

Ames
RESEARCH CENTER

Final

Community Involvement Plan NASA Moffett Federal Facility Agreement

**National Aeronautics and Space Administration
Ames Research Center
Moffett Field, CA**

September 2015

National Aeronautics and
Space Administration





Final
Community Involvement Plan
NASA Moffett Federal Facility Agreement

Prepared for:

National Aeronautics and Space Administration
Ames Research Center
Moffett Field, CA

September 2015

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EXECUTIVE SUMMARY

National Aeronautics and Space Administration (**NASA**)¹ Ames Research Center (**Ames**), Moffett Field, California, is located at the southern end of San Francisco Bay, approximately 35 miles southeast of San Francisco and 10 miles northwest of San Jose. NASA Ames is located in Santa Clara County, California, and is adjacent to the Cities of Mountain View and Sunnyvale. NASA Ames includes the NASA Ames campus and a portion of former Naval Air Station (**NAS**) Moffett Field transferred to NASA by the Department of the Navy (**Navy**) in 1994. The transferred property includes the NAS Moffett Field Superfund Site.

Under the NASA Ames Moffett Federal Facility Agreement (**FFA**), NASA Ames is conducting site investigation and cleanup activities for potential NASA Ames sources of contamination on the NASA Ames Campus and in specific areas on Moffett Field referred to as NASA Ames ‘areas of responsibility’ associated with the Regional Groundwater Remediation Program [Middlefield-Ellis-Whisman (**MEW**) Superfund Site, or MEW Regional Plume).

An important part of the NASA Ames environmental cleanup program includes informing and involving the community in cleanup discussions. This Community Involvement Plan (**CIP**) presents NASA’s plans to continue to inform and involve the community in NASA’s environmental cleanup program and reflects feedback obtained during community involvement interviews as well as federal and state guidance. This CIP adheres to applicable guidance from California Environmental Protection Agency, Department of Toxic Substances Control (**DTSC**) and the United States Environmental Protection Agency (**EPA**). The CIP is also a resource for general information on NASA’s cleanup and provides contact details for further information.

The CIP has the following goals:

- Document community concerns, interests, and information needs regarding the NASA Ames cleanup program as expressed by interviewees
- Describe NASA’s objectives for its Community Involvement Program
- Describe the specific methods and outreach activities NASA will implement to address community needs and ensure that residents have access to information
- Describe how NASA will carry out the community involvement activities required by NASA and regulatory guidance
- Describe the roles and responsibilities of NASA, the regulatory agencies, and the community
- Provide contact information for the regulatory agencies and NASA

¹ All acronyms and abbreviations are in bold the first time they are defined. [Appendix G](#) contains a full list of all acronyms and abbreviations.

OVERVIEW OF COMMUNITY INTERVIEWS AND FEEDBACK

The general themes from the CIP interviews NASA conducted in preparation of the document include the following:

- Theme 1.** The preferred method for providing information to the community is through brief easy-to-understand updates. These updates should be provided via e-mail and website resources. These updates could also be provided to contacts at already established websites and e-mail distribution lists for posting at their discretion.
- Theme 2.** The majority of the community members interviewed expressed interest in NASA's cleanup activities. All interviewees stated that they are confident that NASA's cleanup activities are being protective of tenants and the surrounding community. The interviewees stressed that the timeliness of cleanup is important regardless of the federal agency that is funded to conduct the environmental cleanup.
- Theme 3.** The Navy's Restoration Advisory Board (**RAB**) and various internet resources have been effective tools to inform and involve the segment of the community that is interested in the technical details of NASA Ames environmental cleanup.

The objectives of the community outreach activities discussed in this CIP include the following:

- Provide timely updates on topics of greatest interest or concern to the community
- Communicate information in a way that is user-friendly and accessible to the community
- Respond to community concerns and show how the community's input is used in making decisions about the environmental cleanup

Based on feedback from interviews with the NASA Ames community, NASA will inform and involve the community on the environmental cleanup program at NASA Ames through the following means:

- Maintain the NASA Ames Administrative Record/Information Repository
- Maintain the NASA Ames website
- Maintain presence and participation at the Navy's RAB Meetings
- Distribute e-mail announcements/updates and maintain e-mail and hardcopy mailing lists
- Prepare and distribute fact sheets

- Hold public meetings separate from the Navy RAB as needed
- Publish public notices
- Conduct outreach to local organizations
- Hold site tours

OVERVIEW OF NASA’S ENVIRONMENTAL CLEANUP PROGRAM AT NASA AMES

This CIP includes an overview of historical operations at NASA Ames as well as the current status of NASA Ames environmental investigation and cleanup activities. NASA is actively conducting environmental investigations and cleanup at NASA Ames to protect human health and the environment. NASA Ames includes a number of sites that are in various stages of environmental investigation and cleanup. These sites are often discussed during RAB meetings that are open to the public, and presented in technical reports available to the public in information repository.

