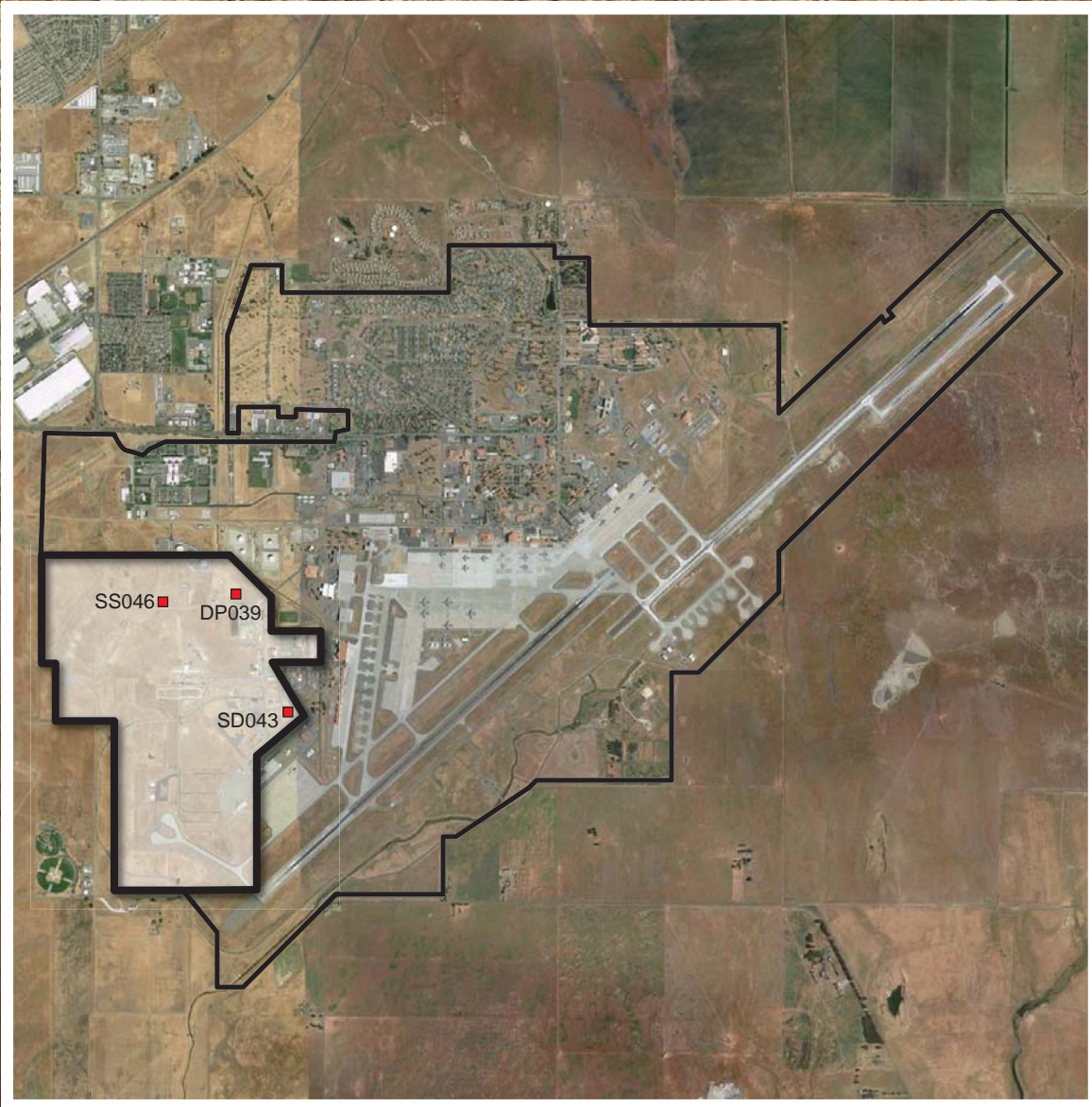


Environmental Restoration Program

Travis Air Force Base, California



Aerial image sources: Google ©2015, modified by CH2M HILL

Proposed Plan for WABOU Soil ROD Amendment

Final

April 2015



Introduction

The United States (U.S.) Air Force (Air Force) seeks your comments on its proposed changes to its selected remedies at three (3) contaminated soil locations at Travis Air Force Base (AFB), as described in this Soil Proposed Plan. This Proposed Plan describes the soil contaminants at these three (3) locations, the current selected remedy, the potential options that are available to clean them up, the new Air Force preferred option, and the rationale for the change. You may comment on the potential cleanup options from 15 April 2015 to 15 May 2015 by any of the methods listed on page 9 of this Proposed Plan. You are also invited to discuss these cleanup options at a public meeting at 7:00 p.m. on 23 April 2015 at the Northern Solano County Association of Realtors building located at 3690 Hilborn Road in Fairfield. The back cover contains a map of the public meeting building.

In 1983, Travis AFB established an Installation Restoration Program (now called the **Environmental Restoration Program [ERP]**¹) to investigate and clean up contamination from past base activities. Releases of hazardous waste occurred from leaking pipelines, spills, or waste disposal to landfills. Although the materials handling and disposal practices of the past complied with environmental regulations at the time, they resulted in soil and groundwater contamination and have since been stopped. Travis AFB now follows current environmental guidelines for the management and disposal of hazardous materials and waste.

