



**UNITED STATES AIR FORCE
ELMENDORF AIR FORCE BASE, ALASKA**

**ENVIRONMENTAL RESTORATION PROGRAM
LAND USE CONTROLS MANAGEMENT PLAN
FINAL**

JUNE 2003

Approved

A handwritten signature in black ink that reads "Douglas L. Miller". The signature is written in a cursive style and is positioned above a horizontal blue line.

**DOUGLAS L. MILLER, Colonel, USAF
EPC Chairman**

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Acronyms

3 CES	3rd Civil Engineer Squadron
ADEC	Alaska Department of Environmental Conservation
AFI	Air Force Instruction
CECD	Base Development Section
CEV	Environmental Flight
CEVP	Environmental Planning Section
CEVR	Environmental Restoration Section
EAFB	Elmendorf Air Force Base
EPA	U.S. Environmental Protection Agency
FFA	Federal Facilities Agreement
GP	General Plan
LUC	land use control
LUCMP	Land Use Controls Management Plan
NPL	National Priorities List
OU	operable unit
RAB	Restoration Advisory Board
ROD	record of decision
SERA	State-Elmendorf Restoration Agreement
USAF	U.S. Air Force

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Executive Summary

All base organizations and tenants are required to follow this Land Use Controls Management Plan. The intent of this plan is to provide base personnel and other entities involved in real estate management or project implementation with information on Elmendorf Air Force Base's (EAFB) land use control (LUC) requirements and guidance for ensuring continued LUC compliance.

The term "institutional controls" is used in EAFB records of decision (RODs), however the Air Force prefers the use of the term "land use controls." For the purposes of this report, the terms "institutional controls" and "land use controls" are used synonymously.

EAFB has implemented LUCs at several sites and operable units (OUs) as part of its Environmental Restoration Program. LUCs were established for DP98 and OUs 1, 2, 4, 5, and 6 in their respective ROD as a component of their selected remedies. These LUCs were established at EAFB to prevent exposure to contaminated media, and they include restrictions on the use of the shallow aquifer south of the Elmendorf Moraine, limitations on the types of buildings at certain areas (primarily occupancy limitations), and designations of certain areas for recreational use only. As selected remedies for contaminated sites being addressed under the Environmental Quality Program are negotiated, it is anticipated that the established LUCs will be expanded to support the remedies, or new LUCs will be established as required.

LUC management and compliance requirements reside within the following 3rd Civil Engineer Squadron processes and subprocesses:

- Real estate management
- Facility siting
- Construction processes
 - Initial planning and facility siting
 - Preparation of construction contract documents
 - Project design review
 - Project implementation

Tracking and awareness methods for LUCs include use of an LUC certification database to issue and track annual LUC compliance certifications to government and private tenant organizations, active educational programs, discussions at briefings and meetings, site visits, and 5-year reviews as required by the U.S. Environmental Protection Agency.

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SECTION 1

Introduction

All base organizations and tenants are required to follow this Land Use Controls Management Plan. Elmendorf Air Force Base (EAFB) has implemented land use controls (LUCs) at several sites and operable units (OUs) as part of its Environmental Restoration Program. The term "institutional controls" is used in individual records of decision (RODs), however the Air Force prefers the use of the term "land use controls." For the purposes of this report, the terms institutional controls and LUCs are used synonymously. LUCs were established for DP98 and OUs 1, 2, 4, 5, and 6 in their respective RODs as a component of their selected remedies. These LUCs were established at EAFB to prevent exposure to contaminated media, and they include restrictions on the use of the shallow aquifer south of the Elmendorf Moraine, limitations on the types of buildings at certain areas (primarily occupancy limitations), and designations of certain areas for recreational use only. LUCs also apply to current and future permitted solid waste landfills at EAFB.

1.1 Purpose

Information appearing in text boxes indicates key information related to LUC management.

The purpose of this Land Use Controls Management Plan (LUCMP) is to document the processes used to manage, track, and enforce LUCs at EAFB. This LUCMP also provides a framework to ensure consistent and effective LUC management for 3rd Civil Engineer Squadron (3 CES) staff (Engineering, Environmental, Planning, Real Estate, Operations, and Contracts), and Headquarters Pacific Air Forces. This plan is also intended to be used as a reference source for base contractors, Restoration Advisory Board (RAB) members, and regulatory agencies.

