EIELSON AIR FORCE BASE

Asbestos Management and Operations Plan

Prepared for:

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This plan supersedes the Eielson AFB Asbestos Management and Operations Plan dated January 2004

PURPOSE

This plan has been developed in accordance with Air Force Instruction (AFI) 32-1052 to prevent or minimize exposure of occupants and workers on Eielson Air Force Base (EAFB) to asbestos-containing materials (ACM) and to ensure base compliance with all applicable federal, state, and local laws concerning asbestos management.

BACKGROUND

According to the U.S. Agency for Toxic Substances and Disease Registry, asbestos is the name given to a group of six different fibrous minerals (amosite, chrysotile, crocidolite, and the fibrous varieties of tremolite, actinolite, and anthophyllite) that occur naturally in the environment. Asbestos minerals have separable long fibers that are strong and flexible enough to be spun and woven and are heat resistant. Because of these characteristics, asbestos has been used for a wide range of manufactured goods, mostly in building materials.

Asbestos-Containing Building Material (ACBM) means surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.

ACBM can be found in the following building materials:

acoustical plaster
adhesives
asphalt floor tile
base flashing
blown-in insulation
boiler insulation
breaching insulation
caulking/putties
ceiling tiles and lay-in panels
cement pipes
cement siding
cement wallboard
chalkboards
construction mastics (i.e., floor or ceiling tile, carpet)
cooling towers
decorative plaster
ductwork flexible fabric connections
electric wiring insulation
electrical cloth
electrical panel partitions
elevator brake shoes
elevator equipment panels
fire blankets
fire curtains
fire doors
fireproofing materials
flooring backing
heating and electrical ducts
high temperature gaskets
HVAC duct insulation
joint compounds
laboratory gloves
laboratory hoods/table tops
packing materials (for wall/floor penetrations)
pipe insulation (corrugated air-cell block etc.)
roofing felt
roofing shingles
spackling compounds
spray-applied insulation
taping compounds (thermal)
textured paints/coatings
thermal paper products
vinyl floor tile
vinyl sheet flooring
vinyl wall coverings
wallboard

There is concern for the health and safety of housing occupants and construction, renovation, and building maintenance personnel as a result of potential for exposure to elevated levels of airborne asbestos fibers. Intact and undisturbed asbestos-containing materials do not pose a health risk. However, ACM may become a health risk when fibers are released into the air as a result of damage, disturbance, or deterioration over time.

CONTENTS

TABLES

FIGURES

ATTACHMENTS

PART 1

PLAN SUMMARY

1.0 PLAN SUMMARY

1.1 Policy

The U.S. Air Force (USAF) has directed Eielson AFB to develop an asbestos management and operations plan. EAFB must comply with all federal, state, and local laws concerning asbestos management. Adherence to this plan will assure compliance with these laws and reduce the exposure of occupants and workers on base to asbestos.

Health risks associated with exposure to asbestos are due to inhalation of asbestos fibers and include

- Asbestosis, also called white lung disease, causes scarring in the air sacs of the lungs.
- Lung cancer.
- Mesothelioma, which is a cancer of the lining of the chest or abdomen.

Asbestos exposure may increase the risk for cancers of the digestive system, including colon cancer.

Asbestosis and lung cancer are considered dose-related diseases (i.e., the more asbestos that is breathed, the more likely it is that illness will result). Mesothelioma, however, can result from very small exposure to asbestos. Asbestos workers' families have reported incidents of mesothelioma from exposure to the dust brought home on clothes of the worker.

It is not known whether ingesting asbestos causes cancer. Some people who had been exposed to asbestos fibers in their drinking water had higher-than-average death rates from cancer of the esophagus, stomach, and intestines. However, it isn't known whether this was caused by asbestos or by something else.

All of the asbestos diseases have a latency period. The latency period is the gap between the time of exposure and the time sickness is felt. The latency period for asbestos diseases is between 10 and 40 years.

Not everyone exposed to asbestos gets an asbestos-induced disease. However, anyone exposed to asbestos has a higher risk of getting an asbestos-induced disease. All of the asbestos-induced diseases are difficult to treat. Most are impossible to cure. Preventing asbestos fibers from ever entering lungs is important. The only cure for most asbestos-induced diseases is to prevent them.

1.2 Primary Audience

This plan is directed primarily toward several sections within the 354th Civil Engineer Squadron – building custodians in facilities with ACM and the Bioenvironmental Engineering (BE) section of the 354th Medical Group.

1.3 Key Assumptions

Adequate manpower, equipment, enforcement, and other resources exist at the working level to ensure plan compliance.

1.4 Effective Date

Upon receipt of this final plan.

1.5 Purpose

The intent of the EAFB Asbestos Management and Operations Plan (AMOP) is to establish management and organizational responsibilities and measures, in compliance with AFI 32-1052, which ensure that no personnel in base facilities are exposed to hazardous levels of airborne asbestos fibers. This AMOP will address organizational roles and responsibilities, data management, program development, operational management, work procedures, and training. This reference guide is to be used by EAFB organizations and Air Force contracted personnel to ensure all asbestos management actions limit or minimize and prevent personnel exposure.

This reference guide is to be used by Eielson organizations and Air Force contracted personnel to ensure all actions resulting from asbestos management will limit and prevent personnel exposure by minimizing or preventing the release of asbestos fibers.

This plan is divided into two major sections: Management and Operations.

1.6 Objectives

This AMOP will consolidate different organizational guidelines and procedures into one comprehensive base plan. The objectives of the plan are to:

- Define management requirements, including specific organizational tasks, for meeting regulatory requirements and protecting the health of base occupants and workers.
- Establish a system of identification, evaluation, and prioritization of asbestos-related hazards.
- Outline a monitoring and maintenance program that provides a means of ensuring all ACM in base facilities are in good shape and repairs are completed in an expedient manner.
- Provide procedures for accurate and timely regulatory notifications.
- Establish a complete and functional ACM database for facilities and procedures to keep the database current.
- To ensure personnel are trained in the management and removal of ACM.
- To establish a safe and effective Monitoring and Maintenance Program.

1.7 Regulatory Overview

This relatively new environmental field has seen several changes in the regulatory requirements over the past 15 years. Only currently promulgated regulations are referenced. As new regulations are promulgated, they will be incorporated into revisions of this plan. However, new regulations are effective immediately upon receipt and supersede any conflicting guidance in this plan. The following regulations are applicable to this document.

1.7.1 Occupational Safety and Health Administration (OSHA)

Title 29, Code of Federal Regulations, Part 1910, Section 1001 (29 CFR 1910.1001)
General Industry Standard for Asbestos

	Establishes a Permissible Exposure Limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) as an 8-hour time-weighted average (TWA) and an Excursion Level of 1.0 f/cc as averaged over a sampling period of 30 minutes. Scope applies to all occupational exposures to asbestos not specified in the Construction Standard.
29 CFR 1910	Addresses asbestos exposure in the general industry, cancer, health labeling, occupational safety and health, protective equipment, respiratory protection, and signs and symbols.
29 CFR 1926	Addresses asbestos exposure in the construction industry, cancer, hazardous materials, health, labeling, occupational safety and health, protective equipment, respiratory protection, and signs and symbols.
29 CFR 1926.1101	Construction Standard for Asbestos (Appendix 1) Applies to individuals involved in construction, renovation, and demolition activities. Establishes the same PEL and Excursion Limit as outlined in 29 CFR 1910.1101 (General Industry Standard). Dictates engineering controls and personal protective equipment requirements for individuals involved with asbestos-related work and establishes requirements for medical surveillance and recordkeeping.

1.7.2 U.S. Environmental Protection Agency (EPA)

40 CFR 61, Subpart M	National Emission Standard for Hazardous Air Pollutants (NESHAP) (Appendix 2) Establishes standards for renovation or demolition activities which will impact a combined quantity of ACM in excess of 260 linear feet, 160 square feet (ft^2), or 35 cubic feet (ft^3). Standards address notification requirements, work practices, and waste disposal requirements.
40 CFR 61.140	Addresses demolition and renovation, notification requirements, emission control, disposal, and disposal sites.
40 CFR 763, Subpart G	Worker Protection Rule This regulation applies the OSHA standards to government employees who are not covered by the OSHA Asbestos Standards.
49 CFR, Chapter 1	Department of Transportation Regulations

	This regulation establishes labeling, packaging, and transportation requirements for ACMs.
40 CFR 763, Subpart E	Asbestos Hazard Emergency Response Act (AHERA) Establishes standards for conducting asbestos assessment and abatement activities in schools. Requires schools to develop management plans and conduct periodic re-inspections of ACMs. Appendix C of the regulation (Asbestos Model Accreditation Plan) extends accreditation requirements for asbestos workers, contractor/supervisors, inspectors, and project designers to public and commercial buildings as well as schools.

