



MATHER

Community Relations Plan

COMMUNITY
RELATIONS



DEPARTMENT OF THE AIR FORCE
AIR FORCE REAL PROPERTY AGENCY

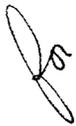
August 2, 2004

MEMORANDUM FOR DISTRIBUTION

FROM: AFRPA/DD - Mather
3411 Olson Street
McClellan, CA 95652-1056

SUBJECT: Draft Final Update to the Mather Installation Restoration Program Community Relations Plan

1. We are pleased to submit the 2004 Draft Final Mather Installation Restoration Program Community Relations Plan (CRP). This is a primary document under the Federal Facility Agreement for Mather. The Community Relations Plan identifies community concerns and planned actions by the Air Force to address the concerns. The goal is appropriate and timely public participation in the restoration and cleanup of Mather. The document will become final in 30 days.
2. Questions should be addressed to Linda Geissinger at (916) 643-6420, Extension 109 or Bill Hughes, CSC, at (916) 364-4007.



ANTHONY C. WONG
BRAC Environmental Coordinator

Encl: Draft Final Community Relations Plan

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Draft Final Mather Community Relations Plan

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MWH

2 August 2004

AFCEE/ERB
3300 Sidney Brooks
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ATTN: Al Weilbacher
AFCEE Project Manager

SUBJECT: Draft Final, Mather Community Relations Plan
Former Mather Air Force Base, California
Contract F41624-03-D-8608, Task Order 78

Dear Mr. Weilbacher:

In accordance with our contract, MWH is submitting one copy of the subject report in pdf format, as requested by AFCEE. This document presents the Draft Final of the Community Relations Plan for Mather.

Thirty copies of this document have also been distributed to the Air Force and regulatory agencies for review.

Please contact me at (916) 418-8251 or Conny Mitterhofer at (916) 418-8387 if you have any questions or comments.

Sincerely,

MWH Americas, Inc.

John Scott, R.G., C.E.G.
Program Manager

encl.

cc: T. Wong/L. Geissinger (AFRPA) (30 copies)
AFCEE/MSCD (without encl.)

RESPONSES TO COMMENTS ON THE DRAFT MATHER COMMUNITY RELATIONS PLAN

Comment Number	Section	Page	Paragraph	Reviewer	Comment	Response
DTSC COMMENTS (DATED 4 MARCH 2004)						
1.	2	2-22	Last Paragraph	DTSC (Lora Barrett)	The purpose of the paragraph is unclear as it is not tied into anything.	The last paragraph on Page 2-22 was provided for a discussion on risks and exposure and was modified for clarification. Furthermore, the second paragraph on Page 2-23 was also expanded to explain that since 1979, the Air Force has taken steps to ensure no exposure pathway remains between the contaminants originating from the base and the community.
2.	2	2-24	Second Paragraph		Investigations found that metals above safe levels exist in the Sewage Treatment Facility (Site 20), South Ditch (Site 85), Military Firing Range (Site 86), Skeet and Trap Range (Site 87), and the Old Trap Range (Site 89). What is being done to limit exposure pathways or please explain if a pathway does not exist.	The paragraph was corrected and modified as follows: "Investigations found that metals above safe levels existed in the Sewage Treatment Facility (Site 20), South Ditch (Site 85), Military Firing Range (Site 86), Skeet and Trap Range (Site 87), and the Old Trap Range (89). Excavations and/or removal activities took place at these sites and no exposure pathways exist to the remaining contamination that would pose a threat to human health or the environment. Currently, institutional controls are part of the remedy at sites 87 and 89 and do not allow for unrestricted land use."
3.	4	4-9	Third Paragraph		The documents that trigger public comment periods are each Proposed Plan and each proposed Record of Decision amendment. It sounds like you are implying these the only documents that would require public comment for Mather. How about the 5-yr Review? How about the FOST? You may potentially have an ESD. Potentially also a Remedial Action Memorandum.	The sentence has been changed for clarification of past public comment periods. The Five-Year Review does not require a public comment period; however, the public can review the document and submit comments. A Finding of Suitability to Transfer (FOST) also does not require a public comment period; however, a public notice is typically issued for the FOST signing and availability for the public. However, a Finding of Suitability for Early Transfer (FOSET) and Explanation of Significant Differences (ESD) do require a public comment period. If either one of these are proposed for Mather in the future, a public comment period will be held.

RESPONSES TO COMMENTS ON THE DRAFT MATHER COMMUNITY RELATIONS PLAN						
Comment Number	Section	Page	Paragraph	Reviewer	Comment	Response
4.	4	4-16	First sentence in bullet list		Prior paragraph on Page 4-15 better sums up the current concerns. Are the interviewees concerned about their confidence in the Air Force, concerned about being on the mailing list?	The bullets on Page 4-16 summarize concerns but also various comments made during the interviews. Therefore, the introductory sentence was changed from 'A summary of the current (2003) concerns is as follows' to 'The specific (2003) comments are summarized below'.
5.	4.4	4-17			<p>I would like to see more of a correlation to the concerns and how specifically they will be addressed. What is provided seems more of a regurgitation of what outreach is normally done, without linking it to anything heard from the interviews. For example: One concern raised was a request to see the timeframe or schedule of cleanup. A cleanup timeline is included in Section 2 (I hope you will also say and will be made available on our website or even will be included in a future fact sheet).</p> <p>How do you plan to address the community's fear of drinking water contamination? Half of the interviewees noted translation/interpretation needs and growth of the Slavic/Russian community. How do you plan to outreach to that community?</p>	Table 4-1 was added to Section 4 to summarize the major concerns during the interviews and the Air Force response as to how these concerns will be addressed, including the community's fear of drinking water contamination and the need for translation/interpretation. The timeline provided in Section 2 will be made available on the website and will also be provided as a fact sheet.
6.	5.2	5-3			It would be helpful to know when they are required, what are the parameters, what is the authority requiring them, etc. This section is pretty vague.	Figure 5-1 was added to Section 5 to illustrate the relationship of community relations activities to the Superfund Technical Process, showing both required as well as suggested community relations activities at each milestone. The authority requiring the individual community relations activities consist of the U.S. EPA Handbook, the BCA Handbook, various DOD letters, DOD/EPA guidelines, Air Force Instructions, as well as technical guidance documents.

Note: Based on DTSC comments, other editorial changes were made to the text for clarification.

**DRAFT FINAL
COMMUNITY RELATIONS PLAN**

FORMER MATHER AIR FORCE BASE

August 2004

**Contract F41624-03-D-8608
Task Order 78**

Prepared for:

**Air Force Center for Environmental Excellence
Brooks City-Base
Texas**

**Prepared by:
MWH Americas, Inc.
Sacramento, California**

MWH Americas, Inc. Certifies that, to the best of its knowledge and belief, the technical data delivered herewith under contract F41624-03-D-8608 is complete, accurate, and complies with all requirements of the contract.

Certifying Official: _____ Date: _____
Program Manager

Approved By: _____ Date: _____
Task Order Manager

Approved By: _____ Date: _____
Quality Assurance Manager

Note: This document is proprietary, revision-controlled, and is intended strictly for use by AFCEE and MWH Americas, Inc. and its subcontractors in support of specific contractual responsibilities; copying and further dissemination in any manner is not permitted without written authorization by the MWH Americas, Inc. Remedial Program Manager, except as may be agreed between MWH Americas, Inc. and AFCEE in the terms and conditions of the applicable contract.

**DRAFT FINAL
MATHER COMMUNITY RELATIONS PLAN**

FORMER MATHER AFB, CALIFORNIA

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E – Restoration Advisory Board Charter

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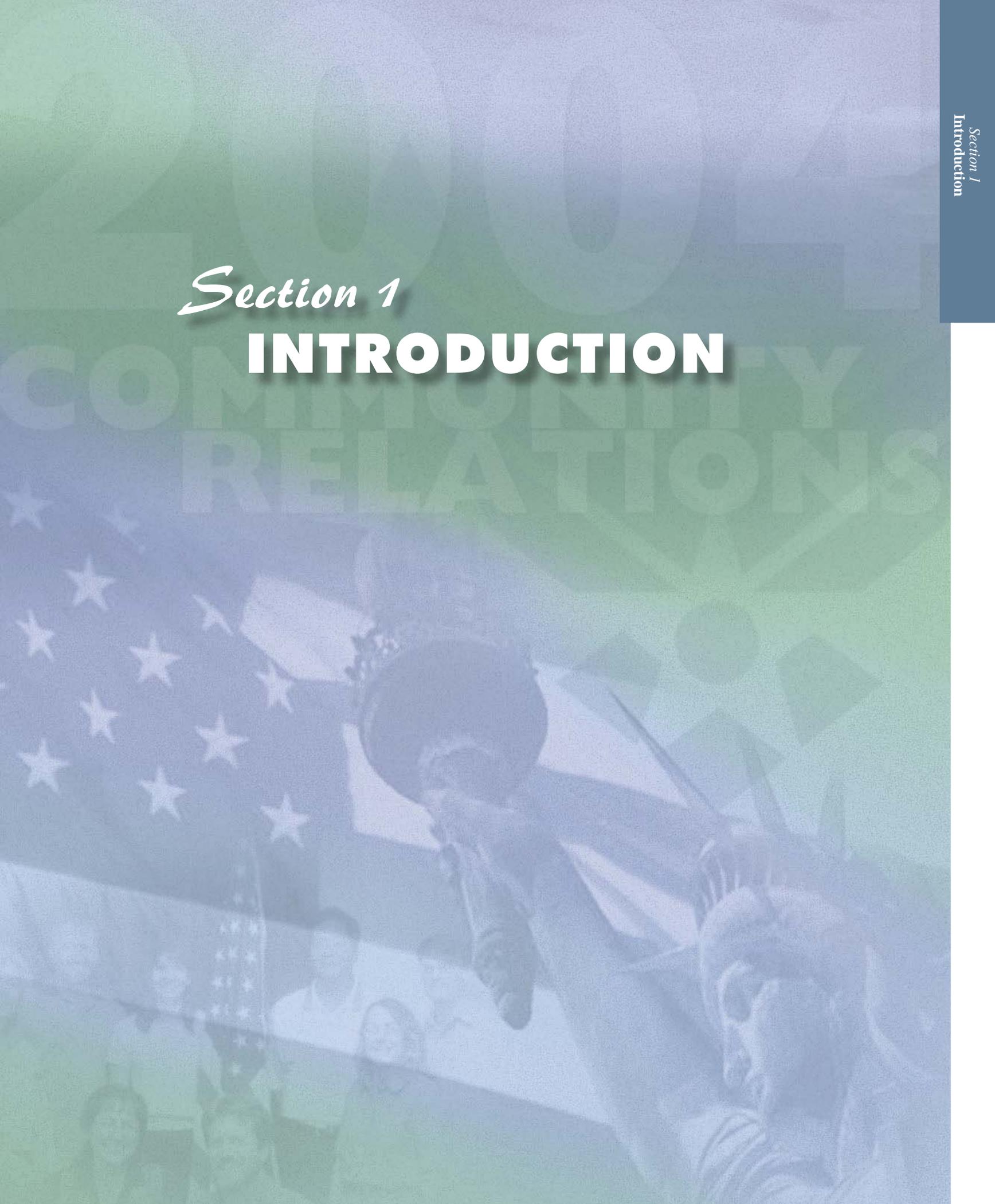
G – Applicable Regulations

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I – Acronyms

Section 1

INTRODUCTION



Section 1

INTRODUCTION

I.0 Introduction

This **Community Relations Plan** has been revised to update the Community Relations Program for the Air Force Cleanup Program – the *Installation Restoration Program* (IRP) – at the former Mather Air Force Base (AFB). The Plan identifies and addresses communication needs of the community on and surrounding the former Mather Air Force Base. This plan provides an overall reference tool for all interested in the cleanup program at the former Mather Air Force Base (from hereon referred to as Mather). The Plan addresses the two primary goals of the Community Relations Program:

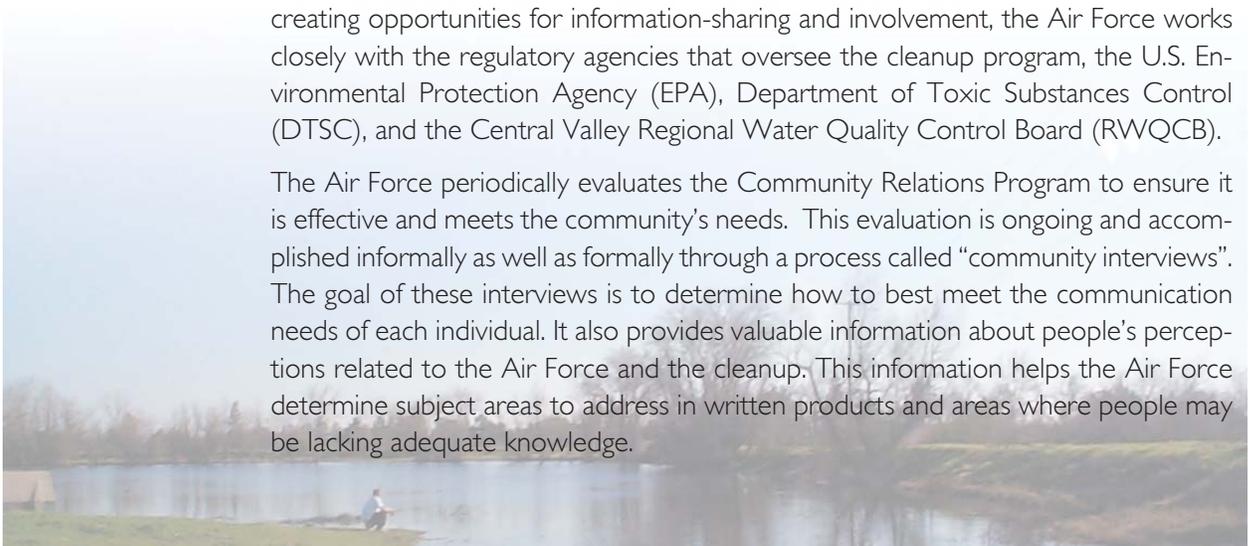
- Provide the public with timely and accurate information about ongoing cleanup activities, and
- Involve the public in cleanup decisions.

I.1 Objectives of the Community Relations Plan

The objectives of the Community Relations Plan are to identify concerns regarding past, current, and future cleanup activities at Mather, and to illustrate how the Air Force plans to respond to these concerns with the appropriate outreach activities. The Plan also serves as a management tool to direct the Air Force's communication process related to the cleanup. It discusses who will be informed (stakeholders), how stakeholders will be engaged in the cleanup, when contact will be made, how, where and why.

The primary strategy the Air Force uses to reach these goals is to take an open and proactive approach with the public and local media. The Air Force strongly relies on developing and maintaining open communication with the local community. In creating opportunities for information-sharing and involvement, the Air Force works closely with the regulatory agencies that oversee the cleanup program, the U.S. Environmental Protection Agency (EPA), Department of Toxic Substances Control (DTSC), and the Central Valley Regional Water Quality Control Board (RWQCB).

The Air Force periodically evaluates the Community Relations Program to ensure it is effective and meets the community's needs. This evaluation is ongoing and accomplished informally as well as formally through a process called "community interviews". The goal of these interviews is to determine how to best meet the communication needs of each individual. It also provides valuable information about people's perceptions related to the Air Force and the cleanup. This information helps the Air Force determine subject areas to address in written products and areas where people may be lacking adequate knowledge.



This Community Relations Plan update is based on previous plans, ongoing community involvement activities, information gathered from interviews, and other input from community members interested in or involved in the IRP. In 2003, the Air Force conducted 23 interviews, asking community members, elected officials, and representatives from the media, local businesses and government agencies about the cleanup program and the Air Force's community outreach efforts.

This is the eighth update to the Mather Community Relations Plan. The last update was in June 1999. Previous plans were dated December 1986, April 1989, December 1989, January 1992, January 1996, and June 1997.

I.2 Environmental Cleanup at Mather

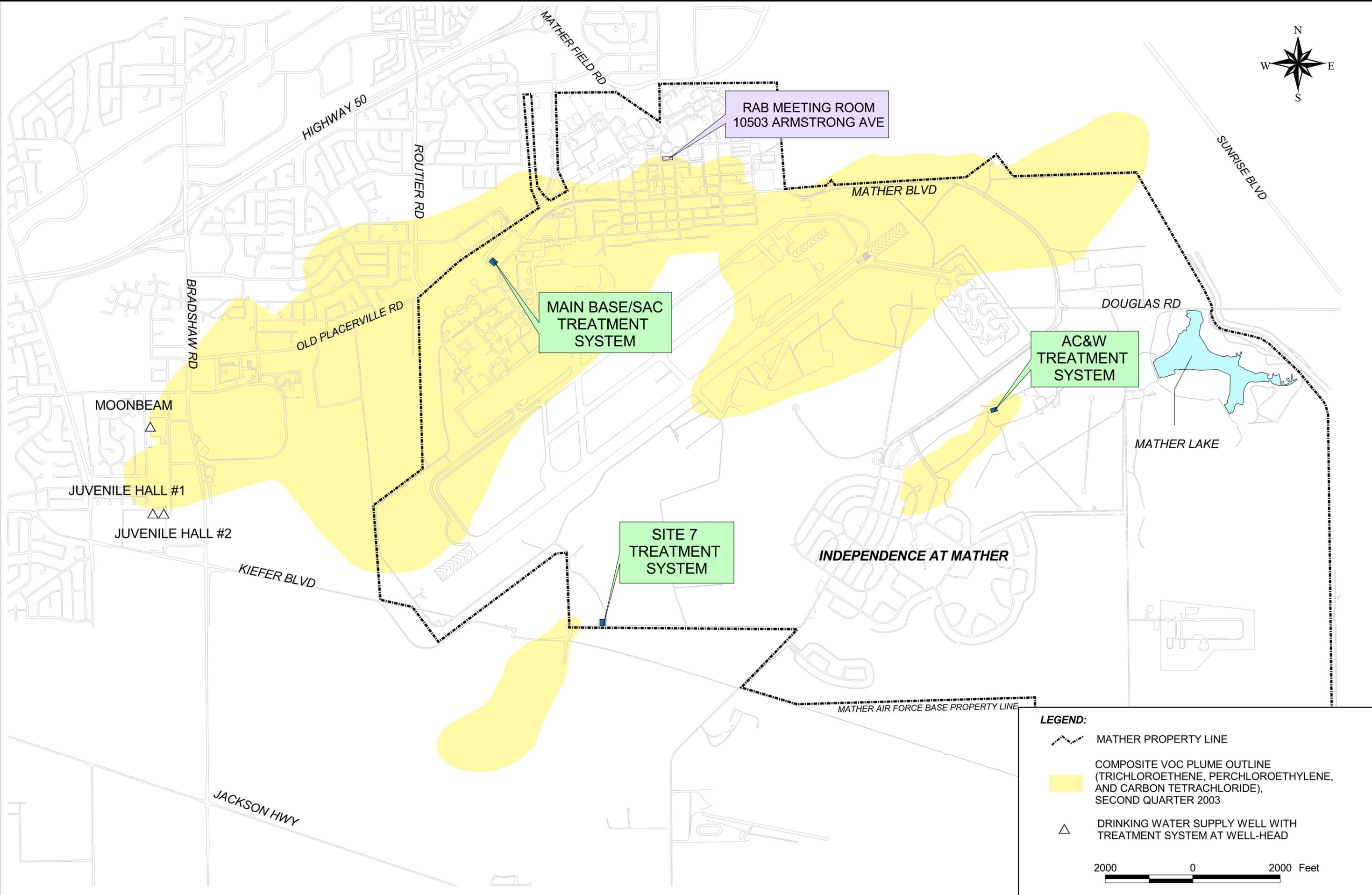
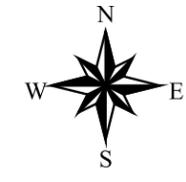
While the base was active from 1918 to 1993, it used many chemicals to support military activities. Fuels were used to power vehicles, airplanes and generators. Solvents were used to degrease machinery and equipment and to wash aircraft parts. Sometimes these chemicals escaped to the environment from leaking tanks, being washed down floor drains, or being spilled during transportation and use. Past chemical disposal practices also contributed to soil and groundwater contamination. These previous disposal practices were legal in the past, but are now known to cause environmental contamination and are no longer being used.

In 1979, water supply wells on Mather showed the presence of contamination. The primary type of chemical contamination was solvents. More extensive basewide testing followed in the 1980s, and led to the identification of 89 sites in need of further study or cleanup, including soil and groundwater areas and landfills. Today, 69 of these sites are closed, meaning the regulatory agencies have agreed they are clean or require no further action. More than one million pounds of solvents and fuels have been removed from the ground or water on or near Mather since the Air Force began cleanup operations in the 1980s.

Cleanup is expensive and lengthy. The Air Force has spent more than \$162 million on cleanup activities at Mather, and another \$135 million are estimated to be needed to complete the cleanup. This includes the cost of monitoring, maintaining, and operating five groundwater treatment systems, six separate soil cleanup systems, and three landfill caps. A milestone is planned for 2004 when the Air Force will install the last new piece of equipment used to treat the contamination from past military practices at Mather. Once all of the systems to clean soil and groundwater are in place, they will operate for many years. For some parts of the groundwater, cleanup may require 50 to 80 years.

Groundwater Cleanup

At and near Mather, the groundwater is contaminated to depths as great as 400 feet below ground surface. Four groundwater plumes (areas of groundwater that have contamination), originating primarily from solvent use at Mather, underlie approximately 2,000 acres on and off Mather, as shown in the plume map on the following page. Groundwater under Mather moves about 50 – 500 feet per year in a southwesterly direction. The Main Base/Strategic Air Command (SAC) Area plume has moved off Mather property approximately 7,700 feet from the western boundary of



RAB MEETING ROOM
10503 ARMSTRONG AVE

MAIN BASE/SAC
TREATMENT
SYSTEM

AC&W
TREATMENT
SYSTEM

SITE 7
TREATMENT
SYSTEM

INDEPENDENCE AT MATHER

MOONBEAM

JUVENILE HALL #1

JUVENILE HALL #2

MATHER LAKE

LEGEND:

-  MATHER PROPERTY LINE
-  COMPOSITE VOC PLUME OUTLINE
(TRICHLOROETHENE, PERCHLOROETHYLENE,
AND CARBON TETRACHLORIDE),
SECOND QUARTER 2003
-  DRINKING WATER SUPPLY WELL WITH
TREATMENT SYSTEM AT WELL-HEAD



the former base, extending almost to Mayhew Road, west of Bradshaw Road. The edge of this plume has been moving about 75 feet each year; the Air Force plans to install one additional extraction well in 2004 to keep this plume from moving further to the west. Two other plumes, the Aircraft Control and Warning (AC&W) Site Plume, and the Site 7 Plume, have stable margins, and do not appear to be migrating. These three plumes are undergoing extraction and treatment. A fourth plume, the Northeast Plume, is being monitored; about 80 percent of the Northeast Plume area has concentrations that meet the cleanup standards.

Three cleaning systems are treating the groundwater by pumping it up from 37 extraction wells located throughout Mather. About 1,850 gallons per minute are treated before being sent back to the ground through reinjection or to Mather Lake. Another two systems treat water at drinking water wells west of Bradshaw Road at Juvenile Hall and on Moonbeam Drive.

More than 500 test wells, called monitoring wells, are located at and near Mather's groundwater plumes. A monitoring plan was developed with regulatory agencies to test the groundwater. Water samples are collected from most of these 500 wells from as frequently as four times per year to as infrequently as once every other year. This provides information on concentrations and movement of the contamination. Results of these tests are available in the public *Information Repository* (see Appendix D) at Mather and are summarized for the public during Restoration Advisory Board meetings and in newsletters mailed to the community living on or near Mather.

Drinking Water

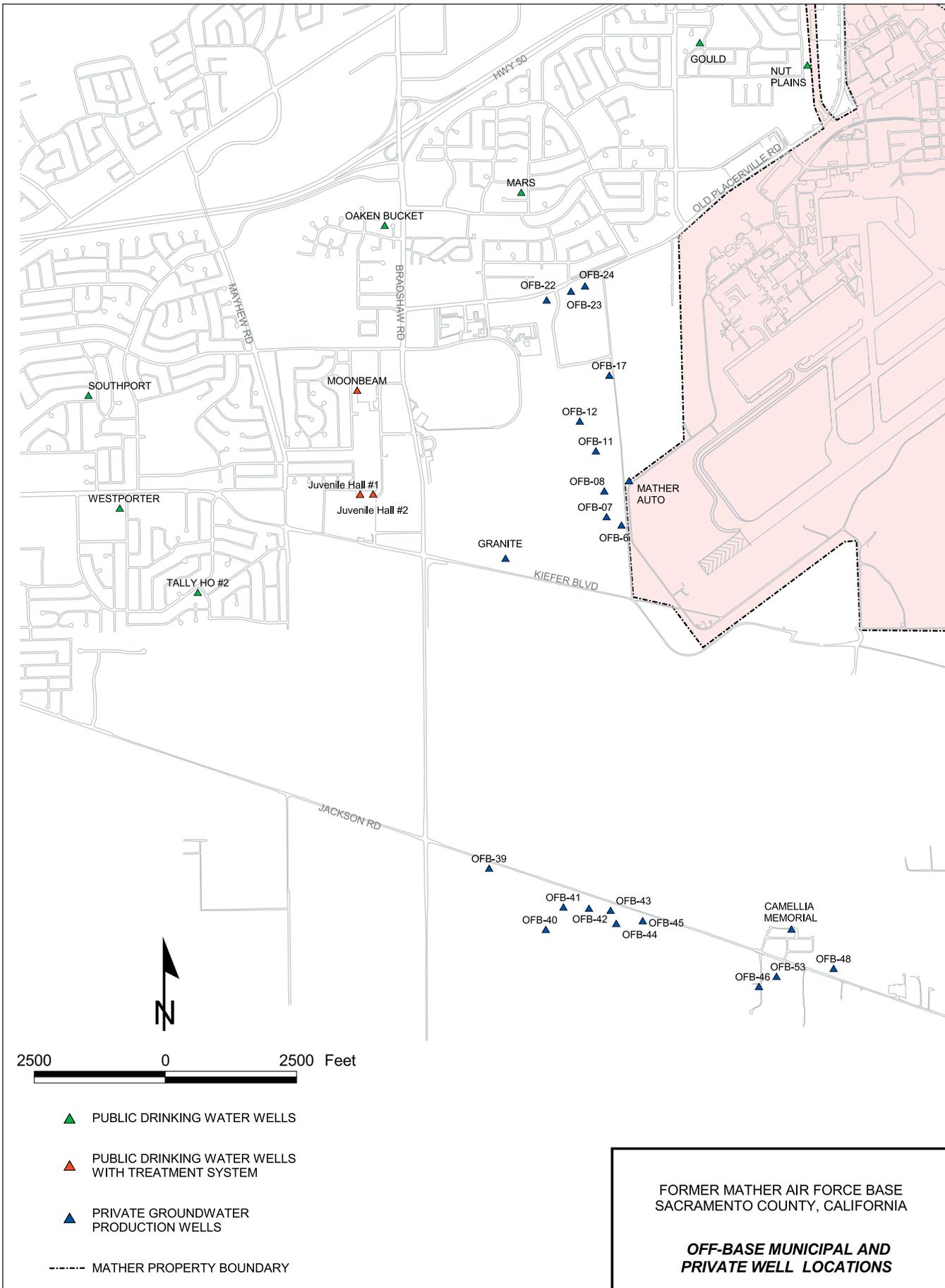
One of the biggest community concerns has been the protection of their drinking water.

The drinking water supply that serves the Mather property is provided by Sacramento County Water Agency. It is not pumped from contaminated areas undergoing cleanup. Sacramento County samples the drinking water it provides to ensure it is safe. They produce an annual report on water quality and can be reached by calling (916) 875-6881, or visiting their website: <http://www.saccodwr.org>.

Most of the nearby public supply wells to the west of Mather, shown in the diagram on the following page, are owned by the California-American Water Company (formerly Citizens Utilities Company of California). The Air Force collects water samples from these wells regularly, and the results are reviewed by the EPA, RWQCB, DTSC, the Department of Health Services (DHS), and California-American Water Company.

The water company has not operated any wells with detectable contaminants. In 1994, they shut down their "Explorer Drive" well before any contamination was detected. Costs to replace this well were partially paid for by the federal government. In 1997 when routine tests showed low amounts of a cleaning chemical called carbon tetrachloride, the Air Force placed wellhead treatment on the Moonbeam and two Juvenile Hall wells. Wellhead treatment filters out unwanted/hazardous/chemicals coming from the well water before the water is distributed to the public. Today, these treatment systems are still in place and operating. In September

**One of the biggest
community
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water.**



1997, the water company shut down the Mars well after a sample was reported to have *trichloroethene* (also known as trichloroethylene or TCE) at the drinking water standard of 5 parts per billion (ppb). Although no further TCE contamination was detected in confirmation samples, small amounts *tetrachloroethene* (also known as tetrachloroethylene, perchloroethene or PCE) was detected at less than 0.2 parts per billion. Therefore the well has remained off. Since early 1999, TCE has also been detected at low concentrations in the Mars Way Well. No contamination has been detected in the Southport, Westporter, Tally Ho 2, or Nut Plains wells. The Air Force has sampled nearby supply wells quarterly since January 1995. While the Air Force has detected no contamination in the Oaken Bucket Well, a water company sample in 1998 was reported to have contained 0.7 parts per billion of tetrachloroethene. The drinking water limit (amount allowable under the Safe Drinking Water Act) for tetrachloroethene is 5 parts per billion. No other detections have been reported in more recent quarterly sampling. Low concentrations of trichloroethene have been reported in samples from the Gould Way well, up to an estimated 0.13 parts per billion (estimated because this concentration is below what the laboratory can determine exactly).

Redevelopment

To date, the Air Force has transferred more than 5,700 acres at Mather to the community for re-development. The two primary transfer mechanisms have been through long-term leases and deed transfers. The majority of the property at Mather will be conveyed by deed under a Public Benefit Conveyance. This method carries rules that require the County to use the land for public benefit purposes, such as airfield use (under the sponsorship of the Federal Aviation Administration [FAA]) and park use (under sponsorship of the Department of the Interior).

More than 4,000 new jobs have been created at Mather by development of a thriving air cargo business and a variety of other new businesses.

Mather is nearing the final stages of environmental cleanup and much of Mather is undergoing commercial redevelopment and reuse. Today Mather hosts air cargo and general aviation operations, commercial businesses, residential housing, and parks and recreation areas. The coordination of cleanup and re-use activities involves many stakeholder groups, including regulatory agencies, Sacramento County, local developers, businesses, and the community. Section 1.3 describes in more detail the roles of these stakeholder groups at Mather.

1.3 Roles of and Coordination between Key Stakeholder Groups

The foremost requirement of the cleanup program is protecting human health and the environment. When making decisions about the best way to accomplish this goal, the Air Force also considers the potential future reuse and redevelopment of existing facilities, the impact of cleanup options on planned real estate actions and other factors while implementing the cleanup program. The relationships and coordination between the key stakeholders involved in the cleanup at Mather are shown in the figure on the following page and are also described in more detail.

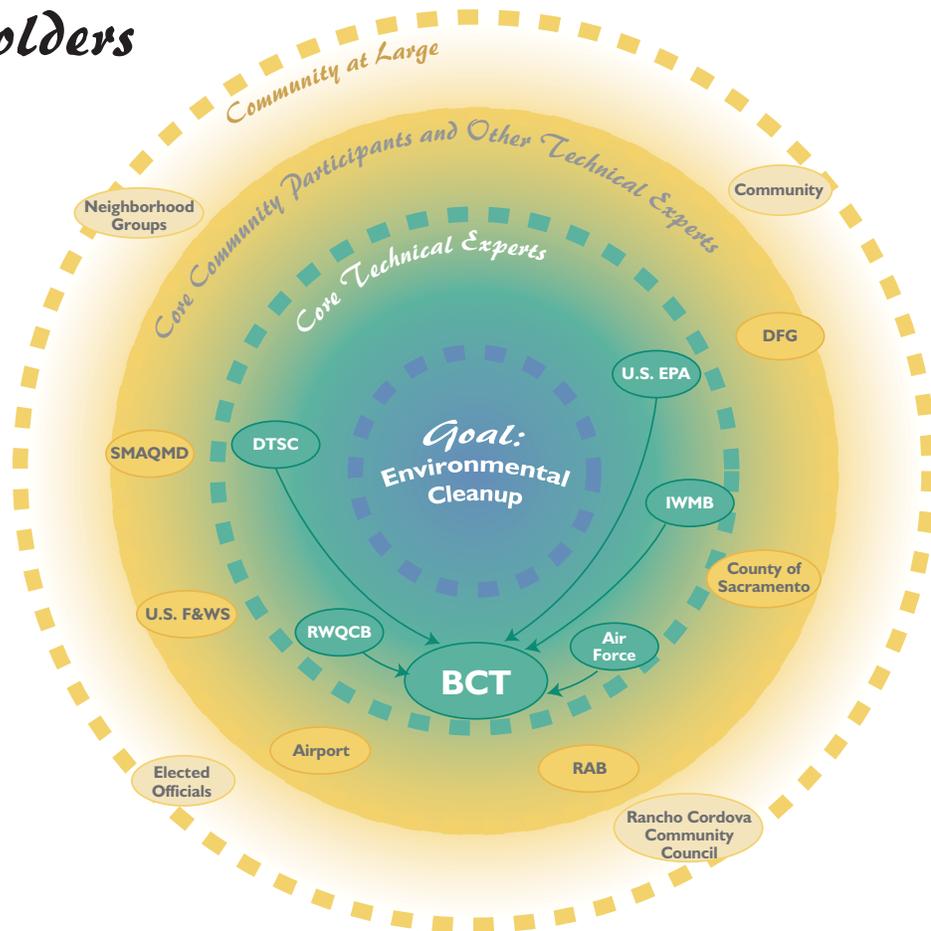
The key decision makers for all technical issues consist of representatives from the Air Force and regulatory agencies who make up the Base Realignment and Closure (BRAC) Cleanup Team (BCT), also called Remedial Project Managers (RPMs). Members of the public meet regularly with the BRAC Cleanup Team, to be informed of and provide feedback about the environmental cleanup program at the Restoration Advisory Board (RAB) meetings. More information about the RAB is provided on page 1-9.

Air Force Real Property Agency (AFRPA)

The Air Force Real Property Agency (AFRPA), activated by the Secretary of the Air Force in 1991, serves as the lead agent to manage real estate and execute the environmental programs for closed Air Force bases, such as Mather. Most of these bases were closed under the BRAC Act. The AFRPA mission is to facilitate property transfer and to complete the environmental cleanup in a way that ensures protection of human health and the environment. To assist the facility with environmental issues, the position of the BRAC Environmental Coordinator (BEC) was created. Currently, the BEC for Mather is Mr. Anthony (Tony) Wong.

Key Stakeholders at Mather

BCT –	Base Realignment and Closure Cleanup Team: identifies, coordinates, monitors, and resolves issues pertaining to cleanup
DFG –	California Department of Fish and Game
DTSC –	Department of Toxic Substances Control
IWMB –	Integrated Waste Management Board
RAB –	Restoration Advisory Board: volunteers from the local community, some are liaisons to other community interest groups
RWQCB –	Regional Water Quality Control Board
SMAQMD –	Sacramento Metropolitan Air Quality Management District
U.S. EPA –	United States Environmental Protection Agency
U.S. F&WS –	United States Fish and Wildlife Service



BRAC Cleanup Team (BCT)

In 1989, the BRAC Commission announced that Mather would close in 1993. The Air Force and regulatory agencies had been meeting to coordinate the Air Force environmental investigations prior to this, but the roles and responsibilities were formalized in a *Federal Facility Agreement* (FFA) in July 1989. The key representatives of the Air Force and the regulatory agencies came to be known as the BRAC Cleanup Team (BCT) in the mid 1990s. The team includes representatives from the Air Force Real Property Agency, U.S. EPA, DTSC, and RWQCB, and the Integrated Waste Management Board (IWMB). The core BCT members, or Remedial Project Managers, represent the agencies who are the decision-makers for technical issues related to scheduling, enforceable milestones, cleanup actions and overall program management. These people currently meet bi-monthly and are responsible for identifying, coordinating, monitoring, and resolving issues pertaining to cleanup activities. The U.S. EPA, DTSC, and the RWQCB are the key agencies that interface with AFRPA to ensure compliance with federal and state regulations and standards. Currently, the core BCT members include Ms. Carmen White (U.S. EPA), Ms. Carolyn Tatoian Cain (DTSC), Ms. Karen Bessette (RWQCB), and Mr. Gino Yekta (Integrated Waste Management Board).

Other key participants in the BCT include representatives from the Air Force Center for Environmental Excellence (AFCEE), other agencies (e.g., Sacramento Metropolitan Air Quality Management District, U.S. Department of Fish and Wildlife, and the California Department of Fish and Game), Sacramento County Economic Development Department, Sacramento County Airport System, and McCuen Properties. AFCEE provides technical oversight and management of contractors working at Mather. McCuen Properties has been retained by Sacramento County to market and manage much of the property at Mather.

