UNITED STATES AIR FORCE
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

ENVIRONMENTAL RESTORATION PROGRAM

JOINT BASE ELMENDORF-RICHARDSON COMMUNITY INVOLVEMENT PLAN

FINAL

SEPTEMBER 2011

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LIST OF ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AFB	Air Force Base
AOC	Area of Concern
ARLIS	Alaska Resources Library and Information Services
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
CEB	Community Environmental Board
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIP	Community Involvement Plan
DDD	Dichlorodiphenyldichloroethane
DDT	Dichlorodiphenyltrichloroethane
DERA	Defense Environmental Restoration Account (see ERA)
DoD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
DVD	Digital Versatile Disc
EE/CA	Engineering Evaluation/Cost Analysis
ERA	Environmental Restoration Account (formerly Defense Environmental Restoration Account)
ERP	Environmental Restoration Program
FFA	Federal Facilities Agreement
FFCA	Federal Facilities Compliance Act
FUDS	Formerly Used Defense Sites
HVE	High-Vacuum Extraction
IRA	Interim Remedial Action
IRP	Installation Restoration Program
JBER	Joint Base Elmendorf-Richardson
LTM	Long-Term Monitoring
MMRP	Military Munitions Response Program
MOA	Memorandum of Agreement
NFA	No Further Action
NCP	National Oil and Hazardous Substances Pollution Contingency Plan

NPL	National Priorities List
OU	Operable Unit
O&M	Operation and Maintenance
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyls
POL	Petroleum, Oil, and Lubricants
PSE	Preliminary Source Evaluation
RA	Remedial Action
RAB	Restoration Advisory Board
RA-O	Remedial Action-Operation
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RIP	Remedy in Place
ROD	Record of Decision
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act of 1986
SERA	State-Elmendorf Environmental Restoration Agreement
SVE	Soil Vapor Extraction
TAG	Technical Assistance Grant
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UAA	University of Alaska Anchorage
USARAK	U.S. Army, Alaska
USC	United States Code
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

PURPOSE OF THE 2011 COMMUNITY INVOLVEMENT PLAN

The installations of Elmendorf Air Force Base (AFB), Alaska, and the Army's Fort Richardson, Alaska, combined in 2010 to form Joint Base Elmendorf-Richardson (JBER) (pronounced "J-bear"), as a result of 2005 Base Realignment and Closure (BRAC) decisions. The joining of the installations to become JBER is intended to be transparent to the installation's Alaska neighbors.

While military missions of the Air Force and Army units will remain separate, JBER is consolidating service-specific programs performing installation support functions. Among these service-specific programs is the area of environmental services. The merging of the environmental programs creates the need to merge planning documents, which includes the CIP.

This Community Involvement Plan (CIP) was developed to encourage community involvement in environmental restoration program site activities and facilitate two-way communication between JBER staff and residents of JBER and surrounding communities. This comprehensive joint base plan incorporates feedback from a community survey conducted in April 2011.

The purpose of the plan is to outline the actions joint base staff will take to inform and involve community members and interested parties concerning the joint base Environmental Restoration Program. The plan includes the cooperative efforts of the United States Air Force (USAF), Alaska Department of Environmental Conservation (ADEC) and United States Environmental Protection Agency (USEPA) representatives. The restoration activities at JBER will comply with state and federal laws, which encourage public input in the development of proposed cleanup activities.

This plan includes an introduction to the community involvement program and environmental restoration regulatory processes; background on the history of the installation; summary of restoration activities and environmental status at specific sites; profile of the community's concerns; and planned activities for community involvement based on data collected from an April 2011 community survey. A glossary of terms used in the CIP is provided in Appendix A.

1.0 Introduction to the Community Involvement Program and Regulatory Process

This Community Involvement Plan (CIP) was prepared for known and suspected contaminated sites identified under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at Joint Base Elmendorf-Richardson (JBER). In August 1990, Elmendorf Air Force Base (AFB) was placed on the United States Environmental Protection Agency's (USEPA) National Priorities List (NPL), and Fort Richardson was added to the list in June 1994. Both installations had evidence of releases of hazardous substances to the soil and groundwater. CERCLA requires preparation of a CIP for all NPL site.

1.1 Community Involvement Program Overview

The USEPA developed the CERCLA Community Involvement Program to ensure the opportunity for public involvement in all environmental cleanup actions. The USEPA and Alaska Department of Environmental Conservation (ADEC) are also involved with the Community Involvement Program as oversight agencies to ensure that the public's concerns are addressed.

The first step in the Community Involvement Program is the development of the CIP, formerly known as the Community Relations Plan. The first Elmendorf AFB Community Relations Plan was published in January 1992; the original Fort Richardson Area-wide Community Relations Plan was published in April 1995. An Interim CIP published in 2010 combined and updated the 2004 versions of these documents. This is a comprehensive joint base CIP that incorporates the results of a community survey completed in April 2011 (USAF, 2010).

The plan outlines the strategy the USAF staff will use to inform and engage residents of the installation and adjacent communities in decision-making opportunities regarding cleanup activities at JBER, in consultation with USEPA and ADEC. The plan also provides background information on the installation, environmental restoration actions, community involvement, and community concerns used to develop the plan. JBER has sought input from local communities and provided the public with opportunities to take part in all site-related decisions at the installation. A summary of restoration activities and environmental status at the specific sites is provided in Appendix B.

This plan is organized into four sections:

- Section 1 contains an introduction and general discussion of CERCLA and regulatory processes;
- Section 2 provides historical information and a description of JBER;
- Section 3 describes the local community and their previous concerns related to environmental restoration at JBER; and
- Section 4 describes the planned community involvement activities based on the results of the community survey conducted in April 2011.

The conclusions drawn in this CIP are based on 55 interviews and surveys conducted in April 2011. Participants in these discussions included government agency representatives, community business representatives, Community Environmental Board (CEB) members, and environmental groups. Conclusions also consider input received through other public outreach efforts such as quarterly CEB meetings and public queries.

1.2 The CERCLA Process

Congress enacted CERCLA, also known as Superfund, in 1980. CERCLA established a nationwide process to clean up hazardous waste disposal and spill sites and to determine which sites posed the greatest risk to public health and the environment. In 1986, Congress passed the Superfund Amendments and Reauthorization Act (SARA), which amended and reauthorized CERCLA.

The NPL is USEPA's prioritized list of sites that require action under CERCLA. USEPA prioritized sites according to their Hazard Ranking System, a scoring system that evaluates potential risks to public health and the environment from releases or threatened releases of hazardous substances. The score is based on the actual or potential release of hazardous substances from a site through air, soil, surface water, or groundwater. This score is the main factor used to include a site on the NPL. Once a site is included on the NPL, it becomes eligible for investigation and cleanup under CERCLA. Because Fort Richardson and Elmendorf AFB, (now JBER), are Department of Defense (DoD) sites, all investigations and restoration activities are conducted under the Defense Environmental Restoration Program (DERP) (DoD, 2011; DoD, 1996; United States Code [USC], 2011).

This program, under the direction of DoD, has created two main program categories to effectively address hazardous substances, pollutants, contaminants, and military munitions at thousands of diverse sites. The Installation Restoration Program (IRP) and the Military Munitions Response Program (MMRP) address cleanup activities at DoD installations and formerly used defense sites (FUDS) (DoD, 2011).

The IRP -- the more mature of the two programs -- addresses the releases of hazardous substances, pollutants, and contaminants from past commonly accepted practices on DOD installations. A program for more than 20 years, the IRP is operated based on well-established procedures to identify contamination, assess risk, and then take action.

The MMRP was created in fiscal year 2001 to enhance the response activities of the DERP. The MMRP is focused on environmental and safety hazards from unexploded ordnances, waste military munitions, and chemical residue of munitions remaining from past operations at other than operational ranges at active and BRAC installations, and FUDS.

Together, these two program categories address DoD's cleanup requirements within a framework allowing for allocation of resources, planning, and oversight to reduce risk to human health and the environment through environmental restoration activities.

Specific goals of the DERP include the following:

- Identification, investigation, and cleanup of contamination from hazardous substances, pollutants, and contaminants;
- Correction of other environmental damage that may create an imminent and substantial threat to public health or welfare or to the environment; and
- Demolition and removal of unsafe buildings and structures, including buildings and structures at sites formerly used by DoD or under the jurisdiction of the Secretary of Defense.

Within the restoration program and CERCLA, both Fort Richardson and Elmendorf AFB investigated their respective sites to determine appropriate actions. After the creation of JBER, the Air Force, as the supporting component, will be responsible for the management and disposition of Fort Richardson's environmental permits, orders and compliance agreements as outlined in the JBER Memorandum of Agreement (MOA). The MOA also states the transfer of the supported component ERP management responsibilities to the supporting component will occur January 31, 2010.

The initial step in the CERCLA process was to conduct a Preliminary Source Evaluation (PSE) to determine the site's location, past operations, and whether further study was needed. Based on results and information collected during the evaluation, the installation submitted a PSE report containing the findings of the investigation to ADEC and USEPA for review and comment. The Army, Air Force, ADEC, and USEPA cooperatively decided if the findings warranted additional investigation of the potential sources or if no further action (NFA) was necessary for their respective sites (DoD, 2011; USC, 2011). A decision of NFA at a potential source required mutual consent by project managers from the installation, ADEC, and USEPA, and all parties then signed a No Further Action Decision Document. If further action was warranted, efforts at the source area continued with some or all of the steps outlined below:

1. Remedial Investigation/Feasibility Study (RI/FS) – An RI/FS focuses on determining the type and extent of contamination at the site and identifying possible cleanup alternatives. A Risk Assessment, which identifies potential environmental and human health risks related to contamination detected on site, is prepared during the RI/FS. If a situation is identified at any time during the process that poses an immediate danger to human health or the environment, a removal action is conducted. A removal action is an action taken over the short term to address a release of hazardous substances.

A Feasibility Study (FS) is conducted at the same time as the RI to the extent possible. The purpose of the FS is to develop and analyze various cleanup alternatives and to recommend appropriate actions.

Upon completion of the FS, a cost-effective, preferred treatment for the site is identified and presented to the public in a Proposed Plan. The Proposed Plan contains a discussion of the preferred alternative and other alternatives considered. A public comment period and a public meeting are provided for the public to review and comment on the Proposed Plan.

2. Engineering evaluation/cost analysis (EE/CA) – This is a CERCLA process used to achieve cleanup of the sites that fall into what the USEPA classifies as non-time critical removals. These sites require cleanup but not as urgently as sites that pose a more immediate threat to the public. This process involves a modified RI/FS, an analysis to determine possible remedies, a public comment period, selection of a remedy or remedies and removal action. Like other CERCLA actions, it may also result in institutional controls (such as deed restrictions, digging restrictions, etc.) to limit future use of the site.

3. Treatability Studies – If existing information is insufficient to adequately evaluate alternatives, laboratory tests may be necessary to evaluate the effectiveness of a particular remedial technology for treating specific contaminants found at the facility. In some situations, a study may be necessary to develop a more accurate cost estimate for particular treatment technologies.

4. Record of Decision (ROD) – A ROD is prepared using information obtained during the public comment period and the RI/FS to select a remedy for the site. The ROD includes all facts, analyses of facts, comparison of alternatives, and site-specific policy determinations considered during the selection process. Part of the ROD contains a responsiveness summary. This section summarizes significant public comments and new relevant information that was obtained during the preceding public comment period. The installation provides a response to each issue. An action memorandum serves the same purpose for an EE/CA.

5. Remedial Design (RD): This activity, which follows the ROD, involves developing the engineering specifications for the actual remediation or cleanup.

6. Remedial Action (RA): This is the actual construction or implementation phase that follows the design of the selected cleanup alternative.

7. Remedy in Place (RIP): This DoD term is roughly equivalent to USEPA's "construction complete" milestone. Generally, this is when physical construction of all cleanup systems for a particular site is complete, all immediate threats have been addressed and all long-term threats are under control.

8. Operation and Maintenance (O&M): This is the operation and maintenance of remedial cleanup systems placed on site during Remedial Action construction.

9. Long-Term Monitoring (LTM): This is the monitoring of contaminated soil or groundwater to ensure that remedial cleanup systems are operating effectively. The goal of LTM is to show a decrease in contaminant levels over time. Depending on the remedial system and the contaminants of concern, monitoring is conducted quarterly, biannually, or annually.

10. Response Complete (RC): This is a status determination that the restoration actions are complete and the site is no longer a threat to the public health or the environment. After regulators agree to terminate long-term response actions at a site, the restoration program can work toward site closeout.

11. Site Closeout (SC): This stage is reached when no further response actions under the restoration program are appropriate or anticipated and the regulatory agencies concur. Upon completion of the final five-year review, the program officials and regulatory agencies will work to agree that response actions can be terminated and the individual site is closed out. At NPL sites, this step includes following proper procedures for deletion (also called de-listing) from the NPL.

The time needed to complete each of these steps is different for each site. For example, an RI/FS may take two years to complete; design of a long-term cleanup solution may require 12 to 18 months; implementation of the final long-term cleanup may require several years; and treatment of contaminated groundwater may take decades. However, if a site poses an immediate threat to public health or the environment at any time during the remedial process, the Air Force, ADEC, or USEPA can intervene with an emergency response action or removal action.

To monitor the process, five years following the signature of the installation's first ROD, a Five-Year Review is required. The Five-Year Review is an evaluation of activities to ensure that remedies selected in the RODs continue to be protective of human health and the environment. Five-Year Reviews for Elmendorf AFB sites were completed in 1998, 2003 and 2008. Five-Year Reviews for Fort Richardson sites were completed in 2003 and 2008. Subsequent reviews are scheduled every five years as long as hazardous substances, pollutants, or contaminants remaining at the site are above levels that allow for unlimited use and unrestricted exposure. Copies of review documents are located in the Information Repositories.

All original documents including correspondence, public comments, the ROD, technical reports upon which the agencies base their remedial action selection make up the Administrative Record. Those documents from the Administrative Record that are available to the public are maintained in Information Repositories.

1.3 Federal Facility Agreements

A Federal Facility Agreement (FFA) is an agreement signed by respective agencies to manage site cleanup under CERCLA. The Air Force, USEPA Region 10, and ADEC signed an FFA for Elmendorf AFB in November 1991. The Army, USEPA Region 10 and ADEC signed an FFA for Fort Richardson in December 1994. The FFA ensures that environmental impacts associated with past practices at each installation are investigated and appropriate actions are completed to protect human health and the environment. This agreement sets deadlines, objectives, responsibilities, and procedural framework for cleanup. These FFAs will remain separate and the sites will continue to be managed under the terms of the original FFAs.

1.4 Two-Party Agreements

Source areas where petroleum contamination was the only contaminant are excluded from the CERCLA process and cleaned up based on state requirements. Sites in this category were referred to as a Two-Party Agreement between the Air Force and the State of Alaska or the Army and the State of Alaska.

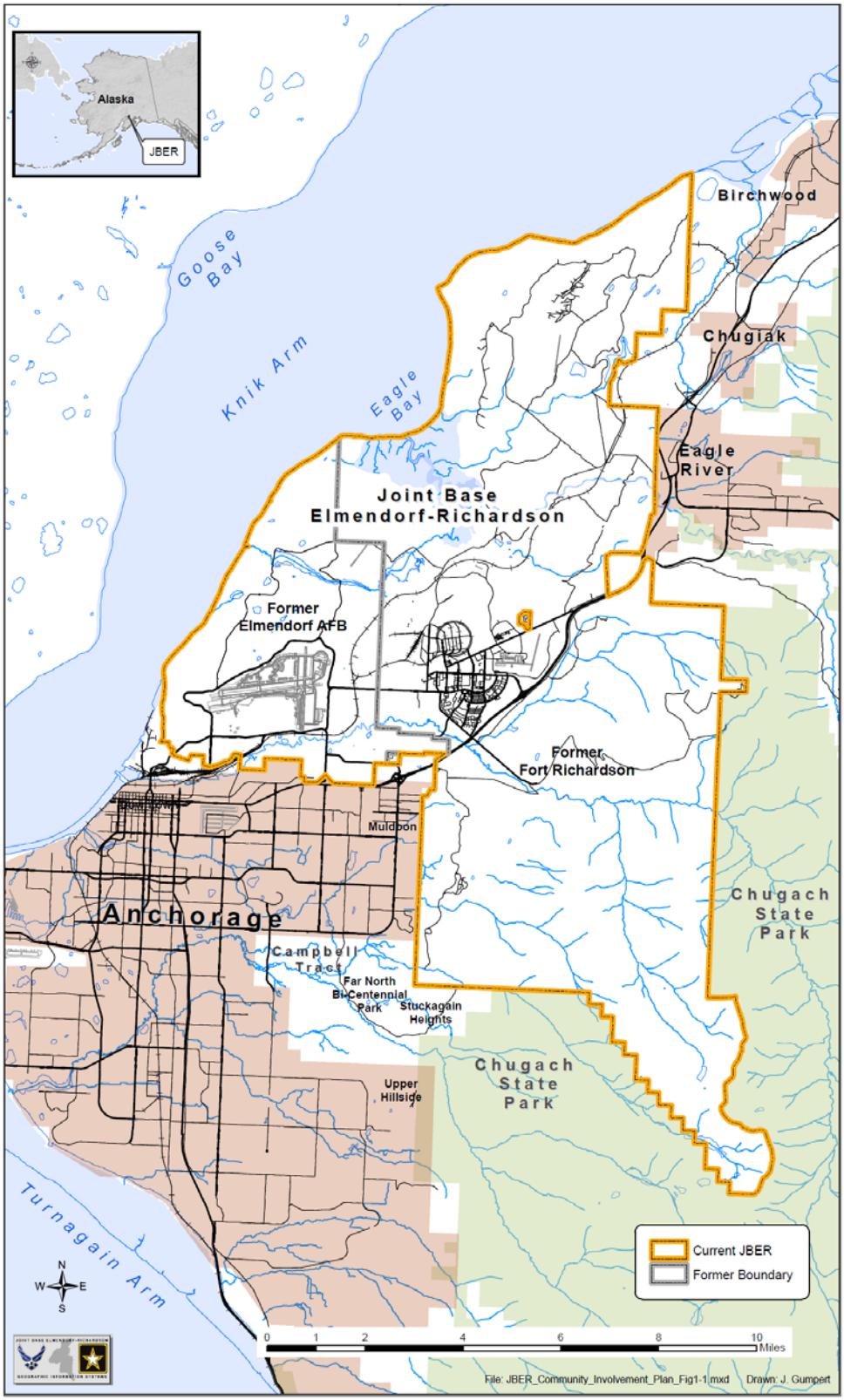
Fort Richardson had two separate agreements; one focused on areas on the installation contaminated with petroleum from underground storage tanks (UST) and the other focused on petroleum source areas not associated with USTs.