1.7.3 U. S. Air Force

AFI 32-1052	Air Force Facility Asbestos Management (Appendix 3) Requires Air Force Bases to conduct facility asbestos surveys and develop an Asbestos Management Plan and an Asbestos Operating Plan.
AFI 91-302	Air Force Occupational and Environmental Safety, Fire Prevention, and Health Program (AFOSH) Establishes a specialized publication system for issuing, updating, and indexing AFOSH standards.
AFI 48-119	Medical Service Environmental Quality Programs
AFOSH 48-137	Respiratory Protection Program
AFOSH 48-8	Controlling Exposures to Hazardous Materials
AFOSH 91-25	Confined space training
AFOSH 91-45	Lockout and tagout training
AFOSH 161-21	Hazard Communication
GRADE System	Guidance for Rating and Assessing Damage and Exposure (Appendix 4) Provides methods for conducting asbestos risk assessment and abatement prioritization.

1.7.4 State of Alaska

Title 18, Alaska Administrative Code, Chapter 60, Sections 200 & 450 (18 AAC 60.200 & 450) Addresses State of Alaska solid waste permits requirements.

AAC 61.600-61.790	Asbestos Abatement Certifications

1.7.5 Other Applicable Regulatory References

ASHARA	Asbestos School Hazard Abatement Reauthorization Act; Asbestos training in public buildings

EPA Manual for Managing Asbestos in Place, 20T-2003, July 1990

PART 2
MANAGEMENT PLAN

2.0 MANAGEMENT PLAN

2.1 Organizational Responsibilities

To have a successful Asbestos Management and Operations Plan, there must be an integrated program, which requires the participation of several organizations. The Base Civil Engineer (CES/CC) has the primary responsibility for developing and implementing an asbestos program. For public schools on base, the Fairbanks North Star Borough School District is the owner and is responsible for managing school facilities. In addition, other base organizations must assist the CES/CC in worker protection, sampling programs, quality control, and dissemination of accurate information needed to protect the health of all personnel living or working on Eielson AFB. Figure 2-1 presents the Asbestos Management and Operations Interaction Diagram.

2.1.1 Base Civil Engineer (CES/CC)

- Appoints an Asbestos Program Officer (APO) to oversee the implementation of the AMOP and to ensure environmental compliance.
- Appoints an Asbestos Operations Officer (AOO) to implement the AMOP.
- Ensures all Civil Engineer personnel are trained to perform the requirements set forth in the AMOP.

2.1.2 Asbestos Program Officer (APO), Environmental Compliance (CES/CEVQ)

- Office of primary responsibility for asbestos compliance on base.
- Develops a base Asbestos Management and Operations Plan.
- Provides the oversight and technical assistance necessary for the implementation and periodic review and updates of this plan.
- Provides the necessary oversight to ensure regulatory compliance for all the activities related to asbestos management and operations.
- Ensures that AOO maintains data on all contracted asbestos abatement work, which includes survey information, amount removed and its location, and a copy of each EPA Notification of Demolition and Renovation submitted.
- Provides the necessary technical assistance for the preparation of an informational handout.
- Checks quality assurance of survey data, abatement work, and contract specifications.
- Ensures that AOO maintains documentation of asbestos materials removed from buildings to include building number, date removed, type of materials, quantity, and location from where materials were removed.

2.1.3 Asbestos Operations Officer (AOO), Operations Branch (CES/CEO-2)

- Ensures a local laboratory contract is obtained to analyze asbestos samples and coordinates with APO and BE to have laboratory approved.
- Ensures a facility contains no ACM prior to demolition.
- Establishes and maintains an Asbestos Monitoring and Maintenance Program and coordinating air sampling with APO and BE.
- As primary certification officer, ensures that the job sites affected by the job orders have been surveyed (for ACM) and the necessary control measures for effectively managing ACM have been implemented prior to commencing non-ACM work.
- Ensures a biannual Base Survey review is completed. This survey will include bulk sampling and baseline air sampling. Responsible for updating the inventory of each facility for ACM (except for roofing material) and quantifying it according to its type, quantity, location, and condition.
- Appoints a competent person (as defined by this plan and EPA) to direct cleanup, repair, or removal of the ACM based upon its type, quantity, location, and condition.
- Ensures all ACM is properly packaged, labeled, and transported when disposed of in the permitted on-base asbestos landfill.
- Ensures the building custodian is informed of all of the ACM locations within their specific building.
- Responds to reports of suspected damage or deteriorating ACM.
- Ensures management of the Eielson AFB asbestos landfill in accordance with State of Alaska permit requirements.
- Ensures that a competent person collects all the regulatory required air monitoring and personnel exposure samples including air clearance samples of large-scale projects. Supports BE air sampling as required.
- Prepares an annual budget for in-house manpower supplies, training, and equipment requirements.
- Submits abatement notification information to the EPA and provides copies to APO.
- Reviews and approves all asbestos abatement plans submitted by contractors for on-base work, including Simplified Acquisition Base Engineering Requirements (SABER) projects.
- Maintains and updates the asbestos database.

2.1.4 Risk Assessment Manager, Bioenvironmental Engineering (MDOS/SGOAB)

- Examines friable ACM and determines if abatement action is required, as requested. The BE determines if health related precautions, including monitoring, removal of personnel, and protective control measures, are required

to protect personnel until recommended actions are completed. The BE coordinates with APO for concurrence

- Conducts air clearance samples of major in-house abatement projects. Establishes and maintains a random sampling program to verify Eielson AFB insulation shop personnel and their air sampling procedures adequately monitor and protect personnel on base.
- Maintains the personnel exposure records of all asbestos abatement workers for 30 years.
- Conducts an initial employee respirator fit test, annual retesting, and develops a base respiratory protection program in accordance with all OSHA and AFOSH requirements.
- Reviews all asbestos removal or abatement contracts to ensure proper requirements are identified and to ensure the protection of Air Force personnel.
- Reviews and interprets contractor's analytical results, and approves re-occupancy, if ambient air monitoring or clearance sampling are performed by a contractor.
- Develops an informational handout for base residents and facility personnel and coordinates with APO and AOO prior to publication and distribution.
- Provides training on air sampling equipment to insulation shop personnel when requested.

2.1.5 Housing Management (CES/CEH)

- Ensures that ACM is addressed appropriately prior to maintenance, abatement, renovation, and demolition activities.
- Performs inspections for damaged or deteriorating ACM during the pre-termination and termination inspection. If damaged or deteriorating material is observed, quality assurance personnel assigned to the housing maintenance contract will request the MFH maintenance contractor take appropriate action.
- Distributes an asbestos informational handout for all newly arriving personnel scheduled to be housed in quarters that contain potentially friable ACM.
- Provides the APO and AOO information on all asbestos work that includes building number, amount of asbestos removed, date of removal, and the location in the building where the material was removed from.

2.1.6 Maintenance Engineering (CES/CEOE)

- Creates working drawings per Insulation Shop instructions and reproduces blueprints of the location, type, and quantity of ACM present in facilities based upon the Insulation Shop's Base Survey.
- Updates working drawings of each facility asbestos survey by the Insulation Shop and after a major asbestos abatement job has been completed in an individual facility.

2.1.7 Contracts Flight (CEC)

- Coordinates with the APO and AOO managers and BE prior to finalizing any asbestos contract specifications/plans.
- Requires all contractors to notify the EPA in accordance with 40 CFR 61.145 and the Alaska Department of Labor in accordance with 8 AAC 61.620 prior to beginning work on demolition and/or renovation projects involving asbestos.
- Requires all contractors to notify the APO and AOO in writing of all asbestos abatement in accordance with 40 CFR 61 prior to beginning work.
- Obtains copies of the abatement notification submittals from the contractor and routes to the APO and AOO.
- Ensures asbestos abatement costs are designated as a separate contractual line item.
- Coordinates BE review of contractor's analytical results and enforces BE approval/disapproval of re-occupancy, if ambient air monitoring or clearance sampling are performed by a contractor.
- Ensures the APO and the AOO are given facility specific information when asbestos is removed from a facility so that the asbestos register can be updated. Information includes amount and type of asbestos removed and where in the facility it was removed from.

2.1.8 Work Order Management (CES/CEOE)

- Routes all applicable work orders Air Force (AF) Form 332 or Department of Defense (DD) Form 1391 through the APO, AOO, BE, and CES/CEH for an asbestos assessment prior to assigning maintenance, abatement, renovation, or demolition work.

2.1.9 Mechanical Systems (CES/CEOM)

- Summarizes the total man-hours and supplies used to do in-house abatement and survey work.

2.1.10 Resource Flight (CES/CER)

- Monitors abatement, repair, and insulation replacement costs of in-house projects approaching the installation funding approval limit.

2.1.11 Insulation Shop (CES/CEOMI)

- Formulates the protocol for the Base Survey, then generates and maintains individual facility folders.
- Inspects and repairs, performs abatement, encapsulation, and glove bag operations on ACM, as directed.

- Ensures all shop employees maintain their state and federal certification.
- Maintains a daily Asbestos Log Book.
- Submits in-house abatement project information to the AOO for notification submittal.
- Ensures the presence of a competent person for all asbestos management activities, including asbestos surveys and asbestos abatement.
- Responds to emergency calls and initiates actions in accordance with Section 8.2.
- Reviews and approves all asbestos abatement plans submitted by contractors for on-base work, including SABER projects.
- Coordinates air sampling requirements with BE and APO.
- Ensures employees receive an annual respirator fit test and training, as well as periodic retesting, and develops a shop-specific respiratory protection program in accordance with all OSHA and AFOSH requirements.
- Disposal records will be maintained by the Insulation Shop in the facility folder. Information collected will include type and quantity of material, work order or contract number, and disposal date.