OVERVIEW OF ENVIRONMENTAL CLEANUP ROLES AND RESPONSIBILITIES

Under the NASA Moffett FFA, NASA is responsible for the environmental cleanup of several sites at NASA Ames, which includes the NASA Ames campus and a portion of former NAS Moffett Field transferred to NASA from the Navy. Numerous investigations have been performed by NASA Ames to identify and evaluate potential sources of soil and groundwater contamination from NASA activities. In addition to past releases from NASA Ames operations, groundwater contamination is present beneath NASA Ames from upgradient sources (MEW Superfund Site) and from past Navy activities. NASA, as the landowner, is responsible for implementing land use controls to ensure the protectiveness of NASA’s and other parties’ remedial actions at NASA Ames. State and federal environmental agencies, collectively referred to as the “regulatory agencies,” provide regulatory oversight and are important resources for the NASA Ames community. The responsibility of the regulatory agencies is to review NASA’s plans and work at NASA Ames to make sure that regulations are followed. The primary regulatory agencies actively involved at NASA Ames are the EPA and San Francisco Bay Regional Water Quality Control Board.

The NASA Ames community plays an active role in NASA’s environmental cleanup program by providing input to the regulatory agencies and NASA on cleanup alternatives and selection of remedies.

1.0 INTRODUCTION

National Aeronautics and Space Administration (**NASA**)² Ames Research Center (**Ames**), Moffett Field, California, is located at the southern end of San Francisco Bay in Santa Clara County, approximately 35 miles southeast of San Francisco and adjacent to the Cities of Mountain View and Sunnyvale (**Figure 1**). NASA Ames includes the NASA Ames campus and a portion of former Naval Air Station (**NAS**) Moffett Field transferred to NASA by the Department of the Navy (**Navy**) in 1994. The transferred property includes the NAS Moffett Field Superfund Site