In 1989, after evaluating initial Installation Restoration Program data, the EPA placed Travis AFB on the **National Priorities List (NPL)**. The cleanup of NPL sites must follow the applicable procedures outlined in the **Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)** and supporting regulations.

After the Travis NPL listing, the Air Force entered into a legal agreement with the EPA and the State of

California, known as a **Federal Facility Agreement (FFA)**. The FFA provides procedures and schedules for the investigation and cleanup of contamination at Travis AFB.

Initially, Travis AFB was treated as a single entity with one associated comprehensive cleanup schedule. In May 1993, the FFA was amended and the Base was divided into the four **operable units (OU)** listed below to facilitate the overall cleanup program:

- East Industrial Operable Unit (EIOU)
- West Industrial Operable Unit (WIOU)
- North Operable Unit (NOU)
- West/Annexes/Basewide Operable Unit (WABOU)

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The WABOU has three main components:

- The western portion of the installation. Eight locations with contaminated soil are located within the western portion of the Base.
- The annexes or noncontiguous parcels of property that are under the jurisdiction of the Travis installation commander. The boundaries of each annex are defined in the official records of the Travis AFB Real Property Office. The Cypress Lakes Golf Course is an annex, and the Potrero Hills Annex has been removed from the WABOU and will be addressed in a Potrero Hills Operable Unit (PHOU).
- Other contaminated areas within the installation not being addressed by the other three OUs. These sites were included to ensure that all portions of the Base had been addressed. This is the "Basewide" component of the WABOU.

In October 1995, the EIOU, WIOU, and NOU were combined into the North/East/West Industrial Operable Unit (NEWIOU). Currently, the three operable units on Travis AFB are the NEWIOU, the WABOU and the PHOU.

¹ Words in the text highlighted in boldface are defined in the Glossary on Page 10 of this Proposed Plan.

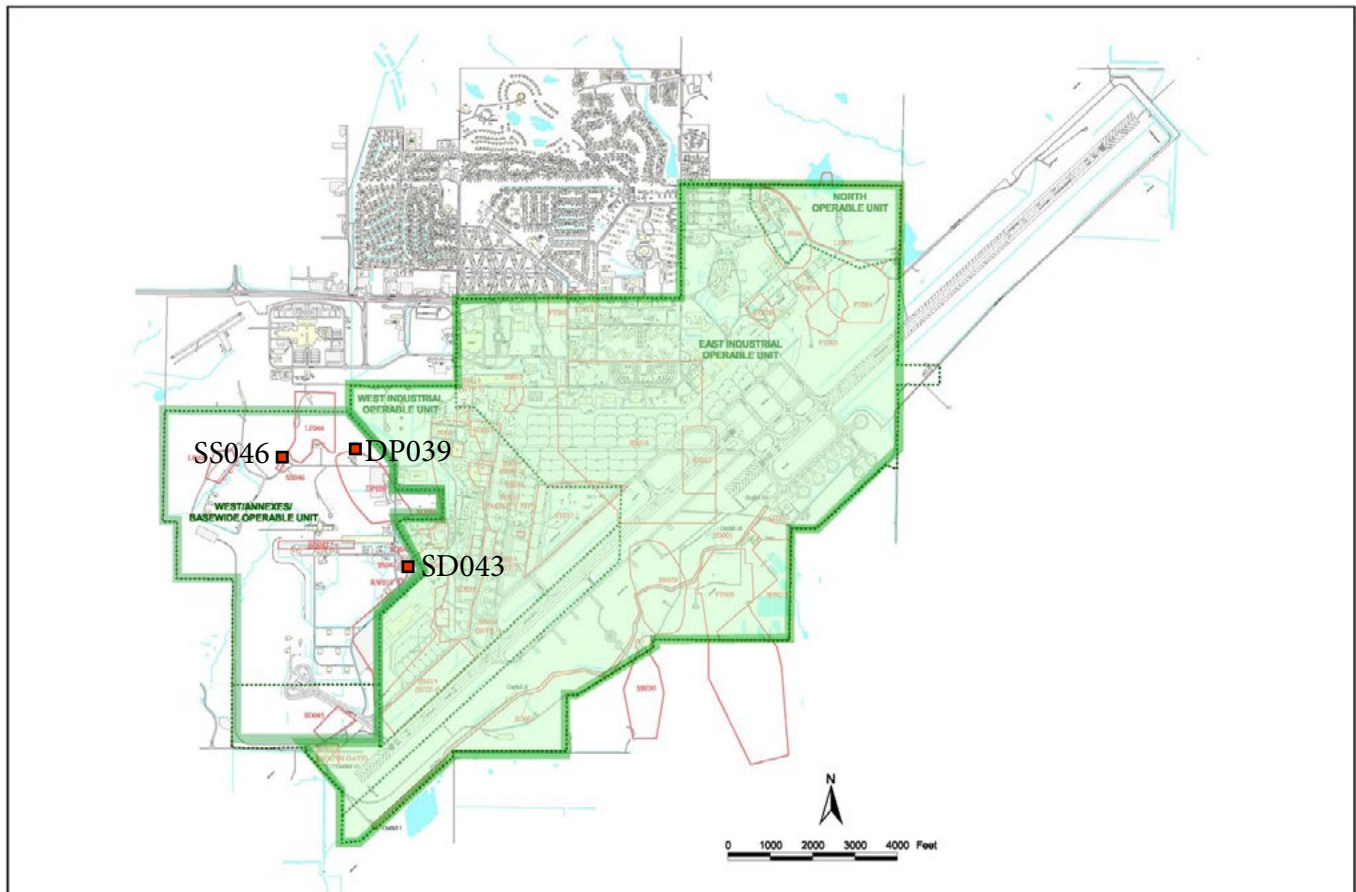


Figure 1 - Locations of Sites DP039, SD043, and SS046

This Proposed Plan addresses three (3) soil locations that are within the WABOU. The three (3) soil locations are called **restoration sites** and are referred to by their alpha-numeric site designations:

- Site DP039 (Building 755) – Building 755 was the base battery and electric shop and used a gravel-filled acid neutralization sump to dispose of acid from lead-acid batteries.
- Site SD043 (Building 916) – Building 916 is an emergency electrical power facility.
- Site SS046 (Railhead Munitions Staging Area) – This restoration site consists of a railroad track and concrete pad that formerly served as a railhead for handling weapons.

Figure 1 shows the locations of the three (3) restoration sites on Travis AFB. Table 1 summarizes the types and concentrations of soil contaminants at Sites DP039, SD043, and SS046. The preferred remedies for the three sites are as follows:

- Site DP039 – Alternative S1 – No Action

- Site SD043 – Alternative S4 – Excavation/Treatment/On-base Consolidation
- Site SS046 – Alternative S5 – Excavation/ Off-base Disposal

The selection of these new soil cleanup actions will be reported in an amendment to the December 2002 WABOU Soil **Record of Decision (ROD)**. The WABOU Soil ROD is a formal decision document that was signed by the Air Force, the U.S. Environmental Protection Agency (EPA), the California Department of Toxic Substances Control (DTSC), and the San Francisco Bay Regional Water Quality Control Board (RWQCB). The three regulatory agencies provide technical oversight and project management to Travis AFB to promote the decision-making process. The ROD documents the agreement between the Air Force and the regulatory agencies as to how the cleanup actions will take place and how clean the soil must be to consider a cleanup action to be complete. The ROD also allows Travis AFB to request funds for the soil cleanup actions.

Along with the WABOU Soil ROD, there are other

relevant sources that provide information in this Proposed Plan in greater detail. The WABOU **Feasibility Study (FS)**, the original WABOU Soil Proposed Plan, and the WABOU Soil ROD are available for review at the Travis AFB **Information Repository (IR)** in the Vacaville Public Library. Electronic copies of these documents can be found on the Air Force Civil Engineer Center **Administrative Record (AR)** at <http://afcec.publicadmin-record.us.af.mil>. For convenience, we placed these documents on the Travis AFB public website at www.travis.af.mil/enviro/library/.

The Air Force as the lead agency for environmental restoration activities on Travis AFB has issued this Proposed Plan as part of its public participation responsibilities under Section 117(a) of CERCLA, 42 U.S. Code Section 9617(a), and 40 Code of Federal Regulations Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan. The DTSC and RWQCB, as support agencies, have concurred with this Proposed Plan in accordance with CERCLA and have approved it as satisfying State of California **Applicable or Relevant and Appropriate Requirements (ARARs)**. Since Travis AFB is included on the NPL, the EPA co-selects remedies along with the Air Force, and in the event of disagreement the EPA Administrator solely selects the remedy.

This Proposed Plan only covers the proposed changes to three (3) soil remedies. The Travis AFB ERP also addresses sediment and groundwater contamination. Currently, the cleanup of contaminated sediment is complete, and the base is implementing the groundwater remedies that were selected in the June 2014 Travis AFB Groundwater ROD.

Travis AFB also has petroleum contamination from the use of jet fuel. Petroleum cleanup is not authorized under CERCLA, so it is managed in a separate cleanup program regulated by the RWQCB.

Site Background

Travis AFB occupies approximately 6,368 acres in Solano County, California, midway between San Francisco and Sacramento and near the cities of Fairfield and Vacaville. It is located in primarily agricultural or range land, although recent years have seen residential development to the southwest and commercial development to the north and west.

Travis AFB has provided strategic airlift support to military forces worldwide since it was established in 1943. It is home to the largest mobility organization in the Air Force, with a fleet of C-5 Galaxy and C-17 Globemaster III cargo aircraft, and KC-10 Extender aerial refueling aircraft. Various hazardous materials, such as oils, fuels, and solvents, are used to maintain these aircraft.

Summary of Site Contamination

Site DP039 [Building 755] is located in the western part of the base, just east of an ammunition storage facility. Building 755 was the base battery and electric shop and used a gravel-filled acid neutralization sump to dispose of acid from lead-acid batteries. When the sump was decommissioned and excavated, a small amount of lead-contaminated soil was inadvertently distributed around the top of the former sump. Site SD043 (Facility 916) is an emergency electrical power facility. An electrical transformer pad with three (3) liquid-filled transformers was formerly located at the southwest exterior corner of the building. One of the transformers developed a leak onto the concrete pad and adjacent ground surface. This leak resulted in the contamination of an estimated 22 cubic yards of soil with **polychlorinated biphenyl (PCB)**-1254. Site SS046 (Railhead Munitions Staging Area) consists of a railroad track and concrete pad that formerly served as a railhead for handling weapons. These logistics activi-

TABLE 1 Summary of Soil Sites, Chemicals of Concern, Maximum Concentrations, and Average Concentrations

