VISTA ENVIRONMENTAL CONSULTING

OAKLAND ● SAN JOSE ● MONTEREY ● ANAHEIM ● SAN DIEGO

"FROM BUILDINGS TO BULLDOZERS"

ASBESTOS OPERATION S& MAINTENANCE PROGRAM
SAN BERNARDINO VALLEY COLLEGE
701 SOUTH MOUNT VERNON AVENUE
SAN BERNARDINO, CALIFORNIA 92410

PREPARED FOR:

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PREPARED BY:

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ACKNOWLEDGMENTS

The following regulations, standards, guidelines, and publications were relied upon in the preparation of this Asbestos O&M Plan for asbestos:

The Environmental Institute, Asbestos in Buildings: Designing and Implementing an Operations and Maintenance Program, Marietta, Georgia, 1989.

USEPA, Guidance for Controlling Asbestos-Containing Materials in Buildings (1985 Edition), USEPA Publication.

USDOL/OSHA General Industry Asbestos Standard, Code of Federal Regulations, Title 29, Section 1910.1001.

USDOL/OSHA General Construction Industry Asbestos Standard, Code of Federal Regulations, Title 29, Section 1926.1101.

USDOL/OSHA, Respiratory Protection Standard, Code of Federal Regulations, Title 29, Section 1910.134.

USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations, Code of Federal Regulations, Title 40, Part 763, Subpart E.

U.S. General Services Administration, Safety and Environmental O&M Plan, PBS P 5900.2C, Washington, DC, August 2, 1988.

USEPA, Asbestos Hazard Emergency Response Act Regulations (AHERA), Code of Federal Regulations, Title 40, Part 763, Subpart E.

USEPA, Managing Asbestos in Place, A Building Owner's Guide to Operations and Maintenance Programs for Asbestos Containing Materials (July 1990), USEPA Publication.

CAL/OSHA, California Code of Regulations Title 8, Article 4, Sect. 1529 Construction Safety Orders, Asbestos.

CAL/OSHA, California Code of Regulations Title 8, Article 110, Sect. 5208 General Industry Safety Orders, Asbestos.

California Health & Safety Code, Section 25915, et seq. Asbestos Notification.

South Coast Air Quality Management District, Rule 1403, Asbestos Emissions From Demolition/Renovation Activities

ABBREVIATIONS

ACM	-	Asbestos-Containing Materials
AHERA	-	Asbestos Hazard Emergency Response Act
CAL/OSHA	-	California Occupational Safety and Health Administration
CCR	-	California Code of Regulations
CFR	-	Code of Federal Regulations
CAMPUS	-	Property Owner
HEPA	-	High Efficiency Particulate Air
MAP	-	Model Accreditation Plan
NESHAP	-	National Emission Standard for Hazardous Air Pollutants
NIOSH	-	National Institute for Occupational Safety and Health
O&M	-	Operations and Maintenance Plan
OSHA	-	Occupational Safety and Health Administration
PCM	-	Phase Contrast Microscopy
SCAQMD	-	South Coast Air Quality Management District
TEM	-	Transmission Electron Microscopy
USDOL	-	United States Department of Labor
USDOT	-	United States Department of Transportation
USEPA	-	United States Environmental Protection Agency
VAT	-	Vinyl Asbestos Floor Tile

SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

1.1 GENERAL

Vista Environmental Consulting, Inc. (VEC) was retained by San Bernardino Valley College to develop this Asbestos Operations and Maintenance (O&M) Plan for suspect asbestos-containing materials (ACMs). The primary purpose of this program is to reduce disruption of ACM and provide specific procedures for handling ACM should disruption occur. Additionally, the program defines general policy guidelines, controlled areas and materials, program administration responsibilities and specific technical procedures.

Section 2.0 describes the policy guidelines, which establish the basis for the program. Section 3.0 provides a general program description including suspect ACM at the Campus facility. Section 4.0 defines specific responsibilities of the Asbestos Coordinator relative to program initiation and operation. Section 5.0 provides notification procedures. Section 6.0 details training procedures. Section 7.0 defines medical surveillance. Section 8.0 covers respiratory protection. Section 9.0 provides procedures covering elements of the O&M Plan:

- Emergency Response;
- Modified Maintenance Procedures;
- Small Scale/Short Duration Abatement Procedures;
- Large Scale Abatement Procedures; and
- Waste Disposal Procedures.

Section 10.0 describes periodic ACM surveillance. Section 11.0 details labeling requirements for ACM in buildings. Section 12.0 details asbestos survey and sampling procedures. Section 13.0 covers recordkeeping/documentation.

In addition, Appendix A provides sample forms to be used as part of the program.

This Asbestos O&M Plan document serves as the basis for a dynamic and interactive program. Continual evaluation of the practices and procedures described in this document is necessary to ensure the program is effective. Proper training of personnel and enforcement of this program will help reduce exposure to asbestos by employees and other building occupants.

SECTION 2.0

POLICY GUIDELINES

2.0 POLICY GUIDELINES

2.1 SUMMARY

It is the desire of the San Bernardino Community College District (known as Campus throughout the text) to prevent unnecessary exposure to asbestos by employees and all other visitors to the Campus facility. No Campus employee, tenant, or outside contractor shall engage in any activity that will disturb suspect ACM at the property, which is located at San Bernardino Valley College, 701 South Mount Vernon Avenue, San Bernardino, California 92410. Any activity that could disturb a suspect ACM must be conducted by an asbestos abatement contractor, who is under contract to the Campus and/or approved by the Asbestos Coordinator. Activities that could disturb asbestos-containing material will be regulated by establishing controlled areas for these materials. These controlled areas and materials can be found in Section 3.0 of this manual. This program will remain in force as long as ACM (or suspect ACM) remain in the facility.

2.2 ASBESTOS COORDINATOR

The Campus's Asbestos Coordinator for the above referenced property is Mr. Scott Stark, the Interim Vice President of Administrative Services. Any action likely to disturb ACM must be approved by the Asbestos Coordinator. The Asbestos Coordinator will have responsibility for implementing and updating the Campus Asbestos O&M Plan with the guidance of the District, Environmental Health & Safety Administrator and the District's contracted Asbestos Management Consultant, certified as a California Asbestos Consultant .

SECTION 3.0

PROGRAM DESCRIPTION

3.0 PROGRAM DESCRIPTION OF ACM

3.1 GENERAL

The Asbestos O&M Plan reduces exposure to facility occupants by controlling activities that affect suspect ACM in the facilities. This is accomplished by (1) informing employees and maintenance personnel where identified asbestos-containing materials are located, (2) designating controlled areas and materials which require the use of specialized work practices conducted by trained and protected personnel, (3) conducting periodic surveillance of asbestos-containing materials, and (4) procedures to follow for quick response to the release of asbestos-containing materials, when it occurs.

VEC conducted a visual survey of the Campus buildings for the presence of suspect asbestos-containing materials (ACMs) and to evaluate their general condition. Suspect ACMs identified during this investigation are summarized in the following table.

San Bernardino Valley College Campus

Material Description	Location	Classification/ Condition (Good, Fair, Poor)	Status
9"x 9" floor tile and associated mastic	Technical Building Throughout Rooms and under Carpet	Non-friable/ Good	ACM
Thermal System Insulation	Technical building Mechanical Systems, Ceiling & Wall Cavities	Friable / Good	ACM
Penetration Mastic	Technical Building Roof Penetrations	Non-Friable / Good	Suspect ACM
9"x 9" floor tile and associated mastic	Snyder-Gym Building Throughout and under Carpet	Non-friable/ Good	ACM
Thermal System Insulation	Snyder-Gym Mechanical Systems, Ceiling & Wall Cavities	Friable / Good	ACM
Penetration Mastic	Snyder-Gym Roof	Non-Friable / Good	Suspect ACM
9"x 9" floor tile and associated mastic	Women's Gym Building Throughout and under Carpet	Non-friable/ Good	ACM
Thermal System Insulation	Women's Gym Mechanical Systems, Ceiling & Wall Cavities	Friable / Good	ACM
Penetration Mastic	Women's Gym Roof	Non-Friable / Good	Suspect ACM

Suspect ACMs were observed to be undamaged and in good condition; unless noted above. VEC inspected representative accessible spaces. However, since some inaccessible spaces could not be inspected, the possibility exists that ACM may be present within these spaces. If future renovation/demolition activities impact suspect ACM that have not been previously sampled, the suspect materials should be assumed to be asbestos-containing, until future bulk sampling and laboratory analysis determines otherwise.

Also the following list of materials (if present at the campus) are considered to be suspect ACMs for the purpose of this O&M:

☒	Acoustical Plaster	☒	Ductwork Flexible Fabric Connections	☐	Laboratory Gloves
☐	Adhesives	☐	Electrical Cloth	☒	Laboratory Hoods / Table Tops
☐	Asphalt Floor Tile	☐	Electrical Panel Partitions	☐	Packing Materials (wall/floor penetrations)
☐	Blown-in Insulation	☐	Electric Wiring Insulation	☒	Pipe Insulation (corrugated air cell, block, etc.)
☐	Boiler Insulation	☒	Elevator Brake Shoes	☒	Roofing Materials
☐	Breeching Insulation	☐	Elevator Equipment Panels	☐	Roofing Shingles
☐	Caulking / Putties	☐	Fire Blankets	☐	Spackling Compounds
☐	Ceiling and Wall Texturing	☐	Fire Curtains	☐	Spray-Applied Insulation
☐	Ceiling Tiles and Lay-in Panels	☒	Fire Doors	☐	Taping Compounds (thermal)
☒	Cement Pipes	☐	Fireproofing Materials	☐	Textured Paints/Coatings
☐	Cement Siding	☐	Flooring Backing	☐	Thermal Paper Products
☒	Cement Wallboard (transite)	☐	Heating and Electrical Ducts	☐	Vinyl Floor Tile
☐	Chalkboards	☐	HVAC Duct Insulation	☒	Vinyl Sheet Flooring
☒	Construction Mastics (floor tile, carpet, ceiling tile, etc.)	☐	High Temperature Gaskets	☐	Vinyl Wall Coverings
☐	Cooling Towers	☒	Joint Compounds	☐	Wallboard
☐	Decorative Plaster	☐	_____	☐	_____

* ALL MATERIALS LISTED ABOVE, IF PRESENT ON THE PROPERTY, ARE PRESUMED ASBESTOS-CONTAINING MATERIAL UNLESS PROVEN OTHERWISE THROUGH LAB ANALYSIS (PLM, PLM POINT COUNTING, AND/OR TEM CHATFIELD).

3.2 CONTROLLED AREAS AND MATERIALS

Those areas which are assumed to have suspected ACMs are designated as "controlled areas". Additionally, those materials that are assumed to be asbestos-containing are designated as "controlled materials". The degree of restricted access to these areas is based on location, use and condition of the assumed asbestos-containing material.

Category I

Areas that are only to be entered by designated personnel following the procedures outlined in this Management Plan. These include:

All areas containing friable or non-friable asbestos where maintenance or renovation activities are scheduled, which have the potential for disturbing asbestos-containing materials, or where damaged material exists that could result in fiber release.

Category II

Materials, which are to be disturbed only by an approved asbestos abatement contractor. These include:

Removal or repair of quantities of asbestos-containing materials greater than 160 linear feet or 100 square feet.

Category III

Materials which have no restriction on access but must be handled properly, including:

1. All floor tile, floor sheeting, linoleum and associated mastic/adhesive are assumed to be ACM. Custodians may perform cleaning activities in a routine manner, except for stripping. All stripping must be performed wet with "low abrasion" pads. Buffing speed cannot exceed 300 rpm. No drilling, sanding, or abrasion is permitted. Removal of flooring must be performed by an approved asbestos abatement contractor.

2. "Built-up" roofing, flashing and pVEChing compounds are controlled materials. Bulk sampling must be performed before these materials are drilled, sanded, or removed. Unless laboratory tests indicate these materials are non-asbestos, an approved asbestos abatement contractor must perform the above activities.

Qualified Maintenance staff which have the proper training, can conduct limited maintenance and repair clean-up work of an emergency nature, of materials in Categories I, II, III involving quantities of less than 160 linear feet or 100 square feet.

SECTION 4.0

PROGRAM ADMINISTRATION

4.0 PROGRAM ADMINISTRATION

This section outlines the responsibilities of the Asbestos Coordinator for initiation and continued operation of the asbestos control program.

4.1 ASBESTOS COORDINATOR

Program Initiation

1. Formally designate controlled areas and materials.

2. Coordinate an awareness training session for designated employees. At a minimum, attendants will include facility management staff, maintenance employees, security personnel and a representative of maintenance contractors who service the building on a routine basis should also be included. Form OM-1, Appendix A, may be used for this notification.

   Make available employee training as designated in Section 6. An outline for the employee training session is contained in Section 6.0. Attendance will be documented by using Form OM-2, Appendix A.

