ASBESTOS CONTAINING MATERIALS (ACM) OPERATIONS AND MAINTENANCE (O&M) PLAN VETERANS AFFAIRS MEDICAL CENTER

for

VISN 1

Project No. 2009023.003

July 13, 2011

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ACKNOWLEDGMENT

This Asbestos Containing Materials (ACM) Operations & Maintenance (O&M) Plan was prepared for the U.S. Department of Veterans Affairs, New England Healthcare System (VISN 1), Veterans Affairs Medical Center (VAMC) located in Brockton, MA in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this Plan. If any of the information provided to M&A that was used in preparing this Plan is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this Plan and considered applicable to this Plan.

This O&M Plan was prepared by the following Mabbett & Associates, Inc. personnel:

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BY:

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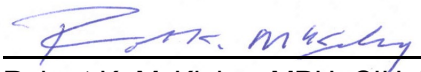

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MANAGEMENT CERTIFICATION AND REVIEW

Management Certification

This Asbestos Operations and Management (O&M) Plan has been reviewed and approved by the Asbestos Program Manager. The facility is committed to safely managing asbestos containing materials (ACM) in accordance with applicable regulations and VA directives and local policies. The Plan is a key element of the overall asbestos management program and it will be implemented and subsequently revised as required in order to maintain its effectiveness.

Authorized Asbestos Program Manager: _____

Title: _____

Signature: _____ Date: _____

Asbestos Program Manager Review

The plan will be reviewed at least annually and when any change takes place at the facility which would necessitate a review, for example following any asbestos abatement projects or renovation projects with the potential to reveal previously unidentified ACM. If technical amendments are required as a result of these reviews, the plan will be amended within two (2) months and re-certified by the Asbestos Program Manager.

The VAMC has conducted and documented the following reviews and evaluations of this Asbestos Operations and Maintenance Plan:

Review Date	Reviewer Name/Title	Signature	Revision Required? (Y/N)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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O&M DIRECTORY

The following is a directory of the personnel involved in the VAMC's ACM Operations and Maintenance Program. The names are listed in the order in which notifications should take place in the event of an incident or emergency involving ACM or Presumed ACM (PACM). An *incident* involves the sudden disturbance of ACM or PACM in a small, localized area, while an *emergency* involves the sudden disturbance of larger amounts of ACM or PACM.

Title	**Personnel/Phone/E-mail**
1. Asbestos Program Manager	Bryan Soltysik 857-203-6522/617-839-6705 bryan.soltysik@va.gov
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1.0 INTRODUCTION

This site-specific Asbestos O&M Plan has been prepared exclusively for the Boston, MA VAMC. This plan has been developed using a VISN 1 approved general template to help guide and direct asbestos management program activities at the facility. The VAMC staff are still required to tailor the plan, associated forms, and attachments, and procedures to best meet the needs of the facility. Areas requiring specific input from the VAMC are indicated as such.

The purpose of this Asbestos O&M Plan (Plan) is to protect VAMC employees, patients, volunteers, and visitors from unsafe asbestos exposure. This document provides guidance on in-place management of Asbestos Containing Materials (ACM) and Presumed Asbestos Containing Materials (PACM). PACM is ACM that has been reported by VAMC representatives as ACM or PACM based on historical knowledge or has been presumed to be ACM based on the experience of the inspector. The Plan includes an O&M directory, project information, a list of the identified ACM and PACM, associated risk categories, and future O&M work practices. A properly conducted O&M program can be an important asbestos control strategy. However, it is important that everyone involved in the program be trained in the O&M plan and be committed to implementing it properly.

In addition, this site-specific Plan includes: a general description of common ACM/PACM; an introduction to the O&M program; procedures for implementing the plan; a review of routine work practices; incident and emergency work practices; guidance outlining training; inspection and recordkeeping activities; and staff, contractor and agency notification procedures.

Asbestos management guidance and templates developed by the United States Occupational Safety & Health Administration (OSHA) and/or the United States Environmental Protection Agency (US EPA) have been incorporated into this plan in cases where the VAMC did not have specific policies, procedures or documentation related to that aspect of the management of ACM/PACM. Examples of this guidance are provided in Appendix A.

VISN I has adopted an asbestos management strategy that requires that all maintenance, repair or renovation work that may impact or involve ACM/PACM be completed by a properly trained, licensed and equipped asbestos abatement contractor. VISN I staff are prohibited from conducting any activities that may disturb, damage, or negatively impact ACM/PACM including repairs of ACM/PACM or asbestos abatement activities. This O&M Plan has been developed in accordance to this policy.

2.0 PROJECT INFORMATION

The O&M plan is part of the VA VISN 1 ACM Building Survey Program. The scope of work, as defined under Contract Number VA241-P-1653, included asbestos inspections of the above listed buildings (see Section 1.0). The information provided in this Plan is reliant upon the findings of those inspections. Building inspection reports containing CADD drawings that indicate the location of ACM/PACM found on site, survey

narratives, and the results of sample analysis are on file in the Safety Office and Facilities/Engineering. Summary tables provided in Appendix B describe the buildings, types, locations and condition of the ACM/PACM found during the inspection of the VAMC.

If any ACM/PACM is damaged or becomes damaged it should be repaired or removed entirely. Materials with a high potential for disturbance should be removed immediately upon discovering damage to the material especially when located in occupied areas.

The VISN 1 Risk Hazard Assessment Scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority, removal or encapsulation of damaged friable ACM or friable ACM with potential for damage from an occupied space. (2) represents removal or encapsulation of damaged friable ACM from an un-occupied space. (3) represents monitoring of damaged non-friable ACM and (4) represents the lowest priority, monitoring of ACM in good condition as part of the O&M program. The rating assigned by an Asbestos Management Planner, takes into account: condition; friable vs. non-friable; accessibility; occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors); potential for air erosion; potential for vibration damage; potential for disturbance/damage (e.g. exposed and in an accessible location); and potential for water damage. All identified ACM/PACM is included in the Summary Tables presented in Appendix B and includes the estimated amount and Risk Hazard Assessment Scale Rating.

All identified ACM/PACM must be removed prior to any planned renovation, maintenance, or demolition activities if ACM/PACM will be disturbed, in compliance with all Federal, state and local asbestos regulations. All asbestos waste generated during routine construction, renovation or abatement activities must be disposed of in accordance to state and federal regulations. **The use or re-introduction of new ACM or PACM at VAMC facilities is expressly prohibited.** The procedures set forth within are considered industry recognized O&M procedures.

3.0 ASBESTOS BACKGROUND

3.1 What is Asbestos?

Asbestos is a term used to describe a group of six naturally occurring fibrous minerals (chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite) found in certain types of rock formations. Of that general group, the minerals chrysotile and amosite are commonly found in building products.

3.2 Asbestos Uses in Buildings

Asbestos has been used extensively in buildings throughout the world as a component in fireproofing, insulation materials, floor coverings, roofing materials, and as reinforcement for plaster binders in building products. Asbestos became a popular commercial product because of its strength, fire and corrosion resistance, and insulating qualities. In the United States, its commercial use began in the early 1900s.

Applicable regulations make a major distinction between friable and non-friable asbestos materials. Friable materials are defined in state and Federal regulations as a “material that when dry, may be crumbled, pulverized, or reduced to powder with hand pressure.”

Friable ACM is considered likely to release fibers when damaged or disturbed and is therefore generally of more concern than non-friable materials. For example, pipe insulation, a common ACM, can easily become friable if damaged. The USEPA defines pipe insulation as non-friable if the material "has retained its structural integrity and has an undamaged protective jacket or wrap that prevents fiber release (40 CFR Part 763, Section 763.85)."

Non-friable materials such as floor tiles typically present a very limited potential for fiber release. As such, non-friable floor tile is typically of less concern from a fiber release standpoint than friable pipe insulation. However, both friable and non-friable materials may release fibers if significantly damaged and both are subject to regulation.

3.3 Health Effects

Asbestos fibers can cause serious health problems if inhaled. Three specific diseases -- asbestosis (a fibrous scarring of the lungs), lung cancer, and mesothelioma (a cancer of the lining of the chest or abdominal cavity) have been linked to asbestos exposure. These diseases do not develop immediately after inhalation of asbestos fibers; it may be 20 to 40 years before symptoms appear.

3.4 Regulatory Review

Asbestos is regulated at the Federal level by the USEPA, the Occupational, Safety, and Health Administration (OSHA), and at the state level under the Commonwealth of Massachusetts Department of Environmental Protection (DEP), the Department of Public Health (DPH) and the Department of Occupational Safety (DOS). In addition, there is a Veterans Health Administration (VHA) Directive 2010-036 entitled "Asbestos Management Program" issued August 2010. Section 14.0 contains links to the applicable standards and regulations.

Since the early 1970s, awareness of the potential health hazards associated with inhalation of airborne asbestos fibers has increased. In 1973, the US EPA enacted the National Emission Standards for Hazardous Air Pollutants (NESHAPs) which banned the spray application of asbestos-containing materials, such as fireproofing, insulation and acoustical surfacing materials. Also enacted was a no visible emissions standard for building renovation and demolition.

Because of its carcinogenic nature and because of its common use in public buildings, the US EPA mandated in the May 27, 1982 Federal Register that all public and private schools (kindergarten through grade 12) be inspected for the presence of asbestos containing materials. This was the first legal mandate requiring any type of action concerning asbestos in buildings.

On October 22, 1986, Congress passed the Asbestos Hazard Emergency Response Act (AHERA) that, among other provisions, required US EPA to develop final asbestos rules by October 17, 1987. It included inspection, testing, risk assessment, management planning including establishment of an O&M Program, and removal of ACM when warranted.

VA facilities are public buildings and therefore must also comply with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). Congress passed ASHARA in 1992 which extended AHERA to cover public and commercial buildings.

OSHA has two applicable regulations for exposure to asbestos: VAMC's are required to follow OSHA regulations in 29 CFR 1910.1001, Occupational Exposure to Asbestos, and 29 CFR 1926.1101, Construction Asbestos Standard, to protect employees and maintenance workers. Among other requirements, these standards mandate that building owners do the following:

- Identify and label ACM and PACM;
- Notify affected parties;
- Maintain records of notifications;
- Train housekeeping staff about the location of ACM and PACM, and anyone who may be exposed to levels of asbestos above the permissible exposure limit; and,
- Designate a competent person to oversee asbestos activities.

If ACM/PACM is found during an inspection, there is no requirement that they be addressed in a manner similar to that which Congress mandated for schools. There is an USEPA requirement to remove most asbestos containing materials, with the possible exception of roofing materials, vinyl asbestos floor tiles and linoleum, from a building prior to demolition under the asbestos NESHAP regulations. In addition, there is no Federal law requiring removal of asbestos currently in place in buildings.

The current VHA Asbestos Management Program Directive mandates compliance with the regulations cited above as well as applicable state asbestos management regulations. The Directive also requires certain actions be taken by Facility Directors, Occupational Health Providers, and Facility Management Supervisors in order to implement a comprehensive asbestos management program which helps to ensure the health and safety of VA employees, patients, volunteers and visitors from the risks associated with asbestos. Certain key elements of this directive are incorporated into this O&M Plan and a copy of the complete directive is provided in Appendix C.

4.0 INTRODUCTION TO THE OPERATIONS AND MAINTENANCE PROGRAM

4.1 Objective of the Asbestos Operations and Maintenance Program

The principal objective of the Asbestos O&M program is to minimize exposure of building occupants to airborne asbestos fibers. To accomplish this objective, an O&M program includes work practices to:

(1) Eliminate the use of any asbestos containing products by specifying asbestos-free building materials for all future construction and renovation projects. All VAMCs must ensure that no new ACM/PACM products are used or stored on campus.

(2) Monitor the condition of ACM/PACM to remain in use on site,

(3) Maintain existing ACM/PACM in good condition,

(4) Prevent further release of asbestos fibers, and

(5) Ensure proper repair or abatement of damaged ACM/PACM found on site.

4.2 Types of Asbestos Containing Materials

For the purpose of the Asbestos O&M program, ACM/PACM is placed into three major categories:

(1) Surfacing Material: Surfacing material is ACM/PACM that is sprayed or troweled onto surfaces, such as plaster, sprayed finishes, acoustical surfaces, or fireproofing.