Restoration Advisory Board (RAB)

The Mather RAB advises the Air Force and regulatory agencies of community concerns on environmental cleanup, funding and priorities. Through open communication and the exchange of ideas, interests and concerns, the RAB supports the search for safe, timely and effective cleanup solutions. The RAB is committed to public outreach and welcomes communication with the community. Members of the public can be involved in cleanup decisions through a variety of opportunities, including outreach meetings, open houses, and public RAB meetings. The media, local representatives, and elected officials are encouraged to participate in these activities. The RAB is comprised of volunteers from the local community, some of whom are liaisons to other community interest groups. Representatives from the Air Force, the U.S. EPA, and state regulatory agencies support the RAB. An important goal of the RAB is to create an opportunity to share ideas and viewpoints to be considered throughout the cleanup process. Currently the RAB at Mather meets every other month. The U.S. EPA community involvement coordinator is Ms. Viola Cooper; the DTSC public participation specialist is Ms. Kim Rhodes. Their contact information is listed on pages 1 and 2 in Appendix A.)

I.4 Report Organization

The remainder of this Community Relations Plan is organized as follows: **Section 2.0** provides a historic profile of the environmental issues at Mather. **Section 3.0** describes the community surrounding Mather and changes that have occurred or are occurring within the community. Section 3.0 also provides a summary of the community involvement since beginning of the Community Relations Program. **Section 4.0** describes the Community Relations Program in detail. It explains the goals of the program and the steps the Air Force will take to achieve these goals. The results of the community interviews are discussed in Section 4.3. The Air Force has taken into consideration the changes in the cleanup program at Mather and in the local community and has incorporated this information into its Community Relations Program. **Section 5.0** details the upcoming Community Relations Program activities, some of which are required in connection with cleanup milestones. The Air Force has also scheduled other activities to meet the needs of community.

The following information can be found in the appendices, located at the end of the text:

Appendix A – Points of Contact

- Air Force and Regulatory Agency Contacts
- Government Officials
- Restoration Advisory Board Members
- Media Contacts
- Environmental Groups
- Other Stakeholders

Appendix B – 2003 Interviews

- Interview Questionnaire

Appendix C – Copies of Recent Newsletters, Fact Sheets, and Posterboards

Appendix D – Locations of Information Repository and Administrative Record

Appendix E – Restoration Advisory Board Charter

Appendix F – Information on Technical Assistance Grants and Information on Technical Assistance for Public Participation Grants

Appendix G – Applicable Regulations

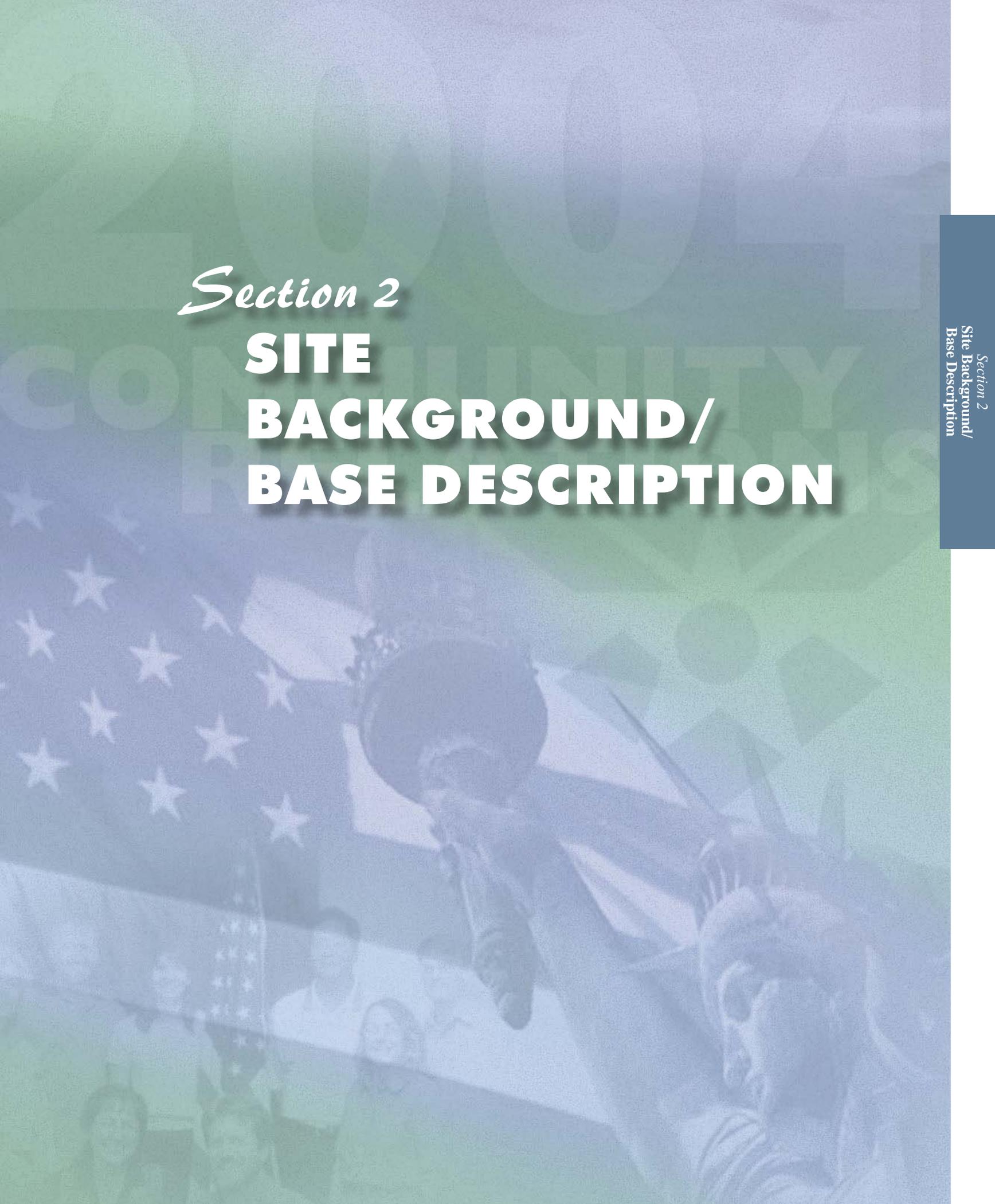
Appendix H – Glossary

Appendix I – Acronyms

It should be noted that words and phrases that appear in *italics* in the body of this document are defined in Appendix H. These terms are italicized only the first time they are used. Acronyms are also used throughout this document. A complete list of acronyms is presented in Appendix I. Where possible, the use of acronyms has been minimized.

Section 2

**SITE
BACKGROUND/
BASE DESCRIPTION**

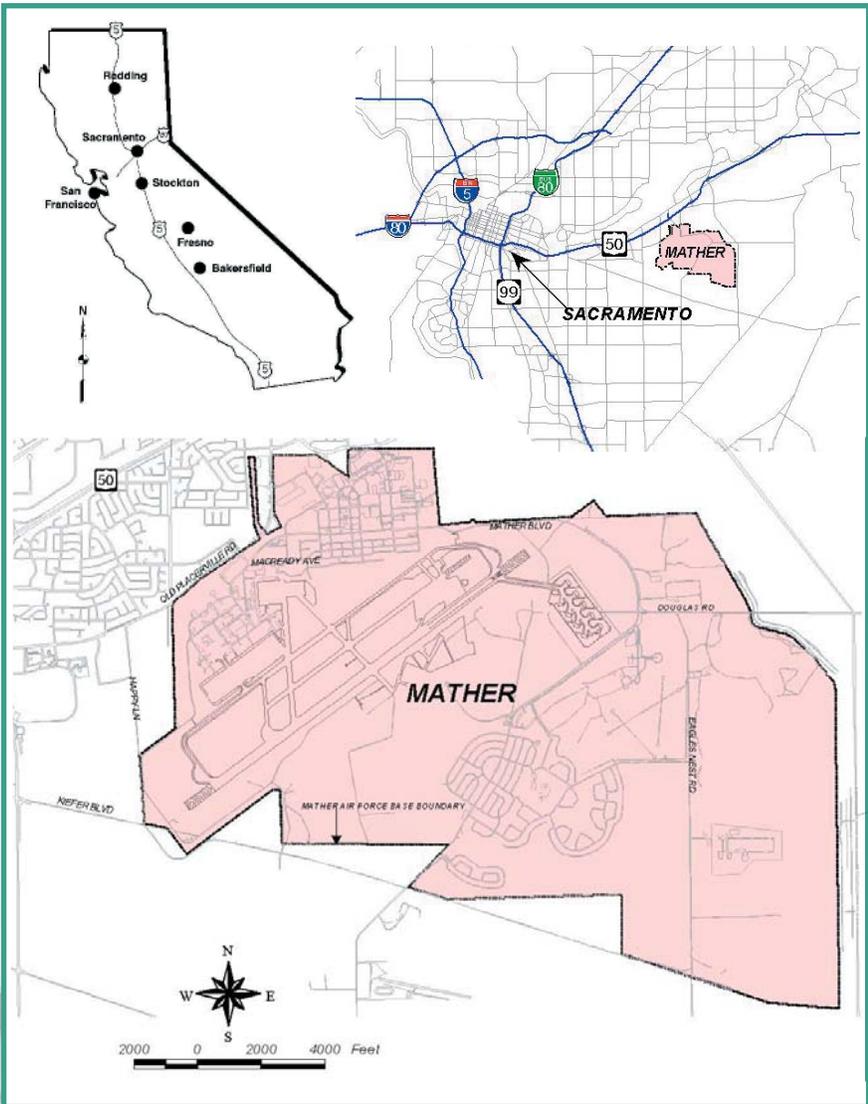


Section 2

SITE BACKGROUND/ BASE DESCRIPTION

2.1 Past and Current Uses of Mather and Surrounding Area

Mather is located approximately 10 miles east of downtown Sacramento. The northern portion of Mather is part of the recently incorporated city of Rancho Cordova. The former base occupied 5,845 acres (including easements) at the time of closure and is located within the area bounded by U.S. Highway 50, Jackson Road (State Highway 16), and Sunrise Boulevard, as shown in the figure below.



Site Location

In the 1800s, the land in the area was used for ranching. Fourteen years after the Wright Brothers' flight of 1904, the Sacramento Chamber of Commerce launched a successful campaign to locate a training school for Army aviators in the area. In 1917, Mather Air Force Base was established and in 1918, the base opened. At that time the land was rural, sparsely populated, and still mainly used for ranching. Terrain to the northeast of Mather is distinguished by extensive mounds of dredge tailings from approximately 100 years of gold mining operations that continued until the 1960s.

Gradual growth in the surrounding area occurred through the 1950s and 1960s as a result of a large solid and liquid rocket fuels plant in Rancho Cordova called Aerojet. From the 1970s through the 1980s, residential development continued.

Current land use north and west of Mather Field is primarily suburban, with single-family homes and major retail centers along Folsom Boulevard and Mather Field Road. Business parks are located to the north between Mather and U.S. Highway 50. The area south of the former base is primarily used for agriculture and gravel mining with a few commercial and industrial businesses interspersed. Commercial and residential development is occurring east of the former base along the Sunrise corridor.

Rancho Cordova became a city in July 2003, with a population of approximately 55,000. As of January 2004, there are plans to build nearly 35,000 new homes that would be located within the city limits. A majority of these homes are planned to be built in the Sunrise-Douglas area, which is just east of Mather.

2.2 History of Mather Air Force Base

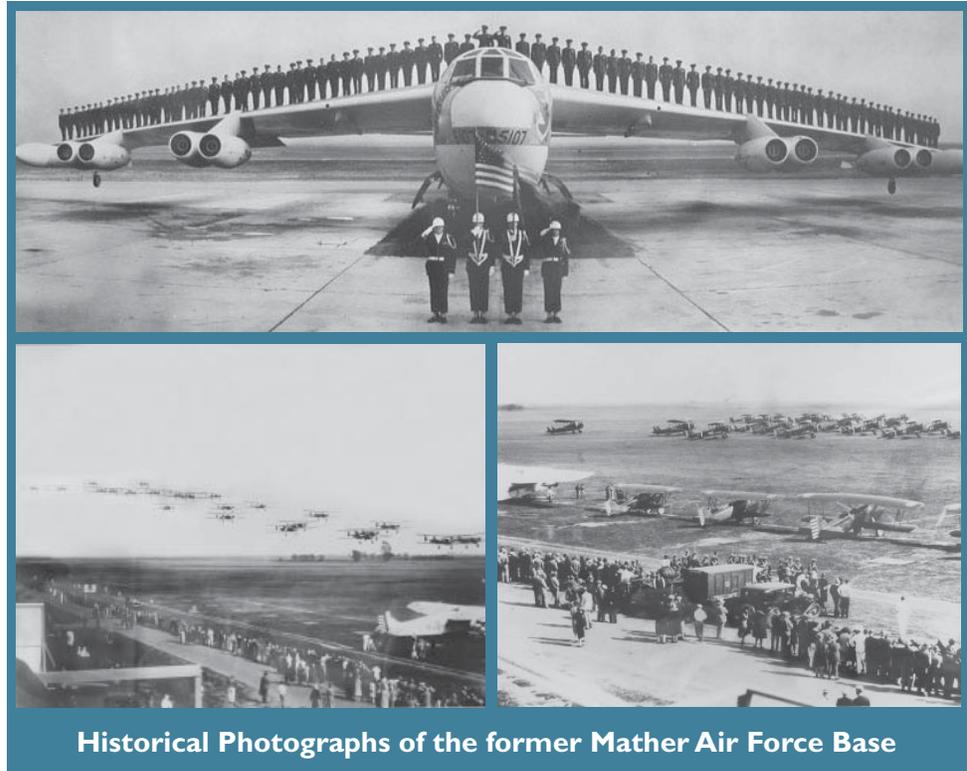
In 1918, the new airfield and training school for World War I combat pilots was named for 2nd Lieutenant Carl S. Mather, who died that year in an air collision at Ellington Field in Texas. Pilot training continued at Mather until 1922 when the base was placed on inactive status. After a brief activation in April 1930, the base was closed in 1932.

The base was reopened in 1941, during World War II, as a pilot and navigator training post. In 1944, the base became a departure point for planes leaving the U.S. mainland for battle assignments in the Pacific.

In 1945, a unique program for aircraft observer training began that became the forerunner of today's navigator training. In addition to its training role, Mather hosted the Strategic Air Command 320th Bombardment Wing from 1958 to 1989.

The major command responsible for Mather Air Force Base until base closure was the Air Training Command, based at Randolph AFB, Texas. The host wing at Mather AFB was the 323rd Flying Training Wing, which trained Air Force, Navy, and Marine Corps personnel for the U.S. and its allies. More than 20 other units were also located at Mather.

The former base was placed on the Base Realignment and Closure (BRAC) closure list in 1988 and closed in September 1993.



Historical Photographs of the former Mather Air Force Base

2.3 Former Use of Hazardous Materials at Mather Air Force Base

Many toxic and hazardous materials were used at Mather during its 77 years of intermittent operation and maintenance of aircraft. Cleanup of contamination resulting from these operations comes under the scope of the Air Force Installation Restoration Program (IRP).

Air Force maintenance of vehicles and aircraft involved the use of hazardous materials. Air Force bases generate the same kinds of wastes as small cities that have dry cleaners, gas stations, fire stations, hospitals, and airport operations. The contaminants present at Mather include cleaning fluids, solvents, pesticides, and petroleum products.

Even though the base was deactivated from 1922 to 1930 and from 1932 to 1941, it was used for aerial gunnery and practice bombing between 1918 and 1940. A thorough search of historic records reveals no evidence that live bombs were used.

Growth of Mather Air Force Base took place from 1941 to 1950: the base began using bulk fuel storage facilities and distribution pipelines; degreasing solvents were used for vehicle and aircraft maintenance; construction of runways and buildings generated debris and household wastes that were disposed of in landfills. Other on-base landfills were used primarily for disposal of base housing waste through 1974.

Between 1950 and 1993, aircraft-related activities required hazardous materials that produced hazardous by-products. A dry cleaning plant operated just north of the Main Base chapel from the 1950s until the early 1970s. A bulk fuel storage facility for JP-4 jet fuel and a fuel dispensing hydrant system were built. Aircraft such as B-52s

and KC-135s used large quantities of fuel; maintenance involved use of degreasing solvents. Other hazardous materials used during this time included asbestos, *polychlorinated biphenyls* (PCBs) in transformers, lead-based paints, and pesticides/herbicides. In 1984, a Central Storage Facility was established to process and store hazardous materials and hazardous wastes prior to proper disposal.

2.4 Installation Restoration Program Process

As the lead agency, the Air Force is responsible for directing environmental cleanup in compliance with the *Comprehensive Environmental Response, Compensation and Liability Act* (CERCLA), also known as the Superfund law. Congress enacted CERCLA in December 1980 to require the investigation and cleanup of sites where hazardous substances, released or spilled, may endanger public health or the environment. This law authorizes the U.S. Environmental Protection Agency (U.S. EPA) to oversee implementation of the investigations and cleanup actions. CERCLA was amended by the *Superfund Amendments and Reauthorization Act* (SARA) and the regulations implementing this law are contained in the National Contingency Plan. SARA established the *National Priorities List* (NPL), which ranks the nation's most contaminated sites by severity.

SARA requires that each facility enter into a Federal Facility Agreement (FFA), also known as a CERCLA Section 120 Interagency Agreement. The agreement for Mather was signed in July 1989 by the U.S. EPA, the Air Force, and the California Department of Health Services (DHS) and describes the process for coordinating environmental response actions. The U.S. EPA is the lead regulatory agency for Superfund projects at abandoned sites, providing oversight for environmental cleanup; however, the Air Force is the lead agency for cleanup at Mather, with oversight provided by U.S. EPA and the State of California.

Though CERCLA funds hazardous waste cleanup at abandoned National Priorities List sites, Congress has set aside funds through the *Defense Environmental Restoration Program* (DERP) and the BRAC Account to pay for the environmental cleanup at Department of Defense (DOD) sites. Cleanup programs at closed Department of Defense facilities, including Mather, are managed and funded under the BRAC program.

In 1982, the Air Force began investigating environmental conditions on base as part of the IRP. The congressionally authorized IRP addresses past disposal sites on military installations. Air Force facilities became regulated under CERCLA and SARA in 1986, but the environmental program at Mather did not become part of the CERCLA process until 1987 when the Aircraft Control and Warning (AC&W) Site, an area where extensive groundwater contamination was found, was placed on the National Priorities List. The entire base was placed on EPA's National Priorities List on 11 June 1989. Great similarities existed between the IRP and the Superfund process, so the Air Force incorporated the Superfund process into the IRP.

Within the Air Force, AFRPA serves as the lead agent to manage real estate and execute the environmental programs for closed Air Force bases, such as Mather.

A Community Relations Program designed to promote community involvement and awareness of the IRP is part of the cleanup program and part of the CERCLA process. This process for Mather's IRP is highlighted on the following page.

The CERCLA Cleanup Process

The **Preliminary Assessment/Site Inspection (PA/SI)** Phase involves collecting and evaluating information on possible disposal areas or sites where certain chemicals have been used or stored. This includes reviewing documents and interviewing former employees to gather information. Results of the PA/SI are used to determine the need for a Remedial Investigation. The initial assessments at Mather were done before these names were adopted, but the process is the same. A records search was conducted in 1982, followed by several site studies that were summarized in a 1990 Site Inspection Report. *At any time the community can provide information regarding past disposal activities at Mather:*

The **Remedial Investigation (RI)** determines what type and how much contamination is present, where it originated, and whether it is moving. Also, human health risk and ecological risk assessments are performed to determine the potential impact of the contamination. The **Feasibility Study (FS)** Report recommends cleanup objectives and evaluates potential cleanup methods based on effectiveness, ease of implementation, and cost. Many of Mather's sites started with the RI/FS Phase.

The **Proposed Plan (PP)** presents a cleanup remedy for each site based on information developed during the Feasibility Study. It summarizes the contamination problem and the cleanup options and presents the proposed cleanup plan to the public. Typically, a 30-day public comment period is provided for the public to review and comment on the plan. *Public comment has been received on proposed plans for all of Mather's contaminated sites.*

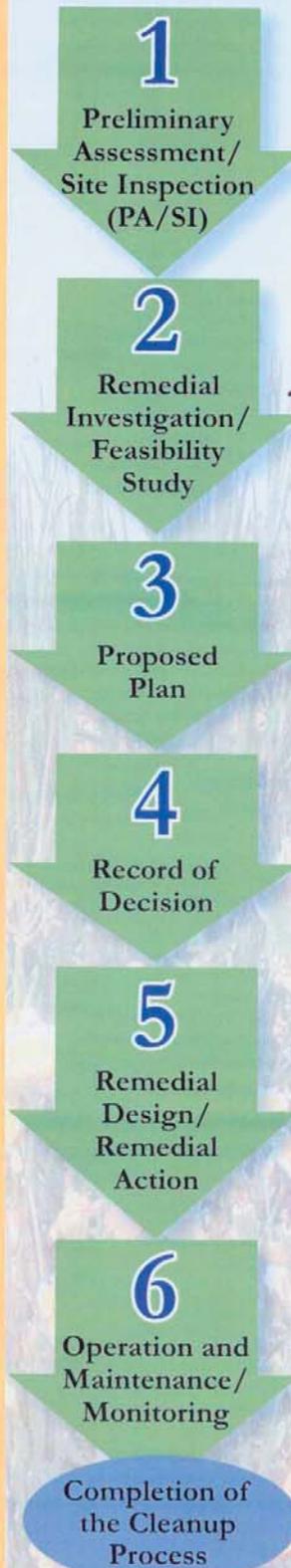
A **Record of Decision (ROD)** is a legal document that outlines the agreed-upon cleanup action, specifies cleanup levels, and establishes a cleanup schedule. Included in the ROD is a Responsiveness Summary, which responds to oral and written comments received on the Proposed Plan. All but four of the 89 sites at Mather have RODs. *The public can review the Record of Decision and the summary of responses to the public's comments on the Proposed Plan. The availability of the last ROD for Mather will be announced in the local newspaper:*

The cleanup alternative identified in the Record of Decision is accomplished through the **Remedial Design/Remedial Action** Phase. The Remedial Design is an engineering phase that designs the remedial action. The Remedial Action is the actual construction or implementation to treat or remove the contamination.

Operations and Maintenance activities are the long-term activities to ensure that the remedial actions are maintained and functioning properly until they are completed.

There are 52 CERCLA sites at Mather; 40 of which have been closed. In addition, 78 of 83 non-CERCLA sites have been closed.

You can review these documents at the Information Repository.



Information gathered from
www.afrpa.hq.af.mil/ mcclellanem and www.epa.gov

The following steps have been adopted by all Air Force installations subject to CERCLA (i.e., on the National Priorities List) and constitute the IRP:

- **Preliminary Assessment/Site Investigation (PA/SI).** The IRP process begins with record searches, investigations, and interviews with former base personnel to identify sites that may pose a threat to public health or the environment. Recommendations identify sites that warrant further study and investigation. Documents pertaining to the IRP process at Mather may be found in the Information Repository and Administrative Record locations listed in Appendix D.
- **Remedial Investigation (RI).** If results of the Preliminary Assessment/Site Investigation warrant further investigation, site data is collected and evaluated. Follow-up is made and documented in a Remedial Investigation Report. As part of the Remedial Investigation, a risk assessment is performed to estimate potential human and environmental threats that the contamination poses at that time and might pose in the future if contamination problems are not corrected.
- **Feasibility Study (FS).** Based on results of remedial investigations of the sites, a Feasibility Study is prepared to identify and compare various remedial alternatives. The Feasibility Studies evaluate various cleanup alternatives using established criteria. Several factors are considered, including how well each cleanup option will stop contamination from moving from its present location and how well human health and the environment will be protected in the future.
- **Proposed Plan (PP) and Public Comment Period.** In this very important step, the Air Force presents to the public a Proposed Plan, which contains a summary of the Remedial Investigation/Feasibility Study and proposed cleanup actions. Public review and comment is solicited pertaining to all remedies considered by the Air Force and regulatory agencies. Written comments are accepted during a 30-day review period. A public notice in a main section of one or more local newspapers announces the availability of the Proposed Plan. During this period, the Air Force is available to answer questions concerning the Proposed Plan and holds a public meeting to present the Plan and to solicit verbal and written comments.
- **Record of Decision (ROD).** The Air Force reviews and responds to all comments, makes final decisions on applicable cleanup plans, and presents them in a document called a Record of Decision. The ROD explains the selected final remediation alternatives. The responses to the public comments can be found within a Responsiveness Summary presented as part of the Record of Decision.
- **Remedial Design (RD).** After the cleanup plan is documented in the Record of Decision, engineering plans and specifications for implementing remedial action are drawn up. Material and equipment needs are also determined.
- **Remedial Action (RA).** As soon as the material and equipment are ready, remedial action begins to prevent or mitigate site contamination problems.
- **Operation and Maintenance.** These are long-term activities to ensure that the remedial actions are maintained and functioning properly until they are completed.

2.5 Installation Restoration Program Summary at Mather

In 1982, the Air Force began environmental investigations at Mather in phases, some with several stages. Initially, the only IRP site Mather had listed on the National Priorities List was the Aircraft Control and Warning site. The Aircraft Control and Warning radar facility was constructed in the 1950s as part of the Air Defense Command early-warning system. The Aircraft Control and Warning site is located near the east-central portion of the former base. The plume at the Aircraft Control and Warning site reportedly resulted from disposal of solvents in a waste disposal pipe or dry well during the period from 1958 to 1966. A trichloroethylene (TCE) plume extends from the vicinity of the radar dome to the former military family housing area.

By 1990, the entire base was on the National Priorities List, and a total of 69 IRP sites had been identified and segregated into groups known as Aircraft Control and Warning, Groups 2 and 3, and the Underground Storage Tank (UST) sites. Between 1990 and 1998, an additional 20 sites were added to the total count. Currently, 89 sites are divided into six operable units (OUs) per guidance contained in CERCLA and the Federal Facility Agreement. Operable Units are groupings of sites with similar media (e.g., soil or groundwater), contamination types, geographic locations, or cleanup technologies. Contamination was found at most of the sites and five major groundwater areas. The Air Force has and will continue to safeguard the community against any exposure.

Decision documents have been completed to address 85 of the 89 sites, as well as Mather's groundwater contamination. Response action has taken place at the four sites for which a Record of Decision has not yet been finalized. Through fiscal year 2002, the cost of Mather's cleanup was approximately \$161.9 million, and the Air Force expects the cleanup to take another \$135 million to complete. The Air Force predicts soil cleanup to be finished by 2005, and groundwater cleanup that began in 1995 will require decades to complete, currently projected to be in 2069. The date for the last remedy in place (i.e., the last cleanup system that will be installed) is 2004. To ensure a safe drinking water supply, groundwater is monitored on and off base. Two granular activated carbon filtration systems were installed on off-base drinking water wells in 1997, and during the summer of 1999, the Air Force installed five extraction wells off the former base. An additional extraction well is expected to be installed in 2004 (EW-12B). These wells pump groundwater back to Mather for removal of contamination.

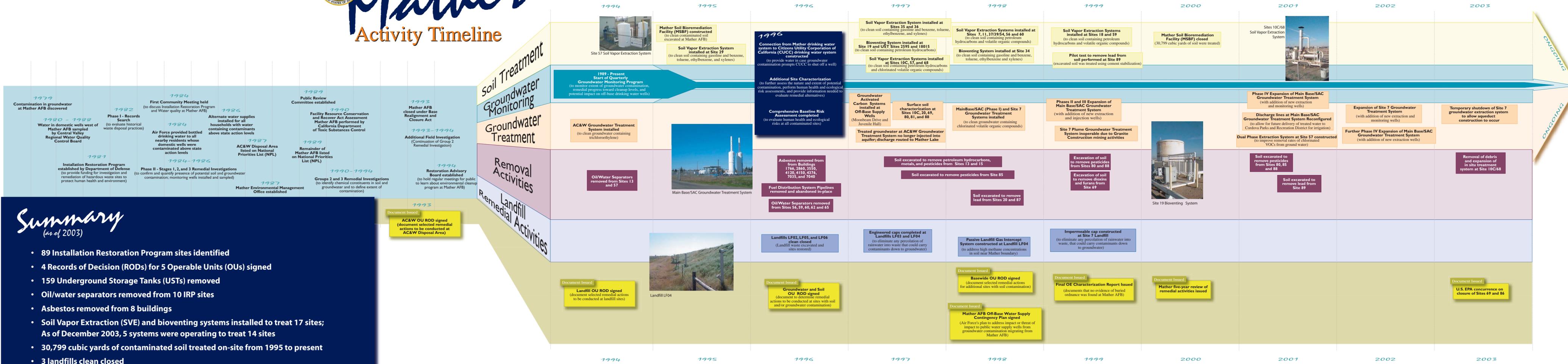
The timeline enclosed in Section 2 (see following page) and the following list document how the Air Force has investigated and addressed contamination at Mather:

1982 Phase I Records Search

Mather's IRP was originally comprised of 23 sites that were identified during a Phase I records search. This step was equivalent to the Preliminary Assessment Step. Information about known contaminant concentrations was taken into consideration and each site was ranked. Priority was assigned to sites with the highest overall ranking.



Mather Activity Timeline



Summary (as of 2003)

- 89 Installation Restoration Program sites identified
- 4 Records of Decision (RODs) for 5 Operable Units (OUs) signed
- 159 Underground Storage Tanks (USTs) removed
- Oil/water separators removed from 10 IRP sites
- Asbestos removed from 8 buildings
- Soil Vapor Extraction (SVE) and bioventing systems installed to treat 17 sites; As of December 2003, 5 systems were operating to treat 14 sites
- 30,799 cubic yards of contaminated soil treated on-site from 1995 to present
- 3 landfills clean closed
- 3 landfills capped
- 4 groundwater plumes identified – 3 groundwater treatment systems and 2 wellhead treatment systems installed – more than 500 groundwater monitoring wells installed
- 69 IRP sites closed; 4 sites need only Record of Decision (ROD) for closure
- 108 Underground Storage Tanks (USTs) closed at 35 IRP sites and 45 non-IRP sites – 53 Underground Storage Tanks (USTs) at 7 IRP sites remain to be closed.
- Active remediation in progress at 14 remaining IRP sites and 3 groundwater plumes

ONGOING

1984 – 1986 Phase II, Stages I – 3, Quantification/Confirmation Projects

During Phase II, equivalent to the Site Investigation Step, contaminant concentrations were more fully assessed, and 76 groundwater monitoring wells were installed and sampled. By 1990, the Air Force completed a Site Investigation Report culminating Mather's first basewide evaluation of environmental contamination.

1986 – 2000 Underground Storage Tanks (UST) Removal Projects

From 1986 to 2000, the Air Force removed 162 underground storage tanks at Mather. To date, a total of 162 underground storage tanks have been removed, of which 108 have been officially closed. The other 54 tank sites are either still undergoing soil cleanup through *soil vapor extraction* (SVE) or awaiting documentation of closure.

1988 – Present Groundwater Monitoring Program

During 1988, the Air Force gathered its first concurrent collection of groundwater samples from all monitoring wells. In 1989, the routine monitoring program began that continues to this day; results are reported quarterly.

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1988 – Present Groundwater Monitoring Program

During 1988, the Air Force gathered its first concurrent collection of groundwater samples from all monitoring wells. In 1989, the routine monitoring program began that continues to this day; results are reported quarterly.

1989 – 1993 Aircraft Control and Warning Remedial Investigation and Record of Decision

Between 1989 and 1991, the Air Force conducted a remedial investigation/feasibility study and preliminary design investigation for remediation of the Aircraft Control and Warning Operable Unit. The dissolved trichloroethene plume in the groundwater was defined, and eight monitoring wells were installed. In 1993, the Aircraft Control and Warning Record of Decision documented that the preferred technology for cleanup at this site was air stripping with reinjection of the treated water into shallower zones of the underground aquifer. In January 1995, the Aircraft Control and Warning pump and treatment system began operation and continues today. The treated water was injected back into the aquifer until 1997, after which time the treated water was directed into Mather Lake.

1989 – 1993 Group 2 Remedial Investigation

A remedial investigation was initiated on all sites identified other than the Aircraft Control and Warning sites. These sites were referred to as Group 2. The remedial investigation had two objectives: 1) to investigate the nature and extent of contamination and 2) identify possible ways people or the environment might be exposed to contamination and estimate the risk associated with this potential exposure. One hundred groundwater monitoring wells were installed during this effort.

1991 – 1993 Group 3 Remedial Investigation

The Group 3 Remedial Investigation studied additional sites identified during a facility assessment. This investigation characterized the nature and extent of contamination, identified chemicals of potential concern, assessed potential means of exposure, and formally assigned sites into operable units. Forty-six additional groundwater monitoring wells were installed, and sampling data was collected and analyzed.

1992 – 1995 Landfill Feasibility Study and Record of Decision

By August 7, 1995 the Landfill Record of Decision was signed, moving Landfill Operable Unit Sites 1 through 6 past the Remedial Investigation/Feasibility Study and Proposed Plan stages. Documentation clarifies that Site 1 requires no action, as its contents were apparently removed as part of runway-overrun construction. Contents of Landfill Sites 2, 5 and 6 have been placed into Landfill Site 4. Covers were constructed for Sites 3 and 4 that prevent wind and rain erosion and limit water infiltration from dissolving and washing contamination from the waste to the groundwater. Monitoring of landfill gas is ongoing; fencing and land-use restrictions are in place.

1993 – 1994 Soil and Groundwater Additional Field Investigation

The Additional Field Investigation (AFI) project was conducted on sites in the Soils and Groundwater Operable Units that required more investigation. Tank sites were also investigated and added to the additional field investigation, where significant contamination was found. The main objectives of the Soils Operable Unit portion of the additional field investigation were to further investigate the nature and extent of contamination in the vadose zone (the ‘unsaturated zone’ above the water table) and evaluate sources and contaminant concentrations at selected sites. Objectives of the Groundwater Operable Unit portion of the additional field investigation were to evaluate the extent of contaminants in each plume and provide data for the Focused Feasibility Study (FFS) and Mather Baseline Risk Assessment.

1994 Removal Action Memorandum (RAM) for Sites 20, 29, and 32

Mather Sites 20, 29, and 32, were approved for a non-time critical removal action. The process expedites cleanup by substituting an engineering evaluation/cost analysis (EE/CA) for a feasibility study. The removal action memorandum documents cleanup action that includes soil vapor extraction and excavation with off-Mather disposal into a hazardous waste landfill and/or appropriate on-Mather treatment. Contents of Site 20 were taken off-site for disposal. Bioventing and soil vapor extraction would take place at Site 29. Site 32 would be clean closed, following excavation of contaminated soil.

1994 – 1996 Soils and Groundwater Focused Feasibility Study (FFS) and Record of Decision

The Groundwater Operable Unit is comprised of all groundwater contamination beneath Mather (except at the Aircraft Control and Warning Operable Unit) and contamination that has migrated from the former base. The operable unit is divided into four plumes designated as the Main Base Plume, the Strategic Air Command (SAC) Industrial Area Plume, the Site 7 Plume, and the Northeast Groundwater Plume. Trichloroethene (TCE), tetrachloroethene (PCE), and *carbon tetrachloride* are the most

prevalent contaminants in the groundwater plumes. Drinking water wells potentially impacted by migration of these contaminants beyond Mather have either been shut down, treated, or now only supply water for non-potable uses. The Air Force continues to monitor the extent of the contamination plume migrating off Mather.

In the 1980s, the Air Force had provided an alternative water supply to off-base residents whose water supply had been affected by contamination, either by providing bottled water or connection to a water main providing safe water. In the 1990s, Mather's contamination began to be detected at low concentrations at several large drinking water supply wells. A well on Explorer Drive was shut down before contamination was detected, and replaced by another well in an area free of contamination. A second well on Mars Way was shut off as soon as contamination was detected in 1997. The Mars Way well has continued to have low concentrations of tetrachloroethene and trichloroethene, and has not been used to supply drinking water during this period.

In 1996 and 1997, respectively, the Air Force installed treatment on the Moonbeam Drive well, currently owned by California American and the Juvenile Hall water system owned by Sacramento County. The figure in Section I shows a map containing on and off Mather water supply wells.

Cleanup alternatives for the Soils and Groundwater Operable Units were developed, compared, and documented within the Soils and Groundwater Focused Feasibility Study. Based on this background, a Proposed Plan was developed and presented for public comment and review. The sites recommended for no further action were Soil Operable Unit Sites 9, 10, 14, 16, 21, 22, 26-28, 40-46, 48, 49, 51-53, 55, 58, 61, 63, 64, 66, and tank sites A, C, and E through I, since no contaminants of concern were present. Cleanup remedies for the other sites in these operable units are found in the Soil and Groundwater Record of Decision.