3. Issue a notification to facility maintenance employees delineating areas and materials which have restricted access and prohibiting disturbance of asbestos-containing materials. An employee notification acknowledgment is provided in Form OM-3, Appendix A.

4. Notify maintenance contractors who routinely service the building of controlled areas and materials. Form OM-6, Appendix A, can be used to notify outside vendors.

5. In leased facility, notify tenants who shall be responsible for disseminating information to their employees and outside contractors.

6. Institute a work order permit system for entry into controlled areas and work on controlled materials in Categories I and II. This system is explained in Section 9.2.2. Form OM-5, Appendix A, is a work order permit.

7. Develop a list of approved asbestos abatement contractors for operation and maintenance activities of a routine and emergency nature.

8. Meet with asbestos abatement contractor(s) to review emergency response procedures. Set up procedures for contacting necessary contractor personnel in the event of an emergency situation (i.e. phone/beeper numbers, etc.).

9. Institute medical examinations for the designated staff.

10. Establish recordkeeping system of asbestos documentation as described in Section 13.0.

Program Operation

It is the responsibility of the Asbestos Coordinator to perform the following activities:

1. Ensure that work conducted in controlled areas and on controlled materials is accomplished in accordance with the Asbestos O&M Plan by:

   a. Periodically reviewing program activity/compliance.

   b. Periodically reviewing the work permit system for work in controlled areas or disturbance of controlled materials.

2. Routinely communicate with maintenance personnel regarding the Asbestos O&M Plan through meetings or letters.

   Ensure that awareness training of new maintenance employees has taken place. This communication is intended to ensure the control and maintenance of asbestos-containing materials is a routine activity.

3. Ensure that forms and procedures provided are being used to document activities of the Asbestos O&M Plan.

4. Supervise activities related to the decontamination of release of ACM episodes.

5. Ensure that work is conducted in accordance with asbestos abatement contracts. This includes the following activities:

   a. Ensure that all work in controlled areas or on controlled materials is being performed by an approved asbestos abatement contractor.

   b. Coordinate with outside asbestos management consultant or qualified staff, to monitor contractor activities as needed.

   c. Conduct and document regular project meetings with the contractor and outside asbestos management consultant pursuant to all scheduled operations and maintenance activities.

6. Ensure that periodic surveillance of asbestos-containing materials is conducted every six months.

7. Require a re-inspection of asbestos-containing materials and reassessment of control requirements for all asbestos-containing materials in the facilities every three years.

8. Require that all asbestos-related operations and maintenance program work is carried out in accordance with applicable Federal, State and municipal regulations.

SECTION 5.0

NOTIFICATION PROCEDURES

5.0 NOTIFICATION PROCEDURES

In accordance with State regulations, the Campus will inform building occupants and those who may come into contact with asbestos-containing materials about its location in order to prevent inadvertent disturbance. These include employees, facility maintenance employees, tenants, and outside contractors. The notification procedures that follow will be maintained with the ACM records.

STATE OF CALIFORNIA

1. Written notification will be provided to employees, tenants, and others as required by Assembly Bill 3713 (Connelly Bill) and other applicable regulations. Notice is provided in Form OM-4, Appendix A. Employees and tenants should be informed about the location of asbestos-containing material, instructed to avoid disturbance of these materials, and told how to report damage or suspect debris.

2. Facility maintenance employees must be informed of the location of asbestos-containing materials, instructed to avoid these materials, and to report to the Asbestos Coordinator if damaged materials or debris are observed as well as information on where they can access the Campus Asbestos O&M Plan Manual document for review. Building maintenance employees are prohibited from conducting activities which would disturb asbestos-containing materials. This notification should be provided in conjunction with the training sessions that facility maintenance employees are required to attend.

3. Outside maintenance contractors must be notified where asbestos is located in the facilities, that these materials must not be disturbed by any of their employees, and that an asbestos abatement contractor is available if a task requires disturbance of asbestos-containing material.

   NOTE: The content and frequency of this notification may be changed to correspond with proposed OSHA requirements or new regulations.

4. The asbestos abatement contractor retained to perform operations and maintenance activities will be notified in the contract document or separate letter about the location and content of asbestos-containing material.

5. Once each year, building occupants must be informed in writing about asbestos-related activities and operations and maintenance procedures. The written notification should be augmented with an awareness training session.

SECTION 6.0

TRAINING

6.0 TRAINING

6.1 GENERAL

Effective implementation of the Campus Asbestos O&M Plan requires specific training of Campus maintenance personnel. The amount and content of training depends on the specific duties of each personnel category and the likelihood of potential individual contact with ACM at the facilities.

The Campus shall institute a training program for and ensure participation of all employees engaged in asbestos-related work who may reasonably be expected to be exposed to asbestos fibers from asbestos-containing construction materials. Training shall be conducted at the time of or prior to initial assignment, and at least annually thereafter in a manner and language that the employee can understand, and in accordance with all applicable regulations.

The following "levels" of employee training are required under 29 CFR 1926.1101 and CCR 1529:

Level One (Class 4) Asbestos Coordinator Training:

The following minimal training requirements for this position shall apply: Fully AHERA/Cal OSHA Certified, with Project Designer, Contractors Supervisor, Management Planner and Building Inspector.

Level Two (Class 3) Asbestos Work O&M Training (Up to 3 linear feet of pipe or 3 square feet)

Campus employees who may reasonably be expected to be exposed to asbestos at or above the permissible exposure limit and/or excursion limit. The O&M level of training is defined in Section (0) (1) (B) attached.

Level Three (Class 1 and 2) Asbestos Work Over 3 Square Feet or 3 Linear Feet:

Campus employees engaged in asbestos related work involving over 3 square feet or 3 linear feet of asbestos-containing materials. The training requirements for Level Three workers is defined in Section (0) (1) (C) attached.

NOTE: For Level One, Two and Four employees, the training requirements call for annual retraining not refresher training. The annual training requirements for Level Three training are not clearly defined but as a minimum, the annual training of Fed OSHA 1926.1101 would be required including:

- o Methods for recognizing asbestos
- o Health effects associated with exposure
- o Relationship between smoking and exposure in reducing lung cancer
- o Importance and use of the necessary protective controls and equipment
- o Purpose, proper use, fitting instructions, and limitations of respirators
- o Proper work practices
- o Medical surveillance requirements
- o Review of the construction standard

Level Four Campus Asbestos Coordinator

We recommend that this individual be fully AHERA qualified as a:

Supervisor
Project Designer
Inspector
Management Planner

The CAL/OSHA Standard 1529 makes no direct statement about how long each training level should be, however the training requirements are directed to be equivalent to the EPA Model Accreditation Plan (MAP) training requirements (40 CFR Part 763, Subpart E, Appendix C). Under these requirements, Level One training should be 2 – 2 1/2 hours in length, Level Two training should be 16 hours in length and that the training for Level Three and Four be consistent with the (MAP).

6.2 TRAINING REQUIREMENT FOR CAMPUS PERSONNEL

1. Designated Maintenance Workers:

On November 28, 1992, the Asbestos Hazard Emergency Response Act (AHERA) Section 206, extended the Model Accreditation Plan training requirements to all persons inspecting for asbestos or designing or conducting asbestos response actions in public and commercial structures.

At this time, the MAP requires that employees who are engaged in asbestos related work involving over 3 square feet or 3 linear feet of pipe covering shall be trained as asbestos workers following the training and time requirements outlined in the MAP.

The MAP requires a 4-day (32-hour) training program for workers and a 5-day (40-hour) training program for worker supervisors.

For employees who may come into contact incidentally with asbestos as part of their job, we recommend that they be trained to the CAL/OSHA level of (0) (1) (A) as

delineated in General Safety Orders Title 8, Article 4, Section 1529 (See Exhibit 6.1) or 29 CFR, Section 1910.1001.

For employees who are involved in response actions which may expose them to airborne asbestos exposures above the permissible exposure limit of 0.1 f/cc or the excursion limit of 1.0 f/cc of air for a continuous period of 30 minutes or more.

2. Maintenance Supervisors:

As noted above, the supervisors must have the appropriate AHERA training.

3. Asbestos Coordinator:

The Asbestos Coordinator shall be fully AHERA qualified including the following courses, and appropriate refresher courses once a year:

Contractor Supervisor
Building Inspector
Management Planner
Project Designer

4. Conductors of Semi-annual Visual Inspections:

Inspectors should be trained as AHERA Inspectors to maximize the effectiveness of the visual inspection process.

EXHIBIT 6.1

SECTION 7.0

MEDICAL SURVEILLANCE

7.0 MEDICAL SURVEILLANCE

7.1 GENERAL

It is important that the Campus establish an ongoing medical surveillance program for those facility employees who handle or come into contact with asbestos-containing materials (ACM). Those employees that perform routine maintenance work on ACM should be the primary focus of the medical surveillance program. The three major areas of concern in establishing the medical surveillance program are:

1. The safety and health of all workers
2. Regulatory requirements
3. Other legal liability concerns

Through implementation of a sound medical surveillance program, it is possible to verify every employee's medical status at a particular time and comply with OSHA standards on medical surveillance of workers exposed to asbestos.

Because of the increased public awareness concerning the hazards associated with exposure to airborne asbestos fibers and because of various regulatory requirements, employers and building owners are finding themselves in situations where they must provide for regular and periodic medical surveillance for their employees. Asbestos abatement contractors are required to provide a medical surveillance program for their employees if they are exposed to airborne asbestos fibers above the "permissible exposure limit" of 0.1 f/cc for more than 30 days per year, or if they wear negative pressure air purifying respirators. For these employees, a medical surveillance program is used to determine their baseline health status (health status before beginning work), to monitor their health during the duration of their employment, and also to provide documentation of their health status along with their work history upon completion of their employment.

Designated employees who may work on asbestos-containing material are covered under the Federal OSHA Asbestos Standard (29 CFR 1926.1101) and CAL/OSHA Asbestos Standard (Title 8, Section 1529). As a result, the Campus must provide medical examinations relative to their employees' exposure to asbestos. An acceptable medical surveillance program must include preplacement and annual examinations. If an employee has been examined in accordance with the standard within the past one-year period, no medical examination is required. This standard also outlines the requirements for maintaining medical records on each employee.

According to the OSHA Construction Industry Standard (29 CFR 1926.1101 and CAL/OSHA Title 8, Section 1529), a preplacement examination must take place prior to assignment if an employee will be exposed to airborne asbestos concentrations above the 0.1 f/cc permissible exposure limit, who are required to wear negative pressure respirators. A

comprehensive medical examination must be performed. This should include, as a minimum, medical history and pulmonary function tests including forced vital capacity (FVC is the amount of air that can be expired from the lung after full inhalation), and forced expiratory volume after one second (FEV1.0 is the amount of air forcibly expired in one second after full inhalation). A chest X-ray (posterior-anterior) is required in certain circumstances.

The results of this examination will be used to document the employees' baseline health status, and also to determine whether or not they are capable of wearing respirators. A physician's report will then be furnished to the Campus for their files. If the employee requests to see the physician's report, the Campus is required to supply them with a copy. It would also be considered good practice to explain the report to the individual employee. Individual test results are normally kept by the physician or clinic to maintain confidentiality.

In addition to the medical reports, the Campus should request that the physician provide a statement indicating whether or not an employee is capable of wearing a respirator, and also outlining any limitations associated with their use. This form should also include any other limitations (i.e., intense heat, extreme cold, etc.). Also, the Campus must provide the employee with a copy of the physician's written opinions within 30 days of its receipt.

The physician will be able to compare annual examinations with the preplacement evaluations to determine if there are any changes in an employee's health status. If there are noticeable changes, the employer and employee should both be notified since the situation may require immediate action (i.e., transfer to another job, discontinue respirator use, etc.).

A termination of employment examination is not required under the OSHA Construction Industry Standard (29 CFR 1926.1101). Yet, it is recommended that the Campus provide a medical examination within 30 calendar days before or after termination of an employee covered under the OSHA Construction Industry Standard (29 CFR 1926.1101). This examination must entail the same items as the annual exam. There must be a medical history, a pulmonary function test including FVC and FEV1.0 and a chest X-ray under some circumstances. Records of these exams must be retained by the Campus for a minimum period of 30 years to provide documentation of the health status of the employee. The reason for this 30-year period is because the latency period associated with asbestos-related diseases often ranges between 15-30 years. Thus, if an employee files a claim 25 years later, the Campus will have records on file for reference.

All of the tests that are required to be performed during preplacement, annual, and termination medical examinations are needed in order to properly evaluate the human body systems that are most likely to be affected by exposure to elevated levels of airborne asbestos fibers. Some specific reasons for each test are discussed as follows:

Pulmonary History**:** This part of the examination is simply a questionnaire that is completed by the employee and physician. It is used to identify the potential for respiratory diseases. Several questions relate to chronic lung diseases, while others address the employee's personal habits, such as smoking. There is often particular concern for the health of a person who smokes and is also exposed to asbestos. Smoking is known to have a synergistic effect relating to asbestos exposure. That is, it compounds or intensifies the effect. Recent studies indicate that an asbestos worker who smokes is more likely to develop lung cancer than nonsmokers who do not work with asbestos.