1.1 PURPOSE OF THE CIP

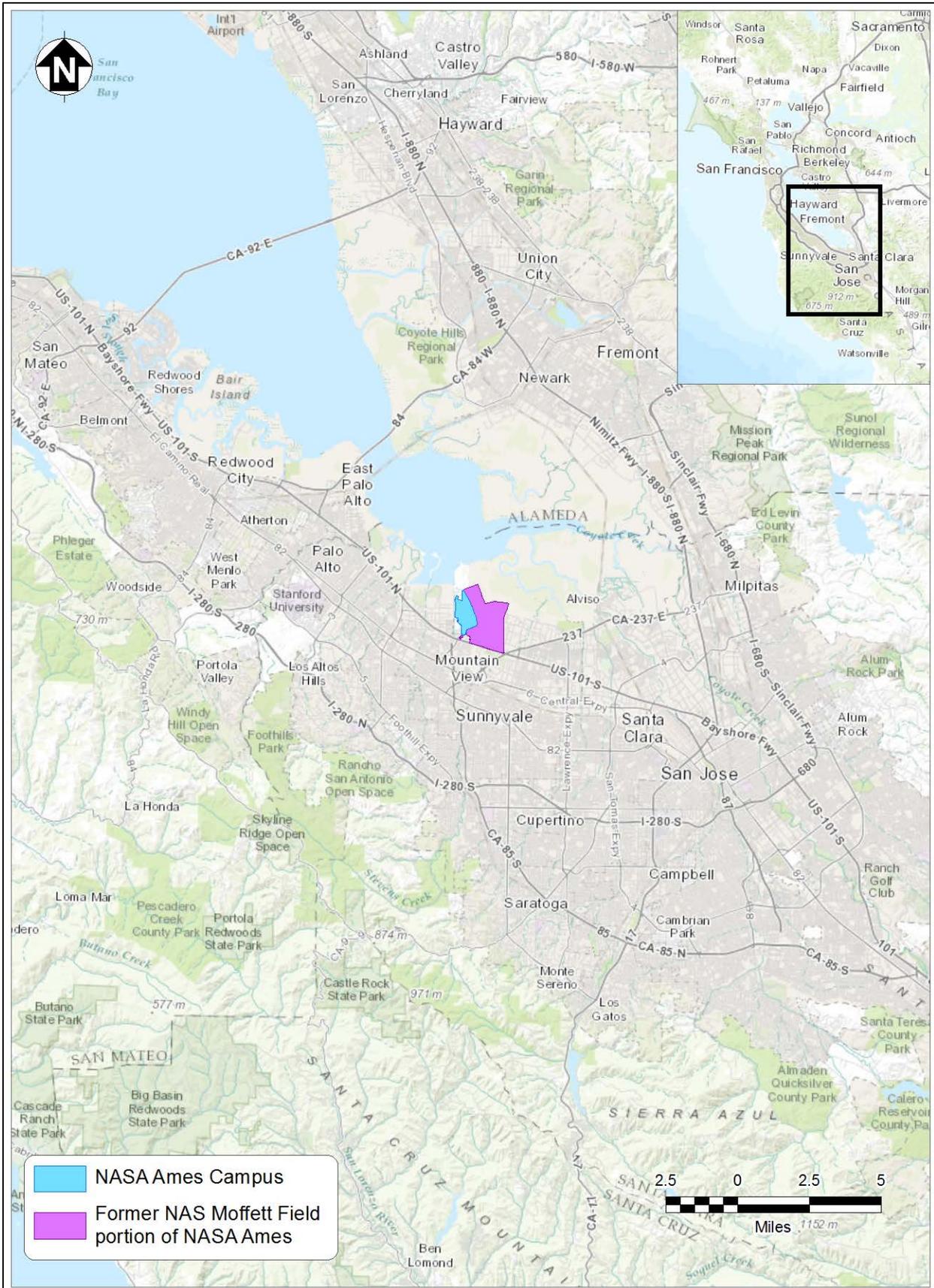
An important part of the NASA Ames environmental cleanup program includes informing and involving the community in cleanup discussions. This Community Involvement Plan (**CIP**) presents NASA's plans to continue to inform and involve the community in NASA's environmental cleanup program and reflects feedback obtained during community involvement interviews as well as federal and state guidance. NASA does not have specific guidance and refers to the regulatory agencies' applicable guidance to conduct their community involvement program. This CIP adheres to applicable guidance from California Environmental Protection Agency, Department of Toxic Substances Control (**DTSC**) and the United States Environmental Protection Agency (**EPA**). The CIP is also a resource for general information on NASA's cleanup program and provides contact details for further information. NASA is the lead agency and EPA Region 9 and the San Francisco Bay Regional Water Quality Control Board (**Water Board**) are the lead regulatory agencies for NASA's cleanup program under the NASA Moffett Federal Facility Agreement (**FFA**).

This CIP has the following goals:

- Document community concerns, interests, and information needs regarding the cleanup program at NASA Ames as expressed by interviewees
- Describe NASA's objectives for its Community Involvement Program
- Describe the specific methods and outreach activities NASA will implement to address community needs and ensure that residents have access to information
- Describe how NASA will carry out the community involvement activities required by regulatory guidance
- Describe the roles and responsibilities of NASA, the regulatory agencies, and the community
- Provide contact information for the regulatory agencies and NASA

² All acronyms and abbreviations are in bold the first time they are defined. [Appendix G](#) contains a full list of all acronyms and abbreviations