1.2 Background

1.2.1 U.S. Air Force LUC Policy

The intent of U.S. Air Force (USAF) regarding LUCs is to ensure that land-use activities remain compatible with land-use restrictions imposed on real estate as a result of the environmental restoration process. The policy on land use controls associated with environmental restoration activities was issued in a memorandum dated 17 January 2001 from the Office of the Deputy Under Secretary of Defense (Environmental Security) and includes guidance for both active installations and installations scheduled to be closed. Since EAFB is currently active and there are no plans to close the installation, this LUCMP focuses on the policy guidance related to active installations.

1.2.2 Environmental Restoration Program

The U.S. Environmental Protection Agency (EPA) placed EAFB on the National Priorities List (NPL) in August 1990, and EAFB signed a Federal Facilities Agreement (FFA) with the EPA and the Alaska Department of Environmental Conservation (ADEC) in November 1991. Pursuant to the FFA, EAFB implemented the Department of Defense's Environmental Restoration Program, formerly called the Installation Restoration Program, to identify, characterize, and remediate environmental contamination resulting from past operations. EAFB personnel, EPA, and ADEC comprise EAFB's restoration team.

The restoration team conducted record searches and intense investigations to identify potentially contaminated sources. This research identified 84 contaminated sites on EAFB, where contamination resulted from past landfill use, fuel spills, and underground storage tanks. The contaminated sites were divided into six operable units (OUs) based on either geographic proximity or those sites having similar contaminants. RODs were signed to outline cleanup actions to be taken at each of the six OUs. The DP98 ROD is anticipated to be signed in November 2003. In addition to the clean up actions, LUCs, consisting of land-use and groundwater-use restrictions, were established to ensure both the short- and long-term protection of human health and the environment.

In October 1992, EAFB and ADEC signed the State-Elmendorf Environmental Restoration Agreement (SERA), under which 39 source areas were designated as state program sites. Remedial activities for these sites are currently being performed. LUCs associated with SERA sites will be addressed by site-specific decision documents and included in future updates of this LUCMP.

1.2.3 Groundwater Monitoring Program

Two aquifers exist south of the Elmendorf Moraine, beneath EAFB, separated by an impermeable layer of silt and clay. The lower aquifer is not contaminated and provides water to the power plant, fish hatchery, and EAFB water supply wells. The upper, or shallow aquifer is located 10 to 50 feet below ground surface and contains zones of contamination. Several of the RODs require groundwater monitoring in the upper aquifer as part of the selected remedies.

Natural attenuation was selected as a cleanup remedy for groundwater in the shallow aquifer and involves passive cleanup through natural biological, chemical, and physical processes. EAFB monitors this groundwater to ensure protection of human health and the environment. The monitoring program involves the sampling of approximately 100 groundwater monitoring wells one or two times per year. Additional wells may be added to or removed from the program as necessary based on the results of the monitoring efforts.

Overall, groundwater natural attenuation has been working successfully and groundwater contamination appears to be diminishing. Contaminated groundwater is estimated to be restored within the next 25 years, however, LUCs will be in place and enforceable until groundwater cleanup levels have been achieved.

1.3 Definition, Source, and Timing of LUCs

LUCs are legal or administrative tools or actions taken to reduce the potential for exposure to hazardous substances or to enhance the protectiveness of a remedy. LUCs are imposed to ensure the continued effectiveness of land-use restrictions. LUCs may include, but are not limited to, easements, covenants, well drilling prohibitions, zoning restrictions, or special permit requirements. LUCs are distinguished from physical mechanisms, also referred to as engineering controls, which prevent or minimize exposure to hazardous substances through physical means. These physical mechanisms may include, but are not limited to, signage, fencing, capping, and other types of physical barriers.

LUCs must be in place as long as a property is not available for unrestricted use or unlimited exposure and may include temporary or permanent restrictions or requirements. When all cleanup goals have been achieved for a given site, temporary controls, such as groundwater use restrictions, may be removed.