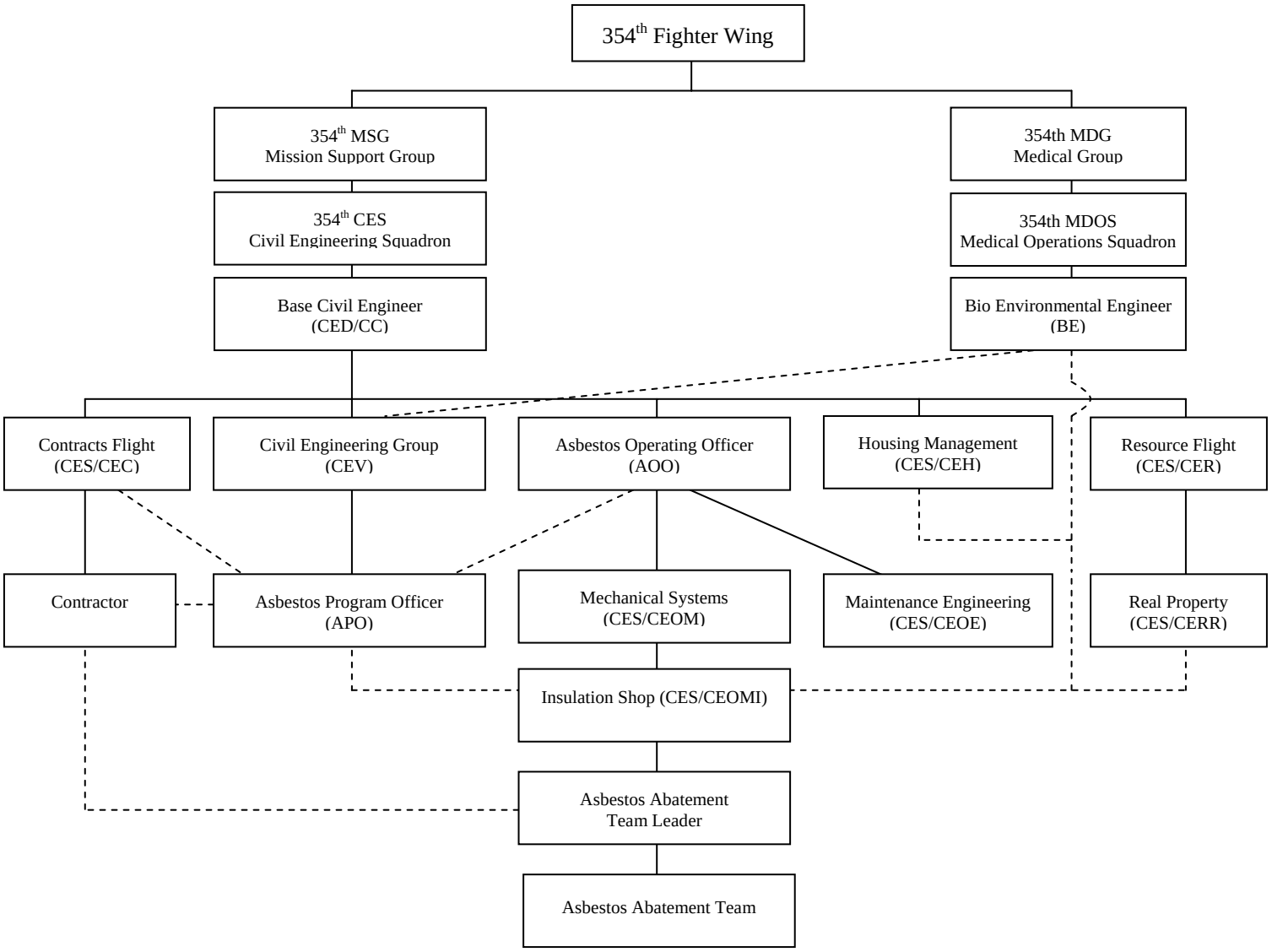
2.1.12 Real Property (CES/CERR)

- Coordinates AF Form 300, Facility Disposal Report, through the AOO, BE, and APO prior to maintenance, abatement, renovation, or demolition activities.
- Real Property office is responsible for requesting an asbestos survey of any facility identified for maintenance, abatement, renovation, demolition, or disposal.
- Real Property office is responsible for coordinating the Facility Disposal Report (AF Form 300) through APO and AOO to indicate the presence or absence of asbestos.

2.1.13 General Contractor (GC)

- Responsible for identifying ACM prior to conducting maintenance, abatement, renovation, or demolition activities.
- Responsible for contacting insulation shop to ascertain presence or absence of ACM.
- Responsible for making proper notification and providing copies to APO and AOO.

Figure 2-1. Asbestos Management and Operations Interaction Diagram



3.0 MEDICAL SURVEILLANCE

3.1 Medical Concerns

Over the past 20 years, there has been a growing awareness and consensus within the medical community of the adverse health effects associated with exposure to airborne asbestos.

Asbestos becomes a health hazard when fibers become airborne and are inhaled. Because of the small size of asbestos fibers, they can avoid the body's defense mechanisms and become trapped in the lungs.

There are three main diseases associated with asbestos exposure, all of which have latency periods of 10 to 40 years. Asbestosis is the most common asbestos-related disease and is prevalent among workers with long-term occupational exposures to large doses of asbestos. This disease is characterized by a fibrotic scarring of the lung tissue, which results in decreases lung capacity.

The second most common asbestos-related disease is lung cancer. As with asbestosis, lung cancer is also linked with high-dose asbestos exposures, and it has been determined that cigarette smoking and asbestos exposure contribute synergistically toward causing lung cancer.

The least common but most fatal asbestos-related disease is mesothelioma, which is a cancer of the membrane that lines the lungs or abdominal cavity. Mesothelioma differs from asbestosis and lung cancer in that there does not appear to be the same dose-response relationship. It is primarily this disease that has led the EPA to conclude that there is no safe level of asbestos exposure.

3.2 Personnel Requiring Medical Surveillance

The medical surveillance requirements apply to personnel covered by any of the following categories:

- Personnel who have worked for a combined total of 30 days or more per year engaged in removal of ACM, or repair and maintenance operations where ACM is likely to be disturbed.
- Personnel exposed at or above the PEL (0.1 f/cc) or the Excursion Limit (1.0 f/cc), as determined by the BE.
- Employees who wear negative-pressure respirators

3.3 Medical Examinations

The medical examinations will be administered by the Flight Surgeon's Office (FSO) in accordance with 29 CFR 1926.1101 (m) and AFOSH standards.

Medical examinations shall be scheduled by Public Health (PH) and administered by the FSO. Additionally, work histories, medical histories, and patient questionnaires shall be initiated at the time of the first physical examination and updated at subsequent annual physical examination by PH. Work histories, medical histories, and patient questionnaires referred to above are those specified by AFOSH Standard 161-17.

Flight surgeons will review the results of the physical examinations and make determinations as to whether the personnel are to become medically certified. The FSO will ensure that the APO and AOO are notified in writing as to whether workers have been medically certified to wear a respirator during asbestos abatement work.

3.4 Medical Surveillance Records

To assist the APO and AOO in the tracking of medical surveillance activities, the pcV3® software shall be used to record the dates of medical examinations and the medical certification of personnel for work requiring respirator use.

In addition, written documentation shall be maintained of the dates when personnel received respiratory protection training, respirator fit tests, physical examinations, and the examining physician's certification as to whether personnel are able to work while wearing respirators.

Table 3-1
Asbestos Training Requirements
Eielson AFB Asbestos Operating Plan

Personnel	Worker	Supervisor	Inspector	Mgmt. Planner	Project Designer	Awareness	Air Monitoring
Wing Commander						X	
CES/CC		X				X	
Public Affairs Office						X	
Base Safety Office						X	
Environmental Legal Adviser						X	
Bioenvironmental Engineer		X	X				X
Bioenvironmental Engineering Staff		X	X			X	X
APO		X	X	X	X		X
AOO		X	X	X	X		
Insulation Shop	X	X	X	X	X		
Project Planners					X		
Project Design Engineers					X		
CES/CC Shops						X	
Contract Supervisors	X						
AIRT	X	X	X				

Worker: 4-day course
Supervisor: 5-day training course
Inspector: 3-day course
Management Planner: 2-day course
Designer: 3-day course
Awareness training: 2- to 8-hour course

Table 3-2
Respiratory Protection for Asbestos Fibers
Eielson AFB Asbestos Operating Plan

	Required Respirator
Not in excess of 1 f/cc (10 x PEL), or otherwise as required independent of exposure pursuant to (h)(2)(iv)	Half-mask air-purifying respirator, other than a disposable respirator equipped with high-efficiency filters.
Not in excess of 5 f/cc (50 x PEL)	Full facepiece air-purifying respirator equipped with high-efficiency filters.
Not in excess of 5 f/cc (100 x PEL)	Any powered air-purifying respirator, equipped with high-efficiency filters or any supplied-air respirator operated in continuous fiber mode.
Not in excess of 5 f/cc (1000 x PEL)	Full face-piece supplied-air respirator operated to pressure demand mode.
Greater than 100 f/cc or unknown concentration	Full facepiece supplied-air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus.

