

Knik Arm Crossing Preliminary Contaminated Sites Status Technical Memorandum

FINAL

Prepared for:



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1.0 INTRODUCTION

Exposure to contaminated site issues for the Knik Arm Crossing (KAC) Project – assuming an alignment corridor that includes the Port of Anchorage and Elmendorf Air Force Base – is likely unavoidable due to the relatively high concentration of industrial activity and resulting site contamination that is known to be located in the area (see Figure 1). While it is typical for large transportation projects to encounter site contamination, it is prudent to assess the relative risk that these sites may have upon the project. HDR reviewed the status of contaminated sites in the project area; identifying two that could significantly impact project schedule and cost. This preliminary report provides a summary of the relative issues for these two sites: Landfill 04 on Elmendorf Air Force Base; and the Defense Fuel Support Point – Anchorage. A brief description of other contaminated sites in the area is also provided for reference.

2.0 METHOD OF INVESTIGATION

In July 2004 URS Corporation provided the KAC project team with a report that listed contaminated sites located within an approximate one-mile radius of the project corridor (URS 2004). The information presented below expands upon that effort by evaluating details for specific contaminated sites that may pose a significant risk to the KAC project due to considerable cost or impacts on schedule. Methods used to complete this evaluation included a confirmation of the site list provided by URS (2004), a review of site-specific contamination reports within a one-mile radius of the project, site visits, and personal interviews with knowledgeable persons. Information sources are documented at the end of this report. Detailed site reports were obtained either through an internet search (e.g. Alaska Department of Conservation contaminated site and underground storage tank databases) or were provided by knowledgeable persons associated with the site(s). These reports were reviewed and, when appropriate, followed up with personal interviews and/or site visits to clarify specific issues.

3.0 CRITICAL ISSUES

3.1 Landfill LF04

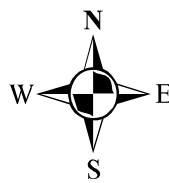
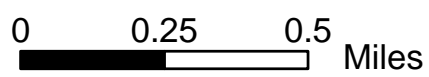
Elmendorf Air Force Base (EAFB) is listed on the National Priorities List, which is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. Although there are several individual contaminated sites within EAFB, Landfill 04 (LF04) is one such site within the study area that has additional potential for impacting the Knik Arm Crossing primarily because of its relatively large physical size and the potential to delay and add significant (cleanup) cost to the Knik Arm Crossing Project. The following discussion updates and clarifies these issues.

LF04 is located on the west side of EAFB, parallels the shoreline of Knik Arm for a distance of approximately 3000 feet (see Figure 1), and consists of a series of five landfill cells. The northern section of LF04 consists of a steep bluff with unconsolidated sand, silt, and gravel with a maximum elevation of approximately 200 feet above the shoreline immediately below. The ground surface continues to slope towards Knik Arm along the southern-most portion the landfill, where the bluff feature is less pronounced. While historical information that describe the



Legend

- Miscellaneous Contaminated Sites
- LFO4 - Landfill 04 (Bluff Landfill)
- SDA - Slope Deposits Area
- UBA - Upper Bluff Area
- FTFA - Former Tidal Flats Area



**Knik Arm Crossing EIS
Contaminated Sites
Figure 1**

Data compiled by HDR Alaska, Inc. (MS)
October 2004

Map is projected to Alaska State Plane Zone 4, NAD 27

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contaminated and lust sites2.mxd

landfill's contents is very limited, the types of materials found eroded onto the beach below include unexploded ordinance (in minor quantities); asbestos containing materials (likely from demolished buildings); and significant quantities of ceramic pipe, floor tiles, miscellaneous metal debris, and building bricks.

Remedial investigations and associated feasibility studies concerning the contamination at LF04 were completed by the Air Force in 1996. These studies delineated the nature and extent of the contamination, as well as determining their relevance to human health and ecological risks. A Record of Decision (ROD) was signed in 1997 that prescribes specific remedial actions to be implemented for LF04 (USAF 1997).