The Army and ADEC signed the State-Fort Richardson Underground Storage Tank Compliance Agreement for USTs in 1993. The agreement defines the process by which the Army agrees to investigate and remediate petroleum-contaminated areas. These areas are associated with USTs that have leaked, or with surface spills of petroleum products, such as lubricating oils or grease, heating fuels, and motor fuels.

The State-Fort Richardson Environmental Restoration Agreement for Non-UST source areas was signed in November 1994 for petroleum-contaminated source areas not associated with USTs. The Two-Party Agreement provides guidance for how the Army performs necessary site assessments, monitoring, remediation, and closure of petroleum, oil, and lubricants (POL)-contaminated source areas not subject to CERCLA oversight.

In October 1992, the State-Elmendorf Environmental Restoration Agreement was signed between Elmendorf AFB and ADEC. This cooperative agreement addressed the cleanup and restoration of sites with POL-contamination. These sites will not be discussed further in this plan because they are not CERCLA sites. The Air Force and ADEC later agreed the program reached the point where the agreement was no longer necessary, and it was dissolved in October 2002. The Air Force will now address the cleanup of any POL releases to the land and waters of Alaska following Alaska Administrative Code (AAC): 18 AAC 75 for contaminated sites and 18 AAC 78 for underground storage tank sites.

Figure 1-1 Boundaries for Joint Base Elmendorf-Richardson, Alaska



2.0 Joint Base Elmendorf-Richardson Site Background

This section is an overview of the installation that combines the former Elmendorf AFB and Fort Richardson NPL sites.

2.1 Site History

In 1939, President Franklin D. Roosevelt issued an executive order withdrawing about 45,000 acres of public land in south-central Alaska for use as a military reservation. By August 1940, the area was occupied by U.S. military troops. In December 1940, the War Department named this acreage Fort Richardson, in memory of Brigadier General Wilde P. Richardson, and placed the installation under the jurisdiction of the U.S. Department of the Army. The airfield on Fort Richardson was named Elmendorf Field, after Capt. Hugh M. Elmendorf, a pioneer aviator killed in 1933.

Before the outbreak of World War II, military strength in Alaska was less than 3,000 but soon grew to 7,800 soldiers stationed at Fort Richardson alone. As the war progressed, Fort Richardson's mission expanded significantly as the logistics base for numerous Army garrisons and the Air Corps.

When the Japanese attacked Pearl Harbor in 1941, Fort Richardson was charged with defending Alaska from invasion and coordinating the Alaskan war effort. The military facilities at the installation were instrumental in the defense of the Territory of Alaska during World War II, especially in support of the military operations in the Aleutian Islands.

The Air Force was established as a separate service in 1947. Army troops were re-designated as the U.S. Army Alaska (USARAK) on November 15, 1947, and assigned to the Alaskan Command, the nation's unified command staffed jointly by Army, Navy, Air Force, and Marine Corps service members.

In March 1948, the airfield and an area encompassing about 13,000 acres of the original site of Fort Richardson were renamed Elmendorf AFB. The Army post was rebuilt on its location east of Elmendorf AFB in 1950.

During the past seven decades, much of the property once under military jurisdiction has changed ownership or use. Some of the land is now privately owned, some is owned and operated by state and local agencies, and some is leased to private users.

As a result of 2005 Base Realignment and Closure decisions, Elmendorf AFB and Fort Richardson began combining to establish JBER. Although the military missions of the USAF and Army units remain separate, Elmendorf AFB and Fort Richardson agencies are working together to consolidate service-specific programs performing installation support functions for the USAF and the Army. The decision listed the Air Force as the supporting agency, implementing and providing the funding vehicle for support to the entire joint base. Both installations used military, civilians, and contractors to perform common installation support functions and similar processes to accomplish those functions. The commission noted the installations share a common boundary; and therefore, have an opportunity to consolidate the execution of installation support functions and potentially realize savings while also providing more consistent and effective support (USAF, 2011a).

2.2 Land and Resource Use

Encompassing areas of Elmendorf AFB and Fort Richardson, JBER now consists of more than 74,000 acres. The installation is located in south central Alaska adjacent to the cities of Anchorage and Eagle River. The Knik Arm of Cook Inlet borders the north and west side of the installation; Chugach State Park lies to the south and southeast; the community of Eagle River lies along the eastern border; and the City of Anchorage forms the southwest boundary.

The northwestern boundary along Knik Arm from Chugach State Park property to Anchorage is approximately 18.5 miles long. The eastern border is 21 miles and also runs from the Knik Arm to Chugach State Park. The joint base is nearly 12 miles across at its widest point from east to west.

The majority of the land currently used by the Air Force and the Army is on long-term withdrawal from the public domain and was originally assigned to the Bureau of Land Management (BLM). Residual responsibility for the lands remains with the BLM, which retains interest in the stewardship of the transferred parcel even though the land is under the Department of Defense's long-term management.

Land use at JBER is varied. Most of the total land area is dedicated to ranges, combat courses, drop zones, airfields, troop loading yards, training facilities, open storage areas, and munitions storage areas. Other industrial-type activities that take place on the installation include aircraft and vehicle maintenance; general equipment and building maintenance; pest control and grounds keeping; printing; dry-cleaning; drinking water treatment; water quality and petroleum analysis; heat and electrical power generation; and dental and medical services. Other areas include support buildings such as schools, housing and recreational facilities. Lastly, the installation contains undeveloped areas of wetlands, ponds and lakes, including Sixmile Lake and Otter Lake. Eagle River and Ship Creek are the primary streams on the installation, running from east to west. The JBER Conservation Program is responsible for forestry, fish and wildlife management, outdoor recreation planning, as well as cultural resources management on JBER (USAF, 2011b).

2.3 History of Contamination

2.3.1 Elmendorf AFB

Historical operations at Elmendorf AFB have also included the use and disposal of a wide variety of cleaners, solvents, fuels, and other chemicals. Accepted waste disposal practices have changed greatly over the 61-year existence of the base. Since 1981, all waste chemicals have been stored on base at an USEPA -permitted hazardous waste storage area. Used oils, fuels, and hydraulic fluids are stored in a segregated manner at central collection areas. The Defense Reutilization and Marketing Office (DRMO) arranges for contract disposal of these materials and wastes.

The main contaminants found at the base source areas included petroleum hydrocarbons and other fuel contaminants such as benzene, ethylbenzene, toluene, and xylenes; solvents, such as trichloroethene and tetrachloroethane; PAHs, such as fluoranthene and pyrene; PCBs; asphalt and associated chemicals; and heavy metals, such as lead; and pesticides, such as 4,4-dichlorodiphenyltrichloroethane (DDT) and 4,4-dichlorodiphenyldichloroethane (DDD).

2.3.2 Fort Richardson

Since World War II, Fort Richardson has supported combat unit training and operations that have resulted in various hazardous substances being released to soil and groundwater. Used oils, solvents, and fuel spills were reportedly discharged to the floor drains that drained directly to the sanitary sewer or to dry wells that discharged directly to subsurface soils. Waste oils, solvents, and contaminated fuels were used for fire training practice at fire burn pits. Waste oil USTs were installed at many of the maintenance facilities in the 1940's. Current DoD practices no longer allow uncontrolled or unpermitted releases of pollutants to the environment.

The primary environmental contaminants at Fort Richardson source areas were white phosphorus, which is an artifact of munitions impact, volatile organic compounds (VOCs), which are usually from solvents and cleaners; polychlorinated biphenyls (PCBs); petroleum and fuel products; and polynuclear aromatic hydrocarbons (PAHs). Source areas are specific locations where contamination has been verified to exist in concentrations that prevent unrestricted use of land or water.

2.4 History of Cleanup

2.4.1 Elmendorf AFB

After Elmendorf AFB was listed on the NPL in 1990, 38 of the 85 sources areas were CERCLA sources and originally divided into seven OUs, or study areas, identified for remedial activities conducted under the FFA. Subsequently, source areas in the seventh OU were reassigned to OU4 and OU6, and OU7 was closed under the ERP. Forty-two source areas were designated as POL-contaminated sources and remedial activities are being performed under the State of Alaska cleanup regulations.

After Elmendorf was well into the cleanup process of OUs 1 through 6 (See Figure 2-2), the Air Force began a final search for areas that may have been overlooked in the initial research efforts. This led to a series of reports on sites that might warrant further investigation. These sites, which ranged from oil barrel dumps to formerly used training sites, were classified as points of interest, for those that seemed to be of lesser concern, and areas of concern (AOCs).

Studies of 22 areas of concern were completed in 1997; three were identified as areas of potential environmental concern, 19 required no further action. The two sites needing more study were investigated in 1998. As a result of the limited field investigation, two sites were selected for study and possible remediation under the EE/CA process. The EE/CA process can be used to address sites where removal actions are not time-critical.

Currently, the Elmendorf AFB program manages 14 CERCLA sites that have selected remedies in place and require long-term operation or long-term monitoring. The only CERCLA site that has not yet reached the "remedy in place" milestone is SS22.

In 2002, tar seeps were found at SS22, Former DRMO Storage Yard. Subsequent investigations revealed 15 areas of buried debris, a zone of distressed vegetation, and a debris pile. After the Air Force began the RI/FS of the site in 2007, investigation identified radioactivity in soil from buried self-luminescent instrument dials. Initial results indicated groundwater contaminants were solvents, fuel, and arsenic; and soil contaminants were solvents, fuel, metals, PCBs, semi-volatile organic compounds, and Radium-226. While the radiological risk is low, more oversight and monitoring are required to comply with U.S. Occupational Safety and Health Administration

standards and Air Force policies. The field investigation portion of the RI/FS is ongoing, with a final RI/FS report expected in 2012.

2.4.2 Fort Richardson

The Army's investigation of contaminated sites at Fort Richardson under the ERP began in 1988. The objectives of the program were to assess sites where potentially hazardous material may exist and to develop and recommend remedial actions for those sites that pose a threat to human health and welfare or the environment.

After Fort Richardson was listed on the NPL in 1994, environmental assessment and remediation activities were performed to comply with CERCLA, as amended by SARA and subsequent amendments.

The FFA for Fort Richardson described the investigation and restoration approach agreed upon by the Army and the regulatory agency parties to the agreement. The FFA identified a number of source areas based on historical uses and past investigations. The FFA initially listed 102 potential source areas at Fort Richardson.

- No Further Action (NFA), response complete, was selected for 70 of these source areas.
- An additional nine source areas were identified for NFA under CERCLA following the FFA.
- Nineteen of the remaining potentially contaminated source areas were grouped into four operable units (OUs): OUA, OUB, OUC, and OUD. Nike Site Summit is a newly identified CERCLA site with a RI/FS underway (See Appendix B for a complete summary of all OUs). (See Figure 2-1)
- Four source areas with known or suspected petroleum contamination not associated with an UST were transferred for investigation in accordance with the Environmental Restoration Agreement, the Two-Party Agreement with ADEC.

Decisions to recommend NFA at source areas were based on the following: 1) the physical location could not be identified or located in the investigation, 2) no visible sign of contamination was observed during the source area inspection, 3) the site was transferred for investigation under the Two-Party Agreement, or 4) environmental sampling results showed that contamination was present at levels below the protective human-health-based levels.

Under OUD, a post-wide human health and ecological risk assessment was performed for Fort Richardson to supplement the individual risk assessments conducted for each OU. The objectives of the risk assessment were to evaluate potential risks to wide-ranging receptors that may be exposed to multiple source areas and to fill data gaps that became evident upon thorough review of all data collected during each RI for each OU.

OUD was originally established as the final OU to be investigated at Fort Richardson. However, it was necessary to establish a new OU, OUE, to integrate all previous and any new sources not addressed under the RODs for OUA through OUD. OUE addresses one new source area and three that were previously identified in the OUD ROD.

After publication of the 1991 Federal Facilities Compliance Act (FFCA), the Army conducted sampling activities at solid waste management units to establish whether or not hazardous wastes had been formerly managed at these units, and in some instances, prepared closure plans. These

closure plans, developed under the RCRA program guidelines, were used as part of the CERCLA cleanup actions.