Notes:
a. Respirators assigned for high environmental concentrations may be used at lower concentrations, or when required respirator use is independent of concentration.
b. A high-efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 particles of 0.3 micrometers in diameter or larger.

4.0 ASBESTOS DATABASE

4.1 Asbestos Surveys

4.1.1 Base Survey

Asbestos assessment of the facilities is an ongoing effort. Since the mid-1980s, asbestos assessment of the facilities scheduled for renovation, repair, abatement, and demolition has been conducted on an as-needed basis. A sample Asbestos Survey Form used to gather information and establish an exposure assessment score is attached to this plan. This survey includes a thorough visual inspection of ACM. The survey is updated biannually, then is used to identify and prioritize all corrective actions. Any damaged friable ACM posing a threat to human health is immediately repaired/removed.

4.1.2 Emergency Survey

Emergency surveys are conducted as needed. This investigation is normally initiated by the occupant or building manager and completed by the Insulation Shop. Immediate repairs or removal will be performed if the material is ACM and there is a health risk. This will be determined by BE or the competent person.

4.1.3 Destructive Survey

A destructive survey precedes all construction, demolition, or renovation actions in buildings suspected or shown to have ACM present during the initial base survey. Methods utilized to accomplish this include the review of as-built drawings, interviewing employees knowledgeable about the facility, and researching construction references to determine possible ACM locations. After conducting employee interviews and a thorough document search, destructive sampling would occur if needed. Trained personnel will do the sampling. Personnel will perform this task wearing appropriate personal protective equipment and respiratory protection.

4.1.4 Project Survey

Any construction project or work order that is processed requires an asbestos survey prior to work unless noted on AF Form 332 by CES/CEOMI as not required. The Insulation Shop will research individual facility folders to determine whether ACM is present in the construction area.

4.2 Managing Asbestos in Place

Eielson AFB emphasizes the importance of managing asbestos in place in accordance with the EPA's guidance manual, 2OT-2003, July 1990. To accomplish this, the Insulation Shop has implemented a recurring inspection and maintenance program. This program requires all buildings to be inspected every 6 months. Any damaged, friable ACM is repaired or removed immediately before it can become airborne and present a health hazard. The information gathered from these routine inspections is then

used to update the asbestos survey and register. In addition, building custodians are trained by Insulation Shop personnel about basic asbestos identification and maintenance. Upon discovery of exposed friable ACM, maintenance personnel will notify Customer Service at 377-2100. Insulation Shop will perform all maintenance, abatement, renovation or demolition actions as required.

Building custodians are trained initially and annually on shop-specific maintenance and operations procedures. They will ensure shop specific instructions are developed and updated to protect building occupants and will incorporate asbestos hazardous communication in their shop instructions.

4.3 Asbestos Register

The purpose of the Asbestos Register is to establish and maintain a computerized database of every facility on base and to establish a priority listing of all asbestos projects identified in the initial base survey.

Facility folders will be maintained by the Insulation Shop and at a minimum will include the following information:

- Building number and usage code (e.g., Family Housing Unit)
- Quantity (linear and square footage)
- Asbestos type by location
- Condition of the ACM
- Date of last survey
- Date of the last repair, removal, or maintenance monitoring
- Current work orders (AF Form 332 or DD Form 1391) and start date of major maintenance, abatement, renovation or demolition projects

5.0 MANAGEMENT SUPPORT

5.1 Application

Federal (EPA) regulations regarding notification and emissions controls on asbestos-containing structures apply to facilities that are renovating or demolishing structures containing the following, or stripping or removing:

- At least 80 linear meters (260 linear feet) of Regulated ACM (RACM) on pipes
- At least 15 square meters (m^2) (160 ft^2) of RACM on other components
- At least 1 cubic meter (m^3) (35 ft^3) off-facility components

If the amount of asbestos removed is less than these amounts, or if the facility is being demolished under government order because it is structurally unsound and in danger of imminent collapse, only some of the notification requirements apply. However, all basewide demolition, stripping, and removal activities are reported as a single facility. While a single project may not exceed these limits, its addition to other basewide activities may still result in notification requirements. Therefore, contractors must provide EPA notification on all RACM projects.

5.2 Planning

One-year Plan: This work schedule reflects near-term work needed to support in-house and contracted work in affected facilities. The AOO will review, update, and maintain this schedule as required.

5.3 Monitoring, Surveillance, and Quality Assurance

The competent person has primary responsibility for environmental compliance at all work sites. The APO is responsible for quality assurance compliance.

Through coordination by the AOO, BE will conduct work site air monitoring for compliance, as directed by AFOSH Std 48-119.

5.4 Notification Procedures

The EPA requires renovation notification be submitted for all RACM removal projects in accordance with 40 CFR 61.146 ten working days in advance of the project beginning, from Contract Management for contracted work and from the AOO for in-house work.

The EPA requires demolition notification for all buildings that are to be destroyed regardless of the amount of asbestos contained in the building (this requirement includes buildings that have never contained asbestos). These notifications are required from the contractor for contracted work and from AOO for in-house work. This notification must be submitted in accordance with 40 CFR 61.145 and 61.146.

Information needed for regulatory notification includes:

- Facility number

- Location of the work within the facility
- Total square footage
- Building age
- Current building use
- Disposal location
- Estimated start and completion date
- Procedural description used to comply with regulatory requirements

Notifications of Demolition and Renovation will be sent to:

Kathleen Johnson
U.S. EPA, Region 10
1200 Sixth Street
Mailcode: OAQ-107
Seattle, WA 98101
Telephone: (206) 553-1757
Telefax: (206) 553-0110

The EPA must be notified 45 days prior to excavating or disturbing asbestos-containing waste material that has been disposed of in the EAFB Asbestos Landfill.

5.4.1 Copies of Notification Will Be Provided to the APO.

Notification Procedures for Contracted Projects:
For projects to be completed by outside contractors, compliance with asbestos laws and regulations is the responsibility of the contractor. It will be the responsibility of the contractor to ascertain the presence or absence of ACM that they may encounter in the areas where they will be working. The contractor will work with the AOO and APO to obtain the necessary data. The contractor notification form (Figure 5-1) should be used to inform all contractors of potential asbestos hazards they may encounter at EAFB. Contractors are responsible for providing notification and project information directly to the state. They are also responsible for the occupational health protection of their personnel under 29 CFR 1926 and for complete control of asbestos fibers during removal.

Figure 5-1. Contractor Notification Form

Contract Name: _____ Date: _____

Company Name: _____

Company Representative: _____

Contracting Officer: _____

Description of work to be accomplished (To be completed by contracting officer or construction management personnel.):

Description of Potentially Hazardous Asbestos Material (to be completed by BAPO/BAOO):

Summary of Notification and Recommendations (to be completed by BAPO/BAOO):

By signing this form, The company representative acknowledges that the notification summarized herein as been received and will be conveyed to the company's employees working on Eielson Air Force Base

Contracting Officer's Signature: _____

Company Representative: _____

PART 3
OPERATIONS PLAN

6.0 OPERATIONS PLAN

6.1 ACM Monitoring and Maintenance

This program is an ongoing management process for ACM in every facility on base. EAFB is committed to reduce all non-occupational asbestos exposures and manage repair and replacement projects in a manner which ensures occupational exposures below the permissible exposure limit as defined by OSHA in 29 CFR 1926.1101. This will be achieved by cleaning up asbestos fibers released, avoiding ACM damage in the future, and monitoring the condition of existing ACM. The program will continue until all ACM is removed or the facility is demolished.

6.2 ACM Work Structure

- Establish and maintain a program to ensure the day-to-day management of facilities is carried out in a manner to eliminate asbestos fiber release while ensuring proper controls and procedures are followed.
- Perform periodic inspections. All facilities containing ACM are inspected biannually by the Insulation Shop with the exception of the family housing units that are inspected through the Base Housing Office when vacated. The Base Housing Office will report any damaged or deteriorating asbestos to the Base Housing Maintenance Contractor for action. The master ACM inventory will be reviewed and updated during the biannual inspection if changes are noted. Facility inspections are conducted on all ACM for damage or deterioration.
- Receive work, job order, and emergency repair requests. Projects that are generated on base must submit a work order, AF Form 332 or DD Form 1391, which is coordinated through the Insulation Shop. The Insulation Shop checks the Asbestos Register to verify whether the project area indicated on the work order contains asbestos. If an asbestos survey has not been conducted in the area indicated on the work order, a survey will be scheduled and completed before the project may proceed. This work order process includes self-help projects. All requests follow the attached Asbestos Work Review Flowchart diagram.
- Perform health assessments. Exposure risks are determined by the competent person with assistance of BE, using the assessment scoring system guided by the Risk Assessment Code (RAC) process detailed in AFI 91-301, if requested. Prioritizing work is dependent upon these health risk calculations, condition, type, and location of the ACM.
- Abate, as soon as possible, the ACM that poses the greatest threat to human health.
- Identify future requirements. Remove existing ACM from facilities at opportune times before minor construction or repairs.