The Groundwater Operable Unit Record of Decision implementation selected a remedial action that uses pump-and-treat technology, with removal of volatile contaminants by air stripping and reinjection (possibly in combination with other compatible discharge options) of the treated water into the aquifer. The Record of Decision also calls for a phased implementation of the remedial action for the Main Base/Strategic Air Command (Main Base/SAC) plume. Phase I addresses 'hot spots' of groundwater contamination on-base and began operation in 1998, extracting groundwater at about 700 gallons per minute (gpm). Phase II extraction wells, addressing off-base 'hot spots', and Phase III extraction wells, augmenting Phase I capture, were added in January 2000, increasing system flow to about 900 gallons per minute. Phase IV wells, expanding capture off-base and further augmenting extraction at Mather, began operating in September 2000, boosting the treatment rate to about 1,600 gallons per minute. A performance evaluation of the extraction system and initial design of Phase V system build-out has been planned for 2004, and construction of Phase V is planned for 2005. Revised plans are being considered to install an additional extraction well near the western boundaries of the plume in 2004, and conduct the in-depth performance evaluation in 2005.

The Record of Decision documents that volatile contamination in the soil at Site 7 would be extracted from the ground through a technology called *soil vapor extrac-*

tion or SVE. Non-volatile petroleum contaminants will be bioremediated (assisted by injection of air into the soil). The Site 7 landfill would eventually be capped and groundwater would be further monitored. Sites 13, 15, 20, 37, 56, 59, 60, 62, 65, and 69 were selected for excavation of contaminated soil with on-base treatment and/or disposal. Monitoring of groundwater under these sites would/will continue, if contamination remains that threatens surface or groundwater quality. Sites 19, 34-36, and 57 were proposed for remediation with *bioventing* and/or SVE.

It was agreed that further study was needed for Sites 8, 17, 18, 23, 57, 67, Building 3337 near Site 33, and the Main Base Plume.

1996 Additional Site Characterization (ASC)

The additional site characterization is comprised of investigative results from 20 IRP sites and areas of concern. During this effort, areas of concern referred to as: 1) the Sewage Treatment Facility, 2) Sewage Oxidation Ponds, 3) Golf Course Maintenance Area, 4) Helicopter Wash rack, 5) Sanitary Sewer Line, and 6) the South Ditch were later assigned IRP site numbers 20, 81, 82, 83, 84, and 85. The additional site characterization also includes IRP Sites 2, 7, 11, 13, 15, 17, 37, 39, 57, Building 3337 near Site 33, and the Main Base Groundwater Plume. Additional data was gathered from Sites 10C and 68. Data interpretation may also be found in the Comprehensive Baseline Risk Assessment. Human health risks were above acceptable limits at the South Ditch and IRP Site 15.

1996 Comprehensive Baseline Risk Assessment (CBRA)

A comprehensive risk assessment for 68 IRP sites, eight underground storage tanks, and nine newly identified sites is documented within the Comprehensive Baseline Risk Assessment Report. Each site area was analyzed for contaminants that include solvents, fuel constituents, pesticides, polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls, and metals to assess potential adverse effects to human health and the environment. The risk assessment evaluated all sites and determined the health risks associated with contaminants of concerns present at these sites. The risk to ecological receptors was also determined. This information was used in developing remedial alternatives and selecting cleanup strategy.

1996 Changes in Remedy for Site 2

The Landfill Record of Decision selected capping for Site 2. As the work began, however, it was determined that some of the waste was in a wetland drainage area. An *Explanation of Significant Difference* (ESD) was issued to allow excavation of the waste from this area, and disposal of the excavated material into Site 4. Later when it was found that the remaining parts of Site 2 were smaller than originally believed, the public was notified that the contents would be excavated and consolidated into Landfill Site 4. This change was called a time-critical removal and was authorized by a removal action memorandum.

1996 Site 10C Removal Action Memorandum (RAM)

This removal action memorandum notifies the public that debris from Site 10C, Fire Training Area Number 3, was excavated as a time-critical removal action and deposited into Landfill Site 4. The Air Force coordinated on-base disposal of debris to coincide with landfill closure activities to avoid the cost of off-base transport and

disposal.

1997 Explanation of Significant Difference (ESD) to the Aircraft Control and Warning Record of Decision

An Explanation of Significant Difference documented the decision by the Air Force, in consultation with the U.S. EPA and the State of California, that significant, but not fundamental, changes were necessary to the Aircraft Control and Warning remedial actions. The change was necessary because the Air Force was not able to inject water into the aquifer fast enough to use the treatment system at its intended operational capacity. The Explanation of Significant Difference announced the Air Force's plan to build a 3000-foot-long underground pipeline from the Aircraft Control and Warning treatment system to Mather Lake to remedy the situation. Since July 1997, the pipeline has conveyed treated water from the Aircraft Control and Warning treatment system into the lake in accordance with the Explanation of Significant Difference, thereby allowing the groundwater treatment plant to operate at up to 270 gallons per minute.

1997 Removal Action Memorandum (RAM) for Site 85

A Non-Time Critical Removal Action Memorandum announces to the public that sediment at Site 85 containing polychlorinated biphenyls, metals, pesticides, semi volatile organic compounds, oil & grease, and petroleum hydrocarbons would be excavated and deposited into the Site 7 Landfill for cost-effective disposal. The only material allowed to be deposited at Site 7 was consistent with material acceptable at municipal landfills.

1998 Explanation of Significant Difference (ESD) from the Soil and Groundwater Record of Decision – Sites 7/11

This Explanation of Significant Difference to the Soil and Groundwater Record of Decision announces that the Air Force, U.S. EPA, and State of California agree that soil accepted at the Site 7 landfill may originate from Sites 13, 15, 69, 80, 85, 86, 87, and 88. The Soil and Groundwater Record of Decision allowed soil with naturally occurring levels of chemicals to be deposited into Landfill Site 7. The Explanation of Significant Difference changes the criteria to allow Site 7 to operate as a Class III municipal landfill. Investigation also found that soil at Site 11 meets cleanup standards for *dioxins* and does not require remediation.

1998 Explanation of Significant Difference (ESD) for the Soil Operable Unit Sites 56, 59, and 60

The Explanation of Significant Difference for Sites 56, 59, and 60 announces that additional remediation will be required at these oil/water separator (OWS) sites. While carrying out remedial action, contamination was found to extend past originally identified areas such that further excavation was impractical. The Air Force created the Explanation of Significant Difference to announce that bioventing and/or soil vapor extraction will be used to clean up the remainder of the contamination.

1998 Basewide Operable Unit Focused Feasibility Study (FFS) and Record of Decision

The Basewide Operable Unit encompasses IRP sites not addressed by previous Records of Decision. The Focused Feasibility Study identifies appropriate options that

may be used to clean up Sites 8, 10C, 17, 18, 19, 20, 23, 67, 68, and 81– 87. Current and future land uses were considered in evaluating cleanup alternatives for each IRP site.

Based on this background, a Proposed Plan was developed and a public meeting was held. The Air Force solicited public review and comments for 30 days. It was agreed that no further action was needed at Sites 2, 8, 17, 19, 67, 81, and 84, since there were no contaminants of concern. The Basewide Operable Unit Record of Decision contains cleanup remedies for the remainder of the sites, except Site 85, which was deferred to the Supplemental Basewide Operable Unit Feasibility Study and Record of Decision. According to the Record of Decision, contamination in the soil at Sites 10C, 18, 23, and 68 would be removed using soil vapor extraction and bioventing where appropriate. Contaminated soil from Site 20 would be excavated and deposited into the Mather Soils Management Area or “biocell.” Bioremediation removes contamination by tilling the soil and adding nutrients or fertilizer to facilitate healthy growth of natural organisms that digest contamination and produce harmless carbon dioxide and water. Cleaned soil would then be deposited into the Site 7 landfill. Soil containing lead shot and skeet fragments from the firing ranges (Sites 86 and 87) was excavated, separated, and stabilized to keep contamination from dissolving and migrating into surface water and/or groundwater. The lead that was recovered was recycled, and the remaining soil was stabilized and disposed of into the Site 7 Landfill.

1998 Proper and Successful Operation of Aircraft Control and Warning Groundwater Treatment System

This document reports that the Aircraft Control and Warning groundwater treatment system is operating properly and successfully. U.S. EPA’s concurrence with this finding enabled the Air Force to transfer property overlying groundwater contamination to private parties while the pump and treat system continued to clean the groundwater.

1999 Removal Action Memorandum (RAM) for Sites 80 and 88

The removal action memorandum for a non-time critical removal action underwent a 30-day public review. This memorandum informed the community that the Air Force proposed to excavate pesticide-contaminated sediment from drainage channels at Sites 80 and 88 and either deposit the sediment into the Site 7 Landfill on Mather or dispose of it off the former base.

1995 - 2000 Closure Mather Soil Bioremediation Facility

The Mather Soils Bioremediation Facility, which operated between 1995 and June 2000, treated a total of 30,799 cubic yards of soil contaminated with petroleum products (primarily fuels) and lesser amounts of volatile and semi-volatile organic compounds. The treated soils were tested and used as back fill for a number of ongoing remedial action projects at Mather.

1999 Mather Five-Year Review

In February 2000, a Five-Year Review Report was signed for Mather. The five-year review determination is performed by U.S. EPA and it evaluates whether the cleanup actions (remedies) are protective of human health and the environment. The 1999

Five-Year Review was conducted by evaluating the status and performance of remedial actions taken to-date and by determining if those actions meet or demonstrate progress consistent with meeting the specific goals and objectives stated in the Record of Decision requiring the remedial action. For the landfill sites where the landfill cap and institutional controls provide the protectiveness, the review focused on the integrity of the cap and the controls. For sites undergoing groundwater or in-situ treatment, the review addressed whether the technologies chosen in the remedial action were still appropriate.

The concerns raised in the 1999 Five-Year Review addressed the adequacy of *institutional controls* (ICs) to mitigate potential exposure to contamination from Mather, and the identification of additional contaminants of potential concern that may be identified during monitoring of the soil vapor extraction systems. As a result of the 1999 Five-Year Review, the Air Force recommended to amend the Record of Decision for the Aircraft Control and Warning Site to add institutional controls to the remedial action for the Aircraft Control and Warning groundwater plume. In addition, the Air Force proposed to evaluate additional contaminants of potential concern prior to shutting off any of the soil vapor extraction systems at Mather. The former has not been accomplished because the remedial project managers have not agreed on the level of detail of institutional controls to be included in decision documents.

2001 Construction of the Dual-Phase Extraction System at Site 57

In September 2001, the soil vapor extraction system at Site 57 was expanded to include vapor extraction from three existing groundwater extraction wells. This expansion enhanced the extraction of volatile organic contamination from the Site 57 source area.

2001 Excavation of Soils to Remove Pesticides from Sites 80, 85, and 88

During the summers of 1997, 1998, 1999 and 2001, over six miles of drainage ditches in the western areas of Mather were excavated to remove elevated concentrations of pesticides.

2001 Excavation of Soils to Remove Lead from Site 89

In 1998 and 1999, three former gun ranges were remediated and closed. Over 17,000 cubic yards of lead-contaminated soil were treated, stabilized and used for foundation backfill at Mather landfills; and more than 60,000 pounds of lead shot and bullets were removed and recycled.

2002 Expansion of Site 7 Groundwater Treatment System/2003 Temporary Shutdown of Site 7 Groundwater Extraction System to Allow Aqueduct Construction to Occur

The Site 7 treatment system was expanded with an additional extraction well and ten monitoring wells/piezometers in 2002. The system was shut down in April 2003 due to construction activities associated with mining and re-routing of Morrison Creek on the private property adjacent to Mather. Site 7 treatment system is anticipated to resume operation by the end of 2004.

2002/2003 Phase IV Expansion of Main Base/Strategic Air Command Groundwater Treatment System; Reconfiguration of the Discharge Lines at Main Base/Strategic Air Command Groundwater Treatment System

Phase IV wells to expand off-base capture and further increase extraction at Mather began operating in September 2002, with a total extraction rate of about 1,600 gallons per minute.

Future Phase IV Expansion of the Main Base/Strategic Air Command Groundwater Treatment System

A performance evaluation and initial design of the Phase V system build-out have been planned for 2004, with construction in 2005. Revised plans are being considered to install an additional extraction well near the western boundary of the plume in 2004 and conduct an in-depth performance evaluation in 2005.

2.6 Contaminants and Potential Exposure Pathways

Chemical analyses of groundwater and soil samples collected during the above investigations have indicated the presence of a variety of contaminants that include diesel, gasoline, lead, oil & grease, PAH, dioxins, *furans*, pesticides, and *volatile organic compounds* (VOCs). Volatile organic compounds are carbon-containing compounds that evaporate readily at room temperature. VOCs are commonly used in dry cleaning, metal plating, and metal degreasing, and some are contained in fuel mixtures. Specific volatile organic compounds found at Mather are benzene, toluene, ethylbenzene, and xylenes (BTEX); trichloroethene, tetrachloroethene, and carbon tetrachloride. These chemical compounds can be considered toxic and/or hazardous to humans and have the potential to adversely affect the environment.

Several possible pathways to human exposure exist at the former Mather AFB:

- 1) Ingestion of contaminated groundwater or soil
- 2) Direct skin contact with contaminants
- 3) Inhalation of airborne contaminants

The effects that exposure to these chemicals may have on human health depend on the characteristics and amounts of the specific chemical or chemicals, on the individual exposed, and on the length and type of exposure. The existence of chemicals alone does not necessarily result in health effects. Exposure must occur before health effects occur. For example, contaminated groundwater is not used for drinking and therefore there is no exposure through ingestion. In other words, there is not a complete exposure pathway for chemicals in groundwater.

If exposure occurs, health effects can be acute or chronic, depending on the chemical. Some chemicals are more typically associated with acute, sudden, ill health effects, which become apparent soon after a single high-level exposure. These acute effects might be mild and reversible, such as a headache or rash, or they might be irreversible such as damage to vital organs. Chronic health effects or symptoms that may persist for a long duration may become apparent after a long term, low-level exposure. Chronic effects can result in cumulative damage to organs such as the liver, lungs, or kidneys, and may result in diseases such as cancer.

Health risk assessments conducted for hazardous waste sites are based on conservative assumptions about the likelihood of exposure. Risks associated with drinking contaminated groundwater are derived assuming that an individual drinks two liters of contaminated water daily for 30 years and lives to 70 years of age. The U.S. EPA sets the exposure assumptions, but actual exposure is usually less frequent or occurs over a shorter period of time.

Normal groundwater flow at Mather is in a southwesterly direction. Groundwater, found at about 85 feet below ground and deeper, can carry contamination as it flows. Contamination generated at Mather has migrated beyond the former base boundaries and was first detected in off-base wells in 1979. Since then, the Air Force has taken steps to ensure no exposure pathway remains between the contaminants originating from the former base and the community as further illustrated below.

The Air Force has responded to ensure that the drinking water supply is safe while developing and installing groundwater cleanup systems. Section 2.5 describes when alternate water was supplied in the 1980s to off-base residents, and the placement of granular activated carbon filtration systems to clean the water being distributed by the Moonbeam Drive well and the County's Branch Center drinking water system in the 1990s. Meanwhile, the Air Force built a groundwater treatment system to start to clean up the contaminated aquifer. The system started operating in 1998, and the extraction system was expanded by adding additional wells in 2000 and again in 2003.

In 1997, two Main Base drinking water wells were turned off to prevent the drinking water from having potentially unhealthy perchlorate in the drinking water at Mather. A water main was built allowing enhanced flow from the Mather housing area to compensate for the inactive wells. The Air Force, water purveyors, regulators, and other interested parties are working together closely to evaluate health issues that this contaminant possesses.

Oil water separators also posed health risks on Mather. They were used during base operations for separating fuels, oils, and wastewater. Residual water was discharged into the sewer (e.g., Sites 56, 57, and 62). Some oil water separators were used as collection pits and may have leaked (e.g., Site 60); others may have overflowed or leaked into surrounding surface soils or ditches (e.g., Sites 13, 15, and 62). As a result, 13,000 feet of Mather's sanitary sewer line have been investigated, as well as ditches running along the southern and northwestern borders of the base. Portions of drainage areas have also been found to contain pesticides.

Investigations found that metals above safe levels existed in the Sewage Treatment Facility (Site 20), South Ditch (Site 85), Military Firing Range (Site 86), Skeet and Trap Range (Site 87), and the Old Trap Range (Site 89). Excavations and/or removal activities took place at these sites and no exposure pathways exist to the remaining contamination that would pose a threat to human health or the environment. Currently, institutional controls are part of the remedy at sites 87 and 89 and do not allow for unrestricted land use.

Destruction of unwanted ordnance, selected aircraft parts, and other materials took place at Site 69, an area in the southeastern portion of the former base. Surface soil in this area had dioxins and furans that posed a potential health risk. The surface soils were removed to landfill Site 4, and the site is now successfully cleaned up.

The above risks have been addressed and response or removal actions are in progress or are complete. If new contamination due to previous military operations is discovered, the Air Force is committed to responsible cleanup.

2.7 Future Cleanup Work at Mather

Future cleanup work at Mather includes continued operation of the soil vapor extraction and bioventing systems for an estimated one to five years at each site; continued operation of the groundwater treatment systems for estimated periods ranging from about 10 years for the Aircraft Control and Warning system to about 60 years for the Main Base/Strategic Air Command Area system; maintenance and monitoring of the landfill sites until at least 2026; and monitoring related land-use restrictions for as long as significant contamination remains at Mather.

2.8 Base Closure and Conversion to Civilian Reuse

Mather's reuse and development requires careful coordination between the Air Force, the community, and regulatory personnel. Key partners involved in developing Mather into a thriving business park and aviation center are the BRAC Environmental Coordinator, Sacramento County, McCuen Properties, U.S. EPA, and Cal EPA. Sacramento County, the future owner of most property at Mather, has retained McCuen Properties LLC to market and manage the property consistent with the decision documents pursuant to the *Final Environmental Impact Statement for the Disposal and Reuse of Mather AFB*. To date, approximately 75 percent of the former base is leased to various tenants and 25 percent has been transferred by deed.

Findings of Suitability for Early Transfer (FOSET)

The Air Force's commitment to environmental cleanup enables property to be transferred before cleanup is complete. The 1997 Defense Authorization Act requires concurrence by the U.S. EPA administrator and the Governor of the State before "early transfer" of contaminated property may occur. A document called a Finding of Suitability for Early Transfer (FOSET) is prepared, and the regulatory community and public are invited to comment on it for 30 days before it is finalized. "Early transfers" are based on the Air Force's certification that they will complete all required environmental actions. Before 1997, it was impossible to transfer property affected by contamination before proving that all necessary environmental cleanup systems for contamination on that property were already operating properly and successfully. Gathering evidence for this requirement may be a very long process. Findings of Suitability for Early Transfer facilitate property transfer while data is being collected and the systems are being developed. Both methods of property transfer guarantee environmentally suitable property at the time of conveyance.

In March 1998, Mather distinguished itself as becoming the first NPL site in the nation to process an "early transfer." This Findings of Suitability for Early Transfer resulted in transferring 25 acres of land, some of which overlies contaminated groundwater, to the County of Sacramento. The Air Force continues to clean the groundwater while the County realizes the economic benefits of the transfer.

In December 1998, Mather AFBCA, now AFRPA, achieved another milestone when the Governor of California concurred with early transfer of an additional 668 acres to Sacramento County and other recipients.

As land at Mather is transferred to Sacramento County, remaining environmental staff has relocated to McClellan Business Park, one of three regional AFRPA offices in the U.S. AFRPA staff at the regional office are available to answer phone calls and questions. AFRPA staff will continue to address environmental contamination at Mather in partnership with the community. A complete list of Points of Contact is contained in Appendix A (pages 1 through 6), located at the end of the text.

Section 3

**COMMUNITY
BACKGROUND**

Section 3

COMMUNITY BACKGROUND

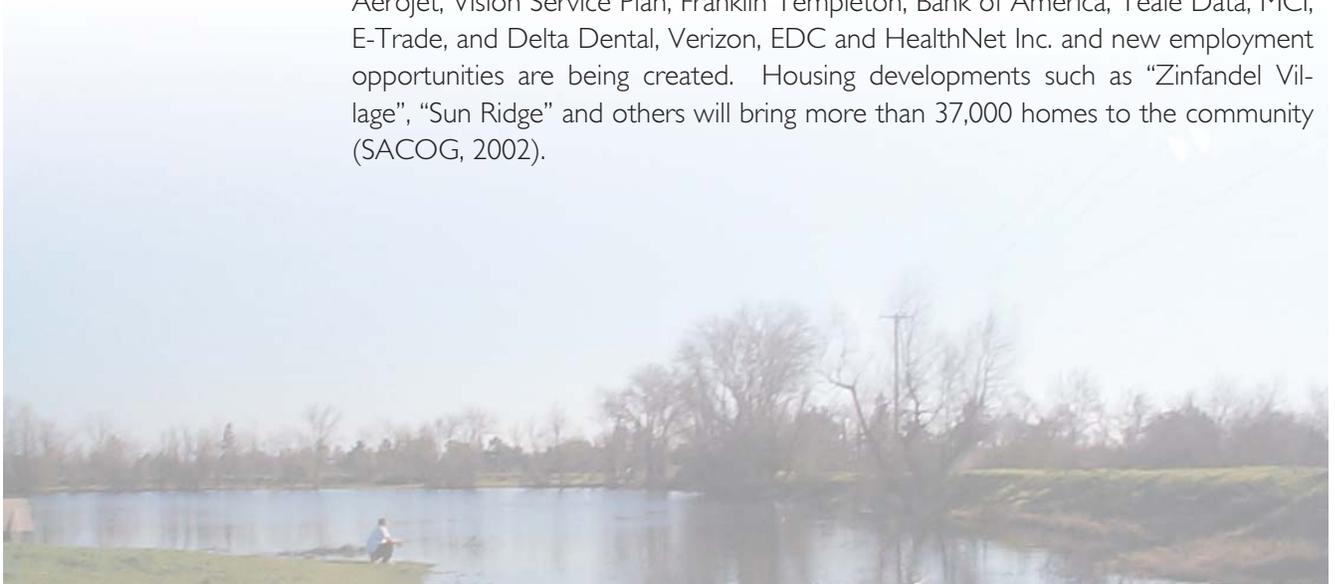
3.0 COMMUNITY BACKGROUND

This section contains a profile of the community potentially impacted by environmental contamination from Mather (primarily residents south of the American River within a five-mile radius of the former base). It also includes a history of the community involvement at Mather. Information for statistical comparison was obtained from the U.S. Census Bureau, Census 2000; Regional Report from the Sacramento Area Council of Governments (SACOG, December 2002); and Area Connect Rancho Cordova California Statistics and Demographics Resources.

3.1 Community Profile

The report, *Profile of General Demographic Characteristics: 2000* (U.S. Census Bureau, 2000) provides information on total population; gender and age; race; household relationships; household by type (i.e., family households with children or non-family households, including average household size and average family size); housing occupancy and housing tenure for the Rancho Cordova Census Designated Place. The publication, *Facts & Figures, Facts on the "City" of Rancho Cordova* (SACOG, 2002) provides information on total population, employment status, and household income.

Rancho Cordova was incorporated as a city on July 1, 2003. The City's population of approximately 57,000 makes it roughly the size of the City of Folsom. Rancho Cordova enjoys some significant business partners within its boundaries, including Aerojet, Vision Service Plan, Franklin Templeton, Bank of America, Teale Data, MCI, E-Trade, and Delta Dental, Verizon, EDC and HealthNet Inc. and new employment opportunities are being created. Housing developments such as "Zinfandel Village", "Sun Ridge" and others will bring more than 37,000 homes to the community (SACOG, 2002).



When the Census 2000 was completed on April 1, 2000, the City of Rancho Cordova did not exist. The Census data was compiled by choosing blocks and block groups that approximated the area of the “new” City of Rancho Cordova. The area used to collect the Census data is shown in the figure below. It should be noted that the actual city boundaries may differ from the area shown below.



Obtained from U.S. Census Bureau

As of 2000, the general area of Rancho Cordova had a population of approximately 55,000. The following presents a comparison to information obtained for the State of California:

	Rancho Cordova	State of CA
Median age (years)	31.9	33.3
24 Years and younger (percent)	38	37.1
65 Years and older (percent)	10	10.6

The 2000 U.S. Census counted the following residents by race in Rancho Cordova:

Non-Hispanic white	61.4 percent
Hispanic or Latino	12.9 percent
Black/African American	11.3 percent
Asian	8.2 percent
American Indian/Alaska Native	0.9 percent
Native Hawaiian/Pacific Islander	0.5 percent
Other	4.8 percent

In 2000, there were approximately 21,584 housing units, 94.5 percent of which (20,307) were occupied and 5.5 percent (39) were used for seasonal, recreational, or occasional occupancy. Of the occupied housing units, 49.3 percent (10,056) were owner-occupied housing units while 50.7 percent (10,351) were renter-occupied. The average household size of owner-occupied units was 2.6 while the average household size for renter-occupied units was 2.75.

In 1999, the median household income was \$34,544, compared to the Sacramento County median household income of \$43,816.

3.2 History of Community Involvement

The following section provides a summary of the history of community involvement.

August 1984 - On August 6, the Installation Restoration Program (IRP) Technical Advisory Group conducted its first meeting. Mather officials agreed to investigate a claims system where the base would reimburse off-base residents for bottled water until a permanent alternate water supply was available. Thirty-seven residences whose wells were contaminated above the state action level qualified for bottled water cost reimbursement.

August 1984 - On August 27, Mather officials held a community meeting at the Sacramento County Health Department offices to inform residents how to file claims for bottled water expenses.

October 1984 - Two more residences west of Mather became eligible for bottled water and were added to the list receiving bottled water from Mather.

April 1985 - The Technical Advisory Group consisting of members from the Department of Health Services (DHS)-Toxic Substances Control Division; DHS-Sanitary Engineering Branch; Central Valley Regional Water Quality Control Board (RWQCB); U.S. Environmental Protection Agency (EPA) Region IX; Sacramento County Health Department; Assemblyperson Connelly's office; Congressperson Matsui's office; Air Force Regional Civil Engineer-Western Region; and Air Force representatives from the Bioenvironmental Engineering, Legal, Public Affairs, and Environmental Planning offices met to develop a scope of work for Phase II, Stage 3 Investigation, as the first draft scope of work was of poor quality and contained technical errors.

June 1985 - State officials criticized Mather for not releasing information from the preliminary Phase II Stage I report and threatened Mather with an enforcement order for not releasing data.

February 1986 - The base was notified that the Rand residence on Happy Lane exceeded the state action level for trichloroethene (TCE) during the most recent sampling round. This family was added to the group receiving bottled water, which raised the total receiving water to 40 residences.

March 1986 - Mather officials briefed Assemblyperson Connelly on Phase II IRP status. Representatives from Congressperson Matsui's office, Department of Health Services and RWQCB were also present.

April 1986 - Mather hosted a meeting with four affected Happy Lane families. Base officials explained the program to run a water line from Mather to their homes.

July 1986 - On July 25, Mather released the final Phase II Stage I Report. This report gave the findings from the sampling of 11 wells on base. The Public Affairs Office created a five-page news release on this report and immediately placed copies of the report in public repositories. The news release received wide coverage on radio, television, and in the local papers.

December 1986 - The first Mather Community Relations Plan was published by the Air Force after community interviews were held.

November 1987 - The Mather Air Force Base (AFB) Environmental Management Office was established to provide a single point of contact for environmental regulatory compliance issues. The administrative record file was maintained in that office and available to the public. The Technical Advisory Committee was renamed the Technical Review Committee (TRC) to match the name used in EPA documents.

February 1988 - Mather AFB published the first Installation Restoration Program Newsletter, which was distributed to Base personnel.

March 1988 - The production well of Mather Auto Dismantlers exceeded the State's safe drinking water limits for trichloroethene; three days later they were provided bottled water by the base.

March 1988 - Kathy Griffith, Rosemont Homeowners Association, was named as a community representative for future Technical Review Committee meetings. She was actively involved in community activities, and her main role was to assist with community relations and meetings with the Technical Review Committee.

April 1988 - The Air Force issued a four-page news release on April 1 in response to media concerns about the groundwater at Mather AFB.

May 1988 - Wells at two residences, one on Old Placerville Road and one on Happy Lane, tested above the California action level for contaminants. Both were immediately provided with bottled water by the Base.

February 1989 - The Mather Air Force Base Installation Restoration Program Newsletter announced that houses and businesses on Happy Lane would be provided free hookups during the month to water supplied by Citizens Utilities Company of California (CUCC).

April 1989 - A meeting of the Quarterly Public Review Committee was held on April 6 to allow the public to speak with representatives from federal, state, and local regulatory agencies, elected officials, and base officials. Quarterly public meetings were scheduled in April, July, and October of 1989 in the adjacent community of Rancho Cordova, but as attendance was low, meetings were suspended.

May 1989 - The hook-up of all homes on Happy Lane to the Citizens Utilities Company water system was completed.

July 1989 - The second Community Relations Plan was issued on July 10, after interviews with the community were held. Concerns and issues were summarized within the plan.

July 1989 - *Wing Tips*, a base newsletter, announced that the entire base had been placed on the National Priorities List.

October 1991 - A public meeting was held on October 1 to solicit community comment and response to the Proposed Plan for Groundwater Cleanup at Mather AFB, Aircraft Control and Warning Site (AC&W). A 30-day public comment period also was opened for solicitation of written comments.

March 1992 - A 30-day public comment period for the Revised Proposed Plan for Groundwater Cleanup at the Aircraft Control and Warning Site began on March 16.

April 1992 - A public meeting was held in the Community Library in Rancho Cordova, California on April 1 to discuss the Revised Proposed Plan for Groundwater Cleanup at the Aircraft Control and Warning Site. The Air Force's responses to public comments are contained within the final Aircraft Control and Warning Record of Decision (ROD) located in the information repositories (see Appendix D).

April 1993 - Letters were distributed to local residents in areas where off-base drilling activities were taking place. Air Force representatives answered questions and the community was assured of continued environmental investigation and restoration. This practice was continued for construction and drilling projects from this time on.

January 1994 - A meeting took place on January 13 to announce the formation of a Restoration Advisory Board (RAB). The purpose of the RAB was to provide a focal point for exchange of information between the Air Force Base Conversion Agency (now the Air Force Real Property Agency [AFRPA]), the regulatory agencies, the technical advisors, and the local community. The RAB took the place of the Technical Review Committee to allow expanded opportunity for community involvement. Community members have been able to participate in review of all phases of environmental activities and in the decision-making process. The Mather RAB at that time met about every four months and was jointly chaired by a community co-chair and the Base Realignment and Closure (BRAC) Environmental Coordinator. The RAB meetings have always been open to the public. As of 2004, the Mather RAB meets about every two months.

February 1994 - A 30-day public comment period opened February 1 for the Air Force to receive comments and questions on the Proposed Plan for Environmental Cleanup at the Mather Air Force Base Landfill Operable Unit Sites and the Removal Action Memorandum for Sites 20, 29, and 32. A public meeting was held on February 15 for the Air Force to present the Proposed Plan and to solicit additional verbal community questions, concerns, and comments. Responses to comments can be found in the Landfill Record of Decision which can be found in the information repository (see Appendix D).

December 1994 - The Air Force and the RAB gathered information and published the first fact sheet that informed the public of the RAB's function and that water from Citizens Utilities wells met stringent federal and state standards for water quality.

May 1995 - A 30-day public comment period opened on May 8 to solicit comments and questions on the Proposed Plan for Environmental Cleanup at the Ground-

water Operable Unit Plumes and the Soil Operable Unit Sites. A public meeting was held on May 18 to present the Proposed Plan for open forum discussion. Air Force response to comments is incorporated into the Final Record of Decision for Groundwater Operable Unit Plumes and the Soil Operable Unit Sites, available in the information repositories (please see Appendix D).

July 1995 - Explanation of soil and groundwater contamination was incorporated into a fact sheet issued during this month. Technologies used for cleanup were also addressed.

April 1996 - Explanations of the Mather Information Repository and the Administrative Record are furnished in another fact sheet issued to approximately 500 community members.

April 1996 - Carbon tetrachloride was detected at 0.4 parts per billion (ppb) in a drinking water well located on Moonbeam Drive. The drinking water standard set by California under the Safe Drinking Water Act is 0.5 parts per billion. Citizens Utilities Company of California immediately shut down the well; additional sampling confirmed contamination below the drinking water standard. Notification was sent out to customers of Citizens Utilities Company of California. The Air Force later installed a granular activated carbon (GAC) filtration system that removes carbon tetrachloride and other contaminants from the drinking water (see May 1997 entry).

May 1996 - Citizens Utilities Company of California sent out a letter informing affected customers that two suburban system water wells had been affected by contamination from Mather and were shut down. Assurance was given that clean water continues to be served to customers.

October 1996 - Two wells serving the Sacramento County Juvenile Hall complex were found to have approximately 0.2 to 0.5 parts per billion carbon tetrachloride that had apparently migrated from Mather. Sacramento County turned the wells off, and the Air Force installed another granular activated carbon system to clean the water for this drinking water system.

December 1996 - Environmental progress at Mather Field was discussed by the BRAC Environmental Coordinator at a luncheon hosted by the Cordova Community Council.

February 1997 - AFBCA published a fact sheet explaining landfill closure at Mather.

February 1997 - The Central Valley Regional Water Quality Control Board (RWQCB) issued a Draft Cleanup and Abatement Order to Mather AFBCA to address cleanup actions for affected and potentially affected off-base drinking water wells.

March 1997 - A discussion on groundwater contamination was held between the Mather Community Campus and AFBCA to encourage two-way communication between people living on the former base and the Air Force.

March 1997 - The Draft Proposed Plan for Environmental Cleanup at the Basewide Operable Unit Sites was issued to the RAB members and regulatory agencies for review and comment.

March – April 1997 – Drinking water wells at Mather were tested for perchlorate. Perchlorate is an oxidizer used in rocket fuel systems. Three of four drinking water wells serving the Mather Main Base area were found to have this substance. Two of the wells were shut off, and a third was placed on standby to serve water on an emergency basis only. The source for perchlorate contamination is known to have come from an area of land northeast of Mather used by a defense contractor. Although no maximum contaminant level had been established for perchlorate at this time, the U.S. EPA had recommended a provisional action level of 4 to 32 parts per billion.

May 1997 - AFBCA issued a fact sheet announcing a granular activated carbon filtration system was installed on a production well on Moonbeam Drive and began operating in April. The fact sheet also presented information on perchlorate. Community members were invited to attend an informational meeting to learn about cleanup systems and the Basewide Operable Unit Proposed Plan.

May 1997 - RAB member Mike Gallagher published an article in the *Rosemont Community News* explaining the difference between perchlorate, a byproduct of manufacturing rocket fuel, and solvent contamination. The article assured the community that water safety is carefully safeguarded and monitored to protect public health.

May 1997 - A public meeting was held inviting neighbors to comment on the Proposed Plan for Basewide Operable Unit Sites. Written comment was solicited for 30 days. At this meeting, AFBCA also invited the public to ask questions about Mather's cleanup program, drinking water, perchlorate, and other environmental issues.

June 1997 - The Air Force published an announcement notifying the public that an Aircraft Control and Warning Explanation of Significant Difference (ESD) was available for review. The Explanation of Significant Difference documents a change to the remedy selected by the Aircraft Control and Warning Record of Decision: The groundwater remediation system was altered to pump treated water into Mather Lake to improve treatment system efficiency.

August 1997 - AFBCA published a newsletter explaining RAB functions and summarizing the Basewide Operable Unit Proposed Plan. The newsletter also announced that the Agency for Toxic Substances and Disease Registry (ATSDR) had initiated a public health assessment for Mather and made the determination that the contamination from Mather posed "no apparent health hazard to the community on or off Mather property."

October 1997 - AFBCA published a newsletter informing the community that groundwater monitoring wells, soil vapor extraction (SVE)/biovent systems, and granular activated carbon systems were being installed to protect public health and the environment.

January 1998 - A newsletter was published announcing that three Explanation of Significant Difference documents were available for the Landfill Operable Unit, Site 7/11, and Sites 56, 59, and 60. The newsletter also requested information about bombing range activities during the 1930s from knowledgeable retirees or older residents.

March 1998 - An announcement was published in the *Sacramento Bee* that the Air Force proposed, and the U.S. EPA administrator, and the Governor of California approved, the transfer 25 acres of property to the County of Sacramento before environmental cleanup was complete. This transfer of land is justified through a Finding of Suitability for Early Transfer (FOSET). The Air Force continues to be responsible for environmental cleanup. The *Sacramento Bee* noted it to be the first “early transfer” of its kind at a closing military base in California.

April 1998 - AFBCA issued a fact sheet explaining the remedial design of groundwater cleanup systems.

April 1998 - The Mather RAB invited the public to a tour of remediation systems on base.

May 1998 - On the 29th, the Air Force published a public notice soliciting public comment on the Draft Explanation of Significant Difference for Sites 56, 69, and 60.

June 1998 - AFBCA created explanations within a fact sheet to help the community understand soil vapor extraction and bioventing soil cleanup technologies; another fact sheet was issued explaining the design of Mather’s Soil Management Area.

August 1998 - A newsletter was published announcing construction of additional cleanup systems at Mather and notified the public that monitoring wells were also being installed in the neighborhoods west of the former base.