Table 1-1 provides significant dates regarding LUC implementation at EAFB.

TABLE 1-1
Significant LUC Implementation Dates

Operable Unit or Site	Record of Decision Signature Date	LUC Implementation Date
OU1	28 September 1994	May 1995
OU2	19 May 1995	March 1995
OU3	Not applicable -- no LUCs are in effect at OU3	
OU4	10 October 1995	April 1998
OU5	1 February 1995	July 1996
OU6	27 January 1997	September 1997
DP98	Scheduled for November 2003	May 2002

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SECTION 2

Existing LUCs at EAFB

LUCs in effect at the EAFB include site-specific LUCs and restrictions on groundwater use. These LUCs are discussed in the following paragraphs.

LUCs will be terminated as specified in their individual RODs. As future LUCs are established, they will be incorporated into future revisions of this LUCMP.

2.1 Site-Specific LUCs

EAFB has implemented several types of LUCs to prevent exposure to contaminated media and to enhance the protective remedies of the RODs in the form of site-specific LUCs. These LUCs are described in both Table 2-1 and Figure 2-1.

2.2 Groundwater LUCs

EAFB has implemented a restriction on the use of groundwater from the shallow aquifer. This groundwater LUC applies to any contaminated site, whether CERCLA or SERA, within the Outwash Plain (south of Elmendorf Moraine). Use of EAFB's shallow aquifer in the Outwash Plain for any purpose including, but not limited to, drinking, irrigation, fire control, dust control, or any other activity south of the Elmendorf Moraine is strictly prohibited. It is understood that portions of the shallow aquifer are contaminated and may pose a health risk.

To help avoid contact with groundwater from the shallow aquifer, historically high groundwater elevations were reviewed and mapped in the area south of the Elmendorf Moraine. These groundwater elevations, relative to mean sea level, are shown in Figure 2-2.

TABLE 2-1
EAFB Site-Specific LUC Descriptions

Operable Unit or Site	LUC Description	Anticipated Year of LUC Expiration
OU1	"Restricted Use Area" designated for recreational use and construction of unmanned facilities (such as, parking lots, storage buildings, etc.). The construction of manned facilities (such as office buildings or residential structures) is strictly prohibited. Excavation affecting the integrity and function of the landfill caps, or impacting the shallow groundwater table is not allowed.	Indefinite