6.3 Action Options

6.3.1 Maintenance

Key participants who aggressively identify ACM are the facility managers and maintenance personnel. ACM properly encapsulated is monitored biannually until it is removed. Once damaged or deteriorating ACM is identified, it is repaired or evaluated for removal. The evaluation may be done by using the exposure assessment scoring system RAC process. Suspected damaged or deteriorating ACM is to be reported to Customer Service at 377-2100.

6.3.2 ACM Repair

Upon discovery, all exposed friable asbestos is to be repaired by encapsulation or removal. All damage discovered during routine surveys is to be repaired prior to surveying another facility. The repaired asbestos will continue to be monitored under the maintenance program.

- The Insulation Shop notifies the BE and APO if, in the judgment of the competent person, there is a question of whether to repair or remove the ACM.
- All repairs occur only after proper procedures have isolated the immediate work area from possible occupant exposure.
- As a requirement for asbestos removal, demolition, and renovation operations, the employer, and EAFB, will ensure that employees working within the secured enclosure wear protective clothing and respirators as required by 29 CFR. EAFB will provide personal protective equipment and respiratory protection in accordance with 29 CFR and applicable AFOSH Standards, and all workers performing ACM repairs and cleanup will wear appropriate respiratory and personal protective equipment according to the task at hand. BE defines required personal protective equipment and respiratory protection for government workers on EAFB.
- Cleaning Requirements: The Insulation Shop is responsible for all in-house cleaning actions. Only High Efficiency Particulate Air (HEPA) vacuums with high-efficiency particulate filters will be used to clean carpets, furniture, curtains, books, or other contaminated surfaces. All non-carpeted floors will be wet mopped. Shelves, windows, and doorsills will be wiped with a wet cloth. All vacuum bags, filters, mop heads, and cleaning cloths will be disposed of in accordance with 40 CFR 61.150.
- Work will be documented in the Insulation Shop's Asbestos logbook and the facility folders. Information will include daily activity reports and personnel exposure records.
- Where feasible, clearance air monitoring will be conducted at all abatement sites, other than small-scale, short-duration projects. If the competent person believes the work site is unable to be accurately sampled using aggressive methods, then the APO or AOO must approve a waiver to conduct non-aggressive clearance sampling. The APO or AOO will coordinate with BE all clearance sampling.

- All ACM debris is to be labeled and double bagged in leak-proof 6-mil rated plastic and disposed of in accordance with 40 CFR 61.150 and 61.154.

6.3.3 ACM Removal

ACM that may release fibers to the air, or which cannot be reliably repaired or isolated, is to be removed. All health-related removals are based upon direct evaluation by the BE.

7.0 ACM ABATEMENT

7.1 Personnel Training

An employee information and training program has been established in accordance with 29 CFR 1926.1101 (k)(9)(v & vi) and 40 CFR 763.92 (a)(i), and includes the following:

- Annual asbestos awareness training will be conducted for all craftsmen and building custodians. This training will include basic asbestos identification, how to prevent ACM from becoming friable, and the maintenance of walls and ceilings that contain ACM. All Insulation Shop asbestos workers will be certified by the State of Alaska as asbestos abatement workers/supervisors and will maintain their certification. All Insulation Shop workers are trained as asbestos project inspectors and project designers.
- The Insulation Shop will develop a respiratory protection program, which will be reviewed and approved by BE. The respiratory protection program will explain to the employees that the proper uses, fitting instructions, and protection limitations of respirators. BE conducts individual respirator fit testing and training annually on all asbestos personnel.
- The Insulation Shop Foreman will ensure that the personnel involved in the maintenance, and abatement of ACM be properly trained and licensed. The required training includes annual refreshers and physicals. The Insulation Shop Foreman will maintain copies of the necessary training and licensing documentation.
- Additional training to be provided to Insulation Shop asbestos workers includes:
  - Air sampling equipment and calibration training.
  - Shop equipment training.
  - Respirator training.
  - Lockout/tagout training.
  - Confined space training.
  - Electrical safety training.
  - Ladder safety training.
  - Slip/trip/fall hazard training.
  - Occupational Safety and Health training.
  - Federal Hazard Communication training program.

7.2 Equipment and Supply Requirements

A comprehensive list of equipment and supplies used by the Insulation Shop listed in the Customer Authorization/Customer Listing supply account (CA/CRL) is maintained in the Insulation Shop. Shop tools may be purchased from Base Supply or through Civil Engineering Materials Acquisition System (CEMAS) but must be authorized through the Table of Allowance (TA) to do so. Tools not authorized

through Base Supply or CEMAS require AF Form 601 to be processed through Pacific Air Forces (PACAF) for approval.

7.3 Worker Manuals and Shop Procedures

In addition to this AMOP, manufacturers' guidance and operating instructions for Insulation Shop tools and supplies are available for worker review and use and maintained in the Insulation Shop along with the following documents: AFI 32-1052; AFOSH 161-21; Insulation Shop Operating Instructions (OI) 161-1; 161-2; 42 USC 7412; EPA Manual 20T-2003 ("Managing Asbestos In Place"); and 29 CFR 1910.1001 and 1926.1101.

7.4 Cleaning

The Insulation Shop will respond to reports of damaged or deteriorating ACM and clean up all visible dust by removing the materials in accordance with Section 6.3.2 of this plan and ensure that it is disposed of properly. Cleanup is considered complete for small-scale, short-duration repairs when visible dust is no longer present and when aggressive clearance air samples (if required) are no more than ambient air or no more than 0.01 f/cc. To be considered clean, major abatement projects must have air clearance samples no more than background ambient air or no more than 0.01 f/cc.

7.5 Documentation

All asbestos-related work can be tracked by searching the EPA Notifications of Demolition and Renovation, the Asbestos Log Book, lab sample results, personnel exposure records, and through the facility folders generated from the base survey. The AOO and BE maintain an exposure file on all past and present workers. Asbestos-related documents will be retained in accordance with Air Force Regulation (AFR) 4-20, Vol. II, T19, and R17, which instructs that they be held 50 years or until the year 2037, whichever is greater:

- Facility folders and copies of the sample results are initially maintained by the Insulation Shop for a period of 2 years and then maintained in the Environmental Planning inactive files for 3 more years. They are then transferred to the base archive files.
- The BE, by social security number, maintains all personnel exposure results.
- The Asbestos Log Book contains names of workers, job or work order number, building number, equipment used, man-hours, total square ft/linear ft removed, and date of completion. The US Air Force will maintain such documentation for a period of 30 years, after an employee leaves the job or changes the trade.

7.6 Yearly Budget Estimates

The Insulation Shop at EAFB has a permanent dedicated work force funded through their own operations and maintenance (O&M) budget (cost center 464475). The budget for the cost center is handled by CES/CERF. The analytical and training support for the Insulation Shop is funded by the O&M budget.

8.0 ACM REMOVAL

8.1 Procedures

Procedures to be followed during ACM abatement projects are specified in 40 CFR 61.145, 61.152, 29 CFR 1910.1001, and 29 CFR 1926.1101. Wherever necessary, a negative pressure enclosure will be established prior to beginning removal, demolition, and renovation projects.

- Asbestos abatement areas are isolated from non-contaminated areas by the use of physical barriers and controlling the ventilation system. The isolation walls are constructed of at least two layers of 4-mil rated plastic. The floors are constructed of at least two layers of 6-mil rated plastic. When a HEPA ventilation system is used, there must be enough air handlers in the work area to totally exchange the air every 15 minutes and suction pressure must be maintained at no less than a minus 0.02 inch of water column to prevent migration of fibers outside the containment area.
- The competent person will ensure the enclosure integrity and control access to the entrance and exit.
- The competent person inspects and maintains all engineering controls.
- All employees will wear the appropriate respirator, protective clothing, and use all the engineering controls and decontamination procedures they were trained in for each type of abatement project. When clothing rips or tears while in an abatement enclosure, it will be immediately repaired or replaced.
- Where feasible, clearance air and personnel monitoring will be conducted on all asbestos abatement projects. Aggressive clearance sampling is to be used when feasible. Where feasible, BE will conduct clearance and personnel sampling on in-house RACM abatement projects. All required monitoring would be supervised by the competent person. All air monitoring results for in-house projects are to be given to BE for filing purposes, and copies of all air monitoring results from in-house projects requiring regulatory notification will be forwarded to the Insulation Shop for incorporation into the project folder. A copy of the personal sample results will be made available to the individual who was air sampled.
- Engineering and work practices used on major abatement projects to reduce asbestos exposure include local exhaust ventilation and vacuums equipped with HEPA filters, enclosures, wetting agents, wet removal methods during cutting, handling, removal, cleanup, and prompt disposal of ACM waste in labeled leak-proof containers. Small-scale, short-duration projects use as many of the above mentioned controls as needed to reduce employee exposure to the lowest level feasibly attainable.
- At no time during the removal process will abrasive machinery be used without having the appropriate dust controls on it.
- No smoking, drinking, or eating is allowed in the contaminated area. Personnel must complete full decontamination prior to engaging in any of these activities.
- Friable asbestos enclosures will have a dirty shower and clean room adjacent to the work area. All employees will remove gross contamination from their protective clothing prior to entering the dirty room. Employees will remove their protective clothing and dispose

of it in the labeled bag or container. The employee wears his respirator at all times while in the dirty room. The enclosure will have a shower room between the dirty and clean room. All employees will shower prior to removing and cleaning their respirators. A labeled bag or container is used to dispose of the respirator filters. The enclosure will have a clean room, which will be used by the employees to change into street clothes.