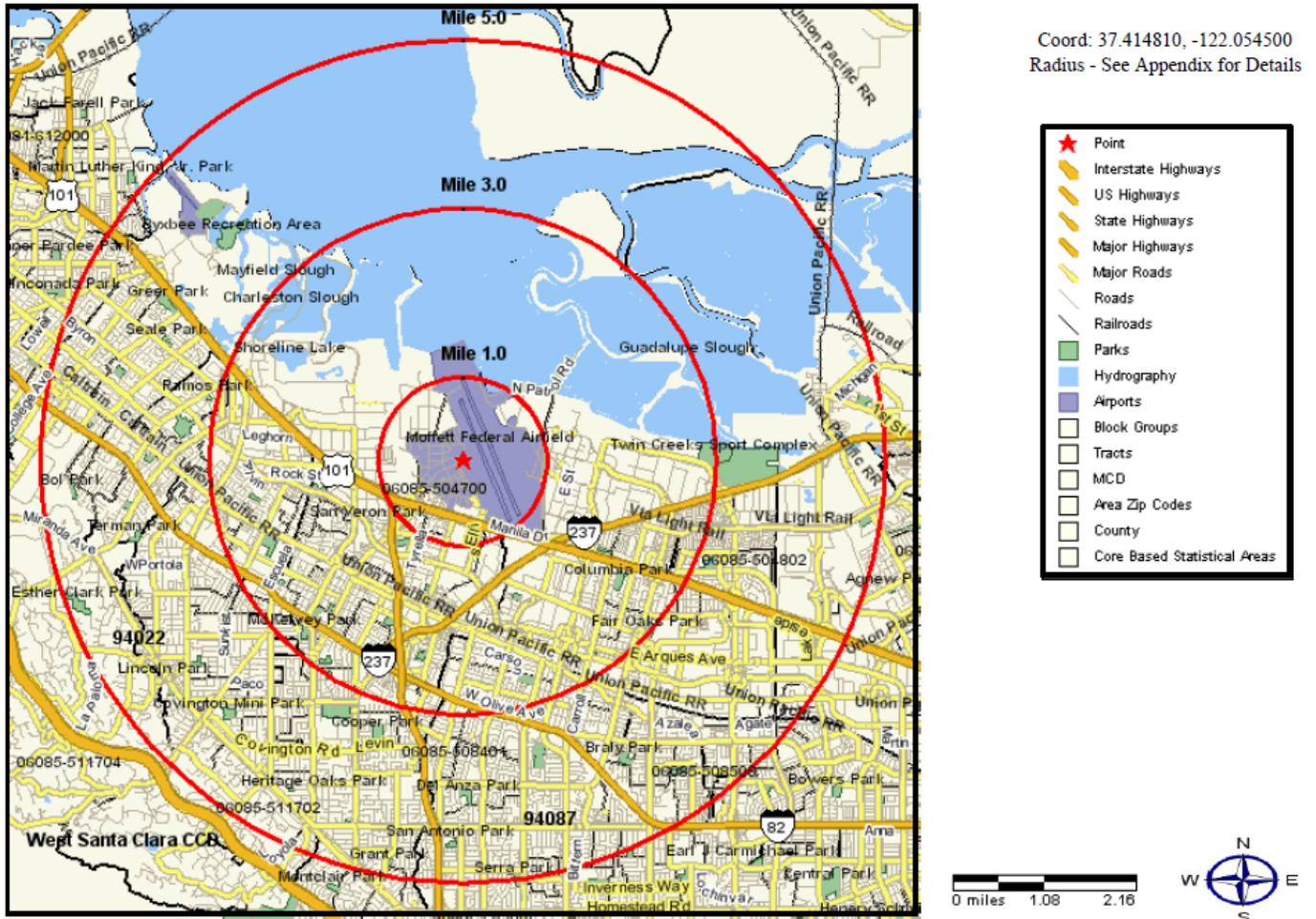
FIGURE 1 REGIONAL MAP



1.2 DESCRIPTION OF THE COMMUNITY

For the purposes of the demographic information presented in this CIP, a 3-mile radius around NASA Ames was used to define the NASA Ames community (Figure 2). This includes portions of the Cities of Mountain View and Sunnyvale.

FIGURE 2 NASA AMES COMMUNITY 3-MILE BOUNDARY



Note: Figure created by the Nielsen Company, 2015.