(2) Thermal System Insulation (TSI): TSI is ACM/PACM insulation applied to pipes, boilers, tanks, and ducts to prevent heat loss, heat gain, or condensation.

(3) Miscellaneous ACM/PACM: Miscellaneous ACM/PACM is other asbestos containing materials such as ceiling tiles, floor tiles, floor coverings, asbestos-cement (e.g., Transite) panels, asbestos siding, caulking, and roofing materials.

4.3 Types of Operations and Maintenance Projects

Generally, the Asbestos O&M program is comprised of three types of projects:

No Hazardous Contact with ACM/PACM Expected

Those projects that are unlikely to involve any direct exposure to asbestos - for instance, routine cleaning of floors (provided no ACM/PACM debris is present). The custodial and maintenance staff with proper training can generally handle these projects/tasks.

Low Impact Activities Involving ACM/PACM

Those projects which involve relatively minor contact with ACM/PACM, but do not result in any damage or disturbance may be considered by VAMC staff. Placing carpet, new sheet vinyl flooring or floor tile over asbestos-containing flooring (without removing the existing flooring) can be performed by maintenance personnel provided that they are aware of the location of ACM/PACM and are instructed not to disturb the material. However, if these materials are to be removed, or damaged ACM/PACM requires repair or removal then these projects will require the involvement of an asbestos removal contractor.

Potential for ACM/PACM Exposure

Those projects which may cause accidental disturbance of ACM/PACM; for instance, maintenance work that may expose workers to TSI identified at the facility or removing and replacing damaged flooring material or miscellaneous materials will require the involvement of an asbestos removal contractor. VAMC staff are prohibited from initiating or conducting any asbestos abatement, repair or clean up activities. A state licensed asbestos abatement contractor will be required to complete all activities that involve the removal, repair or abatement of ACM/PACM at the VA Medical Center.

Larger, more complex projects involving the intentional removal of ACM/PACM are beyond the scope of an Asbestos O&M program and are considered asbestos abatement projects (see Section 9.0). All abatement projects will be completed by state

licensed asbestos abatement contractors. Refer to the Commonwealth of Massachusetts regulations for specific requirements. Section 14.0 contains links to relevant regulations.

In addition to the guidance above, the Asbestos Program Manager with assistance from others as needed must identify and list in the O&M Plan the specific work tasks and locations that require engineering controls, work practice controls and/or personal protective equipment to address the potential for incidental exposure to ACM/PACM or debris (e.g., entry into tile ceilings with potential for spray-on ACM/PACM debris on tile, entry into crawl space, chases or utility zones with potential ACM/PACM debris, etc. This includes:

(a) Developing written standard operating procedures for these tasks which impact ACM/PACM.

(b) Verifying that the controls and procedures are implemented by trained VHA employees with representative personal air monitoring for asbestos exposure.

(c) Ensuring contractors are informed of the requirements and verifying compliance. Under OSHA regulations, these O&M procedures may require compliance with Class III (repair and maintenance) or Class IV (custodial) operations. See Section 5.5.2 for definitions of Level III and IV operations.

Sample Activities That May Require Asbestos Abatement Contractor Support

The following is a partial listing of common maintenance activities that could damage, impact or involve ACM/PACM. Note that each VISN I facility will need to review its facility and maintenance activities in order to identify and develop a complete list of activities that will impact ACM/PACM at their facility. In addition, each VISN I facility will need to hire a state licensed asbestos abatement contractor to support the completion of these types of tasks when asbestos is known or suspected to be associated with the area requiring repair or modification.

- Repair, removal or replacement of damaged asbestos floor tiles.
- Repair, removal or re-location of asbestos containing ceiling tiles.
- Repair or replacement of a pipe wrapped in asbestos TSI or asbestos joint compound.
- The opening or demolition of hard walls or ceilings suspected or presumed to contain ACM.
- The removal or repair of equipment and apparatus that contain asbestos.
- The repair or removal of doors and windows equipped with asbestos containing caulk.
- The cutting or modification of fire doors that contain ACM/PACM.

Works Tasks Requiring Engineering Controls

The following tasks have been identified by the Asbestos Program Manager (APM) as requiring engineering controls or the use of personal protection procedures to address the potential to disturb ACM/PACM:

1. Floor tile stripping or buffing activities – use of low abrasive buffing pads and low speed on buffing equipment.

2. Work conducted above ceiling tiles labeled with an “A” indicating ACM above the ceiling or any work behind a solid wall – Engineering personnel conducting maintenance operations in this scenario must first review the O&M Plan to determine the presence and condition of ACM in or adjacent to the work area. A determination must be made as to whether or not the potential of ACM disturbance exists within the scope of work to be completed. A high risk would necessitate an abatement of ACM in the work area.

4.4 Plan Distribution

This Asbestos O&M Plan must be maintained by the Asbestos Program Manger (APM). Each person or group of persons responsible for asbestos management, including the entire Engineering Section, will have access to an updated electronic copy of the Asbestos O&M Plan. This would include Management, Safety, Project Engineering, Engineering Maintenance and Operations, Facilities and Housekeeping. This plan should also be made available for on-site review by representatives of contractors hired to complete work activities that may impact ACM/PACM. The APM is responsible for ensuring that the plan is effectively implemented. If the APM designates someone other than himself/herself to be responsible for this plan, he/she must be competent and qualified.

5.0 IMPLEMENTING THE OPERATIONS AND MAINTENANCE PROGRAM

5.1 Asbestos Management Team’s Functions and Responsibilities

Implementation and effective on-going management of the asbestos program requires a team approach and involvement from senior management, Safety, Engineering, Facilities, Housekeeping and others. It is recommended that Medical Center Directors assign qualified individuals, including Asbestos Program Managers, to coordinate and oversee asbestos impacting activities to ensure effective management of on-going revisions of this facility asbestos survey, asbestos removal and maintenance activities. Members of the asbestos management team should ensure that all program requirements are met with regard to regulatory requirements. The management team is responsible for the management and update of the program and for instituting a system of accountability to ensure compliance with legal, regulatory, and policy requirements pertaining to asbestos. The members of the team will ensure that accurate information concerning potential health risks associated with exposure to airborne asbestos fibers and dust is disseminated hospital-wide and that hospital personnel involved in the management and assessment of ACM receive adequate and appropriate training.

Key team members include the following:

5.1.1 The Asbestos Program Manager (APM)

APM Qualifications

Primary and secondary Asbestos Program Managers (APM) must be appointed by the VAMC Director. These individuals will be responsible for supervising the implementation of the Asbestos O&M Plan. The APM's must be AHERA trained/certified inspectors. The VAMC Director can assign responsibilities to others as appropriate to support the APM's. Proper management of ACM/PACM requires an integrated approach from Safety, GEMS, Project Engineering, Engineering Maintenance and Operations, Facilities, Housekeeping, Management and others.

APM's Responsibilities

The APM's responsibilities are numerous and the APM's will act as the decision-makers on all routine, as well as emergency, asbestos-related matters. The APM's ensure that workers are properly trained, oversee all asbestos activities, and maintain files containing asbestos records and documentation. The APM's have the authority with concurrence from the VAMC Director to clarify, define, and assign responsibilities to other asbestos management team members. The APM's are responsible for maintaining the latest asbestos inspections and assuring that the Asbestos O&M Plan is updated on a regular basis. The APM's will notify the appropriate environmental regulatory agencies of any known or suspected hazardous exposure to asbestos.

The APM's are also responsible for the planning and accomplishment of asbestos surveillances and re-inspections within the required time periods outlined in this plan. The APM's or qualified designee or contractor will verify the presence or absence of ACM/PACM, identify appropriate management measures (i.e., maintain in place, repair, remove, etc.), and to rank abatement activities. The asbestos survey will constantly evolve as new sources are identified and others are abated. The survey is actually an ongoing evaluation of locations and sources for ACM/PACM.

The APM's are responsible for establishing an asbestos monitoring and maintenance program. The entire Engineering Service staff will be critical in providing support for this effort. This portion of the overall asbestos program is designed to reduce the possibility of inadvertent exposure to ACM by maintaining a surveillance and inspection system over existing locations of ACM until ultimate removal/disposal. This program includes such items as labeling ACM, training staff members including custodial and maintenance to conduct surveillance of ACM in their facilities to check for deterioration, establishing special precautions before starting any maintenance, repair, or construction activities and periodic surveillance by designated personnel. The APM's are responsible for establishing appropriate training in asbestos identification and procedures for those personnel involved in management activities and the Asbestos O&M Program.

The APM's will ensure that all asbestos waste is stored in a sealed and properly labeled container in a secure area. The APM's will ensure that all waste is disposed of at a licensed facility in accordance with applicable state and federal regulations.

5.1.2 The Building Asbestos Coordinator (As Applicable)

A Building Asbestos Coordinator (BAC), such as the maintenance managers associated with each building, can be appointed to assist the APM's. Where assigned, BACs are responsible for notifying the APM of building operations that could disturb ACM/PACM or

emergency, asbestos-related matters. The BAC can provide asbestos awareness training on behalf of the APM (if properly trained). The BAC or APM's will develop a list of key contacts within the VAMC consisting of maintenance staff, custodial staff, office managers, general employees, and vendors.

A well-developed O&M Program is ineffective unless the BACs are committed to implementing it properly. The BAC should convey this commitment to key personnel involved in the building's management and operations.

5.1.3 Safety Office

The Safety Office staff will help ensure the health and safety of staff, patients and visitors; and compliance with applicable asbestos regulations and this O&M Plan. If someone from the Safety Office is not an APM, then they will provide the necessary environmental, occupational health and safety support to the APM's. This could include training, project reviews, recordkeeping support and other responsibilities as may be assigned. Safety office staff needs to be trained by the APM's regarding their responsibilities under this plan.

5.1.4 Project Engineering

Project Engineering is responsible for drawings specifications and cost estimates for renovation, construction, and equipment/utility site preparation projects. They maintain space utilization data and record drawings of buildings, utilities, and land. This section is responsible for the 5-year facility plan and project applications.

Project Engineering will assist in the implementation of the Asbestos O&M Plan by assuring the architects, engineers, and contractors are aware of any ACM that may be impacted by capital projects. The project engineers will be an integral part of the success of the Asbestos O&M Plan. Advanced planning with the APM's will assure that construction and renovation activities do not disturb any ACM/PACM. Engineering staff need to be trained by the APM's regarding their responsibilities under this plan.

5.1.5 Engineering Maintenance Section

The Engineering Maintenance Section is responsible for inspecting, testing, and maintaining buildings, water systems, natural gas systems, sewage systems, medical gas/vacuum systems, steam systems, electrical/emergency power systems, and kitchen equipment. This section is responsible for maintaining/repairing ceilings, walls, floors, casework, roofs, plumbing fixtures, lights, etc., as well as painting and controlling keys.

The Engineering Maintenance Section will assist the APM's in performing their daily activities following the Asbestos O&M Program guidelines. Advanced planning with the APM's regarding any anticipated construction, renovation, maintenance, or equipment repair work is crucial to the success of the program. The APM's should be informed of any damage to ACM/PACM that is observed or when asbestos debris needs to be cleaned up. Avoid patching or repairing any damaged ACM/PACM. The Maintenance staff needs to be trained by the APM's regarding their responsibilities under this plan.

5.1.6 Engineering Operations Section

The Engineering Operations Section is responsible for operating and inspecting, testing, and maintaining the boiler plant, chiller plant, and HVAC systems. This section is responsible for inspecting, testing, and maintaining refrigerators, freezers, coolers, and

ice machines. The Engineering Operations Section is also responsible for labeling controls. The maintenance of Medical Center grounds, roads, and walks, is also included.

The Engineering Operations Section will assist the APM's in performing his/her daily activities following the Asbestos O&M Program guidelines. Advanced planning with the APM's regarding any anticipated construction, renovation, maintenance, or equipment repair work is crucial to the success of the program. The APM's should be informed of any damage to ACM/PACM that is observed or when asbestos debris needs to be cleaned up. Avoid patching or repairing any damaged ACM/PCM. Operations staff needs to be trained by the APM's regarding their responsibilities under this plan.