The ROD provides for institutional controls that limit site use within LF04. These land use restrictions are defined in the EAFB Land Use Controls Management Plan (USAF 2003b) and designate LF04 as a "recreational use area". This designation allows for recreational uses (e.g., cross country skiing) and for the construction of unmanned facilities such as parking lots, storage buildings, or taxiways. The construction of any manned facilities such as office buildings or residences are prohibited.

Specific remedial actions that are required within the ROD are described separately for the North/Beach and the South sections of LF04 (see Figure1). The selected remedy for LF04 North/Beach includes the annual removal of beach debris that erodes from the bluff face and onto the beach below. The ROD noted that no further action is required of the groundwater in this section of the landfill. The prescribed remedy at LF04 South requires monitoring and the recovery of free-product from the groundwater in this area. Access to groundwater, including drilling activities, is restricted in LF04 South. No further remedial action is required of the soil at LF04 South.

The information reviewed does not indicate the prohibition of a road on or adjacent to LF04. However, for a road of the size required for the Knik Arm Crossing, a route directly over the landfill – or one that encroached into the face of the bluff – would likely require significant, if not complete, removal of LF04. A more preferred route would be located at an offset distance from the base of the LF04 bluff. A specified offset is not known at this time, but may be best determined by directly involving the USAF, the Alaska Department of Environmental Conservation, and other stakeholders.

Support for this recommendation is provided in a 2002 Corps of Engineers (COE) report (USAF 2002b) that evaluated seven engineering alternatives designed to stabilize the landfill and prevent the bluff erosion that exposes it. One of these alternatives – termed the "Port Expansion" alternative – provided a cross-section similar to that of an approach road being considered in the current Knik Arm Crossing EIS. Plan and cross-sectional views of this alternative are provided in Attachment A of this report. The COE concluded that this approach would "benefit the Air Force by preventing the erosion of the landfill contained in the bluff and covering any landfill debris contained within the beach." Similar to the "Port Expansion" alternative mentioned in this report, a road or causeway situated parallel to the base of the LF04 bluff would provide protection from current scour, wave damage, and ice impacts to the bluff.

3.2 Defense Fuel Support Point - Anchorage

The Defense Fuel Support Point – Anchorage (DFSP-A) is best described as a 69 acre former bulk fuel storage and distribution facility that is located within the Port of Anchorage, extending up and onto Government Hill (see Figure 1). A total of 27 releases of petroleum products transformer fluid were documented at DFSP-A between 1960 and 1989. Additional releases from adjacent industrial facilities (e.g., Tesoro, Texaco, and Chevron) along the western border of DFSP-A have impacted the former truck/rail loading rack area within DFSP-A (ADEC 2003). This site holds particular risk for the Knik Arm Crossing project due to its size, current exceedence of groundwater contaminant standards, and associated potential health risks to

The facility was operated and maintained by the U.S. Army from 1942 until 1989, when the Defense Energy Support Center (DESC) took over the operations as a tenant on the property. The facility was decommissioned in 1996. The DFSP-A is withdrawn public land and is managed by the U.S. Bureau of Land Management.

Remedial investigations (RI) began in 1987 and included the completion of an assessment of human health and ecology risks. In 2001, all tanks and piping were removed from the site (ADEC 2002). The cleanup ROD, which specifies selected remedies for soil, groundwater and surface water, was signed in April 2003. Specific actions include the removal of contaminated soil, groundwater and surface water monitoring, and institutional controls (i.e. deed restrictions).

The removal, treatment, and backfill of the contaminated soil was completed in 2001 (ADEC 2002). Water quality monitoring to achieve Alaska Department of Environmental Conservation (ADEC) groundwater and surface water cleanup levels is currently ongoing. A deed restriction has been placed on the property that restricts excavation on the tidal flats (FTFA) or side-slope (SDA) sections of DFSP-A (see Figure 1). Water quality monitoring requirements and the deed restriction will remain in place until ADEC cleanup levels have been achieved. Any contaminated soil encountered below the existing ground surface would be the responsibility of the lessee or new property owner as specified in the deed. Long-term surface water or groundwater monitoring will be the responsibility of the landowner (i.e. U.S. Army) if the property is leased out or the new landowner if the property is transferred outright (ADEC 2003).