Site Name	Site Identifier	Chemicals of Concern	Maximum Concentrations (mg/kg)	Average Concentrations (mg/kg)
Building 755 - Battery and Electric Shop	DP039	Lead	180	78.8
Building 916 - Emergency Electric Power Facility	SD043	Polychlorinated Biphenyl (PCB) - 1254	2.0	0.58
Railhead Munitions Staging Area	SS046	Benzo(a)pyrene	0.61	0.05
		Benzo(b)fluoranthene	2.30	0.15
		Cadmium	18.70	1.88
		Lead	433	219

TABLE 2 Summary of Soil Cleanup Alternatives for the WABOU

Cleanup Alternative	Description
S1 - No Action	Federal regulations require the use of this alternative as a starting point for comparing the other alternatives. Under this alternative, no treatment takes place.
S2 - Land Use and Access Restrictions	Land Use Restrictions are used to prohibit the excavation or disturbance of contaminated soil. Fences and signs are posted to prevent access. This alternative modifies the Travis AFB General Plan to ensure that this industrial land use restriction is enforced.
S3 - Containment: Capping	A multi-layer cap is placed over contaminated soil to prevent access to the soil. A cap is an impermeable covering that is made of layers of compacted clay and/or synthetic material. Land use and access restrictions are included to protect the cap.
S4 - Excavation/Treatment/ On-base Consolidation	Contaminated soil is excavated, treated using a chemical stabilization process, and placed in an onbase Corrective Action Management Unit (CAMU). Land use and access restrictions may be included, depending on the soil cleanup level that is attained.
S5 - Excavation/ Off-base Disposal	Contaminated soil is excavated and transported by truck to an off-base landfill. Land use and access restrictions may be included, depending on the soil cleanup level that is attained.
S6 - Excavation/On-base Consolidation	Contaminated soil is excavated and placed in an on-base CAMU. Land use and access restrictions may be included, depending on the soil cleanup level that is attained.
S7 - In Situ Treatment/Capping	Contaminated soil is treated using a chemical stabilization process. The resulting soil/slurry mix is covered with an asphalt cap, surrounded by a fence, and protected with land use restrictions.

ties resulted in the contamination of an estimated 85 cubic yards of surface soil with metals (cadmium and lead) and **polycyclic aromatic hydrocarbons (PAHs)**.

Summary of Site Risks

Currently, the types and concentrations of contaminants at Sites SD043 and SS046 may pose a potential risk to human health and the environment. The amount of potential risk depends on the contaminant, its concentration, and where it is found.

PCB contamination in soil at Site SD043 poses a potential human health risk and does not allow for unlimited use and unrestricted exposure. The PCB concentrations at Site SD043 are above residential cleanup levels but below industrial cleanup levels, so they do not pose an unacceptable risk to site workers. In addition, Site SD043 is not an ecological habitat, because it is an industrial area, the grassy areas are mowed regularly which discourages wildlife from establishing habitat, and the contamination is located in the subsurface between the generator building and a large external electrical generator.

For Site SS046, the PAHs [benzo(a)pyrene and benzo(b)fluoranthene], cadmium, and lead in soil

pose a potential human health risk and do not allow for unlimited use and unrestricted exposure. While PAH concentrations in soil exceed industrial cleanup levels, they do not pose an unacceptable risk to site workers, because the contamination lies beneath railroad tracks in the vicinity of a high security ammunition storage facility. Thus, the exposure pathway for normal day-to-day operations is eliminated. In addition, Site SS046 is not an ecological habitat, because it is surrounded by a concrete pad and two earthen berms that discourage wildlife from establishing habitat.

As described below, the types and concentrations of soil contaminants at Site DP039 do not pose a potential risk to human health or the environment.

Previous Remedy Selections

Based on the site conditions and low contaminant concentrations at the time, the WABOU Soil ROD selected **Land Use Controls (LUCs)** to restrict access to the sites and prevent contaminant exposure to site visitors and base employees. After the WABOU Soil ROD was signed, Travis AFB implemented the soil LUCs at Sites DP039, SD043, and SS046 and has successfully enforced these LUCs to the present day.

In 2008, Travis AFB was selected to test a new groundwater treatment technology at Site DP039 that was designed to address high chlorinated solvent concentrations. Known as a bioreactor, the technology uses organic mulch to promote the growth and activity of microscopic organisms that use groundwater contaminants as a food source. The test was so successful that the base built a second bioreactor at its most contaminated groundwater site, and the Travis AFB Groundwater ROD incorporated both bioreactors into the base groundwater cleanup strategy. The *Technical Report for the Sustainable Bioreactor Demonstration at Site DP039* (CH2M HILL, 2011) describes the study and its results in more detail. The chlorinated solvents are only present in groundwater at Site DP039 and are undergoing treatment by the bioreactor and other treatment technologies as described in the Travis AFB Groundwater ROD.

Rationale for Remedy Changes

Prior to the start of the bioreactor construction, the construction contractor determined that the footprint of the bioreactor covered the entire area that was under soil LUCs due to the presence of lead in the surface soil. So, to comply with LUC requirements, the contaminated surface soil was excavated and placed in a large bin. Once the soil within the bin was characterized, the bin was driven to an off-base landfill in order to properly dispose of the contaminated soil. Once the analysis of confirmation samples demonstrated that the remaining soil within the LUC footprint at DP039 did not contain elevated lead concentrations, the excavation to create the bioreactor started. The final *Site DP039 Lead-contaminated Soil Excavation Technical Memorandum* (CH2M HILL, 2014) describes in detail the excavation and disposal of the lead-contaminated soil. Once the regulatory agencies approved the contents of this technical memorandum, there was no longer a need for soil LUCs at Site DP039.