Physical Examination**:** Criteria to be evaluated on the routine physical examination often include confidential medical history, blood pressure, pulse, vision (depth perception, peripheral), an audiogram (hearing test), urinalysis, and follow-up classification with appropriate recommendations.

Pulmonary Function**:** These tests are conducted to determine if a person's lungs are expanding normally and if there is adequate air movement in and out of the lungs. The FVC and FEV1.0 are conducted through the use of a spirometer. If the FEV1.0 is reduced, this may signify a possible obstruction or problem in an employee's lungs. If the FVC or the ratio of FEV1.0 to FVC is reduced, this may signify restrictive changes in the employee's lungs.

Chest X-Ray (Posterior Anterior 14 x 17 inches): This is performed primarily to detect irregularities in the lungs or the heart, including fibrosis or pleural plaques. Chest X-rays may be used as a baseline for comparing future X-rays. Chest X-rays should be interpreted by a certified B Reader. A B Reader is a physician (often a radiologist or pulmonologist) who has received specialized training in the interpretation of chest X-rays specifically relating to occupational lung diseases. B Readers are required to pass a proficiency test administered by the Centers for Disease Control in Morgantown, West Virginia.

Note**:** Chest X-rays are required only under certain circumstances.

Furthermore, it is good recommended practice to require individuals over 40 years of age, or other people who might be at increased risk, to have a physical examination. Also, for these same individuals, it would be valuable to have electrocardiograms performed. It is a known fact that the use of respirators places increased strain on the cardiopulmonary system; thus, if abnormalities show up on the electrocardiogram, appropriate actions can be taken (i.e., transfer to a job that does not require respirator use).

Attached at the end of the Medical Surveillance Section of the Campus O&M Plan are important forms for documentation purposes. Exhibit 7.1 is the Physician's Statement regarding whether or not the maintenance employee is medically qualified to wear a respirator in the performance of his/her job. Exhibit 7.2 is the OSHA Questionnaire (Parts 1 and 2) that must be administered to all employees covered under the Campus Medical

Surveillance Program. Part 1 contains the Initial Medical Questionnaire which must be obtained for all new hires (or current employees who have not been administered asbestos physical examinations) who will be covered by the medical surveillance requirements. Part 2 includes the abbreviated Periodical Medical Questionnaire which must be administered to all employees who are provided medical examinations under the medical surveillance provisions of the Federal OSHA Construction Industry Standard (29 CFR 1926.1101), and CAL/OSHA Construction Safety Orders (Title 8, Section 1529).

EXHIBIT 7.1

EXHIBIT 7.2

SECTION 8.0

RESPIRATORY PROTECTION

8.0 RESPIRATORY PROTECTION

8.1 GENERAL

Proper selection and use of respiratory protection is an essential element of the Campus Asbestos O&M Plan for asbestos-containing materials (ACM). Any designated employee with the potential for exposure to asbestos fibers during an O&M activity must be trained in the selection, fit testing, use and care of respiratory protection. OSHA, in the Construction Industry Standard for Asbestos (29 CFR 1926.1101), specifies general types of respirators for protection against airborne asbestos during "construction" activities (which includes maintenance and repair activities). In addition, OSHA requires that any employee that uses "negative pressure" respirator be enrolled in a medical surveillance program (see Section 7.0). CAL/OSHA in the Construction Safety Orders (Title 8, Article 4, Section 1529) details State requirements for asbestos work. (See Exhibit 6.1)

The minimum level of required respiratory protection depends on the anticipated or measured level of airborne fibers to which the employee is exposed. In order to measure airborne fiber concentration, personal air samples must be collected in the breathing zone of the affected worker. It is recommended that personal air samples be collected every time O&M emergency activities disturb, or have a potential to disturb, asbestos-containing materials. In this fashion, documentation exists indicating what level of respiratory protection is required for different types of custodial and maintenance activities.

At a minimum, the following levels of respiratory protection are recommended for custodial and/or maintenance activities. Single use disposable dust masks shall not be used for protection against asbestos.

Type of Activity	Recommended Respiratory Protection
Routine maintenance where disturbance of ACM is unlikely.	No respiratory protection. Half-face HEPA-filtered air purifying respirators should be available if needed.
Routine maintenance where accidental disturbance of ACM is likely.	Half-faced HEPA-filtered air-purifying respirator.
Maintenance or repair activities involving intentional small-scale disturbance of ACM.	Full-face powered air-purifying respirator PAPR) with HEPA filters.

Maintenance or repair activities involving intentional small-scale disturbance of ACM supplemented by the use of a glovebag.	Half-face HEPA-filtered air purifying respirator.
Any activity involving large-scale disturbance of ACM (as in abatement).	Supplied air respirator (Type C) or full-face PAPR with HEPA filters.
Decontamination after a minor (small scale) fiber release episode.	Half-face HEPA filtered air-purifying respirator.
Decontamination after a major (large-scale) fiber release episode.	Supplied air respirator (Type C) or full-face PAPR with HEPA filters.

Note: See USEPA Document titled "A Guide to Respiratory Protection in the Asbestos Abatement Industry" (EPA-560-OPTS-86-001, September 1986) for a detailed description of the types of respirators mentioned above.

In conjunction with the selection of respirators for use, all employees required to use such respirators must be trained in proper fit-testing procedures. Fit testing, especially when using half face HEPA filtered air purifying respirators, is essential to ensure that maximum protection is provided to custodial and maintenance personnel. OSHA (in the Construction Industry and Respiratory Protection Standards (29 CFR 1926.1101 and 1910.134 respectively) requires initial and biannual fit testing for employees required to use such negative pressure respirators.

8.2 QUALITATIVE FIT TESTING

During fit testing, the respirator straps must be properly adjusted, in accordance with the manufacturer's direction, and should be as comfortable as possible. Over tightening the straps will sometimes reduce face piece leakage, but the wearer may be unable to tolerate the respirator for any length of time. The face piece should not press into the face and shut off blood circulation or cause major discomfort. At the time of respirator selection, a visual inspection of the fit should always be made by a second person.

Once the respirator has been selected, and no visual leaks are evident, a negative pressure check and positive pressure check are performed by the wearer. These simple procedures are described below.

1. Negative Pressure Test**:** For this test, the wearer closes off the inlet of the filters or cartridges by covering them with the palms of the hands or by squeezing the breathing tube so that air cannot pass through, inhales so that

the face piece collapses slightly, and holds his/her breath for about 10 seconds. If the face piece remains slightly collapsed and no inward leakage of air is detected, the respirator passes the test. This test can only be used on respirators with tight-fitting face pieces. Its potential drawback is that hand pressure can modify the face piece seal and cause false results.

2. Positive Pressure Test: This test is similar in principle to the negative pressure test. It is conducted by closing off the exhalation valve of the respirator and gently exhaling into the face piece. The respirator fit is considered passing if positive pressure can be built up inside the face piece without evidence of outward air leakage around the face piece.

   If the respirator selected fails to pass these simple tests, the fit-testing should not proceed further. Instead, another size or another brand should be donned and these tests repeated. Alternatively, it may only be necessary to adjust the straps on the respirator and repeat the tests. Once the wearer has successfully passed the negative and positive pressure fit checks, the actual fit test may be conducted. The OSHA standards permit qualitative fit testing for half-mask air purifying respirators. Quantitative fit testing is required for full-face air-purifying respirators.

   The actual qualitative fit-test method chosen is at the discretion of the employer as long as it is one of the three specified in Appendix C of the OSHA Asbestos Standards (29 CFR 1910.1001 or 29 CFR 1926.1101). The procedures used must follow those in this appendix whether irritant smoke, isoamyl acetate, or saccharin is chosen as the test agent. The irritant smoke test is summarized below.

3. Irritant Smoke Test: If the previous tests have been passed, the irritant smoke test may be administered. It can be used for both air-purifying and supplied-air respirators. However, an air-purifying respirator must have high efficiency filters. The test substance is an irritant smoke (stannic chloride or titanium tetrachloride). Sealed glass and polyethylene tubes with substances to generate this smoke are available from safety supply companies. When the tube ends are broken and air passed through them with a squeeze bulb, a dense irritating smoke is emitted.

   For the test, the respirator wearer enters a test enclosure, a clear suspended polyethylene bag is sufficient, and the irritant smoke is sprayed/squeezed into a small hole punched in the bag near the respirator wearer's head. If the wearer detects the irritant smoke inside the respirator, it indicates a defective fit; the respirator fails this test. The advantage to this test is that the wearer

usually reacts involuntarily to leakage by coughing or sneezing. The likelihood of pretending to pass this test is low.

Note: This test must be performed with caution because the irritant smoke is highly irritating to the eyes, skin, and mucous membranes. When testing a half-face mask respirator, the eyes must be kept tightly closed.

8.3 QUANTITATIVE FIT TESTING

Quantitative fit testing requires a test substance which can be generated into the air, specialized equipment to measure the airborne concentration of the substance, and a trained tester. A sodium chloride solution, corn oil or mineral oil is usually used to perform these tests. The person to be tested puts on the respirator and enters a chamber which contains the test substance in the air. The airborne concentration of the substance is measured outside the respirator and inside the respirator while the employee mimics several typical work-related activities. The specific degree of protection (protection factor) can be determined for the wearer with the specific respirator worn.

Quantitative fit testing is usually performed in a laboratory. However, portable fit-testing units are available and some companies offer on-site testing. To this point, the respiratory protection program elements have detailed proper selection and use of respirators. To maintain a respirator in sound working order, and therefore to maintain its effectiveness, proper cleaning, inspection, repair and storage of the respirator is essential.

8.4 CLEANING AND DISINFECTION OF RESPIRATORS

Whenever possible, a respirator should be reserved for the exclusive use of a single individual. Following each use, the respirator should be cleaned and disinfected. The following procedures can be used to clean a respirator:

1. Wash with a detergent or a combination detergent and disinfectant, in warm water using a brush.

2. Rinse in clean water, or rinse once with a disinfectant and once with clean water. The clean water rinse is particularly important because traces of detergent or disinfectant left on the mask can cause skin irritation and/or damage respirator components.

3. Air dry on the rack or hang; position the respirator so that the face piece rubber will not dry misshapen.

8.5 ROUTINE INSPECTION OF RESPIRATORS

Inspection of the respirator is an important, routine task. It should be done before and after each use. The following items should be checked, at a minimum.

1. Air-purifying Respirators (half-mask and full face piece)

   a. Rubber face piece should be checked for:

      (1) Excessive dirt
      (2) Cracks, tears, or holes
      (3) Distortion from improper storage
      (4) Cracked, scrVEChed or loose-fitting lens
      (5) Broken or missing mounting clips

   b. Headstraps should be checked for:

      (1) Breaks or tears
      (2) Loss of elasticity
      (3) Broken or malfunctioning buckles or attachments
      (4) Excessively worn serrations of the head harness which might allow the face piece to slip

   c. Inhalation valve, exhalation valve, should be checked for:

      (1) Detergent residue, dust particles or dirt on valve seat
      (2) Cracks, tears or distortion in the valve material or valve seat
      (3) Missing or defective valve cover

   d. Filter elements should be checked for:

      (1) Proper filter for the hazard
      (2) Approval designation (TC ...ID# ...)
      (3) Missing or worn gaskets
      (4) Worn threads
      (5) Cracks or dents in filter housing

2. Powered Air Purifying Respirators

   a. Check face piece, head straps, valve and breathing tube, as for regular air purifying respirators.

   b. Hood or helmet, if applicable check for:

(1) Head gear suspension (adjust properly for wearer)
(2) Cracks or breaks in face shield (replace face shield)

3. Supplied Air Respirators

Face piece, head strap, and valves should be checked as specified above. In addition, the following checks should be performed:

a. Breathing tube should be checked for:

(1) Cracks
(2) Missing or loose hose clamps
(3) Broken or missing connectors

b. Hood, helmet or suit should be checked for:

(1) Headgear suspension
(2) Cracks or breaks in faceshield
(3) Rips and torn seams

c. Air supply systems should be checked for:

(1) Breaks or kinks in air supply hoses and end fitting attachments
(2) Tightness of connections
(3) Proper setting of regulators and valves (consult manufacturer's recommendations)
(4) Correct operation of air purifying elements and carbon monoxide or high-temperature alarms

d. Self-contained breathing apparatus (SCBA)

(1) Consult manufacturer's literature

8.6 RESPIRATOR REPAIR

At some point any respirator will need replacement parts or some other repair. The law requires that the person who repairs respirators be trained and qualified. It is important to realize that respirator parts from different manufacturers are not interchangeable. NIOSH approval is invalidated if parts are substituted.

8.7 RESPIRATOR STORAGE

Proper storage is very important. The law requires that respirators be protected from dust, sunlight, heat, extreme cold, excessive moisture, and damaging or contaminating chemicals. When not in use, the respirator should be placed in a closed polyethylene bag and stored in a clean, convenient, sanitary location.