Figure 2-1 Map of JBER (Richardson), Alaska Operable Units

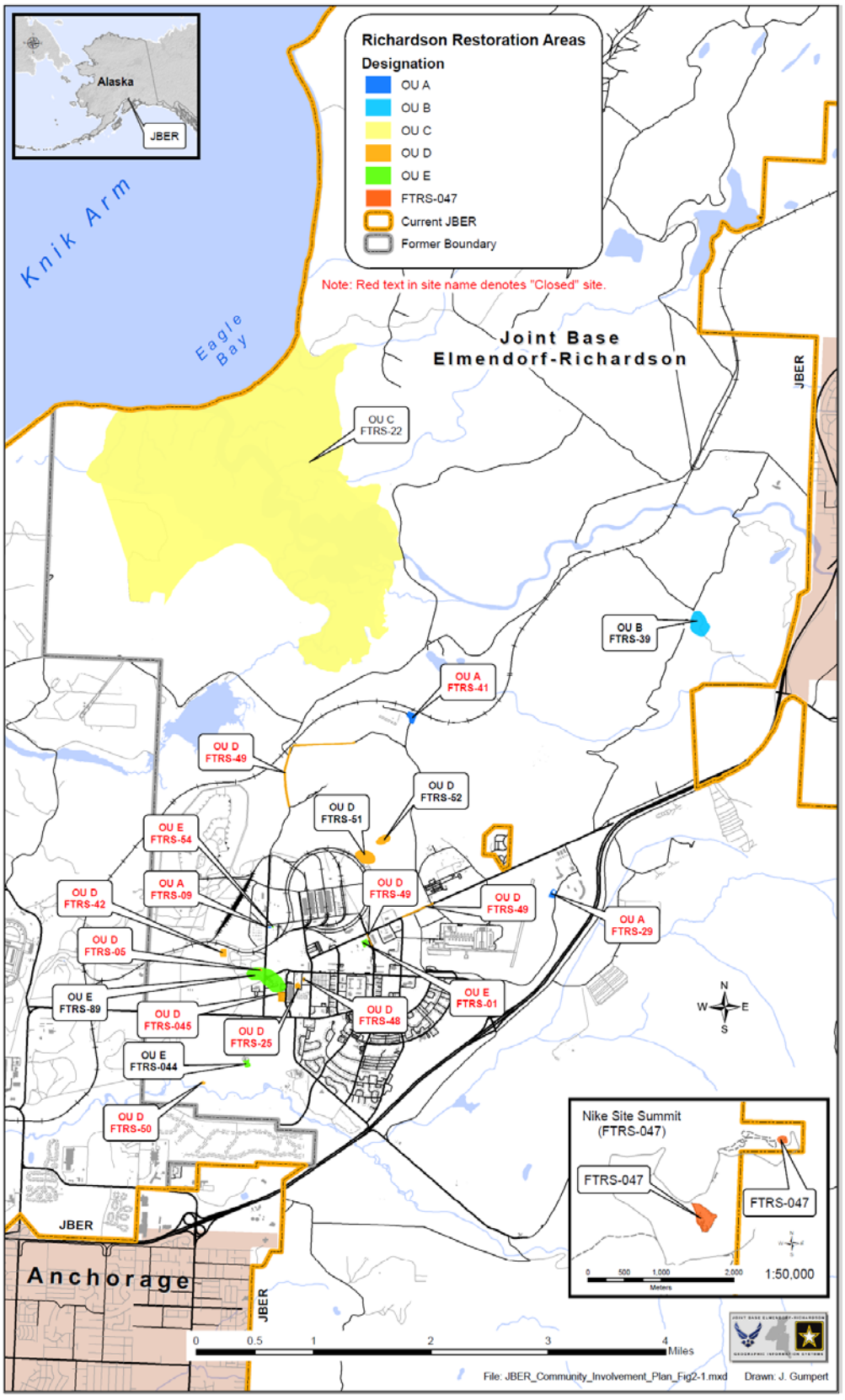
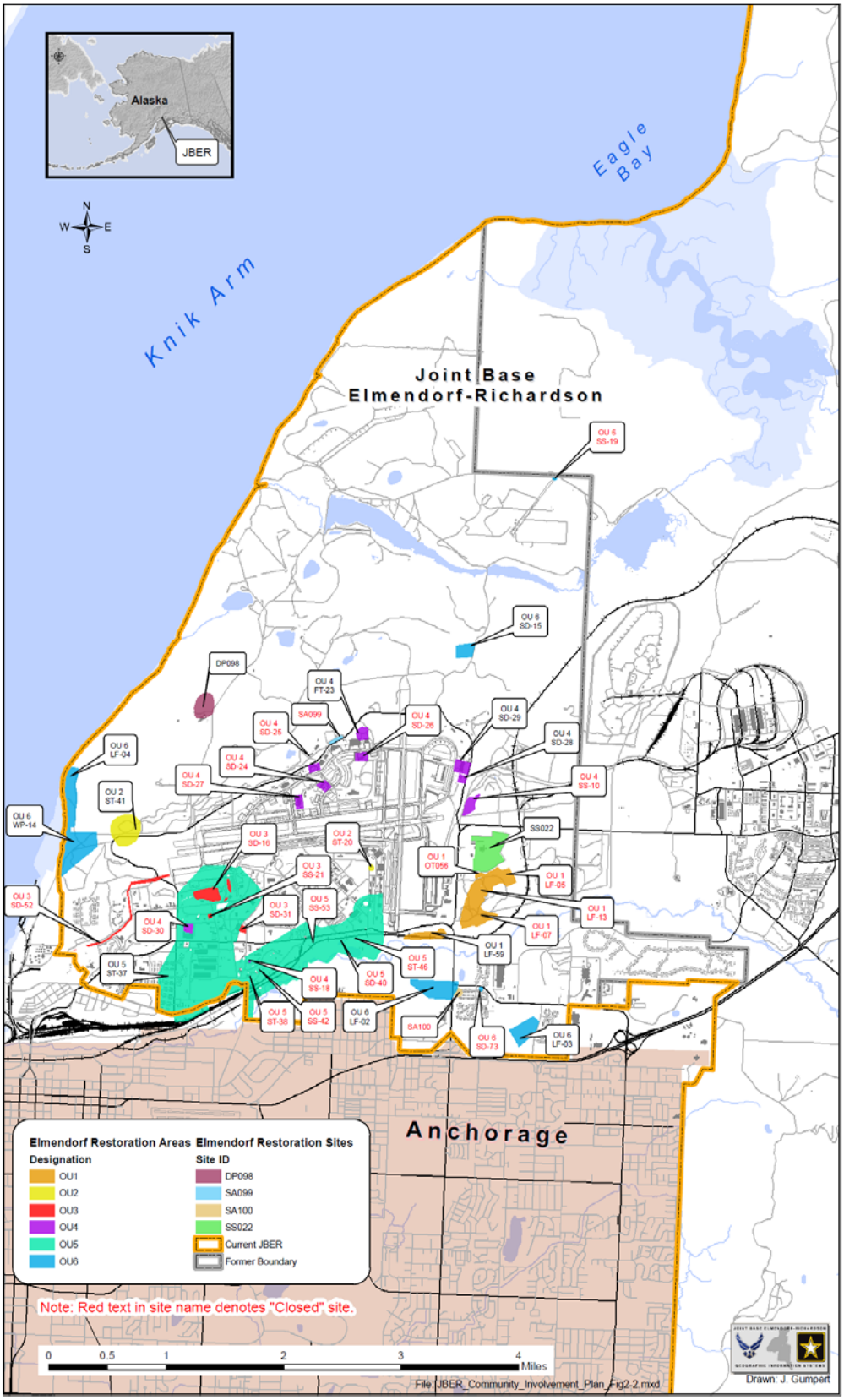


Figure 2-2 Map of JBER (Elmendorf), Alaska Operable Units



3.0 Community Background

3.1 Anchorage Community Profile

According to 2010 U.S. Census Bureau, Anchorage has a population of 291,826 people, which is a 12.1 percent population increase since 2000. Anchorage is the most populated municipality in Alaska. The city is located in south central Alaska at the head of Cook Inlet, the junction of Knik and Turnagain Arms, south of JBER. The Anchorage area encompasses 1,697.2 square miles of land and 263.9 square miles of water (Alaska Division of Community and Regional Affairs Community Information Summaries, 2011; U.S. Census Bureau [USCB], 2010).

The City of Anchorage was incorporated November 23, 1920. From 1939 to 1957, major military impacts and government construction of roads, airports and harbors throughout Alaska contributed to the growth of Anchorage. The port was completed by the early 1960s. The Greater Anchorage Area Borough was formed January 1, 1964. The Good Friday earthquake on March 27, 1964, destroyed a large part of the city. During the 1970s, the development of the Prudhoe Bay oil fields and the Trans-Alaska Pipeline brought rapid growth to Anchorage with population, office space, and housing tripling within a 10-year period.

The Municipality of Anchorage is a unified home rule municipality created in 1975 through the unification of the governments of the City of Anchorage and the Greater Anchorage Area Borough, making Anchorage one of the largest municipalities in the nation. The Municipality extends south from Eklutna and Eagle River to Portage and west from Chugach State Park to Cook Inlet. As a unified government, the Municipality of Anchorage is responsible for services provided in other areas by both a city and a borough.

Anchorage has a history of cultural diversity. Although predominantly white (66 percent, of which 7.6 percent are of Hispanic or Latino origin), approximately 7.9 percent of the Anchorage population is Alaska Native or part Alaska Native, 5.6 percent of the population is Black, 8.1 percent is Asian, and 2 percent is native Hawaiian or other Pacific Islander. The median household income for Anchorage in 2009 was $72,210, and 7.6 percent of residents were living below the poverty level (USCB, 2010).

Anchorage is the largest center of commerce for Alaska. Oil and gas industries, finance and real estate, transportation, communications, and government agencies are headquartered in Anchorage. A large tourism industry also exists in Anchorage, serving as a major gateway for visitors to the Alaskan wilderness.

3.2 History of Community Involvement

Elmendorf AFB and Fort Richardson have taken many actions over the years to inform local communities of their cleanup progress and involve them in their ERPs. The following sections outline the past procedures used as part of the Fort Richardson and Elmendorf AFB Community Involvement Programs prior to the bases merging into JBER. The current JBER Community Involvement Program is explained in Section 4 of this plan.

3.2.1 Mailing Lists

Both Elmendorf AFB and Fort Richardson created environmental mailing lists, prepared in 1991 and 1995, respectively. The lists include a variety of federal, state, and local officials, news media representatives, environmental interest groups, community organizations, and interested citizens. Throughout the cleanup process, individuals and organizations on the mailing list periodically receive community relations materials, such as fact sheets and meeting announcements, to keep them informed of the status of environmental restoration activities. These mailing lists have been consolidated for into a single JBER email list. This mailing list is discussed further in Section 4.

3.2.2 Administrative Record Files

The official copy of the Administrative Record for Fort Richardson was established and is currently maintained by the 673d Civil Engineer Squadron, Asset Management Flight, Natural Resources Element, Restoration Section. The Administrative Record was updated annually for OUs through the decision document stage since inception.

The original administrative record file for Elmendorf AFB was established at the Environmental Management Office on base in February 1992. The file contains all documents used to form the basis for the selection of cleanup actions under CERCLA. The administrative record files for OUs 1-6 (DP98, SA99, and SA100) have been closed but could be reopened if changes to a ROD become necessary. They were updated on a quarterly basis. The administrative record for SS22 will be maintained through the decision document stage as required.

3.2.3 Information Repositories

Elmendorf AFB established two publicly accessible Information Repositories in 1992; one at the BLM's Alaska Resources Library and one at the UAA Consortium Library Reserve Desk. Fort Richardson likewise established Information Repositories in 1996 at these two off-post locations.

The BLM collection is now known as the Alaska Resources Library and Information Services (ARLIS), and is located at the University of Alaska-Anchorage, where both Information Repositories remain. See Appendix C for the ARLIS location (University of Anchorage Alaska [UAA], 2010).

The Information Repository originally included microfiche copies of technical documents and paper copies of public information materials. In 2008 Elmendorf AFB released its first Information Repository Electronic Document Archive and User Interface. This digital versatile disc (DVD) storage offers a fully searchable resource to access documents, maps and other technical data contained in the Information Repository. The most recent update of the electronic Information Repository occurred in March of 2010. Copies are available for public use at ARLIS. Although this system was intended to replace the hard copy environmental records

currently maintained at the library, documents not yet included in the electronic Information Repository are available in hard copy format at ARLIS until new DVDs are produced. In addition, some documents, such as fact sheets, will remain available in hardcopy in the Information Repository for public convenience (UAA, 2010).

3.2.4 Fact Sheets

Fact sheets are concise, non-technical reports prepared in understandable language for the public about CERCLA topics and other remediation processes. Elmendorf AFB used fact sheets as a tool to describe project updates, investigation findings, proposed cleanup actions, and upcoming events. Fact sheets were also published at key project milestones, such as after completing the final engineering design, shutting down a treatment system, or when needed at other times during the remediation process. Fact sheets were distributed as appropriate to individuals on the mailing list, placed on the installation's website, made available at public meetings and maintained in the Information Repositories. Fort Richardson incorporated similar information into the program newsletters.

3.2.5 Newsletters

Both Elmendorf AFB and Fort Richardson incorporated the use of newsletters to keep the public informed about the status of environmental restoration activities on their respective installations. Copies were distributed to the installations' respective mailing lists and were included in the Information Repositories.

Elmendorf AFB published the first issue of *Environmental Updat*e, an eight-page newsletter, in 1992. The newsletter was distributed quarterly to individuals on the mailing list, providing an update of environmental restoration activities and related community relations activities being conducted at the base. The publication existed for seven years in various formats including topics on different aspects of the CERCLA process, state regulatory program requirements, and environmental compliance topics, such as hazardous waste reductions. The newsletter ceased publication in 1999 (USAF, 2011a).

The Fort Richardson newsletter, distributed on a quarterly basis, was entitled *Environmental Restoration News*. As necessary updates became less frequent, the newsletter was published on an as-needed basis.

3.2.6 Public Comment Periods

Public comment periods provided an opportunity for the public to review and comment on proposed cleanup plans for interim or final remedial actions. Combined, Fort Richardson and Elmendorf AFB held 13 public comment periods following announcements of cleanup plans and in association with Five-Year Reviews for the programs.

Public comment periods are scheduled for 30-day periods. However, under the USEPA's community involvement guidance, the comment period can be extended an additional 30 days if the request is made in a timely manner. During each comment period, the public was invited to mail written comments, provide oral or written comments at a public meeting, or record comments on a toll-free telephone number answering service, based on the event or program.

3.2.7 Public Meetings

Both Elmendorf AFB and Fort Richardson have conducted public meetings during 30-day public comment periods associated with the publication of the Proposed Plan for cleanup of a site or several sites grouped in an OU. Public meetings provided an opportunity for interested members of the public to receive information regarding proposed cleanup plans, to ask questions and listen to answers to those questions, and to submit comments. Court reporters transcribed public meeting proceedings, presentations and oral comments received by the public. Copies of the transcripts became part of the Administrative Record for the site. Copies of the transcripts were also placed in the Information Repositories.

Since 1992, a total of five public meetings were conducted in support of the environmental program at Fort Richardson, and an additional nine public meetings were held associated with key points in the Elmendorf AFB cleanup process.

Although the previous plans stated no additional public meetings were expected, future public meetings under JBER will be required in the remedial action process for the Nike Site Summit and SS22 restoration sites to meet CERCLA requirements and involve the public in these processes (USC, 2011).

3.2.8 Public Notices and Press Releases

Historically, both Elmendorf AFB and Fort Richardson placed public notices in the *Anchorage Daily News* and the respective installation newspaper to announce milestones in the investigation and remediation process. Additionally, Elmendorf AFB had also paid for public notices in the *Anchorage Chronicle* and *Chugiak-Eagle River Alaska Star*. Fort Richardson did not use these additional venues based on feedback received in a community questionnaire reporting that their current methods used to inform interested parties were adequate.

Public notices for both installations were published at the following milestones:

- When the Administrative Record file and Information Repositories were established;
- When a public comment period and public meeting for the RI/FS and Proposed Plan were scheduled for each OU or site;
- When the RI/FS and Proposed Plans became available for each OU or site;
- When the response action was selected and the RODs were signed; and
- When Five-Year Reviews were completed.

Public notices or media releases were used for other newsworthy events, as well as CEB meetings.

3.2.9 Records of Decision and Responsiveness Summaries

A ROD is the formal documentation step that identifies the remedial options chosen by the restoration program, with input from the USEPA and ADEC and with consideration of public comments received concerning the Proposed Plan. The responsiveness summary documents how comments received during the public comment period were integrated into the selection of the final remedial actions.

Four RODs have been issued to date as a result of the ERP and CERCLA program at Fort Richardson. One ROD, signed in September 1997, publicizes the transfer of three petroleum-contaminated source areas from OUA to the TPA and documents the selected remedy for OUB,

the Poleline Road Disposal Area. The OUC ROD, signed in September 1998, documents the selected remedies for the Eagle River Flats Impact Area and establishes that no further action is required under CERCLA for the Open Burning/Open Detonation Pad. The OUD ROD, signed in June 2000, addresses 12 source areas: seven required no further action under CERCLA, two (petroleum-only source areas) transferred to the TPA, one source area was transferred to the OUE ROD, and two required additional sampling with no further action determinations made in the OUE ROD. The OUE ROD, signed in September 2005, documents the selected remedy for the Armored Vehicle Maintenance Area and establishes that no further action is required under CERCLA for three other areas. All four RODs include responsiveness summaries addressing the comments received during the public comment periods for their respective Proposed Plans.

At Elmendorf AFB, RODs were signed for final remedial action at each operable unit: OU1 was signed in September 1994, OU2 in May 1995, OU3 in January 1997, OU4 in October 1995, OU5 in February 1995, OU6 in January 1997, and DP98 in May 2004. A responsiveness summary was attached to each decision addressing all significant public comments received during each public comment period.

3.2.10 Technical Review Committee

The goal of the Technical Review Committee (TRC) established for Elmendorf AFB in November 1992 was to provide a forum for communication among the Air Force, USEPA, ADEC, and affected communities in response to base CERCLA cleanup actions. From November 1992 until December 1994, the TRC served as an advisory body whose purpose was to review and comment on proposed environmental cleanup actions at Elmendorf AFB. Community representatives on the committee were also responsible for gathering and communicating to the committee any specific concerns from their communities about proposals for site cleanup options or possible final cleanup actions under consideration.

3.2.11 Restoration Advisory Boards

In December 1994, the TRC transitioned into a Restoration Advisory Board (RAB) in accordance with new DoD guidance and USEPA implementation guidelines. A RAB is a group comprising community and government representatives designed to act as a focal point for exchanging information between the base and the community. The board meeting is open to the public and intended to bring together members who reflect the diverse interests within the community to allow for a two-way flow of information, concerns, priorities, and needs.

The Elmendorf AFB RAB, established in December 1994, initially met on a quarterly basis, and then changed to twice a year with an annual summer tour of cleanup sites. Elmendorf AFB's board consisted of representatives from the Air Force, USEPA, ADEC, Municipality of Anchorage, Fort Richardson, and community members who represent neighboring communities or special interest groups including the public health, environmental, and business sectors. The board was also invited for summer site tours. Then in April 2003, the RAB transitioned into a CEB.

Officials at Fort Richardson established a RAB in October 1997. Community members represented a Native American tribe, academic institutions, state/national environmental activist groups, and the Anchorage/Eagle River community at large. This board initially met quarterly, then changed to a semi-annual meeting. The RAB reviewed available technical reports and

offered written comments and recommendations concerning the Fort Richardson restoration program. Board members also participated in site visits to Fort Richardson cleanup sites.