- Warning signs are to be posted at the work site.

8.2 Emergency Actions

Fiber release episodes are events where visible emissions or gross contamination is present and may be due to unforeseen accidental or purposeful damage. Guidelines for corrective measures are listed in 40 CFR 763.90. Corrective procedures include:

- Immediate restriction of access.
- Isolating the area by posting warning signs as appropriate to protect human health and the environment.
- Shutting down or modifying the air handling equipment to the area.
- Wetting debris with amended water.
- Enclosing or encapsulating the affected area as appropriate
- Collecting loose or fallen asbestos-containing debris in marked 6-mil disposal bags.
- Cleaning the area with wet cleaning or HEPA vacuuming.
- Instituting protective measures to prevent further damage to the affected area.
- Repairing the damaged area as soon as possible.
- Disposing of contaminated materials.
- Verbal removal notification to the EPA, if required.
- Daily activity reports and sample reports will be filed with the Insulation Shop.
- Contact CES/CEVQ Air Manager at (907) 377-3313
- Ensure the BE and a competent person inspect test the affected area to ensure the mitigation and repair activity was properly completed. This action shall include taking air samples from the affected area to a properly accredited laboratory for analysis.

8.3 ACM Disposal

The enclosures are to be dismantled inward, one layer at a time, double bagged, and labeled as asbestos waste for disposal after clearance samples have proven the area contains less than 0.01 f/cc.

All waste containers are to be labeled in accordance with the requirements of 29 CFR 1910.1200 (f).

All labeled, double-bagged waste containers are to be disposed of in the Alaska Department of Environmental Conservation (ADEC)-permitted asbestos, remediated soils, and coal ash landfill (Permit 0231-BA001) at EAFB in accordance with ADEC permit requirements. The vehicle used to

transport ACM waste will be covered. Workers will wear respirators and exercise great care during loading and unloading ACM for disposal to ensure no visible emissions are created.

NOTE: Liquids/sludge generated from mastic or adhesive removal will be containerized and turned in to the Civil Engineering (CE) Hazwaste Facility, 377-1668, for proper disposal through the Defense Reutilization and Marketing Office (DRMO).

Disposal records will be maintained by the Insulation Shop in the facility folder. Information collected will include type and quantity of material, work order or contract number, and disposal date.

8.4 Building Disposal

Air Force facilities in the process of being declared excess property shall be inspected by the Insulation Shop, at the request of the Real Property Office, prior to disposal.

The Real Property Office is responsible for coordinating the Facility Disposal Report (AF Form 300) through APO and AOO to indicate the presence or absence of asbestos.

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ACRONYMS & ABBREVIATIONS

AAC	Alaska Administrative Code
ACM	Asbestos-containing Material
ACBM	Asbestos-containing Building Material
ADEC	Alaska Department of Environmental Conservation
AF	Air Force
AFR	Air Force Regulation
AFI	Air Force Instruction
AFOSH	Air Force Occupational and Environmental Safety, Fire Prevention, and Health Program
AHERA	Asbestos Hazard Emergency Response Act
AMOP	Asbestos Management and Operations Plan
AOO	Asbestos Operations Officer
APO	Asbestos Program Officer
ASHARA	Asbestos School Hazard Abatement Reauthorization Act
BE	Bioenvironmental Engineering
CA/CRL	Customer Authorization/Customer Listing
CE	Civil Engineering
CEC	CE Contracts Flight
CEH	CE Housing Management
CEMAS	CE Materials Acquisition System
CEO	CE Operations
CEO-2	CEO Operations Branch
CEOE	CEO Maintenance Engineering and Work Order Management
CEOM	CEO Mechanical Systems
CEOMI	CEO Insulation Shop
CER	CER Resources Flight
CERF	CER Finance
CERR	CER Real Property
CES	Civil Engineering Squadron
CES/CC	Civil Engineering Squadron, Commander
CEVQ	CE Environmental Quality
CFR	Code of Federal Regulations
DD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
EAFB	Eielson Air Force Base
EPA	Environmental Protection Agency

f/cc	Fibers per Cubic Centimeter
FSO	Flight Surgeon's Office
ft^2	Square Foot
ft^3	Cubic Foot
GC	General Contractor
GRADE	Guidance for Rating and Assessing Damage and Exposure
HEPA	High Efficiency Particulate Air
m^2	Square Meter
m^3	Cubic Meter
MDOS/SGOAB	EAFB, Medical Operations Sq./Surgeon General Operations Aerospace Medicine Bioenvironmental Engineering
NESHAP	National Emission Standard for Hazardous Air Pollutants
O&M	Operations and Maintenance
OI	Operating Instructions
OSHA	Occupational Safety and Health Administration
PACAF	Pacific Air Forces
PEL	Permissible Exposure Limit
PH	Public Health
RAC	Risk Assessment Code
RACM	Regulated Asbestos-Containing Material
SABER	Simplified Acquisition Base Engineering Requirements
TA	Table of Allowance
TWA	Time-weighted Average
USAF	United States Air Force
USC	United States Code

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DEFINITIONS

Aggressive Sampling - Air sampling conducted with the help of a fan or blower to increase air movement.

Amended Water - Water to which a surfactant has been added.

Asbestos Containing Material (ACM) - Asbestos or any material containing asbestos.

Asbestos Containing Building Material (ACBM) - Any building material containing asbestos.

Asbestos Fibers - A particulate form of asbestos, tremolite, chrysotile, crocidolite, anthophyllite or actinolite, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

Competent Person - One who is capable of identifying existing asbestos or hazards in the work place and who has the authority to take prompt corrective measures to eliminate them as specified in 29 CFR 1926.32 (f).

Demolition - The wrecking or taking out of any load supporting structural member of a facility together with any related handling operations.

Destructive Survey - Deliberately disturbing outer surface (as in walls, ceilings, or floors) in order to survey materials underneath it.

Emergency Survey - An immediate visual or destructive inspection of a suspected contaminated work site for the presence of asbestos.

Enclosure - A structure that is constructed to isolate a contaminated work area from a non-contaminated area.

Facility - Any institutional, commercial, or industrial structure, installation, or building.

Friable - Any material that contains more than 1 % asbestos by weight and can be crumbled, pulverized, or reduced to powder (when dry) by hand pressure.

Major Abatement Projects - An operation that requires at least 160 square feet, 260 linear feet or 35 cubic feet of friable asbestos to be removed.

Non-RACM Waste - Asbestos-containing material that is not friable or is not likely to become friable during the demolition or renovation activities.

Renovation - Altering in any way one or more facility components.

RACM Waste - Any asbestos-containing material that contains more than 1% asbestos and is friable.

Small Scale Short in Duration - These projects include the use of glove bags, the removal of an entire asbestos covered pipe or structure, the construction of mini-enclosures, enclosure of asbestos materials, and maintenance programs.

Surfactant - A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

Visible Emissions - Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material. This does not include condensed, uncombined water vapor.

Wetting Agent - A compound that causes a liquid to spread more easily across or penetrate into the surface of a solid by reducing the surface tension of the liquid.