Although specific work practices outlined elsewhere in this document are designed to reduce potential employee exposure to airborne asbestos fibers, proper respiratory protection provides the necessary "last line of defense." The use of respiratory protection must never be used in place of sound work practices. However, the importance of selection and sound use of respiratory protection must never be understated. In all cases where potential exposure to airborne asbestos fibers exists, proper respiratory protection must be used.

As referenced earlier in this section, the USEPA/NIOSH document," A Guide to Respiratory Protection for the Asbestos Abatement Industry (EPA-560-OPTS-86-001), should be reviewed for additional guidance and reference.

SECTION 9.0

OPERATIONS AND MAINTENANCE (O&M) PROCEDURES

9.0 OPERATIONS & MAINTENANCE (O&M) PROCEDURES

9.1 EMERGENCY RESPONSE PROCEDURES

9.1.1 INTRODUCTION (Exhibit 9.1.1 contains a summary checklist of this section.)

The asbestos operations and maintenance program at the Campus facilities is designed to reduce disruption of ACM. However, the presence of ACM, coupled with facility operating characteristics presents a situation where ACM disruption is possible. In response to this, this section identifies specific asbestos emergency response procedures to be implemented at the Campus facilities.

Emergency response may be necessary when disruption of ACM occurs. The level of response depends on the extent of the disruption, where it occurred, when it occurred, and public and employee occupancy patterns relative to the occurrence. Once the above factors are assessed, specific procedures will be employed by management, the Asbestos Coordinator, and the emergency response abatement contractor. Specific procedures to be employed in response to disruption of ACM is defined as emergency response.

Note that as detailed as the following procedures are, the complexity and diversity of conditions at the Campus facilities creates the potential that emergency situations will be encountered that cannot easily be addressed. In these instances, procedures based on a combination of these procedures along with new procedures may be necessary. However, these procedures should address most asbestos emergency situations encountered.

EXHIBIT 9.1.1

VISTA ENVIRONMENTAL CONSULTING

OAKLAND ● SAN JOSE ● MONTEREY ● ANAHEIM ● SAN DIEGO

"FROM BUILDINGS TO BULLDOZERS"

EXHIBIT 9.1.1

Asbestos Operations and Maintenance Program

EMERGENCY RESPONSE PROCEDURES
SUMMARY CHECKLIST

Part I (General)

_____1. Asbestos Coordinator visits affected area and confirms fiber release.

_____2. Asbestos Coordinator determines if it is less than or more than three square feet or three linear feet of ACM.

_____a. If less than, go to Part II of this checklist.

_____b. If more than, go to Part III of this checklist.

Part II (Small-Scale Emergency)

_____1. If a leak has caused disturbance, shut off source of leak.

_____2. Isolate area at least 50-foot radius around the ACM with warning tape.

_____3. Prevent entry into area.

_____4. Mist entire area of disturbed ACM with water from hand-held sprayer.

_____5. Carefully place a piece of black 6-mil thick polyethylene over area and seal edges to the floor with duct tape.

_____6. Shut down HVAC units to area.

_____7. Remove or cover unaffected stock or equipment.

_____8. Use decontamination procedures appropriate to the extent and circumstances of the emergency.

_____9. Clean an area that is a radius of 25 feet around extent of visible contamination.

_____10. Asbestos Coordinator evaluates cleaning procedures to ensure area is visibly clean. If it is visibly clean the area is returned to normal operations.

_____11. Complete Form OM-11 O&M Emergency Episode Report. (See Appendix A.)

Part III (Large-Scale Emergency)

_____1. If a leak has caused disturbance, shut off source of leak.

_____2. Shut down HVAC to area.

_____3. Evacuate people from area (area is determined by permanent barriers such as walls and doors).

_____4. Secure access to area.

_____5. Notify Management. Response to a large-scale disturbance will generally be treated as a full-scale asbestos abatement job, including the use of restricted areas, enclosures, and clearance sampling.

_____6. Remediation considered complete when all "inside" air samples demonstrate a concentration of <0.01 f/cm^3 or are statistically below background levels.

_____7. Upon successful clearance, return space to normal facility operations.

_____8. Complete Form OM-11 O&M Emergency Episode Report and required forms for removal activities (OM-7, OM-10, OM-12, OM-14, and OM-17). (See Appendix A.)

Prepared by: _____

Signed: _____ Date: _____

9.1.2 EMERGENCY RESPONSE

The following outlines necessary procedures to remediate O&M emergencies. The procedures address events that have occurred previously, or have the highest probability of occurring given facility operating parameters and conditions.

Based on evaluation, differentiation is made as to whether an O&M emergency is "large-scale" or "small-scale." In lieu of site specific data, the following provides a basic definition for small-scale O&M emergency in an occupied facility:

a. less than or equal to approximately 3 linear or 3 square feet of ACM;

b. release occurred in relatively remote area of facility (e.g. back of storage room);

c. no direct stock contamination is involved;

d. no major disturbance of ACM (high velocity airstream, employee disruption, etc.) has occurred since O&M emergency occurred.

SMALL-SCALE O&M EMERGENCIES - LESS THAN THREE SQUARE FEET OR THREE LINEAR FEET OF ACM

Immediate On-Site Response:

1. Upon discovery that a small-scale ACM disturbance has occurred, the Asbestos Coordinator will summon designated personnel and procure the emergency response kit.

2. The designated personnel will go no closer to the disturbed area than is required to determine the extent of the disturbance.

3. If a leak has caused the disturbance, maintenance staff will be directed to shut off the supply or otherwise contain the leak.

4. If the disturbance is a small-scale emergency, the area within 50 feet of the suspect material that has been disturbed must be cleared of personnel.

5. The HVAC system servicing the area will be shut down.

6. Designated personnel will place barriers or barrier tape around the perimeter of the effected area.

7. While one of the designated personnel makes sure no one enters the area, other designated personnel shall mist the entire area of disturbed suspect material with water from the hand-held sprayer in the kit (if the material is not already wet). Then, designated personnel will carefully place a piece of precut 15' x 15', or larger if required, 6-mil thick polyethylene over the affected area and seal the edges to the floor or substrate with duct tape.

Follow-Up Activities:

1. The Asbestos Coordinator may, if needed, discuss with an outside asbestos management consultant the events of the disturbance and what further action should be taken.

2. If the Asbestos Coordinator determines the ACM has been adequately contained, cleanup will be delayed until after normal business hours.

3. If the Asbestos Coordinator determines immediate further action is necessary, he will coordinate and initiate the activity. This might include clearance of personnel at a distance further than 50 feet and immediate summon of an asbestos abatement contractor.

Decontamination Activities:

1. All unaffected stock, equipment etc., in vicinity of the O&M emergency is draped with one layer of 6-mil thick polyethylene.

2. Work under this section will require the use of half-face HEPA filtered air-purifying respirators and full body protective clothing.

3. ACM debris is contained using a combination of HEPA vacuuming and wet wiping procedures. In addition, an area within a radius of 25 feet around the extent of visible contamination is subject to the same decontamination procedures.

4. Asbestos Coordinator evaluates cleaning procedures to ensure area is visibly clean and dictates additional activities.

5. Upon completion of cleaning (visually clean) and approval, all polyethylene sheeting is removed, all decontamination equipment is removed, and the area is returned to normal facility operations.

6. Form OM-11 Emergency Episode Report will be completed by the Asbestos Coordinator.

LARGE-SCALE O&M EMERGENCIES - MORE THAN THREE SQUARE FEET OR THREE LINEAR FEET OF ACM

Immediate On-Site Response:

1. Upon discovery that a large-scale ACM disturbance has occurred, the Asbestos Coordinator will summon designated personnel and procure the emergency response kit.

2. The designated personnel will go no closer to the disturbed area than is necessary to determine the extent of the disturbance.

3. If there is a leak, additional manpower will be called to shut off the supply or help contain the leak.

4. The maintenance engineer will be notified to immediately shut down the HVAC on that floor and the Asbestos Coordinator will proceed to evacuate people from the area (area is determined by permanent barriers such as walls and doors).

5. Once the Asbestos Coordinator is assured that the area is evacuated, access to the area will be secured.

6. The Asbestos Coordinator will notify management.

Follow-Up Activities:

1. The Asbestos Coordinator will develop a plan for decontamination of the suspect material as quickly as possible. Response to a large-scale disturbance will generally be treated as a full-scale asbestos abatement job, including the use of restricted areas, negative pressure differential enclosures, and final clearance sampling.

Decontamination Activities:

Note: Remediation of large-scale O&M emergencies in an occupied facility may require additional isolation, decontamination and clearance procedures. When an O&M emergency is of the size and nature to make the small-scale O&M emergency decontamination procedures ineffective or impractical, the following procedures will be employed:

1. All work under this section will require the use of full face PAPRs or Type C and full body protective clothing.

2. All uncontaminated moveable items (including uncontaminated stock) are to be removed from the vicinity of the fiber release episodes (contaminated stock shall remain in place).

3. The contaminated area is to be isolated from the remainder of the facility by use of polyethylene sheeting with applicable support structure. If the space is small or if contamination is wide spread, isolation of space will require precleaning of all wall surfaces and "prepping" of walls in a fashion similar to full-scale asbestos removal. A change room facility is to be attached to the isolated area utilizing two-curtain, overlapping flap doorways.

4. The space is then placed under HEPA filtered negative pressure. HEPA-filtered exhaust units are exhausted out of the space wherever possible, and are operated for the duration of the remediation process.

5. All fabric stock is to be addressed as dictated by the Asbestos Coordinator. All nonfabric items shall be HEPA vacuumed and/or wet wiped and inspected prior to being removed from the isolated area.

6. All other nonporous items (e.g. metal fixtures) are to be cleaned in place at the end of the remediation process.

7. All waste from the cleaning operation, including water, shall be disposed of as ACM.

8. All other surfaces within the isolated area (including barriers) shall be wet wiped (amended water) and/or HEPA vacuumed.

9. After all areas and items have dried (or a minimum of 12 hours) air samples shall be collected within the isolated area for analysis by transmission electron microscopy (TEM). The number of samples collected shall be consistent with abatement project clearance procedures. In addition, one air sample (minimum) will be collected outside the change room facility. This sample will likewise be analyzed by TEM. All samples will be collected to obtain a minimum of 1,500 liters of air.

10. During sampling the exhaust of a one-half to one horsepower leaf blower shall be directed on all surfaces within the isolated area.

11. Remediation will be considered complete when all "inside" air samples demonstrates a concentration analyzed by TEM of 70 structures per millimeter squared (s/mm^2); by Phase Contrast Microscopy (PCM) of 0.01

fibers per cubic centimeters (f/cc); or are statistically below background levels.

12. If isolated area samples indicate levels above "clearance", evaluation will be performed to determine the source.

13. Once the source is removed, the entire isolated area will be recleaned and retested as dictated above.

14. Upon successful clearance, all barriers shall be removed, and the space returned to normal facility operations.

15. Form OM-11 Emergency Episode Report will be completed by Asbestos Coordinator.

9.2 MODIFIED MAINTENANCE PROCEDURES

9.2.1 INTRODUCTION

In effort to control inadvertent disruption of ACM at Campus facilities, maintenance procedures and practices must be modified. In general, the following activities are affected:

1. Any work that will damage or disturb resilient floor coverings (tile, linoleum, etc.) and associated mastic materials; and

2. Any work that will damage or disturb built-up roofing systems at the facility.

Many of the activities that fall into the above categories are performed by outside contractors. However, it is absolutely critical that all maintenance procedures, no matter who performs them, fall under the requirements and guidelines set forth in the Asbestos O&M Plan manual. Under no circumstances should any individual or the Campus be allowed to perform maintenance activities that fall within the above categories without first gaining approval of the Asbestos Coordinator. Also, most of the procedures described herein require the use of respiratory protection. With this comes the requirement for medical surveillance of affected individuals. Therefore, it will be necessary to combine and coordinate the efforts of a certified asbestos abatement contractor and the maintenance contractor to accomplish the procedures described below.

9.2.2 MAINTENANCE PERMIT SYSTEM

To control and prevent disruption of ACM during maintenance activities, a permit system is established that allows the Asbestos Coordinator to be aware of all maintenance activities that occur, prior to their occurrence.

The permit system involves the use of a simple work order form (Form OM-5, Appendix A). This form describes the maintenance activity to be performed and allows the Asbestos Coordinator to review the project to ensure no ACM will be disturbed. If ACM will be disturbed in conjunction with the activity, appropriate remediation will be performed prior to allowing the maintenance activity to proceed. Successful implementation of this O&M program requires strict adherence to the maintenance permit system.

Most remediation activities will be designed in a fashion similar to large-scale abatement. However, the following section provides general procedures when access is required to ACM. As described below, it may often be necessary to have maintenance activities performed by a contractor licensed to perform asbestos abatement activities.