October 1998 - A Rosemont Community News article submitted by the Air Force announced that 23 new monitoring wells were being drilled in the Lincoln Village and Rosemont neighborhoods. Monitoring wells serve as an early warning system to allow detection of contamination before it affects drinking water wells.

November 1998 - AFBCA published a newsletter informing neighboring communities of the Air Force’s intention to install a pipeline down Old Placerville Road between Routier and Bradshaw Roads. The pipeline will be used to pump contaminated groundwater to Mather for treatment. The newsletter also announced cleanup activities at Sites 15, 85, 86, and 87.

December 1998 - The Governor of California and the U.S. EPA administrator concurred with a second Finding of Suitability for Early Transfer allowing transfer of approximately 668 acres on Mather from the Air Force to the County of Sacramento. Assurances were given that Air Force would continue to be responsible for cleanup.

March 1999 - A newsletter was published explaining that institutional controls being placed on early transfer property are to restrict land use until environmental cleanup by the military is completed. Development of the Supplemental Basewide Operable Unit was explained.

June 1999 - Environmental progress at Mather Field was discussed by the BRAC Environmental Coordinator at a luncheon hosted by the Cordova Community Council.

July 1999 - A newsletter was issued to inform the community about installation of off-base extraction wells, new documents subject to public comment, and upcoming summer cleanup activities.

November 1999 - AFBCA published a fact sheet explaining the recycling of lead shot and bullets, and the stabilization of soil to limit the spreading of lead in the environment.

Winter 1999 - AFBCA published a newsletter describing innovative cleanup methods, promoting water conservation and announcing the April RAB meeting, changes in Water Board representation, and the location of the administrative record.

March 2000 – The Agency for Toxic Substances and Disease Registry announced a public availability session at which the public could confidentially discuss their health concerns in relation to Mather Air Force Base with ATSDR staff. This was done as part of the preparation of a Public Health Assessment for Mather by the Agency for Toxic Substances and Disease Registry.

March 2000 - AFBCA published a newsletter describing continuing groundwater and soil environmental cleanup efforts, the expansion of a groundwater treatment system, and the recommended closure of Site 34.

July 2000 - AFBCA published a newsletter describing Mather's participation in a national optimization program, the vegetable oil injection process, new Department of Toxic Substances Control (DTSC) representation, completed and closed cleanup areas.

September 2000 - AFBCA published a newsletter outlining the cleanup of a Mather ditch. The Proposed Plan for environmental cleanup at the Supplemental Basewide Operable Unit Sites was issued and AFBCA hosted a community meeting.

Fall 2000 - AFBCA published a newsletter, outlining cleanup planned for the last four sites at Mather remaining for cleanup selection.

September – October 2000 - Public Comment Period on the Proposed Plan for Environmental Cleanup at the Supplemental Basewide Operable Unit Sites.

Winter 2000 - AFBCA published a newsletter explaining the environmental cleanup process of soil, groundwater, and landfills, as well as land use after cleanup.

Spring 2001 - AFBCA published a newsletter announcing a change in Mather's appearance, new development, and continuing cleanup efforts.

Summer 2001 - AFBCA published a newsletter describing RAB objectives, Phase IV Expansion, and a summary of contaminants removed from the environment at Mather.

September 2001 - AFBCA created posterboards demonstrating the former Mather Air Force Base boundaries and Mather Commerce Center's roadway circulation plan.

Fall 2001 - AFBCA published a newsletter outlining agency roles and responsibilities, what and who the agencies are protecting, and ongoing monitoring.

March 2002 – AFBCA published a newsletter regarding drinking water at Mather. This newsletter described the testing and monitoring of wells.

June 2002 - AFBCA published a newsletter announcing completed cleanup at five sites and including a cleanup timeline.

October 2002 - AFBCA published a newsletter describing institutional controls and including a summary of contaminants removed from Mather.

November 2002 – AFBCA officially changed its name to Air Force Real Property Agency, AFRPA. The AFBCA merged with the Air Force Real Estate Agency to form a new agency with the added mission of acquisition and disposition of property at active military installations.

December 2002 - AFRPA developed a cleanup activity timeline, beginning in 1981 and a posterboard describing the construction of a soil vapor extraction system, the soil vapor extraction process, including diagrams of a system.

January 2003 - AFRPA created a fact sheet to help the community understand diffusion sampling. The fact sheet was made available at open houses and RAB events.

March 2003 - AFRPA created a fact sheet to help the community understand the remedial design of groundwater cleanup systems. This fact sheet was distributed to the mailing list and made available at RAB events.

April 2003 - AFRPA issued a fact sheet explaining soil vapor extraction cleanup technology. AFRPA created a flyer announcing the April RAB meeting and announcing the April/May community interviews. AFRPA published a paid advertisement and issued a press release soliciting public involvement in the community interviews. AFRPA produced and distributed an 8-page newsletter encouraging the community to become involved in the environmental cleanup, reviewing 2002 cleanup activities, announcing the start of the Five-Year Review, the Community Relations Plan Update and the Community Interviews.

April – May 2003 - AFRPA and regulatory agencies conducted community interviews as part of the Community Relations Plan update. A total of 23 members from the community were interviewed as part of the process. Among those interviewed were local residents living on and off Mather, business people, elected officials, local school and church representatives, civic leaders, Restoration Advisory Board members, and representatives of environmental interest groups. More information on the community interviews is provided in Section 4.3.4.

May 2003 - AFRPA presented an outreach briefing, including environmental cleanup information, at a Cordova Community Council meeting.

June 2003 - AFRPA created posterboards to help the community understand the remedial design of groundwater cleanup systems, remediation at Site 10C/68, landfill caps and monitoring, and the locations of the groundwater plumes. Other posterboards included the mission statement of the AFRPA and community relations contacts through the Air Force and regulatory agencies. A fact sheet with community relations contact information was also created. AFRPA created and distributed a flyer announcing the June environmental public tour. A paid advertisement was published and a press release issued to encourage public attendance at the June Public Environmental Tour. AFRPA led a public site tour of environmental cleanup sites at Mather.

July 2003 – AFRPA presented an update on the environmental cleanup at Mather to the Sacramento Environmental Commission on July 28. The presentation was televised on a local access channel.

August 2003 - AFRPA produced a 4-page newsletter reviewing the June public environmental tour, explaining the CERCLA process and perchlorate treatment.

October 2003 - AFRPA published a paid advertisement and issued a press release soliciting public attendance at the October Open House/Posterboard Session. AFRPA created and distributed a flyer announcing the October open house. AFRPA hosted an Open House at the Mather Community Campus.

December 2003 - AFRPA created a fact sheet describing RAB involvement in the cleanup process. The fact sheet was made available at RAB events.

Section 4

**COMMUNITY
RELATIONS
PROGRAM**

Section 4

COMMUNITY RELATIONS PROGRAM

4.0 COMMUNITY RELATIONS PROGRAM

Public involvement as well as greater understanding by the public result in better technical solutions to the environmental problems at Mather. Environmental cleanup at Mather is done for the benefit of the public and paid for by tax dollars. The public has the right to be informed about and involved in decisions about how the cleanup is conducted. The Community Relations Program is developed to allow the public to become informed and involved, and to do this in a way that is responsive to the interests and concerns expressed by the public. The Air Force and regulatory agencies are committed to flexibility in the Community Relations Program. Therefore, as issues arise, changes will be made to the ongoing program to be responsive to the needs of the community.

There are many topics and issues that are important to understanding and making decisions about environmental cleanup. The Community Relations Program strives to inform the public about these topics, which may include:

- Human health and environmental risk
- Field investigation data, analysis, and proposed remedies
- Construction and cleanup progress
- Long-term operation of treatment systems
- Environmental monitoring of groundwater, surface water, and soil gas
- Site closeout (completion of cleanup)
- Municipal well sampling
- Neighborhood-specific activities
- Wildlife impacts
- Short- and long-term ecological monitoring
- Innovative cleanup technologies

The following sections discuss the goals of the Community Relations Program and the steps the Air Force takes to achieve these goals.



4.1 Goals of the Community Relations Program

The goals of the Mather Community Relations Program are to:

- Encourage open communication and the free flow of timely and accurate information between the cleanup program and the public.
- Encourage community involvement and input at the earliest stage possible in the decision-making process.
- Provide concerned and/or interested citizens with information about the cleanup program and opportunities to express and discuss their concerns.
- Ascertain the needs and concerns of the community through two-way communication.
- Revise the Community Relations Program to reflect changing community concerns.

The Air Force will take the following steps to achieve these goals:

- Provide adequate notice of meetings and document availability.
- Engage the community proactively through appropriate outreach efforts including flyers, fact sheets, newsletters, public notices, public meetings, outreach briefings, environmental tours and one-on-one contact with government officials, business, and community groups.
- Give adequate notice of decision points and explain the options and recommendations clearly.
- Provide multiple opportunities for public participation in the cleanup process (i.e., access to review the documents in the Administrative Record, Restoration Advisory Board [RAB] meetings, community relations staff from the Air Force, U.S. Environmental Protection Agency [EPA], and Department of Toxic Substances Control [DTSC], and opportunities to comment on draft documents).
- Incorporate public concerns into policy decisions.
- Produce understandable and accurate documents.

4.2 Components of the Community Relations Program

Below is an overview of activities conducted by the Air Force as part of the Installation Restoration Program (IRP), in coordination with U.S. EPA and DTSC, to inform and involve the public throughout the cleanup process. Some of these activities are required by regulations, or recommended by guidance. Other activities are supplemental and are conducted to further the community involvement in the IRP. The community involvement activities that will be conducted in 2004/2005 are shown in Table 5-1 in Section 5.

Community Relations Plan/Community Interviews

The Community Relations Plan is a public document that organizes and explains how the Air Force intends to provide information on the cleanup process, involve the community, and solicit feedback from community members, public officials, and environmental groups. This plan governs the Community Relations Program. It describes

the history and status of the cleanup program at Mather; the IRP; the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process; and community relations activities, including those required by the California Environmental Quality Act, as well as a schedule of those activities.

Periodically, the community relations staff from the Air Force, U.S. EPA and California regulatory agencies review the Community Relations Plan and determine when an update is needed. Part of this periodic review is to consider feedback from the public. Feedback is sought from a diverse range of community members to determine the level of interest in the site, major concerns and issues, and information needs. The Community Relations Plan is then updated based on the information received.

The Community Relations Plan was designed in accordance with guidance from the U.S. EPA, DTSC and the Air Force (U.S. EPA, 2002; DTSC, 2001; Air Force 1993). This is the eighth revision since the beginning of Mather's IRP in 1982.

Administrative Record

The *Administrative Record* consists of all the documents and correspondence used by the Air Force, U.S. EPA, and State of California to make decisions about cleanup that are documented in the Records of Decision (RODs). Mather's Administrative Record is located in the Air Force Real Property Agency (AFRPA) library at McClellan, and most of the documents are also available at the information repository at Mather, described below:

AFRPA McClellan, 341 I Olson Street, McClellan, CA 95652

Contact: Laraine McQuillen at (916) 643-1250, Extension 239

Hours: Monday through Thursday: 9:00 a.m. to 3:00 p.m. and every other Friday

Information Repository

The purpose of an Information Repository is to allow convenient access to documents explaining the cleanup actions taking place at Mather. The repository includes copies of work plans, technical reports, maps, and materials available for public comment.

An Information Repository has been maintained at Mather to make information on the program readily available to the public. Ready access to this documentation allows the community to be apprised of information used to assess risk to public health and the environment – information that is the basis of environmental cleanup. The repository is updated on a regular basis to ensure the documents are up-to-date.

AFRPA Mather, 10503 Armstrong Avenue, Suite 300 Mather, CA 95655-1101

Contact: Bill Hughes at (916) 364-4007

Hours: Monday through Thursday, 9:00 a.m. to 3:00 p.m.; other hours between 8:00 a.m. and 6:00 p.m., Monday through Friday, may be available upon request. Hours should be confirmed prior to a visit.

Fact Sheets

The Air Force prepares and publishes fact sheets in consultation with the regulators to help explain specific topics and increase the community's knowledge of cleanup at Mather. Fact sheets summarize, in non-technical terms, facts about major cleanup planning, decisions, and implementation, that are useful to help someone understand the cleanup process. Fact Sheets address a variety of issues, such as general investigation and cleanup activities, technologies, program updates, history, risk, real estate issues, and specific plume or source areas. They are developed as needed and updated periodically. Fact Sheets are sent to the people on the mailing list and distributed at public meetings and events. They are also available on the Mather website (<http://www.afropa.hq.af.mil/mcclellan/HTML/>). Recent topics of fact sheets have included groundwater cleanup, soil cleanup through soil vapor extraction, and community involvement. Copies of the latest fact sheets are provided in Appendix C.



Newsletters

Newsletters addressing pertinent environmental issues or technical milestones are published as needed and distributed to the mailing list including neighbors of the former base, community leaders, businesses, environmental organizations, civic clubs and the media. Newsletters include articles on the progress of the cleanup program, meeting announcements, listings of recently issued documents and names of individuals to contact for more information. Appendix C contains copies of the recent Newsletters.



Mather Mailing List

The Air Force maintains a mailing list, consisting of interested citizens, regulatory agencies, media, government officials, civic and community groups. People on the mailing list receive newsletters, fact sheets, environmental updates, flyers, and other documents.

If you are interested in being on the Mather mailing list, please call (916) 364-4007.

Open Houses/Posterboard Sessions/Site Tours

Open houses, posterboard sessions, and site tours offer the public opportunities to meet government representatives, ask questions one-on-one, express concerns, and receive information about the cleanup. The posterboards depict IRP activities and technical concepts with easy-to-understand graphics and photos. Open houses and posterboard sessions may be held at local schools and conference facilities on or near the former base, including the AFRPA office at Mather. Site tours are conducted to show interested parties on-going cleanup and sampling activities and operation of treatment facilities. Site tours are available to community groups, school groups, media, and other interested parties and are held periodically as requested. All of these events are publicized through local media outlets such as newspapers and radio, mailings and through flyers posted in public places.

Air Force Real Property Agency, Mather

MATHER

What are caps? Why are they used?

- Caps are protective covers built over disposal pits or contaminated soil sites. Caps prevent exposure to contamination.
- Caps also prevent rainwater from entering the pits carrying contaminants deeper into the soil where they could reach groundwater.
- Caps are considered practical, effective and economical compared to other cleanup technologies.
- Cap design is site-specific and depends on its intended function.
- Caps can be designed for either non-hazardous or hazardous waste applications and range from a one-layer system to a multi-layered system of soils and other materials.

25 passive gas migration control vents are located at Landfill 4

Landfill 4

10 gas vents are located along the top portion of the landfill cap

Landfill (LF)-4:

- In March 1997, LF-4 capping was completed to meet regulatory requirements.
- LF-4 is located in the northeast corner of the closed Mather Air Force Base (AFB).
- This was the main sanitary landfill for Mather AFB from 1967 through 1971.
- Garbage was reportedly placed in trenches, burned, and covered daily.
- A disposal pit containing petroleum, oil and lubricant waste was reportedly located at the northeast corner of the landfill and operated for approximately two years during the late 1960s.
- Monitoring and reporting of the landfill is part of ongoing environmental cleanup and protection efforts.

Other Landfills at Mather

- Landfills 2, 5 and 6 have been relocated to LF-4.
- Landfills 3, 4 and 7 have been capped and continue to be monitored.
- LF-3 was the main sanitary landfill for Mather AFB from 1950 through 1967.
- LF-7 is located near the southwestern boundary of Mather. Contamination at Site 7 resulted from Air Force operations between 1953 and approximately 1966.

Care and maintenance of caps

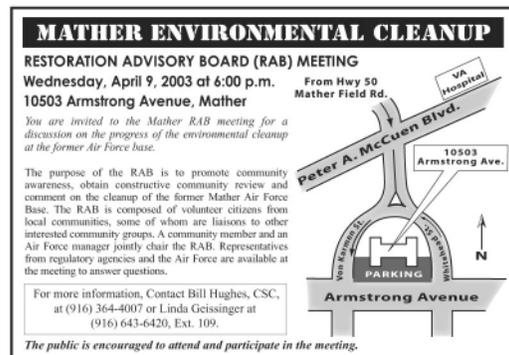
- The Air Force maintains Mather's caps with a quarterly inspection and maintenance program.
- Any activity on or near the caps must be approved by the Air Force. The caps are inspected regularly for cracks, animal burrowing or other damage and are repaired when necessary.

Landfill and Groundwater Plume Location Map

LANDFILL CAPS

Public Notices and News Releases (News/TV/Radio Releases)

Public notices (paid newspaper advertisements) are placed in local papers to announce RAB meetings, general public meetings, the release of documents and public comment periods. News releases are issued to local media as needed to publicize timely information on activities, decisions, and emergency actions associated with the cleanup effort. Releases and public notices are prepared in consultation with regulatory agencies. Appendix A contains a list of media contacts.



Neighborhood Notices/Flyers

On occasion, whenever significant work activities or meetings are planned, the Air Force prepares – in consultation with regulators or public participation specialists – a flyer providing details on the work to be conducted or on the meeting to be held. These flyers are sometimes distributed by hand throughout the neighborhood prior to the work and/or meeting. Distribution may include local residences, businesses, and schools.

Public Meetings

Public meetings provide information about the IRP and opportunities for community involvement. Regular public meetings are held by the Restoration Advisory Board (RAB). In addition, public meetings are also held to inform the public about specific projects, often prior to or during public comment periods. Written and oral comments are taken from the public and an official verbatim transcript is published when appropriate. Prior to a public meeting, a paid display advertisement is placed in one or more of the local newspapers, the *Grapevine Independent* and/or the *Sacramento Bee*.

The Air Force held public meetings during the public comment period for each of five Proposed Plan documents, and before finalizing the plan for remedial action in a Record of Decision. In addition, the Air Force will convene a public meeting if an amendment to any of the Records of Decision is proposed. This meeting would provide a forum for the Air Force to present the proposed amendment(s) to the Record of Decision and to allow issues raised by citizens to be addressed by the Air Force, U.S. EPA, State regulators, and other officials. All public comments would then be considered in finalizing the amended decision recorded in the Record of Decision amendment.

Public Comment Period

Federal law requires that formal public comment periods be conducted for key documents pertaining to proposed remedial and removal activities to solicit public input. The documents are placed in the information repository. It is also planned that in the future, the documents will be available on the local website (<http://www.afrrpa.hq.af.mil/mcclellan/HTML/>) prior to the start of the public comment period.

The public receives advance notice of the public comment periods for key decision documents through paid advertisements in local newspapers and news releases. Notices and advertisements contain a brief description of the document, where it can be reviewed, the dates of the public comment period, and the date and location of any related public meeting or hearing. They also contain a contact person and how to submit comments. Comments can typically be given verbally during the public meeting or submitted in writing via mail, fax, or electronic mail during the comment period.

For formal public comment periods for key decision documents, a verbatim transcript is generated during the public meeting to record verbal comments. The public has a 30-day minimum time period to review the proposed decision document and supporting information, and submit comments to the Air Force. The public may submit a written request to the Air Force to extend the public comment period at any time during the public comment period. The RPMs from the Air Force, U.S. EPA and state regulators will consider the request. At the close of each formal public comment period, the Air Force, U.S. EPA and state regulators review all written documents received and oral comments given at the public meeting and respond to these comments through a written responsiveness summary. Comments that are received during the formal public comment period are placed in the administrative record.

The documents that have triggered public comment periods included each Proposed Plan and each proposed Record of Decision amendment. Since the 80s, five proposed plans have been prepared for Mather and reviewed by the public. No more proposed plans are anticipated for Mather's cleanup program. Records of Decision have been completed for four of the proposed plans, in 1993, 1995, 1996, and 1998, and one Record of Decision (for the Supplemental Basewide Operable Unit sites) remains to be finalized. However, if any of the Records of Decision are amended, or any fundamental changes are proposed for the Supplemental Basewide Operable Unit Record of Decision such that it differs from the Proposed Plan that was reviewed by the public, additional public comment periods will be held. Also, if a FOSET is proposed for Mather, a public comment period will be held. Five-Year Reviews do not require public comment periods, only public notices.

Responsiveness Summary

As required, and in consultation with federal and state regulators, the Air Force prepares a responsiveness summary to describe and document the community's comments received during the formal public comment period. The responsiveness summary contains the Air Force's responses to the comments. A copy of the responsiveness summary is placed in the information repository. Individuals who submit questions or comments during the formal public comment period are provided a copy of the responsiveness summary.

Website

The Mather website is located at <http://www.afarpa.hq.af.mil/mcclellan/HTML/> and provides a variety of cleanup information such as a schedule of upcoming public meetings and comment periods, cleanup documents, fact sheets, newsletters. The website is updated on a regular basis.

Speaking Engagements/Outreach Meetings

Speaking engagements offer the public the opportunity to have representatives from the Air Force and regulatory agencies meet with civic organizations, business/professional groups, school classes, neighborhood associations, and other interested groups to provide updates on the cleanup projects and issues. These may include visual presentations (viewgraphs or video), posterboards, or written materials. Participants have the opportunity to ask questions. The presentation and informational materials are tailored to focus on the interests of the specific groups. Recent outreach meetings conducted by the Air Force included the Rancho Cordova Community Council and the Sacramento Environmental Commission.

Community Relations Staff

The Public Affairs Officer for the Air Force, Ms. Linda Geissinger, provides information, coordinates public meetings, reviews documents for clarity and effectiveness and responds to community inquiries and concerns. She also arranges environmental tours, community interviews, media events and presentations by the Air Force to community organizations. Ms. Kim Rhodes, Public Participation Specialist for DTSC, and Ms. Viola Cooper, Community Involvement Coordinator for U.S. EPA, are also available to assist the public. Contact information is provided in Appendix A.

Restoration Advisory Board (RAB)

The Mather RAB includes members of the community. The RAB has co-chairpersons from the Air Force and the community. Representatives from the Air Force, the U.S. EPA, and state regulatory agencies support the RAB. The RAB members perform a variety of functions, including community outreach, reviewing plans and documents, and advising the Air Force of community concerns and priorities as they relate to environmental cleanup. The RAB is working together toward a common goal to help clean up contamination at and around Mather that has occurred as a result of military operations. Currently, the Mather RAB meets every other month. Upcoming RAB meetings are advertised through paid newspaper advertisements, press releases to local media, and direct mailing to the mailing list at least seven days prior to the meeting. The RAB meetings are held in the evening, last approximately two to three hours and are typically held at:

AFRPA Conference Room

10503 Armstrong Avenue

Mather, CA 95655-1101

The public is encouraged to attend the RAB meetings. Presentations are given on cleanup activities and issues and Mather RAB members discuss concerns, including those brought forward from the community at large. Written summaries are pre-

pared for each RAB meeting. Once accepted as final, copies of meeting summaries are provided to the RAB mailing list, meeting attendees, and the information repository.

If you are interested in joining the RAB, please call Linda Geissinger at (916) 643-1164, ext 109 or Bill Hughes at (916) 364-4007.

Appendix A contains a current list of RAB members.

Technical Assistance Grants (TAGs)

The U.S. Department of Defense (DoD) and U.S. EPA make available Technical Assistance Grants for communities to help citizens understand and comment about site-related information.

The Department of Defense's Technical Assistance for Public Participation (TAPP) program allows local community members of advisory teams (the RAB) to obtain independent technical analyses on topics of local concern, such as potential health implications of site conditions, site investigations, and remedial activities at military sites. These TAPP grants are intended to assist RAB members to gain a greater understanding into the cleanup process at their site. Communities are eligible for up to \$25,000 per year or one percent of the total cost to complete environmental restoration at the installation, whichever is less (\$25,000 for Mather). There is a limit of \$100,000 per installation. An application must be filled out and submitted to the DoD Co-chair (Tony Wong for Mather). The application will then be sent to the contracting office to initiate a purchase order. A service provider must be chosen and a closeout report submitted. To date, no applications have been submitted for Mather.

The U.S. EPA provides Technical Assistance Grants (TAG) of up to \$50,000 to qualified private non-profit groups of individuals that are affected by National Priorities List (i.e., Superfund) Sites such as Mather. The grants can be used to hire a technical advisor/grant administrator, attend approved training, and obtain relevant supplies and equipment. To be eligible a group must incorporate, meet a 20 percent matching funds requirement, meet financial and administrative requirements, and prepare a plan to use technical assistance based on the lead agency's (i.e., Air Force's) technical work schedule. **For more information call the U.S. EPA's toll-free message line at 1-800-231-3075.**

The U.S. EPA also has a university-based outreach program called the 'Technical Outreach Services for Communities', which provides technical assistance to communities affected by hazardous substances but which do not qualify for technical assistance grants or other types of federal assistance. The mission of the program is to give communities an independent understanding of hazardous substance contamination issues so that they may fully participate in the decision-making process.

Other Communication Products and Information

Additional materials are also available for viewing, including full-color site maps, drawings of cleanup technologies and designs, test results, three-dimensional groundwater models, and other information as required or requested. Community members

are encouraged to contact the Air Force representative to view or to obtain these materials.

4.3 Community Interviews and Community Concerns

The following sections describe the community interviews that have taken place as part of the Mather Community Relations Program.

Initial Community Interviews

Initial community interviews were conducted throughout a number of years by representatives from the Air Force and DTSC, and incorporated into initial community relations plans. More recent interviews are summarized here.

1997 Community Interviews

A total of 26 interviews were conducted in March and April 1997. Community responses were carefully considered while formulating goals and objectives for the Community Relations Program.

1998 – 1999 Community Interviews and Community Concerns

Four interviews were conducted during the months of December 1998 and January 1999. All interviewees expressed degrees of confidence in Mather's IRP. All interviewees were aware of the environmental conditions at Mather resulting from past operations and disposal practices. The interviewees related that they gained this knowledge through the interview process, newsletters, television, newspapers, RAB members, elected officials, water purveyors, and other involved parties. One interviewee emphasized that environmental conditions warranted continuous monitoring and that cleanup was imperative for property transfer.

During the interviews, the effects of the contamination on the community were identified. Two people noted that closure of water production wells due to contamination from Mather has affected the public, but neighbors generally trusted that cleanup was adequate and were relatively unconcerned. Another interviewee recognized that marketing Mather's property was affected by the environmental contamination and employees were questioning whether their health was negatively impacted by the contamination.

None of the interviewees had contacted government officials and all were aware of on-going cleanup.

One interviewee felt no longer inclined to receive environmental information from the base. Three others requested to continue receiving information; however, one suggested that preparation of more engaging newsletters would increase public interest. She also suggested that the Air Force host ceremonies and celebrations to mark milestones. All agreed that newsletters are generally easy to understand. All but one interviewee attended IRP community involvement activities, such as the RAB meetings.

Interviewees believed that the major objectives of the Community Relations Program should include: 1) educating residents, local officials, and the media about environmental policies and cleanup; 2) releasing information in a timely manner and provid-

ing the community access to environmental documents; and 3) soliciting community participation.

Suggested improvements for the Community Relations Program were: continue to search for uninformed individuals and present news in an upbeat and lively manner.

A summary of the **past** (1997 through 1999) **concerns** is as follows:

- **Protection of Public Health:** Past interviewees questioned whether agreements between the Department of Health Services, Citizens Utilities Company of California (CUCC), and the Air Force would be implemented quickly enough to protect public health and meet the demands on the water supply. Furthermore, a question arose about whether the health of workers on base would be negatively impacted by contamination at Mather, and whether developers on base would be adequately informed about necessary deed restrictions and institutional controls.
- **Inconvenience:** Would enough water be available to support summer water demand?
- **Utility Rate Increase:** Would CUCC have to increase rates to pay for use of the *Granular Activated Carbon* (GAC) systems in the future?
- **Community Values:** Will businesses continue to be interested in Mather, and is there enough water to supply new development?
- **Continued Funding:** Past interviewees were concerned about whether environmental cleanup would continue to be funded, and whether it would be in sufficient amounts to suit the community's needs.

2003 Community Interviews and Community Concerns

A total of 23 people from the local community were interviewed in 2003 for this Community Relations Plan Update. Interviews took place during the months of April and May 2003. Among those interviewed were local residents living on and off Mather, business people, elected officials, local school and church representatives, civic leaders, Restoration Advisory Board members, and representatives of other environmental interest groups. The purpose of the interviews was to gain a better understanding of community concerns, identify problems, and receive suggestions for improving public involvement. Interviews for this update were conducted by representatives from the Air Force, U.S. EPA and DTSC. Questions for the 2003 interviews are found in Appendix B.

The following paragraphs summarize the information obtained during these community interviews.

All interviewees were aware that there is environmental contamination at Mather. The means by which interviewees learned of the contamination at Mather included local media and newspapers, word of mouth, purchase of property on Mather (through the disclosure statement), etc.

Most interviewees felt that there is sufficient knowledge that the cleanup is progressing; however, cleanup specifics or the timeframe for the cleanup were not readily available. Seven interviewees were concerned about perchlorate contamination. One interviewee was concerned about shutting down drinking water wells. Four of the interviewees expressed concern about the lack of water supply for the development and population growth in the area. Two interviewees expressed concern about safety of drinking water. Five of the interviewees admitted they had no concerns and attributed this to their lack of information on the subject.

The specific (2003) comments are summarized below:

- **Confidence in the Air Force:** Those interviewed generally trusted that the Air Force has enough technology to adequately complete the cleanup, but also stated that there was much that is unknown and still to be discovered.
- **Confidence in the Regulatory Agencies:** Two interviewees reported having contact with regulatory agencies regarding Mather. Those that have had contact with regulatory agencies (primarily through the RAB, environmental meetings or work) reported having contact with the U.S. EPA and the RWQCB. These interviewees reported being satisfied with the assistance or information given. One interviewee suggested that regulatory agencies could be more responsive by not presuming that the contamination and cleanup information is too technical for the public to understand.
- **Mailing List:** All interviewees wanted to be on the mailing list.
- **Media:** In general, interviewees said they believed that the media tends to exaggerate contamination reports and that the any coverage was typically negative. Interviewees have not heard/read much about Mather in the news. They reported that Mather was not a big news story. However, one interviewee was concerned that the media downplayed the intensity and effects of the contamination.
- **Communication:** Interviewees said that the community relations information, i.e., public notices, flyers and fact sheets were clear and easy to understand. A cleanup timeline with accurate information was suggested.
- **Translation/Interpretation Needs:** A total of 13 interviewees noted translation/interpretation needs regarding the Slavic/Russian Community and three noted this need for the Spanish-speaking community. Six interviewees noted the Vietnamese population, but that the children often interpret for the parents. One interviewee noted the Filipino community. One interviewee was involved in outreach and reported that the Russian community was concerned with issues other than the cleanup at Mather. It was also reported that the staff at the Veterans Affairs (VA) Hospital at Mather speaks 13 different languages.
- **Community Meetings:** Interviewees communicated that community meetings were generally uninteresting. Initially, when the base closed, they were useful because new discoveries were interesting. Many said tours and posterboard sessions would be more interesting.
- **Information Repository:** All interviewees reported that the location for community meetings and the local information repository was convenient.

Actions to Address Community Concerns

Many of the past and present community concerns and issues expressed in the interviews are being addressed through the Air Force's current Community Relations Program; Table 4-1 illustrates how specific community concerns are being and will be addressed in the future. Newsletters and fact sheets are prepared and distributed to provide the community with current information on the cleanup program. Public RAB meetings are also held to provide up-to-date information and address the community's concerns.

In 2003, six RAB meetings were held, including a site tour and a posterboard session. Topics addressed during these meetings included off- and on-base groundwater

cleanup, as well as perchlorate contamination and treatment. Questions regarding the safety of drinking water are also addressed throughout the RAB meetings. The Air Force also held a site tour in June 2003 and a posterboard session in October 2003. The site tour included visits to the groundwater treatment system, soil vapor treatment systems, and a landfill cap, with technical experts present to answer questions. The October posterboard session included cleanup information, such as maps showing the groundwater plumes at and surrounding Mather, a chart illustrating the CERCLA process, and information on landfill caps. A three-dimensional clay model of groundwater contamination and cleanup was also presented at the posterboard session. One of the posterboards addressed the drinking water concerns expressed during the interviews.

The August 2003 Newsletter addressed perchlorate treatment at Mather and also contained an article on the CERCLA process. Fact sheets prepared in 2003 provided information on soil and groundwater cleanup and community involvement. These fact sheets contain specific information on treatment systems and technologies.

Another site tour was held in June 2004 and a posterboard session is planned for October 2004. Additional fact sheets are planned for 2004.

The opinions and concerns expressed by the public during the interviews were carefully considered while formulating this update to the Community Relations Plan. The Community Relations Plan serves to affirm the Air Force's commitment to maintain communication with the local community about the cleanup program at Mather, and to encourage public participation in cleanup decisions.

Table 4-1 Summary of Community Concerns (2003) and Air Force Responses

Community Concern or Comments	Air Force Response
Cleanup specifics or timeframe for cleanup not readily available	To address this concern, the Air Force has prepared a timeline, summarizing the Installation Restoration Program. This timeline is included in Section 2.0 and also will be provided as a fact sheet and made available on the website.
Perchlorate contamination	Perchlorate contamination will continue to be on the agenda for the Restoration Advisory Board meetings to explain the background and status on this topic. Also, Mather's newsletters will continue to report new developments.
Shutting down drinking water wells/safety of drinking water	The status and safety of drinking water and public supply wells will continue to be addressed in public Restoration Advisory Board meetings and newsletter articles.
Lack of water supply for the development and population growth in the area	The Air Force, along with regulatory agencies, including the Regional Water Quality Control Board, works to clean up the contaminated water as a result of past Mather operations. More than 500 monitoring wells and 33 extraction wells track the problem and ensure protection of drinking water sources.
Media tends to exaggerate contamination reports and coverage is typically negative/Media downplays the intensity and effects of contamination.	The Air Force routinely informs the media of the continuing cleanup at Mather. Fact sheets and newsletters are sent to all local media outlets and technical experts are available to answer more detailed questions. When news stories develop, the Air Force makes every attempt to ensure fair and accurate coverage.
Translation/interpretation needs regarding the Slavic/Russian, Spanish, Vietnamese, Filipino community.	While several non-English speaking groups were identified by interviewees as living in the area, the Air Force does not see a need to provide translated materials at this time. If such a need arises, we will re-evaluate this issue.
Community meetings are generally uninteresting. Tours and posterboards would be more interesting.	The Air Force considers suggestions from the Restoration Advisory Board and public on the agenda items for public meetings. As the cleanup program at Mather is winding down and the final cleanup decisions are being made, community interest and relevancy can often wane. This can be evident by the low turn out at well-advertised public meetings. The Air Force will continue to schedule tours and posterboard sessions as cleanup progresses.

Section 5

**COMMUNITY
RELATIONS
PROGRAM
SCHEDULE**

Section 5

COMMUNITY RELATIONS PROGRAM SCHEDULE

5.0 COMMUNITY RELATIONS PROGRAM SCHEDULE

Community relations activities will continue throughout the duration of the cleanup activities. Some cleanup activities are expected to accomplish their goals in the next few years, such as the cleanup of soil using soil vapor extraction (SVE) systems. Other activities will require a decade or more, such as operation and monitoring of the three groundwater cleanup systems, and monitoring of the three closed landfills.

5.1 Schedule of Community Relations Activities

The activities listed in this section may be implemented according to any of the following three schedules:

- Scheduling based on minimum Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements: CERCLA law and associated regulations require that community relations activities are performed at specific times during the cleanup process.
- Scheduling based on significant milestones: When the Air Force reaches significant milestones in the cleanup at Mather, it will implement appropriate community relations activities, as resources permit. One example of this is a news release promoting an upcoming public tour. Table 5-1 on the following page shows the planned community relations activities for 2004 and 2005.
- Recommended ongoing schedule: Due to the scope of the environmental cleanup process, many months may pass between significant milestones. As resources permit, the Air Force will conduct community relations activities on a regular basis to keep the community informed of environmental restoration progress. Table 5-1 on the following page shows the planned community relations activities for 2004 and 2005.

The following cleanup activities are planned for 2004:

- Monitoring of performance at three (3) on-base groundwater treatment systems currently in place (the Main Base/Strategic Air Command [SAC] Area system, the Aircraft Control and Warning [AC&W] Site system, and the Site 7 system).
- Monitoring of performance at two (2) off-base groundwater treatment systems (Juvenile Hall and Moonbeam).



**Table 5-1
2 Year Schedule of Community Relations Activities**

	2004												2005											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
RAB Meeting		•		•			•					•		•		•			•					•
Public Meeting	NONE												NONE											
Public Comment Period	NONE												NONE											
Fact Sheet (1)																								
Newsletter (2)		•									•			•					•					
Public Notice		•		•		•		•		•		•		•		•		•		•		•		•
Posterboard Session										•												•		
Public Tour						•												•						
Community Interviews																								
Community Relations Plan Update								•																
Outreach Briefing (3)			•					•							•				•					

- (1) Will be prepared on an as-needed basis
- (2) Newsletters and flyers will be prepared to announce the RAB Meetings
- (3) Two scheduled per year in 2004 and 2005, as necessary

- Long-term operation and maintenance of groundwater treatment systems, including adjustments and modifications, as necessary, and eventual shutdown. The expected duration of these groundwater treatment systems varies from 10 to 50 or more years.
- Monitoring of groundwater, surface water, and Mather Lake.
- Soil cleanup at various sites using soil vapor extraction and bioventing.
- Monitoring of landfill gas and groundwater at Landfill LF03, Landfill LF04, and Site 7.
- Completion of the Five-Year Review to determine if selected remedies are functioning as intended and are protective of human health and the environment. Methods, findings and conclusions are documented in the Five-Year Review Report, which also identifies any issues and makes recommendations to attain or maintain protectiveness.
- Preparation of Restoration Advisory Board (RAB) meeting summaries, the newsletter (Environmental Update), and specific fact sheets to inform the public on program operations and progress.
- Completion of the Supplemental Basewide Operable Unit Record of Decision (ROD).