Although the current status of the property includes the above restrictions, they do not prohibit the use of this property for road construction. Further clarification of this issue was provided by Mr. Jim Frechionne, an ADEC Contaminated Sites Program Manager.

Mr. Frechionne stated that he foresaw no specific reason for not including the parcel in planning the Knik Arm Crossing Project, other than any contaminated soils that did not meet construction specifications would need to be transported offsite for proper treatment/disposal. This would require additional logistics and cost, but would not be prohibitive to the project moving forward (ADEC 2004g).

4.0 OTHER CONTAMINATED SITES (OF SECONDARY CONCERN)

Although the primary focus of this report is to highlight contaminated sites that may present critical risks to the project, other sites do exist within the project corridor that are of secondary concern. Once a specific route has been selected for the crossing, additional work may be

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required to clarify access agreements for any of these secondary contaminated sites that are within the selected alignment. However, as indicated above, the sites presented below are not expected to cause major impacts upon schedule or budget. Table 1 provides a list of the contaminated sites present within a one-mile radius of the expected project corridor. No contaminated sites were identified on the Mat-Su Borough side of the KAC.

Table 1 – Contaminated Sites List

Facility Name and Location	Status	Significant Project Risk	Comments
AT&T Alascom Anchorage Toll Center, Government Hill	NFA; Site Cleanup Completed	Small	
Brown's Point Cottages 1 & 2, Government Hill	Closed	Small	
Cherry Hill Ravine (AOC97), Government Hill	Inactive, NFA is pending	Small	This drainage is located immediately north of the Defense Fuel Support Anchorage
Chevron Facility 459 West Bluff Road	Active	Small	Assumes alignment will not traverse into existing POA
Chevron Tank Farm, POA	Active	Small	Assumes alignment will not traverse into existing POA
Chugach Electric Association Lease, POA	NFRAP	Small	
Defense Fuel Support Point, Anchorage, Government Hill	Active	Land use restrictions will need to be coordinated with owner.	Contaminated soil removal completed. Long-term groundwater and surface water monitoring ongoing.
DP98, East of "Elephant Cage" on EAFB	Active, cleanup in progress	Only if route crosses through EAFB	
Former UNOCAL/Short's Texaco, Government Hill	Active	Small	Cleanup in progress. Relatively small site located near Boniface Gate to EAFB.
Landfill 04 Bluff Area of EAFB	Active – High ADEC Priority	Primary risk associated with alignments that encroach into or over top of landfill.	Route offset from toe of bluff appears to have no significant conflict. Coordination required with EAFB to comply with land use restrictions.
Lone Star Northwest Cement Number 1, 2000 Tidewater Road	NFA	Small	
PL81 N. Jet Pipeline, On EAFB between LF04 & POA	NFRAP; Site Cleanup Completed	Small	
POA	NFA	Small	
Seven Eleven No. 77 Government Hill	NFA; Site Cleanup Completed	Small	
ST 41 Immediately east of WP14 on EAFB	Active, cleanup in progress	Only if route crosses through EAFB	
Tesoro #1, POA	Active	Small	
Tesoro #2, POA	Active	Small	
Tesoro Northstore No. 10, Government Hill	NFRAP, Site Cleanup Completed	Small	Minor closure issues (removal of remedial system) remain.
Flint Hill Resources, POA Industrial Facility	Active	Small	Assumes alignment will not traverse into existing POA
Williams Sublease	Closed	Small	
WP14, Immediately east of LF04 on EAFB	Active, cleanup in progress	Only if route crosses through EAFB	

Key:

- NFA - No Further Action required by ADEC
- NFRAP - No Further Remedial Action Planned
- EAFB - Elmendorf Air Force Base

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