9.2.3 HEPA VACUUM MAINTENANCE PROCEDURES

1. Each HEPA vacuum manufacturer requires slightly different maintenance procedures for disposing of dust/debris from the tank and for replacing filters. Instructions from each manufacturer must be followed for any particular type of HEPA vacuum.

2. The following work practices will apply to all HEPA vacuum maintenance regardless of manufacturer:

    a. A properly fitted half-face respirator and personal protective clothing, including gloves, will be worn.

    b. A location will be selected which is not subject to cross drafts or wind.

    c. A wipe down will be performed with damp cloths, sponges, or towels, which will be discarded as asbestos waste.

    d. All bags and filters will be misted with amended water before handling and removal, if practical.

    e. Vacuum bags and filters will be double bagged in labeled asbestos waste disposal bags and discarded in accordance with standard asbestos waste disposal procedures including notification of regulatory agencies and approved land-fill sites.

    f. Protective clothing will be discarded with the above items.

9.3 SMALL-SCALE/SHORT-DURATION ABATEMENT PROCEDURES

9.3.1 INTRODUCTION

This section overviews the procedures necessary to effectively accomplish the following:

1. Systematically identify areas of damaged ACM in occupied portions of the facilities and provide for repair, removal and/or decontamination;

2. Systematically identify ACM debris in occupied portions of the facilities and provide for decontamination.

Most small-scale/short-duration procedures employed at the Campus facilities will be designed, performed and supervised in a fashion similar to large-scale abatement procedures. Therefore, this section will simply summarize general procedures common to all small-scale/short-duration projects. Specific procedures will be defined in individual "Scopes of Work" for each project.

For the purposes of this section, abatement is defined as the encapsulation, enclosure, removal, repair or decontamination of asbestos-containing materials or debris.

9.3.2 GENERAL PROCEDURES

The following procedures will guide performance of small-scale/short-duration abatement work that involves asbestos-containing material or debris. These procedures follow the principles of training received in certified asbestos workers classes. The details of each particular task cannot be completely anticipated here.

1. Only an approved asbestos abatement contractor can engage in the tasks which disturb or require removal of asbestos-containing material of more than one square foot.

2. No disturbance of asbestos-containing material may occur without the direct approval of the Asbestos Coordinator.

3. If possible, the work will be performed during hours when the facility population is minimal.

4. Personnel who are not directly involved in the task must be excluded from the area as well as from any approaches such as stairways or halls. A regulated work area will be established and warning signs posted in accordance with OSHA requirements (29 CFR 1926.1101). A person will be assigned to maintain security in the work area.

5. Whenever small-scale/short-duration projects are taking place, the Asbestos Coordinator must notify other contractors who may be working in the area of the location and nature of the work and include any pertinent information regarding regulated areas or restricted activities.

6. For each abatement activity, a work plan will be submitted by the contractor relative to the scope of work.

7. Nonfixed furniture and equipment will be moved outside the immediate work area or covered with 6-mil thick polyethylene sheeting.

8. A HEPA vacuum will be available to help collect any asbestos-containing material disturbed during maintenance work.

9. Respiratory protection will normally consist of powered air-purifying respirators equipped with high-efficiency filters. Another type of respirator may be used upon approval of the Asbestos Coordinator. Selection, use, care, and maintenance of respirators must conform with OSHA requirements (29 CFR 1910.134).

10. Protective clothing will be used consisting of disposable body coverings including hoods, gloves (one pair), and foot coverings. Other safety equipment such as hard hats and safety glasses will be used as appropriate.

11. All persons who perform small-scale/short-duration work on asbestos-containing material will decontaminate their clothing with the HEPA vacuum before removing them and placing them in labeled 6-mil thick polyethylene bags.

12. Respirators will be thoroughly wet wiped before being removed from the face. Filter cartridges will be disposed of as asbestos-containing waste.

13. Each asbestos operations and maintenance activity will be monitored. Personal air samples will be collected in accordance with 29 CFR 1926.1101. A thorough visual inspection will be completed of the immediate area after work is complete. Clearance air sampling shall be conducted prior to the release of the affected area. The contractor or Asbestos Coordinator will provide written verification that the area is visually clean.

9.3.3 IDENTIFICATION AND REMEDIATION OF DAMAGED ACM AND/OR EXISTING DEBRIS IN OCCUPIED PORTIONS OF THE FACILITY

Before implementation of this asbestos operations and maintenance program the Campus will survey all accessible facility areas for the following:

1. Damaged ACM in occupied portions of the facility.

2. ACM debris in occupied portions of the facility.

An "occupied portion" of the facility is one where the public, Campus employees, outside contractor employees or any other person can reasonably be expected to gain access.

Where damaged ACM is encountered, repair or small-scale removal will be designed and implemented following the general procedures identified in Appendix A. Specific procedures will be identified in the project "Scope of Work."

Where ACM debris is encountered, the amount and extent of debris will be evaluated by the Asbestos Coordinator. For large amounts of debris, or debris that has been recently disturbed, see section 9.1 Emergency Response.

If relatively small amounts of debris are involved, and the debris has not been recently disturbed, the following generalized procedures will apply (note, the Asbestos Coordinator may deem it necessary to collect and analyze bulk samples to designate debris as ACM):

1. Cleaning will not be conducted during normal occupancy hours.

2. All HVAC systems in the area will be shut off during cleaning.

3. Unauthorized and unprotected personnel will be prevented from entering the area(s) being cleaned by posting of OSHA warning signs and assigning a person to maintain security.

4. At a minimum, anyone who enters the cleaning area must wear a disposable suit (over street clothes), gloves, and half-mask air purifying respirators equipped with high efficiency filters.

5. Any loose debris will be wetted using amended water, and placed in 6-mil thick labeled disposal bags. The affected areas shall be cleaned using HEPA-filtered vacuums and wet-wiping techniques.

6. Before personnel exit the area, they must HEPA vacuum their protective clothing.

7. After exiting the area, personnel shall remove the outer layer of disposable clothing and dispose of it as asbestos-containing waste. The outside of the respirator will be thoroughly wet wiped, then removed from the face. Respirator filter cartridges will be disposed of as asbestos-containing waste.

8. Every scheduled asbestos operation and maintenance activity will be monitored. Clean-up personnel will collect personal air samples in accordance with requirements of 29 CFR 1926.1101. The Campus will be responsible for a visual inspection of the area after the cleaning activity is completed. Written verification will be provided to the Campus that the area is visually clean.

Additional procedures, if necessary, will be dictated in writing by the Campus.

9.4 LARGE-SCALE ABATEMENT PROCEDURES

9.4.1 INTRODUCTION

Planned asbestos removal activities at the Campus facilities will be performed in conjunction with major demolition and/or renovation activities which raise the potential for disruption of asbestos-containing materials.

Procedures employed during large-scale abatement procedures shall meet or exceed the requirements of all applicable Federal, State and municipal regulations. In addition, all large-scale asbestos abatement work will be governed by a project manual, scope of work, or specifications.

The procedures detailed in the project manual, or the specifications will provide general and specific requirements for all asbestos removal activities at the facilities. Additionally, the scope of work will be prepared for each individual asbestos-removal project. The scope of work will provide project specific requirements above and beyond those contained in the project manual or specifications.

9.4.2 PROJECT SUPERVISION

The Campus is responsible for supervision and/or approval of all asbestos removal activities. Supervision responsibilities include:

1. Continuous monitoring of compliance with project manual or specifications and all applicable regulations;

2. Continuous air monitoring both inside and outside the controlled asbestos removal area with on-site analysis when available;

3. Identification of project-related O&M emergencies and supervision of response activities;

4. Final visual inspection of asbestos-removal activities for completeness/ cleanliness; and

5. Final clearance air sample collection for compliance with area reoccupancy standards.

9.4.3 OVERVIEW OF ABATEMENT PROCEDURES

As a matter of policy, all asbestos-removal procedures at the Campus facilities follow the "highest standard of care" for such activities. Essentially, this involves redundant safety procedures to reduce the amount of airborne asbestos fibers released during removal activities and to prevent fibers form escaping into uncontrolled areas of the facility.

The following lists some of the more important work practices employed to ensure employee and public safety during asbestos removal activities:

1. Work Area Isolation

   a. Multiple layers of fire retardant 6-mil thick polyethylene on all wall and floor surfaces.

   b. Fire retardant foam sealants where walls intersect, walls meet ceilings and floors, etc.

   c. Continuous use of HEPA-filtered pressure differential units to maintain flow of air into the work area.

2. Decontamination

   a. Five-chamber worker decontamination system including two airlocks, a shower, a "dirty" equipment room and a "clean" change room. This decontamination system serves as a major source of clean make-up air to the work area. Finally, all shower water is filtered through a multi-stage system before being released to the sanitary sewer system.

   b. A separate three-chamber equipment/waste loadout decontamination system for removing equipment, bagged asbestos waste, etc.

3. Work Practices

a. All ACM is wetted prior to and during removal activities with water that contains a surfactant to aid penetration and wetting. All removed materials remain wetted until placed in appropriate disposal container.

b. Only small areas of ACM are removed at a time to control amount of debris present in work area. ACM debris is immediately placed in disposal container. Finally, no ACM debris is left in the work area at the end of any given shift.

4. Air Monitoring

a. Continuous air sample collection inside work area (personal and area samples) to index daily airborne fiber concentrations. Excessive levels initiate "stop-work" activities and work practice procedures are modified.

b. Continuous air sample collection outside work area as an indicator of airborne fiber escape from the work area. Excessive levels initiate "stop-work" activities, decontamination and additional air sample collection.

c. Final clearance TEM aggressive air samples will be collected after work area is thoroughly abated and has undergone intense cleaning, visual inspection and encapsulation. Levels above established clearance criteria initiate recleaning, reencapsulation and resampling procedures. Levels below established clearance levels signify the end of abatement activities, at which time containment barriers and other controls are removed.

5. Other Control Procedures

All aspects of the project are continuously monitored by the Campus or an outside asbestos management consultant. Any variation from applicable regulations or the project manual initiates "stop-work" procedures, if necessary.

9.4.4 MISCELLANEOUS

All work described in this section is performed by individuals properly trained and certified by the State and Federal regulatory agencies. At no time is any other party allowed access to controlled areas for any purpose whatsoever. The specific project manuals, scope of work

or specifications describe standard asbestos abatement requirements for small scale and large-scale projects.

9.5 WASTE DISPOSAL PROCEDURES

This section applies to asbestos-containing waste that is generated as part of small-scale/short-duration maintenance or abatement procedures. Waste disposal procedures associated with large-scale abatement procedures are covered in each project manual or specifications.

In all cases, asbestos waste disposal procedures shall be in accordance with current Federal, State and municipal regulations.

1. Short-Term Storage

   Immediately after small-scale/short-duration asbestos-containing material maintenance and decontamination procedures have been completed, asbestos-contaminated waste shall be placed in a secured, locked area, and transported to an approved landfill as soon as feasible. At no time shall containerized ACM waste remain on site longer than 90 days.

2. Containerize Asbestos-Containing Material

   Friable and Nonfriable Asbestos-Containing Material

   All friable and nonfriable asbestos-containing material not containing sharp objects such as wire, can be placed in labeled 6-mil polyethylene bags. All friable and nonfriable asbestos-containing material must be kept wet until the bag is sealed. When filled, the bag should be twisted, goosenecked, and sealed with duct tape. The bag will then be placed in another labeled 6-mil thick polyethylene bag and sealed for disposal.

   All friable or nonfriable asbestos-containing material containing sharp objects shall be placed in labeled poly-lined fiber drums or steel drums. The polyliner should be sealed and the drum lid affixed prior to transport. Waste must be kept wet.

3. Disposal Record Keeping

   All containerized asbestos-containing material shall be logged to document wastes generated and stored in at the short-term storage area. The following information shall be recorded at a minimum.

a. Date and time accepted at storage area

b. Location material collected from

c. Name of contractor performing activity

d. Number of bags of asbestos-containing waste collected

In addition, the "Uniform Hazardous Waste Manifest" (see Form OM-17, Appendix A) shall be properly filled out prior to waste transportation.

4. Labeling

All bags and drums must be labeled as asbestos-containing waste in accordance with OSHA, USEPA and USDOT regulations.

5. Transportation of Asbestos-Containing Material to Landfill

The containerized asbestos-containing wastes shall be transported by a transporter registered with the USEPA to an approved landfill as soon as feasible. All containerized waste shall be transported in a covered vehicle to prevent damage to containers, and to prevent fiber release. Vehicles that use compactors to haul waste shall not be used because they will cause the containers to rupture. The Uniform Hazardous Waste Manifest shall contain all required information prior to shipment.

6. Disposal of Asbestos-Containing Material at Landfill

An approved USEPA disposal facility shall be used. There should be no visible emission to the air during disposal. All disposal procedures shall be in accordance with EPA National Emission Standards for Hazardous Air Pollutants.