It should be noted that many of the above-listed activities are on-going and will extend past 2004.

Figure 5-1 on the following page illustrates the relationship of community relations activities to the Superfund Technical Process, showing both required as well as suggested community relations activities at each milestone. The following sections sum-

marize those community relations activities that are required at Mather for the specific program milestones, and those that are not required, but recommended. More detail on these activities is provided in Section 4.0 and Appendices A-J.

5.2 Required Community Relations Activities

The following community relations activities are required, as further illustrated in Figure 5-1:

- Community Relations Plan Update & Community Interviews
- Information Repository/Administrative Record
- Fact Sheet(s)
- Public Notice(s)
- Public Meeting(s)
- Public Comment Period(s)
- Responsiveness Summary(ies)
- Technical Assistance Grants/Technical Assistance for Public Participation Grants

5.3 Community Relations Activities Based on Program Milestones

The activities that occur when one of the triggering program milestones has been reached in the cleanup process include public notices, public meetings, public comment periods, and news (press) releases.

5.4 Other Ongoing Community Relations Activities

In addition to the community relations activities required by law, many other activities are a part of the community relations program:

- Newsletter(s)
- Mailing list
- Restoration Advisory Board (RAB)
- Contact with key community members and public officials
- Outreach meeting(s)
- Revision of the Community Relations Plan
- Dissemination of information: Information will be distributed on an ongoing basis through radio announcements, press releases, informal interviews, mailing of newsletters and fact sheets to neighborhoods, site tours and public meetings. Air Force representatives will also be available at the regional Air Force Real Property Agency (AFRPA) office at McClellan Park (formerly McClellan Air Force Base) where they can be contacted by phone, in person or in writing.

Figure 5-1
Superfund Technical Process and Relationship of Community Relations Activities

	Discovery	Preliminary Assessment/ Site Investigation (PA/SI)	Proposed Listing on National Priorities List in Federal Register	Final Listing on National Priorities List in Federal Register	Remedial Investigation/ Feasibility Study (RI/FS)	Proposed Plan (PP) Pre-Record of Decision (ROD)	Prepare Record of Decision (ROD)	Sign Record of Decision (ROD)	Prepare Explanation of Significant Difference (ESD), if applicable	Revise Community Involvement Plan (CIP), if necessary	Remedial Design/ Remedial Action (RD/RA)	Operations and Maintenance (O&M)	Proposed Deletion from National Priorities List	Final Deletion from National Priorities List in Federal Register	THROUGHOUT CERCLA PROCESS
REQUIRED Community Relations Activities	<ul style="list-style-type: none"> Community Interviews Community Involvement Plan (CIP) Information Repository/Administrative Record <ul style="list-style-type: none"> - Establish Repository/Administrative Record - Public Notice Technical Assistance Grants Notification Designate Community Involvement Coordinator Establish Restoration Advisory Board¹ 		<ul style="list-style-type: none"> Public Comment & Response to Comments 		<ul style="list-style-type: none"> Public Notice Public Comments Public Meeting Response to Comments 	<ul style="list-style-type: none"> Public Notice Place PP in Administrative Record Public Meeting Public Comment Period Meeting Transcript Responsiveness Summary Consent Decree <ul style="list-style-type: none"> - Public Notice - Public Comments 	<ul style="list-style-type: none"> Prepare Responsiveness Summary Explain significant changes in PP, if any 	<ul style="list-style-type: none"> Notify public of availability of ROD and Responsiveness Summary Public Notice Make ROD available to public 	<ul style="list-style-type: none"> Public Notice Public Comment Period Public Meeting and Transcript Brief Description of ROD Amendment Response to significant comments Make amended ROD available to public 	<ul style="list-style-type: none"> Conduct Community Interviews 	<ul style="list-style-type: none"> Remedial Design <ul style="list-style-type: none"> - Prepare and distribute Fact Sheet of Final Design - Public Briefing for Final Design Remedial Action <ul style="list-style-type: none"> (Remedy in Place) - Public Notice - Fact Sheet 	<ul style="list-style-type: none"> Maintain Mailing List 	<ul style="list-style-type: none"> Public Notice Public Comment on intent to delete Response to Comments 	<ul style="list-style-type: none"> Final deletion package in Information Repository 	<ul style="list-style-type: none"> Throughout the CERCLA Process, Five-Year Reviews will be conducted (starting after construction of remedial actions) Property can be transferred through Finding of Suitabilities to Transfer (FOSTs) or through Finding of Suitability for Early Transfer (FOSET) The Operating Properly and Successfully Document indicates that the remedial action is functioning as intended For each of the documents above, a Public Notice is required
SUGGESTED Community Relations Activities	<ul style="list-style-type: none"> Brief Community Relations/Technical Staff Meet with officials and community leaders 	<ul style="list-style-type: none"> Fact Sheet 	<ul style="list-style-type: none"> Press Release Set up toll-free phone line 		<ul style="list-style-type: none"> Maintain community dialogue and contact community members during detailed analysis of alternatives (FS) <ul style="list-style-type: none"> - Public meeting prior to RI - Fact Sheets - Community Visits - Workshops - Community Advisory Groups - Media Visits - Posterboard Sessions - Outreach Briefings to schools and civic groups - Briefings to local officials and opinion leaders 	<ul style="list-style-type: none"> Develop and distribute Fact Sheet Issue Press Release 		<ul style="list-style-type: none"> Announce Responsiveness Summary Distribute document to commenters and mailing list 		<ul style="list-style-type: none"> Maintain community dialogue Update Mailing List 		<ul style="list-style-type: none"> Maintain community dialogue 			<ul style="list-style-type: none"> Five-Year Review/ FOST/ FOSET/ OPS <ul style="list-style-type: none"> - Contact State/Local Officials - Maintain community dialogue - Briefings - Add documents to Administrative Record

Notes: CIP - Community Involvement Plan
 ESD - Explanation of Significant Difference
 NPL - National Priorities List
 O&M - Operations and Maintenance
 PP - Proposed Plan
 RD/RA - Remedial Design/Remedial Action
 RI/FS - Remedial Investigation/Feasibility Study
 ROD - Record of Decision

¹ Restoration Advisory Board (RAB)/public meetings are held throughout the CERCLA process to update on the progress of cleanup, explain scope/impact of activities, address and discuss health and safety issues, future strategies, State's role of completion of the remedial action, operations and maintenance activities, emergency contacts, etc.

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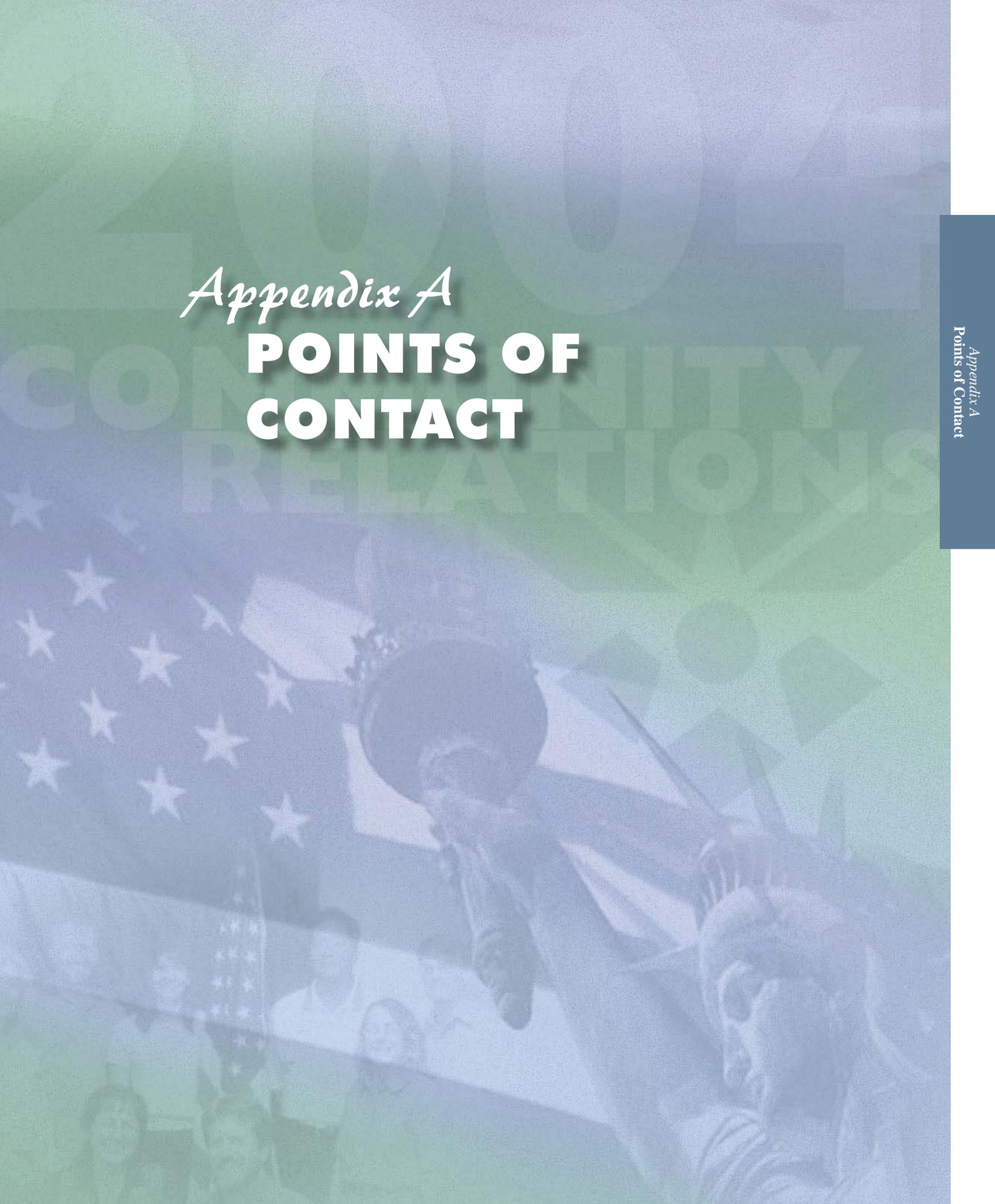
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United States Environmental Protection Agency (USEPA), 2002. Superfund Community Involvement Handbook. April.



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(916) 927-1313

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San Francisco, CA 94119
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Northern California News Satellite
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KSCH-TV Channel 58 (IND)
3033 Gold Canal Drive
Rancho Cordova, CA 95741
(916) 635-5858

Pacific News Service
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San Francisco, CA 94103
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KTXL-TV Channel 40 (IND)
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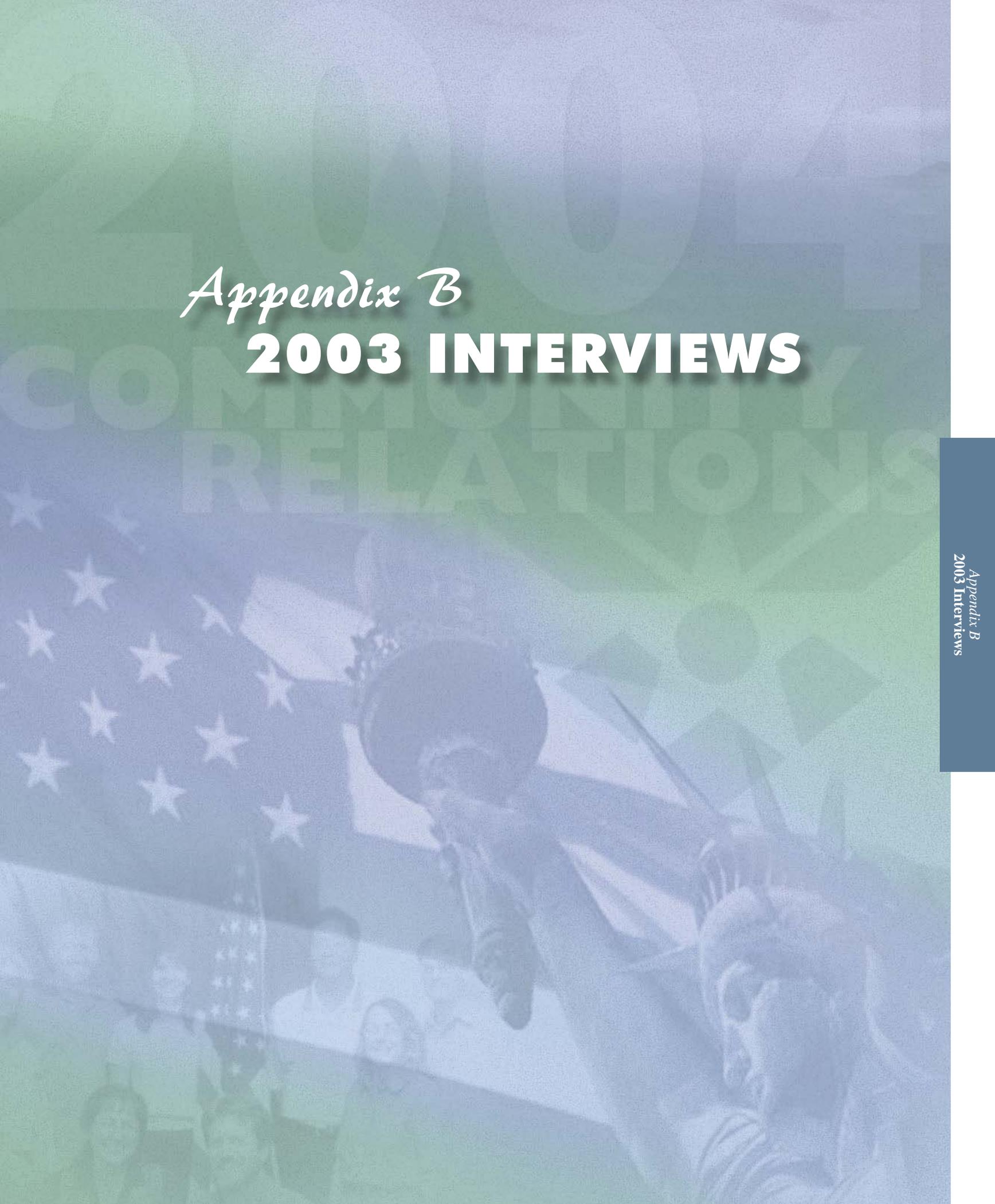
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Appendix B

2003 INTERVIEWS

Community Interview Questionnaire
Mather, 2003

Person (s) Interviewed: _____

Address: _____

E-mail Address: _____

How long have you lived/worked in this area? _____

Telephone: _____ Interview Date: _____

History

1. Are you aware that there is environmental contamination at Mather?
2. If so, when and how did you learn of it?
3. What is your understanding of the history of this contamination and its effects on the community?

Concerns

4. Do you have any current concerns about the contamination at the former base?
5. Have you spoken to anyone about them?
6. Do you know if anything has been done to address these concerns?
7. Are you aware of any activities that are currently underway to clean up environmental contamination at Mather?
8. Do you feel these activities are adequate?

9. Do you have confidence in the Air Force's ability to clean up the contamination and turn over a clean facility for reuse?

Community Involvement

10. Have you been actively involved with the cleanup project in any way?

11. Are you currently receiving information about Mather's environmental issues?

12. Is the information clear and easy to understand?

13. What additional information would you like to receive?

14. Have you attended any community meetings regarding the cleanup activities?

15. If yes, what meetings have you attended?

16. If no, is there a reason you have not attended?

17. How effective do you feel these community meetings have been?

18. Do you have any suggestions to improve their effectiveness?

19. If you had a question on the environmental status of Mather, who would you contact for information?

20. There are a number of agencies involved in Mather's cleanup such as the US Environmental Protection Agency, CA Department of Toxic Substances Control, CA Regional Water Quality Control Board, etc. Have you ever had occasion to contact them?

21. If yes, which agencies?

22. How satisfied were you with the assistance or information you were given?

23. How responsive were these agencies to your concerns?

24. How could they be more responsive in the future?

25. If no, do you feel you have enough information about who to talk to and how to contact them for assistance or information on Mather's cleanup?

26. Do you have confidence in these agencies to oversee the environmental cleanup?

Media

27. Do you feel that the media coverage has presented an accurate picture of the environmental contamination and cleanup program?

28. Have you had any personal experiences with the media about the former base?

29. Do you feel your concerns have been accurately reflected in the media coverage?

30. Would you like to be kept informed about the cleanup work that is being done at the base?

31. If yes, are you on Mather's mailing list?

32. What is the best way to provide information to you?

- By: Newsletters and Fact Sheets _____
Community Meetings _____
Poster Board Sessions _____
Restoration Advisory Board _____
Other _____

33. The Air Force periodically sends out press releases. What are your best sources for local news?

- Radio _____ Stations: _____
TV _____ Stations: _____
Newspaper _____ Names: _____

Communication

34. Do you feel you have been kept adequately informed about the former base?

35. What, if any, communication problems have you experienced in the past?

36. Are you aware of any translations or interpretation needs in this community?

37. Are there any additional ways the Air Force could improve Mather's community outreach program?

38. Do you currently belong to any community groups in the area?

39. Is the location for community meetings and local information repositories convenient for you?

40. Can you suggest other individuals or groups that we could contact for additional input into our community involvement program?

41. Do you have any other comments, suggestions, concerns or questions?

THANK YOU FOR YOUR TIME AND EFFORT!

Appendix C

**COPIES OF RECENT
NEWSLETTERS,
FACT SHEETS, AND
POSTERBOARDS**

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Air Force Real Property Agency

The purpose of this newsletter is to keep you informed about environmental cleanup activities at Mather

April 2004 • Mather, California

Mather News

UPDATE

Environmental

Calendar

Environmental Tour

Wednesday, June 9, 2004 at 6:00 p.m.

Next Restoration Advisory Board Meeting

Wednesday, August 11, 2004 at 6:00 p.m.

Meetings are held at 10503 Armstrong Avenue, Mather, California

The Information Repository is located at 10503 Armstrong Avenue, Mather and is available by appointment (364-4007). To be on the mailing list or for more information about Environmental Cleanup at Mather, contact Linda Geissinger at (916) 643-6420, ext. 109 or Bill Hughes, CSC, at (916) 364-4007

April 2004 Newsletter

Linda Geissinger, Public Affairs Officer

AFRPA/DD

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Editor - MWH



recycle paper

Earth Day 2004



On Saturday, April 24, 2004, from 11:00 a.m. to 5:00 p.m., the Mather Cleanup Team will join others from the greater Sacramento area to celebrate Earth Day at California State University, Sacramento.

You can visit over 175 educational booths and displays in the CSUS Main Quad - J Street entrance. There will be plenty of take-home information about our planet, its life cycles and its inhabitants. Specifically, the Mather team will provide information on



soil and groundwater cleanup and monitoring, and how the public can be informed and involved in the cleanup program. Representatives from the Restoration Advisory Board, regulatory agencies, and the Air Force will be available to answer questions.

More information is available at <http://www.earthdaysac.org>

We will be participating in this event at the suggestion of our newest RAB member, Rob Lang, an avid cyclist and participant in previous Earth Day activities.

Current Environmental Cleanup Status

- 89 Installation Restoration Program (IRP) sites identified
- 4 Records of Decision (RODs) for 5 Operable Units signed
- Oil/water separators removed from 10 IRP sites
- Asbestos removed from 8 buildings
- 6 soil vapor extraction and bioventing systems installed to treat 15 sites
- 30,799 cubic yards of contaminated soil treated on-site since 1995
- 3 landfills clean closed
- 3 landfills capped
- 4 groundwater plumes identified
- 3 groundwater treatment systems and 2 well-head treatment systems installed
- More than 500 groundwater monitoring wells installed
- 69 IRP sites closed; 4 sites need only ROD for closure
- 109 underground storage tanks closed at 35 IRP sites and 45 non-IRP sites; 53 underground storage tanks at 7 IRP sites remain to be closed
- 162 underground storage tanks removed
- Active cleanup in progress at 16 remaining IRP sites and 3 groundwater plumes

What Does It Mean?

plume

A **plume** is a body of contaminated groundwater.

closed

Closed means the site is clean or requires no further action.

Soil Vapor Extraction (SVE)

Soil Vapor Extraction (SVE) is a technology that uses gas extraction wells and vacuum pumps to remove contamination, in gas form, from the ground. The contaminated vapor vacuumed from the soil is then treated to destroy contamination.

How the Air Force Ensures Health and Safety During Reuse and After Property Transfer

Some of the groundwater beneath portions of the former Mather Air Force Base is contaminated with solvents and other chemicals from past disposal practices. In addition, a few areas at Mather still have soil contamination. The Air Force has an ongoing environmental cleanup program that has cleaned up about three quarters of the contaminated sites at Mather. The remaining sites have safeguards in place to ensure tenants are not exposed to contamination during cleanup and after property transfer. Land use controls are one mechanism the Air Force uses to ensure safety.

When a land use control is required as part of the environmental cleanup to protect human health and the environment, it is called an Institutional Control (IC). Other land-use restrictions may be applied to prevent disruption of cleanup systems, or may date back to lease agreements made by the Air Force before the completion of environmental investigations.

Examples of ICs include lease or deed restrictions, zoning ordinances, and restrictions to prevent digging or installing groundwater wells in areas where significant contamination remains. Some ICs are in effect for a specific time period. These restrictions may be removed when no longer needed to protect public health or the environment and the property is safe for unrestricted use. Other restrictions may be in place longer, for example, when long-term maintenance of landfills is required. Tenants and property owners learn of these restrictions prior to the time of lease or purchase and will be reminded of them in letters sent by the Air Force.

In order to implement, monitor, enforce and promote compliance with ICs, the Air Force focuses on educating and involving owners, tenants and other stakeholders. To protect human health and the environment, it is important that the existence of ICs is known to those using the property, and that the restrictions are observed.

When the Air Force completes the cleanup, the U.S. Government will terminate ICs as appropriate and give a notice by letter to the property owner.

To report any damage or interference with cleanup activities or use restrictions or if you are interested in learning more about ICs at Mather, including groundwater use restrictions, landfill protection, and cleanup system protection, please call Bill Hughes at (916) 364-4007. If you want to confirm the presence of restrictions on property you own or lease on the former Mather Air Force Base, please check your deed or any environmental documents supporting your property transfer.

At Mather, ICs cover four main categories:

- groundwater use restrictions,
- landfill protection
- cleanup system protection, and
- restrictions at former shooting ranges.

As examples, the ICs at the two former skeet ranges at Mather - Sites 87 and 89 - are described in more detail below.

The skeet/trap range at Mather used in the 1940s and 1950s (Site 89) is located in the airport area, and was partially covered by fill when the runways were lengthened in 1957. A second skeet/trap range (Site 87) was constructed in the late 1960s or early 1970s just south of the radar facility, about a half-mile west of the golf course. The use of these shooting ranges resulted in soil contamination.



Site 87 originally covered approximately 29 acres, and contained both lead shot from shotgun discharges and debris from clay "pigeons." Cleanup was conducted to remove most of the lead and also the polyaromatic hydrocarbons (PAHs) associated with clay targets. Soil was cleaned up at Site 87 so that no significant health risk remains, as long as the site isn't used for residential or other uses that could result in people eating significant amounts of soil. Therefore, residential and other uses that could result in significant exposure to the soil are prohibited by an IC as a part of the cleanup program. This restriction is currently implemented through Air Force ownership of the land and the terms of the lease to Sacramento County for the Regional Park.

Site 89, also known as the Old Trap Range, is located south of the northeast end of the runways at Mather. This site, which was active in the 1940s and early 1950s, contained two semi-circular firing stations and several support buildings that were removed in the 1950s. As with Site 87, lead shot from shotgun discharges contaminated the soils at Site 89. No other contaminants were identified at Site 89 and contaminated soil and sediment were excavated. However, some lead was buried beneath dirt during runway construction. Therefore, it is important that this buried soil not be disturbed without a plan for proper handling and disposal. ICs will be selected for this location too. This restriction is currently implemented through Air Force ownership of the land and the terms of the lease to the County for the Mather Airport. Surface water and groundwater testing are ongoing at Site 89 to determine whether any buried lead is dissolving and getting into the water. So far, contamination from this site has not been found.

An institutional control is any type of legal or administrative mechanism selected as a part of environmental cleanup that restricts the use of property with the goal of protecting human health and the environment by preventing (or controlling) exposure to hazardous substances, which could otherwise result in an unacceptable health risk.

New Public Participation Specialist and Remedial Project Manager assigned to Mather

As of 2004, Ms. Kim Rhodes is the Public Participation Specialist assigned to Mather by the Department of Toxic Substances Control (DTSC), replacing Ms. Lora Barrett. Also, Ms. Carolyn Tatoian Cain has returned as Mather's DTSC Remedial Project Manager, replacing Ms. Tami Trearse.



Kim Rhodes

Ms. Rhodes is familiar with the Mather area, as she grew up in a nearby neighborhood and has supported other environmental cleanup projects in the area. As the public participation specialist for DTSC, she supports the Air Force's efforts to communicate environmental cleanup information to the public.

Ms. Tatoian Cain is familiar with Mather because she previously worked here as a DTSC representative from 1999 to 2000. As the Remedial Project Manager, she provides technical direction to the Air Force on environmental cleanup projects.



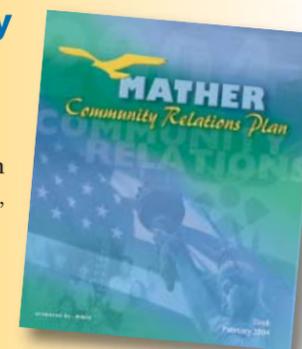
Carolyn Tatoian Cain

The Mather team is grateful for Ms. Barrett's and Ms. Trearse's diligence and direction during their work on Mather's environmental cleanup, which greatly contributed to the success of the Air Force's environmental program.

Mather Community Relations Plan Update

The Community Relations Plan (CRP), last updated in 1999, identifies community concerns and planned actions by the Air Force to address those concerns. The goal is appropriate and timely public participation in the cleanup of Mather.

Regulatory agencies, including the U.S. Environmental Protection Agency (EPA), the Department of Toxic Substances Control



(DTSC) and the Regional Water Quality Control Board (RWQCB) are currently reviewing the Draft CRP and providing comments to the Air Force, which will be addressed in the Final CRP. These agencies encourage you to read the document, which is available at the Information Repository, located at 10503 Armstrong Avenue, Mather, CA 95655 and at the Administrative Record located at 3411 Olson Street, McClellan, CA 95652. If you are interested in submitting comments, please contact any RAB member or Linda Geissinger at (916) 643-6420, ext. 109.

The Final CRP is expected to be available this summer and will be summarized at the next Restoration Advisory Board (RAB) meeting, which is scheduled for Wednesday, August 11, 2004 at 6:00 p.m.

Mather's Second Five-Year Review

What is the Five-Year Review?

The Five-Year Review is a periodic and formal evaluation of the ongoing cleanup at Mather.

Where can I review the final report?

The final report will be available this summer at the Information Repository, located at 10503 Armstrong Avenue, Suite 300, Mather, CA 95655 (call 364-4007) and at the Administrative Record located at 3411 Olson Street, McClellan, CA 95652 (call 643-6420, ext. 109).

What does it mean to me... Why is it important?

The purpose of the review is to determine if the ongoing cleanup remedies at Mather are and will continue to be protective of human health and the environment. The document addresses soil and groundwater cleanup, landfill

monitoring and maintenance, and institutional controls. The report contains an overview of the environmental cleanup program still underway, and evaluates whether the cleanup is protective of human health and the environment, and whether it is expected to be protective once it meets the cleanup currently required.

Who writes and approves the Five-Year Review?

The Air Force researched, prepared for and wrote the Five-Year Review. Results of the review are documented in the draft report. The draft report will be revised to incorporate comments received from the public, and the regulatory agencies, including U.S. Environmental Protection Agency (EPA), Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB), during the review period, which was from February 6 through April 6. The Air Force is currently addressing comments and a Final Five-Year Review report is planned for completion and signature this summer.





UPDATE

Environmental

Mather Public Environmental Tour – 2003

On Wednesday evening, June 11th, the Mather Restoration Advisory Board and the Air Force hosted a two-hour public tour of environmental cleanup sites at the former Mather Air Force Base.

"I thought the tour was very informative. A lot of good information was presented in terms everyone could understand."

Larry Helphand, a Sacramento area resident.

Representatives from the U.S. Environmental Protection Agency (EPA), Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (RWQCB), the Air Force and contractors who work on the

cleanup sites at Mather were available to answer questions.

The tour was led by Bill Hughes, CSC, an Air Force contractor and Mather environmental contamination expert who has been working on cleanup at Mather for over 13 years.



Mather Tour 2003 Landfill 4

"Fabulous job on the site tour. It was definitely well-organized and, from speaking to some of the participants, informative as well. Very professional." Lora Barrett, California Department of Toxic Substances Control, Public Participation Specialist.



Mather Tour 2003 Site 39 Soil Cleanup

What do Rancho Cordovans think of the Air Force's environmental cleanup at Mather?

Earlier this year, the Air Force interviewed a variety of local community members. The interviews were part of Mather's Community Relations Plan update. The revision of the plan, in response to public input, is planned for completion later this year and will be available for review at the Information Repository at Mather.

Anthony Wong, Air Force Real Property Agency Base Realignment and Closure Environmental Coordinator thanks all who participated in the Mather community interviews! We always welcome your thoughts and suggestions.

CERCLA: The Driving Force behind Environmental Cleanup

Many people have heard of the law called Superfund. This law provides requirements for environmental cleanup at federally owned facilities such as the former Mather Air Force Base. The Superfund law is formally called the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Congress enacted CERCLA in December 1980 to require the investigation and cleanup of inactive or uncontrolled sites where hazardous substances, released or spilled, may endanger public health or the environment. This law authorizes the U.S. Environmental Protection Agency (EPA) to oversee implementation of the investigations and cleanup actions. In 1986, CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA), which established the National Priorities List, commonly known as the Superfund List. The National Priorities List ranks the nation's most contaminated sites by severity. The former Mather Air Force Base was put on the National Priorities List in 1989. At Mather, the Air Force is paying to clean up the contamination. For sites where no responsible party can be identified, a federal fund pays for the cleanup.

The CERCLA Cleanup Process

The **Preliminary Assessment/Site Inspection (PA/SI)** phase involves collecting and evaluating information on possible disposal areas or sites where certain chemicals have been used or stored. This includes reviewing documents and interviewing former employees to gather information. Results of the PA/SI are used to determine the need for a Remedial Investigation. The initial assessments at Mather were done before these names were adopted, but the process is the same. A records search was conducted in 1982, followed by several site studies that were summarized in a 1990 Site Inspection Report. *At any time the community can provide information regarding past disposal activities at Mather.*

The **Remedial Investigation (RI)** determines what type and how much contamination is present, where it originated, and whether it is moving. Also, human health risk and ecological risk assessments are performed to determine the potential impact of the contamination. The **Feasibility Study (FS)** report recommends cleanup objectives and evaluates potential cleanup methods based on effectiveness, ease of implementation, and cost. Many of Mather's sites started with the RI/FS phase.

The **Proposed Plan (PP)** presents a cleanup remedy for each site based on information developed during the feasibility study. It summarizes the contamination problem and the cleanup options and presents the proposed cleanup plan to the public. Typically, a 30-day public comment period is provided for the public to review and comment on the plan. *Public comment has been received on proposed plans for all of Mather's contaminated sites.*

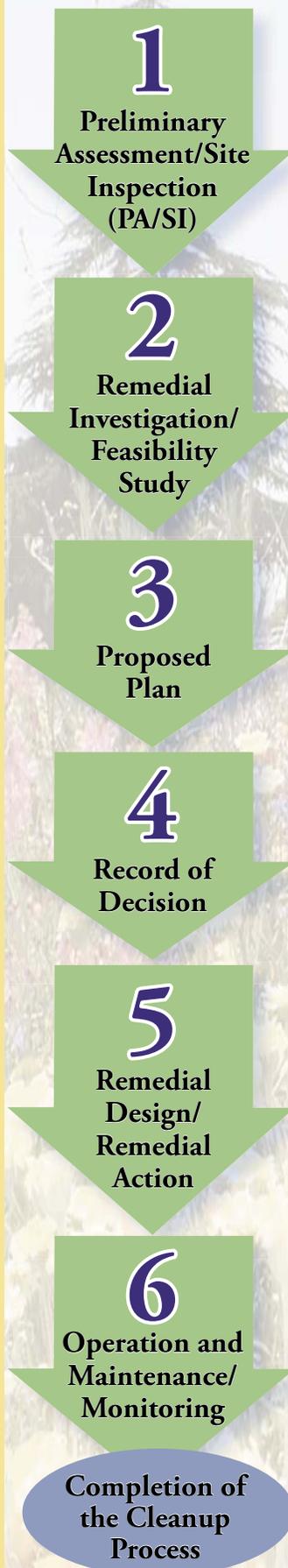
A **Record of Decision (ROD)** is a legal document that outlines the agreed-upon cleanup action, specifies cleanup levels, and establishes a cleanup schedule. Included in the ROD is a Responsiveness Summary, which responds to oral and written comments received on the Proposed Plan. All but four of the 89 sites at Mather have RODs. *The public can review the Record of Decision and the summary of responses to the public's comments on the Proposed Plan. The availability of the last Record of Decision for Mather will be announced in the local newspaper.*

The cleanup alternative identified in the Record of Decision is accomplished through the **Remedial Design/Remedial Action** phase. The remedial design is an engineering phase that designs the remedial action. The remedial action is the actual construction or implementation to treat or remove the contamination.

Operations and Maintenance activities are the long-term activities to ensure that the Remedial Actions are maintained and functioning properly until they are completed.

There are 52 CERCLA sites at Mather, 40 of which have been closed. In addition, 78 of 83 non-CERCLA sites have been closed.

You can review these documents at the Information Repository.



Site 60 Soil Cleanup System

CERCLA Site 60 Successful Site Closure

Site closure means that an area previously suspected as environmentally contaminated has gone through an extensive investigation and cleanup as appropriate and has been designated clean. To reach closure status, many agencies must approve.

Background: In 2002, CERCLA Site 60 was closed. The hanger at Site 60 was used for aircraft fuel system maintenance. Leakage from an oil water separator at the site impacted soils and required cleanup.

Remedial Investigation/Feasibility Study: In 1993, a soil investigation was conducted at Site 60. Soil samples from a depth ranging from 8 to 58 feet below ground surface identified gasoline and xylenes as the contaminants of concern. Site 60 was further investigated in 1996. Based on the results of the investigations, a feasibility study was prepared, which identified four alternatives to address the contamination. The chosen remedy was excavation of the contaminated soils, followed by bioremediation of the removed soils.

Proposed Plan and Record of Decision: The *Proposed Plan for Environmental Cleanup at the Groundwater Operable Unit Plumes and Soil Operable Unit Sites* (1995) and the *Superfund Record of Decision, Soil Operable Unit Sites and Groundwater Operable Unit Plumes* (1996) documents the chosen remedy and cleanup levels. Another major component of the remedy included monitoring the groundwater if significant contamination remained at the site.

Information gathered from
www.afipa.bq.af.mil/mcclellanem and www.epa.gov

Remedial Design and Remedial Action: Remedial action was initiated in 1996 when the Oil Water Separator was removed and approximately 400 cubic yards of contaminated soils were excavated. The nearby hanger limited the lateral extent of excavation and the depth was limited to approximately 30 feet below ground surface, preventing the excavation of all contaminated soils at the site.

In 1998, the Record Of Decision was amended through another decision document, the *Explanation of Significant Difference* from the Final Superfund ROD. This documented new cleanup levels and recommended in-situ, or “in place” cleanup technology at Site 60.

Since some contamination remained in place, a soil vapor extraction (SVE) system was installed in 1998. SVE uses vapor extraction wells to vacuum contaminants from the soil above the water table. The system at Site 60 contained one extraction well and operated from July 1998 through December 2000. In 1998 drilling samples confirmed that the site was ready for closure. The site was officially closed with regulatory concurrence early in 2002. A total of 232 pounds of petroleum products and 45 pounds of chlorinated compounds were removed from the site.



Site 56, another CERCLA site was also successfully closed (cleaned up) in 2002.

Perchlorate Treatment at Mather

This past March, a new groundwater treatment system started operating at the former Mather Air Force Base. This new system is unlike the three existing systems at Mather as it was installed and is operated by The Boeing Company and its primary function is to treat perchlorate (a rocket fuel additive) in the groundwater that originated to the east of Mather. The other three groundwater treatment systems are operated by the Air Force and treat volatile organic compounds (VOCs), which originated from activities at Mather. Water is pumped to the Boeing treatment system through an extraction well located near the western edge of the perchlorate plume. The extraction well is screened from 350 to 420 feet below the ground surface and pumps at a rate of 500 to 800 gallons per minute. Using an ion-exchange resin, perchlorate is removed from the groundwater.