5.1.7 Housekeeping (Environmental Services)

Housekeeping is responsible for cleaning VAMC buildings which may contain ACM/PACM. Housekeeping activities must be performed in such a way as to minimize asbestos exposure and risk. Housekeeping will assist the APM's in performing his/her daily activities by following the Asbestos O&M Program guidelines. The APM's should be informed of any damage to ACM/PACM (e.g., vinyl asbestos tiles) that is observed or when asbestos debris needs to be cleaned up. Clean up of asbestos debris should not be performed by housekeeping staff. Housekeeping staff need to be trained by the APM's regarding their responsibilities under this plan.

5.2 Cleaning

If an area needs to be cleaned due to the inadvertent disturbance of ACM/PACM, an asbestos abatement contractor must be contracted for cleaning.

The APM should help ensure that cleaning procedures for ACM/PACM outlined in the O&M Plan are followed.

5.3 Notification

The APM's or designee will inform maintenance employees, tenants and contractors about the location and physical condition of the ACM/PACM that might be inadvertently disturbed, and stress the need to avoid disturbing the material. Informed building occupants are less likely to unintentionally disturb ACM/PACM and release fibers into the air. Notification will include an explanation of the asbestos labeling system.

The APM's or designee will inform building occupants about the presence of ACM/PACM by holding awareness or information sessions and posting signs in common areas at the VAMC where affected occupants can see them. In addition to staff training (Section 5.5.2), the following methods will be used by the APM's or designee to complete these notifications:

Awareness Meetings

As a minimum all housekeeping, project engineering, and engineering maintenance and operations staff shall attend an annual awareness/information session. This session will inform them of the presence of ACM/PACM in their facility and the associated control measures developed and implemented as part of the Asbestos O&M Plan.

Employee Letter

Email or post the annual employee/tenant notification letters for the VAMC employees, tenants and contractors working at the facility. It is a simple method for conveying information describing the management of ACM/PACM within the facility (Form 1 in Appendix A is a sample template prepared for use by the APM).

Employee Asbestos Awareness Form

All employees who are likely to come in contact with ACM/PACM should sign the employee awareness form (sample Form 2 in Appendix A) including the APM's, each engineering site manager, engineering maintenance and operations and or housekeeping employees or anyone else who may encounter ACM/PACM during maintenance or renovation.

All other personnel whose work may involve disturbing ACM/PACM should also sign the awareness form. Form 2 is a sample notification and may be modified to meet the APM's needs. The APM's will retain these forms on file for no less than 30 years as a critical document to support the VA in the event of regulatory enforcement or legal proceedings. Through the use of this acknowledgment form, the management of the VAMC is showing its intent to abide by USEPA and OSHA regulations.

Contractor Notification Form

OSHA regulations require facility owners to inform contractors and other outside personnel working at the facility of the presence and location of ACM/PACM.

All affected outside contractors, vendors, and others must sign the contractor notification form (sample Form 3 in Appendix A) to document that they have been advised of the presence of ACM/PACM within your facility. Where appropriate, this form may also be modified by adding a narrative or CADD drawing to provide a more detailed or comprehensive description of the ACM/PACM present in their work area. This form should be signed by the contractor's superintendent or project manager indicating that all of the contractor's workers have been informed of the presence of ACM/PACM.

ACM/PACM Labeling Procedures

Per the VHA Asbestos Management Program Directive 2010-036, labels have been affixed to asbestos containing thermal system insulation (TSI) (pipeline, tank, and boiler) wherever feasible. Where direct labeling is not feasible, an alternate means has been used. ACM/PACM is identified using alternate locations/means when labeling is not feasible (e.g. spray on, tile floors, liners, gaskets). In addition, VISN 1 requires that identified asbestos containing ceiling tiles be labeled due to friability and potential for disturbance. It is important that staff that may impact ACM/PACM are familiar with the labeling system. In summary the following ACM/PACM should labeled according to this standard:

- Thermal Surface Insulation (TSI)
- Pipe insulation

- Tank insulation
- Boiler insulation
- Ceiling tiles

The following ACM/PACM has not been labeled: floor tile, mastic, caulking, transite, and other miscellaneous materials not listed above.

The following types of labels and signs have been used to identify ACM/PACM found present in the facility.

Piping Insulation: The label presented in Figure 1 has been attached to pipe insulation containing asbestos. Figure 1 and/or Figure 2 labels have been attached to pipe fitting insulation based on the size of the fitting. In addition, the black circle with red A labels have been posted on the ceiling tile grid in rooms at the primary door entrance to indicate that ACM/PACM TSI insulation is above the ceiling. In cases, where the pipe is inaccessible, such as due to equipment obstructions, height i.e. > 8' foot ladder is required, isolation room with a patient, etc., then only the black circle with the red A will be utilized.

Figure 1

Figure 2

Ceiling Tiles: Ceiling tiles that contain asbestos have been labeled by either attaching a copy of the warning label provided in Figure 1 or simply a black circle with a red A sticker.

Boiler and Tank Insulation: The label presented in Figure 1 has been attached to boiler and tank insulation found to contain asbestos.

Routine Maintenance Areas: Routine maintenance areas such as mechanical rooms, boiler rooms, pipe chases, tunnels and crawlspaces that contain asbestos containing TSI have been identified by posting with the black circle with a red A sticker (Figure 2) on the outside of each access door or hatch. Inside the hatch or door OSHA warning label has been posted (Figure 1). In boiler plants, red arrow labels and striping have been used to enhance labeling and better delineate the locations of ACM where there is both asbestos TSI and non-asbestos TSI on the same pipe run. Striping has been used to indicate the beginning or end of asbestos containing TSI and arrows indicate the direction.

Label Ordering Information: The following is a list of ordering information for the stickers shown in Figure 1 and Figure 2, as well as red pipe arrow labels:

- Figure 1
  - MySafetySign (MySafetySign.com)
    32 Court St., STE 2201, Brooklyn, NY 11201
    (800) 952-1457
  - Item Numbers:
    - 502912 (10”x7” Vinyl)
    - 502868 (10”x7” Plastic)
    - 502908 (5”x3.5” Vinyl)
  - Description: “Danger ASBESTOS DUST HAZARD CANCER AND LUNG DISEASE HAZARD AUTHORIZED PERSONNEL ONLY”

- Figure 2
  - QuickLabel Systems USA (quicklabel.com)
    600 East Greenwich Ave., West Warwick, RI 02893

Sales: (877) 757-7978

- Pipe Arrows
  - PipeMarker (pipemarker.com)
    Brimar Industries, Inc., P.O. Box 467, 64 Outwater Lane, Garfield, NJ 07026
    Phone: (800) 274-6271
    Fax: (800) 279-6897
  - Sku/ Name:
    - A3301/ 1XSM EX Arrows Pipe O.D. ¾" to 1¼" (Arrow size $1^1/_8$ x 4")
    - A3302/ 1SM EX Arrow Pipe O.D. $1^1/_8$" to $2^3/_8$" (Arrow size $1^1/_8$ x 4")
    - A3303/ 1EZ Arrows Pipe O.D. 2½" to 6" (Arrow size 2¼ x 6")
    - A3304/ 1LG EZ Arrows Pipe O.D. 8" to 10" (Arrow size 4 x 7")
    - A3305/ 1XLG EZ Arrows Pipe O.D. over 10" (Arrow size 4 x 7")

Warning Signs and Restricted Areas

In order to minimize the chance for accidental entry into areas with a high risk of exposure, warning signs (Figure 3) shall be posted and access restricted to authorized personnel only in areas that are undergoing maintenance activities that may disturb ACM/PACM. This is necessary to prevent personnel, both employees and contractors, who are unaware of the presence of asbestos and its potential hazards from inadvertently disturbing ACM/PACM.

Figure 3

ACM CADD Plan Signage

Color copies of each ACM/PACM CADD plan depicting locations of identified ACM/PACM have been provided with the 2010 baseline survey to help fulfill VISN 1's need to address notification and worker protection requirements for TSI and non-TSI ACM/PACM. Individual plans have been prepared for each floor of each building surveyed and placed in plastic sleeves for easy posting and use. The plans include the OSHA label Figure 3. The purpose of these plans is to notify staff, contractors, etc. about the locations of identified ACM and PACM so that appropriate procedures can be followed. These plans will be maintained electronically by the Asbestos Program Manager on the Engineering S Drive and made available to all Engineering, Housekeeping, Safety and Management staff that require access.

These plans will need to be revised and updated as new ACM/PACM is identified or ACM/PACM is abated. Procedures for revising these drawings are outlined in this plan.

Worker training will direct employees (e.g. Environmental Management Services/housekeeping, Facilities Management Service, Engineering, etc) where to find and how to read the CADD plans as well as what work/tasks need to be avoided. Such an approach is consistent with OSHA's standard letter of interpretation dated January 24, 1996.

5.4 Employee Medical Surveillance Program

The VAMC will hire an asbestos abatement contractor to perform removal where ACM/PACM will be disturbed, removed or abated. A Medical Surveillance Program for VAMC personnel will therefore not be necessary under these conditions.

5.5 Employee Training

This section addresses the training requirements for all employees who will participate in asbestos-related activities at the VA Medical Center. In order for the asbestos management team to prepare and implement the Asbestos O&M Plan, the team members who will be actively involved in the technical aspects of the plan must be appropriately trained in accordance with all Federal and State requirements. The training requirements will vary depending on the anticipated job duties.

The APM's will be required to attend formal training programs (e.g. AHERA Inspector) on the presence of ACM within the facility. Although not required by VHA Directive 2010-036, APMs may find the AHERA Management Planner helpful in performing their duties. Verbal notice with an acceptance signature will apply to contractors used by the VAMC prior to conducting work that will disturb the ACM/PACM. Each training program is targeted for a certain group of employees depending on their exposure to the ACM/PACM in the building.

5.5.1 Training Requirements

AHERA established a Model Accreditation Program (MAP) that describes the minimum training standards for individuals managing asbestos in schools. These training standards were extended to include public and commercial buildings when the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) was enacted in 1990. In addition, VHA Directive 2010-036 mandates adherence with the AHERA standard as a result the VA Medical Center personnel will be trained in accordance to the ASHARA standard.

5.5.2 Asbestos Awareness Training Program

In-house annual Asbestos Awareness Training should be attended by all employees with limited contact with ACM/PACM. On-line training is acceptable if it meets the training requirements outlined in this O&M Plan and associated regulations. These employees include but are not limited to:

- Engineering Maintenance and Operations staff/FMS staff
- Housekeeping/EMS staff
- Other employees with minimal contact with ACM/PACM on a regular basis

New employees must receive training within 60 days of assignment. Refresher training will be provided on annual basis. All training activities should be documented and recorded. Form 2, an employee training acknowledgement, and Form 4, a training syllabus and attendance record, are provided in Appendix A to support the tracking of in-house training efforts.

Each worker will receive a certificate of training for each level of training completed. Copies of the training certificates will be required for the records of an asbestos abatement project.

AHERA requires that all custodial staff and maintenance workers receive from 2 to 16 hours of training depending on their work activities. The training must address the steps to be taken to avoid the release of asbestos fibers from ACM/PACM. The asbestos general awareness training for VAMC employees will include a review of the following:

a. The facility labeling and notification system used for identification of ACM.

b. The hazards of asbestos exposure.

c. Recognition of ACM/PACM types and damage.

d. Procedure for reporting damaged ACM/PACM and fiber release.

e. Access to ACM/PACM location information for assigned work areas.

f. Role of the building employees in a success Asbestos O&M Program.

The Asbestos Awareness Program is vital to the dissemination of information to employees and tenants that have minimal contact with ACM/PACM on a daily basis. This program should be well documented, and a record of each person in attendance should be kept on file. Training should be provided in such a manner that the employees can understand the materials presented. In addition, the employee should sign Form 2 indicating that he/she understood the material presented. The trainer should complete Form 4. The training records are maintained by the APM and should be reviewed annually for completeness.