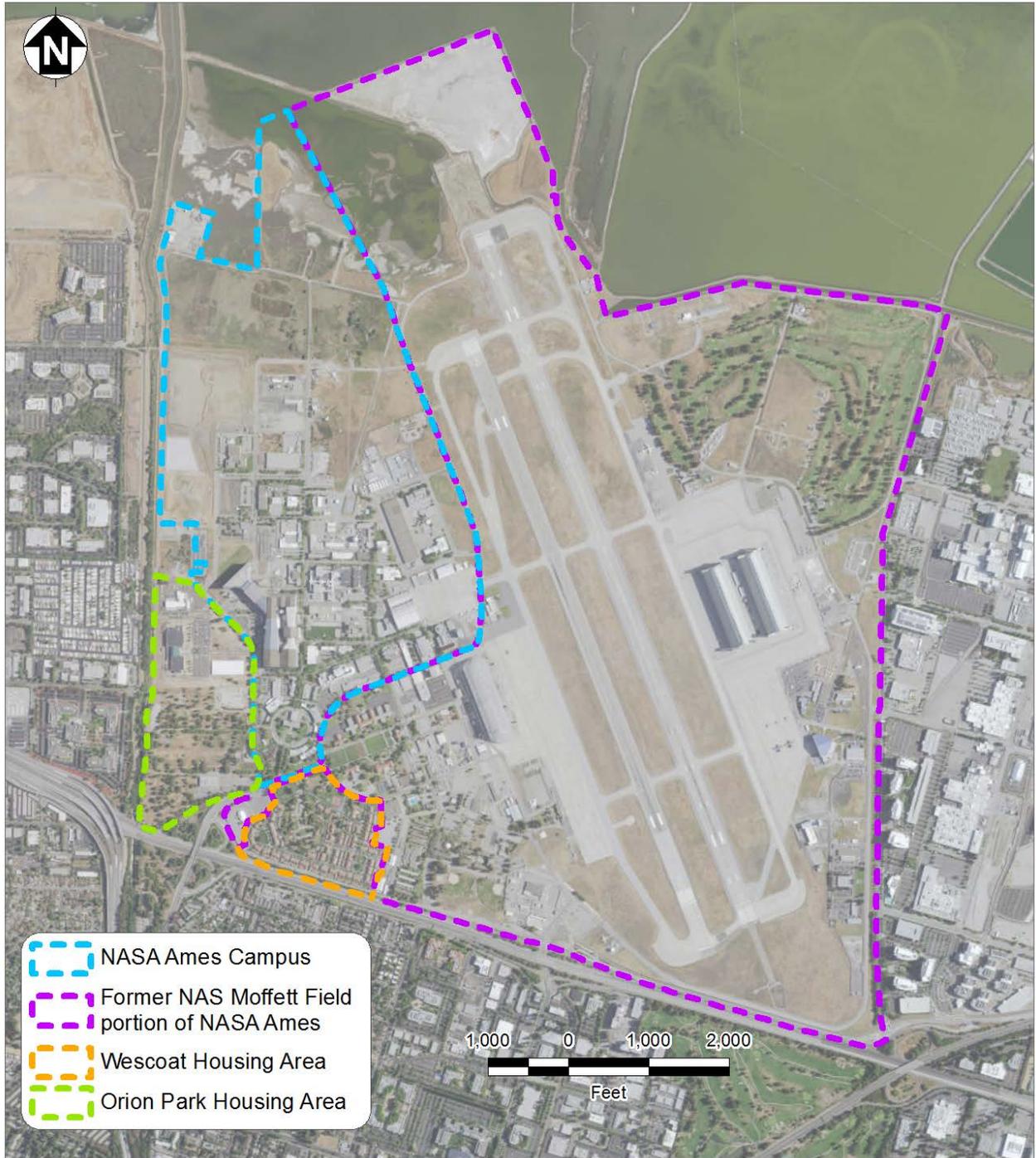
1.2.1 NASA Ames Research Center



2012 Aerial View of NASA Ames Research Center Campus
(Photo Courtesy of NASA Ames Research Center)

NASA Ames consists of the NASA Ames Campus and a portion of former NAS Moffett Field transferred to NASA by the Navy in 1994, which includes the NASA Research Park. The transferred property includes the NAS Moffett Field Superfund Site located to the east of the Ames Campus. The Orion Park and Wescoat Housing areas were previously part of Former NAS Moffett Field and border NASA Ames to the south ([Figure 3](#)).