Regulatory agencies consider perchlorate a new and emerging contaminant. It was used at the nearby Aerojet facility as an oxidizer for rocket fuel. Currently, Boeing and its environmental engineering consultants are working with the regulatory agencies to determine the extent of the perchlorate contamination in the groundwater under Mather. In addition, the Air Force regularly tests for perchlorate at the Main Base/SAC treatment system, and continues to evaluate whether the Boeing extraction well will pull in any shallower VOC contaminants from the plume treated by the Air Force. The Air Force also evaluates whether extraction wells will pull in any of the deeper perchlorate contamination.

Groundwater moves slowly underground at Mather in a southwesterly direction, which carries the perchlorate from the sources on property now owned by Aerojet to locations beneath Mather. However, beneath Mather, monitoring wells indicate that the perchlorate plume is more than 250 feet below the ground surface. The Mather VOC plumes are at shallower depths than the perchlorate. *“Monitoring indicates the perchlorate plume is much deeper than the Mather VOC plume and deeper than any of our extraction or monitoring wells. However, the Air Force, Boeing, and the regulatory agencies continue to share new information on the extents of these plumes as the monitoring data becomes available.”*

– Anthony Wong, BRAC Environmental Coordinator for Mather

For more information about perchlorate, visit www.epa.gov

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Linda Geissinger, Public Affairs Manager
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U.S. Environmental Protection Agency (SFD-8-1)

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San Francisco, CA 94105
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Carmen White, Remedial Project Manager
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Viola Cooper, Community Involvement Coordinator
(415) 972-3243

California Department of Toxic Substances Control

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Tami Trearse, Remedial Project Manager
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Lora Barrett, Public Participation Specialist
(916) 255-6681

Regional Water Quality Control Board

3443 Routier Road, Suite A
Sacramento, CA 95827

Karen Bessette, Remedial Project Manager
(916) 255-3065

Calendar

Next Restoration Advisory Board Meeting

Wednesday, August 13, 2003 at 6:00 p.m.
10503 Armstrong Avenue, Mather, California

Posterboard Session

Coming in October!

The Information Repository is located at 10503 Armstrong Avenue, Mather and is available M-F, 8:00 a.m. to 3:00 p.m. To be on the mailing list or for more information about Environmental Cleanup at Mather, contact Linda Geissinger at (916) 643-6420, ext. 109 or Bill Hughes, CSC, at (916) 364-4007

August 2003 Newsletter

Linda Geissinger, *Public Affairs Manager*
AFRPA/DD
3411 Olson Street, Room 105
McClellan, CA 95652

Editor - MWH



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Air Force Real Property Agency, Mather

MATHER

Groundwater Fact Sheet

No. I-04

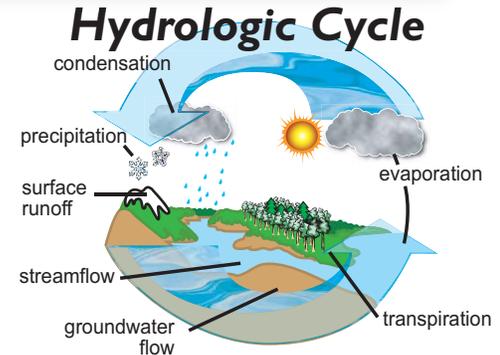
April 2004

This fact sheet describes the Air Force's efforts to clean up the contaminated groundwater at the former Mather Air Force Base.

Mather Air Force Base used many chemicals to support military activities while the base was active from 1918 to 1993. Fuels were used to power vehicles, airplanes and generators. Solvents were used to degrease machinery and equipment, to wash aircraft parts, and to dry clean uniforms and other clothing. Sometimes these chemicals escaped to the environment from leaking tanks, being washed down floor drains, or being spilled during transportation and use. Past chemical disposal practices also contributed to soil and groundwater contamination. These previous disposal practices were legal in the past, but are now known to cause environmental contamination and are no longer being used. The Air Force is committed to cleaning up the soil and groundwater contaminated with fuels, solvents, and other chemicals from past disposal practices at the former Mather Air Force Base.

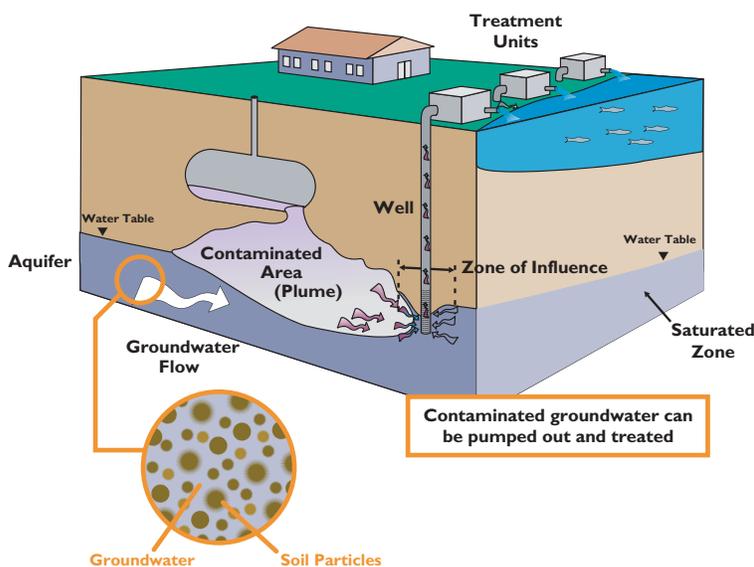
Hydrologic Cycle

When rain falls to the ground, the water does not stop moving. Some flows along the surface into streams or lakes, some is used by plants, some evaporates and returns to the atmosphere, and some sinks into the ground. This movement of water around the environment is called the hydrologic cycle.



What is Groundwater?

Imagine pouring a glass of water onto a pile of sand. Where does the water go? The water moves into the spaces between the particles of sand. Groundwater is water that fills the spaces between rocks and sediment particles underground. The area where water fills these spaces is called the saturated zone. The top of this zone is called the water table. The water table may be only a foot below the ground surface or it could be hundreds of feet down. At Mather, the water table is about 90 feet below ground surface in some places and as deep as 160 feet in other areas. The water table rises and falls depending on many factors, including heavy rains, melting snow, and extended periods of dry weather. Human activity may also draw down the water table by pumping out water for drinking water supply or irrigation.



Groundwater is stored in and moves through layers of sediment and rock called aquifers. The speed at which groundwater can flow depends on the size of the spaces in the sediment or rock and how well the spaces are connected. Aquifers typically consist of gravel, sand, or fractured rock. These materials are permeable because they have relatively large connected pore spaces that allow water to flow through. Less permeable materials include clays which can also be found as part of an aquifer.

Groundwater supplies are replenished, or recharged, by rain and melted snow. If contamination is present in or on soil above the aquifer, rain and snow melt can carry contaminants through the soil to the aquifer. A body of contaminated groundwater is called a groundwater plume.

Groundwater Cleanup

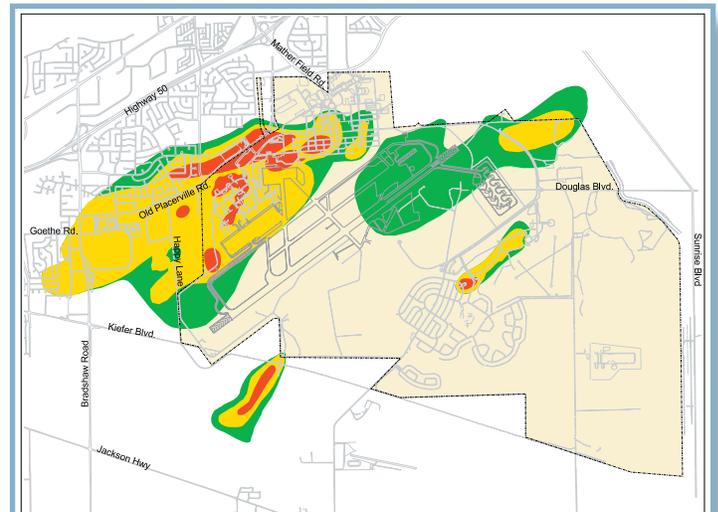
One technology that is used to clean up contaminated groundwater involves pumping out the water and cleaning it (pump and treat). It is a 2-step process that uses groundwater extraction wells to remove contaminated groundwater from the aquifer. A groundwater well is a hole drilled into an aquifer supported by a pipe. A pump is used to pull water out of the ground and a screen filters out unwanted particles that could clog the pipe. Wells come in different shapes and sizes, depending on the type of material the well is drilled in and how much water is being pumped out. A treatment system at the ground surface removes contaminants from the extracted water. Groundwater monitoring wells are used to collect groundwater samples to monitor the concentration and depth of contamination and the movement of the contaminant plume. Results are summarized in groundwater monitoring reports that are available for public review.

Groundwater Cleanup at Mather

At and near Mather, the groundwater is contaminated to depths as great as about 400 feet below ground surface. Solvents are the main groundwater contaminants being cleaned up at the former Air Force base. Four groundwater solvent plumes originating at Mather underlie approximately 2065 acres at or near the former Mather Air Force Base, as shown on the map below. Groundwater under Mather on the average moves 50-500 feet per year in a general southwesterly direction.

The three pump and treat systems used at Mather include approximately thirty-seven extraction wells delivering contaminated groundwater to above ground treatment systems. Currently, these systems treat a total of about 1,850 gallons per minute (gpm). The treated water is tested to make sure it meets regulatory requirements before it is re-injected into the ground or discharged to Mather Lake.

More than 500 groundwater monitoring wells have been installed at and around Mather to monitor contaminant concentrations and plume movement. Monitoring plans are developed in partnership with regulatory agencies to test groundwater at regular intervals (up to four times per year). Groundwater is tested to provide information on contaminant concentrations which allows an assessment of cleanup progress, plume movement and risk to human health and the environment. Results of the groundwater monitoring program are presented in reports available to the public for review in the Information Repository at the former Mather Air Force Base.



Groundwater Plume Map: The yellow and red areas represent groundwater contamination above the cleanup level, with the red areas representing the highest concentrations. The green areas have contamination levels below the cleanup level.

Interested in Learning More?

- Attend the public Restoration Advisory Board (RAB) meetings
- Attend poster board sessions and environmental tours – ask one-on-one questions about the cleanup activities
- Sign up to be added to the mailing list
- Read the flyers and fact sheets
- Visit the Information Repository:
10503 Armstrong Avenue, Mather
Contact: Bill Hughes, CSC, (916) 364-4007

Air Force Real Property Agency

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California Department of Toxic Substances Control

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CA Central Valley Regional Water Quality Control Board

Karen Bessette, (916) 464-4665



FACT SHEET

Soil Vapor Extraction

No. 2-04

April 2004

This fact sheet describes a technology used to clean up the contaminated soil at the former Mather Air Force Base.

Mather Air Force Base used many chemicals to support military activities while the base was active between 1918 and 1993. Fuels were used to power vehicles, airplanes and generators. Solvents were used to degrease machinery and equipment, to wash aircraft parts, and to dry clean uniforms and other clothing. Sometimes these chemicals escaped to the environment from leaking tanks, by being washed down floor drains, or by being spilled during transportation and use. Past chemical disposal practices also contributed to soil and groundwater contamination. These previous disposal practices were legal in the past but are now known to cause environmental contamination and are no longer used. The Air Force is committed to cleaning up the soil and groundwater contaminated with fuels, solvents, and other chemicals from past disposal practices at the former Mather Air Force Base. Soil vapor extraction, one of the technologies used to clean up contaminated soil at Mather, involves vacuuming contaminant vapors out of the ground.

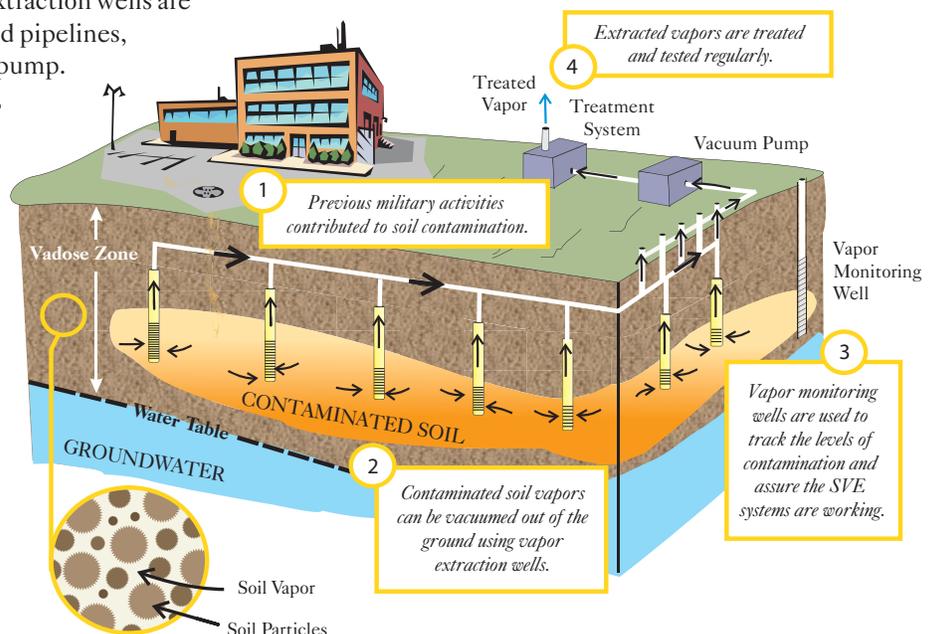
What is Soil Vapor?

The soil at Mather is made of small bits of rocks and minerals like sand and clay, and organic materials from the decay of plants. There are other things in soil that people don't always think of, like water and air in the spaces between soil particles. Soil vapor is gas in the spaces between soil particles. Soil vapor contains air, evaporated water, and in some places at Mather, contaminants that were spilled onto the soil. Some of these chemicals evaporate (or "volatilize") easily. Chemicals that readily change from liquid to vapor, including many solvents and fuel products, are called volatile organic compounds (VOCs). Because VOCs can move with soil vapor through the soil in all directions, including down into groundwater and up into buildings, it is important to clean up contaminants in soil vapor.

What is Soil Vapor Extraction?

Soil Vapor Extraction (SVE) is a method used at Mather to remove contaminants from the soil above the water table (vadose zone). As the name suggests, SVE removes contaminants from the soil in vapor form, making it an ideal cleanup technology for VOCs. Soil vapor is vacuumed out of the ground through extraction wells. These wells are like slotted straws and are installed in holes drilled in the vadose zone. The number and depths of extraction wells depend on site conditions such as the amount and depth of contamination and the character of the soil. SVE is most effective in loose soils, like sand and gravel, because soil vapor moves quickly through the large spaces between the soil particles. In fine-grained soils, such as silt and clay, SVE systems must operate longer to get maximum results. Extraction wells are connected together using above- or below-ground pipelines, and these networks are connected to a vacuum pump. When soil vapors are removed from the ground, VOCs are captured and treated as appropriate to assure protection of human health and the environment.

SVE systems are easy to install, can be used with other cleanup technologies, and are effective under a variety of site conditions. SVE does not require digging up contaminated soils; soil vapors extracted using SVE usually require treatment, but costs for treating vapors are low compared to costs for digging up and treating soil. Additionally, SVE removes contaminants that otherwise might migrate to the underlying groundwater – this can save money, as cleaning up contaminated groundwater is more time-consuming and costly.



Soil Cleanup at Mather using Soil Vapor Extraction

The objective of the Soil Vapor Extraction (SVE) systems at Mather is to reduce or eliminate petroleum hydrocarbon and volatile organic compound (VOC) contamination in the vadose zone that can threaten to impact groundwater, and may prolong the groundwater cleanup. The groundwater beneath these sites is a potential source of drinking water. Contaminants leaking from the soil or migration of vapor could potentially deteriorate the groundwater quality. The SVE systems at Mather are currently cleaning both sites contaminated with chlorinated solvents as well as sites with petroleum only contamination. A total of eleven Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, sites and four non-CERCLA sites are being treated by SVE at Mather.



SVE Site 23 at Mather.

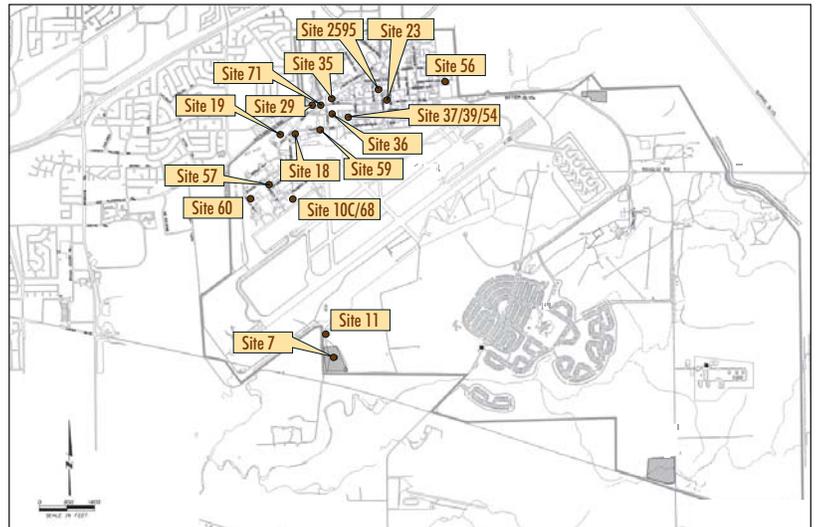
The SVE systems at Mather are monitored on a regular basis. On a semiannual basis, a report is finalized for each site covering the operational status and sampling results. Sites 56 and 60 have successfully been cleaned through SVE and are designated clean. No further cleanup action is needed at these two sites.

A typical SVE system is designed to remove VOCs from the vadose zone soils by mechanically drawing large volumes of vapor from the pores in the soil. This process volatilizes and strips the VOCs from the soil into the vapor stream. The vapor stream can be treated thermally or with a carbon filter. In thermal treatment, the extracted vapors pass through a burner treatment system where temperatures between 1400 and 1800 degrees Fahrenheit combust them prior to discharge to the atmosphere. If a carbon filter is used, the carbon captures the organic vapors and is later sent to the manufacturer for recycling. At the manufacturer, VOCs are removed from the carbon and destroyed. A typical treatment system consists of a trailer-mounted package system (see photo).

Treatment systems being used at Mather include:

- Carbon Adsorption - granular activated carbon filters VOCs out of the vapors, the contaminants stick to carbon particles similar to the way fish tank filters clean the water.
- Flameless Thermal Oxidation - turns VOCs into carbon dioxide and water by heating them.
- Catalytic Oxidation - converts heated VOC vapor to carbon dioxide and water by passing the vapor over a catalytic material similar to the way catalytic converters work in automobiles.

The effectiveness of SVE systems at Mather is tested regularly. Soil vapor monitoring wells have been installed throughout the treatment areas and samples are collected routinely to track trends in contaminant concentrations. Treated vapors are also tested to make sure that the treatment technologies are effective and that they ensure protection of human health and the environment.



Soil Vapor Extraction Sites at Mather.

Interested in learning more about environmental cleanup at Mather?

- Attend the public Restoration Advisory Board (RAB) meetings
- Attend poster board sessions and environmental tours – ask one-on-one questions about the cleanup activities
- Sign up to be added to the mailing list
- Read the flyers and fact sheets
- Visit the Information Repository:
Contact: Bill Hughes, CSC, at (916) 364-4007

Air Force Real Property Agency (AFRPA)

Linda Geissinger, Public Affairs Officer
(916) 643-6420, Ext. 109
Anthony C. Wong, BRAC Environmental Coordinator
(916) 643-6420, Ext. 103

Department of Toxic Substances Control (DTSC)

Kim Rhodes, Public Participation Specialist
(916) 255-3651
Carolyn Tatoian Cain, Remedial Project Manager
(916) 255-3771

United States Environmental Protection Agency (U.S. EPA)

(800) 231-3075
Viola Cooper, Community Involvement Coordinator
(415) 972-3243
Carmen White, Remedial Project Manager
(415) 972-3010

CA Central Valley Regional Water Quality Control Board (RWQCB)

Karen Bessette, Remedial Project Manager
(916) 464-4665



Air Force Real Property Agency, Mather

MATHER

Community Relations April 2004



Did you know...

- Mather was an active United States Air Force Base for 60 years.
- Much of the former Mather Air Force Base is now called Mather Commerce Center and is currently open to the public.
- Businesses, government agencies, and other organizations are located on land that was used by the Air Force.
- Use and disposal of solvents during military operations caused environmental contamination.
- The US Air Force remains financially and legally responsible for the cleanup and is in charge of the environmental cleanup at Mather.

Are you interested?

You Can Influence Environmental Cleanup Action at Mather!

You Can Be Informed

- Sign up to be added to the mailing list
- Read the flyers, newsletters & fact sheets
- Visit the Information Repository,
10503 Armstrong Avenue, Mather;
Contact: Bill Hughes, (916) 364-4007

You Can Be Involved

- Come to the Restoration Advisory Board (RAB) Meetings
- Attend public events and posterboard sessions for the opportunity to ask one-on-one questions about the cleanup activities

You Can Ask Your Community Relations Specialists for Help In:

- Organizing special events for students
- Involving your neighborhood businesses & community organizations
- Scheduling speakers & educational events



Community Relations Specialists in your area:

Air Force Real Property Agency



U.S. AIR FORCE

Linda Geissinger
Public Affairs Officer
(916) 643-6420, ext. 109
linda.geissinger@afarpa.pentagon.af.mil



U.S. AIR FORCE

Anthony C. Wong
BRAC Environmental Coordinator
(916) 643-6420, ext. 103
tony.wong@afarpa.pentagon.af.mil

United States Environmental Protection Agency



Viola Cooper
Community Involvement Coordinator
(415) 972-3243, (800) 231-3075
cooper.viola@epa.gov



Carmen White
Remedial Project Manager
(415) 972-3010
white.carmen@epa.gov

California Department of Toxic Substances Control



Kim Rhodes
Public Participation Specialist
(916) 255-3651
krhodes1@dtsc.ca.gov



Carolyn Tatoian Cain
Remedial Project Manager
(916) 255-3771
ctatoian@dtsc.ca.gov

Regional Water Quality Control Board



Karen Bessette
Remedial Project Manager
(916) 464-4665
bessetk@rb5s.swrcb.ca.gov

Air Force Support



William T. Hughes, RG, CHG
CSC, Federal Sector, Contractor
(916) 364-4007
whughes3@csc.com



Welcome to the **MATHER** RAB Meeting



No. 4-04

Welcome to the Mather Restoration Advisory Board public meeting. We appreciate that you have taken the time to attend and learn more about the former Mather Air Force Base (Mather) environmental cleanup program.

What is a Restoration Advisory Board (RAB)?

The Department of Defense and the United States Environmental Protection Agency (US EPA) recognize the importance of public involvement at military bases that require environmental cleanup. Jointly, they established a policy on community involvement in 1994 that created Restoration Advisory Boards. The Mather RAB advises the Air Force and regulatory agencies about community concerns and provides advice on Mather environmental cleanup documents.

Mather's RAB includes members of the community. Representatives from the Air Force, the U.S. EPA, and state regulatory agencies, like the Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB), support the RAB.

What does the RAB do?

RAB members perform a variety of functions including community outreach, reviewing plans and documents, and advising the Air Force of community concerns and priorities as they relate to environmental cleanup. The RAB is working together toward a common goal to clean up contamination at and around Mather.

The RAB is just one aspect of Mather's community outreach program. The RAB complements other community involvement activities such as public meetings for proposed cleanup plans, fact sheets, public notices, newsletters or the opportunity for the community to provide advice on cleanup documents.

What happens at a RAB meeting?

Mather's RAB meets every other month. Public notices are placed in local newspapers announcing the location, date, and time of the RAB meetings. The public is always invited and encouraged to attend the RAB meeting. Various speakers give presentations on environmental cleanup activities and issues and Mather RAB members discuss issues and concerns, in particular those brought from the community at large through their RAB representatives. RAB meetings are held in the evening, last approximately two to three hours, and are located at 10503 Armstrong Avenue, Mather. The community has an opportunity to voice comments and questions at the end of every meeting.



The Mather RAB advises the Air Force and regulatory agencies of community concerns on environmental cleanup, funding and priorities. Through open communication and the exchange of ideas, interests and concerns, the RAB supports the search for safe, timely and effective cleanup solutions. The RAB is committed to public outreach and welcomes communication with the community.

What can I do to be more involved?

Attend the public RAB meetings. These meetings serve as an opportunity to get involved in your community and voice your concerns about what is being done in your neighborhood. Find out more by adding your name to our mailing list.

For more information on the Mather RAB or to be placed on the mailing list to receive information on the ongoing cleanup at Mather, please contact:



Linda Geissinger

Air Force Real Property Agency
Public Affairs Officer
(916) 643-1164 ext. 109

If you would like to join the RAB, please contact Linda Geissinger for an application.



Additional Public Participation Contacts:



Viola Cooper

U.S. EPA
Community Involvement Coordinator
(415) 927-3243 or (800) 231-3075



Kim Rhodes

DTSC
Public Participation Specialist
(916) 255-3651

The goal of the Mather RAB is to represent the following constituencies:

Local Residents; Local Government Officials; Homeowners Associations; Local Environmental Groups; Education Community; Medical Community; Local Businesses; Religious Community; Students; Civic/Public Interest Organizations.

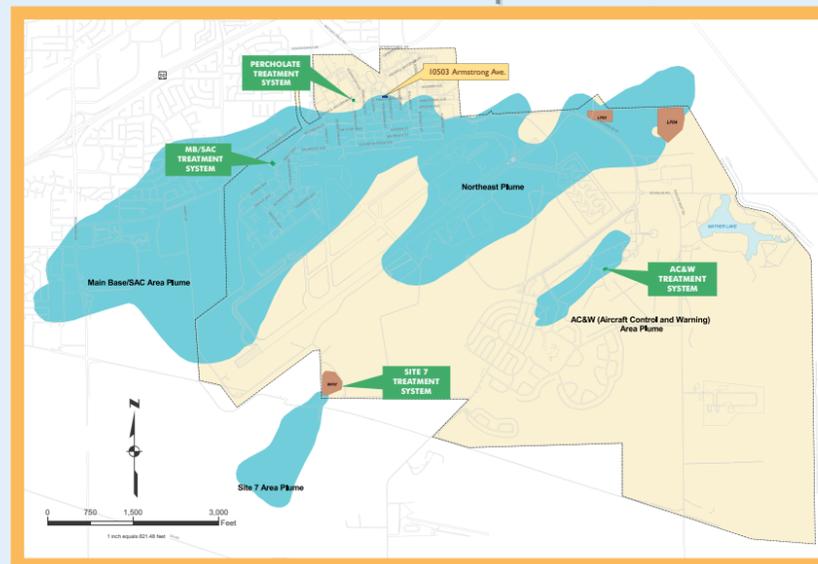




MATHER



Groundwater Plume Location Map 4th Quarter 2003



History of Mather's Environmental Contamination

Many chemicals were used at Mather to support military activities while the base was active from 1918 to 1993. Fuels were used to power vehicles, airplanes and generators. Solvents were used at dry cleaning facilities, to degrease machinery and equipment, and to wash aircraft parts. Sometimes these chemicals escaped to the environment from leaking tanks, being washed down floor drains, or being spilled during transportation and use. Past chemical disposal practices also contributed to soil and groundwater contamination and are no longer being used.

Drinking Water

The Air Force tests private drinking water supply wells on Jackson Highway and near the plume to confirm that the water is safe to drink. Sacramento County supplies drinking water for the Mather area. Cal American Water, a purveyor, supplies water for the neighborhoods between Mather and Watt. The areas south and east of Mather are not affected by Mather's contamination. All drinking water must be tested and meet regulatory standards to be provided to the public.



Groundwater Treatment Systems

There are currently three groundwater treatment systems operating at the former Mather Air Force Base. The systems, shown in the pictures below, are identified as Main Base/Strategic Air Command (SAC) Area, Aircraft Control and Warning (AC&W), and Site 7. These systems are constructed to remove contamination from the groundwater.

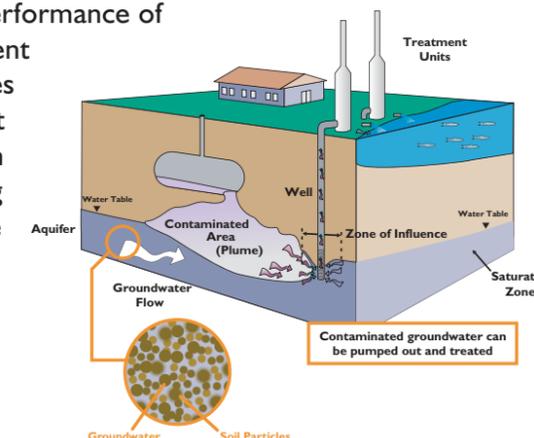


Extraction and Injection Wells

Extraction wells are used to remove contaminated groundwater from the aquifer. The extracted groundwater is pumped through pipelines to the treatment system for removal of contaminants, including tetrachloroethene (PCE), trichloroethene (TCE) and carbon tetrachloride. After groundwater is treated and tested to make sure it meets regulatory requirements, it is re-injected into the ground using injection wells or discharged to Mather Lake.

Groundwater Sampling and Monitoring

Groundwater samples are collected from monitoring wells on a regular schedule and are analyzed in a laboratory for possible contamination. Monitoring tracks progress towards cleanup levels, evaluates the performance of groundwater treatment systems, and assesses any potential impact of contaminants on the off-base drinking water wells. There are more than 500 monitoring wells at or near Mather, most of which are sampled at least once a year.

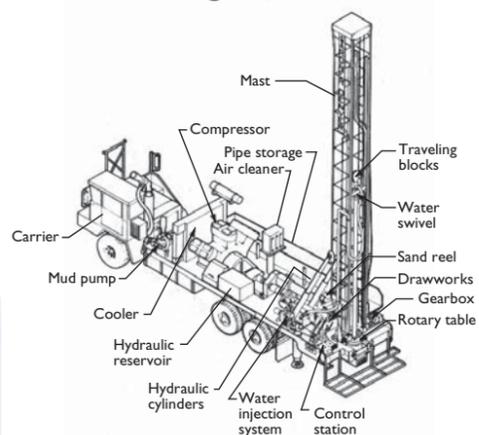


Drilling and Installation of Wells

A drill rig is used to install extraction, injection, and monitoring wells beneath the ground surface.



Drill Rig Schematic



(from *Groundwater and Wells*, Driscoll, 1986)



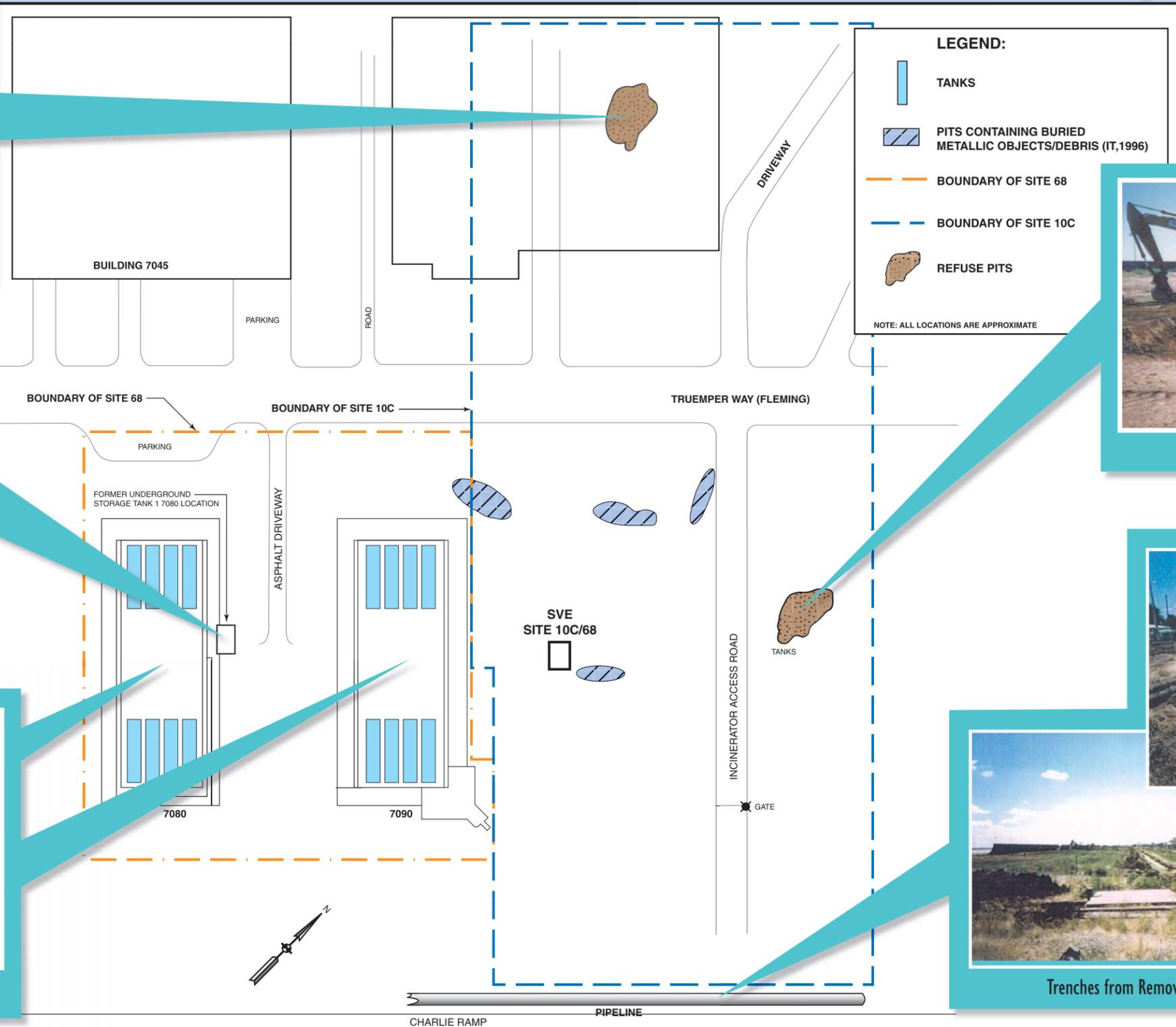
MATHER



Site 10C-68



Pit Where Debris Found



Excavation of Refuse Pits



Excavation of Fuel Contaminated Soil



Trenches from Removed Pipelines



Backfilling of Excavation Pits 7080 and 7090



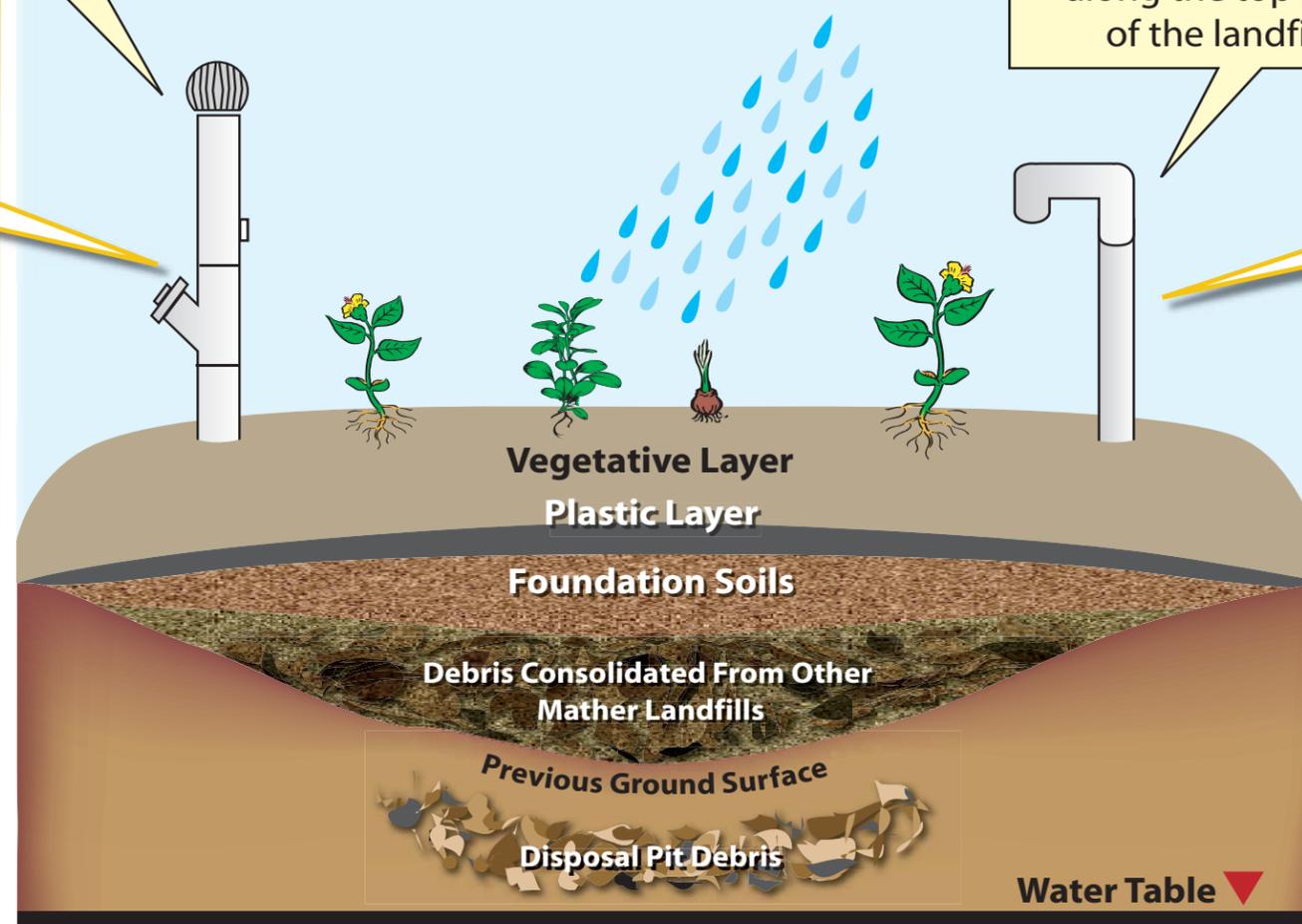
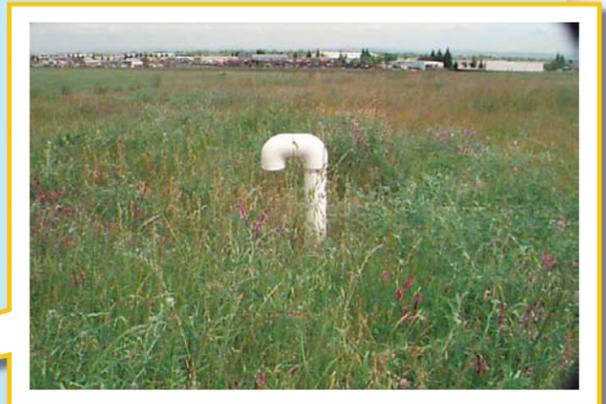
MATHER



25 passive gas migration control vents are located at Landfill 4

Landfill 4

10 gas vents are located along the top portion of the landfill cap



What are caps? Why are they used?