For Sites SD043 and SS046, the most significant reason for originally selecting soil LUCs for these sites was cost. It was much less expensive to restrict access to these sites than to excavate the contaminated soil and transport it to an off-base landfill. However,

after years of enforcing LUCs at Sites DP039, SD043, and SS046 as well as other soil and groundwater sites, it became apparent that there are less obvious challenges and potential future costs associated with the long-term management and enforcement of LUCs that are difficult to quantify.

At Sites SD043 and SS046, the soil became contaminated because of industrial activities that took place there, and it is highly likely that these sites will remain industrial in nature for the foreseeable future. As long as the industrial work at these sites does not change, LUCs are effective and inexpensive. However, the activities at Travis AFB have changed in the past to adapt to new global mission requirements, and as the base continues to take on new responsibilities, the need to carry out new construction projects and new activities on LUC property becomes a real possibility and a growing concern for base decision-makers.

In recent years, the Air Force has expressed an interest in reducing its environmental liability and ensuring that all of its property is available to support mission requirements. The removal of the contaminated soil and the LUCs associated with it would make it easier for the base to carry out new construction projects at these three locations. The current Travis AFB environmental restoration contract is structured to remove the LUCs from a number of industrial on-base locations. Therefore, the AF approached the regulatory agencies and suggested remedy modifications and additional response actions in order to allow for new uses of the property.

Basis for Response Action

It is the Air Force's current judgement that the Preferred Remedies identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, are needed to protect public health or welfare or the environment from actual or threatened releases of pollutants or contaminants from these soil restoration sites which may present an imminent and substantial endangerment to public health or welfare.

Remedial Action Objectives

Remedial Action Objectives (RAOs) describe what a proposed cleanup action is supposed to accomplish. The RAOs that were developed for soil in the FS are summarized below:

- Prevent current base workers or potential future residents from swallowing, breathing in, or coming into contact with PAHs and metals.
- Prevent terrestrial vegetation, terrestrial

Figure 2
Evaluation Criteria for Superfund Cleanup Alternatives

1 Overall Protectiveness of Human Health and the Environment

Determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.



2 Compliance with State and Federal Environmental Requirements

Evaluates alternatives for compliance with Federal and State environmental statutes, regulations, and other requirements that pertain to a site.



3 Long-term Effectiveness

Considers an alternative's ability to maintain reliable protection of human health and the environment after implementation. Effectiveness is assessed over time.



4 Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment

Evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.



5 Cost

Weights estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.



6 Short-term Effectiveness

Considers the length of time needed to implement an alternative and the potential risks the alternative poses to workers, residents, and the environment during implementation.



7 Implementability

Considers the technical and administrative feasibility of implementing an alternative, including factors such as the relative availability of goods and services.



8 State Acceptance

Considers whether the state favors or objects to any of the alternatives based on the available information.



9 Community Acceptance

Considers whether the local community agrees with the Air Force's analyses and preferred alternative for each site. Comments received on the Proposed Plan are an important indicator of community acceptance.



invertebrates, amphibians, reptiles, birds, and mammals from being exposed to PAHs and metals.

- Reduce or prevent contaminant migration that could result in groundwater contamination.

To meet contractual requirements, another RAO has been added:

- Restore contaminated sites by achieving residential standards, which will allow for unrestricted use/unlimited exposure, while minimizing interference with the base mission.

The Cleanup Alternatives

Several of the cleanup options that are described in the WABOU Soil ROD to clean up contaminated soil have changed. Alternatives S4 and S6 include the placement of treated soil into the on-base Corrective Action Management Unit (CAMU), which is located above Site LF007, a closed municipal landfill. At this time, the CAMU is closed and is no longer receiving soil. So, Alternative S6 is no longer available.

Also, Alternative S4 originally used chemical stabilization to immobilize soil contaminants and make excavated soil suitable for placement in a CAMU. However, advances in soil treatment technologies allow for other treatment options to be used that either meet or exceed the performance standards that chemical stabilization can achieve.

For example, when contaminated soil is chemically stabilized, the contaminants are still in the soil. They have been immobilized so that they cannot move to a place where they can pose a potential risk. However, the EPA prefers alternatives that use treatment to clean contaminated soil, and the revised Alternative S4 would use thermal treatment to permanently break down contaminants into harmless byproducts. One promising treatment technology is called the Vapor Energy Generator (VEG) technology. The VEG technology is a patented and mobile system that uses a compact, high efficiency steam generator to generate steam at 1100 degrees F. The steam strips the organic compounds from the soil, creating a vapor that is returned to the generator as additional fuel. The vapor is completely burned, sending only water and small amounts of carbon dioxide into the atmosphere. As a result, this treatment alternative would reduce the Air Force's environmental liability