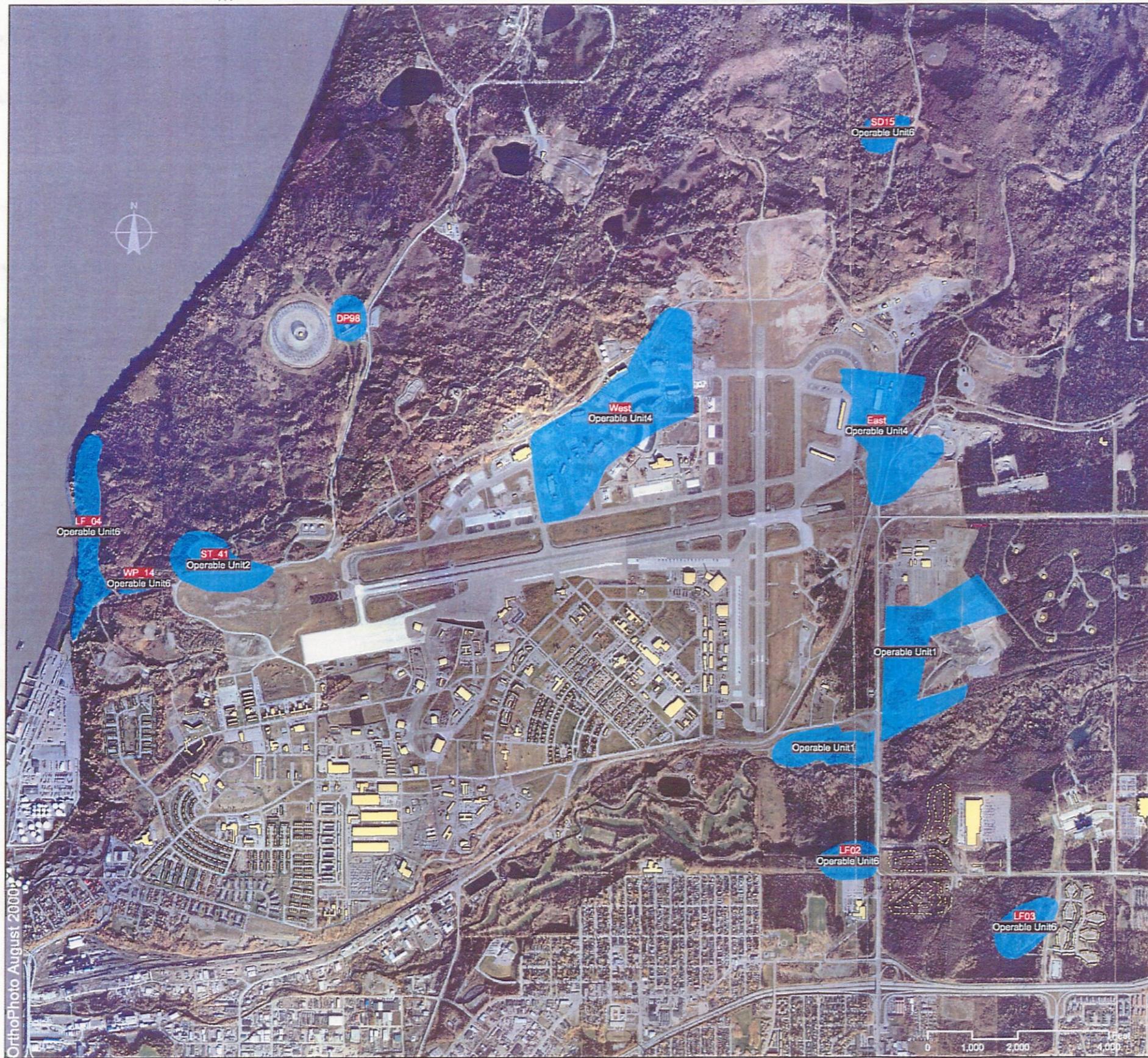
TABLE 2-1
EAFB Site-Specific LUC Descriptions

Operable Unit or Site	LUC Description	Anticipated Year of LUC Expiration
OU2 (ST41)	<p>"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of manned facilities (such as office buildings or residential structures) is strictly prohibited.</p> <p>As long as hazardous substances remain on this site at levels that preclude unrestricted use, groundwater development and the use of the groundwater at this site for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited.</p>	2016
OU3	No site-specific LUCs are in effect at OU3.	
OU4 (East/West)	"Airfield Use Area" designated for aircraft operations and maintenance which include active and inactive runways, taxiways, and parking aprons for aircraft. The establishment of residential development of the areas is strictly prohibited.	2006
OU5	No site-specific LUCs are in effect at OU5.	
OU6 (LF02)	<p>"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of manned facilities (such as office buildings or residential structures) is strictly prohibited. As a former landfill, this designation will remain indefinitely.</p>	Indefinite
OU6 (LF03)	<p>"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of any sort of manned facilities (such as office buildings or residential structures) is strictly prohibited. As a former landfill, this designation will remain indefinitely.</p> <p>This site is also permanently included in the "accident potential zone" which further restricts the construction of any above ground facilities at this location.</p>	Indefinite
OU6 (LF04)	<p>"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of any sort of manned facilities (such as office buildings or residential structures) is strictly prohibited. As a former landfill, this designation will remain indefinitely.</p> <p>The use of contaminated groundwater throughout LF04 for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited. Drilling into the shallow aquifer is also restricted.</p>	Indefinite
OU6 (SD15)	The use of contaminated groundwater throughout SD15 for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited.	2002
OU6 (WP14)	<p>"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of any sort of manned facilities (such as office buildings or residential structures) is strictly prohibited. As a former landfill, this designation will remain indefinitely.</p> <p>The use of contaminated groundwater throughout WP14 for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited.</p>	2011

