Chrysotile Asbestos**
		95%	Bitumen
FT-01B	12x12 Beige Mottled Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic		Positive Stop/Sample not analyzed
FT-01C	12x12 Beige Mottled Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic		Positive Stop/Sample not analyzed
FT-02A	12x12 Dark Beige Mottled Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic	**5%**	**Chrysotile Asbestos**
		95%	Bitumen
FT-02B	12x12 Dark Beige Mottled Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic		Positive Stop/Sample not analyzed
FT-02C	12x12 Dark Beige Mottled Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic		Positive Stop/Sample not analyzed

Analyst / Approved Signatory:



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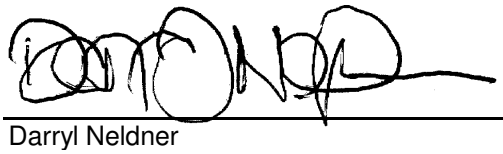
SUMMARY OF BULK SAMPLE ANALYSIS

Bay Pines VA - Building 100 5A

15950-90008

Sample	Sample Type		Fiber Type
FT-03A	12x12 Orange Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic	**5%**	**Chrysotile Asbestos**
		95%	Bitumen
FT-03B	12x12 Orange Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic		Positive Stop/Sample not analyzed
FT-03C	12x12 Orange Floor Tile	100%	Polymer, Quartz, Calcite, Clay, Mica
	Black Mastic		Positive Stop/Sample not analyzed
M-01A	1x1 Ceramic Floor Tile & Grout/Thin Set	100%	Quartz, Calcite, Clay, Mica
M-01B-QC	1x1 Ceramic Floor Tile & Grout/Thin Set	100%	Quartz, Calcite, Clay, Mica
M-01C	1x1 Ceramic Floor Tile & Grout/Thin Set	100%	Quartz, Calcite, Clay, Mica
M-02A	4x4 Ceramic Wall Tile & Grout/Thin Set	100%	Quartz, Calcite, Clay, Mica
M-02B	4x4 Ceramic Wall Tile & Grout/Thin Set	100%	Quartz, Calcite, Clay, Mica
M-02C	4x4 Ceramic Wall Tile & Grout/Thin Set	100%	Quartz, Calcite, Clay, Mica
VB-01A	Brown Cove Base & Adhesive	100%	Polymer
VB-01B	Brown Cove Base & Adhesive	100%	Polymer

Analyst / Approved Signatory:



Darryl Neldner

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Analysis performed by GLE Associates, Inc. NVLAP Code 102003-0, CO AL-17485, TX 30-0337

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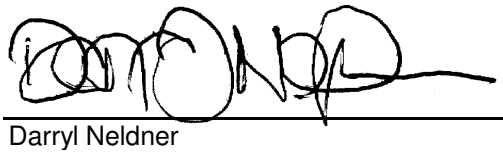
SUMMARY OF BULK SAMPLE ANALYSIS

Bay Pines VA - Building 100 5A

15950-90008

Sample	Sample Type	Fiber Type
VB-01C	Brown Cove Base & Adhesive	100% Polymer

Analyst / Approved Signatory:



Darryl Neldner

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** The percentage of each component is visually estimated. The result of this analysis relate only to the material tested. The report shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. (>1% greater than one percent, <1% less than one percent) QC - Sample reanalyzed for QA/QC.

Analysis performed by GLE Associates, Inc. NVLAP Code 102003-0, CO AL-17485, TX 30-0337

Feedback regarding laboratory performance should be addressed to lab@gleassociates.com.

CHAIN OF CUSTODY/SAMPLE TRANSMITTAL FORM

VRG Services, LLC
4902 113th Ave North
Clearwater, FL 33760
PHONE: (813) 999-2009 FAX: (813) 849-0330

CLIENT: Bay Pines VA

PROJECT #: 15950-90008 (Phase 1)

PROJECT: Building 100 5A

LABORATORY SENT TO: GLE

DATE: November 13, 2015

SAMPLE INFORMATION

SAMPLE #	DESCRIPTION/ LOCATION	SAMPLE #	DESCRIPTION/ LOCATION
CT-01 A-C	2x2/2x4 Fissured CT		
CT-02 A-C	2x2 Pencil Hole CT		
CT-03 A-C	2x2/2x4 Fissured "Worm" CT		
DW-01 A-C	Drywall & Joint Compound		
FT-01 A-C	12x12 Beige Mottled FT & Black Mastic		
FT-02 A-C	12x12 Dark Beige Mottled FT & Blk Mas		
FT-03 A-C	12x12 Orange FT & Black Mastic		
M-01 A-C	1x1 Ceramic Floor Tile & Grout/Thin-Set		
M-02 A-C	4x4 Ceramic Wall Tile & Grout/Thin-Set		
VB-01 A-C	Brown Cove Base and Adhesive		

IMPORTANT TOTAL NUMBER OF SAMPLES SUBMITTED:	**30**
IMPORTANT POSITIVE STOP ANALYSIS:	Yes
IMPORTANT CODE TYPE:	PLM
IMPORTANT E-MAIL RESULTS TO:	jriser@vrgservices.com