Three levels of training are recognized under AHERA for O&M programs:

Level I: Awareness Training

This training is designed for custodians and maintenance workers whose normal duties would not bring them into contact with ACM/PACM; they may, however, disturb ACM accidentally. Awareness training can range from two to eight hours in length and addresses the following topics: background information on asbestos; health effects, worker protection, facility labeling and notification system, location of ACM/PACM in the building; recognition of ACM/PACM damage and deterioration; the building Asbestos O&M program; and proper response to fiber release episodes.

Level II: O&M Training

This training is designed for workers involved in general maintenance and asbestos material repair. At least 16 hours of instruction is required. The O&M training should

cover Level I topics in more detail as well as: asbestos regulations; proper asbestos work practices; safe methods of handling ACM/PACM, including waste handling and disposal; respirator use, care, and fit testing; protective clothing donning, use, and handling; hands-on exercises in techniques such as glove bag removal, HEPA vacuum use, and maintenance; and appropriate decontamination practices. The VA Medical Center staff will not be repairing or removing asbestos, and as result will not be trained to this level of instruction.

Level III: Abatement Worker Training

This training is designed for asbestos abatement workers who will come into direct, intentional contact with ACM/PACM to remove, encapsulate, or enclose it. Level III requires 24 to 32 hours of instruction and should be provided to contractor personnel assigned to asbestos abatement projects. The VA Medical Center staff will not be conducting asbestos abatement projects of this magnitude; therefore, this training will not be necessary for staff members however all contractors performing repairs and abatement must have this level of training and it should be verified prior to the start of work.

5.5.3 Asbestos Building Inspector and Management Planner

Individuals conducting building inspections must complete a three-day course to obtain certification. Certified inspectors are permitted to conduct ACM/PACM inspections and surveys, collect bulk samples, and perform assessments of ACM/PACM.

Individuals responsible for interpreting inspection data and determining response actions must complete the two-day management planner course. Inspectors and management planners must complete an annual refresher course to maintain their certifications. Each refresher course is four hours and, usually, the management planner refresher course immediately follows the inspector refresher course.

6.0 OPERATIONS AND MAINTENANCE PROCEDURES

Whenever any friable ACM/PACM is present in a building, operations and maintenance (O&M) activities must be initiated. An O&M program will immediately be implemented if the laboratory analysis of bulk/wipe samples confirms the presence of asbestos in sampled materials. The O&M program is designed to perform an emergency response action cleanup of asbestos fibers that have been released and minimize disturbance of, or damage to, ACM through encapsulation or enclosure of the material. If this is not possible, room closure is necessary in order to keep possible fiber release to an absolute minimum and building employees/occupants shall be informed of the proper methods of working with ACM. The O&M program will remain in effect until all ACM/PACM is removed or the building is demolished.

The VA Medical Center's overall plan for handling these O&M activities is as follows:

- Large-scale asbestos abatement activities will be contracted out to licensed and accredited asbestos abatement contractors.
- Major fiber-release episodes will require restricting access to those areas affected and having a licensed and accredited asbestos abatement contractor respond to these situations.

- Small-scale, short-duration activities, such as small amounts of floor tile and mastic to be removed or a leaking valve, fitting, or pipe that contains asbestos will be performed by licensed and accredited asbestos abatement contractors.

7.0 O&M WORK PRACTICES AND ENGINEERING CONTROLS

The effectiveness of the Asbestos O&M program depends upon the awareness of building occupants and workers of the presence and condition of ACM/PACM. Custodial and maintenance personnel must be trained in proper techniques for cleaning and maintaining building areas that contain non-friable ACM/PACM (e.g., vinyl asbestos tile). In general, personnel must avoid working on asbestos products with tools that remove the product surface through sanding, high-pressure cleaning, or scraping. Should any O&M personnel come in contact with any suspect ACM/PACM that is damaged, they shall notify the APM immediately, and shall not resume work in the affected area until notified it is safe to do so by the APM. The VA Medical Center does not complete any asbestos repairs or abatement projects in-house.

8.0 INCIDENT AND EMERGENCY WORK PRACTICES

8.1 Introduction

Special operating practices are needed in the event of a situation that may cause an immediate release of airborne asbestos fibers. These procedures are intended to limit contamination of the building environment and reduce the potential for the building occupant's to be exposed to airborne asbestos fibers. These types of situations may be classified as either an incident or an emergency. An *incident* involves the sudden disturbance of ACM or PACM in a small, localized area, while an *emergency* involves the sudden disturbance of larger amounts of ACM or PACM. It is the responsibility of the APM to decide whether a fiber-release episode constitutes an incident or an emergency. Personnel and contractors must notify the APM of all disturbances of ACM/PACM as soon as possible after discovery.

8.2 Incident Procedures

In the event of an incident, the first priority will be the safety and health of the occupants of the area. Notify the APM and Facility Director immediately, and initiate the following procedures with appropriately trained personnel:

- Evacuate and isolate the area,
- Isolate and/or shut down the HVAC units to the area, and
- Await instructions from the APM.

The COTR for the ACM abatement contract will contact the asbestos abatement contractor to initiate the following procedures:

- If feasible or necessary, stop the cause of the disturbance,
- Clean-up the disturbed material in the affected area
- The VAMC must either have in-house qualified resources or hire an Asbestos Program Consultant to conduct emergency air sampling of the affected area. This function must not be subcontracted through the asbestos abatement contractor.

8.3 Emergency Situations

Some typical situations that might represent an emergency include:

- Fire,
- Extensive water damage from roof leaks, pipe breaks, or other means,
- Improperly executed renovation or remodeling activities, or
- Earthquake, structural failure or other catastrophic events.

8.4 Emergency Procedures

The first priority in an emergency is the safety and health of the employees, patients, visitors and contractors. Initiate the following procedures immediately:

- If feasible, stop the cause of the contamination (renovation work, coring, jack-hammering, etc.),
- Evacuate and isolate the area or building, if necessary,
- If possible, isolate or shut off power to the HVAC system, isolate the affected area by closing all doors leading to the area, and immediately notify the APM and other appropriate authorities (fire department, etc.), and inform authorities of the presence of asbestos.

The APM will then contact the asbestos abatement contractor and implement the following procedures.

- Isolate the area,
- Ensure all personnel are evacuated. If someone must enter the area, only properly trained, protected, and licensed personnel will be allowed to enter the area,
- Assure the isolation of the HVAC system,
- Wait for asbestos abatement/clean-up contractor to arrive and correct the problem before re-entering the evacuated area, and
- If necessary, the APM will use qualified in-house resources or hire an Asbestos Program Consultant to conduct air monitoring inside and outside the contaminated area to evaluate airborne fiber concentrations, and provide final clearance testing. This function must not be subcontracted through the asbestos abatement contractor. The air handling system in the affected area will remain off until airborne fiber concentrations are determined. No employee will enter the area until the contaminated area has been checked and air monitoring results indicate that the airborne fiber concentration is below a level acceptable to the building owner.
- In the event of an emergency, the APM shall notify the appropriate state agency (Commonwealth of Massachusetts DEP and/or DOS, USEPA) per the applicable regulations.

9.0 O&M SURVEILLANCE AND DOCUMENTATION

9.1 Periodic Surveillance

A regularly scheduled inspection program for all areas where friable ACM/PACM, with potential for damage or significant damage, has been identified shall be implemented. The inspections shall be performed at least every six months so that knowledge of the condition of friable ACM/PACM is current. Such information is vital for prompt and appropriate action before the change in the condition of the material results in the release of asbestos fibers.

The APM's or designee shall begin the visual inspection process by conducting a walk-through of each area where friable ACM/PACM was identified to determine if the condition of the material has changed since the last inspection. Availability and condition of labeling should also be inspected. The APM's shall complete one Building Re-inspection Form (Form 6 in Appendix A) for each building containing ACM/PACM and retain it with the O&M Plan. The APM's shall be notified immediately if the condition of the ACM/PACM has changed since the last inspection.

Routine Surveillance

During the general activities performed on a daily basis, the APM's or designee, maintenance, and custodial employees should observe the general condition of the ACM/PACM in the facility. They should pay particular attention to any change in material such as color change or separation from the applied surface, air erosion damage, water damage, or damage due to routine maintenance procedures, etc. The APM's or designee shall maintain detailed records when a change in the material is noted during daily maintenance activities. When such changes are noted by any VA staff:

1. Notify the APM's that a change in the condition exists. Include information concerning date noted, location, and cause of change (if known), size of the area involved, and any other pertinent information.

2. The APM's will visually inspect the area and take any necessary additional actions required depending upon conditions.

Semi-Annual Surveillance Inspections

Even if the informal routine inspections conducted by maintenance personnel do not indicate any changes in the ACM/PACM, the APM's or an AHERA accredited licensed inspector, as determined by the APM's, must perform formal periodic surveillance of all friable ACM/PACM on a semi-annual basis per the VHA Directive. Semi-annual inspections provide the APM's with the opportunity to identify any unreported maintenance or renovation activities that could have disturbed friable ACM/PACM. The potential for asbestos contamination resulting from unreported maintenance activities or renovations is reduced if they are identified and corrected soon after they have been performed.

This inspection will be conducted using a Building Re-inspection Form (Form 6 in Appendix A) describing the location and condition of all of the ACM/PACM within the

facility. The inspection should cover as a minimum all friable Risk Category 1 – 4 areas/materials which are identified in Appendix B: Summary Table of ACM/PACM. As a Best Management Practice, non friable Risk Category 1-3 materials should be also inspected on a semi-annual basis.

Items to note during the inspection are changes in: friability, signs of air erosion damage, water damage due to leaking pipes, occupancy, adequacy of labeling, potential for damage by occupants, and any other obvious damage. In addition, review the inspection record keeping system to determine if it is current and make any changes in the risk categories.

Air monitoring will not be necessary as part of the semi-annual surveillance program. Air monitoring is only required if asbestos removal is planned or during an emergency. The VAMC will hire an asbestos program consultant to perform air monitoring when needed. If in-house staff performs the air monitoring, they must meet the applicable state qualifications for an asbestos project monitor. Subcontracting this activity through an asbestos abatement contractor is prohibited.

9.2 Record Keeping

The APM's will establish a special file for the permanent records discussed in the Asbestos O&M Plan. Copies of all documents relative to the O&M program should be included in this permanent file unless a shorter disposition is allowed. The following outline organizes recordkeeping requirements by various asbestos management concerns:

a. Inspection/Survey Reports

A file with a copy of survey reports performed for the facility documenting the locations and conditions of asbestos-containing materials should be maintained for reference by the building owner, contractors, CADD drawings indicating the location of ACM/PACM, telecommunications and other communications with service personnel and regulatory agencies, including OSHA and USEPA. This file should also include reports of any re-inspections performed to monitor subsequent conditions of affected materials.

Sample items may include:

- Documentation identifying the presence, location, and quantity of ACM/PACM.
- Documentation of ACM/PACM inventory, including urgency of abatement determinations.
- ACM/PACM inspection and assessment reports.
- Suspect ACM/PACM sample collection data.
- Chain-of-custody documentation.
- Laboratory analytical results for suspect ACM samples supporting the positive/negative ACM determination.
- ACM and/or PACM re-inspection and reassessment reports.

b. Abatement Activities

Maintain records of abatement activities. These records shall include, at a minimum, the following information and shall be made available to VISN Safety Office and local Union Safety Representatives upon request:

- Delineated abatement area (Building, Room, Area)
- Method of abatement
- Type of asbestos removed
- Amount of asbestos removed
- PO number
- Manifest number
- Start date and completion date of activity
- Asbestos abatement contractor's name
- Copy of asbestos abatement contractor's license
- Copy of asbestos abatement worker's licenses
- Copy of asbestos abatement supervisor's log
- Copies of regulatory notifications
- Waste shipment records, including asbestos waste manifests
- Service/Work Order Authorization documentation.
- Written descriptions of engineering controls, work practice controls and personal protective equipment (PPE) implemented during asbestos abatement activities.
- Written descriptions of site visits to observe and evaluate work practices implemented during asbestos work activities.
- ACM removal documentation (e.g., work specifications, abatement designs, asbestos-containing material removal permits, final inspection reports, clearance air sampling data, and laboratory analytical results for all clearance air samples collected).
- Revised CADD plans and Summary Tables to indicate areas that have been abated.
- Record of Response Action – see Appendix A for sample form.