- Caps are protective covers built over disposal pits or contaminated soil sites. Caps prevent exposure to contamination.
- Caps also prevent rainwater from entering the pits and carrying contaminants deeper into the soil where they could reach groundwater.
- Caps are considered practical, effective and economical compared to other cleanup technologies.
- Cap design is site-specific and depends on its intended function.
- Caps can be designed for either non-hazardous or hazardous waste applications and range from a one-layer system to a multi-layered system of soils and other materials.

Care and maintenance of caps:

- The Air Force maintains Mather's caps with a quarterly inspection and maintenance program.
- Any activity on or near the caps must be approved by the Air Force. The caps are inspected regularly for cracks, animal burrowing or other damage and are repaired when necessary.

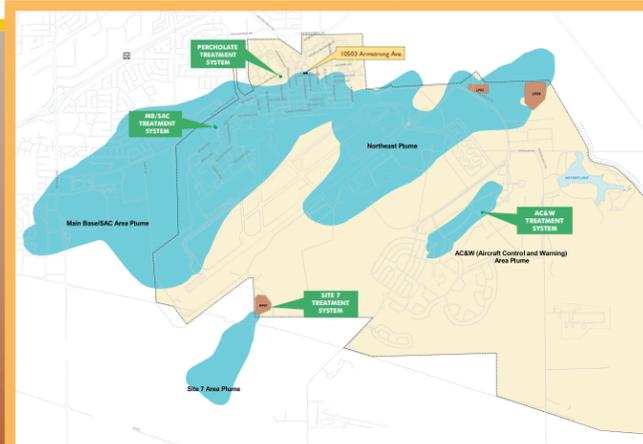
Landfill (LF)-4:

- LF-4 is located in the northeast corner of the closed Mather Air Force Base (AFB).
- This was the main sanitary landfill for Mather AFB from 1967 through 1971.
- Garbage was reportedly placed in trenches, burned, and covered daily.
- A disposal pit containing petroleum, oil and lubricant waste was reportedly located at the northeast corner of the landfill and operated for approximately two years during the late 1960s.
- In March 1997, LF-4 capping was completed to meet regulatory requirements.
- Monitoring and reporting of the landfill is part of ongoing environmental cleanup and protection efforts.

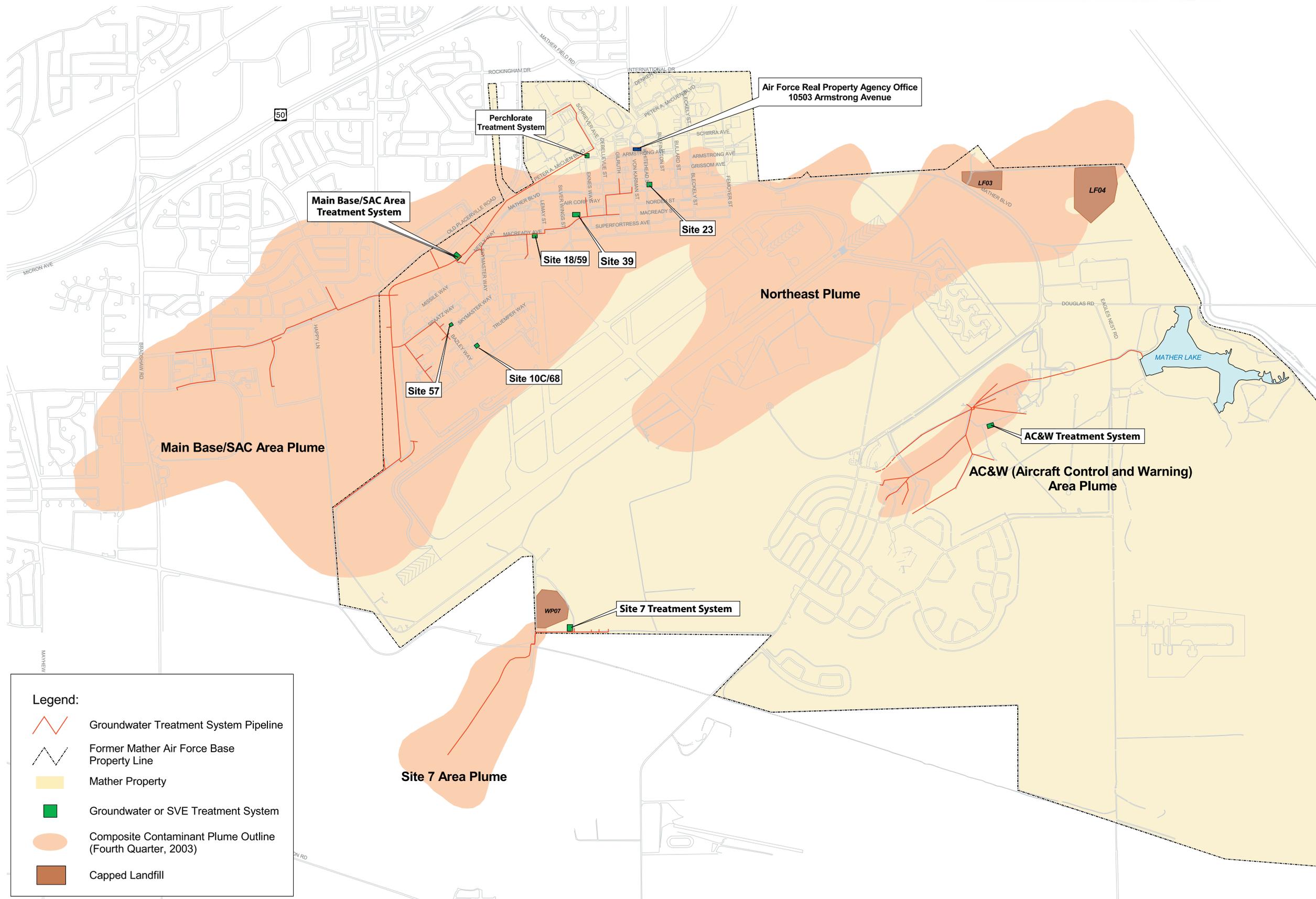
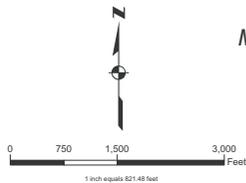
Other Landfills at Mather

- Landfills 2, 5 and 6 have been relocated to LF-4.
- Landfills 3, 4 and 7 have been capped and continue to be monitored.
- LF-3 was the main sanitary landfill for Mather AFB from 1950 through 1967.
- WP-7 is located near the southwestern boundary of Mather. Contamination at Site 7 resulted from Air Force operations between 1953 and approximately 1966.

Groundwater Plume Location Map 4th Quarter 2003

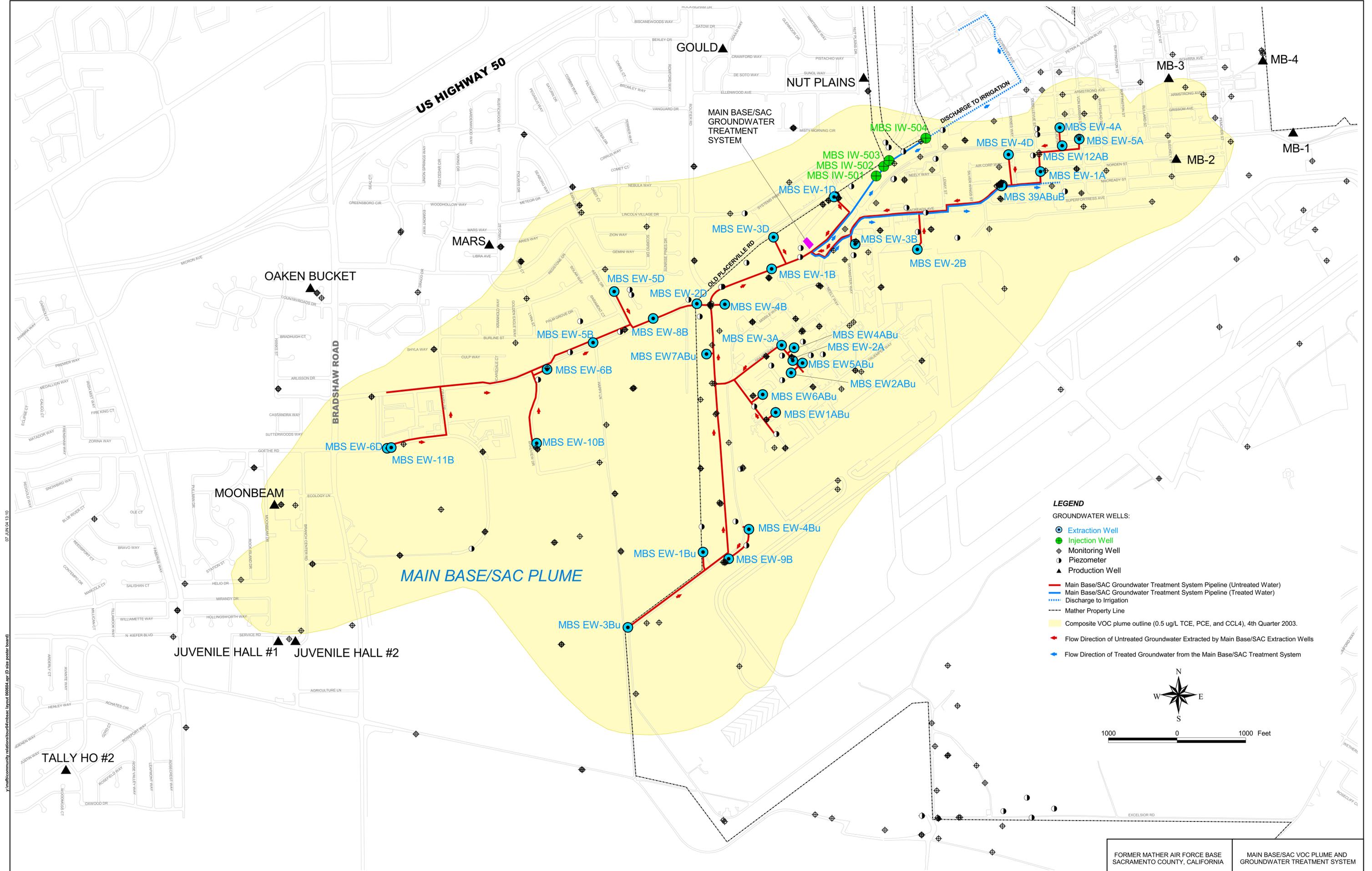


MATHER FIELD SITE MAP AND GROUNDWATER PLUME LOCATIONS



Legend:

- Groundwater Treatment System Pipeline
- Former Mather Air Force Base Property Line
- Mather Property
- Groundwater or SVE Treatment System
- Composite Contaminant Plume Outline (Fourth Quarter, 2003)
- Capped Landfill

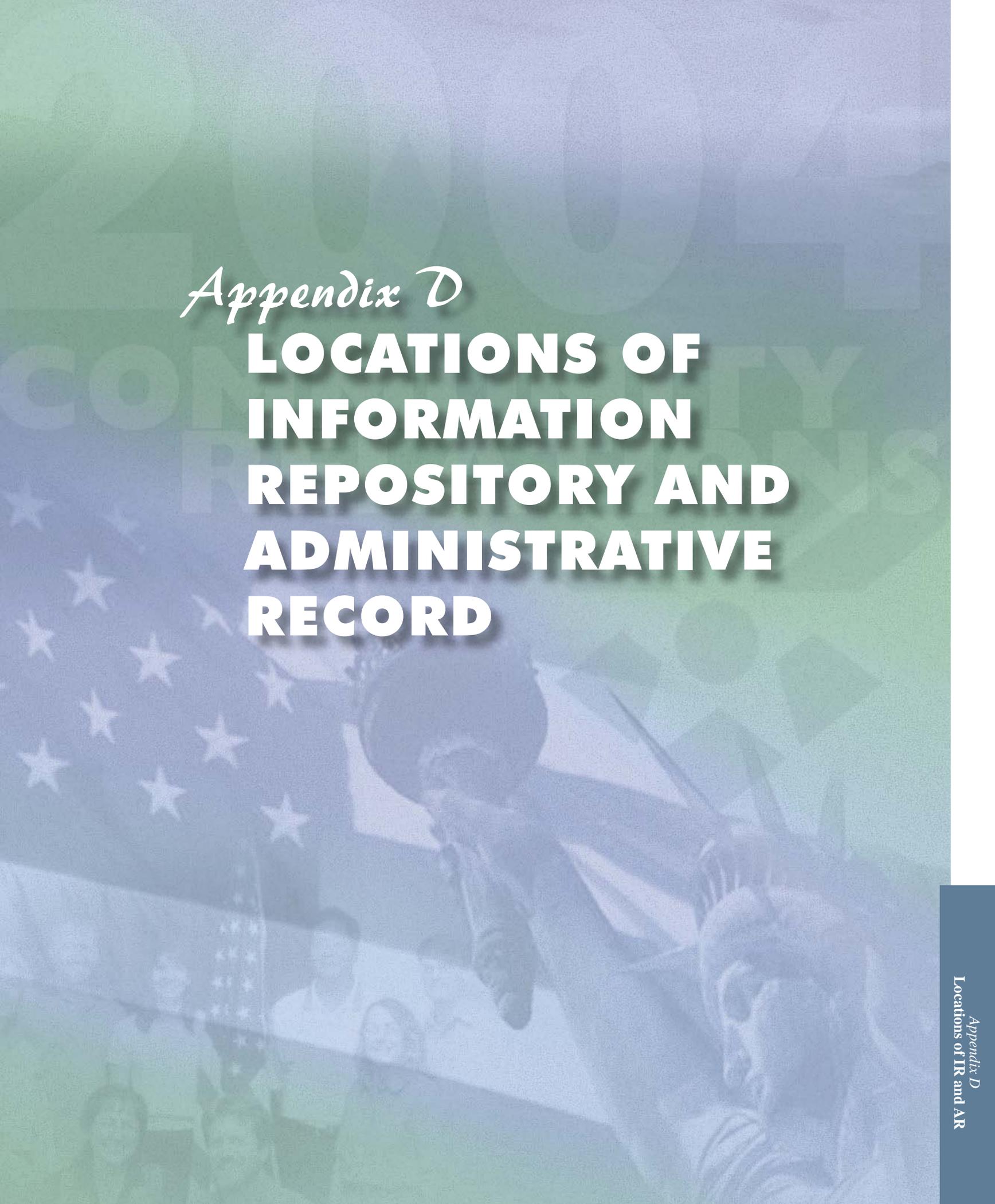


Y:\mfrs\community_relations\mfrs\mfrs_base\layout\060604.apr (D size poster board)
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- LEGEND**
- GROUNDWATER WELLS:
- Extraction Well
 - Injection Well
 - ◆ Monitoring Well
 - Piezometer
 - ▲ Production Well
- Main Base/SAC Groundwater Treatment System Pipeline (Untreated Water)
- Main Base/SAC Groundwater Treatment System Pipeline (Treated Water)
- ... Discharge to Irrigation
- Mather Property Line
- Composite VOC plume outline (0.5 ug/L TCE, PCE, and CCL4), 4th Quarter 2003.
- Flow Direction of Untreated Groundwater Extracted by Main Base/SAC Extraction Wells
- Flow Direction of Treated Groundwater from the Main Base/SAC Treatment System



1000 0 1000 Feet

The background of the page is a composite image. At the top, the Statue of Liberty is shown from the waist up, holding the torch. Below her, an American flag is visible, with its stars and stripes. In the lower portion of the image, a group of diverse people is shown, some looking towards the camera. The entire image is overlaid with a semi-transparent green and blue gradient.

Appendix D

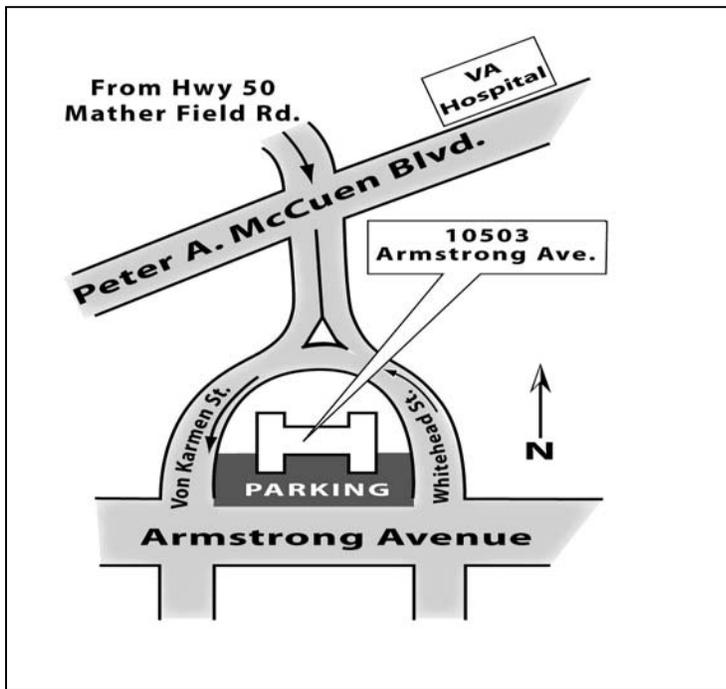
**LOCATIONS OF
INFORMATION
REPOSITORY AND
ADMINISTRATIVE
RECORD**

LOCATION OF INFORMATION REPOSITORY



AFRPA Mather

10503 Armstrong Avenue, Suite 300
Mather, CA 95655-1101
Contact: Bill Hughes at (916) 364-4007



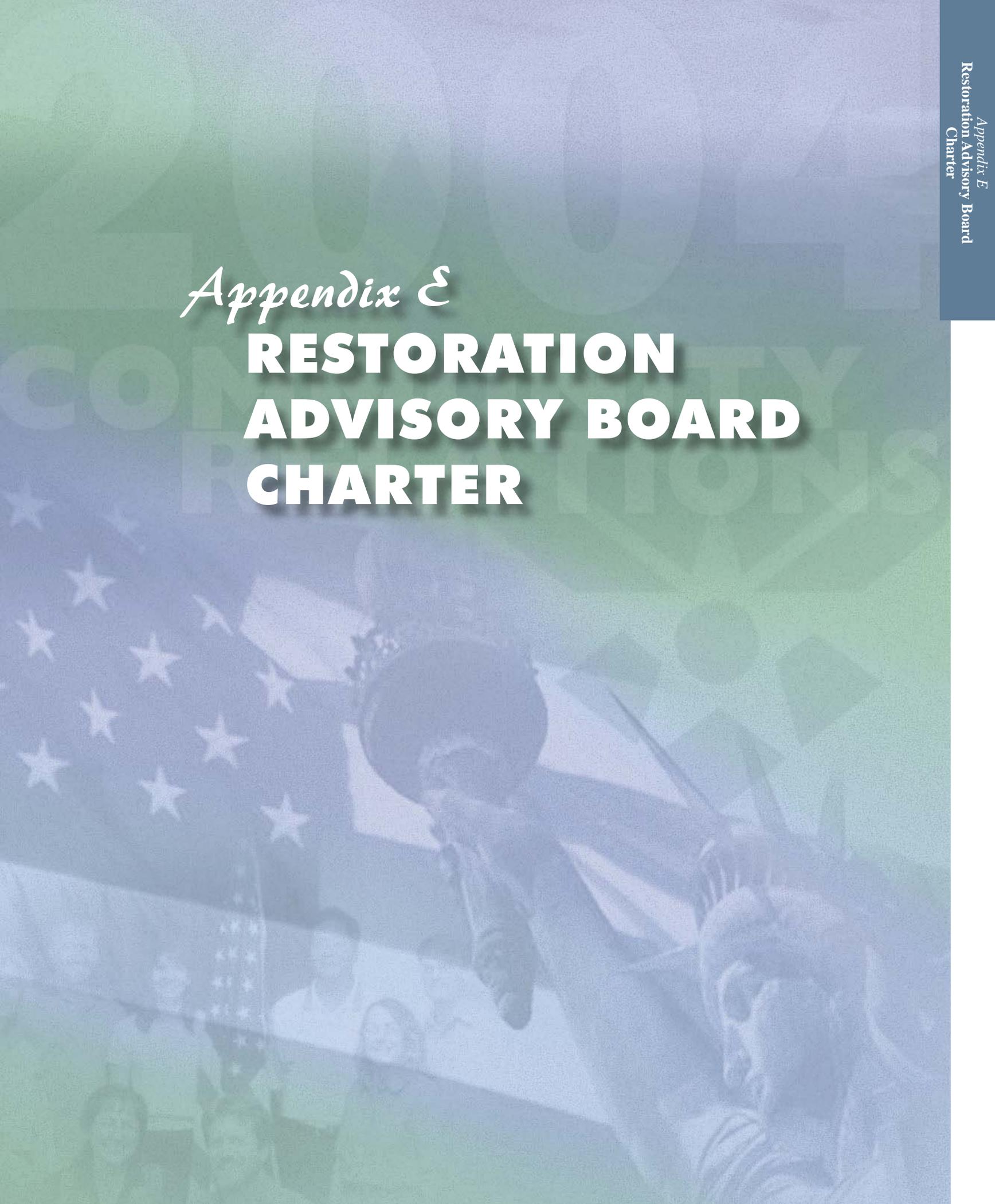
LOCATION OF ADMINISTRATIVE RECORD

AFRPA McClellan

3411 Olson Street
McClellan, CA 95652
Contact: Laraine McQuillen at (916) 643-1250, Ext. 239

Appendix E

**RESTORATION
ADVISORY BOARD
CHARTER**



MATHER AIR FORCE BASE

Installation Restoration Program Restoration Advisory Board Charter

The Restoration Advisory Board (RAB) charter, herein referred to as "the charter," is entered into by the following parties: Mather AFB; U.S. Environmental Protection Agency (US EPA), Region 9; California Department of Toxic Substances Control, Region 4 (DTSC); and RAB community co-chair.

I. Purpose and Function of the RAB

a. The purpose of the RAB is to promote community awareness and obtain constructive community review and comment on environmental restoration actions to accelerate the cleanup and conversion of Mather AFB. It is used to disseminate information about the Installation Restoration Program and to ensure opinions about environmental restoration reflect diverse interests within the community. The RAB serves in an advisory capacity to Mather AFB, US EPA, DTSC, and Remedial Project Managers.

b. The Air Force has developed a Community Relations Plan (CRP) which outlines the community involvement program. The RAB supplements the community involvement effort. A copy of the CRP is available at the Environmental Support Office at Mather, CA; at the AFBCA office at McClellan, CA; and at the Rancho Cordova public library.

II. Basis and Authority for Charter

The basis and authority for this charter are contained in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendment and Reauthorization Act (SARA) of 1986, particularly Sections 120(a), 120(f), and 121(f), and 10 U.S.C. 2705, enacted by Section 211 of SARA, and September 9, 1993 Department of Defense policy letter entitle "Fast Track Cleanup at Closing Installations."

III. Membership

a. Individual community members or organizations must reside in, own property in, or serve communities within Sacramento County.

b. Members shall serve without compensation. All expenses incident to travel

and review inputs shall be borne by the respective members of their organization

c. Members are expected to attend all RAB meetings or send an alternate. If a member fails to attend or send an alternate to two consecutive meetings, the RAB co-chairs may ask the member to resign.

d. Members should be willing to communicate with local community members and interest groups concerned with specific base cleanup issues. Members will serve as a direct conduit for information flow to and from the community. To improve communication between the public and RAB members, RAB names and telephone numbers will be made available to the public and listed in meeting minutes.

e. Members unable to continue to fully participate shall submit their resignation in writing to either of the RAB co-chairs. Resigning members may nominate new members to replace them.

f. Government agencies, community groups, citizens, and other interested groups may be nominated to the RAB. Once accepted to the RAB, members may serve until RAB termination as long as they continue to meet criteria stated in Section III of this charter. Open nominations will take place as needed. Nominations are approved by a majority vote of RAB members present at the meeting the issue was raised.

IV. RAB Structure

a. The RAB shall be co-chaired by the Mather Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) and a community member. The meeting will be presided over by the community co-chairs.

b. The community co-chair will be selected by a majority vote of the RAB community members each November, before new members are added to the RAB. The RAB community co-chair term will run one year, January-December. A co-chair may serve more than one term, if elected by the RAB.

c. The RAB community membership is responsible for terminating a co-chair. Co-chair removal is determined by two-third majority vote of the members present at the RAB meeting following the meeting in which such proposal for removal is announced.

d. The RAB shall meet approximately each two months, preferably at an on-base location. A different frequency of meetings may be held if deemed necessary by the RAB.

e. Agenda items will be compiled by the co-chairs. Suggested topics should be given to the BEC and community co-chair not later than two (2) weeks prior to the meeting. The BEC shall be responsible for providing written notification to all RAB members of the upcoming agenda, date, time, and place of scheduled RAB meetings.

f. The BEC shall be responsible for recording and disseminating meeting minutes. Also, the BEC shall collect a written list of attendees at each meeting which will be incorporated into meeting minutes.

g. A copy of the RAB meeting minutes will be sent to all RAB members and will be available for public review in the information repositories.

h. Committee members will be asked to review and comment on various environmental restoration documents. RAB members should submit written comments to the community co-

chair on the subject documents within the timeframe specified (30-60days). The BEC will ensure that a written response is provided to RAB community members in a timely manner.

i. Committee members are authorized access to any documents, studies, or information, which have been placed in the repositories or distributed at RAB meetings. In addition, the RAB community co-chair will be provided one copy of draft documents for review and/or dissemination. The co-chair shall make documents accessible to RAB community members.

V. Effective Date and Amendments

a. The effective date of this charter shall be the date that the last signatory signed this letter.

f. This charter may be amended by a majority vote of the committee members present. Amendments must be consistent with the Mather AFB Federal Facility Agreement (FFA), the statutes stated in Part II of the charter (Basis and Authority for Charter), and any and all appropriate DoD or Air Force guidance or policy letters.

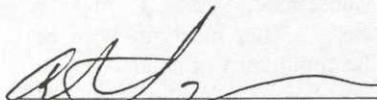
VI. Termination

This charter will be terminated upon clean closure of IRP Sites. However, it may be terminated earlier upon a majority vote of the RAB membership.

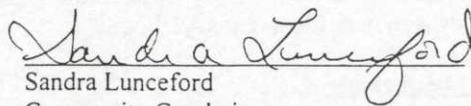
VII. Signatories to the RAB Charter

IN WITNESS THEREOF, we have set our hand this 10 day of OCT. 2001.

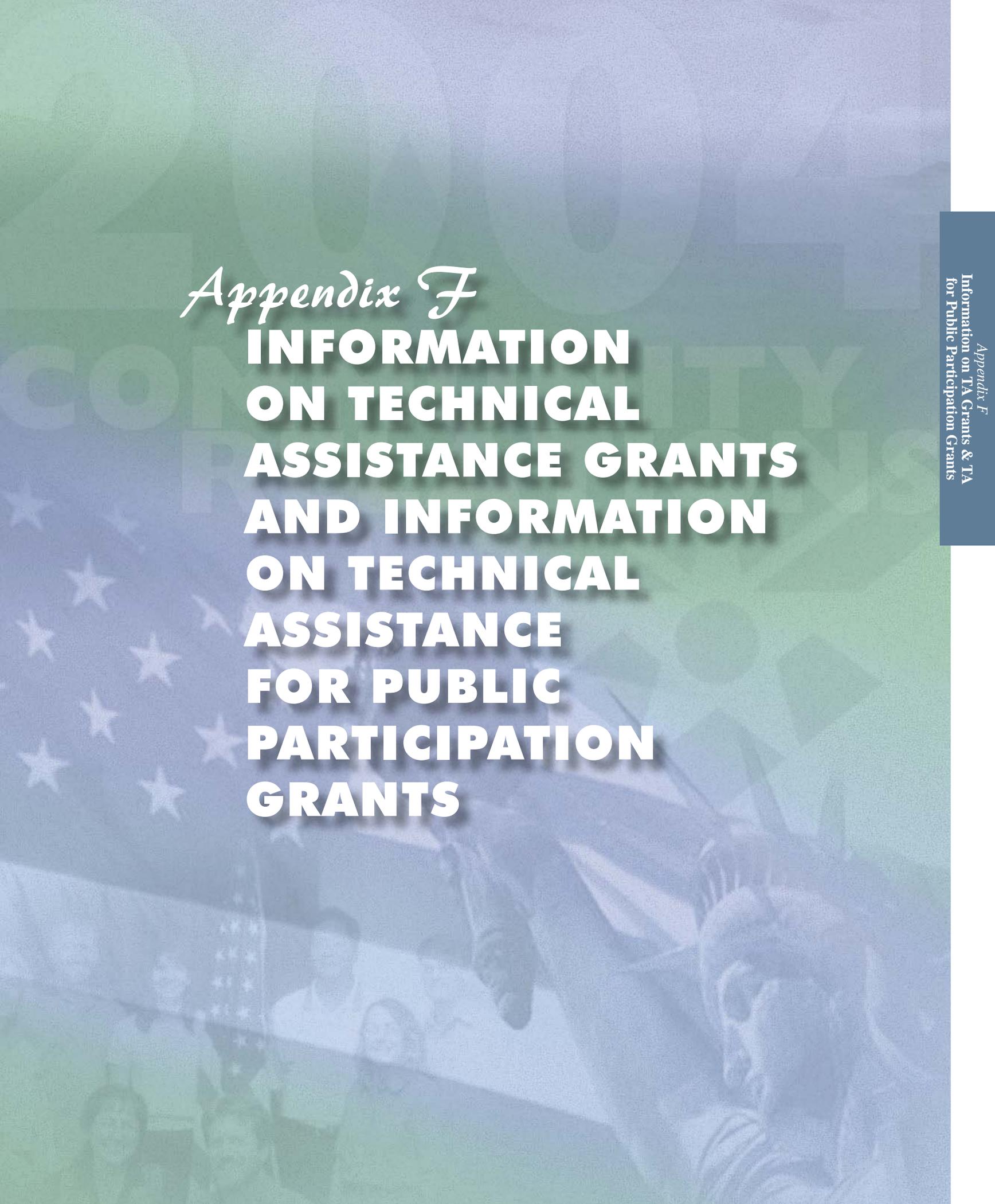
Approved by a unanimous vote at the RAB meeting August 15, 2001.



Anthony C. Wong
Air Force Co-chair
Mather BRAC Environmental Coordinator



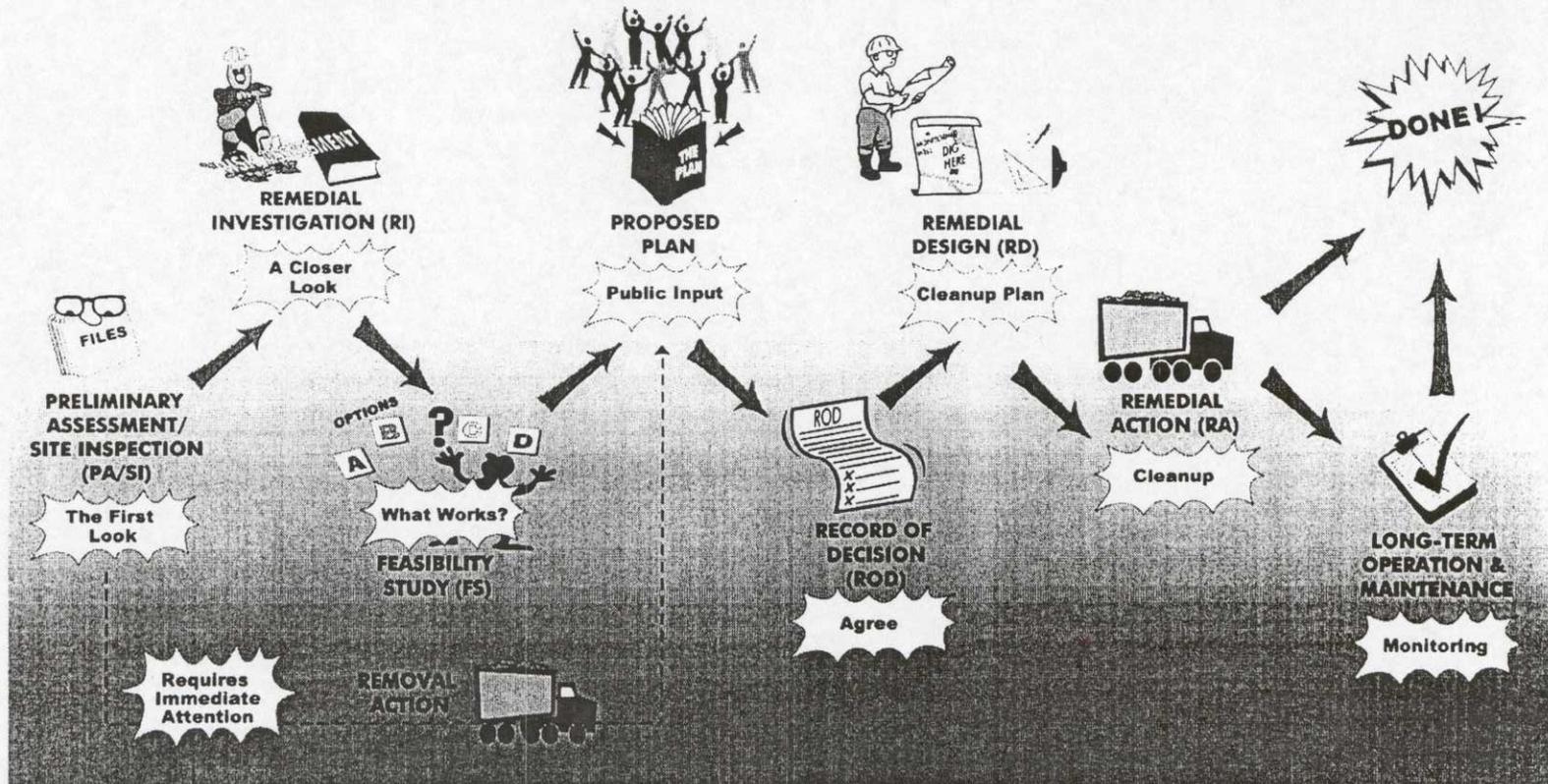
Sandra Lunceford
Community Co-chair



Appendix F
**INFORMATION
ON TECHNICAL
ASSISTANCE GRANTS
AND INFORMATION
ON TECHNICAL
ASSISTANCE
FOR PUBLIC
PARTICIPATION
GRANTS**

What is CERCLA?