SAMPLE DUE DATE/TIME: Nov | 16 | 2015 | 5 PM

PACKAGED BY: Jim Riser	SAMPLES RECEIVED BY:
DATE PACKAGED: November 13, 2015	DATE:
METHOD OF TRANSMITTAL: Hand Delivered	TIME:
TRANSMITTED BY: Jim Riser	Comments:

PACKAGED BY:	SAMPLES RECEIVED BY:
DATE PACKAGED:	DATE:
METHOD OF TRANSMITTAL:	TIME:
TRANSMITTED BY:	Comments:

APPENDIX B
Personnel and Laboratory Certifications

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ASBESTOS LICENSING UNIT
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

(850) 487-1395

VRG SERVICES LLC
ROBERT BLAIR GREENE
4300 WEST CYPRESS STREET SUITE 400
TAMPA FL 33607

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto **www.myfloridalicense.com**. There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ZA476 ISSUED: 02/04/2014

ASBESTOS BUSINESS ORGANIZATION
VRG SERVICES LLC
ROBERT BLAIR GREENE

IS LICENSED under the provisions of Ch.469 FS.
Expiration date : NOV 30, 2015 L1402040001746

VIVA FLORIDA 500

The Department of State is leading the commemoration of Florida's 500th anniversary in 2013. For more information, please go to www.VivaFlorida.org.

DETACH HERE

RICK SCOTT, GOVERNOR

KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT

LICENSE NUMBER	
ZA476	

The ASBESTOS BUSINESS ORGANIZATION
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2015

VRG SERVICES LLC
ROBERT BLAIR GREENE
10861 GULF BOULEVARD, SUITE 202
TREASURE ISLAND FL 33706-4862

VIVA FLORIDA 500

ISSUED: 02/04/2014 SEQ # L1402040001746
DISPLAY AS REQUIRED BY LAW

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ASBESTOS LICENSING UNIT
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

(850) 487-1395

GREENE, ROBERT BLAIR
GLE ASSOCIATES INC
4300 W CYPRESS STREET SUITE 400
TAMPA FL 33607

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto **www.myfloridalicense.com**. There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

EA0000009 ISSUED: 11/30/2014

ASBESTOS CONSULTANT - ENGINEER
GREENE, ROBERT BLAIR
GLE ASSOCIATES INC

IS LICENSED under the provisions of Ch.469 FS.
Expiration date : NOV 30, 2016 L1411300002420

DETACH HERE

RICK SCOTT, GOVERNOR KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT

LICENSE NUMBER
EA0000009

The ASBESTOS CONSULTANT - ENGINEER
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2016

GREENE, ROBERT BLAIR
GLE ASSOCIATES INC
4300 W. CYPRESS STREET
SUITE 400
TAMPA FL 33607

ISSUED: 11/30/2014 DISPLAY AS REQUIRED BY LAW SEQ # L1411300002420

GLE Associates, Inc. FL 49-0001218

5405 Cypress Center Drive ~ Suite 110 ~ Tampa, Florida 33609 ~ (813) 241-8350

certifies that

James E. Riser

has completed the requisite training for

ASBESTOS INSPECTOR REFRESHER

accreditation under TSCA Title II Course No.: FL 49-0002824

conducted on

September 26, 2015

at

TAMPA, FLORIDA

Certificate Number

6209

Passed Exam with score of 70% or better.

EPA Accreditation Expires: September 26, 2016

Instructor

GLE Associates, Inc.

Robert B. Greene

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 102003-0

GLE Associates, Inc.