TABLE 2-1
EAFB Site-Specific LUC Descriptions

Operable Unit or Site	LUC Description	Anticipated Year of LUC Expiration
DP98	<p>Excavating or digging into soil is restricted. Digging into soil in this area requires special care and any contaminated soil above cleanup levels cannot be transported to other locations on base. Deep excavations (greater than 10 feet below ground surface) require engineering controls to prevent downward migration of contamination and to protect the groundwater aquifer. No dewatering of excavations or trenches will be allowed unless the water is treated prior to disposal.</p> <p>The use of contaminated groundwater throughout DP98 for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited.</p>	Indefinite

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LEGEND

LAND USE CONTROL (LUC)

SITE SPECIFIC LUCs:	
Operable Unit 1	"Restricted Use Area" designated for recreational use and construction of unmanned facilities (such as, parking lots, storage buildings, etc.). The construction of manned facilities (such as office buildings or residential structures) is strictly prohibited. Excavation affecting the integrity and function of the landfill caps, or impacting the shallow groundwater table is not allowed.
Operable Unit 2 (ST41)	"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of manned facilities (such as office buildings or residential structures) is strictly prohibited. As long as hazardous substances remain on this site at levels that preclude unrestricted use, groundwater development and the use of the groundwater at this site for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited.
Operable Unit 4 (East/West)	"Airfield Use Area" designated for aircraft operations and maintenance which include active and inactive runways, taxiways, and parking aprons for aircraft. The establishment of residential development of the areas is strictly prohibited.
Operable Unit 6 (LF02)	"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of manned facilities (such as office buildings or residential structures) is strictly prohibited. As a former landfill, this designation will remain indefinitely.
Operable Unit 6 (LF03)	"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of any sort of manned facilities (such as office buildings or residential structures) is strictly prohibited. As a former landfill, this designation will remain indefinitely. This site is also permanently included in the "accident potential zone" which further restricts the construction of any above ground facilities at this location.
Operable Unit 6 (LF04)	"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of any sort of manned facilities (such as office buildings or residential structures) is strictly prohibited. As a former landfill, this designation will remain indefinitely. The use of contaminated groundwater throughout LF04 for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited. Drilling into the shallow aquifer is also restricted.
Operable Unit 6 (SD15)	The use of contaminated groundwater throughout SD15 for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited.
Operable Unit 6 (WP14)	"Restricted Use Area" designated for recreational use of the parcel (such as cross-country skiing, etc.) and construction of unmanned facilities (such as parking lots, storage buildings, or taxiways). The construction of any sort of manned facilities (such as office buildings or residential structures) is strictly prohibited. As a former landfill, this designation will remain indefinitely. The use of contaminated groundwater throughout WP14 for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited.
DP98	Excavating or digging into soil is restricted. Digging into soil in this area requires special care and any contaminated soil above cleanup levels cannot be transported to other locations on base. Deep excavations (greater than 10 feet below ground surface) require engineering controls to prevent downward migration of contamination and to protect the groundwater aquifer. No dewatering of excavations or trenches will be allowed unless the water is treated prior to disposal. The use of contaminated groundwater throughout DP98 for any purpose including, but not limited to, drinking, irrigation, fire control, dust control or any other activity is prohibited.

Figure 2-1
Site-Specific LUCs, Elmendorf AFB, Alaska



Figure 2-2
Basewide LUC, Elmendorf AFB, Alaska

Implementation, Management, and Awareness

An effective LUC program requires an implementation strategy, consistent management, and awareness to ensure that LUC integrity is maintained. These requirements are described in the following paragraphs.

3.1 Implementation Strategy

LUCs are incorporated into existing land-use planning and management systems on base through the use of GeoBase, the Base Comprehensive Plan, and various approval processes.

The GeoBase System is a geographical information system (GIS) that will show EAFB LUCs and other environmental constraints. Though not currently implemented, this system will be available on the EAFB local area network, allowing all base organizations access to LUC data on their desk top computers.

3.2 LUC Management Processes

LUC management processes reside within the following EAFB functions:

- Real estate management
- Facility siting, construction, or modification

The following paragraphs describe the LUC processes and the EAFB organization responsible for managing the process.