The APM shall review these records annually, and update them to include the latest abatement activities, as needed. The APM shall also ensure that liability reports, CADD plans, labels and postings are updated as appropriate.

c. Fiber Release Reports

Records confirming the report of a suspected fiber release shall include a description of the incident, the actions taken to evaluate the incident, the procedures taken to correct the incident, and the results of the incident.

- Documentation of exposure assessments conducted at the facility.
- Documentation of exposure monitoring conducted at the facility.
- Copies of all exposure monitoring notifications provided to facility personnel.

d. Semi-Annual Surveillance Inspection Reports

e. Air Monitoring Report, when required

Copies of all air monitoring test results to document:

- Prevalent level of airborne fiber concentrations.
- Effectiveness of abatement activities.
- Emergency investigations.
- Air sample collection data.
- Laboratory analytical results for all asbestos air samples collected.

f. Training Records

The following types of training records should be collected and maintained as part of the permanent record.

- Signed attendance records of personnel at training applicable programs.
- Training materials, the curriculum and syllabus for each program.
-
- Training documentation for personnel who require training under this program.
- Accreditation documentation for personnel who require accreditation.
- Training and accreditation documentation for contractor personnel performing asbestos abatement work activities at the facility.

g. Quarterly Liability Reporting

On a quarterly basis the VAMC is required to submit an asbestos liability report. This report must reflect changes and abatement actions since the previous report. The baseline liability report prepared in conjunction with the 2010 asbestos survey program should be updated as needed including changes in unit pricing due to changing market conditions. Appendix D contains the current liability report table by building and selected categories of ACM/PACM and should be updated following abatement.

For instance if 1,500 square feet of floor tile is abated from a building, 1,500 square feet should be removed from the quantification and liability tables with a comment indicating the date and contract number for the removal action. The specific local procedures for updating the tables are as follows:

- Review documentation and confirm with Project Manager the total amount of ACM removed.
- Update specific volumes in the spreadsheet. Multipliers have been inserted to carry totals across all pages.
- Save document.

h. Updating ACM CADD Plans

The APM's will work with the Engineering staff to update and revise CADD drawings maintained as part of the O&M Plan to ensure that these plans record and document abatement activities that occur over time, the identification of any new ACM/PACM, or any other changes from the baseline survey. Minor repair and abatement efforts will be tracked and recorded in-house. For large renovation and asbestos abatement projects, the revision and update of CADD drawings should be included in the bid specifications and completed by the general contractor or A/E, and should be consistent with the

guidance provided herein. Guidance for preparing and maintaining CADD drawings has been presented in Appendix E.

i. Notifications

- Copies of all notification(s) provided to facility personnel and building/facility occupants.
- Copies of all other information on ACM/PACM distributed to personnel, building/facility occupants, or other individuals.

j. Annual Plan and Program Review

This plan will be reviewed and updated as needed every year by the APM, unless major revisions are required sooner. Areas that must be updated over time include the identity of key personnel, facility and equipment design, materials handled, handling methods, and changes in regulations or standards. Review of and updates to this plan will be conducted at the same level of authority (i.e., requiring APM signature) as the original. Reviews will be documented on the review page iii of this Plan.

Review means to systematically check this Asbestos O&M Plan for accuracy, effectiveness, relevance, and coverage. The review should be structured and documented, applying common sense and specific ongoing knowledge of installations and operations. The review should identify and revise significant operational or regulatory changes, as well as editorial, or supplementary information. Revisions to this plan may require training or implementation of other measures before the changes are authorized and distributed. These measures should be completed and thoroughly addressed before this plan is updated. If review of this plan does not identify revisions that need to be made, the APM should document the lack of required update to the facility Director. This review documentation must be retained with other records related to this plan.

The following planned or existing changes should be identified during the review and may result in revision of this asbestos O&M plan:

- Significant operational changes.
- Change in facility design, construction, operations, or maintenance in areas where ACM/PACM has been identified.
- A change in key personnel in the asbestos O&M program.
- Significant improvements or deficiencies identified by surveillance and re-inspection.
- Areas where ACM/PACM was removed or newly identified which resulted in the need for changes to CADD plans and Summary Tables included in this Plan.

- Non-critical personnel changes, editorial revisions, and other changes not specifically relevant to asbestos. These changes can be included with the next regular revision.

The APM must authorize any changes to this plan in writing before it is updated. This plan and its updates take effect on the date signed by the APM. Properly authorized updates will be immediately distributed with clear handling instructions to each person who maintains a copy of this plan (hereafter referred to as a "plan holder"). Plan holders are responsible for ensuring that updates and revisions are immediately included in their copies. In addition, each plan holder is responsible for implementing any required changes to operations and training in a timely manner.

10.0 OPERATION AND MAINTENANCE PROCEDURES FOR VARIOUS ACM/PACM

Some general O&M procedures for various ACM/PACM are provided in Appendix F. As any new or specialized procedures are developed they will be included in Appendix F. These procedures are meant to be a guide and each project should be reviewed on a case by case basis with input from the APM and other as needed.

11.0 FUTURE O&M WORK PRACTICES

The APM's must review all demolition, renovation, remodeling and repair projects in advance of work beginning which may involve ACM/PACM. Prior to finalizing plans for renovation activities, the VAMC should review the ACM O&M Plan and available building survey reports and associated CADD drawings to determine if ACM/PACM will be disturbed by the proposed renovations. **However, the VAMC must also assume materials not previously sampled due to accessibility, behind walls, above hard ceilings, etc. which will be impacted by renovation activities to be asbestos containing materials unless proved otherwise.** If ACM/PACM must be disturbed as a part of the renovations, all ACM/PACM must be removed by an approved state-licensed asbestos abatement contractor. If proposed renovations will not disturb ACM/PACM, continuous monitoring of ACM/PACM shall be conducted throughout renovation activities to ensure that all ACM/PACM remains in an intact condition. Additionally, prior to commencing renovations, all contractors involved with the renovations should be made aware of the location and quantity of ACM/PACM within the buildings in which they will be working.

Asbestos Inspection Survey Requirements. An asbestos survey is required to identify asbestos containing materials prior to any work that could disturb it. A building-wide asbestos baseline survey has been completed for this facility. However, a project-specific asbestos survey must also be performed prior to any abatement/renovation/demolition projects. The existing asbestos survey report is expected to provide general guidance for such work. Additional review and analysis may be required if the proposed work will occur in a previously inaccessible area. Destructive testing should be conducted for all suspect ACM that will be disturbed, for purposes of complying with the asbestos NESHAP regulations.

Asbestos Project Notification. Prior to beginning an asbestos abatement project, notification may be required to USEPA, the Massachusetts DEP or DOS, and to occupants of the building in which the project will be conducted as set forth below:

USEPA Notification

- Under USEPA's NESHAP regulations, notification must be provided to USEPA prior to the start of any demolition project or the start of any project involving removal, cutting or other disturbance of at least 260 linear feet of pipes or at least 160 square feet of other facility components or at least 1 cubic meter of facility components where the length or area could not be measured previously (40 CFR 61.145 (a)(4)). However, Effective October 1, 1997, except as noted below, EPA no longer requires facility owners/operators to provide written Notification of Demolition and Renovation to the EPA, pursuant to 40 CFR subsection 61.145(b), as long as such notifications are delivered to the Massachusetts DOS on forms jointly prescribed by the Massachusetts DEP and DOS. The EPA will view notification to the DEP and DOS as having satisfied the federal notification requirement and conversely, will consider those who fail to notify the DEP and DOS as being in violation of the federal notification. The EPA published a notice in the October 2, 1997 Federal Register which details this information to the regulated community and the general public.

- The exception to the transfer of notification receipt procedures will apply to regulated facilities, as defined by the asbestos NESHAP regulation 40 CFR Subsection 61.141, where a demolition is to occur but where asbestos is present below the DOS notification threshold amounts. This exception applies to those demolitions involving less than or equal to three (3) linear feet of asbestos-containing material or less than or equal to three (3) square feet of asbestos-containing material. This exception would also apply to those demolitions believed to involve zero asbestos. **Notices subject to this exception must be submitted to EPA directly as presently required.** If this is the case, the general time period for notification to USEPA is 10 "working" days before the project begins.

- Such notices shall be mailed to:

  EPA Region 1
  Demolition/Renovation Clerk, (APC 2811)
  JFK Federal Building
  Boston, Massachusetts 02203

- This notification shall be submitted by the abatement contractor on behalf of the owner and reviewed by the Asbestos Consultant.

Commonwealth of Massachusetts DEP and DOS Notification

- Written notices must be submitted to the DEP and DOS in accordance with the requirements of 310 CMR 7.00, 7.09, 7.15, and 453 CMR 6.12. Notice must be made on the Asbestos Abatement Notification Form prescribed by the DEP and DOS.

- MA DOS will be notified before engaging in any asbestos abatement project or asbestos associated project which involves more than three (3) linear feet of asbestos on pipes or ducts, or more than three (3) square feet of asbestos surface other than pipes or ducts. Notification must be made on the Asbestos Abatement Notification Form prescribed by DOS and the DEP, and shall be postmarked or hand delivered at least ten (10) days before the asbestos abatement start date. For emergency asbestos abatement projects, notification shall be postmarked or hand delivered within one (1) working day after the start of asbestos abatement.

- This notification may be submitted by the abatement contractor on behalf of the owner.

USEPA regulations require both the owner of the facility at which the work is being done and the contractor performing the work to provide notice, although a single notification can satisfy the requirements of both.

The state and Federal notifications are generally submitted by the abatement contractor on behalf of the Owner and reviewed by the Asbestos Consultant. Copies of the required state and Federal notification of the commencement of an asbestos project shall be maintained with the project records.

Asbestos Abatement Requirements. Any identified friable ACM/PACM classified as damaged or significantly damaged Category I or 2, should be abated (enclosed, encapsulated, repaired or removed) as soon as possible. In the event ACM/PACM abatement is required due to a damaged condition or in conjunction with a renovation or demolition project, all abatement must be completed according to MA DEP and DOS, and applicable Federal regulations including EPA and OSHA, and the VHA Asbestos Management Program Directive.

All asbestos abatement projects must be prepared by an AHERA trained and appropriately state licensed Asbestos Project Designer and be reviewed and approved by the APM's. The abatement project must include abatement specifications, engineering control measures, work practice controls and personal protective equipment (PPE) requirements including the type of respiratory protection to be used, ACM disposal requirements, worker and clearance monitoring requirements, etc. The physical removal/abatement of the ACM/PACM must be completed by state licensed asbestos abatement contractors. In addition, project clearance air monitoring as outlined below must be completed by appropriately state licensed asbestos project monitors who are not contractually tied with the asbestos abatement contractor performing the work to complete the following:

(a) Pre-abatement (ambient) air samples and analysis,
(b) Daily air monitoring samples exterior to containment,
(c) Final clearance visual inspection, and
(d) Final clearance air monitoring and analysis.

12.0 SCHEDULE

Below is a list of the activities under the Asbestos O&M Plan, and the schedule for these activities. These activities are explained in detail in the O&M Plan.

- Develop and implement a plan to abate (enclose, encapsulate, repair or remove) friable damaged or significantly damaged ACM/PACM, as needed, and prepare a schedule.
- Complete O&M training for the APM's within 4 months.
- Complete Employee Awareness Notifications/Training within 60 days of assignment.
- Prepare quarterly liability reports.
- Complete periodic surveillance to evaluate condition of friable ACM/PACM, every six months subsequent to completion of the baseline asbestos survey.
- Conduct annual Asbestos O&M Plan review.
- Issue annual ACM notification letter/email to staff.
- Post annual ACM notification in common areas.
- Conduct annual staff refresher training.
- Update CADD Plans and Summary Tables as abatement occurs.

13.0 QUALIFICATIONS STATEMENT

The O&M Plan is based on the guidelines presented in the 1990 edition of USEPA's "Managing Asbestos in Place -- A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials" (USEPA 20T-2003), VHA Directive 2010-036 and other guidance documents and the associated regulations. Any conditions discovered which deviate from the data contained in this Plan should be presented to Mabbett & Associates for review and evaluation.