FIGURE 3 COMPOSITION OF NASA AMES

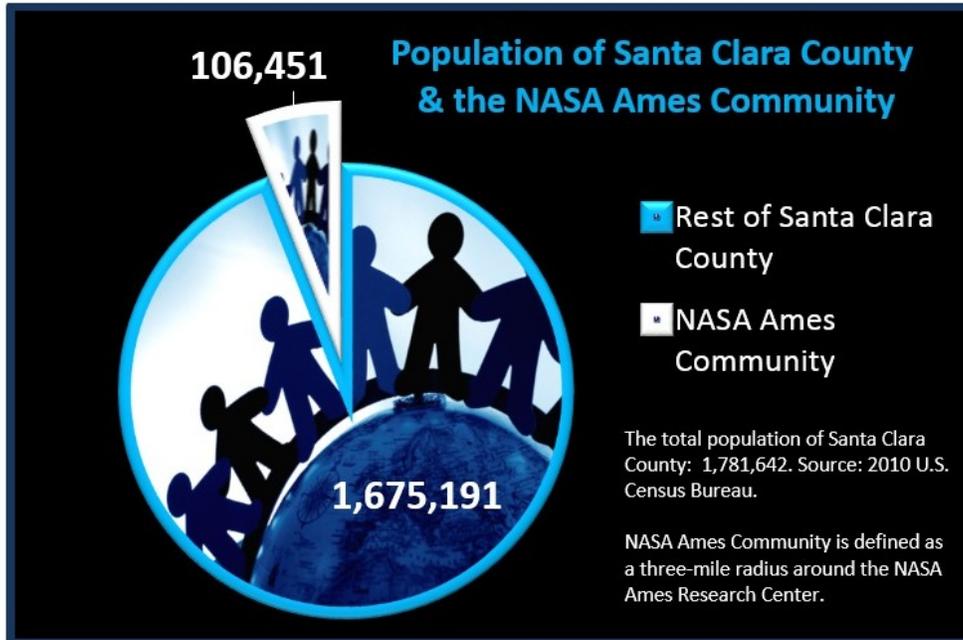


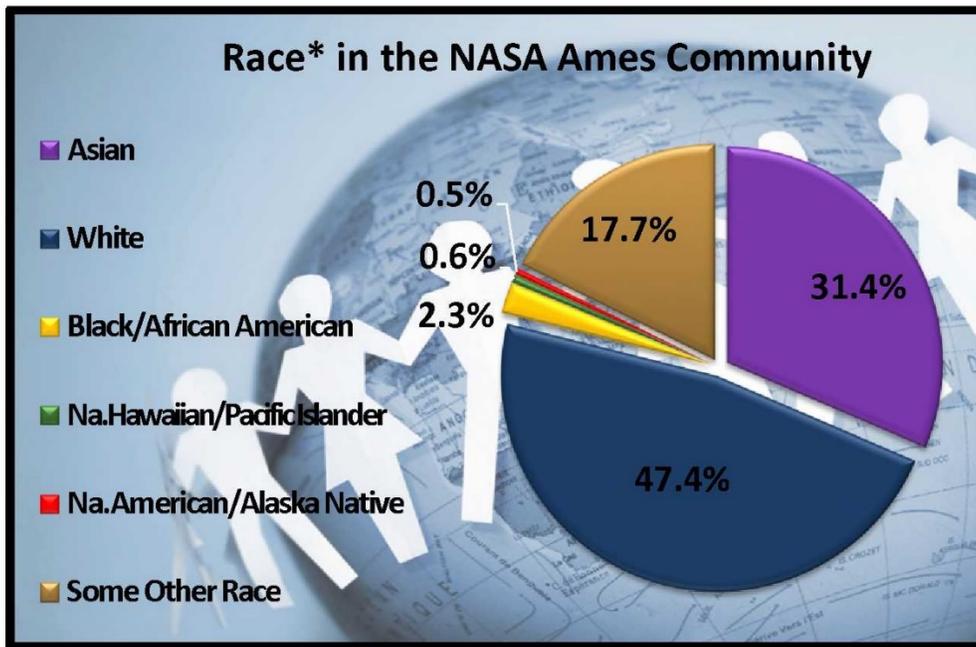
1.2.2 Surrounding Communities

The City of Mountain View has an estimated 2013 population of 77,846. This population is an increase of 5.1 percent since the 2010 U.S. Census. The City of Sunnyvale has an estimated 2013 population of 147,559, an increase of 5.4 percent since the 2010 U.S. Census. Santa Clara County includes 15 cities and towns, including Mountain View and Sunnyvale, as well as unincorporated

communities. The total estimated population of Santa Clara County was 1,781,642 according to the 2010 U.S. Census. This total includes 106,451 within a 3-mile radius around NASA Ames (NASA Ames Community) and 1,675,191 within the remainder of Santa Clara County.