3.1.12 Community Environmental Board

The transition to a CEB was made to meet the Elmendorf AFB RAB's request to address the base's wider environmental program in addition to the restoration program. Meeting topics expanded to include other environmental topics, such as non-CERCLA contaminated sites, base recycling program, wildlife management, and cultural resources. Summer tours of environmental sites were also offered. The organizational and membership format of the CEB remained intact.

With the establishment of JBER, the Elmendorf AFB Community Environmental Board transitioned to absorb the programs associated with the former Fort Richardson RAB (USAF, 2011).

The purpose of the JBER CEB is to provide a forum to enhance communication and coordination between DoD representatives, regulatory agencies, and the community regarding cleanup actions planned for the installation's environmental programs. The CEB fulfills all requirements for a RAB at DoD installations. Board members can be asked to review and individually comment on plans and activities relating to ongoing environmental studies and restoration activities at JBER. Technical assistance is provided to help the members make informed recommendations. Representatives of the USEPA, ADEC and Municipality of Anchorage also provide their expertise. In addition to representatives from the base, USEPA, ADEC and Municipality of Anchorage, the board members represent nearby communities, JBER residents, public health, local businesses, Native community and environmental interest groups.

3.2.13 Photographic Exhibit

In 1993, Elmendorf AFB released a photographic display that described the three environmental programs that at that time were overseen by the base's Environmental Management Office: environmental restoration, natural resource management, and environmental compliance. The exhibit, which was first put on display at the Base Wildlife Museum, was subsequently displayed at a variety of locations in the Anchorage area and on base to promote environmental awareness and encourage public participation in base ERPs. Use of this cumbersome display has been discontinued. Future photographic exhibits could be considered to illustrate significant program changes, source areas or selected cleanup technology, but this option will be limited by the absence of on-base graphics capability.

3.2.14 Small Group Presentations and Public Workshops

The purpose of small group presentations was to inform citizens and local officials of site activities, to answer questions, and to resolve any misconceptions or misunderstandings. To date, no small group presentations or public workshops have been requested at Fort Richardson.

Elmendorf AFB held a public workshop at the Government Hill Elementary School in 1992 to describe environmental programs, provide an overview of the CERCLA cleanup process, and discuss opportunities for public participation. A second public workshop was held in 1994 at the Orion Elementary School on base to inform base residents of the presence of low levels of PCBs in sediments in Cherry Hill Ditch. The workshop provided information about PCBs, the range of concentrations identified in the ditch area, location, and plans to conduct a removal activity to

address the contamination. In July 1997, restoration program staff members attended a quad mayors' meeting to discuss rusty metal and asbestos found in OT82, part of a former landfill near Chugach Housing. Staff members also attended a quad mayors' meeting in 2001 to discuss SA100 and the removal of debris and soil during a housing construction project.

3.2.15 Technical Assistance Programs

The restoration programs at Elmendorf AFB and Fort Richardson provided information on two technical assistance programs through public meetings and newsletters: Technical Assistance Grant (TAG) and the Technical Assistance for Public Participation (TAPP) programs. To date, neither a TAG nor a TAPP has been implemented at either installation.

The TAG program, established by Congress, was intended to foster informed public involvement in decisions related to site-specific cleanup strategies under CERCLA. This program provides funds for qualified citizen groups to hire independent technical advisors to help them understand and comment on technical factors in cleanup decisions that affect them (USEPA, 2000; 2003).

The DoD established the TAPP program to assist community members of RABs and TRCs in participating more fully in the cleanup process affecting DoD installations. TAPP allows community members to obtain objective, independent scientific and engineering support concerning the restoration process through the issuance of government purchase orders to small business. Information about these programs is listed in Appendix D.

3.2.16 Community Interviews History

The programs at Elmendorf AFB and Fort Richardson included several rounds of community interviews to identify community concerns and information needs and solicit other community input. During the development of the initial Elmendorf AFB Community Relations Plan, the first round of interviews was conducted in August 1990 and September 1991. A second round of interviews at Elmendorf AFB was conducted during the spring and summer of 1993 when the Community Relations Plan was revised to address community concerns or information needs associated with interim remedial action work at ST41. Interviews were supplemented with results from a community questionnaire distributed in March 1993 to 900 base workers and residents. Questionnaire results were summarized in the *1993 Base Questionnaire Report*.

In late 1995 and early 1996, a third round of community interviews was initiated as part of revisions to the Elmendorf AFB Community Relations Plan. A questionnaire was also distributed to 900 community members including 300 people on the mailing list, 300 people on base, and 300 citizens in the Anchorage community. Although return rates were low, questionnaire results contributed to identifying ways to improve communication between the base and the public. The *Final Community Questionnaire Results Report* was released in January 1996. In 1999, in preparation for another revision of the plan, interviews were conducted with 15 off-base citizens and officials and with five on-base residents or employees. Interviews were conducted for the 2000 *Community Relations Plan* revision and again during the second *Five-Year Findings Report* in 2003. This consisted of 21 on and off-base citizens, employees and officials. The 2003 interviews were also used to assist in developing the 2004 revision of the *Community Relations Plan*.

The Fort Richardson program conducted community interviews in 1994 to identify community perceptions and concerns associated with their environmental studies. Officials conducted 35 formal interviews with post residents, community members, community groups, environmental

groups, and representatives of federal, state, and local government. The Fort Richardson program provided another questionnaire to the public in 2003 to gather information for the 2004 *Fort Richardson Areawide CIP*. Of the 170 questionnaires sent to members on their mailing list, 23 were returned.

3.3 Historical Community Responses

Previous community interviews and community questionnaires or surveys conducted on behalf of both installations identified a number of public attitudes and concerns regarding the military cleanup programs and other topics not necessarily concerning environmental issues. The following is a list of topics presented in previous Community Relations Plans since 1990. These comments do not necessarily reflect current attitudes, and based on response rates, may not be statistically significant.

3.3.1 Historical Prevalent Attitudes

The following is a summary of public attitudes based on comments expressed during interviews or surveys and recorded in previous Community Relations Plans since 1990.

- Fort Richardson officials can be trusted to handle contamination problems promptly and effectively.
- Fort Richardson and Elmendorf AFB represent a single military presence.
- The Army should be honest and willing to provide information to the public.
- The main sources for information are the newspaper and television.
- Print media is the best way to provide notice to the community about environmental activities, including advertising RAB meetings.
- The environmental awareness program is highly effective and has made significant impact on the base and surrounding community.

3.3.2 Historical Community Concerns

The following is a summary of concerns expressed during interviews or surveys and recorded in previous Community Relations Plans since 1990. Concerns listed in multiple plans are only listed once. Many respondents during interviews or surveys had no specific concerns. Concerns included:

- Sufficient cleanup of contaminated areas on Fort Richardson;
- Human health and the environment, particularly in recreational areas;
- Elmendorf AFB has contributed to contamination in the area that, while not mobile, is "certainly widespread";
- Unnecessary destruction of natural growth on military lands;
- Energy plant in violation of pollution standards;
- Overcrowding due to Stryker Brigade Combat Team;
- Lawsuit on Eagle River Flats;
- Developing a livable and enjoyable place to work;
- Getting all the information about restoration efforts;
- Old dumping;
- RAB diversity, viability and recruitment;

- Bad record-keeping in the past;
- Hiring local labor for work on post;
- Quality of life concerns for area residents;
- Recycling programs;
- Presence of nuclear material on post;
- Wildlife protection;
- Base closure;
- Fort Richardson and Elmendorf AFB working together to manage growth in their 50-year plan;
- Long-term effects of groundwater pollution;
- Unexploded ordnance at Temptation Peak;
- Future land disposal;
- Fort Richardson remaining a viable active component of the Anchorage and Eagle River communities;
- Lack of support to develop Cheney Lake as a floatplane base;
- Lack of access to public lands in East Anchorage;
- What cleanups are in progress and how many remain;
- Details of oil spill cleanups on base;
- Contamination leaching off base or into soil and water;
- Storm water flow and discharges into Ship Creek;
- Promoting better integration between the post and neighboring communities; and
- Commercial rafting on Eagle River.

3.4 Current Community Concerns

This Community Involvement Plan addresses the public's concerns expressed in recent community interviews and community surveys conducted in April 2011.

A total of 55 community members from Anchorage, Wasilla, Palmer, Eagle River, and Chugiak chose to participate in the interview/survey process. One of the online survey responses submitted was incomplete, resulting in an actual total of 54 responses.

While a sample of 55 persons from an Anchorage-area population of 286,000 is not large enough for statistical analysis, the interviewees' comments and insights provided valuable information to determine the most effective methods of conducting community involvement efforts. These findings are representative only of the individuals who participated in community survey process, and should not be construed as directly representative of a larger population, but feedback provided will serve as guidance for JBER community involvement activities.

In additional to the historical concerns listed in Section 3.3, public survey results have identified the additional priority topics:

1. Joint land use, including access to JBER (Richardson) land for recreation related to the Arctic Valley and Nike Site Summit, with Nike Site Summit preserved as a historical site with public access. Restriction for access on the Richardson side were different that with Elmendorf prior to the joint-basing.

2. Public health and environmental impact related to cleanup. Perception indicates public health and environmental impact were interrelated and that public health and environmental damage cause negative economic impact. This includes the inter-relationship of Alaska Native lands that are not directly near the installation.

3. Cook Inlet and potential impacts to the Beluga Whale.

4. Direct community outreach in the form of regular meetings with Community Council and Native Alaskan leadership as well as neighborhood public meetings to address sites impacting off-base neighborhoods.

5. Face-to-face outreach with Alaska Native Village elders.

Overall, the community involvement activities detailed in Section 4 will be used to address top community interests. Table 3-1 lists JBER community involvement activities and correlates them to the priority topics each activity addresses.

Table 3-1 Correlation of Activities to Priority Topics

Community Involvement Activities	Priority Topics Addressed		
	Joint Land Use	Public Health and Environmental Impact	Direct Community Outreach
Facilitate the Community Environmental Board	✔	✔	✔
Prepare and Distribute Information Materials	✔	✔	
Provide a JBER Point of Contact to Public			✔
Participate in Community Events & Stakeholder Outreach	✔	✔	✔
Engage Local Media	✔	✔	
Inform the Public via Social Media	✔	✔	
Provide Information via Internet and E-mail	✔	✔	
Provide Public Comment Periods & Responsiveness Summaries	✔	✔	✔
Maintain the Administrative Record/Information Repositories	✔	✔	
Provide information regarding Technical Assistance Programs		✔	
Revise the Community Involvement Plan	✔	✔	✔

4.0 Community Involvement Program

4.1 Goals and Objectives

The stated goals of this Community Involvement Program are to do the following:

- Inform interested citizens and local officials about the progress of investigations and remedial activities;
- Encourage two-way communication between installation representatives and the community; and
- Provide opportunities for the public to participate in the planning of remedial actions at JBER.

To meet the goals and objectives of the Community Involvement Program, installation representatives will undertake specific community involvement activities. These will include activities required by CERCLA and additional activities, as appropriate, to ensure that the community remains well informed and has the opportunity to express its concerns. These activities are described below and the communication tools discussed in the remainder of Section 4 provide the framework for the plan to involve the public and disseminate information among agencies; JBER civilian and military personnel; the general public; the media; and within the communities of Anchorage, Wasilla, Palmer, Chugiak, and Eagle River. This CIP includes goals for future activities, as a result of the community involvement survey conducted in April 2011 and detailed in Section 4.2.1.

To achieve these goals, some broadly applicable approaches will be employed as standard practices in all outreach activities presented in the remaining sections and the following:

- Get to know the community; participate in community events
- Proactively make contact with the community and its leaders
- Shift advertising and media relations into more focused local media outlets, including the use of social media
- Tailor information to make it understandable and relevant; and
- Incorporate feedback mechanisms into communication efforts to help evaluate their usefulness

4.2 Community Involvement Surveys

Community involvement surveys and interviews provide the basis for decisions on the community involvement program and reference for the Community Involvement Plan. The DoD follows the National Contingency Plan (NCP), Title Code of Federal Regulations Title 40 Chapter I, Subpart J Subpart E Section 430(c), Requirements for Developing Community Relations Plans (now commonly referred to as Community Involvement Plans, or CIPs). The lead agency conducts interviews with community members to provide the foundation for the CIP. The results indicate the public's familiarity with the environmental program, help identify the public's concerns and attitudes about the installation and ERP, and provide understanding of public preferences for receipt of information and level of involvement in the process. Appendix F includes details of the 2011 Community Involvement Survey conducted in April 2010.

4.3 Contact Person

The JBER Environmental Community Relations Coordinator will serve as the point of contact for community involvement within the Environmental Restoration Program. They will assist with addressing citizens' concerns, answering individual questions, responding to inquiries from the media or directing calls to another appropriate agency or representative, when appropriate. The coordinator will also assist with maintaining distribution lists for email and mailing, public notices and news releases, participate in the CEB, coordinate public meetings, post electronic materials via the JBER website, and other electronic media. To reach the JBER Environmental Community Relations Coordinator, call (907) 552-5756.

4.4 Administrative Record and Information Repositories

The Administrative Record is the legal file of documents upon which the lead agency bases the selection of a response action for the site. The record for Elmendorf is maintained at Building 5312 on JBER-Elmendorf. Installation officials will make decisions concerning combining locations of the Administrative Record for JBER once office space becomes available. This record for Fort Richardson, including all public comments, is maintained at Building 724 on JBER-Richardson. A copy of the Administrative Record is made available to the public at the Information Repository.

Information Repositories typically are established in accessible, public buildings and contain copies of Administrative Record documents as well as current information, technical reports, and reference documents related to ERP and CERCLA sites. The Information Repositories for both Elmendorf AFB and Fort Richardson remain in hardcopy format at ARLIS located at the UAA Consortium Library. Fully searchable electronic documents for Elmendorf AFB are also available on DVDs for public use at ARLIS. The JBER Information Repository will remain available to the public at ARLIS, 3211 Providence Road, Anchorage, AK 99508. Restoration documents may also be made available online through the JBER website or development of an online administrative record. (See Appendix C for current ARLIS contact information.)

4.5 Distribution Lists

The distribution list for JBER is maintained and updated semi-annually. The community involvement program will continue to use electronic mail as the preferred method for distribution of community relations materials in an effort to reduce the impact on the environment, while keeping the community informed of the status of environmental restoration activities.

Both the electronic and traditional mailing lists contain contact information for elected and appointed Federal; State; and local officials; concerned residents; Alaska Natives; CEB members; environmental special interest groups; local businesses; schools; and churches; other private organizations; and media contacts. Requests to be added to the distribution list will be added as needed and anyone interested in the Environmental Restoration Program updates may contact the coordinator and request to be placed on or removed from the distribution list.

The e-mail distribution list continues to grow and be utilized to alert subscribers when significant information is posted to the JBER website. In the future, e-mail alerts may be distributed based on the current distribution list, when new information is posted to the website regarding environmental issues or updates are made.

4.6 Public Notices and News Releases

Before remedial action plans are adopted, Federal regulations require that a notice, providing a brief summary of the RI/FS and Proposed Plan and announcing a public comment period of 30 days, be published in a major newspaper of general circulation. A notice must also be published to announce the availability of the final remedial action plan or ROD. These documents will be available for public review at the Information Repository. The notice must state the basis and purpose of the selected action.

Remedial action plans have been completed for most of JBER's CERCLA sites. Separate remedial action plans for FTRS-047 - Nike Site Summit and SS22 – Former Disposal, Reutilization and Marketing Office (DRMO) Storage Yard are currently being prepared. Public notices will be prepared announcing a 30-day public comment period and the availability of the final remedial action plan or ROD for each of these sites.

As a minimum, JBER Environmental Restoration Program will place public notices in the *Anchorage Daily News* to announce milestones in the investigation and remediation process at the installation. In addition, the program will consider publishing paid public notices on http://www.adn.com, the *Chugiak-Eagle River Star*, the *Arctic Warrior*, the *Valley Frontiersman*. The standard public notice will be a 2-column by 6-inch advertisement.

The same procedures will be used for public notices to announce public comment periods and public meetings on specific documents with regulatory requirements, as well as Community Environmental Board meetings. JBER will also consider using public service announcements through public radio stations such as KNBA (90.3 FM) or KSKA (91.1 FM) and television channels such as KTUU (Channel 2).

The Environmental Community Relations Coordinator will prepare and distribute news releases to local newspapers and radio and television stations to communicate information on significant events in the Environmental Restoration Program, as situations warrant. The media advisories would inform journalists of newsworthy developments in the cleanup program and would include environmental topics as part of its media outreach efforts such as any media days or editorial boards. Any media outlets requests for information will be answered as quickly as possible.