Table 3 Comparison of Soil Cleanup Alternatives for Sites SD043 and SS046						
Criterion	SD043		SS046			
	Alternative S2 Land Use and Access Restrictions	Alternative S4 Excavation/ Treatment/ On-base Consolidation	Alternative S5 Excavation/Off-base Disposal	Alternative S2 Land Use and Access Restrictions	Alternative S5 Excavation/Off-base Disposal	
Overall Protection of Human Health and the Environment	Over 12 years of successful enforcement	Offers highest level of protection	Offers highest level of protection	Over 12 years of successful enforcement	Offers highest level of protection	
Compliance with ARARs	The proper implementation of each alternative will comply with ARARs					
Long-Term Effectiveness and Permanence	Offers low level for this criterion	Offers high level for this criterion	Offers high level for this criterion, as long as cleanup levels are achieved	Offers low level for this criterion	Offers high level for this criterion	
Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative does not include treatment	Alternative does not include treatment	Only treatment option available; treated soil remains on site if all cleanup levels are achieved.	Alternative does not include treatment	Alternative does not include treatment	
Short-Term Effectiveness	Few impacts to base mission or environment	Poses greater short term risks to base personnel	Poses greater short term risks to base personnel	Few impacts to base mission or environment	Poses greater short term risks to base personnel	
Implementability	Easy to implement	Requires heavy equipment and base coordination to implement	Requires heavy equipment, proprietary technology, and base coordination to implement	Easy to implement	Requires heavy equipment and base coordination to implement	
Total Lifetime Cost	\$26,995	\$307,741	\$337,757	\$26,995	\$147,885	

Site Name	Site Identifier	Chemicals of Concern	Previous Selected Soil Remedy	New Proposed Soil Remedy	Residential Soil Clean-up Goals (mg/kg)
Building 755 - Battery and Electric Shop	DP039	Lead	S2 - Land Use and Access Restrictions	S1 - No Action	80 ²
Building 916 - Emergency Electric Power Facility	SD043	PCB-1254	S2 - Land Use and Access Restrictions	S4 - Excavation/ Treatment/ On-base Consolidation	0.24 ¹
Railhead Munitions Staging Area	SS046	Benzo(a)pyrene Benzo(b)fluoranthene Cadmium Lead	S2 - Land Use and Access Restrictions	S5 - Excavation/ Off-base Disposal	0.015 ¹ 0.15 ¹ 4.6 ² 80 ²

¹ Based on the January 2015 EPA Regional Screening Level Resident Soil Table

² Based on the July 2014 DTSC Human Health Risk Assessment Note #3

associated with contaminated soil.

After soil treatment using VEG technology is complete, the base would analyze treated soil samples to determine if the cleanup levels for all contaminants have been achieved. If so, then the treated soil can either be used as backfill for the excavation void or as a beneficial source of clean soil. For example, it could be used to increase the thickness of the landfill cap at Site LF007. This beneficial use would save both the cost of transporting soil to a landfill and the landfill fees. If the cleanup levels for all contaminants are not achieved, then the treated soil will be transported to an appropriate off-base landfill for disposal.

Table 2 describes the soil cleanup alternatives as described in the WABOU FS and ROD. The WABOU FS looked at all available cleanup technologies, screened out the technologies that would not work, and used the remaining technologies to develop cleanup strategies, known and remedial alternatives. The FS used the first seven of nine EPA criteria (described in Figure 2) to evaluate the alternatives. These evaluations of the alternatives were previously presented in Section 9.0 of the WABOU Feasibility Study and then summarized in Section 4.4 of the final WABOU Soil ROD. Most of the evaluations have not changed over time, so their results are still valid for comparison purposes. The costs associated with each alternative would have changed due to inflation and additional costs to comply with more recent federal and state regulations. However, these costs would increase proportionately

and therefore not impact the comparison of alternatives.

The last two criteria are state and community acceptance. State acceptance is received when the two California regulatory agencies, the DTSC and RWQCB, accept the proposed actions by signing the amendment to the WABOU Soil ROD. Community acceptance is measured through the review of comments on this Proposed Plan at the 23 April 2015 public meeting and during the 30-day public comment period.

Table 3 summarizes the evaluation of the cleanup alternatives from Table 2 that could be used on Sites SD043 and SS046. The Air Force used this evaluation to identify the preferred alternatives for these restoration sites.

The Preferred Alternatives

For Site DP039, the contaminated soil that created the need for soil LUCs was removed prior to the construction of a bioreactor as part of a groundwater treatment demonstration project, so there is no longer a need to maintain LUCs at this site. As a result, the Air Force is proposing to change the selected remedy for Site DP039 from Alternative S2 – Land Use and Access Restrictions to Alternative S1 – No Action.

For Sites SD043 and SS046, after weighing the merits and challenges of the current soil remedies and more active alternatives in light of future mission

requirements that the base may receive, the Air Force is proposing to change the selected remedy for Site SD043 from Alternative S2 – Land Use and Access Restrictions to Alternative S4 – Excavation/Treatment/On-base Consolidation and the selected remedy for Site SS046 from Alternative S2 – Land Use and Access Restrictions to Alternative S5 – Excavation/Off-base Disposal. The costs to excavate contaminated soil at both locations will be greater than continued enforcement of LUCs. However, the proposed cleanup actions will remove potential risks to human health, achieve residential cleanup standards, free the encumbered properties from LUCs, make these sites available to support future Air Force missions, and avoid potential future costs associated with changing mission requirements.

Alternative S5 consists of the excavation of contaminated soil and its disposal in an off-base landfill. Even though Alternative S5 does not have a treatment component, it has the advantage of removing all contaminants (and all potential risk) from a site. The contaminated soil at Site SS046 contains cadmium, a metal that cannot be broken down with thermal treatment. Therefore, Alternative S5 would be able to achieve all RAOs at Site SS046, whereas Alternative S4 would still allow cadmium (and potential risk associated with it) to remain in the soil. For this reason, Alternative S5 is the preferred cleanup alternative for SS046.