Tampa, FL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

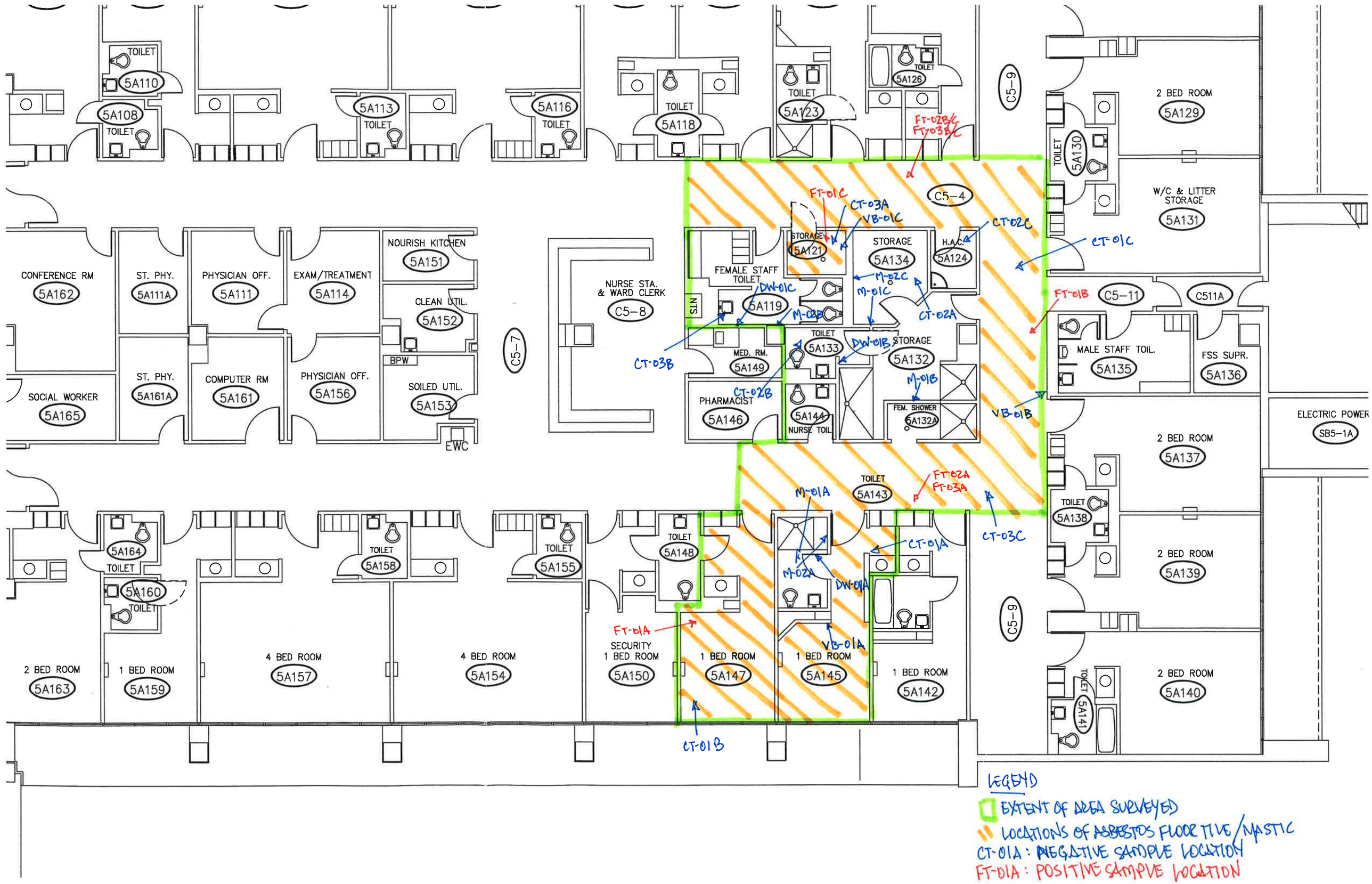
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2015-04-01 through 2016-03-31

Effective dates

For the National Institute of Standards and Technology

APPENDIX C
Asbestos Location Plan


TOILET
5A110
5A108
TOILET
5A113
TOILET
5A116
TOILET
TOILET
5A118
TOILET
5A123
TOILET
5A126
C5–9
2 BED ROOM
5A129
TOILET
5A130
W/C & LITTER STORAGE
5A131
FT-02B/C
FT-03B/C
FT-01C
CT-03A
VB-01C
C5–4
CT-02C
CT-01C
CONFERENCE RM
5A162
ST. PHY.
5A111A
PHYSICIAN OFF.
5A111
EXAM/TREATMENT
5A114
NOURISH KITCHEN
5A151
CLEAN UTIL.
5A152
BPW
SOILED UTIL.
5A153
EWC
NURSE STA. & WARD CLERK
C5–8
C5–7
STORAGE
5A121
FEMALE STAFF TOILET
SLN
DW-01C
5A119
M-03C
M-02C
M-01C
STORAGE
5A134
H.A.C.
5A124
CT-02A
FT-01B
C5–11
C511A
MED. RM.
5A149
CT-03B
TOILET
5A133
DW-01B
STORAGE
5A132
M-01B
MALE STAFF TOIL.
5A135
FSS SUPR.
5A136
SOCIAL WORKER
5A165
ST. PHY.
5A161A
COMPUTER RM
5A161
PHYSICIAN OFF.
5A156
PHARMACIST
5A146
CT-02B
5A144
NURSE TOIL
FEM. SHOWER
5A132A
VB-01B
ELECTRIC POWER
SB5–1A
2 BED ROOM
5A137
TOILET
5A143
FT-02A
FT-03A
M-01A
CT-01A
CT-03C
TOILET
5A138
2 BED ROOM
5A139
5A164
TOILET
5A160
TOILET
TOILET
5A158
TOILET
5A155
TOILET
5A148
M-02A
DW-01A
C5–9
2 BED ROOM
5A163
1 BED ROOM
5A159
4 BED ROOM
5A157
4 BED ROOM
5A154
FT-01A
SECURITY 1 BED ROOM
5A150
1 BED ROOM
5A147
VB-01A
1 BED ROOM
5A145
1 BED ROOM
5A142
TOILET
5A141
2 BED ROOM
5A140
CT-01B
LEGEND
EXTENT OF AREA SURVEYED
LOCATIONS OF ASBESTOS FLOOR TILE/MASTIC
CT-01A : NEGATIVE SAMPLE LOCATION
FT-01A : POSITIVE SAMPLE LOCATION