The maintenance of asbestos containing materials in facilities requires the input of a multi-disciplinary team. Our services have been limited to the engineering aspects. We recommend the involvement of legal counsel and medical consultants to address specific legal and medical considerations.

14.0 REFERENCES

Below are electronic links to applicable regulations and guidance for reference and guidance when implementing this O&M Plan.

OSHA

OSHA Occupational Exposure to Asbestos Standard, 29 CFR 1910.1001

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9995

OSHA Construction Asbestos Standard, 29 CFR 1926.1101

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=STANDARDS

OSHA Letter of Interpretation dated January 24, 1996

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=22050 (Attached)

EPA

US EPA, Asbestos Hazard Emergency Response Act (AHERA) 40 CFR Part 763

http://www.epa.gov/asbestos/pubs/2003pt763.pdf

US EPA, AHERA-Model Accreditation Plan

http://www.epa.gov/fedrgstr/EPA-TOX/pre1994/4170-1.pdf

National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61 Subpart M

http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div6&view=text&node=40:8.0.1.1.1.13&idno=40

VA

VHA Asbestos Management Directive 2010-036

http://www1.va.gov/VHAPUBLICATIONS/ViewPublication.asp?pub_ID=2279

USPS Asbestos Management Guide 2000 Edition – Chapter 9

http://www.apwu.org/dept/ind-rel/usps_hbks/as-series/as-556%20asbestos%20management%20guide%206-00%20(2.63%20mb).pdf

Mass DEP

Mass DEP Asbestos Information and Resource Guide Webpage including links to regulations

http://www.mass.gov/dep/air/asbguid.htm

Mass DOS 453 CMR 6.00

http://www.mass.gov/?pageID=elwdsubtopic&L=6&L0=Home&L1=Workers+and+Unions&L2=Licensing+and+Certification&L3=Asbestos+Program&L4=Asbestos+Statutes+and+Regulations&L5=Current+Asbestos+Regulations+453+CMR+6.00&sid=Elwd

APPENDIX A

Forms

(Note: These forms/templates can be modified as needed to meet local procedures provided they generally meet the requirements.)

FORM 1 (SAMPLE)

EMPLOYEE NOTIFICATION FORM

Form 1 – (Sample)

Dear_____

The VAMC has retained the services of an independent environmental consulting and engineering company, Mabbett & Associates, Inc. (M&A) to conduct surveys within various buildings throughout our facility to determine if asbestos-containing materials (ACM) or presumed ACM were used in its construction.

The report indicated that ACM/PACM was present in the following areas:

- CC
- Building 1
- Building 2
- Building 3
- Building 4
- Building 5
- Building 6
- Building 7
- Building 8
- Building 9
- Building 10
- Building 11
- Building 12
- Building 16
- Building 20
- Building 24
- Building 33
- Building 34
- Building 36
- Building 37
- Building 40
- Building 73
- Building 80
- Building 94
- Building 107
- Building 118
- Building 120
- Building 121

These materials only release asbestos fibers when disturbed, sawed, sanded, drilled or pulverized. The ACM/PACM was placed in an asbestos operations and maintenance (O&M) program.

M&A has prepared an Asbestos O&M Plan that will enable the management of the VAMC to manage these materials without adversely affecting the operation of the facility and, more importantly, the health or safety of VA employees, patients, visitors and staff. This program defines specific operating and maintenance procedures to be followed at all times. This is particularly important when maintenance or utility work or site renovations may disturb or damage some of the ACM/PACM.

The VAMC requires that all such work be coordinated through the Asbestos Program Manager, Bryan Soltysik, who will evaluate the maintenance work requested and will arrange for the work to be performed by an asbestos abatement contractor if the work has the potential to disturb ACM/PACM. This requirement is very critical to continue safe maintenance activities.

Please be assured that the implementation of the O&M Plan will play a major role in the continued safe operations of this facility. If you have any questions concerning this matter, please contact me.

Sincerely,

_____

FORM 2 (SAMPLE)

EMPLOYEE ASBESTOS AWARENESS TRAINING FORM

Form 2 – (Sample)

EMPLOYEE ASBESTOS AWARENESS TRAINING FORM

DATE:

LOCATION:

RE: Notification of Presence of Asbestos Containing Materials (ACM) or Presumed ACM

I acknowledge and understand that I will be working in areas of the VAMC in which there are known to be Asbestos Containing Materials (ACM) and/or Presumed Asbestos Containing Materials (PACM). I acknowledge that I have been trained and advised of the hazards inherent in disturbing ACM/PACM and breathing asbestos dust. This includes but is not limited to, THE FACT THAT ASBESTOS CAN CAUSE ASBESTOSIS AND IS A KNOWN CARCINOGEN AND CAN, THEREFORE, CAUSE VARIOUS TYPES OF CANCER.

Signature: _____

Print Name: _____

Trainer: _____

FORM 3 (SAMPLE)

CONTRACTOR NOTIFICATION FORM

Form 3 (Sample)

CONTRACTOR NOTIFICATION FORM

DATE:

LOCATION:

RE: Notification of Presence of Asbestos Containing Materials (ACM) and/or Presumed ACM

I acknowledge that I have informed all employees involved in the contracted labor that they will be working in areas of the facility that are known to contain ACM and/or PACM. In addition, I have advised them of the dangers inherent in disturbing ACM/PACM and breathing asbestos dust. This includes but is not limited to, THE FACT THAT ASBESTOS CAN CAUSE ASBESTOSIS AND IS A KNOWN CARCINOGEN AND CAN, THEREFORE, CAUSE VARIOUS TYPES OF CANCER.

I further acknowledge that I have informed all of the employees involved in the contracted labor that ANY CONTACT WITH ASBESTOS, WHETHER IT CAN BE SEEN OR NOT, MAY CAUSE ASBESTOSIS AND VARIOUS TYPES OF CANCER that may not become apparent for many years. I agree to and acknowledge that I have instructed my employees to inform the facility Asbestos Program Manager if we inadvertently encounter or damage any ACM/PACM during this project.

Signature:_____

Print Name/Company:_____

Witness:_____

FORM 4 (SAMPLE)

ASBESTOS TRAINING DOCUMENTATION

Form 4 (Sample)

ASBESTOS AWARENESS ANNUAL TRAINING DOCUMENTATION

Date of Training:

Instructor:

Representing:

Agenda:

1. General Overview of Problems and Definitions
2. Labeling System
2. Health Considerations
3. Recognition of ACM Types and Damage Categories
4. Emergencies and Reporting Damaged ACM/PACM and Fiber Release
5. O&M Plan and Procedures
6. Removal of Asbestos Containing Materials (ACM) and Presumed ACM
7. Other (state): _____

ATTENDEES	DEPARTMENT	SIGNATURE
1.		
2.		
3.		
4.		
5.		

FORM 5 (SAMPLE)

BUILDING INSPECTION FORM

Form 5 (Sample)

BUILDING INSPECTION FORM

DATE: BUILDING:

INSPECTION LOCATIONS:

1. TYPE OF MATERIAL DAMAGED (TSI, SM, MM):

2. CAUSE OF DAMAGE:

3. APPROXIMATE SIZE OF DAMAGED AREA:

4. IS THERE MATERIAL DEBRIS ON FLOOR OR OTHER LOCATIONS?

5. ARE EMPLOYEES/TENANTS/PATIENTS/VISITORS/SUBCONTRACTORS IN IMMEDIATE AREA?

COMMENTS/NOTES:

NEXT SCHEDULED INSPECTION DATE:

INSPECTOR SIGNATURE:

FORM 6 (SAMPLE)

BUILDING RE-INSPECTION FORM

Form 6 (Sample)

BUILDING PERIODIC SURVEILLANCE INSPECTION FORM

Location of Asbestos Containing Material (ACM) or Presumed ACM (address, building, room, or general description):

Type of Asbestos Containing Material(s) or Presumed ACM:

_____

Friable: Yes ____ No _____

Abatement Status:

1. The ACM was: encapsulated ___, enclosed ___, repaired ___, removed ___.

Assessment

1. Evidence of physical damage:

_____

2. Evidence of water damage:

_____

3. Evidence of delaminating or other damage:

_____

4. Degree of accessibility of the material:

_____

5. Degree of activity near the material:

_____

6. Location in an air plenum, airshaft, or airstreams (potential for air erosion):

_____

7. Other observations (including the condition of encapsulate, enclosure or repair (e.g., "wet wrapping", if any):

_____

_____

8. Current Risk Rating 1 – 4: _____

Recommended Action:

_____
_____

Signed: _____ Date: _____
(APM)

RECORD OF RESPONSE ACTIONS

This form should be completed following each response action but no later than 45 days after including removal, repair, encapsulation, and enclosure. Once the response action has been completed, the Asbestos Project Manager should fill out the form and retain for record keeping and ensure that associated table and CADD plans are also updated as required.

Work Area	ACM/PACM	Date of Response	Performed By

APPENDIX B

Summary of ACM/PACM Tables & Risk Categories

APPENDIX C

VHA Asbestos Management Program Directive

ASBESTOS MANAGEMENT PROGRAM

1. PURPOSE: This Veterans Health Administration (VHA) Directive provides policy for the safe management of asbestos-containing materials.

2. BACKGROUND: Prolonged exposure to asbestos fibers increases the risk of associated diseases for workers and their families. The Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) have issued recommendations and regulations for safe work practices and management of asbestos containing building materials (ACBM). Recently rescinded VA 7701.1 policy required all facilities to conduct comprehensive triennial EPA asbestos inspections under the Asbestos Hazard Emergency Response Act (AHERA). This VHA policy designates the AHERA inspection records as the baseline facility survey with no triennial survey requirement. VHA will continue to mandate the use of EPA AHERA certified inspectors and methodology to ensure program consistency across all Networks. VA facilities are public buildings and must comply with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA), as well as the National Emission Standards for Hazardous Air Pollutants (NESHAP). Specifically, AHERA certification is required for ACBM inspection, project design and response, but not for development of ACBM management plans.

3. POLICY: This VHA policy requires compliance with OSHA, title 29 Code of Federal Regulations (CFR) 1910.1001, 29 CFR 1926.1101, EPA ASHARA (40 CFR 763.EPA

Appendix E to Subpart E), and NESHAP (40 CFR 61) regulations, which establish minimum program elements for the safe management of asbestos containing materials.

4. ACTION

a. **Director, Office of Construction and Facilities Management (CFM).** The Director, CFM is responsible for:

(1) Providing construction procedures, design guides and specifications to address asbestos containing building materials that ensures asbestos is removed and managed in accordance with local, state and Federal requirements for projects under CFM management; and

(2) Ensuring lease contracts contain asbestos notification requirements.

b. **Chief Consultant, Occupational Health, Safety, and Prevention Strategic Healthcare Group (13D).** The Chief Consultant, Occupational Health, Safety, and Prevention Strategic Healthcare Group (13D), is responsible for providing policy and guidelines on occupational health issues related to asbestos hazards and medical surveillance criteria.

c. **Deputy Under Secretary for Health for Operations and Management (10N).** The Deputy Under Secretary for Health for Operations and Management (10N) is responsible for:

(1) Developing and implementing VHA Occupational Safety and Health (OSH) Program and policies, and

(2) Establishing OSH performance standards for Veterans Integrated Service Network (VISN) Directors and the Director, Safety, Health, Environmental, and Emergency Management (10NS).

d. **Director, Safety, Health, Environmental, and Emergency Management (10NS).** The Director, Safety, Health, Environmental, and Emergency Management (10NS), is responsible for:

(1) Providing administrative management and technical support to VISNs and VHA facilities in complying with Federal, state, and local regulations.

(2) Ensuring Operations and Maintenance (O&M) Plans are implemented at all facilities using industry standards and recommended practices.

e. **VISN Director.** Each VISN Director is responsible for providing adequate resources for the implementation of this Directive and ensuring:

(1) Asbestos programs, projects, and evaluations meet VHA policies, and Federal and state regulations.

(2) VHA employees, volunteers, patients and visitors are protected from asbestos exposure.

(3) An annual workplace review of facility asbestos management programs to evaluate safe working conditions, training, labeling, and posting accurate updates that reflect ACBM actions.

(4) A review of facility in-house asbestos removal programs.