Comprehensive Environmental Response, Compensation and Liability Act



Groups that are not eligible for TAG funds

- Potentially Responsible Parties (PRPs)
- Individuals, municipalities, or companies potentially responsible for, or contributing to, the contamination problems at the Superfund site
- Academic institutions
- Political subdivisions and groups established or supported by government
- National organizations
- For-profit organizations/corporations

For additional information

EPA Web Site:
<http://www.epa.gov/superfund/tools/tag/index.htm>

Viola Cooper, Community Involvement Coordinator
(415) 972-3243
or toll free message line (800) 231-3075
Email: Cooper_Viola@epa.gov

Superfund TAG Handbooks:
Applying for a Grant
The Application Form with Instructions
Procurement-Using TAG funds
Managing your grant

Choosing a technical advisor

- A technical advisor must have:
 - Knowledge and experience working with hazardous or toxic waste issues
 - Academic training in relevant scientific and technical fields;
 - The ability to translate technical information into terms understandable to lay persons

How does a group apply for a TAG?

- EPA will announce the availability of the TAG in local newspaper(s)
- Community groups will have 30 days to send a Letter of Intent (LOI) to apply for a TAG
- EPA will place a second Public Notice in local newspaper(s) that a group is interested in applying for a TAG
- Other groups have 30 days to contact the original applicant to form a coalition and submit one application
- EPA then awards a TAG to the group that best meets the evaluation criteria

Technical Assistance

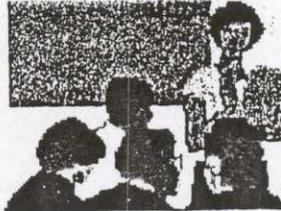
for Public Participation

DoD Environmental Restoration Program

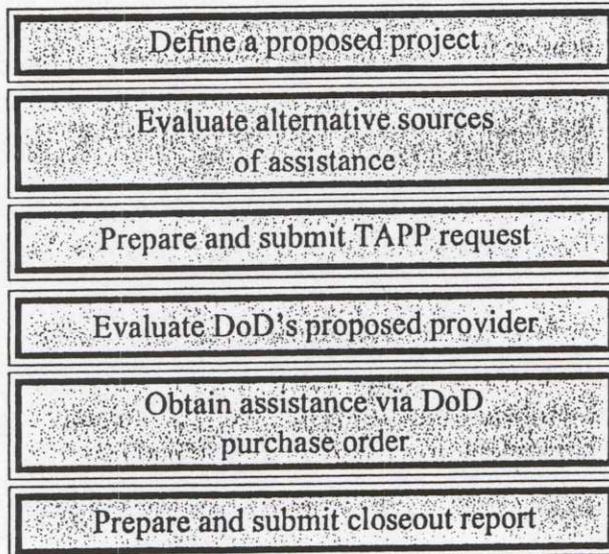


A Department of Defense Program to provide technical support to community members of Restoration Advisory Boards and Technical Review Committees

RAB/TRC Community Member Responsibilities Under the TAPP Program



Below is a simple overview of the process by which the community members of the RAB or TRC may obtain technical assistance. The DoD RAB and TRC members are available to assist community members in applying for TAPP.



The Basics of the Technical Assistance for Public Participation Program



The Department of Defense (DoD) established the Technical Assistance for Public Participation (TAPP) program to assist community members of Restoration Advisory Boards (RABs) and Technical Review Committees (TRCs) in participating more fully in the cleanup process affecting DoD installations and formerly used defense sites (FUDS).

TAPP allows community members to obtain objective, independent scientific and engineering support concerning the restoration process through the issuance of government purchase orders to small businesses.

RABs and TRCs are forums for representatives of the installation, regulatory agencies, and community to discuss and exchange information.



U.S. Environmental Protection Agency

Superfund Community Involvement

[Contact Us](#) | [Print Version](#) Search: [GO](#)

[EPA Home](#) > [Superfund](#) > [Superfund Community Involvement](#) > [Technical Assistance Grants \(TAGs\)](#)

- [Technical Assistance Grants \(TAGs\)](#)
- [Community Advisory Group \(CAG\)](#)
- [Superfund Job Training Initiative \(SuperJTI\)](#)
- [Community Involvement Toolkit](#)
- [Technical Outreach Services for Community \(TOSC\)](#)
- [Guidances and Publications](#)
- [Students & Teachers](#)

Technical Assistance Grants (TAGs)

A Technical Assistance Grant (TAG) provides money for activities that help your community participate in decision making at eligible Superfund sites. An initial grant up to \$50,000 is available to qualified community groups so they can contract with independent technical advisors to interpret and help the community understand technical information about their site.

Congress made public involvement in decision making an important part of the Superfund process when the program was established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. Congress wanted to ensure that the people whose lives were affected by abandoned hazardous wastes would have a say in actions to clean them up. The role of community members in the Superfund process was further strengthened in the Superfund Amendments and Reauthorization Act of 1986 (SARA). With SARA, Congress created EPA's TAG Program. TAGs are available at Superfund sites that are on the EPA's National Priorities List (NPL) or proposed for listing on the NPL, and for which a response action has begun. EPA's NPL is a list of the most hazardous waste sites nationwide. Since the first TAG was awarded in 1988, more than \$20 million has been awarded directly to community groups.

Key Topics

[Where are Technical Assistance Grants? \(TAGs\)](#)

[Get a Technical Assistance Grant \(TAG\)](#)

[Technical Assistance Grant \(TAGs\) Resources](#)

[Regional Contacts](#)

[Community Involvement Links](#)

[Frequently Asked Questions](#)

- [Frequently Asked Questions About TAG](#)
- [Sample Materials and Activities Used By Successful TAGs](#)
- [Federal Regulations Concerning TAG Program](#)
 - [40 CFR 35, Subpart M - Grants for Technical Assistance](#)
 [Click on Chapters 4000 through 4275] [EXIT disclaimer >](#)
Note: Office of Management and Budget Circulars cited in the CFR may be viewed on the [Office of Management and Budget Home Page](#). [EXIT disclaimer >](#)
 - [40 CFR 30, Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations](#) [EXIT disclaimer >](#)
Note: Office of Management and Budget Circulars cited in the CFR may be viewed on the [Office of Management and Budget Home Page](#). [EXIT disclaimer >](#)

- o October 2, 2000, Federal Register Notice: Final Rule on Technical Assistance Grant Program [View](#) | [PDF \(281K/20 pp\)](#)

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Last updated on Friday, February 20th, 2004
URL: <http://www.epa.gov/superfund/tools/tag/>



U.S. Environmental Protection Agency

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Round 2-5b: Technical Assistance Grants (TAGs)

(The drive toward a faster, fairer, more efficient Superfund)

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Reform Description

Technical Assistance Grants (TAGs) provide resources to eligible communities affected by Superfund sites. These resources allow them to acquire independent technical assistance, helping them to understand and comment on site-related information.

Grants of up to \$50,000 are available to community groups for hiring technical advisors to help the community understand site-related technical information. Additional funding may be available for unusually large or complex sites.

The group must contribute 20 percent of the total project costs to be supported by TAG funds. This requirement can be met with cash, donated supplies, and volunteered services. The group must prepare a plan for using the funds.

EPA is encouraging the Regions to consider means to increase citizen involvement, such as advance funding of TAGs, the authorization of training for TAG recipients, and the simplification of the TAG application and administrative processes.

EPA considered a number of ways to streamline the TAG program to make it easier for community groups to apply for and administer TAGs.

Reform Status



Implementation of this reform is complete.

Results

EPA continues to promote citizen involvement by improving TAGs and facilitating the TAG process. In 1998, EPA completed a Regional Practices Survey to gain information on Regional TAG administrative differences. The Agency also began developing policies and procedures to minimize differences in Regional TAG implementation. The March 1998 TAG Strategic Plan outlined eight key objectives for the TAG program. Priorities included making the TAG application process easier, administering the program consistently across the Regions, assisting communities in identifying qualified advisors, marketing the program to both EPA and communities, and evaluating the program's benefits.

One of the Strategic Plan's most important action items was to publish a revised TAG regulation. The Agency published the final rule on October 2, 2000.

The new regulation contains several simplifying provisions. For example, elimination of the three-year budget period allows groups to determine their own budget period according to site-specific needs. In addition, the revised rule contains:

- Provisions for limited cash advances;
- Limited funds for training community members on site-related issues;
- Removal of a 20 percent administrative cap, providing EPA flexibility in negotiating grants with recipients without being hindered by arbitrary limitations on administrative expenses; and
- An interpretation of congressional intent regarding the Superfund Amendments and Reauthorization Act's (SARA) "one TAG per site language" such that the rule allows multiple non-concurrent grant recipients.

EPA has awarded more than 240 TAGs since the program's inception in 1988.

Success Stories

TAG Workshop, Nashville, TN

In September 2000, the Superfund Program sponsored a two-day workshop in Nashville, TN, for recipients of TAGs. EPA regional and headquarters staff also attended. TAG recipients gave formal presentations on their sites and participated in focus group discussions on ways to improve the TAG program. The workshop provided TAG recipients with the opportunity to better understand the Superfund sites of concern to them through exchanging site-specific experiences and insights with each other. In addition, the workshop provided recipients with an opportunity to network and establish relationships with other workshop participants.

AT&SF Site, NM

At the AT&SF site in New Mexico, the San Jose Community Awareness Council used TAG funds to pay for the TA as well as to help create and fund a community newsletter that provides site activities information to the neighborhood. [FY98 Success]

Vertac Site, AR

The Concerned Citizens Coalition (CCC) of the Vertac site in Arkansas was awarded a TAG in 1996. According to a CCC member, the community was better able to understand EPA's technical decisions and actions with the help of the Technical Advisor provided by TAG funding. [FY98 Success]

Southern Shipbuilding Site, Slidell, LA

At the Southern Shipbuilding site, a group named Slidell Working Against Major Pollution (SWAMP) was awarded a TAG grant on December 15, 1995. SWAMP hired two technical advisors on June 17, 1996, to review site documents prior to release of the final proposed plan of action.

This approach created mutual trust and the concept that EPA was a partner in solving community environmental problems. A striking measure of this community involvement is that an incineration remedy in the middle of the city received majority support from residents (and a unanimous endorsement by the City Council). [FY97 Success]

Documents

Title: Superfund Technical Assistance Grant (TAG) Blank Application Documents

Synopsis: These are the blank copies of the documents needed to complete a TAG application.

Title: October 2, 2000, Federal Register Notice: Final Rule on Technical Assistance Grant Program

Date: October 2, 2000

Document #: Federal Register/ Vol. 65, No. 191

Synopsis: The Technical Assistance Grant (TAG) final rule describes the intent to make grants for technical assistance more readily available to local community groups and to promote participation in the Superfund cleanup process by further simplifying the application and management procedures.

- [Download in PDF format](#) (20 pages, 281KB)

Title: Fact Sheet: Superfund Technical Assistance Grants (TAGs) (Spanish-Puerto Rican translation)

Date: September 1998

Document #: EPA 540-K-98-008

Title: EPA Office of Inspector General: Agency Management of the Superfund Technical Assistance Grant Program

Date: January 10, 1997

Synopsis: This document gives background on and explains the purpose of the Superfund TAGs. It also provides results from a review of the TAG program, recommendations, and agency comments.

Title: Superfund Technical Assistance Grant (TAG) Handbook: Managing Your Grant

Date: April 1994

Document #: EPA 540-K-93-006, OSWER 9230.1-09D, NTIS PB 93-963355

Synopsis: This document discusses the basic requirements to manage a TAG: what to do when a TAG is received; how to keep track of administrative costs; how to keep track of TAG funds; how to obtain payment from EPA; how to prepare required reports; and how to change, renew, and end grants. In addition, the document addresses the do's and don'ts in managing a TAG, answers commonly

asked questions, and provides a grant management checklist and sample documents.

- Download in [PDF format](#) (63 pages, 690KB)

Title: Superfund Technical Assistance Grant (TAG) Handbook: Procurement -- Using TAG Funds

Date: April 1994

Document #: EPA 540-K-93-005, OSWER 9230.1-09C, NTIS PB93-963354

Synopsis: This document discusses the basic requirements for applying for a TAG: identification of potential contractors, procurement procedures, determination of acceptable costs, development of the contract, and record keeping. In addition, the document addresses the do's and don'ts of applying for a TAG, answers commonly asked questions, and provides checklists, step-by-step instructions, and sample forms.

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Title: Fact Sheet: Superfund Technical Assistance Grants (TAGs)

Date: September 1993

Document #: EPA 540-K-93-001, OSWER 9230.1-05FSA, NTIS PB93-963301

Synopsis: This fact sheet provides a brief summary of Superfund TAGs.

Title: Superfund Technical Assistance Grant (TAG) Handbook: The Application Forms with Instructions

Date: September 1993

Document #: EPA 540-K-93-004, OSWER 9230.1-09B, NTIS PB93-963353

Synopsis: This is the application form for a TAG, including detailed instructions on how to complete the form.

Title: Superfund Technical Assistance Grant (TAG) Handbook: Applying for Your Grant

Date: September 1993

Document #: EPA 540-K-93-003, OSWER 9230.1-09A, NTIS PB 93-963352

Synopsis: This document discusses the TAG program and the Superfund cleanup process, and describes the basic requirements for applying for a TAG: beginning the process, making sure your group is eligible, demonstrating your group's capabilities, meeting financial requirements, identifying eligible activities, and submitting grant applications. It also discusses intergovernmental reviews of TAG applications, as well as EPA evaluation, notification, and acceptance of applications.

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Last updated on Thursday, December 11th, 2003
URL: <http://www.epa.gov/superfund/programs/reforms/reforms/2-5b.htm>
Web site maintained by Office of Superfund Remediation and Technology Innovation
Comments: superfund.reforms@epa.gov

APPENDIX H

TECHNICAL ASSISTANCE FOR PUBLIC PARTICIPATION

WHAT ARE TECHNICAL ASSISTANCE FOR PUBLIC PARTICIPATION GRANTS?



The Department of Defense established the Technical Assistance for Public Participation (TAPP) Program to assist community members of Restoration Advisory Boards (RABs) and Technical Review Committees (TRCs) in participating more fully in the DoD cleanup process. TAPPs allow community members to obtain objective, independent scientific and engineering support concerning the restoration process through the issuance of government purchase orders to small businesses.

WHO QUALIFIES FOR TECHNICAL ASSISTANCE?

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

WHAT KINDS OF PROJECTS QUALIFY FOR TECHNICAL ASSISTANCE?

TAPP procurements are intended to increase the ability of RAB or TRC community members to participate more effectively in the restoration program by enhancing their understanding of technical details. Typical projects might encompass:

- Review of restoration documents.
- Review of proposed remedial technologies.
- Interpreting health and environmental effects.
- Participating in relative risk evaluations.
- Certain types of technical training.

ARE THERE PROJECTS THAT ARE NOT ELIGIBLE FOR FUNDING?

Certain projects do not qualify for funding under the TAPP Program. Examples include:

- The generation of new primary data.
- Litigation or underwriting legal actions.
- Reopening final DoD decisions.
- Political activity or lobbying.
- Epidemiological or health studies.
- Community Outreach efforts.

HOW MUCH FUNDING IS AVAILABLE FOR TAPP?

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

HOW DOES THE TAPP PROCESS BEGIN?

The process begins with the community members of the RAB or TRC reaching an agreement on a TAPP project. The DoD RAB Co-Chair will be available to assist the community members should the need arise. The steps for requesting TAPP are:

1. Complete the application. Specify the type of assistance required, identify potential provider(s), and certify that alternative sources do not exist.
2. Submit the application to the DoD Co-Chair who will forward it to the Installation Commander for review and approval. (The DoD Co-Chair and Installation Commander for Mather are the same person.) The application will then be sent to the contract office to initiate a purchase order.
3. Respond to contracting office inquiries should they identify an assistance provider different from the one suggested by the community.

The Air Force point of contact for TAPP assistance may be found at (916)643-1164.

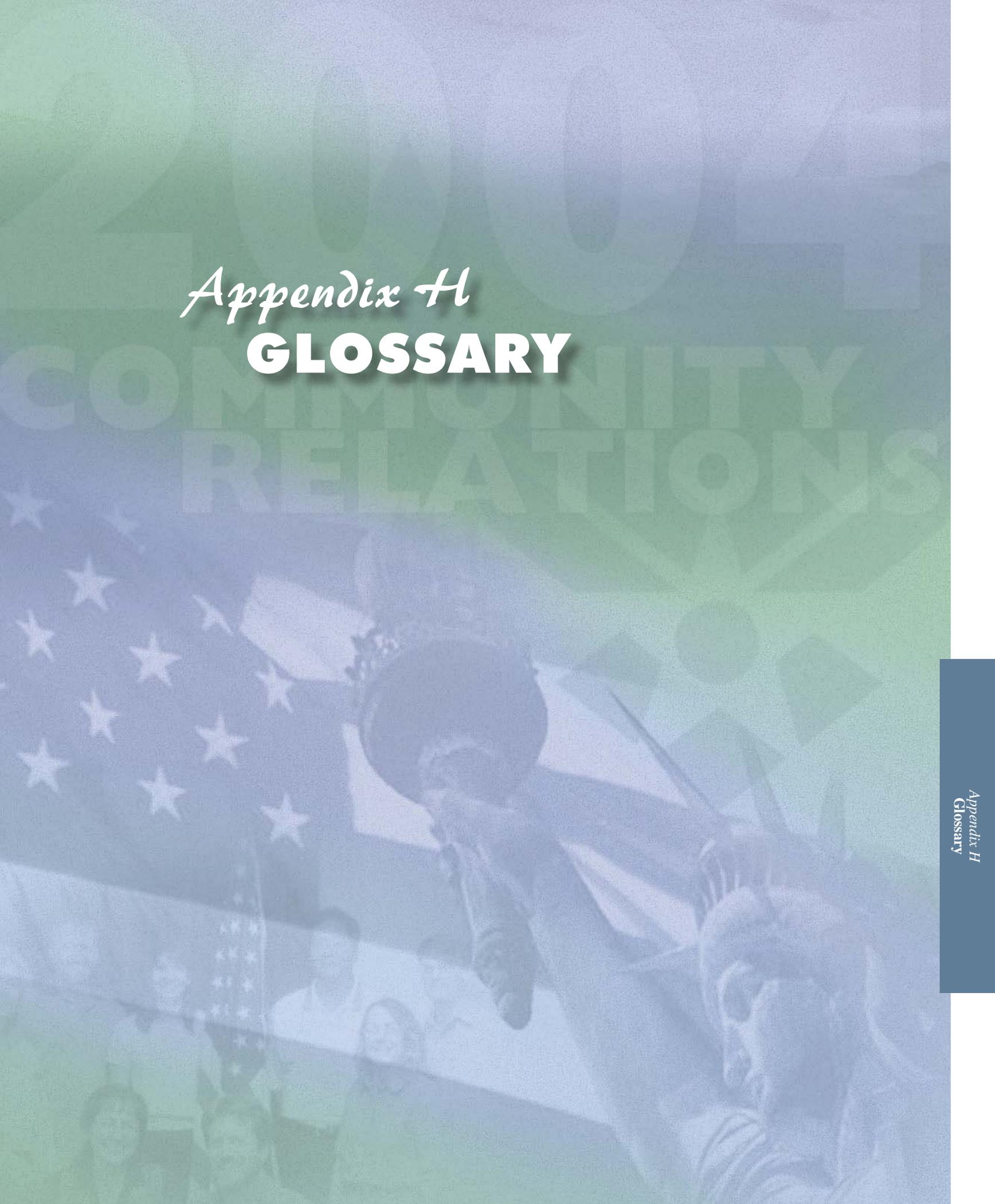
Appendix G

**APPLICABLE
REGULATIONS**

APPENDIX G – APPLICABLE REGULATIONS

Applicable rules, regulations, and guidance for the Community Relations Plan Update are listed below:

- Air Force community and Restoration Advisory Board guidance documents.
- The U.S. EPA publication *Superfund Community Involvement Handbook* (April 2002).
- The U.S. EPA publication *Community Relations in Superfund: A Handbook* (January 1992); <http://cave.epa.gov/cgi/nph-bwgcis/BASIS/ncat/pub/ncat/sf>.
- The Department of Toxic Substances Control (DTSC) publication *Department of Toxic Substances Control Public Participation Manual* (October 2001).
- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and amendments of 1986. Commonly known as Superfund, this is one of the nation's hazardous waste cleanup programs: <http://cave.epa.gov/cgi/nph-bwgcis/BASIS/ncat/pub/ncat/sf>. Report Number: PB2001-500055.
- The National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300), which serves to implement the requirements of CERCLA; <http://cave.epa.gov/cgi/nph-bwgcis/BASIS/ncat/pub/ncat/sf>. Report Number: PB90-160326. <http://www.epa.gov/fedrgstr/EPA-WASTE/1997/August/Day-07/f20583.htm>.
- The Federal Facility Agreement between the U.S. Air Force and the U.S. EPA.
- The Interagency Agreement, U.S. Air Force. July 1989.



Appendix H
GLOSSARY

APPENDIX H -- GLOSSARY

Administrative Record (AR) – the set of all documents considered or relied upon to make the decisions about cleanup for a set of sites (i.e., an Operable Unit). All documents used to develop a Record of Decision (ROD) for remedial actions are located in the Administrative Record (AR). For the location of the Administrative Record, please see Appendix D.

Bioventing – a process used to clean up petroleum products such as gasoline, jet fuel, diesel fuel, and oil and lubricants from soil above the water table. This process involves bacteria that occur naturally in soil. The bacteria use petroleum products as a source of food, thereby breaking down the contamination into harmless substances (carbon dioxide and water).

Carbon tetrachloride - a chlorinated hydrocarbon generally used in the past as a solvent.

Comprehensive Baseline Risk Assessment (CBRA) – a baseline risk assessment is a key part of the remedial investigation process that provides a quantitative evaluation of the potential threat to human health and the environment in the absence of any remedial action. It determines the risk posed to human health and the environment as a result of exposure to contaminants and provides the basis for determining whether a remedial action is necessary.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – a law, commonly known as Superfund, that authorizes the federal government to respond directly to releases of hazardous substances that may endanger public health or the environment.

Defense Environmental Restoration Program (DERP) – is the program established in 1984 to promote and coordinate efforts for the evaluation and cleanup of contamination at Department of Defense installations. DERP is managed by the Office of the Secretary of Defense. The program currently includes Installation Restoration Program (under which Department of Defense installation investigations and site cleanups are conducted) and other hazardous waste operations (through which research, development and demonstration programs are conducted).

Dioxin – a family of compounds known chemically as dibenzo-p-dioxins. Concern from dioxins and furans arises from their toxicity and presence in commercial products. Dioxins/furans can be created as unintended by-products of a number of activities, including combustion, chemical production, chlorine bleaching of paper and other processes. Of these compounds, 2,3,7,8-tetrachlorodibenzo(p)dioxin (TCDD) is the most toxic.

Environmental Update – Mather's Newsletter which presents information on the environmental cleanup at Mather. Currently, two newsletters are issued per year and are sent to the public mailing list. To be placed on the mailing list, please call (916) 364-4007.

Explanation of Significant Difference (ESD) – is a document which identifies significant changes that are being made to a component of the remedial action remedy in a Record of Decision or decision document. If fundamental changes are made to the overall remedy, they are documented in a Record of Decision document amendment and not an ESD.

Federal Facility Agreement (FFA) – is an agreement between U.S. EPA and individual federal facilities that establishes the procedural and legal framework for investigating and remediating Superfund sites.

Finding of Suitability for Early Transfer (FOSET) – is a decision document based on an environmental baseline survey (EBS) that makes the determination that early transfer of facilities would not have an adverse effect on human health or the environment.

Furans – see dioxin.

Granular Activated Carbon (GAC) – Carbon in a granular, porous form that can be used to remove from air or water organic contaminants that come into contact with the carbon. A filtering system often used in small water systems and individual homes to remove organic contaminants.

Information Repository (IR) – is a set of documents that contain important facts relating to the cleanup of a Superfund site, such as the former Mather Air Force Base. It includes correspondence, reports and documents pertaining to the cleanup of Mather, as well as general Superfund program information. The Mather Information Repository contains hundreds of documents. Many of the documents are of a technical nature and have titles such as "Remedial Investigation Report", "Baseline Risk Assessment" and "Feasibility Study". These documents are the results of years of environmental investigations and studies done at Mather. Project Managers use the information to help them decide how best to clean up each site. All the information is made available to the public, so individuals can make their own evaluations. The Information Repository may contain other documents that are not required legally, but that might be useful to the public. The location of the Mather Information Repository is provided in Appendix D of this document.

Installation Restoration Program (IRP) – is a congressionally authorized Department of Defense program established to address environmental impacts of past activities on military installations in the United States. Through the IRP, former oil, fuel, and hazardous materials disposal activities and releases at Mather are evaluated and addressed. This is the framework for the military's environmental cleanup.

Institutional Controls (ICs) – are non-engineering mechanisms used to complement and support a CERCLA Remedial Action. ICs are a component of the Remedial Action and can be classified in terms of their importance to protect the integrity of the Remedial Action and to protect the public from exposure to residual contamination.

National Priorities List (NPL) – is the U.S. EPA list of uncontrolled or abandoned hazardous waste sites that are priorities for long-term remedial evaluation and response.

Perchloroethene (PCE) – also known as tetrachloroethene or tetrachloroethylene. PCE is a man-made liquid solvent widely used in dry cleaning and for removing grease from metal surfaces. In homes, it may be found in suede protectors, paint removers, furniture strippers, water repellents, spot removers, and adhesives. PCE evaporates easily to the atmosphere producing a sweet,

ether-like odor. PCE was used at Mather as a solvent and degreaser for aircraft and vehicle maintenance activities.

Plume – a body of contaminated groundwater or soil gas.

Polychlorinated biphenyls (PCBs) – any of a family of industrial compounds produced by chlorination of biphenyls. These compounds accumulate in organisms and concentrate in the food-chain. They also decompose very slowly. PCBs are often found in insulating materials for electrical transformers.

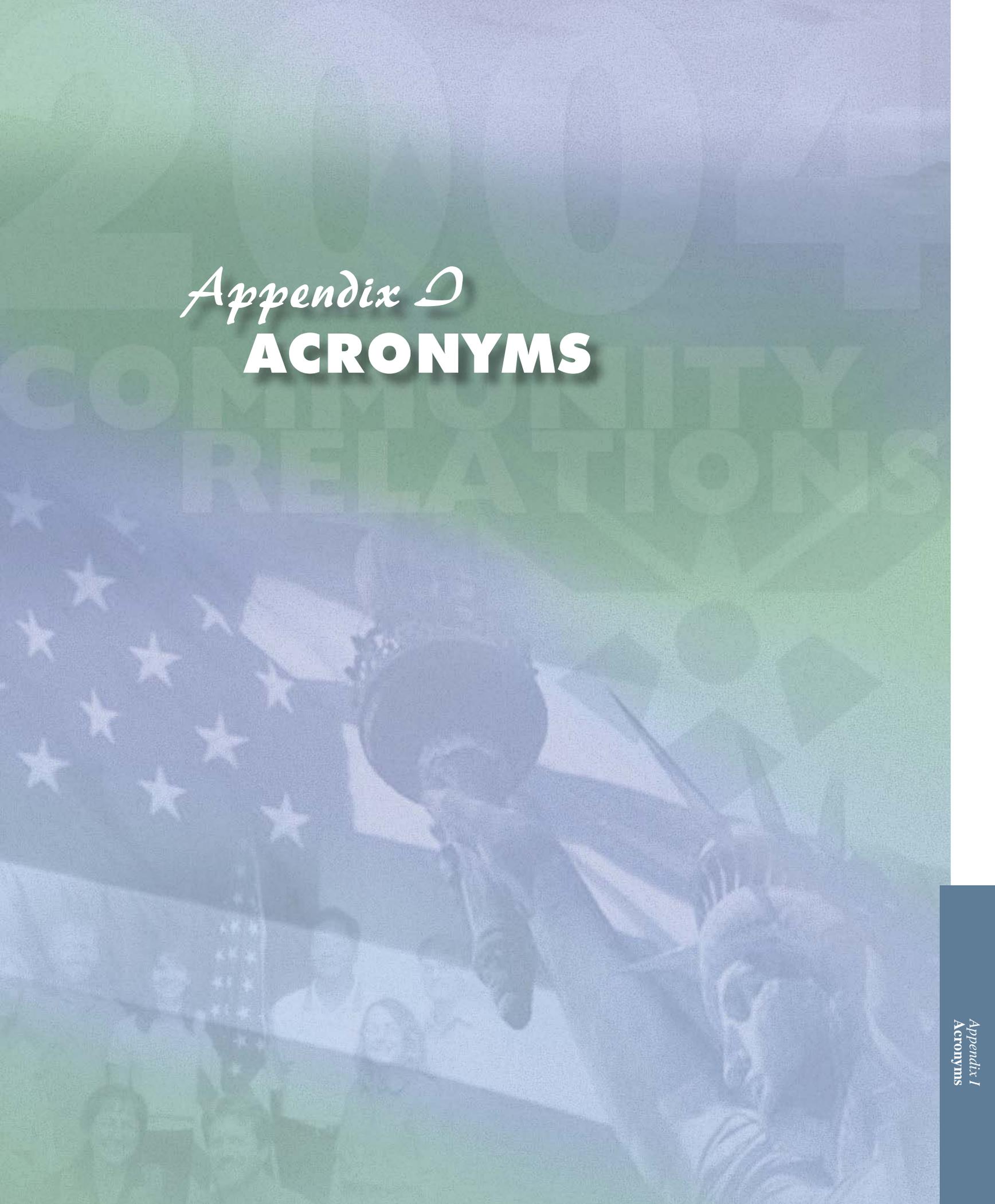
Polynuclear Aromatic Hydrocarbons (PAHs) – are hydrocarbon compounds with multiple benzene rings. PAHs are typical components of asphalts, fuels, oils, and greases. They are also called Polycyclic Aromatic Hydrocarbons.

Record of Decision (ROD) – Upon completion of the remedial investigation/feasibility study (RI/FS), the lead agency (for Mather, this is the Air Force) issues a Record of Decision (ROD) that sets forth the selected alternative for cleanup as well as the rationale for the selection. The ROD explains how the selected alternative is protective of human health and the environment, describes the applicable or relevant and appropriate requirements (ARARs) and how they will be met, and shows how the alternative is cost-effective and uses permanent solutions to the maximum extent possible. The ROD also responds to public comments that have been received regarding the cleanup remedy. When the ROD is issued, it is placed in the administrative record.

Soil Vapor Extraction (SVE) – this cleanup technology uses gas extraction wells and vacuum pumps to remove volatile organic compounds (VOCs) in gaseous form from the unsaturated soil area above the water table. The contaminated vapor vacuumed from the soil is then treated to destroy VOC contamination.

Superfund Amendments and Reauthorization Act (SARA) – are the laws/amendments to CERCLA that address liability, compensation, cleanup, and emergency response for hazardous substance releases. Title III of SARA established the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986.

Trichloroethene (TCE) – also known as trichloroethylene. TCE is a colorless liquid with an odor similar to ether. It is man-made and does not occur naturally in the environment. TCE is used mainly as a solvent to remove oils and grease from metal parts. It also is found in very low levels in some household products like typewriter correction fluid, paint removers, adhesives, and spot removers. TCE was used at Mather as a solvent and degreaser for aircraft and vehicle maintenance activities.



Appendix D
ACRONYMS

APPENDIX I -- ACRONYMS

AC&W – Aircraft Control and Warning

AFB – Air Force Base

AFBCA – Air Force Base Conversion Agency (now AFRPA)

AFCEE – Air Force Center for Environmental Excellence

AFI – Additional Field Investigation

AFRPA – Air Force Real Property Agency

AR – Administrative Record

ASC – Additional Site Characterization

ATSDR – Agency for Toxic Substances and Disease Registry

BCT – BRAC Cleanup Team

BEC – BRAC Environmental Coordinator

BRAC – Base Realignment and Closure

BTEX – benzene, toluene, ethylbenzene, and xylenes

CBRA – Comprehensive Baseline Risk Assessment

CERLCA - Comprehensive Environmental Response, Compensation and Liability Act

CUCC – Citizens Utilities Company of California (now California American Water Company)

DERP – Defense Environmental Restoration Program

DHS – Department of Health Services

DOD – Department of Defense

DTSC – (California) Department of Toxic Substances Control

EE/CA – Engineering Evaluation/Cost Analysis

EPA – (United States) Environmental Protection Agency

ESD – Explanation of Significant Difference

FAA – Federal Aviation Administration

FFA – Federal Facility Agreement

FFS – Focused Feasibility Study

FOSET – Finding of Suitability for Early Transfer

FS – Feasibility Study

GAC – Granular Activated Carbon

gpm – gallons per minute

IC – Institutional Control

IRP – Installation Restoration Program

IWMB – Integrated Waste Management Board

OU – Operable Unit

OWS – Oil Water Separators

PA/SI – Preliminary Assessment/Site Investigation

PAHs – Polycyclic aromatic hydrocarbons

PCBs – Polychlorinated biphenyls

PCE – Perchloroethene, also known as tetrachloroethylene, tetrachloroethene

PP – Proposed Plan

ppb – parts per billion

RA – Remedial Action

RAB – Restoration Advisory Board

RAM – Removal Action Memorandum

RD – Remedial Design

RI – Remedial Investigation

ROD – Record of Decision

RPM – Remedial Project Manager

RWQCB – (Central Valley) Regional Water Quality Control Board

SAC – Strategic Air Command

SARA – Superfund Amendments and Reauthorization Act

SVE – Soil Vapor Extraction

TAG – Technical Assistance Grant

TAPP – Technical Assistance for Public Participation

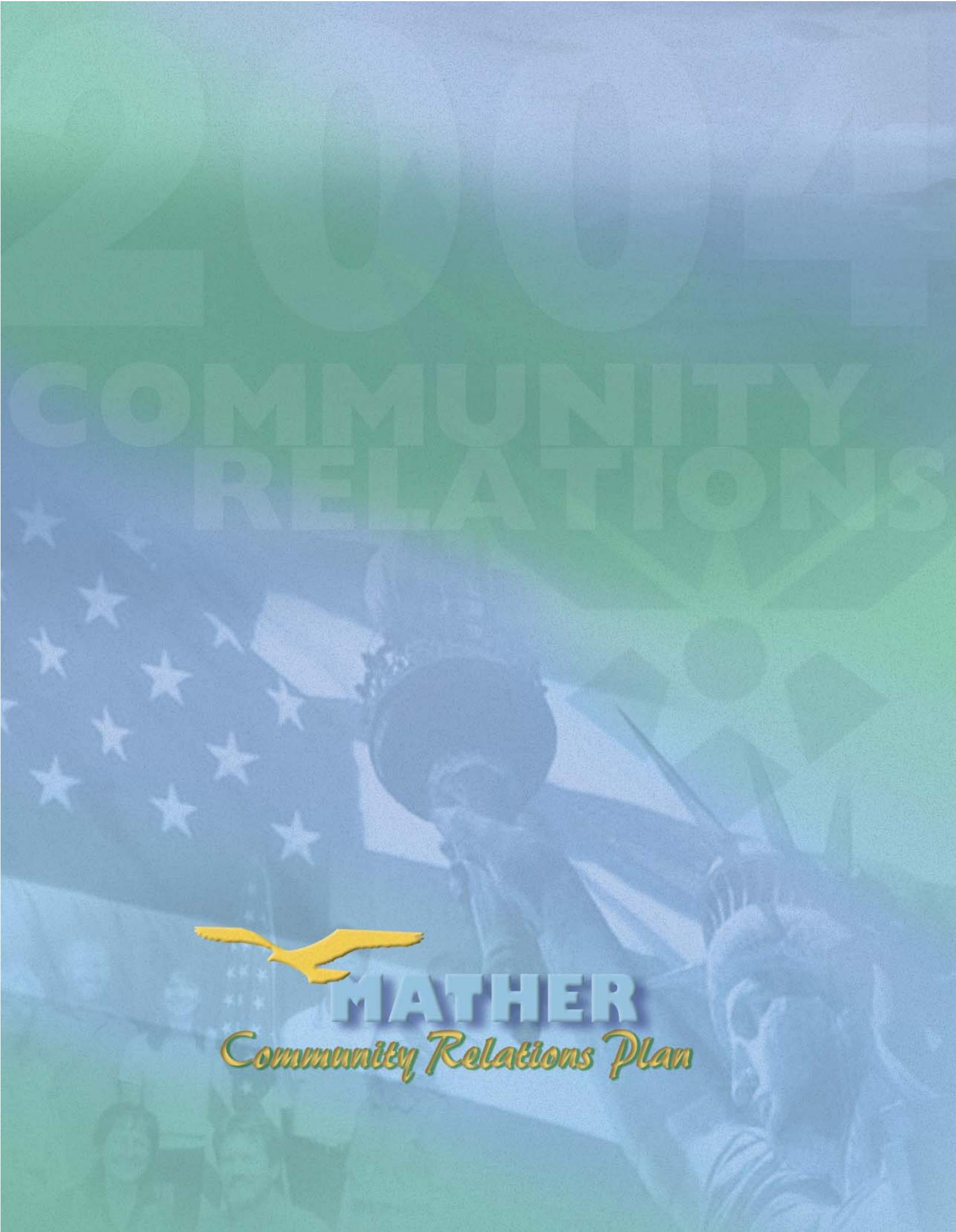
TCE – Trichloroethylene, also known as trichloroethene

TRC – Technical Review Committee

UST – Underground Storage Tank

VA – (United States Department of) Veterans Affairs

VOC – Volatile Organic Compound



MATHER

Community Relations Plan