The contractor shall provide the Campus with coordinates, elevation, and quadrant (or a map indicating the location within the landfill) where each load of asbestos-contaminated waste was buried. Also, the contractor shall provide a copy of the documentation provided by the landfill operator.

SECTION 10.0

PERIODIC ACM SURVEILLANCE

10.0 PERIODIC ACM SURVEILLANCE

10.1 INTRODUCTION

Regular evaluation of all facility areas and spaces that contain ACM is known as periodic ACM surveillance. Inspections of facility areas and spaces (where ACM is present) will be performed on a semi-annual (every six month) basis. Focus is on changes in ACM condition and O&M decontamination necessary to remediate any problem areas. Records will be kept of all periodic ACM surveillance activities in the Asbestos Coordinator's office and made part of this Asbestos O&M Plan.

The purpose of the surveillance is to identify areas where ACM condition has changed, and the potential for exposure to asbestos fibers is raised. To this end, the on-site representative will look for visual evidence of ACM disturbance. Evidence of recent ACM (or debris) disturbance will be noted in project files and appropriate individuals notified in an attempt to modify causes of disturbance.

Form OM-13, Appendix A, provides a periodic surveillance form to be used in conjunction with the bi-annual visual inspections.

In areas where small amounts of ACM debris are noted, arrangements will be made to decontaminate the affected area utilizing standard procedures. In situations where large amounts of ACM are involved, or where contamination is evidenced, the procedures identified in Section 9.1 Emergency Response will be implemented.

SECTION 11.0

LABELING

11.0 LABELING

11.1 INTRODUCTION

One of the goals of the Asbestos O&M Plan at Campus facilities is to prevent inadvertent disruption of asbestos-containing materials. To assist in achieving this goal, a labeling program will be available to label selected asbestos-containing materials (assumed and identified) and label selected materials found or known to be nonasbestos-containing. In response to this, this labeling section will identify procedures to be implemented at the Campus facilities.

11.2 LABELING OF ACM

Under this O&M Plan, the non-friable ACM will not be labeled, except if the Asbestos Coordinator or an outside asbestos management consultant recommends that it be labeled. If it is recommended to be labeled, then the requirements of the section entitled Labeling Asbestos-Containing Materials shall apply.

11.3 LABELING ASBESTOS-CONTAINING MATERIALS

As part of this asbestos O&M Plan, selected identified or assumed ACM will be labeled with the following information:

Black background with yellow lettering	**CAUTION**
Yellow background with black lettering	**ASBESTOS** **HAZARDOUS** **DO NOT DISTURB WITHOUT** **PROPER TRAINING AND EQUIPMENT**

The above signage must be placed on or immediately adjacent to the ACM. The signs must be prominently displayed in clearly visible locations. They must remain posted on selected ACM until the material is removed. These signs serve to alert and remind building occupants not to disturb the ACM.

Placement of signs will be in the following locations:

1. Signage will be placed on all accessible sides of the ACM.

2. Signage will be placed on both sides of a barrier that an ACM penetrates or passes through.

3. Signage will be placed every 25 feet on pipe insulation runs.

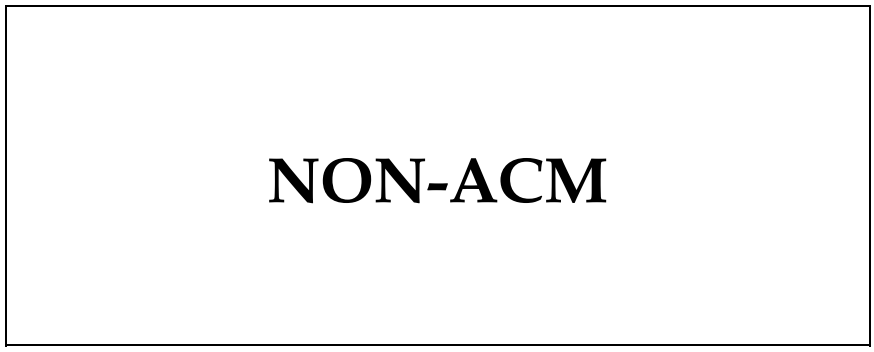
4. When necessary, directional arrows will be used in conjunction with the above signage to assist in the location of the labeled material.

5. During the bi-annual periodic ACM surveillance, the presence for proper signage will be checked and a work order made for replacement of all missing ACM labels.

11.4 LABELING NON-ACM

Where materials are found or known to be non-ACM they will be labeled with the following information:

Blue background with white lettering



The above signage will be placed on the non-ACM material. The signs must be prominently displayed in clearly visible locations.

Placement of signs will be in the following locations:

1. Signage will be placed on all accessible sides of the non-ACM product.

2. Signage will be placed on both sides of a barrier that a non-ACM product penetrates or passes through.

3. Signage will be placed every 25 feet on pipe insulation runs.

4. When necessary, directional arrows will be used in conjunction with the above signage to assist in the location of the labeled material.

SECTION 12.0

SAMPLING

12.0 SAMPLING

12.1 BULK SAMPLING

All bulk sampling will be conducted in accordance with the AHERA regulations and procedures.

The bulk sampling protocol includes several basic elements. These are (1) determination of functional spaces, (2) determination of homogeneous sampling areas, (3) collection of the samples in a random fashion, and (4) documentation of sample collection locations.

For each type of suspect material to be sampled, homogeneous sampling areas will be delineated. A homogeneous area contains material that is the same color or texture and was installed at one time. Areas within a building often contain more than one homogeneous material. For example, an acoustical ceiling is distinct from a suspended tile ceiling. System components may also be distinct homogeneous areas. Accordingly, each will sampled independently of the others.

The number of bulk samples required for a homogeneous sampling area is based on the statistical characteristics of sampling and polarized light microscopy (PLM) analysis. The probability of detecting asbestos-containing surfacing material increases as the number of representative samples is increased. The probability also depends on the degree of uniformity of asbestos fibers in the suspect material. All sampling will be conducted in accordance with the minimum requirements set forth in the Asbestos Hazard Emergency Response Act (AHERA) Regulations and recorded on a bulk sample log (Form OM-18 Appendix A). This protocol is outlined below:

Fireproofing and surfacing materials are to be sampled (at a minimum) according to the following protocol:

Size of Sampling Area	Number of Samples To Be Collected
Less than 1,000 square feet	3
Between 1,000-5,000 square feet	5
Greater than 5,000 square feet	7+

Ceiling tiles and floor coverings are to be sampled (at a minimum) according to the following protocol:

Size of Sampling Area	Number of Samples To Be Collected
Less than 1,000 square feet	2
Greater than 1,000 square feet	3+

Replacement ceiling or floor tiles are to be sampled (at a minimum) in accordance with the following criteria:

Criteria	Number of Samples To Be Collected
Tiles comprising less than 1% of the total ceiling tile	0
Tiles comprising more than 1% of the total ceiling tile	1
Tiles comprising more than 10% of the total ceiling tile	2
Tiles comprising more than 1,000 square feet of the total ceiling tile	3+

Thermal System Insulation is to be sampled (at a minimum) according to the following protocol:

Size of Sampling Area	Number of Samples To Be Collected
Less than 1,000 linear or square feet	3
For each additional 500 linear or square feet	1

All samples are to be analyzed for asbestos content by Polarized Light Microscopy (PLM) using the Interim Method for the Determination of Asbestos in Bulk Insulation Samples found in Appendix A to Subpart F in 40 CFR Part 763. In this method the presence of asbestos in a sample is determined by optical mineralogy using a light microscope with two polarizing filters. Asbestos identification is achieved by examining the morphology and optical properties of the sample. The optical properties include the color under dispersion staining, birefringence, extinction characteristics, and the sign of elongation. Quantification is obtained by visual estimation. This method may be used for the analysis of samples containing from 0 to 100 percent asbestos. The lower limit of detection is less than 1 percent. The upper detection limit is 100 percent. Results are reported as percent asbestos by type (e.g., chrysotile, crocidolite). Additional information such as other fibrous components in the sample and the nonfibrous sample matrix can be supplied, if available.

12.2 QUALITY ASSURANCE/QUALITY CONTROL FOR BULK SAMPLES

All PLM samples are to be analyzed by qualified, experienced personnel of laboratories enrolled in the National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of bulk samples for asbestos.

In addition to enrollment in the above named program, the laboratory must maintain extensive intra and interlaboratory quality assurance and quality control programs. Elements of these programs include blind reanalysis and analysis compared to analytical standards. Analysts must have extensive experience in polarized light microscopy and have completed intensive course work in optical mineralogy and dispersion staining.

Another important aspect in the Campus's bulk sample quality assurance program is to ensure the reliability of results from laboratory analyses. Identical samples are to be submitted for laboratory analysis and the results compared. These quality assurance (QA) samples are obtained by taking two samples immediately adjacent to each other (side-by-side samples). One QA sample per ten samples will be taken, labeled and handled in the same manner as ordinary samples.

Quality assurance samples are sent to a second accredited laboratory. Laboratory analyses of these two samples should not disagree on the presence or absence of asbestos. If significant disagreement occurs, the samples must be reanalyzed or additional samples taken and analyzed.

To ensure the integrity of samples taken, a chain-of-custody record must be maintained on each sample. At the time of sampling, a chain-of-custody form is completed by the sampler and accompanies each group of samples. This form serves as a record of the sample's progress from the sample site. The form includes the sample identification number and signatures of the sampler, the analyst and anyone else who handles the samples, as each takes custody of it. The chain-of-custody form remains attached to the group of samples until analysis. After sample analysis, the chain-of-custody form is kept on file at the laboratory noting final disposition of each sample. When the sample is not in someone's direct possession, the sample should be kept under lock and key.

12.3 ASBESTOS SURVEY PROCEDURES/REPORTS

The following procedures are to be followed for surveying Campus facilities.

The Asbestos Survey portion of Phase I will be completed in four steps. The four steps are:

1. Pre-project planning and scheduling.
2. Review of existing information on these facilities from Campus files.
3. Development and implementation of a sampling plan for all facilities.
4. Reporting of results of asbestos survey.

STEP 1 Pre-Project Planning and Scheduling

Upon receipt of notice to proceed, conduct two pre-project planning meetings. The first meeting will review surveyors understanding of the project with the Campus representative(s) and incorporate revisions to the project that may have become necessary between proposal preparation and project initiation. The Campus contact representatives and facility representatives that will provide access to facilities to be surveyed will be established. The Campus preference for the order in which facilities will be surveyed, will be determined. A prospective schedule of survey activities will be presented to the Campus for review and approval or revised as required.

The second meeting will be an internal project review with all project team members. This meeting will begin with a thorough review of the overall project and its distinct phases. Work product, quality assurance and communication responsibilities will be formally assigned to individual team members. Required support personnel, and equipment will be assigned to the project. Written logistical procedures and schedules will be issued to all team members.

STEP 2 Review of existing information for facilities

Contractor will collect and review all data available from the Campus concerning these facilities. This review will be performed by the Project Manager and the Field Survey Manager. These personnel will work with the Campus representative to obtain facility drawings, construction documents, previous asbestos surveys or investigations, records of abatement, and other available documentation.

This review will provide information necessary for the creation of the sampling plan. The information gathered during this step of the project will be used to:

- Identify prospective sampling areas known to contain ACBM or ACM, (ACBM and ACM shall hereinafter be referred to as ACM)
- Identify material types indicating prospective sampling areas requiring additional ACM data development.
- Determine the correct allocation of samples to each facility for adequate sampling of each facility

STEP 3 Sampling

The goal of the sampling plan is to provide a survey that will properly characterize the location, type, quantity and condition of ACM in each of the facilities and provide all necessary information for specification development for demolition. Sampling protocol system and sampling procedures shall meet the requirements

established by Federal, State and local rules and regulations. The sampling protocol is based on AHERA guidelines but has been modified to reflect the need for demolition related information as opposed to health related information based on continuous use of existing buildings.

The sampling program will involve a wide variety of Campus buildings and facilities containing numerous construction materials. A sampling program approach will be designed and implemented that will accomplish four key objectives. These objectives are:

- Ensure that the appropriate sampling technologies and analytical procedures are specified to effectively identify, quantify and document ACBM or ACM at each facility.
- Maximize the usefulness of the survey data for all functions.
- Prevent disruption of the operation of the facilities.
- Prevent undue alarm of employees or facility residents.
- Prevent unhealthful conditions as the result of improper sampling practices.
- Map ACM locations.

Inspection and Sampling

Pre-Survey Walk The survey team members will perform a pre-survey walk of each of the buildings. The team performs a preliminary visual inspection of the facility to identify and quantify suspect ACM. A sampling strategy in accordance with the requirements of the project is then developed to provide representative sampling.

Suspect Materials Typical suspect materials sampled include, but are not limited to, the following: surfacing materials (sprayed or troweled on structural members, ceilings and walls, such as fireproofing, thermal insulation, acoustic or decorative materials); thermal system insulation (pipe, boiler, tank, equipment, duct or other HVAC insulation materials); and miscellaneous materials (construction materials for roofs, ceilings, floors and walls, such as tiles/ panels, sheeting, wallboard/joint compound, paints, coatings and roofing materials). Destructive inspection methods will not be used to find concealed asbestos, unless directed by the Campus.