Base organizations shall refer to the following guidelines to ensure compliance with LUCs.

3.2.1 Real Estate Management

3 CES/Real Estate Section will ensure that LUCs are incorporated into all real estate instruments such as property leases, property transfers, tenant support agreements, easements, and right-of-ways.

To ensure that the appropriate LUCs are included in real estate instruments, compliance with Air Force Instruction (AFI) 32-7066 is mandatory. AFI 32-7066 requires either that an Environmental Baseline Survey be conducted for real estate transactions and renewals of existing real estate instruments or that a waiver from that requirement be obtained. A waiver must be in writing and document why the transaction qualifies for a waiver. The resultant Environmental Baseline Survey or written waiver is included in the real estate transaction administrative record.

Land-use and groundwater-use restrictions are identified in the Environmental Baseline Survey, which shall be incorporated into the real estate instrument in its entirety.

Compliance with LUCs is therefore incumbent on any party entering into a real estate lease agreement with EAFB.

3.2.2 Facility Siting, Construction, and Modification

LUCs essentially dictate the type of facility that can be constructed at a given location. Facilities may include buildings, structures, utilities, pavement, and ranges. Four facilities processes are relevant to the implementation of LUCs. These processes include the following:

- Initial planning and facility siting
- Preparation of construction contract documents
- Project design review
- Project execution

All construction or operations and maintenance projects conducted on EAFB, regardless of size, will pass through one or more of these processes, ensuring continued compliance with LUCs. These processes, as they relate to LUC management, are described in the following paragraphs.

3.2.2.1 Initial Planning and Facility Siting

3 CES/Base Development Section (CECD) has incorporated LUCs into the base's General Plan (GP), which is available to all base organizations, consultants and site activation task forces to aid in the facility planning process.

The General Plan shall be consulted prior to facility siting or proposing changes in land use.

A Constraints and Opportunities Map, "Tab D-6, Sheets 1 through 8," is a subset of the EAFB Record Drawing Set that is frequently used by 3 CES/CECD for the initial siting of new facilities. Tab D-6, used in conjunction with the GP, identifies areas restricted for construction. These areas include but are not limited to, explosive clear zones, lateral clear zones, electromagnetic burst zones, easements, right-of-ways, flood zones, and safety clear areas. Environmental constraints, which include LUCs, have also been added to Tab D-6. When a project is planned for implementation at EAFB, the project must be approved by the EAFB Base Development office (3 CES/CECD).

3 CES/CECD reviews Tab D-6 during the initial planning or facility siting process to ensure that a project is not constructed in an area inconsistent with the type of facility planned. If the project is in an environmentally-restricted area, coordinate with the Environmental flight for resolution.

By adding LUCs to the GP and Tab D-6, compliance with LUCs is checked early in the planning process.

AF Form 332 is required for all projects, regardless of size or organization (including tenant organizations) that will be conducting the work

Following the initial planning or siting process, a Work Order Request (Air Force Form 332) will be completed and submitted to 3 CES/CECD. AF Form 813, which is required as part of the AF Form 332 coordination process, is used to request an Environmental Impact Analysis (EIA). CEVP will prepare AF Form 813 on all projects to determine the level of environmental

documentation required, whether it is categorically excluded or requires an EIA.

If work is to be performed in an area with LUCs or a contaminated area, the form will include information about LUCs specific to the project location.

Attachments to AF Form 332 shall describe the project in detail, including type of work to be performed, location of work, whether digging or trenching will be conducted, and which base organization is responsible for work.

3.2.2.2 Preparation of Construction Contract Documents

Construction contract documents provide specification sections for technical provisions (Section 01010) and environmental constraints/protection measures (Section 01120) required by the contract. 3 CES/Environmental Restoration Section (CEVR) has included general LUC language into these documents.

3.2.2.3 Project Design Review

Following preparation of construction contract documents, a project design review will be conducted. This review will include 3 CES/CEVR and a variety of other EAFB organizations. From an environmental planning perspective, this review represents an intermediate check to ensure that all environmental factors have been considered in the project design, including LUCs.