Map of EAFB

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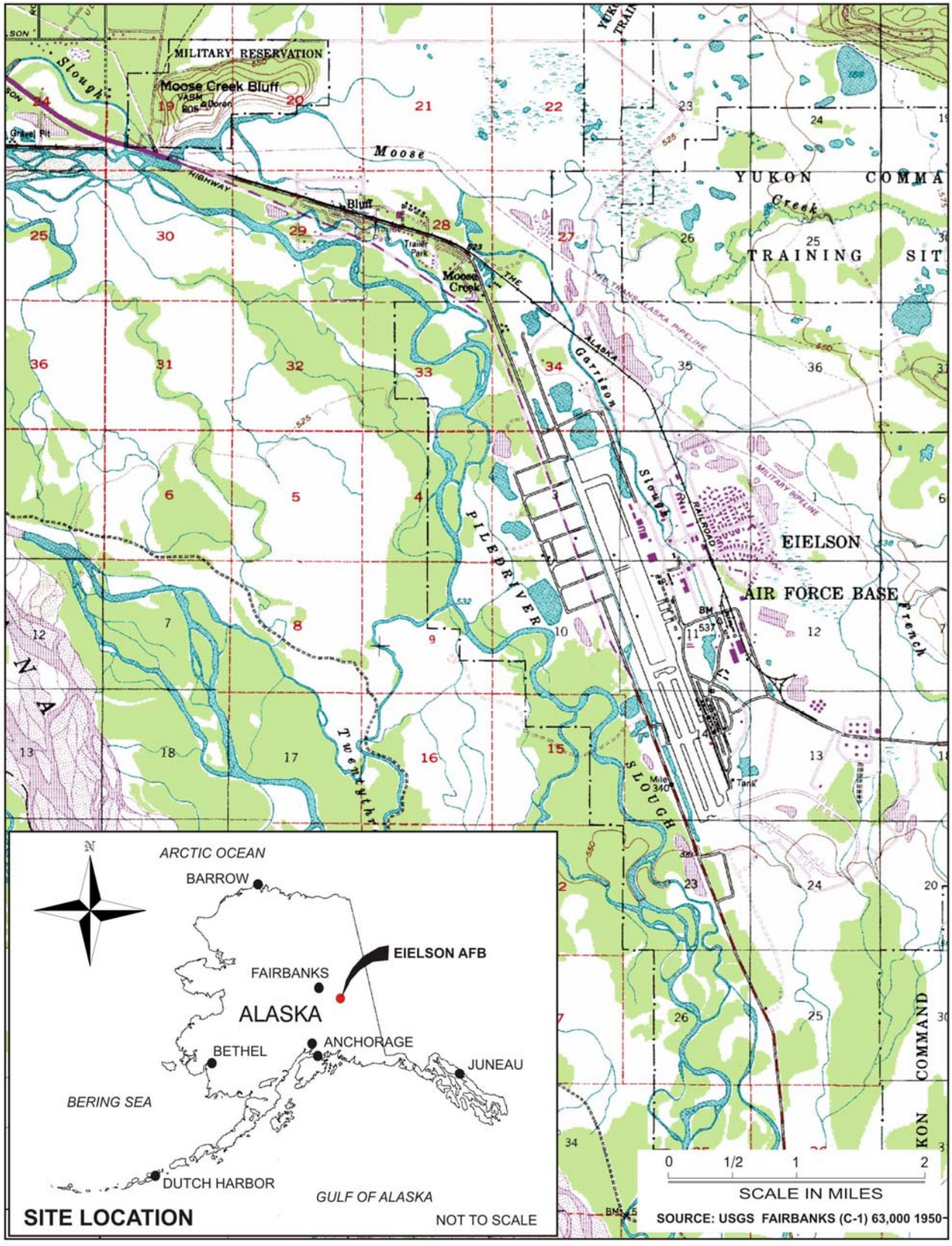
MILITARY RESERVATION
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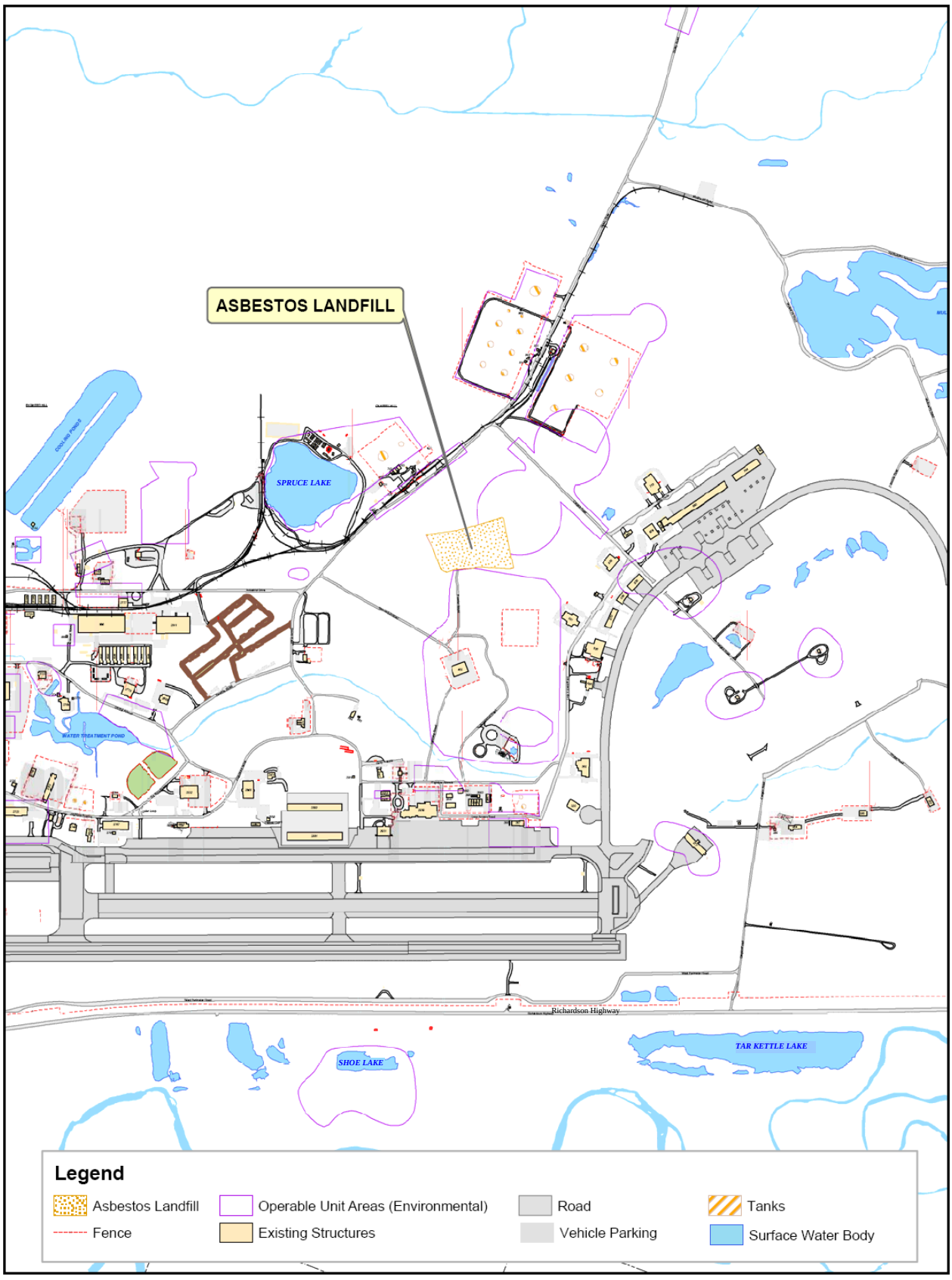
Moose Creek
Bluff
Trailer Park
Gravel Pit
HIGHWAY
Slough
Moose
Creek
YUKON COMMA
TRAINING SIT
ALASKA
Garrison
PILEDRIVER
Slough
RAILROAD
EIELSON
AIR FORCE BASE
French
SLOUGH
Tank
COMMAND
ARCTIC OCEAN
BARROW
EIELSON AFB
FAIRBANKS
ALASKA
ANCHORAGE
BETHEL
JUNEAU
BERING SEA
DUTCH HARBOR
GULF OF ALASKA
SITE LOCATION
NOT TO SCALE
0 1/2 1 2
SCALE IN MILES
SOURCE: USGS FAIRBANKS (C-1) 63,000 1950


ASBESTOS LANDFILL
SPRUCE LAKE
COOLING POND D
WATER TREATMENT POND
Richardson Highway
SHOE LAKE
TAR KETTLE LAKE
Legend
Asbestos Landfill
Fence
Operable Unit Areas (Environmental)
Existing Structures
Road
Vehicle Parking
Tanks
Surface Water Body

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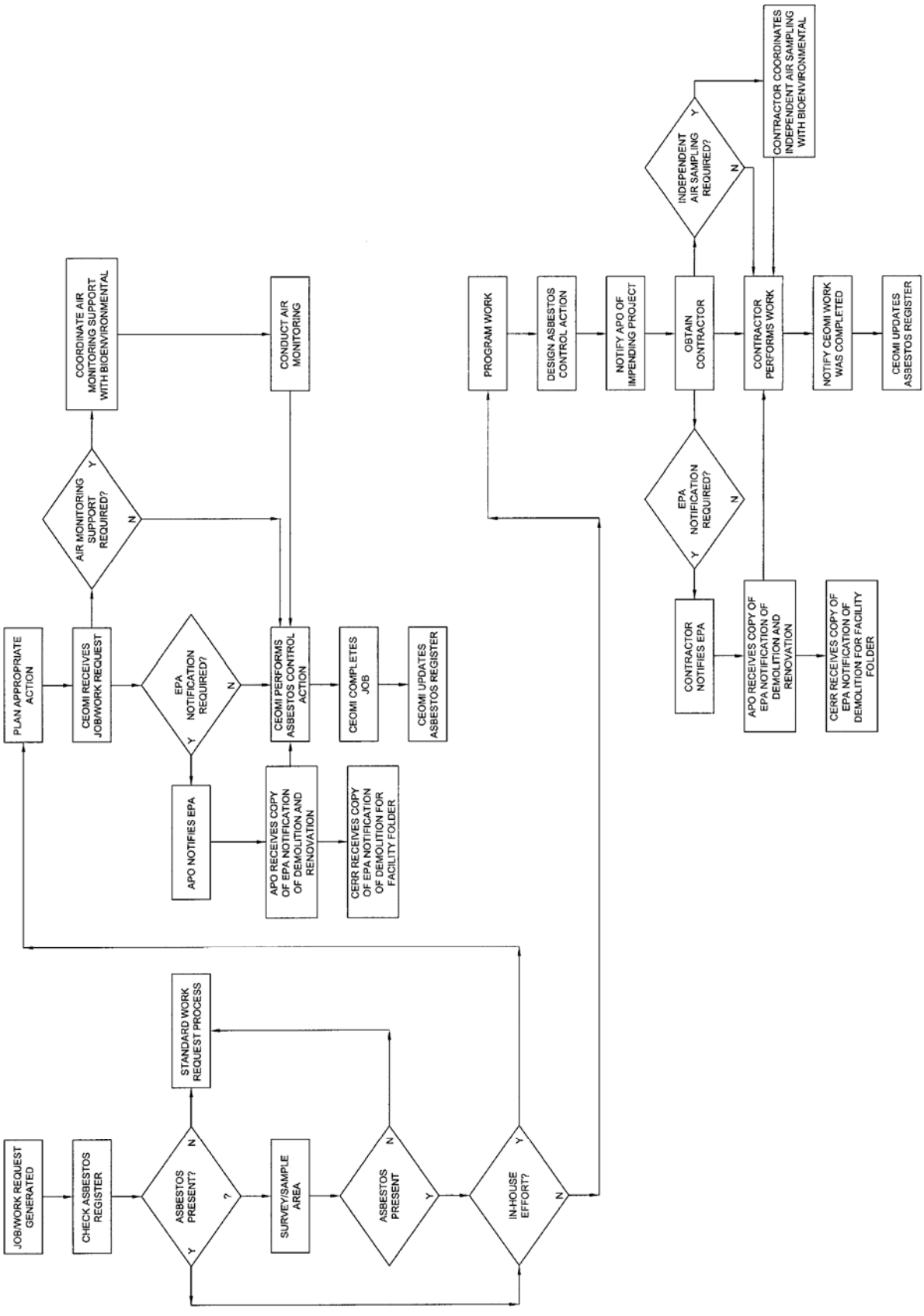
ASBESTOS WORK REVIEW