Table 4 summarizes the proposed change in soil remedies for the three sites and presents the cleanup goals that the remedies have to achieve in order to meet their RAOs.

The Air Force acknowledges that its preferred alternatives are based on current technical and policy information and that they could change in response to public comment or new information.

The Final Decision

The Air Force and EPA will make a final decision on these changes to current soil remedies based on technical reports in the Administrative Record as well as public and state acceptance of the preferred alter-

natives in this Proposed Plan.

Comments received on this Proposed Plan during the public comment period from 15 April 2015 to 15 May 2015, and at the 23 April 2014 public meeting at the Northern Solano County Association of Realtors building, will be used to evaluate public acceptance. The decisions will be formally documented in an amendment to the WABOU Soil ROD. The responses to public comments will be published in a section of the ROD amendment called the Responsiveness Summary. The Air Force expects to finalize the ROD amendment by the end of 2015, after which it will be made available for review at the Information Repository and on the Travis AFB environmental public website. The Air Force will also inform the community of

the selected soil actions through announcements in the Vacaville and Fairfield newspapers, including the *Vacaville Reporter*, the *Tailwind*, and the *Fairfield Daily Republic*.

What Can I Do?

As a member of the local community, your thoughts on the cleanup issues presented in this Proposed Plan are important to the decision-making process. You have several options available to ensure that your voice is heard:

- 1) Talk to us. There will be time during the public meeting on 23 April 2015 to let us know what you think of the proposed actions. Can't attend the meeting? Then call the Travis AFB Public Affairs office and ask for Mr. James Spellman, our Community Relations Specialist. His phone number is on page 13.
- 2) Write to us. You can write your comments and drop them off at the meeting. Or, you can mail your comments to Mr. Spellman. His address is on page 13.
- 3) Send us an e-mail. Mr. Spellman also responds to e-mail from the public. His e-mail address is on page 13.

Thank you in advance for your time and support of these important base issues that affect us all.

Based on the information currently available, the Air Force believes the Preferred Alternatives meet the threshold criteria and provide the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. The Air Force expects the Preferred Alternatives to satisfy the following statutory requirements of CERCLA subpart 121 (b): (1) be protective of human health and the environment; (2) comply with ARARs; (3) be cost effective; (4) use permanent solutions and alternative treatment technologies to the maximum extent practicable; and (5) satisfy the preference for treatment as a principal element.

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Travis Air Force Base, 2014. *Groundwater Record of Decision*. Travis Air Force Base, California. Final. June.

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Glossary

Administrative Record (AR): The collection of information – including reports, public comments, and correspondence – the Air Force uses to select a clean-up action. The AR makes legally required information available to the public and is available for review at the Information Repository at the Vacaville Public Library.

Applicable or Relevant and Appropriate Requirements (ARARs): The federal and state environmental cleanup standards and other substantive requirements that a selected remedy must meet.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): Also called the Superfund Act. The federal law that establishes a program to identify, evaluate, and remediate sites where hazardous substances have been released to the environment and that present an unacceptable risk to human health or the environment.

Environmental Restoration Program (ERP): The program established under the Defense Environmental Restoration Program (10 USC §§ 2701 et seq) that evaluates and cleans up sites where hazardous substances have been released to the environment.

Acronyms and Abbreviations

AFB	Air Force Base
Air Force	U.S. Air Force
AR	Administrative Record
ARAR	applicable or relevant and appropriate requirement
CAMU	Corrective Action Management Unit
CERCLA	Comprehensive Environmental Response Compensation and Liability Act of 1980
DTSC	Department of Toxic Substances Control
EPA	Environmental Protection Agency
ERP	Environmental Restoration Program
FFA	Federal Facility Agreement
FS	Feasibility Study
IR	Information Repository
LUC	land use control
mg/kg	milligram per kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
RAO	Remedial Action Objective
ROD	Record of Decision
RWQCB	San Francisco Bay Regional Water Quality Control Board
U.S.	United States
VEG	Vapor Energy Generator
WABOU	West/Annexes/Basewide Operable Unit

Formerly called the Installation Restoration Program, the ERP is implemented at Travis AFB and is consistent with CERCLA.

Feasibility Study (FS): A study required under CERCLA and the ERP to identify and evaluate potential remedial technologies and to compare the technologies for cleanup of a particular site or sites. An FS report is prepared using information contained in the Remedial Investigation report.

Federal Facility Agreement (FFA): A legal agreement between multiple government agencies that is de-

signed to manage the cleanup of environmentally contaminated property. Its purpose is to ensure that past or present activities on a property are carefully investigated and that appropriate remedies are taken to protect public health and the environment.

Information Repository (IR): A source of information about an installation's environmental restoration activities that is readily available to the public. At a minimum, the IR contains all documentation found in the AR and all public documents associated with the RAB. The Travis AFB IR is located in the Vacaville Public Library.

Land Use Controls (LUCs): Administrative, legal, or physical measures used to prevent exposure to contaminants that remain onsite either during or after remedial action and that present an unacceptable risk to human health or the environment. LUCs include restrictions on the use of the land that will be incorporated into the Base General Plan.

Milligram per kilogram (mg/kg): A unit of measurement of the concentration of a substance present; one mg of a substance in one kilogram of an environmental medium, such as soil or sediment. One mg/kg is equivalent to one part of a substance per million parts of an environmental medium.