4.7 Small Group Presentations and Community Events

The purposes of small group presentations would be to inform citizens and local officials of site activities, to answer questions, and to resolve any misconceptions or misunderstandings about environmental restoration activities. While not requested or used extensively in the past, small group presentations could still be used to address specific concerns about environmental restoration topics on an as-needed basis. Requests for small group presentations should be coordinated through the Environmental Community Relations Coordinator.

4.8 Newsletters and Fact Sheets

While JBER has not recently published a recurring newsletter covering environmental restoration activities, this tool is available if the Environmental Community Relations Coordinator determines it is warranted, but based on the feedback on the community survey, it remains unwarranted. Periodic fact sheets have generally replaced distribution of newsletters and are currently available on the JBER public website: http://www.jber.af.mil/library/factsheets,

and are periodically updated to inform the public as needed. These fact sheets and information on the JBER website serve as an online press kit.

Preparation and distribution of such materials is driven by significant events. Events requiring information materials may include, but are not limited to, regulatory requirements, reaching cleanup milestones, new projects or discoveries, and meetings.

4.9 Community Environmental Board

The JBER CEB currently meets in Anchorage twice each year, generally each spring and fall. Community and Installation co-chairs will continue to host CEB meetings to promote information exchange and discuss topics related to contaminated sites, spill response, wildlife management, cultural resources, performance milestones, budget considerations and milestone timeline expectations.

CEB meetings, including the date, time, location and topics, will be advertised with public notices and press releases as appropriate. As a minimum, a paid public notice will be placed in the *Anchorage Daily News*. In addition, the ERP staff and Environmental Community Relations Coordinator will consider publishing a paid public notice on http://www.adn.com, *Chugiak-Eagle River Star*, the *Arctic Warrior*, and *Valley Frontiersman*, as well as provide e-mail notifications, or social media posts. More information is also available from the Environmental Community Relations Coordinator.

4.10 Technical Assistance Programs

Two technical assistance programs are available to qualified citizens groups to help them better understand technical factors in environmental cleanup decisions. These are the TAG and TAPP programs.

The TAG program, established by Congress, was intended to foster informed public involvement in decisions related to site-specific cleanup strategies under CERCLA. This program provides funds for qualified citizen groups to hire independent technical advisors.

The DoD established the TAPP program to assist community members of RABs and TRCs in participating more fully in the cleanup process affecting DoD installations. TAPP allows community members to obtain objective, independent scientific and engineering support concerning the restoration process through the issuance of government purchase orders to small business (USEPA, 2000; 2003).

To date, neither program has been implemented at either site. Information about these programs is listed in Appendix D.

4.11 Public Meetings

Future public meetings under JBER may be required to meet CERCLA requirements and involve the public in processes in the remedial action process for two sites: Nike Site Summit, and SS22, Former DRMO Storage Yard. In addition, public meetings or briefings may be held at other project milestones.

Public meetings, including the date, time, location and topics, will be advertised with public notices and press releases as appropriate. As a minimum, a paid public notice will be placed in the *Anchorage Daily News*. In addition, the Environmental Restoration Program staff and

Environmental Community Relations Coordinator will consider publishing a paid public notice on http://www.adn.com, *Chugiak-Eagle River Star*, *Arctic Warrior*, and *Valley Frontiersman*, as well as provide e-mail notifications, or social media posts. Appendix E contains a list of possible meeting locations.

Interested groups or individuals that want to request a public meeting are encouraged to contact the JBER Environmental Community Relations Coordinator at (907) 552-5756. Each request will be evaluated on a case-by-case basis, and depending on the needs of the group or individual, a smaller meeting or briefing may be scheduled to address those needs.

4.12 Public Comment Periods

Public comment periods provide an opportunity for the public to review and comment on proposed cleanup plans for interim or final remedial actions. Generally public comment periods are scheduled for 30-day periods. However, under the USEPA's community involvement guidance, the comment period can be extended an additional 30 days if the request is made in a timely manner.

Public comment periods are expected after the completion of the Proposed Plans for Nike Site Summit, and SS22, Former DRMO Storage Yard. Notification of public comment periods will be made through the public notice process.

4.13 Records of Decision and Responsiveness Summaries

A ROD is the formal documentation step that identifies the remedial options chosen by the restoration program, with input from the ADEC and USEPA and in consideration of public input received in the Proposed Plan. Development and signature of the RODs for Nike Site Summit, and SS22, Former DRMO Storage Yard, are expected by 2013.

The restoration program will prepare a Responsiveness Summary, listing all comments received during each comment period and responses to the comments, for each of these sites. The Responsiveness Summaries will be made available in the Information Repositories and Administrative Record.

4.14 Web Site and Electronic Media

JBER maintains a public web site at http://www.jber.af.mil/library/environmental/index.asp. The Environmental Restoration Program will continue to use available web sites or other electronic media, as available (e.g. the JBER Facebook Page), to disseminate public information, including meeting details.

The public web site or other electronic media are not intended to serve as an online administrative record, but rather as a source of easy-to-reference, general information on the JBER ERP, or to provide the community with updates. Additionally, as detailed in Section 4.5, use of e-mail as a method to correspond with interested community members may also be used. JBER continues to expand its environmental e-mail distribution list and may use it to alert subscribers when significant information is posted to the JBER website.

4.15 Community Involvement Plan Revision

The first Elmendorf AFB Community Relations Plan was published in January 1992; the original Fort Richardson Areawide Community Relations Plan was published in April 1995. This

Community Involvement Plan revises the Interim CIP. This Community Involvement Plan will be revised every five years upon finalization and stakeholder approval of this plan. This plan will be updated while the installation continues active restoration of sites under CERCLA.

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APPENDIX A

Glossary

APPENDIX A
GLOSSARY

Action Memorandum. A document that provides a concise, written record of the decision to select an appropriate removal action under the EE/CA process. It summarizes the results of an EE/CA, along with EPA's response decision and parallels the function of a Record of Decision.

Administrative Record. Original documents including correspondence, public comments, the ROD, and technical reports from the agency responsible for the site upon which remedial action selection is based.

Alaska Department of Environmental Conservation (ADEC). The state government agency responsible for overseeing compliance with Alaska state environmental quality regulations.

Area of Concern (AOC). Areas that may have been overlooked during the original 1983 record search and subsequent remedial investigation at Elmendorf AFB, and where hazardous materials or petroleum products may have been stored or disposed of. A site becomes an AOC when contamination is addressed in follow-on projects.

Benzene (C_6H_6). A colorless liquid with an aromatic odor. It is widely used in the manufacture of many chemical substances and in the rubber industry. It is commonly found in petroleum products. The Environmental Protection Agency estimates that three-fourths of all Americans have probably been exposed to benzene in varying degrees. Much of the exposure occurs when pumping gasoline.

Bioventing. A technology that supplies oxygen to underground soils using blowers that either inject or extract air through specially designed wells. The oxygen is used to promote bacterial growth and improve the rate at which soil bacteria naturally break down contamination.

Community Environmental Board (CEB). Similar to a RAB organization, however issues addressed cover the entire installation's environmental program in addition to the restoration program. Meetings include presenters from a wide gamut of environmental activities to include non-CERCLA contaminated sites, wildlife management and cultural resources.

Community Involvement Plan. A plan that outlines specific community involvement activities that occur during the remedial response at a facility. The Community Involvement Plan provides information about recorded community concerns and outlines how the installation will keep the public informed and involved in the cleanup process at the facility. Formerly known as the Community Relations Plan.

Community Relations Plan. See Community Involvement Plan

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). An act that sets up a program to identify sites where hazardous substances have been, or might be, released into the environment to ensure they are cleaned up.

Defense Reutilization and Marketing Office (DRMO). A Defense Department agency that disposes of excess military property or materials, often through reuse, resale, or recycling.

4,4-Dichlorodiphenyldichloroethane (DDD) ($C_{14}H_9Cl_4$). An insecticide similar to DDT with similar toxicity.

4,4-Dichlorodiphenyltrichloroethane (DDT) ($C_{14}H_9Cl_5$). The first chlorinated hydrocarbon insecticide. The Environmental Protection Agency banned registration and interstate sale of DDT for virtually all but emergency uses in the United States in 1972 because of its persistence in the environment and accumulation in the food chain.

Emergency Response Action. Action taken immediately to stop a threat if a source poses an immediate threat to public health or the environment.

Engineering Evaluation/Cost Analysis (EE/CA). The EE/CA is a scaled-down and focused removal action equivalent to an RI/FS that is required when a lead agency determines a removal action is appropriate and that a minimum six-month planning period exists prior to on-site removal action initiation. These contain an evaluation of possible alternative technologies, selection of the removal, and document the decision-making process. Screening process and analysis of removal options is based upon such factors as technical feasibility, institutional considerations, reasonable cost, timelines in respect to threat of mitigation, environmental impacts, and protectiveness.

Environmental Restoration Account. The Environmental Restoration Account is an account of money used for cleanup of active, inactive, formerly used lands, and lands and resources affected by past DOD releases of hazardous substances. This account emphasizes the identification, investigation, and cleanup of contamination from hazardous substances and wastes; correction of other environmental damage, such as unexploded ordnance detection and disposal; demolition and removal of unsafe and unsightly buildings and structures; debris removal; and improvements to hazardous waste operations in DOD.

Environmental Protection Agency (EPA). The federal government agency responsible for overseeing compliance with federal environmental regulations.

Environmental Restoration Program (ERP). The DOD program started in 1980 designed to identify, confirm or quantify, and remediate problems associated with past environmental releases of hazardous substances and petroleum products. Also referred to as the Installation Restoration Program (IRP).

Ethylbenzene (C_8H_{10}). A chemical commonly found in petroleum products.

Facility. The term "facility," as defined in CERCLA, refers to any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or any source or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

Federal Facility Agreement (FFA). An agreement signed by respective agencies to manage site cleanup under CERCLA. The Air Force, EPA Region 10, and ADEC signed an FFA for Elmendorf AFB in November 1991. The Army, EPA Region 10 and ADEC signed an FAA for Fort Richardson in December 1994.

Fluoranthene ($C_{16}H_{10}$). A polycyclic aromatic hydrocarbon (PAH) found in creosote and waste oils that can also be a byproduct of producing plastics.

Groundwater. Underground water that fills pores in soil or openings in rock. When groundwater accumulates in significant quantities and quality, it may be used as a source of drinking water.

Installation Restoration Program (IRP). See Environmental Restoration Program (ERP).

Institutional Control. A legal and enforceable restriction or agreement that enhances and complements the permanence of a cleanup remedy. Examples are zoning or land use restrictions limiting use or installation of domestic water supply wells.

Interim Remedial Action (IRA). Early actions taken to eliminate, reduce, or control the hazards posed by a site or to expedite the completion of total site cleanup.

Land Use Control (LUC). See Institutional Control (IC).

Lead (Pb). A common metal that can be toxic by ingestion or by inhalation of contaminated dust or fumes.

Lead Agency. The agency or organization which has the principal responsibility for carrying out environmental restoration activities at a site.

Limited Field Investigation (LFI). Screening investigations of potential source areas that lack sufficient data to determine whether these areas pose an unacceptable risk to human health and the environment. Based on LFI results, a source area may be recommended either for no further action or for remedial investigation to fully characterize the nature and extent of contamination.

Long-Term Management (LTM). Measurements of soil, surface water, and/or groundwater taken during environmental remediation to determine the extent of contamination, document concentrations, and evaluate when cleanup levels have been met.

Monitored Natural Attenuation (MNA). Measurements of soil, surface water, and/or groundwater taken during environmental remediation to determine the extent of contamination, document concentrations, and evaluate when cleanup levels have been met.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The NCP establishes EPA's response policy and lays out the key regulatory response steps for implementing CERCLA. It is located in 40 Code of Federal Regulations Part 300.

National Priorities List (NPL). The Environmental Protection Agency list of top priority hazardous waste sites in the country that are eligible for investigation and cleanup under the Superfund program.

Natural Attenuation. Natural physical, chemical, and biological processes that break down contaminants in soil and water.

Operable Unit (OU). A term used to describe a portion or study area within a CERCLA site. An OU may be based on a particular type of contaminant, contaminated medium (such as soils or water), source of contamination or geographical location.

Petroleum Hydrocarbons. A large group of chemicals that make up oils and gasoline.

Polychlorinated Biphenyls (PCBs). A group of toxic, persistent chemicals used in transformers and capacitors for insulating purposes and in gas pipeline systems as a lubricant. In 1979, further sale or new use of PCBs was banned by law.

Polycyclic Aromatic Hydrocarbons (PAHs). A group of compounds formed as a result of the incomplete combustion of hydrocarbons. They are often produced as a byproduct of burning plastics. PAHs commonly occur in the environment, originating from both natural and man-made sources.

Proposed Plan. A document requesting public input on a proposed cleanup alternative.

Public Comment Period. A time during which the public can review and comment on various documents with environmental impact. For example, CERCLA requires a minimum 30-day comment period is held to allow citizens to review and comment on the proposed plan for cleaning up contamination at a site.

Pyrene ($C_{16}H_{10}$). A PAH found in coal tars and waste oils. It is a byproduct of the combustion of fossil fuels.

Radionuclide. An atom with an unstable nucleus. Very low levels of radionuclides are common in air and water; most are naturally occurring and at levels low enough not to be considered a public health concern. When radionuclides are present in higher concentrations, radioactive contamination may be present.

Radium-226 (Ra-226). An isotope of radium, a radioactive chemical element. Radium is an alkaline earth metal that is found in trace amounts in uranium ores. Ra-226 has a half-life of 1,602 years and decays into radon gas.

Receptor. Plants, animals, or human populations that could potentially be exposed to contamination.

Record of Decision (ROD). A public document used to explain the remedial alternative selected for a CERCLA site.

Remedial Action (RA). A long-term action taken to stop or substantially reduce a release, or a threatened release of hazardous substances, which is a serious but not an immediate threat to public health.

Remedial Action Report (RA Report). A report that documents implementation of remedial actions at a site or operable unit (OU). The report is done when all remedial actions are operational and functional. See Remedial Action

Remedial Design (RD). A set of specific plans prepared to conduct the remedial action selected in the ROD.

Remedial Investigation and Feasibility Study (RI/FS). Two distinct but related studies. The first study is the remedial investigation (RI), which examines the nature and extent of contamination problems at the site. The second is the feasibility study (FS), which evaluates different methods to remediate, or clean up, the contamination problems found during the remedial investigation.

Remedy in Place/Remedial Action-Operation (RIP). This is a status indicator for sites where remedial systems are in place and operational.

Removal Action. An immediate action taken over the short term to address a release or threatened release of hazardous substances, such as containing waste safely onsite to eliminate further problems, or identifying and removing a source of groundwater contamination to halt the

further movement of contaminants. Such interim remedial measures are short of the final remediation for a site.

Response Complete (RC). A status determination that the final site remedy has been constructed in accordance with design specifications, is operational and functional, is being maintained as required by CERCLA and the National Contingency Plan, and all long-term operations and maintenance activities are in place at a site, or that investigations are complete at the site and funding under the ERP will be terminated.

Responsiveness Summary. A summary of oral and/or written public comments received during a comment period on key cleanup action documents and the lead agency's response to those comments. The responsiveness summary is a key part of the ROD, highlighting community concerns for lead agency decision makers.

Restoration Advisory Board (RAB). An advisory board that contains representatives from the military, neighboring communities, regulatory agencies, and public interest groups. The RAB is designed to act as a focal point for exchanging information between the base and the community.

Risk Assessment (RA). A process to characterize the nature and magnitude of health risks to humans and ecological systems from chemical contaminants and other stressors that may be present in the environment.

Sediment. A layer of soil, sand, and minerals that covers the bottoms of streams and lake beds. Contaminants often accumulate in sediment.

Selected Remedy. The remedial action that has been selected and approved through the signing of the ROD.

Semi-Annual Progress Reports. Reports published twice a year, 1–2 pages in length prepared by the base restoration office on each OU and EE/CA site. Each report summarizes the history, remedial actions, chemicals of concern, action taken during the current quarter and action planned for the upcoming quarter.

Site. The word site can be used to refer to the total area of Elmendorf Air Force Base or Fort Richardson because the entire installations are listed on the National Priorities List. It can also refer to a specific cleanup area within the installation, such as SS22.

Site Closeout. A status determination that no further response actions under the ERP are appropriate or anticipated and the regulatory agencies concur. At NPL sites, such as Elmendorf AFB or Fort Richardson, this step includes following proper procedures for deletion from the NPL.

Solvents. Substances, usually liquids, capable of dissolving or dispersing one or more other substances.

State-Elmendorf Environmental Restoration Agreement (SERA). A regulatory compliance agreement signed on October 2, 1992, by ADEC and Elmendorf AFB. It established a compliance schedule for conducting a variety of environmental cleanup activities at 32 state program source areas at Elmendorf Air Force Base, including petroleum, oil, and lubricants spills and underground storage tanks. The Army and ADEC signed the State-Fort Richardson Underground Storage Tank Compliance Agreement (Two-Party Agreement) in 1993 and the State-Fort Richardson Environmental Restoration Agreement (Two-Party Agreement) for Non-UST source areas in November 1994.