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Asbestos Survey Form

EIELSON AFB ASBESTOS SURVEY FORM

Date of Survey: _____

Facility: _____

Surveyor: _____

Building	Floor	Room	Sample	Type	Photo/description

Dimensions (feet): Length _____ Width _____ Height _____

Ceiling Shape (Circle): Flat - Sloped - Folded Plate - Barrel

Other (Specify): _____

Type of Ceiling (Circle): Concrete - 3 Coat Plastered System - Suspended Metal Lath - Concrete - Joists and Beams - Tile - Suspended Lay-In Panels - Metal Deck - Corrugated Steel - Steel Beam or Bar Joists - Plasterboard

Other (Specify): _____

Ventilation Ducts Present? Yes - No

Type of Wall(s) (Circle): Smooth Concrete - Rough Concrete - Masonry - Plasterboard - Wood

Other (Specify): _____

Ventilation Ducts Present? Yes - No

Type of Floors: Concrete - Tile - Wood - Carpet

Other (Specify): _____

Ventilation Ducts Present? Yes - No

Type of Lighting: Surface Mounted - Suspended - Recessed

Other (Specify): _____

Type of Heating System: Radiant - Forced Air - Unit Heaters

Other (Specify): _____

Type of Ventilation System: (Specify Whether Ducted, etc.)

_____

Floor Drains/Water Source Present? Yes - No

Electrical Power Source Available? Yes - No

ACM Coated Areas (Circle): Ceiling - Walls - Structural Members -

Above Suspended Ceiling - Pipe - Lagging

Other (Specify): _____

Location: _____

Amount of Material Being Evaluated _____Sq Ft _____ Ln Ft

_____ Hard Fittings

Type of Covering (Circle): Air Cell - Surface - Hard White

Other (Specify): _____

		Pipe Ins.	Surface Ins.	
Condition Factor	I	0 2 5	0 2 5	Condition of Material
	II	0 1 2	0 1 2	Water Damage
	III	0 1 4	0 1 4	Exposed Surface Area
	IV	0 1 4	0 1 4	Accessibility
	V	0 1 2	0 1 2	Activity/Movement
	VI	0 1	0 1	Direct Air Stream/Plenum
	VII	0 1 2 3	0 1 2 3	Friability
	VIII	0 2 3	0 2 3	% Asbestos

Sum _____

Product _____

Exposure Number_____

What is in ceiling areas above the room being evaluated? _____

What is in the crawl space/basement beneath room being evaluated? _____

Guide Sheet for Using Eielson AFB Asbestos Survey Form

CONDITION FACTORS

FACTOR I CONDITION OF MATERIAL (fiber release)
- 0 No damage (material intact)
- 2 Moderate damage, small areas 10% or less (material is breaking)
- 5 Widespread, severe damage. 10% or more (material is damaged)

FACTOR II WATER DAMAGE (water stains)
- 0 No water damage (no water stains)
- 1 Minor water damage, 10% or less in material (minor water stains)
- 2 Moderate to major water damage (material dislodged by water)

FACTOR III EXPOSED SURFACE AREA (to people)
- 0 Material not exposed (not visible without removal of panels)
- 1 10% or less of material exposed (a few panels removed)
- 4 10% or more of material exposed

FACTOR IV ACCESSIBILITY (to building users or maintenance people)
- 0 Not accessible (cannot contact the material)
- 1 Rarely accessible to material (contact by abnormal activity)
- 4 Highly accessible to material (contacted frequently)

FACTOR V ACTIVITY AND MOVEMENT (of people and vibration of equip)
- 0 None or low activity (such as offices and libraries)
- 1 Moderate activity of people (such as corridors and classrooms)
- 2 High activity level of people (such as gyms, cafeterias mach. Rms)

FACTOR VI AIR PLENUM OR DIRECT AIR STREAM
- 0 No air plenum or direct air stream present
- 1 Air plenum or direct air stream present (dust patterns)

FACTOR VII FRIABILITY
- 0 Not friable (hard and crusty)
- 1 Low friability (difficult yet possible to damage by hand)
- 2 Moderate friability (easy to dislodge and crush or pulverize)
- 3 High friability material (is fluffy, spongy, or flaking)

FACTOR VIII ASBESTOS CONTENT
- 0 Trace amounts up to 1%
- 2 1% to 50%
- 3 50% to 100%

EXPOSURE NUMBER CALCULATION

1. SUM factors 1 through 6, enter opposite sum.
2. MULTIPLY factors 7 by 8, and enter opposite product.
3. MULTIPLY sum by product, and enter opposite exposure number.
4. 0 to 12 correction action can be deferred.
5. The higher the exposure number, the higher the priority.

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ASBESTOS INFORMATIONAL HANDOUT

1. The intent of this informational handout is to provide building occupants basic information and practical guidance on how to identify and manage Asbestos Containing Material (ACM) within their home or office.

2. Asbestos was frequently used in construction and renovation projects on EAFB until the early 1980s. The presence of asbestos in a building does not necessarily mean the health of building occupants is endangered. ACM becomes a concern when building maintenance, repair, renovation, or other activities disturb or damage ACM. These actions, if done improperly, may cause a release of asbestos fibers, which could then be inhaled.

3. Things all occupants should know about asbestos:

   - There are two types of ACM: friable and non-friable. Friable material can be crumbled, pulverized, or reduced to powder by hand pressure. Friable material is of greatest concern because of its ability to release asbestos fibers into the air. One common example of this type of material is pipe insulation. Non-friable ACM, while less likely to release fibers, is common in floor tiles and construction mastics.

   - Eielson has three different types of pipe insulation: a white, chalky mixture of magnesia and asbestos, commonly called "Mag," gray, corrugated paper coated with asbestos, commonly called "Air Cell," and fiberglass which is usually yellow or orange and does not contain asbestos.

   - If you do have asbestos in your home or office, make sure it is in good shape with no frayed ends or holes in the pipe wrapping, no crumbling tile, and no crumbling fire-resistant asbestos wallboard (usually located behind heating pipes). Any white powder or gray, corrugated paper visible on or under your heating pipes is of concern and should be reported. Damaged insulation will be repaired promptly by trained and experienced workers when occupants call CE Service desk at extension 377-2100.

   - Things people can do to prevent damaging pipe insulation:
     - Do not allow children, pets or personnel to damage pipes.
     - Do not place furniture (desks, bed frames, cabinets, etc.) against these pipes
     - Do not bang vacuum cleaners against pipes
     - Do not use pipes as clotheslines
     - Do not use pipes as ladders
     - Do not use pipes as shelving for storing boxes, boots, etc.

4. Public awareness is an essential element of any successful environmental program. Chances of asbestos exposure are greatly reduced by having more people conscious of what to look for and how to prevent damage to ACM within their environment. If you have any questions concerning asbestos, please do not hesitate to contact your facility manager or Mr. Steve Stringham, 354 CES/CEVQ, at 377- 2922.

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Record of Revisions

RECORD OF REVISIONS

354TH FIGHTER WING (PACAF)
Eielson AFB, Alaska 99702-1899

1. The long title of this plan is Eielson Air Force Base Asbestos Management and Operations Plan (AMOP).

2. This document is For Official Use Only, reproduction of this plan in whole or in part is authorized as required for planning and operational purposes.

3. All changes should be posted as they are received and recorded below.

Revision Number & Description	Date Revised	Posted by

RECORD OF ANNUAL REVIEW

Date Reviewed	Comments	Reviewed by