(5) Review, suspension, or limiting any facility asbestos removal program upon report of OSHA or EPA regulatory non-compliance.

(6) If applicable, all VHA-managed child care programs comply with AHERA regulations (40CFR763) as required by these state authorized programs.

(a) Under these circumstances, VHA contracts issued for operation or leasing must contain AHERA notifications and requirements.

(b) Contracting officials are to ensure asbestos-free documentation is obtained and forwarded to facility coordinator or manager.

(c) Under these circumstances, VHA contracts issued for operation or leasing must contain AHERA notifications and requirements.

f. **Facility Director.** Each VHA Facility Director is responsible for:

(1) Identifying ACBM locations.

(2) Implementing safe ACBM work practices.

(3) Reducing or phasing out the use of asbestos-containing products.

(4) Providing adequate resources for the implementation of an asbestos management program for compliance with VA and VHA policy.

(5) Certifying to the VISN Director that the current ACBM inspection and risk assessment (ACBM Survey) of record is comprehensive for all VHA-owned properties and accurately represents all ACBM abatement and repair actions, or an additional AHERA inspection and risk assessment survey will be conducted by the end of Fiscal Year (FY) 2010.

(a) All ACBM inspections must be completed using an AHERA certified inspector.

(b) Subsequent AHERA inspection and risk assessment surveys must be conducted upon determination by the VISN Safety Office or Director (10NS) of inadequate ACBM survey, removal and repair recordkeeping, or ACBM surveillance.

(6) Ensuring the office(s) tasked with managing ACBM projects and contractor oversight fully records in the ACBM Survey (by appendix, computer aided design program, or equivalent) all abatement, enclosure, encapsulation, and repair actions within 45-days of project completion.

(7) Ensuring a list of the abatement and repair actions (site location and action) is provided to the VISN Safety Office and local Union Safety Representatives, upon request.

(8) Ensuring an ACBM abatement or repair plan and schedule is developed and implemented for all friable asbestos materials that are classified as “damaged” and “significantly damaged” in the current ACBM survey.

(9) Implementing a written O&M Plan and designating a program manager for ACBM types, locations, and compliance activities by the end of the 4th quarter of FY 2010.

(10) Ensuring the facility program manager is certified to meet individual state requirements to oversee:

(a) Comprehensive labeling of ACBM. All thermal insulation (pipeline, tank and boiler) is labeled. ACBM is identified using alternate locations when labeling is not feasible (e.g., spray-on, tile floors, liners, gaskets).

(b) Annual asbestos awareness training for VHA custodial and facility maintenance staff and supervisors. New employees must receive training within 60 days of assignment.

1. Employee information and training must include the requirements of 29 CFR 1910.1001(j).

2. Employee awareness training includes:

a. The facility system used for identification of ACBM.

b. The hazards of asbestos exposure.

c. Recognition of ACBM types and damage.

d. Procedure for reporting damaged ACBM and fiber release.

e. Access to ACBM location information for assigned work areas.

(11) Conducting on-going visual surveillance for ACBM damage. This includes:

(a) Listing in the O&M Plan the work areas requiring visual surveillance of friable ACBM every 6 months for the following classifications designated in the ACBM survey.

1. ACBM with the potential for damage.

2. ACBM with the potential for significant damage

(b) Documenting the method of this visual inspection in the O&M Plan (AWE, EOC Rounds, remote staff contact, etc.).

(c) Reporting any ACBM damage to the O&M Program Manager or supervisor.

(12) Identifying and listing in the O&M Plan the specific work tasks and locations that require engineering controls and personal protection procedures to address the potential for disturbance of ACBM or debris (e.g., entry into tile ceilings with potential for spray-on ACBM debris on tile, entry into chases or utility zones with potential ACBM debris, penetration of asbestos wall board or joint compound, etc.). This includes:

(a) Developing written standard operating procedures for these tasks which impact ACBM.

(b) Verifying that the controls and procedures are implemented by trained VHA employees with representative personal air monitoring for asbestos exposure.

(c) Ensuring contractors are informed of the requirements and verifying compliance. Under OSHA regulations, these O&M procedures may require compliance with Class III or IV operations.

(13) Designing and conducting all renovation and construction work to prevent ACBM damage and the release of airborne asbestos fibers.

(14) Ensuring any additional ACBM sampling and inspection is conducted by AHERA-certified inspectors.

(15) Ensuring all contracting officers (COs) and Contracting Officer Technical Representatives (COTRs) responsible for ACBM contracts complete initial O&M asbestos awareness training.

(16) Ensuring staff and contractors conducting ACBM project design are AHERA certified. Under ASHARA regulation, some states may have adopted project monitor training requirements for the designated building owner representative (CO or COTRs).

(17) Ensuring a review of all facility projects is conducted by the asbestos program manager, CO or COTR, or facility management supervisor to determine impact to ACBM.

(18) Ensuring contractors and VA staff assigned to perform construction, renovation, building maintenance, or other services (custodial, canteen, etc.) are informed of ACBM locations in the assigned work area and O&M work practice requirements.

(19) Implementing separate asbestos abatement and industrial hygiene service contracts for asbestos site clearance. In-house resources may be developed using AHERA certification of safety office, CO or COTRs, and maintenance staff. ***NOTE:*** *These requirements do not preclude the contractor's right to collect duplicate samples.* It is prohibited to sub-contract the following abatement site clearance and inspection tasks through the ACBM abatement contractor:

(a) Pre-abatement (ambient) air samples and analysis,

(b) Daily air monitoring samples exterior to containment,

(c) Final clearance visual inspection, and

(d) Final clearance air monitoring and analysis.

(20) Ensuring all asbestos emergency response, abatement, and repair programs supervised and conducted by VHA employees (in-house) are submitted to the VHA Facility Safety Office for approval.

(21) Ensuring a written program is published designating the staffing levels, certifications, standard work procedures, level of respiratory protection, waste disposal plans, training, medical evaluation procedures, and personal exposure monitoring plan.

(a) The in-house asbestos abatement program cannot employ individuals in VHA patient compensated work therapy or incentive therapy status.

(b) Local Union representatives are notified when in-house abatement programs are submitted for approval.

(22) Ensuring all VHA facility contracts (residential and commercial) for lease or rent of VHA property include identification of ACBM locations and recognition of additional requirements as required by state and local regulations. ***NOTE:*** *VHA employees and residents occupying leased or rented space through VHA contract can have access to ACBM location information and asbestos program requirements.*

(23) Ensuring all training (employee, contractor, and consultant) for asbestos inspectors and risk assessors, project designers, supervisors, and asbestos workers meet EPA Asbestos School Hazard Abatement Reauthorization Act (ASHARA) requirements. Unless required by state regulation, employee hazard awareness training and on-going visual surveillance does not require training by an EPA-certified individual. ***NOTE:*** *VHA employees and contractors have access to ACBM location information and asbestos program requirements.*

g. **Occupational Health Providers.** Occupational Health providers must offer medical surveillance to staff assigned medical examinations due to potential past or present exposure to ACM.

h. **Facility Management Supervisors.** Facility management supervisors are responsible for ensuring:

(1) Custodial and maintenance staff complete annual asbestos awareness training.

(2) Reports of damaged or deteriorating ACBM are reported to the Engineering or Safety office.

(3) VHA staff complete assigned training and properly wear personal protective equipment.

(4) Staff conduct specific ACBM safe work practices.

5. REFERENCE

a. OSHA Asbestos Information http://www.osha.gov/SLTC/asbestos/

b. EPA Asbestos Information http://www.epa.gov/asbestos/pubs/asbreg.html

c. EPA ASHARA http://www.epa.gov/fedrgstr/EPA-TOX/pre1994/4170-1.pdf

d. EPA AHERA http://ecfr.gpoaccess.gov/cgi/t/text/....

6. FOLLOW-UP RESPONSIBILITY: The Deputy Under Secretary for Health for Operations and Management (10N) is responsible for the contents of this Directive. Questions may be directed to the Director, Safety, Health, Environmental and Emergency Management (10NS) at (202) 266-4547.

7. RESCISSIONS: None. This VHA Directive expires August 31, 2015.

Robert A. Petzel, M.D.

Under Secretary for Health

DISTRIBUTION: E-mailed to VHA Publications Distribution List 8/17/2010

APPENDIX D

VAMC ACM Liability Report Table

APPENDIX E

CADD Plan Modification Procedures

Asbestos CADD Modifications Procedures (SOP)

December 2010

U.S. Department of Veterans Affairs

VA New England Healthcare System (VISN 1)

Mabbett & Associates, Inc.

5 Alfred Circle

Bedford, Massachusetts 01730

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STANDARD OPERATING PROCEDURE

VISN 1 – PROPOSED CADD FIGURE MODIFICATIONS SOP

1.0 BACKGROUND

This SOP is designed for modifications to Mabbett & Associates, Inc. (M&A) supplied CADD documents created to show the location of area(s) of identified accessible asbestos during the 2010 baseline survey. The figures supplied are from a regulated building materials surveys conducted by M&A.

These procedures take into account that the CADD operator making the changes to the CADD figures has a basic knowledge of AutoCAD and understands basic AutoCAD terminology and techniques.

ACM CADD plans need to be updated when any of the following occur:

- Previously identified asbestos containing materials (ACM) and/or presumed ACM is abated/removed from the facility.
- New ACM and/or PACM is identified or revisions to the baseline CADD plans are necessary based on new information.

Changes to the baseline CADD plans should follow the procedures outlined below whether performed by VAMC project engineering staff or contractors.

2.0 CADD PROCEDURES

2.1 Files and Sources

- Once the ACM/PACM in an area of the building has been abated, it needs to be depicted on a field sketch showing the area or areas that have been abated.
- This information then needs to be permanently depicted on an updated CADD figure within 60 days of the abatement.
- M&A has supplied the VAMC with baseline CADD building figures depicting all floors and all accessible rooms and areas surveyed for the presence of ACM.
- These CADD figures have been saved on a CD and delivered with the final reports. The drawings have been saved as AutoCAD 2011.dwg files. The plans are also available on the VPN.

2.2 Drawing Modifications

- Locate the proper CADD figure from the supplied CD depicting the area that abatement took place.
- Identify what version of AutoCAD you are using and the version the document was saved as: AutoCAD 2000, 2004, 2007 etc., noting that M&A has delivered all AutoCAD formatted figures as AutoCAD 2011 saved documents.

- Do not modify the original hatching depicting the current asbestos building components that are positive. For abatements simply overlay an additional hatch pattern (See Example #1) over the existing positive hatching and insert a note that indicates the area, the date, contract or project number, and component that has been abated i.e. floor tile, pipe lagging, etc. If other changes to the plans are required i.e. newly identified ACM, utilize the same hatching and labeling conventions and include a note with the date and reason for the changes.

- Open the associated CADD drawing and resave it as a modified version of the source drawing with the date the modifications were completed (i.e. asb_bldg_12 floor_1 10/10/10). This will insure that the original drawing will not be destroyed and the most up to date figure will be used in the future.

- Using the field generated hand sketch depicting the area(s) where the abatement took place, the CADD operator will have to modify the newly saved drawing by overlaying an additional hatched layer delineating the area(s) abated. The perimeter of the abated area(s) should be highlighted/delineated as a means to better identify the portion of the site that has been abated. In addition, a note should be added to the plan to further clarify the nature and scope of each abatement event. The note should indicate the date(s) that abatement took place; the type and approximate amount of ACM removed; and the contract or project number for the abatement effort. Remember, surfacing is depicted with hatching and insulation or (TSI) is shown as enhanced line types. A sample plan has been attached for reference. Additionally, symbols are used to show the location of building components that contain asbestos (Refer to the original figures for a list of utilized hatch patterns, symbols and line types used for indicating the location of asbestos and lead building components.)

- It is possible that multiple layers or components of larger building structures have asbestos, and changes to one building component or layer may or may not mean change to another. (Example, some 12” x 12” floor tile is positive for both the tile and mastic and that is indicated by two separate hatching patterns.

- Some building components such as floor tile and mastic can cover large areas of a building. These areas are hatched as one large area for calculating square footage and file size, and making changes to these areas can be challenging.