3.2.2.4 Project Implementation

All projects at EAFB resulting in ground disturbance of greater than four inches below ground surface require a Work Clearance Request (3 WG Form 3). See Wing Instruction 32-1007.

Wing Instruction 32-1007, Work Clearance Request, represents one of the final checks in the LUC management process by requiring 3 CES/CEVR signature on all digging permits. All projects executed at EAFB that require ground disturbance of more than four inches below ground surface are subjected to the Work Clearance Request process.

3 CES/CEVR will provide basewide groundwater and site-specific LUC requirements and identify any known soil contaminated sites and monitoring wells for the area of the proposed project. This process alerts 3 CES/CEVR to conduct site visits to ensure compliance with LUCs during project implementation (see Section 3.3).

3.3 Tracking and Awareness Procedures

EAFB LUCs are tracked and enforced by 3 CES/CEVR. The following LUC tracking and awareness methods will be implemented by an individual of 3 CES/CEVR assigned to specifically monitor the LUC program. The following procedures will be monitored by this individual:

- Issuance of biennial LUC compliance certifications to government and private tenant organizations. An LUC certification database will be used to identify overdue LUC compliance certifications. Overdue reports result in a reminder notice sent to the responsible organization.
- Site-specific construction inspections will be performed and site inspection checklists completed to verify compliance with LUCs on a weekly basis with priority given to

3 CES/CEVR will ensure that all base, government, and private tenant organizations are informed of applicable LUCs, and that site-specific inspections are completed as necessary.

projects conducted in areas that have LUCs. A blank site inspection checklist is provided in Appendix A.

- After completion of a project that involves excavation in areas that have site-specific LUCs in effect, the base organization or contractor will sign a statement of LUC compliance and return the statement to 3 CES/CEVR.
- Active educational programs will include the following:
 - Disseminating updated fact sheets and LUC information
 - Providing notices through the EAFB intranet and the Sourdough Sentinel
 - LUC briefings at project kick-off meetings, annual Environmental Protection Committee meetings, and RAB meetings
- Five-year reviews will be conducted by 3 CES/CEVR at 5-year intervals beginning 5 August 1998. The following information is provided in Appendix A to help guide 5-year reviews as they relate to LUCs:
 - Five-Year Review Checklist
 - LUC Interview Form

After projects are completed, the EAFB organization or contractor shall sign a certification of LUC compliance statement and return the compliance statement to 3 CES/CEVR.

3 CES/CEVR will disseminate LUC information to personnel involved in LUC management. Annual LUC compliance reports will also be issued, acknowledged, and tracked by 3 CES/CEVR.

Projects that require excavation in areas where site-specific LUCs are in effect are required to comply with all LUCs and Wing and Air Force instructions. In addition, base contractors and tenant organizations have LUC compliance requirements incorporated into their contracts. If they do not comply with LUCs, they will be penalized in accordance with the provisions specified in their contract documents.

Refer to Appendix A for LUC management process evaluation checklists.

SECTION 4

References

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**Appendix A
Site Inspection LUC Checklist,
Five-Year Review LUC Checklist,
and Interview Form**

Land Use Controls Site Inspection Checklist

Project Name: _____

Project Number: _____

Location: _____

Basewide Groundwater Land Use Controls

- _____ Has soil been excavated on this project?
- _____ If yes, has a dig permit been processed for this excavation?
- _____ Has groundwater been exposed during this excavation?
- _____ If yes, has work been stopped?
- _____ Is the groundwater being used for any purpose, but not limited to, drinking, irrigation, fire control, dust control, or any other activity?
- _____ Has a well been installed during this project?
- _____ Has drilling occurred that goes through the shallow groundwater aquifer into the confined groundwater aquifer without 3 CES/CEVR review of engineering controls and methods to prevent cross-contamination between the two aquifers?
- _____ Has there been damage or interference, in any way, with access to and operation of groundwater monitoring wells, remedial treatment systems or sampling efforts?