Superfund. The commonly used term that describes the federal legislation authorizing the Environmental Protection Agency (EPA) to investigate and respond to the release or threatened release of hazardous substances into the environment. It is also known as CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act). In 1986, Superfund was reauthorized as SARA (Superfund Amendments and Reauthorization Act).

Superfund Amendments and Reauthorization Act (SARA). Modifications to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) enacted on October 17, 1986. The program was dissolved Oct. 21, 2002.

Surface Water. Bodies of water that are above ground, such as rivers, streams, lakes, and ponds, as well as precipitation (rainwater or snow melt) flowing on the ground.

Technical Assistance Grants (TAGs). Program that provides up to $50,000 to community groups wishing to hire consultants to interpret sampling results, reports, and other documents. Twenty percent of the requested funding amount must be matched by the group. The matching funds may be obtained from in-kind services and may originate from any non-federal source.

Technical Assistance for Public Participation (TAPP). DOD funds made available to a Restoration Advisory Board (RAB) or Technical Review Committee (TRC) to help members better understand the scientific and engineering issues involved in an installation's restoration activities. The technical assistance is procured through government purchase orders and is limited to $25,000 per year or 1 percent of the total restoration cost, whichever is less.

Technical Review Committee (TRC). This committee provides relevant state and local authorities and the public the opportunity to review and comment on proposed DOD response actions, including the review of all applicable data, studies, reports, and action plans. Many installations have replaced their TRC with a Restoration Advisory Board (RAB).

Tetrachloroethene (PCE) (C_2Cl_4). Also known as perchloroethene. PCE is used as a dry-cleaning agent; an industrial degreaser; a solvent for oils, paints, and varnishes.

Toluene (C_7H_8). A clear liquid with a sweet, pungent odor. Toluene is used in the manufacturing of organic compounds, dyes, and explosives. It is also used as a solvent for paints and coatings and a component of automobile and aviation fuels.

Treatability Study. A study performed to better define the physical and chemical parameters needed to evaluate cleanup options. A treatability study examines the effectiveness of a particular technology for treating specific site wastes.

Trichloroethene (TCE) (C_2HCl_3). A colorless liquid with a sweet odor. It has many common uses such as a general solvent, a degreaser in dry cleaning, or a constituent in the manufacturing of pharmaceuticals.

Underground Storage Tank (UST). As defined under Resource Conservation and Recovery Act (RCRA), Subtitle I regulations, this is any tank that stores regulated substances (such as

petroleum products or hazardous substances) and that has at least 10 percent of its volume below the ground surface.

White Phosphorus. A synthetic substance that has been used in poisons, smoke-screens, matches, and fireworks, and has been used as a raw material in the production of phosphoric acid. It has been used in smoke-producing munitions since World War I. White phosphorus is thermodynamically unstable in the presence of atmospheric oxygen.

Xylenes (C_8H_{10}). Chemicals used as solvents and as constituents in paint, lacquers, enamels, and rubber cement. Xylenes are also found in aviation and motor fuels.

More information on contaminants and waste are available at the EPA's website at http://www.epa.gov/epawaste/topics.htm.

APPENDIX B

Description of Operable Units

APPENDIX B
DESCRIPTION OF OPERABLE UNITS

Elmendorf AFB

CERCLA sources at Elmendorf AFB were originally divided into seven OUs or study areas. An OU is a unit in which similar types of contamination sources have been grouped together, based on similarities in types of contaminants present, source locations, or types of remedial actions anticipated. Subsequently, source areas in the seventh OU were reassigned to OU4 and OU6, and OU7 was closed under the ERP.

After Elmendorf was well into the cleanup of OUs 1 through 6, the Air Force began looking for areas that may have been overlooked in the initial research efforts to catalog the base's contaminated sites. This led to a series of reports on sites that might warrant further investigation. These sites, which ranged from oil barrel dumps to formerly used training sites, were classified as points of interest, for those that seemed to be of lesser concern, and AOCs. One AOC site, known as OT82, was littered with rusty metal and one pile of asbestos. Because the site was near a housing area, the cleanup was expedited in 1998 as part of the investigation process and included removal of the drums and the asbestos.

In 2001, during the construction of a private sector financed housing project near the Boniface entrance to Elmendorf, buried and suspected contaminated soil were discovered. The site, referred to as SA100 was quickly designated as a CERCLA "time critical removal action." The site investigation began immediately followed by a removal action in August through September 2001. Approximately 1,000 cubic yards of soil, 568 tons of debris and 175 drums of uncontaminated soil were characterized and disposed of appropriately. Due to lead concentrations, about 22 tons of soil was classified as hazardous waste and 114 tons of soil was classified as being above ADEC cleanup criteria but a non-hazardous material; both were transported to a RCRA-permitted facility in Idaho.

Twenty-one confirmation samples confirmed that all metal concentration above background levels and all petroleum-contaminated soils above regulatory criteria had been removed. The USAF and EPA determined a ROD was not necessary as the site was documented in the site closure document and the 2003 Five-Year Review. No further response actions are necessary and the site is considered closed.

Studies of 22 sites were completed in 1997; three were identified as areas of potential environmental concern, 19 required no further action. The two sites needing more study were investigated in 1998. As a result of the limited field investigation, two sites have been selected for study and possible remediation under the EE/CA process.

As explained in paragraph 1.2.1, an EE/CA can be used to address sites where removal actions are not time-critical. SS83, a former World War II anti-aircraft artillery site near Sixmile Lake, is contaminated with fuel products, fuel-related chemicals and lead. DP98, where fuel products and slightly elevated levels of chlorinated solvents were found, was discovered as part of underground tank removal. Both areas are in remote restricted areas of the base. Both DP98 and SS83 were removed from the EE/CA process. DP98 efforts were converted to an RI/FS. SS83

was removed from the CERCLA process to the State Sites Program and converted to a site assessment.

The following are brief descriptions of each OU. Additional information is available in the ROD for each OU, the base Management Action Plan and the Five-Year Review. The base's outwash plain is under institutional controls that prohibit use of the shallow aquifer until cleanup goals are achieved. Specific controls at LF59 within OU1 prohibit any land use except outdoor/recreational use. Construction of manned facilities is prohibited at OUs 1, 2 and 6, and OU4 is designated as an "Airfield Use Area" for aircraft operations and maintenance, to include active and inactive runways, taxiways, and parking aprons for aircraft. Land use controls also restrict water use to limit access to contaminated groundwater.

Operable Unit 1. OU1 is located in the eastern portion of the base, next to the Davis Highway and immediately north of Ship Creek. OU1 is more than 60 acres in size. It consists of five general waste disposal areas where various types of material were disposed, including general refuse, scrap metal, used chemicals, construction debris, and drums of asphalt. The OU1 ROD was signed in September 1994 and focused on groundwater. The remedy included groundwater monitoring and LUCs.

Evaluations of groundwater in 2003 indicated all wells throughout OU1 had achieved cleanup goals with the exception of one well (LF59) which will continue to be monitored for TCE as part of the Base Groundwater Monitoring Program. In July 2004, a closure report was signed for LF05, LF07, LF13, and OT56 which had met the cleanup goals.

Results of 2008 Five-Year Review for OU1: Concentrations of TCE in groundwater at LF59 are decreasing and are expected to reach cleanup levels by 2018.

Operable Unit 2. This OU contains two areas where USTs had been constructed; ST20, located in the central portion of the base and ST41, located in the western part. ST20 is the former site of a 338,000-gallon UST used to store Bunker C fuel oil for the original base power plant. After the power plant was shut down, the tank was used to store waste oils, used solvents, and other wastes generated by industrial shops. The tank was cleaned and demolished in 1990.

ST41 is the former site of four one-million-gallon USTs. An interim ROD for the groundwater contamination at ST41 was signed in September 1992. As a result of this ROD, a free product and dissolved phase recovery treatment system was installed at ST41.

The OU2 ROD was signed in May 1995, and it focused on removal of contaminant sources and continued groundwater cleanup at ST41. Due to minimal soil contamination at ST20, this site was designated as a NFA source in this ROD.

All remedial actions were operational and functional, as documented in the OU2 RA Report in 1998. The source removal (tank, pipeline, and soil) was successfully completed in 1996. The removal of the sediments contaminated above cleanup levels, closure of the tanks, and removal of a major contaminant transport mechanism (the wood stove pipe down gradient from Tank 601) represent a major reduction in potential risk to human health and the environment.

The groundwater treatment system and monitoring program were in place, operational and functional until December 1998, when EPA, ADEC and the Air Force agreed to shut down the system. This shutdown was based on the data collected since the 1993 RI. The lack of recovery of product suggests that a very limited amount of free product remains at ST41.

Surface water and groundwater data verify dissolved contamination is not migrating and natural attenuation is occurring. ST41 is now in monitored natural attenuation. It is estimated that all cleanup goals will be attained by 2021.

Results of 2008 Five-Year Review for OU2: The remedy included source removal (completed in 1996), operation of a groundwater treatment system (completed in 1999), natural attenuation, and LUCs.

Contaminants in groundwater are not migrating and concentrations are decreasing. No recoverable free product has been detected in groundwater wells since 2003. Surface water at the point-of-compliance in the wetlands north of the site met cleanup levels in 2008.

Operable Unit 3. OU3 is located in the southwestern portion of Elmendorf AFB. This OU consists of three sources and one receptor area. At SD16, waste solvents from Building 8197 were disposed of in open trenches. At SD31, floor drains from Building 7309 (Hangar 5) were discharged into dry wells and septic systems. The septic system and dry wells at SD31 were excavated in 1993. SS21 is an area where transformers containing PCBs were stored. SD52, Cherry Hill Ditch, is a receptor for the storm water from a major portion of the base. In 1994, contaminated soil was excavated, and the bottom of Cherry Hill Ditch was capped. A storm water diversion project was completed at this receptor area. SD16, SD31, and SD52 were determined to be NFA sources in the OU3 ROD. The OU3 ROD was signed in January 1997, and the selected remedy focused on the PCB soil contamination at SS21.

Response actions at OU3 are complete. The RA Report was signed by EPA and ADEC in May 1999. The successful completion of the SS21 remedial action allows for unlimited use and unrestricted exposure to the site. No future five-year reviews of OU3 will be conducted because the remedial action was successfully completed as planned.

Operable Unit 4. OU4 consists of 10 source areas which include floor drains in eight maintenance facilities (SD24 through SD30 and SS18), a fire training area (FT23), and an asphalt drum storage and processing area (SS10). Eight of the 10 source areas in OU4 are located north of the east-west runway and south of the Elmendorf Moraine. The remaining two source areas (SD30 and SS18) are located south of the east-west runway, near Arctic Warrior Drive between OUs 3 and 5. Sites SD24, SD28 and SD29 have no further study planned and are undergoing long-term monitoring. Due to minimal soil contamination at SD26, SD27, SD30, and SS18, these sites have been designated as NFA sources. During the fall of 1993 and summer of 1994, a response action at SS10 removed both liquid asphalt and asphalt-containing soils left over from former asphalt batch operations. More than 100,000 gallons of asphalt were recovered and recycled for reuse on base.

The OU4 ROD was signed in October 1995.

All remedial actions are operational and functional, as documented in the OU4 RA Report. Bio-venting and monitoring are continuing at all OU4 location, in accordance with the Bio-venting Performance and Monitoring Plan.

The success of the bio-venting system is evidenced by monitoring which shows that COC concentrations at sites SS10, FT23, and SD25 have decreased significantly over the five years the bio-venting systems have been in operation. The current status of soil monitoring results is summarized below:

SS10 Soils: Total volatile hydrocarbon concentrations in soil gas testing results in 2001 indicate that low levels of petroleum hydrocarbons are still present in the subsurface. However, the in-situ respiration testing results indicated that bio-venting continues to enhance hydrocarbon degradation.

FT23 Soils: The blower at FTA-2 was shut down in 2000 after 1999 sampling showed that cleanup levels had been met. In 1999, the original area treated by FTA-1 had also met cleanup levels; however, the blower at FTA-1 continues to operate because the system was expanded in 2002 to address contamination that was identified at an area that was not included in the original treatability study (soil boring SB-64). A revised cleanup date for FT23 has not been established for the new area of contamination that was identified during the 1999 sampling. The sample (SB-64) exhibited contamination above the cleanup levels from the soil horizon immediately above the water table. Based upon the depth of contamination in the soil boring and the depth to groundwater at FT23, it appears that contaminated groundwater may be spreading contamination in the smear zone above the water table and in saturated soil at FT23. Groundwater appears to be re-contaminating subsurface soil in the smear zone at the groundwater interface. Although the bio-venting system may slightly enhance bio-degradation in this case, it is not designed to remediate saturated soils. Therefore, it is unlikely that soil cleanup levels will be met until groundwater is further remediated and constant recontamination of these soils subsides. The groundwater monitoring and LUCs will ensure long-term protectiveness.

SD25 Soils: Closure sampling conducted in 1999 indicated cleanup levels had been achieved for DRO, GRO and total BTEX, but cleanup levels were not met for benzene. Follow-on closure sampling in July 2002 documents that degradation of benzene has occurred and remediation at SD25 is complete (USAF, 2002d). Annual reports from 1997 to the present provide analytical data collected from the bio-venting systems.

Analysis of trends in groundwater chemicals of concern (COC) concentrations at OU4 is as follows:

OU4 East Plume: TCE concentrations in this plume are approximately half of the concentration levels of 1993. The ROD predicted that the groundwater cleanup level would be reached by 2008. Although natural attenuation is occurring, it is likely that the cleanup duration may exceed ROD specifications.

OU4 West Area: FTA Plume (OU4 FT23): Benzene remediation appears to be on track with the cleanup level to be reached by 2008. The chlorinated compounds found at OU4, however, are degrading more slowly than predicted by the groundwater models. Tetrachloroethene (PCE), TCE, and 1,2- dichloroethene may not reach cleanup levels by 2008. Remediation appears to be on track for ethylbenzene and toluene; however, remediation of benzene may take longer than specified in the ROD.

In 2002, groundwater samples at OU4 were analyzed for natural attenuation parameters, VOCs, GRO, and DRO. The analytical data were reviewed to determine if any chemicals, other than COCs, were present at concentrations above current state or federal cleanup levels. GRO and DRO, neither of which is included in the OU4 ROD chemical-specific ARARs for groundwater, were both found above ADEC groundwater cleanup levels. No federal cleanup levels exist for GRO and DRO in groundwater.

Results of 2008 Five-Year Review for OU4: The remedy included bio-venting of deep soils at three source areas, natural attenuation of contaminants in groundwater and shallow soils, and LUCs. Contaminant concentrations in deep soils meet cleanup levels except at FT23, where bio-venting continues. Shallow soils meet cleanup levels throughout OU4. SS10 met cleanup levels for all contaminants of concern and was closed in 2006. Contaminant concentrations meet cleanup levels in SD28 groundwater and are trending toward cleanup levels at most of the groundwater wells in OU4.

Operable Unit 5. OU5 is located along the southern boundary of Elmendorf AFB adjacent to Ship Creek. OU5 covers an area more than 7,000 feet long and 1,200 feet wide. Approximately 90 percent of the shallow aquifer flowing through Elmendorf AFB is thought to flow into OU5.

Upgradient sources from OU5 (OUs 1, 2, 4 and several SERA sites) are the source of some of the groundwater contamination in OU5. Regardless of the source, groundwater contamination is being treated through OU5 remedial actions, including the ST37 wetland system described below. Due to minimal soil contamination at ST38, SS42, SD40, ST46, and SS53, these sites have been designated as NFA sources.

The OU5 ROD was signed in February 1995.

All remedial actions are operational and functional, as documented in the OU5 RA Report. The ST37 wetland system is operational, and the operations and maintenance manual has been completed. Groundwater monitoring and sediment sampling is continuing at OU5 and upgradient locations, in accordance with the Environmental Monitoring Plan.

Response actions at OU5 are ongoing and are expected to continue until 2025, based on current estimates of the time to remediation documented in the annual groundwater monitoring reports.

Results of 2008 Five-Year Review for OU5: The remedy included natural attenuation and LUCs for groundwater contaminants, groundwater monitoring, and collection and treatment of contaminated seeps in constructed and natural wetlands.

The remedies have prevented contaminant migration. Effluent from constructed and natural wetlands meets all cleanup levels, and contaminants have not been detected at the point-of-compliance, Ship Creek. TCE concentrations currently meet cleanup levels at three seeps that were previously contaminated. Natural attenuation of TCE in groundwater is occurring, but it is taking longer than originally predicted in some areas of OU5.