Sample Collection and Documentation A typical survey of buildings is conducted in teams of two, one person documenting the proceedings of the survey, the other performing bulk sampling and other miscellaneous activities. After collection of the sample, the inspector will place the sample in a sample container, seal the sample container, label the container, place the sample container in a storage bag, photograph the sample location, and transfer the sample to the

other team member. Each sample will be documented by entering the sample data on a bulk log, including a description of the material, sample number, location, condition, accessibility, friability, potential for damage, and quantity. The sample location will be entered on 8 1/2 x 11 inch (or larger) location plans prepared for the facility. Throughout the process, special care will be taken to prevent cross contamination of the collected samples. Sampling equipment is cleaned after each sample is obtained. Sample cans will be placed directly beneath each sample location to collect any material that may become dislodged during the sampling process. Any debris generated by the sampling is cleaned by wet-cleaning methods.

Sampling teams must assure the Campus that the utmost care will be taken to minimize damage to any surveyed facility.

Material Assessment

During the survey, materials are classified as either *friable* or *nonfriable*. For most materials friability is simple to determine. However, select materials require special consideration. For example, joint compound in generally good condition and covered by an impermeable finish (e.g., paint, coatings or wall covering) is usually considered nonfriable. The same material left unfinished and exposed is classified as friable. Materials such as wallboard, joint compound, plaster, and stucco in their finished state and in generally good condition are classified as nonfriable; however, these materials often may be rendered friable when they are involved in repair, renovation or demolition activities. Some typically nonfriable materials also may become friable due to aging or deterioration causing elements to separate from their binding agents. Visual inspection and physical handling is performed for all suspect materials to ensure proper friability classification.

The condition of materials then is assessed for any damage by impact, water, aging, deterioration, or delamination from their substrate. Once all assessments are made, the material is assigned a hazard rating based on material condition and potential for damage. The hazard rating system utilized for this survey is derived from the Federal Asbestos Hazard Emergency Response Act (AHERA) and consists of seven categories.

Laboratory Procedures and Results

Upon completion of the survey, Chain-of Custody forms are filled out and the samples are transferred to a certified environmental laboratory for analysis. All bulk sample analysis will be conducted by Polarized Light Microscopy (PLM) unless the Campus requests Transmission Electron Microscopy be performed at additional cost.

Bulk sample analysis will be performed by Polarized Light Microscopy (PLM) with dispersion staining as described in the "Method for the Determination of Asbestos in Bulk Building Materials" (EPA-600/R-93/116, July 1993) or "Interim Method for the Determination of Asbestos in Bulk Insulation Samples," Method EPA-600/M4-82-020. A suspect material is immersed in a solution of known refraction index and subjected to illumination by polarized light. The color displayed enables mineral identification. Quality control samples at a rate of 10% or one per project, whichever is greater, are reanalyzed by a second, independent analyst. Samples estimated to contain asbestos in amounts of 1% or less are also reanalyzed. Once analyzed, results are entered on bulk logs and delivered to the project manager for inclusion in the report.

NOTE: The amended National Emission Standard for Hazardous Air Pollutants (NESHAP), November 20, 1990, included a requirement that when the asbestos content of a bulk sample material is determined using procedures outlined in the interim method and the asbestos content is estimated to be less than 10% by a method other than point counting, the parties legally responsible for a building (owner/operator) may (1) elect to assume the amount to be greater than 1% and treat the material as a Regulated Asbestos-Containing Material, or (2) require verification of the amount by the Point Counting method. The purpose of this procedure is to minimize false negative analysis (reporting the sample as containing less than 1% asbestos for asbestos-containing samples actually containing greater than 1%) and false positives (reporting the sample as containing greater than 1% asbestos for samples containing less than 1% asbestos). Point Counting was included in NESHAP in response to an EPA study that found an unacceptable amount of false negative and false positive analyses by methods outlined in the interim method. Unless directed otherwise by the Campus, the surveyor will assume that PLM analysis is acceptable for this facility. Reminder: in California, the abatement of materials with detectable quantities of asbestos-legally defined as materials containing percentages of asbestos greater than one-tenth of one percent (>0.1%) by area - are regulated by CAL/OSHA and therefore considered positive in this report.

Survey Hours

Asbestos survey work for facilities will be performed during normal business hours Monday through Friday if this does not cause disruption of occupants' activities. Asbestos survey work for facilities where the above hours would interfere with operations will be conducted during nonbusiness hours to prevent disruption of business. The Campus will provide a representative to grant all required access to facilities being surveyed.

Facility Roofing and Roof Located Equipment

Surveyor will collect samples from roofing materials including: roofing, through-pipe penetrants, and flashing mastic. After collecting the roofing samples, apply a temporary pVECh to the area where the sample was collected unless directed otherwise by the Campus.

STEP 4 Report Format and Submission

Immediately following the completion of its analytical services, surveyor will prepare and submit to the Campus a report detailing the findings of its survey and evaluation activities for each facility. These reports will be prepared in such a way as to ensure compliance with all current State and Federal regulations. Specifically, these reports will address the requirements of the State of California Assembly Bill (AB) 3713. This statute, commonly referred to as the "Connelly Bill," requires all building owners, operators, or managers to notify their employees of the presence of ACM within the workplace. It also requires that these same parties make available to all employees the survey report findings. Surveyor will furnish all information in a single report format unless requested by the Campus to provide two reports in order to isolate possible inflammatory information.

- **Survey Report:** The Survey Report shall be comprised of three sections organized to describe and present the findings of the survey activities. The report itself will include an Executive Summary, descriptions and detailed information of the samples collected and location maps evidencing the location of identified ACM. The Executive Summary will review the purpose of the survey, what types of materials were sampled, and present the general results of the survey inclusive of what materials contain asbestos, their condition and location. The next section presents all sampling and analytical data including specific information on the location, type and condition of materials tested. This section is intended for use by management, budgeting and operational personnel and will present information necessary to identify, quantify and help direct future demolition/renovation activities. It will be followed by a presentation of Hazard Assessment Logs and Work Item Recommendations including actions the Campus should take with emphasis on those actions that are of an urgent nature. The final section of the report will present drawings depicting the location of all ACM samples and areas. These drawings will indicate all homogeneous asbestos-containing areas as well as facility areas requiring abatement. If drawings are not available for a specific structure, surveyor will prepare, at the Campus's request, working drawings depicting the current layout of the facility.

SECTION 13.0

RECORDKEEPING/DOCUMENTATION

13.0 RECORDKEEPING/DOCUMENTATION

13.1 INTRODUCTION

The Asbestos Coordinator is responsible for maintaining documentation related to all facets of the Asbestos O&M Plan. Documentation will be divided into the following categories: 1) program operation, 2) regulatory compliance, 3) material inventory, and 4) program performance. The documentation will be used to evaluate and modify, as necessary, the asbestos control program. Forms are provided (Appendix A) to assist the Asbestos Coordinator with activity documentation.

13.2 PROGRAM OPERATION

Designation of Controlled Materials and Areas

Form OM-10 establishes the areas and materials that cannot be entered or disturbed except by authorized personnel under a work order/permit system.

Notifications

1. Maintenance Employee Notification – Form OM-3 documents that facility maintenance employees have been notified of the locations of asbestos-containing material, where access to areas and materials is restricted, and what to do if asbestos-containing materials is inadvertently disturbed.

2. Employee/Tenant Notification – Form OM-4 is an example of the notification to facility employees of the location of asbestos-containing material, where access to areas and materials is restricted, what to do in case of an emergency fiber release, and where the Asbestos O&M Plan document can be reviewed.

3. Maintenance Contractor Notification – Form OM-6 documents that the maintenance contractors have been informed of the locations of asbestos-containing material, areas where access is controlled, the use of a work order/permit system, and what to do if asbestos-containing material is inadvertently disturbed.

4. Employee Notification of an Asbestos Abatement Project – Form OM-7 notifies employees where asbestos abatement is being conducted and what control measures are being used.

Education and Training

1. Notification of Awareness Training Session – Form OM-1

2. Awareness Training Session Record – Form OM-2 documents that an individual has attended the awareness training session and understands the basic information presented at that session.

3. Respiratory Protection Training Record – Form OM-8 documents that applicable facility maintenance personnel have received training on the use and maintenance of respirators.

4. Qualitative Fit Test Record - Form OM-9 documents that an individual has been qualitatively fit tested using irritant smoke for respirator use.

Medical Surveillance

A separate file must be maintained for each individual participating in the asbestos medical surveillance program. This file must contain the physician's written opinion concerning the fitness of the individual to perform the work and to wear a respirator. The file also must contain a signed statement that the physician has informed the employee about the combined effects of working with asbestos and smoking. The medical surveillance program in Section 7 provides more detail on record-keeping requirements.

Maintenance Work Order/Permit

Form OM-5 documents that the Asbestos Coordinator or his designee has checked the proposed work activity to determine if asbestos-containing materials and/or a controlled area is involved.

Asbestos Operations and Maintenance Project

Form OM-10 documents the date and location of the work, the type and amount of asbestos-containing material involved, work procedures, worker protection, who performed the work, and who monitored the work.

O&M Emergency Episode Report

Form OM-11 documents the date and location of the O&M emergency episode, the type and amount of asbestos-containing material involved, procedures for decontamination, who performed the work, and who determined the area could be reoccupied.

NESHAP Waste Shipment Record

Form OM-17 documents the date and location of the work, the number of containers of asbestos-containing waste generated, the waste hauler, owner or operator of landfill receiving asbestos waste, and date of disposal.

Periodic Surveillance

Form OM-13 documents the six-month periodic inspection of asbestos-containing material to monitor its condition and to make any necessary repairs.

13.3 REGULATORY COMPLIANCE

The building owner must demonstrate compliance with OSHA and EPA NESHAPS. The following documentation must be maintained for asbestos operations and maintenance activities:

Asbestos Abatement Contractor Pre-Work Submittals

The approved asbestos abatement contractor selected to perform operations and maintenance activities must submit work plans, respiratory protection program, medical surveillance program, and training documentation to demonstrate compliance with OSHA regulations.

Air Monitoring Results

Form OM-12 is an example for documentation of personal air sampling results to comply with OSHA regulations. The project monitor should provide this documentation accompanied by a short report summarizing the operations and maintenance activity.

Notification of Asbestos Removal Activities

Form OM-14 is a notification made to the appropriate governmental agency to cover operations and maintenance work performed by the approved asbestos abatement contractor. Each project will have individual notice made as part of the project.

Verification of No Visual Contamination Following Completion of An Asbestos Operations and Maintenance Project

The Job Book provides documentation that the regulated area was thoroughly inspected for evidence of any visible suspect contamination before the area is released for use by general building occupants.

Bulk Sample Log

Form OM-18 is an example for documentation to record the unique sample number, sample type (TSI, surfacing, miscellaneous), sample collection location, description of the sampled material (texture, color), any photograph numbers, facility and/or building from which samples where collected, date, and person collecting samples.

HEPA Vacuum Inspection Log Sheet

Form OM-16 to be used following HEPA vacuum maintenance to document date, time, vacuum identification number, and person performing maintenance or inspection.

13.4 MATERIAL INVENTORY

The Asbestos Coordinator will maintain a record of all asbestos-containing materials that are removed as part of asbestos operations and maintenance activities and large abatement activities. Form OM-15 records information on the amount of material removed and its location.

13.5 PROGRAM PERFORMANCE

The Asbestos Coordinator shall provide semi-annual and annual reports to document program effectiveness. These reports will include evaluation of administration, control activities, recordkeeping, and personal and periodic air sampling results.