2.3 Documenting Revisions

- Once all modifications have been completed in the CADD drawing, the file needs to be saved and the original file and PDFs need to be updated.

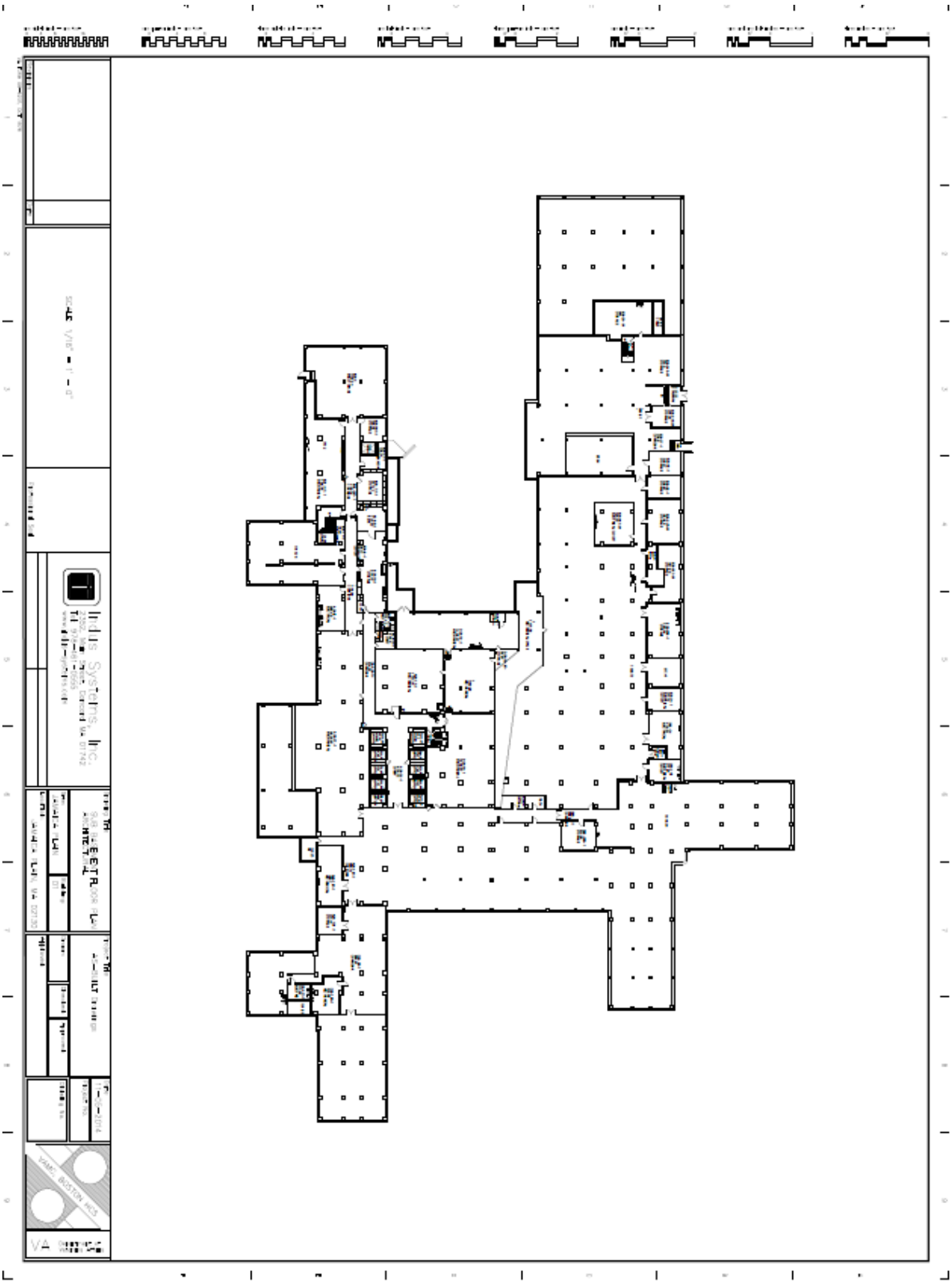
- Give the updated electronic CADD figure a name as similar to the original as possible with the current drawing revision date and revision number. This will promote retrieve ability while also indicating which version of the figure is the most accurate and up to date.

- Asbestos records should be maintained in a permanent file so do not delete the original version but save it in an electronic archive folder located:

    - S: Engineering/Safety/GEMS:/2010 Boston Lead & Asbestos Survey

- Maintain the revised version where it can be readily accessible. Maintaining version control will eliminate any confusion in the future and allow for accurate calculations for abatement cost and removal activities in the future.

- An updated version of the plan for notification purposes will need to be provided to the Asbestos Program Manager in pdf version.
- An updated version of the plan will also need to be printed with the warning label by no sample number (separate layer) for posting/notification requirements in accordance with the asbestos management plan.



APPENDIX F

O&M Procedures

Surfacing Materials

"Surfacing Materials" means materials in a building that are sprayed-on, troweled-on, or otherwise applied to surfaces. These include sprayed-on fireproofing materials on structural members, ceiling and wall plasters, or other materials applied to surfaces for acoustical, fireproofing, or other purposes.

Surfacing Materials are generally considered friable and can release asbestos fibers if damaged by impact, air erosion, vibration, and/or water intrusion. The following procedures, when properly implemented, will reduce the potential for fiber release:

1. Sprayed-on fire-proofing

    a) Identify the materials and post warning signs as specified in the asbestos O&M Plan.

    b) Maintain the materials in intact state and undamaged condition. During winter, pigeons, squirrels and other rodents tend to roost in boiler/machine rooms and dislodge sprayed-on fireproofing on the decking. Prevent such possibilities.

    c) Prevent water leakage. If the material is significantly damaged, removal is the best option. For minor damage, enclosure is a temporary solution. Encapsulation of damaged sprayed-on fireproofing material is generally not recommended.

    d) Train employees who are responsible for care and maintenance of surfacing materials including how to recognize damaged sprayed-on ACM/PACM, and how to notify APM. Please note that repair/removal can only be performed by a licensed asbestos abatement contractor.

2. Ceiling and wall plaster

    a) Identify the materials and post notifications.

    b) Maintain the materials in intact state and undamaged condition. Avoid storing/stacking on/near the materials to reduce contact damage.

    c) Prevent water leakage. If the material is significantly damaged, removal is the best option. For minor damage, repair or enclosure is a temporary solution.

    d) Train employees who are responsible for care and maintenance of surfacing materials regarding the hazards and procedures outlined in this plan including how to recognize damaged plaster ACM/PACM, and how to notify the APM. Please note that repair/removal can only be performed by a licensed asbestos abatement contractor.

Thermal System Insulation (TSI)

"Thermal System Insulation (TSI)" means insulating materials applied to pipes, pipe fittings, boilers, breeching, tanks, ducts, or other components to prevent process heat loss or gain, water condensation, or for other purposes (e.g., fire door insulation core).

TSI without an intact cover is generally considered friable ACM. This means it can be easily damaged, increasing the potential for fiber release. The following procedures, when properly implemented, will reduce the potential for fiber release:

1. *Boiler and breeching insulation*

    a) Identify the locations and label the boiler insulation. Warning signs should also be posted outside the boiler room.

    b) Reduce the likelihood of fiber release by ensuring that the insulation is not damaged. Avoid storing/stacking on/near the boiler to reduce contact damage.

    c) Maintain the insulation in intact state and undamaged condition. Repair damaged areas as soon as possible to prevent further deterioration. If repair is not feasible due to extensive damage/deterioration, remove the material. Please note that repair/removal can only be performed by a licensed asbestos abatement contractor.

    d) Provide awareness training to employees who work around TSI regarding the hazards and procedures outlined in this plan, including how to recognized damaged TSI, and how to notify the APM.

2. *Pipe, pipe-fittings, tank and duct insulation*

    a) Identify the locations and label the materials.

    b) Reduce the likelihood of fiber release by ensuring that the materials are not damaged. Avoid storing/stacking near the materials to reduce contact damage.

    c) Maintain all TSI materials in intact state and undamaged condition. Inspect the protective jackets for damage. Repair damaged areas as soon as possible, to prevent further deterioration. If repair is not feasible due to extensive damage/deterioration, remove the material. Please note that repair/removal can only be performed by a licensed abatement contractor.

    d) Provide awareness training to employees who work around pipe, pipe-fittings and tank insulation containing asbestos regarding the hazards and procedures outlined in this plan, including how to recognized damaged TSI, and how to notify the APM.

3. *Fire door*

    a) Since there may be a number of different types of fire doors throughout a facility, fire door cores must be considered to have asbestos containing interior insulation unless sample results or the specifications for the specific doors prove otherwise. Any maintenance on fire doors known or suspected to contain asbestos based on past results or specifications which will impact the core i.e., drilling etc. must not be performed.

    b) Please note that repair/removal can only be performed by a licensed asbestos abatement contractor.

Miscellaneous Materials

"Miscellaneous Materials" are all other ACM/PACM in a building that does not fall under the categories of Surfacing Materials or TSI. These include floor tiles, floor tile and carpet mastic, gypsum wallboard and joint compound, ceiling tiles, glue daubs, transite panels, laboratory counter tops, cove base with associated glue, window caulking and glazing compounds etc. The following maintenance procedures are recommended for these materials:

1. *Vinyl Asbestos Floor Tiles (VAT)*

Vinyl Asbestos Floor Tiles (VAT) are considered non-friable when intact. However routine maintenance procedures such as high-speed buffing, burnishing, and stripping using abrasive pads can generate asbestos fibers. The following procedures, when properly implemented, will reduce the potential of fiber release:

a) Do not sand, grind or abrade VAT. Stripping of VAT should be done as infrequently as possible. When stripping becomes necessary, follow the appropriate work practices as outlined by APM on a case by case basis. Never perform dry stripping.

b) For application of finish coat to VAT, apply several thin coats of a high percentage solid finish to obtain a good seal and minimize the release of asbestos fibers during finish work.

c) During spray buffing or burnishing the floor, operate the machine at the lowest workable speed and use the least abrasive pad. The higher the machine speed the greater the probability of asbestos fiber release. Use a wet mop for routine cleaning whenever possible.

d) Routinely check whether chair and desk glides are in good condition and replace when necessary. Worn glides can gouge the floor and cause fiber release.

e) Place carpets/floor mats at all entrances to reduce abrasion of floor tiles by sand and pebbles. During winter, have parking lots and walkways swept to the extent possible to avoid the tracking of salt and ice-melting compounds into the facility.

f) Train the employees who are responsible for care and maintenance of VAT.

g) Please note that repair/removal can only be performed by a licensed asbestos abatement contractor.

2. Gypsum wallboard and joint compound assembly

a) Since there may exist a number of different homogeneous assemblies in a building, all sheetrock/joint compounds must be assumed to be ACM unless sample results prove otherwise. If any specific areas are going to be disturbed, the material in that area should be sampled by an AHERA-accredited asbestos inspector.

b) Reduce the likelihood of fiber release by avoiding cutting or drilling holes through sheetrock panels unless testing confirms the absence of asbestos.

3. Ceiling Tile and Glue Daubs

a) Reduce the likelihood of fiber release by limiting access to the area above the ceiling tiles. Maintain the ceiling tiles in undamaged condition. Replace any damaged or water-stained tile with non-asbestos containing ceiling tiles.

b) If the ceiling tiles are negative for asbestos, sample and analyze the glue daubs to ascertain whether these are asbestos containing before the tiles are replaced.
c) If asbestos debris is discovered when going above a suspended ceiling system, immediately replace the ceiling tile and notify the APM.

4. Transite Panels, Laboratory Counter Tops, Window Caulking and Glazing Compounds

a) Reduce the likelihood of fiber release.

b) Maintain transite panels, lab table tops and window caulking and glazing compounds in undamaged condition.
c) Do not grind, drill, saw or otherwise disturb these materials.

5. Carpet Glue, Baseboard and Mastic

a) Reduce the likelihood of fiber release by leaving base cove and carpets in place whenever feasible.

b) Maintain carpets and base cove in good condition. Sample and analyze the glue and the mastic to ascertain whether these are asbestos containing if the renovation activities are going to impact the carpet and the baseboard.