Operable Unit 6. OU6 consists of three source areas located north of the Elmendorf Moraine (LF04, SD15, and WP14) and three source areas located south of Ship Creek (LF02, LF03, and SD73). LF04 is an old landfill used from 1945 to 1957. SD15 and WP14 are old POL sludge disposal sites. LF02 and LF03 are old abandoned landfills. SD73 consists of surface drains in a building once used as a rock testing laboratory and a surface disposal area next to the building. Due to minimal contamination at LF03 and SD73, they were designated as NFA sources in the OU6 ROD. In FY96, SS19 was moved to OU6 from OU7. During the FY95 field season, an expedited response action to remove pesticide-contaminated soil was completed at SS19. As a result of the successful completion of the expedited response action, the agencies have agreed this source qualifies as an NFA source. Because the contaminated soils at SS19 have been satisfactorily removed, and the residual risk is at an acceptable level, no further action is required. The OU6 ROD was signed in January 1997.

All remedial actions are operational and functional, as documented in the OU6 RA report. Groundwater monitoring is continuing at all OU6 locations, in accordance with the Environmental Monitoring Plan.

A high-vacuum extraction (HVE) system constructed in 1996 is being used to treat soil and groundwater contamination at SD15. Debris and concrete pads were removed and disposed of at a local land reclamation area. Shallow contaminated soils were excavated, taken to Alaska Soil Recycling, and recycled in a low-temperature thermal desorption unit. After treatment, the soils were returned to SD15 and used as backfill material.

The perched aquifer at SD15 and the shallow aquifer in the outwash plain still exceed cleanup goals. Summaries of monitoring information are available in the annual groundwater monitoring report. Response actions at SD15 continued until 2007.

The initial removal of debris on the beach below LF04 was conducted in the summer of 1997. Beach sweeps will be conducted until no further debris falls on the beach. For planning purposes, this has been set at 30 years.

In September 2003, a Memorandum to the Site File was signed for OU6 that allowed for minor revisions to the ROD. The minor revisions included allowing for a change in the sampling frequency for groundwater monitoring from semi-annual to annual and implementing a soil vapor extraction (SVE) treatability study for shallow soils at SD15. The soils reached ROD cleanup values in 2005. An Explanation of Significant Differences (ESD) documents refinements to the OU6 ROD. It allows operation of the HVE system to be terminated and shift focus to the next phase of the remedy at SD15 in the ROD-Monitored Natural Attenuation (MNA). It establishes 18 AAC 75.345 as a chemical-specific Applicable or Relevant and Appropriate Requirement (ARAR) for LF02 and SD15 which results in a new cleanup level for 1,1,2,2-tetrachloroethane. This ESD uses the 2003 Air Force guidance to clarify how the Air Force intends to implement the LUCs at sites LF02, LF03, LF04, SD15, and WP14. This document was signed in June 2007. In October 2008, the HVE treatment system was removed at SD15.

Results of 2008 Five-Year Review for OU6: The remedies included natural attenuation of groundwater contaminants, high-vacuum extraction treatment of groundwater and soil at SD15 (completed in 2007), annual removal of landfill debris at the base of the bluff below LF04 North, free product recovery at WP14 and LF04 South, and LUCs.

Cleanup levels have been met for soil at SD15 and appear to be met for groundwater at LF02. The quantity of debris collected below LF04 North has decreased over time, which may indicate a decrease in erosion. No recoverable free product has been detected in WP14 or LF04 South wells since 2005. Contaminant concentrations in groundwater meet cleanup levels in many wells and are decreasing in most other wells.

DP98. DP98 is located in the northwest portion of the base and consists of Buildings 18220 and 18224 (a former vehicle maintenance facility). This site was previously referred to as ST423 under SERA for investigation of the USTs that service Building 18224. During a SERA Phase VI investigation, TCE was detected at one well above State of Alaska groundwater cleanup levels. This resulted in the addition of this site to the ERP in 1999 for further investigation. An EE/CA was conducted in 2000. The results of this investigation proved the site had more contamination than first thought, and the EE/CA was transformed into an RI/FS in 2002 and

interim LUCs were implemented. The RI/FS was completed in June 2003, and the ROD was signed in May 2004. In 2005, approximately 512 cubic yards of contaminated soil was excavated near the suspected source (a drain tile or outfall pipe), LUC language was revised and LUC boundaries were incorporated into the Base General Plan. An enhanced natural attenuation treatability study was completed in 2007. The final component of the selected remedy was implemented in October 2008 with the compilation and evaluation of 5 years of groundwater sampling results.

Results of 2008 Five-Year Review for DP98: The remedy includes excavation and off-site disposal of contaminated soil; treatability study, groundwater modeling, monitored natural attenuation for groundwater; and LUCs. The final component of the remedy was implemented in October 2008.

Fort Richardson

At Fort Richardson, there are five OUs. Each OU contains and addresses a varying number of contaminated areas. Remedial investigations for each of the OUs have been completed and a number of remedial actions taken. Each OU is summarized below. More specific details can be found in the administrative record and the ROD for each OU.

Operable Unit A. The OUA/OUB ROD includes the following three sites within OUA: Roosevelt Road Transmitter Site Leach Field, Ruff Road Fire Training Area, and Building 986 Petroleum Oil and Lubricant (POL) Laboratory Dry Well.

The Army, EPA, and ADEC determined that the sites included within OUA did not represent unacceptable risk to human health or the environment, based on EPA criteria for residential use. Therefore, no remedial action was necessary to ensure protection of human health and the environment under CERCLA. A description of these sites and NFA decisions can be found in the OUA/OUB ROD.

However, since petroleum contamination levels in the soil exceeded ADEC cleanup standards, remedial actions were completed at the three sites in accordance with the non-UST POL Environmental Restoration Agreement (Two-Party Agreement) between the Army and ADEC. The three sites have been listed in the ADEC contaminated sites database as cleanup complete with institutional controls, which, during the last Five-Year Review (2008) were determined to still be protective.

Operable Unit B. This area consists of two sub-areas that were used during the 1950s and 1960s for the disposal of chemical agent test kits. The Army performed an early action in Work Area B during the summers of 1993 and 1994. The action was done to remove potential chemical agent material (mustard and lewisite) and to remove the source of VOC contamination in the groundwater. Several chemical agent storage containers and associated material were also removed. In addition, 3,500 cubic yards of soil were removed, and cleanup of this soil was completed in the summer of 1998.

Heat enhanced soil vapor extraction, utilizing six-phase soil heating, was used at OUB to remove contaminants from soil. This system was very effective in removal of contaminants within the soil column. However, in 2004 an additional contaminated area was discovered outside of the treatment zone. Free-phase solvent (PCE and TCE) was detected in a well adjacent to this area. In 2005, an SVE system was installed at the site, but this system has not been very effective in removing contaminants due to the low permeability of soils. The Army continues to conduct

groundwater monitoring and has been using a number of tools such as tracer studies, resistivity surveys, and development of geological and hydrological models to better understand the site. Additional wells were installed during 2007 to fill in gaps in the monitoring network. In general, concentrations of COCs remain above RAOs within much of the former Hot Spot area and downgradient plume; however, overall concentrations are decreasing and contamination does not extend off-site.

Operable Unit C. This area is the Eagle River Flats impact area. The contaminant of concern is white phosphorus in the sediments. Ingestion of white phosphorus by ducks is extremely toxic and generally results in convulsions and death. Early actions and treatability studies included dredging of channels to remove white phosphorus-contaminated sediment, draining of ponds, and placement of bentonite barriers to prevent ingestion of contaminants. These actions have resulted in a decrease of duck mortality from several thousands of ducks for each migratory season to several hundred ducks.

The RI/FS and a ROD were completed on September 30, 1998. Pond pumping and waterfowl use and mortality studies were conducted from 1998 through 2007. Results from this work indicate that significant sediment drying and loss of white phosphorus is still occurring in drained ponds. The short-term RAO was achieved in 2003. The long-term RAO was met in 2006, 2007, 2008, 2009, and 2010. The EPA, ADEC, and Army agreed in 2009 that mortality monitoring will continue through 2012. This will provide sufficient mortality data to statistically determine whether the long-term RAO has indeed been achieved.

Operable Unit D. The OUD ROD was finalized in September 2000 and incorporated the 12 known remaining potential source areas that were not addressed in the RODs for OUA/OUB and OUC. The principle concern in these areas was groundwater contamination with organics such as benzene, PCE, and carbon tetrachloride.

An NFA decision under CERCLA was made in the OUD ROD for the following seven of the source areas: Building 45-590 Auto Hobby Shop, Building 726 Laundry Facility, Circle Road Drum Site, Dust Palliative Locations (four separate areas), Grease Pits, Landfill Fire Training Area, and Storm Water Outfall to Ship Creek. It was also determined that two areas, Building 796 Battery Shop and Building 955 Former Sludge Bin (DDT contaminated soils), required further sampling before a decision could be made for NFA. These sites were transferred to the newly created OUE.

Two other source areas included in the OUD ROD qualified to be addressed under the State-Fort Richardson Environmental Restoration Agreement because the only COCs were petroleum compounds. These source areas (Building 700/718, and Building 704) have subsequently been listed as cleanup complete in the ADEC contaminated sites database.

While the OUD ROD was being developed, new information was discovered about the potential source of PCB contamination at the Building 35-752 High-Frequency Transmitter Site, and it was determined that additional investigation was necessary. Rather than delay completion of the OUD ROD, this site was transferred to OUE for investigation and further evaluation.

Operable Unit E. The OUE ROD, signed in September 2005, was established to address a source area, referred to as the Armored Vehicle Maintenance Area (AVMA), discovered during investigation of another potential source area (Building 45-590 Auto Hobby Shop) in OUD. Operable Unit E also addresses three areas (Building 35-752 High-Frequency Transmitter Site,

Building 796 Battery Shop and Building 955 Former Sludge Bin) transferred from OUD because further investigation was required.

The AMVA is the only OUE site determined to require further action under CERCLA. This determination was based on the RI, risk assessments, and evaluation in the FS. No COCs were identified in the ROD for soils at this site, and PCE was the only COC established for groundwater. Federal and State of Alaska drinking water MCLs were adopted as the groundwater cleanup goals. The selected remedy for PCE contaminated groundwater at the AMVA is land use controls, natural attenuation, and monitoring. Annual groundwater monitoring has been conducted since 2006.

The Building 35-752 High-Frequency Transmitter Site was investigated. Based on soil and groundwater sampling results and the risk assessment, this site was recommended for NFA under CERCLA in the OUE ROD. To ensure the protectiveness of the NFA decision, groundwater is sampled every five years in the year preceding the CERCLA Five-Year Review Report.

The OUD ROD determined that two potential source areas, the Building 796 Battery Shop and Building 955 Former Sludge Bin (DDT contaminated soils), required further sampling before a decision could be made for NFA. These sites were re-evaluated as part of the OUE ROD. Results for additional sampling for chemicals of concern at these sites were below MCLs or EPA risk-based criteria. Therefore these two sites were recommended for NFA under CERCLA in the OUE ROD

APPENDIX C

Alaska Resource Library Information System (ARLIS)

APPENDIX C
ALASKA RESOURCES LIBRARY AND INFORMATION SERVICES (ARLIS)

Elmendorf AFB established two publicly accessible Information Repositories in 1992; one at the BLM's Alaska Resources Library and one at the University of Alaska, Anchorage's (UAA) Consortium Library Reserve Desk. Fort Richardson likewise established Information Repositories in 1996 at these two off-post locations.

The BLM collection is now known as the Alaska Resources Library and Information Services (ARLIS), and is located at the University of Alaska-Anchorage, where both Information Repositories remain. Contact information and address for ARLIS are listed below.

ARLIS Contact Information

Address:

ARLIS
Library Builiding, Suite 111
3211 Providence Drive
Anchorage AK 99508

Reference Desk:

Phone: (907) 27-ARLIS

Email: reference@arlis.org

Hours: Monday through Friday, 8am to 5pm

APPENDIX D

Technical Assistance Grant Programs

APPENDIX D
TECHNICAL ASSISTANCE PROGRAMS

Technical Assistance Grant (TAG) Program

Recognizing the importance of community involvement and the need for citizens living near sites on the NPL to be well informed, Congress included provisions in the Superfund Amendments and Reauthorization Act of 1986 to establish a Technical Assistance Grant program. The TAG program is intended to foster informed public involvement in decisions related to site-specific cleanup strategies under CERCLA. The TAG program provides funds for qualified citizen groups to hire independent technical advisors to help them understand and comment on technical factors in cleanup decisions that affect them. In addition to regulatory and legal requirements, decisions concerning cleanup initiatives at NPL sites must take into account a range of technical considerations. These might include the following:

- analytical profiles of site conditions
- nature of the waste involved
- kinds of technology available for performing the necessary cleanup actions.

The following are the basic provisions of the TAG program; as set forth in Section 117(e) of CERCLA; the provisions are also an interim final rule in 53 Federal Register 9736:

- Grants of up to $50,000 are available to community groups for hiring technical advisors to help citizens understand and interpret site-related technical information.
- The group must cover 20 percent of the total cost of the project to be supported by TAG funding.
- The group must budget the expenditure of grant funds to cover the entire cleanup period, which averages six years.
- If the group is not incorporated and it is awarded a TAG, it must then become incorporated.
- There may be only one TAG award per NPL site, but the grant may be renewed.

A free TAG application package is available that includes all the necessary application and certification forms, as well as a copy of The Superfund Technical Assistance Grant Handbook. Sample forms with detailed instructions to assist in preparing a TAG application are included in the manual.

For further information about the application process or any aspect of the TAG program, contact:

Region 10 TAG Coordinator
U.S. Environmental Protection Agency
1200 6th Avenue, Seattle, Washington 98101

Phone: 206-553-1272
Fax: (206) 553-6984

or call the Superfund toll-free hotline: 1-800-424-9346.

Technical Assistance for Public Participation (TAPP)

DOD established the Technical Assistance for Public Participation (TAPP) program to assist community members of RABs and TRCs in participating more fully in the cleanup process affecting DOD installations and FUDS. TAPP allows community members to obtain objective, independent scientific and engineering support concerning the restoration process through the issuance of government purchase orders to small business.

Community members of RABs and TRCs are eligible to apply for technical assistance under the TAPP program. A minimum of three community members must sit on the RAB or TRC to qualify. A majority of the members in good standing must agree on the type of assistance that would most enhance their ability to participate effectively in the restoration program.

TAPP procurements are intended to increase the ability of RAB or TRC community members to participate more effectively in the restoration program by enhancing their understanding of technical details. Typical projects might include a review of restoration documents, review of proposed remedial technologies, interpreting health and environmental effects, participating in relative risk evaluations and certain types of technical training.

In keeping with the requirements of 10 U.S.C. 2705(e), the RAB or TRC must be able to demonstrate that the technical expertise necessary for the proposed TAPP project is not available through the federal, state, or local agencies responsible for overseeing environmental restoration at the installation. Or, they must show that the selection of an independent provider will contribute to environmental restoration activities and the community acceptance of such activities. In addition, DOD encourages the RAB or TRC to seek other available sources of assistance prior to submitting a request for TAPP in order to preserve limited resources. These sources include DOD's installation restoration contractor, or other DOD contractors or personnel, EPA or state regulatory personnel, volunteer services from local universities or other experts, or assistance from state and local health and environmental organizations.

Certain projects do not qualify for funding under the TAPP program. Examples include the generation of new primary data such as well drilling and sampling, litigation or underwriting legal actions, reopening final DOD decisions, political activity or lobbying, epidemiological or health studies and community outreach efforts.

A community may obtain up to $25,000 per year or one percent of the total cost of completing environmental restoration at the installation, whichever is less. There is a limit of $100,000 per installation.

The application process begins when the community members of the RAB or TRC reach an agreement on a TAPP project. The DOD RAB co-chair will be available to assist the community members should the need arise.

The steps for requesting TAPP funds are:

1. Complete the application (DD Form 2749). Specify the type of assistance required, identify potential provider(s) and certify that alternative sources do not exist. The application will not be considered complete until the following data elements have been entered into the form: (a) Installation. (b) Source of TAPP request (names of RAB or TRC). (c) Certification of majority request. (d) RAB/TRC contact point for TAPP project. (e) Project title. (f) Project type (for example, data interpretation, training, etc.). (g) Project purpose and description

(descriptions, time and locations of products or services desired). (h) Statement of eligibility of project. (i) Proposed provider, if known. (j) Specific qualifications or criteria for provider.

2. Submit the application to the RAB or TRC military co-chair, who will forward it to the installation commander for review and approval. The application will then be sent to the contracting office to initiate a purchase order.
3. Respond to contracting office inquiries should they identify an assistance provider different from the one suggested by the community. Evaluate the proposed provider.

After the purchase order has been executed and the assistance is provided, the RAB or TRC members must submit a report to the installation at project completion. This report must indicate the amount of TAPP funds obligated by fiscal year and an evaluation for each project.

Each technical assistance provider shall submit progress reports, financial status reports, materials prepared for the RAB/TRC, and a final report to the DOD installation for the TAPP project as specified by the specific purchase order agreement. The final report shall document TAPP project activities over the entire period of support and shall describe the achievements with respect to stated TAPP project purposes and objectives.