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"FROM BUILDINGS TO BULLDOZERS"

LIST OF FORMS

FORM OM-1	Notification of Awareness Training Session
FORM OM-2	Awareness Training Session Record
FORM OM-3	Maintenance Employee Notification
FORM OM-4	Asbestos Notification
FORM OM-5	Maintenance Work Order/Permit
FORM OM-6	Maintenance Contractor Notification
FORM OM-7	Employee Notification of an Asbestos Abatement Project
FORM OM-8	Respiratory Protection Training Record
FORM OM-9	Qualitative Fit Test Record
FORM OM-10	Asbestos Operations and Maintenance Project
FORM OM-11	O&M Emergency Episode Report
FORM OM-12	Air Sample Data Sheet
FORM OM-13	Periodic Surveillance Log
FORM OM-14	NESHAP Notification of Asbestos Removal Project
FORM OM-15	Asbestos-Containing Material Inventory
FORM OM-16	HEPA Vacuum Inspection Log Sheet
FORM OM-17	Uniform Hazardous Waste Manifest
FORM OM-18	Bulk Sample Log

Form OM-1

NOTIFICATION OF AWARENESS TRAINING SESSION

San Bernardino Valley College has implemented a program to help minimize exposure to asbestos-containing materials in various facilities. Part of this program includes providing an asbestos awareness training session. This training session will be approximately two hours in length and will cover the following topics:

1. Information regarding asbestos and its various uses and forms.

2. Information on the health effects associated with asbestos exposure.

3. Locations of asbestos-containing materials at SBVC.

4. Name and telephone of the Asbestos Coordinator.

5. Location and availability of survey reports and the asbestos operations and maintenance program document.

6. How to respond to an emergency dust or fiber release episode.

7. Brief explanation of the asbestos operations and maintenance program for SBVC.

This program will be held on the following dates and times:

_____ _____ _____

at the following locations:

_____

_____

_____

Asbestos Coordinator

_____

Date

Form OM-2

AWARENESS TRAINING SESSION RECORD

Name	Social Security No.
Employer	
Job Title	Date of Training

This is to verify that the above named employee has attended the Asbestos Awareness Training Session and that he/she has been instructed and fully understands the following:

1. Information regarding asbestos and its various uses and forms.
2. Information on the health effects associated with asbestos exposure.
3. Locations of asbestos-containing materials identified at SBVC.
4. Name and telephone of the Asbestos Coordinator.
5. A brief explanation of the asbestos management program for SBVC.

Employee	Date
Asbestos Coordinator	Date
Training Provider/Company Name	Phone
Company Address	

Curriculum information is on file with the Asbestos Coordinator.

MAINTENANCE EMPLOYEE NOTIFICATION

I have been informed of the locations of asbestos-containing materials at San Bernardino Valley College, and have received instruction on the asbestos operations and maintenance program. I have reviewed the Controlled Areas and Materials Designation Form (OM-10) and understand that I am prohibited from accessing Category I areas and Category II materials without following the procedures of the SBVC asbestos operations and maintenance plan.

I further understand that there may be some asbestos-containing material in the building that has not been identified, especially if it is located within or behind existing structure. I agree that before work is started, I must complete a work order (Form OM-60). If an accidental disturbance of lead or asbestos-containing material occurs, or if I observe a release of suspect material, I acknowledge that I must stop work and immediately notify the Asbestos Coordinator.

Employee Signature	Social Security No.
Employee Printed Name	
Witness	Date
Employer	Department
Asbestos Coordinator	

ASBESTOS NOTIFICATION FOR SBVC

A survey for asbestos-containing materials (ACMs) at the San Bernardino Valley College located at 701 S. Mountain Avenue in San Bernardino, California. The survey included visual observation of accessible areas, construction material sampling and analysis. The survey and laboratory analysis using procedures which meet or exceed applicable state and federal government agency regulations denotes the presence of ACMs in the facility. The survey report contents include report conclusions, sampling and laboratory procedures, sample logs, and plans depicting specific sample locations. Contractors may review the report during normal operating hours in the Asbestos Coordinators Office within Operations and Maintenance Department.

For the purpose of this asbestos notification, the Asbestos Coordinators Office denotes the location of the ACM as follows:

San Bernardino Valley College Campus

Material Description	Location	Classification/ Condition (Good, Fair, Poor)	Status
9″x 9″ floor tile and associated mastic	Technical Building Throughout Rooms and under Carpet	Non-friable/ Good	ACM
Thermal System Insulation	Technical building Mechanical Systems, Ceiling & Wall Cavities	Friable / Good	ACM
Penetration Mastic	Technical Building Roof Penetrations	Non-Friable / Good	Suspect ACM
9″x 9″ floor tile and associated mastic	Snyder-Gym Building Throughout and under Carpet	Non-friable/ Good	ACM
Thermal System Insulation	Snyder-Gym Mechanical Systems, Ceiling & Wall Cavities	Friable / Good	ACM
Penetration Mastic	Snyder-Gym Roof	Non-Friable / Good	Suspect ACM
9″x 9″ floor tile and associated mastic	Women's Gym Building Throughout and under Carpet	Non-friable/ Good	ACM
Thermal System Insulation	Women's Gym Mechanical Systems, Ceiling & Wall Cavities	Friable / Good	ACM
Penetration Mastic	Women's Gym Roof	Non-Friable / Good	Suspect ACM

The attached floor plan denotes areas of concern; however, the ACM is inaccessible to non-destructible activities.

Should any work be required to performed in the areas, the Office of the Building should be notified to determined immediately, to prevent any release of asbestos fibers into the work area.

Form OM-5

MAINTENANCE WORK ORDER PERMIT

Date Submitted: _____

Location of Work: _____

_____

_____

Description of Work (attach additional sheets, if necessary):

_____

_____

Submitted by: _____

Daytime Phone No. _____

To be completed by Asbestos Coordinator

_____ The above activity does not involve entry into Category I areas or disturbance of Category II materials.

_____ The above activities does involve entry into Category I areas or disturbance of Category II materials. Form OM-10 must be completed, and all appropriate work practices must be completed before maintenance activity can continue.

_____

Asbestos Coordinator

_____

Date

MAINTENANCE CONTRACTOR NOTIFICATION

I have been informed of the locations of lead and asbestos-containing materials at San Bernardino Valley College and have received instruction on the asbestos operations and maintenance program. I have reviewed the Asbestos Operations and Maintenance Project (OM-10) and understand that I am prohibited from accessing Category I areas and Category II materials without following the procedures of the asbestos operations and maintenance program.

I further understand that there may be some asbestos-containing material in the building that has not been identified, especially if it is located within or behind existing structure. I agree that before work is started, I must complete a Maintenance Work Order Permit (Form OM-50). If an accidental disturbance of asbestos-containing material occurs, or if I observe a release of suspect material, I acknowledge that I must stop work and immediately notify the Asbestos Coordinator.

Employee Signature	Social Security No.
Employee Printed Name	
Witness	Date
Employer	Department
Asbestos Coordinator	

EMPLOYEE NOTIFICATION OF AN ASBESTOS ABATEMENT PROJECT

Date of Notification: _____

On the above date, facility employees, and maintenance contractors were provided with the following information concerning a scheduled lead/asbestos abatement project.

- Location of asbestos abatement project
- Size of project
- Start date of project
- Projected completion date
- Name of asbestos abatement contractor
- Name of Outside Asbestos Management Consultant
- Name, address, and phone number of Asbestos Coordinator and Corporate Asbestos Coordinator

The notification was made by the following method:

_____

(Letter to employees, mailings, posted notices, etc.)

_____ Notification attached.

_____

Asbestos Coordinator

_____

Date

RESPIRATORY PROTECTION TRAINING RECORD

Before signing, be sure you understand each of the following items. If you do not understand any item below, please discuss this with the Asbestos Coordinator.

1. Explanation of the effects of misuse of the respirator.
2. Discussion of why respiratory equipment is necessary in addition to engineering controls.
3. Why the particular respirator was selected.
4. Limitations of the selected respirator.
5. Putting on the respirator.
6. Wearing the respirator.
7. Maintenance of the respirator.
8. Recognizing and handling emergency situations.
9. Inspection of the respirator.
10. Use of air-purifying respirator.
11. Purpose of medical evaluation.
12. Proper fit-testing techniques.

I understand the use, care, and inspection of the respirator I have been assigned for use only at San Bernardino Valley College.

Name	Social Security Number
Employer	
Job Title	Date of Training

QUALITATIVE FIT TEST RECORD

NAME _____

SOCIAL SECURITY NUMBER _____

COMPANY _____

METHOD IRRITANT SMOKE TEST

RESPIRATOR: BRAND _____ MODEL _____ NIOSH TC# _____

SIZE: SMALL _____ MEDIUM _____ LARGE _____

FACE PIECE RUBBER: SYNTHETIC _____ NATURAL _____

FACE SEAL CHECKS:

VISUAL + NEGATIVE PRESSURE + POSITIVE PRESSURE

FIT TEST PROCEDURE:

1. GROSS LEAK CHECK _____
2. BREATH NORMALLY _____
3. BREATH DEEPLY _____
4. TURN HEAD _____
5. NOD HEAD _____
6. REPEAT PASSAGE _____
7. JOG IN PLACE _____
8. BREATH NORMALLY _____

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its tow ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.

TEST GIVEN BY: _____

DATE: _____

Form OM-10

ASBESTOS OPERATIONS AND MAINTENANCE PROJECT

Description of Activity _____

_____

_____

Location of Activity and Controlled Work Areas _____

_____

_____

Type of Asbestos-Containing Material _____

_____

_____

Control Measures

_____ HVAC Shutdown
_____ Signs Posted
_____ Restricted Entry
_____ HEPA Vacuum of Surfaces in Immediate Area
_____ Polyurethane Plastic on Floor
_____ Other _____

Worker Protection

_____ Respirator Type
_____ Full Body Suits

Start Date of Work _____

Completion Date of Work _____

Name of Approved Asbestos Abatement Contractor _____

_____

_____ _____

Asbestos Coordinator Date

Form OM-11

O&M EMERGENCY EPISODE REPORT
(Attach additional sheets are necessary)

1. Location, Space No(s) and Description of O&M Emergency:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. Episode reported by: _____

   Date and Time: _____

   To Whom: _____

3. On-Site Personnel: _____

4. Immediate Action Taken: _____

_____

_____

_____

Form OM-11 con't

5. Emergency Response Team Notified: _____

Date and Time: _____

6. Clean-up activities performed: _____

7. Clearance Activities Performed: _____

Form OM-11 con't

8. Post incident meeting elements: _____

_____

_____

_____

Report prepared by: _____

Signed: _____ Date: _____

Date: _____
Job No.: _____
Client Job No.: _____
Collected By: _____
Countered By: _____
Analyzed By: _____
Date Analyzed: _____
Rush Sample(s) No.: _____

Project Name:_____

AIR SAMPLE DATA SHEET

Sample Number	Pump ID Number	Sample Type	Sample Description/Location	Sampling Period			Flow Rate 1/m			Total Volume	LOD	Sample Results		
				Start	Stop	Total Minutes	Start	Stop	AVG			TEM		NIOSH 7400
												S/mm²	S/cc	f/cc

B – Background
P – Preparation
I – Inside Work Area
O – Outside Work Area
A – Area
PL – Personal

R – Removal
C – Cleaning

FB – Field Blank
F - Final

E - Excursion

PERIODIC SURVEILLANCE LOG

Date Performed _____ Name of Performer _____ Building _____

CHANGES IN ACM												
Type of ACM	Amount of ACM	Location of ACM	Description of Damage	Caused by*						Is Debris Present?	Recommended Response Action
				1	2	3	4	5	6		

*Column Key: 1–Abrasion or Physical 2–Water 3–Deterioration 4–Vibration 5–Delamination 6–Other (Explain)

NESHAP NOTIFICATION OF ASBESTOS REMOVAL PROJECTS

When asbestos projects will be conducted, the following information must be forwarded to the appropriate governmental office. Notice must be given at least 10 working days prior to beginning any work on asbestos-containing materials.

The notification should include:

- An indication of whether the notice is the original or a revised notification.
- Name, address and telephone number of facility owner and the asbestos removal contractor.
- Description of the facility or affected part being demolished or renovated, including the size, age, and the present and prior use of the facility.
- Type of operation: demolition or renovation.
- Estimate of the approximate amount of ACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components.
- Location of the facility being demolished or renovated including street address, floor or room number, city, county, and state.
- Scheduled starting and completion dates of the demolition or renovation.
- Nature of planned demolition or renovation and method(s) to be use.
- Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61 Subpart M) including analytical methods, work practices, engineering controls, emission controls, and waste handling procedures.
- Name and location of the waste disposal site where the friable asbestos waste material will be deposited.
- A certification that at least one person is trained to supervise the stripping and removal described by this notification.

ASBESTOS-CONTAINING MATERIAL INVENTORY

Date	Type and Location of ACM Removed	Name of Contractor Removing ACM	Amount of ACM Removed

HEPA VACUUM INSPECTION LOG SHEET

Date	Time	Employee(s) Name Performing Inspection	I.D. No. of Vacuum	Was the Vacuum Bag Changed (Yes or No)

San Bernardino Community College District

Safety Program Approval

Safety Program: **SBVC Asbestos Operations & Maintenance Plan, dated 9/12/12, Revision 0**

Reviewed by: _____ Date 9/12/12
Environmental Health & Safety Administrator

Approved by: _____ Date 9.12.12
Interim Vice President Administrative Services/Business Services

Approved by: _____ Date 10.1.'12
President/Vice Chancellor Fiscal Services

Note: Upon revisions to plans, the Vice President of Administrative Services shall:

1. Distribute the plan for posting on the District EH&S website and notify the appropriate managers, faculty, staff, and/or students; provide appropriate training.

2. When revisions are made, the campus Safety Committee shall recommend re-training on the plan when the changes are deemed a substantial change to the plan. Upon distribution of the new plan, the Vice President of Administrative Services shall notify HR whether or not retraining was recommended by the Safety Committee.