Site-Specific Land Use Controls

- _____ Do site-specific land use controls apply at this site?
- _____ Has a manned facility been constructed at this site? (OUs 1, 2, and 6 - LF02, LF03, LF04, and WP14)
- _____ Has excavation occurred that affects the integrity and function of the landfill caps, or impacts the shallow groundwater table? (OU1)
- _____ Has a residential development been established at this site? (OU4)
- _____ Has any wells been installed into the shallow groundwater for any use including residential, industrial, and agricultural at this site? (OU6 - SD15)
- _____ Has any wells been installed in the contaminated plume for residential, industrial, and agricultural use at this site? (OU6 - WP14)

Additional comments:

Inspected by: _____

Five-Year LUC Review Checklist

I. SITE INFORMATION															
Site name: Elmendorf AFB		Date of inspection:													
Location and Region: Anchorage, Alaska, Region X		EPA ID:													
Agency, office, or company leading the five-year review:		Weather/temperature: N/A													
Remedy Includes: (Check all that apply) <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Landfill cover/containment</td> <td><input type="checkbox"/> Monitored natural attenuation</td> </tr> <tr> <td><input type="checkbox"/> Access controls</td> <td><input type="checkbox"/> Groundwater containment</td> </tr> <tr> <td><input type="checkbox"/> Institutional controls</td> <td><input type="checkbox"/> Vertical barrier walls</td> </tr> <tr> <td><input type="checkbox"/> Groundwater pump and treatment</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Surface water collection and treatment</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Other -- This review was conducted specifically for institutional controls</td> <td></td> </tr> </table>				<input type="checkbox"/> Landfill cover/containment	<input type="checkbox"/> Monitored natural attenuation	<input type="checkbox"/> Access controls	<input type="checkbox"/> Groundwater containment	<input type="checkbox"/> Institutional controls	<input type="checkbox"/> Vertical barrier walls	<input type="checkbox"/> Groundwater pump and treatment		<input type="checkbox"/> Surface water collection and treatment		<input type="checkbox"/> Other -- This review was conducted specifically for institutional controls	
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Attachments: <input type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached															
II. INTERVIEWS															
Personnel Interviewed (organizations recommended to be interviewed include 3 CES/CEVR, CEVP, CECD, and 11 AF/JA)															
Remarks:															
Name	Organization	Name	Organization												
1. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.															
2. Other interviews (optional) <input type="checkbox"/> Reports attached.															

IV. ACCESS AND LAND USE CONTROLS <input type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Fencing			
1.	Fencing damaged	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Gates secured <input type="checkbox"/> N/A	Remarks _____
B. Other Access Restrictions			
1.	Signs and other security measures	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A	Remarks _____
C. Land Use Controls (LUCs)			
1.	Implementation and enforcement		
	Site conditions imply LUCs not properly implemented	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	Site conditions imply LUCs not being fully enforced	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	Type of monitoring (<i>e.g.</i> , self-reporting, drive by)		
	Frequency		
	Responsible party/agency		
	Contact Name	Title	Date Phone no.
	Reporting is up-to-date	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	Reports are verified by the lead agency	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	Requirements in deed or decision documents have been met	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	Violations have been reported	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
	Other problems or suggestions: <input type="checkbox"/> Report attached		
2.	Adequacy	<input type="checkbox"/> LUCs are adequate <input type="checkbox"/> LUCs are inadequate <input type="checkbox"/> N/A	Remarks: _____
D. General			
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No vandalism evident	Remarks _____
2.	Land use changes on site	<input type="checkbox"/> N/A	Remarks - _____
3.	Land use changes off site	<input type="checkbox"/> N/A	Remarks _____

LUC Interview Form

Elmendorf AFB, Alaska

Person Interviewed:

Date:

Title/Office Symbol:

Location:

Type/Location of Interview: <input type="checkbox"/> Office <input type="checkbox"/> Phone <input type="checkbox"/> Site Visit (indicate which site visited)
Role in Land Use Controls:
If you would, could you summarize the land use controls process currently in place?
In your opinion, is this land use control process working?

Are there any opportunities for improvement?

Have there been instances where land use controls have been violated?

Are there any issues associated with controlling land use on base (i.e., tenants, right of ways, etc.)?

If you could change one thing about the land use controls process, what would it be?