Additional information and application forms are available from the Elmendorf Air Force Base environmental community relations coordinator, the Department of the Air Force or directly from the DOD, Office of the Deputy under Secretary of Defense for Environmental Security, 3400 Defense Pentagon, Washington, D.C. 20301-3400.

APPENDIX E

Public Meeting Locations

APPENDIX E
PUBLIC MEETING LOCATIONS

General

Alaska Native Heritage Center, Inc.

Contact: Melissa Saunders
Telephone: (907) 330-8000
Email: anhcrentals@alaskanative.net
Website: www.alaskanative.net
Capacity: Up to 700. Available after 5 p.m. from October to April, and after 6:30 p.m. from May to September.

Anchorage Museum

Contact: Erin Gallagher
Telephone: (907) 929-9261
Website: www.anchoragemuseum.org
Capacity: Various sizes available, up to 300. Auditorium, restaurant hall, and garage parking available.

Z.J. Loussac Public Library

Contact: Rick Henderson
Telephone: (907) 343-2906
Website: APLRooms@muni.org
Capacity: Up to 700. Various sizes available, up to 232. Auditorium or conference rooms.

Schools

Alaska Pacific University

Contact: Stephanie Purcell-Reynolds
Telephone: (907) 564-8323
Website: www.alaskapacific.edu
Capacity: Grant Hall Theatre seats 210. Various size meeting rooms also available.

University of Alaska Anchorage Housing, Dining and Conference Services

Contact: Megan Bladow
Telephone: (907) 751-7273
Website: www.uaa.alaska.edu
Capacity: Reception 500, Sit down 275. Catering available.

Anchorage School District

Contact: ASD Rental Department
Telephone: (907) 42-4143
Website: http://www.asdk12.org/depts/community/rentals/
Capacity: Varies depending on school.

Hotels

Anchorage Hilton Hotel

Address: 500 West 3rd Avenue, Anchorage, AK 99501
Telephone: (907) 272-7411
Website: http://www.hilton.com/en/hi/hotels/meeting_space
Capacity: 10 to 1000. Settings available include classroom, banquet, theatre, reception and conference.

Hotel Captain Cook

Address: 939 West 5th Avenue, Anchorage, AK 99501
Telephone: (907) 276-6000
Capacity: 10 to 1,250. Various available including conference rooms, ballroom, or library.

Howard Johnson Plaza Hotel

Address: 239 West 4th Avenue, Anchorage, AK 99501
Telephone: (907) 222-8701
Capacity: 30-300. Meeting rooms, conference, and banquet halls available.

Sheraton Anchorage

Address: 401 East 6th Avenue, Anchorage, AK 99501
Telephone: (907) 276-8700
Capacity: 10 to 1,200. Various spaces available.

Westmark Anchorage Hotel

Address: 720 W. 5th Avenue, Anchorage, AK 99501
Telephone: (907) 276-7676
Capacity: 12 to 125. Meeting rooms, conference and banquet halls.

For additional listings, contact the Anchorage Convention & Visitors Bureau:

Telephone: (907) 276-4118
Website: http://www.anchorage.net

APPENDIX F

2011 Community Involvement Survey

APPENDIX F
2011 COMMUNITY INVOLVEMENT SURVEY

1.0 2011 Community Involvement Survey

Community members were invited to participate in a survey to provide feedback about the JBER Environmental Restoration Program's cleanup activities. There were four methods of contribution:

1. By phone interview; Community members were invited to participate in a survey to provide feedback about the JBER Environmental Restoration Program's cleanup activities. Phone interviews were offered as a method to participate in the CIP survey as an alternative to an online or written option. Questions are presented in Section 2.0.

2. In-person interview; In-person interviews were conducted in Anchorage and Eagle River during the week of April 26 - 29, 2011. Participants were asked the survey questions and responses were documented online within the Survey Monkey online database. Phone interviews were offered as a method to participate in the CIP survey as an alternative to an online or written option. Questions are presented in Section 2.0.

3. In writing through a mailed Survey Brochure (Figure F-2) providing a brief overview of the goals and objective along including all option s to participate. Questions included in the survey brochure are presented in Section 2.0.

To achieve a diverse and balanced public participation profile for the CIP survey, the Air Force distributed 1,166 survey brochures to representatives of the following organizations to participate:

- Federal, State, and local officials;
- Alaska Natives;
- CEB members;
- Environmental special interest groups;
- Local businesses, schools, and churches; and
- Community organizations.

In addition, the Air Force also distributed an additional 1,130 invitations were distributed to:

- JBER base housing office for at-will distribution;
- Alaska Resource Library and Information Services (ARLIS) at the University of Alaska-Anchorage for at-will distribution;
- Randomly selected addresses (700) from the JBER-surrounding areas; and
- Earth Day participants through an exhibit at the JBER Military Mall.

4. Online using a survey tool; participants could complete the online questionnaire by accessing the survey questions at www.surveymonkey.com/s/JBER_2011_CIP_Survey. This option was identified in all distributed materials and questions are presented in Section 2.0. Responses to survey questions were also loaded into this online database for reporting.

2.0 CIP Survey Questions

Survey questions were developed based on the EPA Superfund Community Involvement Toolkit guidance, as well as sample questionnaires utilized at other Superfund sites by Air Force and federal regulators. Questions were issue-oriented and designed to qualitatively assess the community's attitudes, concerns and awareness about JBER environmental restoration, as well as to identify public preferences for receiving information and staying involved (EPA, 2003).

The survey consisted of 16 questions related to the environmental cleanup process, environmental concerns, and preferences to receiving cleanup status information. Some of these questions had multiple choice answers while others allowed for open-ended responses:

1. a) In what area do you live?

   b) How long have you lived or worked in the area?
2. a) How familiar are you with the JBER Environmental Restoration Program?

   b) Give some specific examples of what you know about the cleanup effort.
3. What is your opinion of the progress of environmental cleanup at JBER?
4. Which, if any, of the following issues concerns you the most about the JBER Environmental Restoration Program?
5. a) How would you describe the overall community perception of JBER's mission?

   b) What is your understanding of JBER's operational mission?
6. What do you consider to be the greatest success of JBER's cleanup efforts thus far?
7. a) Are you aware of the JBER Community Environmental Board?

   b) Are you willing to attend and participate in these semi-annual JBER Community Environmental Board meetings?
8. a) Do you view JBER officials as credible?

   b) Do you have confidence in the JBER officials' commitment to cleaning up contaminated sites on the installation?
9. What agency or group do you turn to for information on JBER environmental issues?
10. a) How do you prefer to receive information about JBER cleanup?

    b) How frequently would you like to receive information/updates?
11. Which particular radio station, TV channel, newspaper, online media or social media outlet do you prefer?
12. a) Would you prefer to see JBER environmental information through social media? (Examples are: Facebook, Twitter, Myspace, etc.)

    b) Which social media would you prefer?
13. JBER has developed the environmental restoration webpage (www.JBER.af.mil/library/environmental/restoration.asp) as a public source of environmental cleanup information. Would you visit this site for updates?

14. a) Have you ever used the information repository at Alaska Resource Library and Information Services (ARLIS) at the University of Alaska-Anchorage?

    b) Which format did you choose?

    c) Did you find the information you needed?

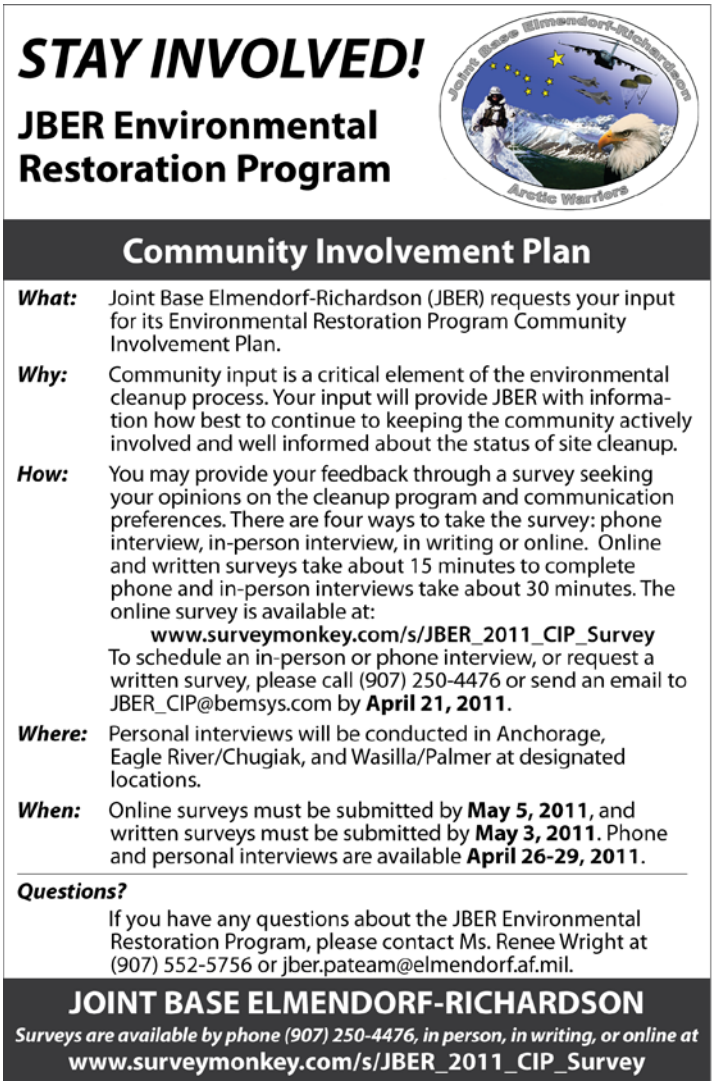
15. Who else in the community should we be talking with about the JBER Environmental Restoration Program?

16. Any other comments or information you would like to add?

3.0 Local Newspaper Advertisements

The USAF went to great lengths to recruit a broad and representative a group for participation. A display advertisement inviting the general public to participate in the CIP survey was ran in the *Alaska Star* on April 14, 2011; JBER's *Arctic Warrior* on April 15, 2011; and both the *Anchorage Daily News* and *Mat-Su Valley Frontiersman* on April 17, 2011 (see Figure F-1 below).

Figure F-1 CIP Display Advertisement



4.0 Survey Brochure

Community members were invited to participate in a survey to provide feedback about the JBER Environmental Restoration Program's cleanup activities. There were four methods of contribution In writing through a mailed Survey Brochure (Figure F-2) providing a brief overview of the goals and objective along including all option s to participate. To achieve a diverse and balanced public participation profile for the CIP survey, the Air Force distributed 1,166 CIP survey brochures as included in Figure F-2 on the following page.

Figure F-2 Survey Brochure

(see Figure F-2 on next page)

Please fold so that the panel next to this one is showing on the outside.
Then, staple and mail.

Thank you for your time and effort. If responding through this written survey, please return by ***May 3, 2011****.*

Place Stamp Here

Name: _____

Address _____

City, State _____

Zip Code _____

___ Please add my name to the mailing list.

___ Please delete my name from the mailing list.

BEM Systems, Inc.
7500 North Dreamy Draw Drive, Suite 232
Phoenix, Arizona 85020

Joint Base Elmendorf-Richardson
673rd Civil Engineer Group
6326 Arctic Warrior Drive
Joint Base Elmendorf-Richardson, AK 99506
Attn: Ms. Renee Wright

Community Involvement Plan Survey

We are seeking your participation in the 2011 Joint Base Elmendorf-Richardson (JBER) Community Involvement Plan (CIP) update.

Community input is a critical element of the environmental cleanup process. Your input will provide JBER officials with information they will use to continue to keep the community actively involved and well informed about cleanup activities.

Your feedback will help provide information about the community's level of familiarity with cleanup, environmental concerns, and preferences for receiving cleanup information.

This questionnaire was developed in accordance with U.S. Environmental Protection Agency guidance on CIP protocol. The names of citizens who participate in community interviews are considered confidential and will not be released. Responses will not be attributed to specific individuals in the published CIP.

BEM Systems, Inc. will consolidate survey results on behalf of JBER.

The survey can be completed four different ways: by phone, in person, in writing, or online. Details on these options are within this brochure.

Your support is much appreciated!

1. (a) In what area do you live?

- ☐ Anchorage
- ☐ Wasilla / Palmer
- ☐ Eagle River / Chugiak
- ☐ JBER
- ☐ Other _____

(b) How long have you lived or worked in the area?

- ☐ 0-3 yrs
- ☐ 4-6 yrs
- ☐ 7-9 yrs
- ☐ 10 yrs or longer

2. (a) How familiar are you with the JBER Environmental Restoration Program? (check one)

- ☐ Not Familiar
- ☐ Familiar
- ☐ Very Familiar

(b) Give some specific examples of what you know about the cleanup effort. ____

_____

_____

_____

3. What is your opinion of the progress of environmental cleanup at JBER? (check one)

- ☐ Excellent
- ☐ Satisfactory
- ☐ Poor
- ☐ No Opinion

4. Which, if any, of the following issues concerns you the most about JBER Environmental Restoration Program? (check one)

- ☐ Environmental Impact
- ☐ Public Health
- ☐ Economic Impact
- ☐ Other _____

5. (a) How would you describe the overall community perception of JBER's mission? (check one)

- ☐ Positive
- ☐ Negative
- ☐ Other _____

(b) What is your understanding of JBER's operational mission? _____

_____

_____

6. What do you consider to be the greatest success of JBER's cleanup efforts thus far?

_____

_____

7. (a) Are you aware of the JBER Community Environmental Board?

☐ Yes ☐ No

(b) Are you willing to attend and participate in these semi-annual meetings?

☐ Yes ☐ No

8. (a) Do you view JBER officials as credible?

☐ Yes ☐ No ☐ No opinion

(b) Do you have confidence in the JBER officials' commitment to cleaning up contaminated sites on the installation?

☐ Yes ☐ No ☐ No opinion

9. What agency or group do you turn to for information on JBER environmental issues? (check all that apply)

- ☐ JBER Officials
- ☐ Media
- ☐ Activist Groups
- ☐ Community Leaders
- ☐ Environmental Regulators
- ☐ Other _____

10. (a) How do you prefer to receive information about JBER cleanup? (check all that apply)

- ☐ E-mail
- ☐ JBER Website (www.JBER.af.mil)
- ☐ JBER Newspaper (Arctic Warrior)
- ☐ Community Newspapers
- ☐ TV
- ☐ Radio
- ☐ Other _____

(b) How frequently would you like to receive information/updates? (check one)

- ☐ Monthly
- ☐ Quarterly
- ☐ Semi-Annually
- ☐ Only for Significant Events

11. Which particular radio station, TV channel, newspaper, online media or social media outlet do you prefer? _____

_____

12. (a) Would you prefer to see JBER environmental information through social media? (e.g., Facebook, Twitter)

☐ Yes ☐ No

(b) Which social media would you prefer?

_____

13. JBER has developed the environmental restoration webpage:

www.jber.af.mil/library/environmental/restoration.asp

as a public source of environmental cleanup information. Would you visit this site for updates?

☐ Yes ☐ No

14. (a) Have you ever used the information repository at Alaska Resource Library and Information Services (ARLIS) at the University of Alaska-Anchorage?

☐ Yes ☐ No

(b) Which format did you choose?

☐ DVD ☐ Hardcopy

(c) Did you find the information you needed?

☐ Yes ☐ No

15. Who else in the community should we be talking with about the JBER Environmental Restoration Program? _____

_____

_____

16. Any other comments or information you would like to add? _____

_____

_____

_____

_____

Want More Options?

Your support is much appreciated! If you prefer, the following three additional options to participate in the survey are available:

Online:

The online survey is available at:
www.surveymonkey.com/s/JBER_2011_CIP_Survey
Online surveys must be submitted by **May 5, 2011.**

Phone:

To schedule, please call (907) 250-4476 or send an email to: **JBER_CIP@bemsys.com** by **April 21, 2011**. Phone interviews are available from **April 26-29, 2011**. Interviews will take approximately 30 minutes.

In-Person:

To schedule, please call (907) 250-4476 or send an email to: **JBER_CIP@bemsys.com** by **April 21, 2011**. In-Person interviews are available from **April 26-29, 2011**. Interviews will take approximately 30 minutes, and will be conducted in: Anchorage, Eagle River/Chugiak, and Wasilla/Palmer at designated locations.

For general information on JBER's Environmental Restoration Program, please visit:

www.JBER.af.mil/library/environmental/restoration.asp
or
The **Alaska Resource Library and Information Services (ARLIS)** at the University of Alaska-Anchorage, 3211 Providence Drive, Suite #111, Anchorage AK 99508

Questions?

If you have any questions about the JBER Environmental Restoration Program, please contact *Ms. Renee Wright* at (907) 552-5756 or **JBER.pateam@elmendorf.af.mil.**