National Priorities List (NPL): EPA's published list of the highest priority hazardous waste sites in the United States for investigation and cleanup.

Operable Unit (OU): A geographic area that contains one or more cleanup sites. Often, the sites in an OU have similar characteristics, such as contaminants, industrial processes, or location, which makes the environmental investigation of the restoration sites within an OU easier to manage.

Polycyclic Aromatic Hydrocarbon (PAH): An organic compound that contains carbon and hydrogen atoms, is found in fossil fuels, and is formed during the incomplete combustion of organic materials. PAHs are harmful to human health and the environment, because they are carcinogenic and are known to create genetic mutations in cells.

Polychlorinated Biphenyl (PCB): A synthetic organic compound that consists of two benzene rings and multiple chlorine ions around them. PCBs were used as coolant fluids in electrical transformers until Con-

gress stopped their production in 1979 because of their toxicity.

Preferred Alternative: The cleanup alternative proposed for a contaminated site. Selection is based on the best protection of human health and the environment, achievement of RAOs, compliance with applicable laws, and performance against other CERCLA evaluation criteria.

Record of Decision (ROD): A document that explains and legally commits the lead agency to the cleanup alternatives to be used at a site. The ROD is based on information and technical analyses generated during the Remedial Investigation and Feasibility Study and considers public comments and community concerns. The ROD is signed by the Air Force, EPA, and state agencies.

Remedial Investigation (RI): An investigation of a contaminated site to determine the nature and extent of contamination, to assess human health and environmental risks posed by the contaminants, and to provide a basis for development of remedial alternatives to clean up the site.

Restoration Advisory Board (RAB): A group of interested community members and federal and state government representatives who provide valuable input into the investigation and cleanup activities on Travis AFB.

Restoration Site: A location on an installation or facility where soil contamination is present. A restoration site is identified by a five-digit alpha-numeric designation. The two letters in the designation are based on the way that the contamination was released into the environment. For example, "DP" refers to a disposal pit, "SS" refers to surface spill, and "SD" refers to soil deposition.

Site: In Superfund terms, a site is a facility of any kind where contamination is present as a result of a release of hazardous substances. Thus, Travis AFB is a Superfund site.

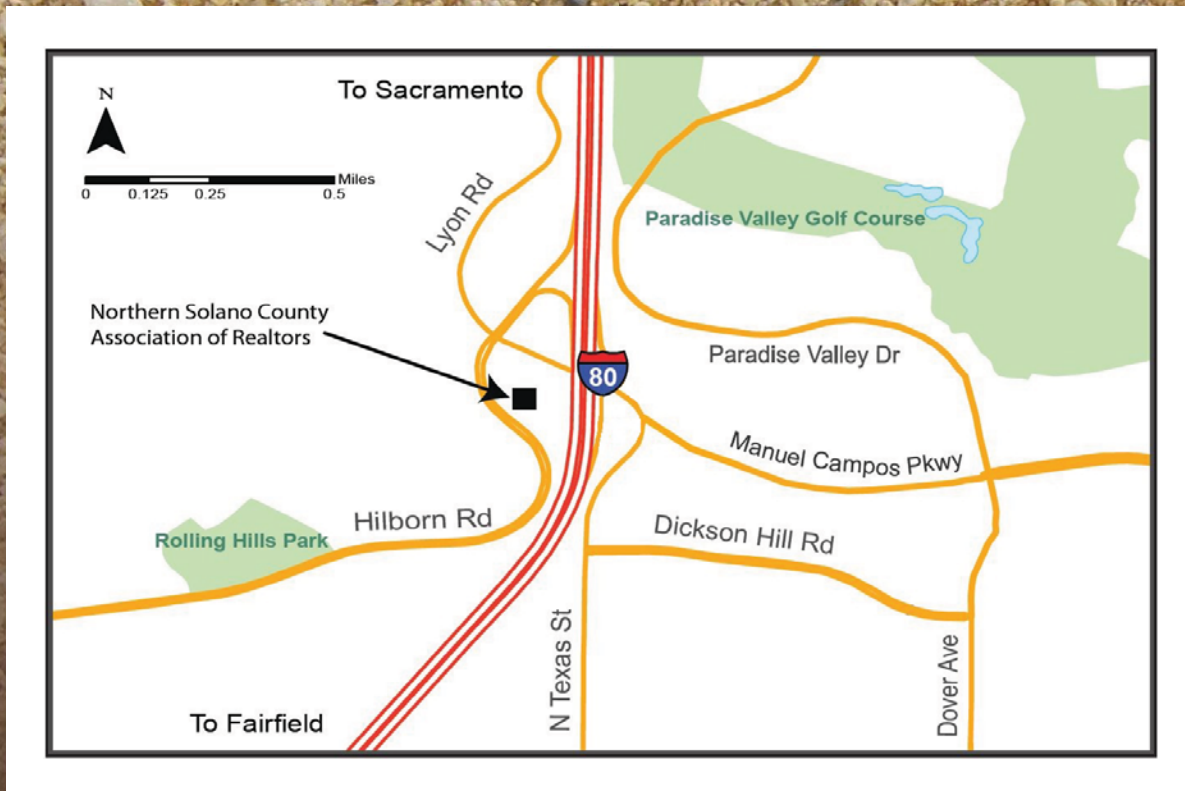
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State Zip

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Travis AFB
Public Meeting
April 23, 2015
Northern Solano County
Association of Realtors
3690 Hilborn Road
Fairfield, CA 94535