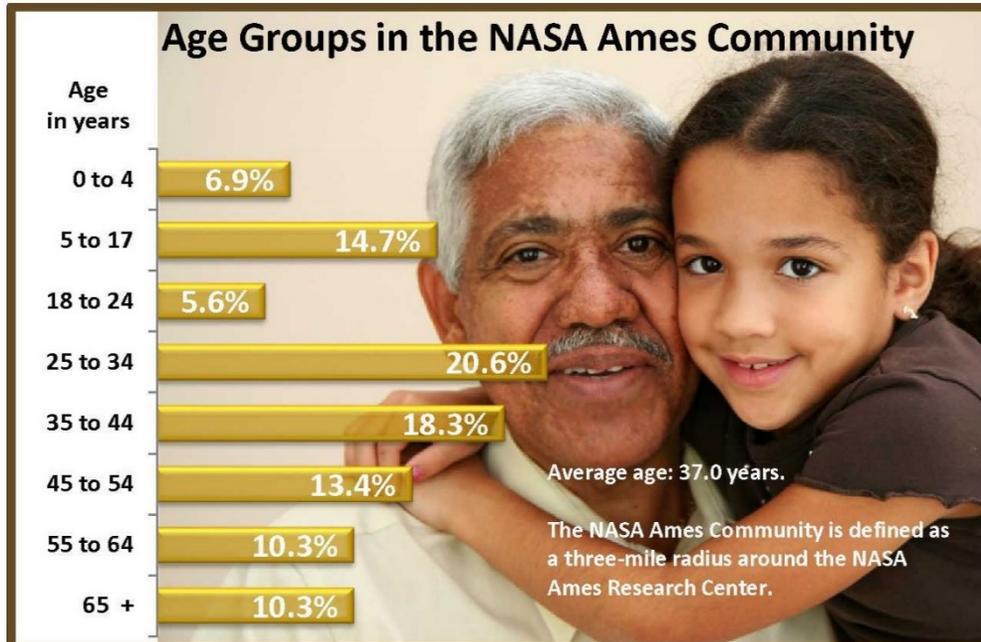
The following pages provide population, race, ages, education, average income, employment, and housing information for the NASA Ames community and are based on demographic information prepared by the Nielsen Company, 2015, unless otherwise noted.

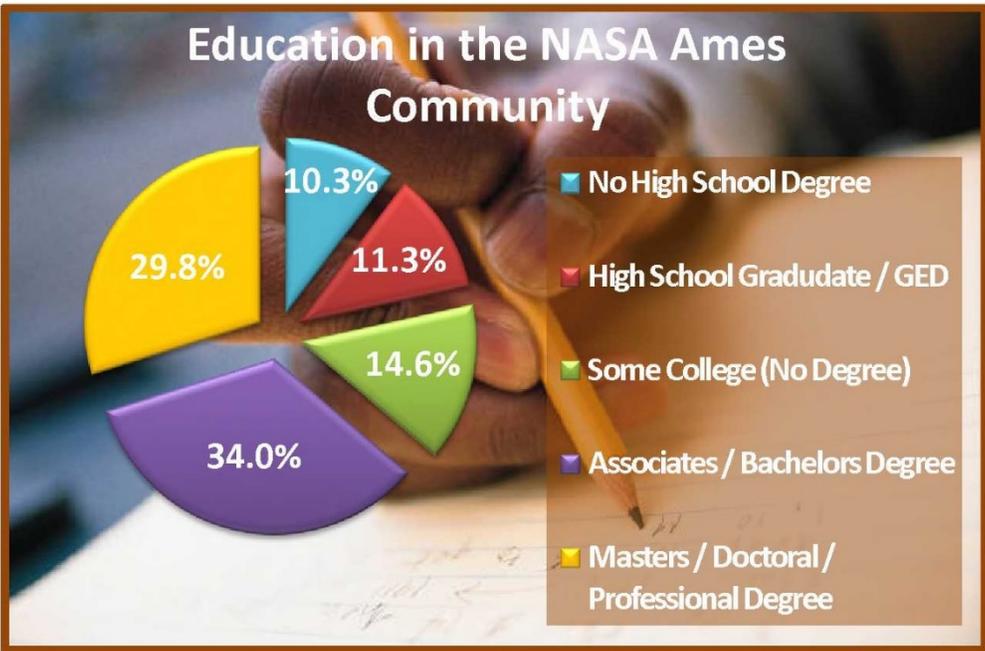




*The U.S. Census Bureau considers the Hispanic/Latino designation an ethnicity, not a race. The population self-identified as "Hispanic/Latino" is also represented within the categories in the "Race" demographic. In the NASA Ames community, 26.3% defined themselves as Hispanic/Latino.

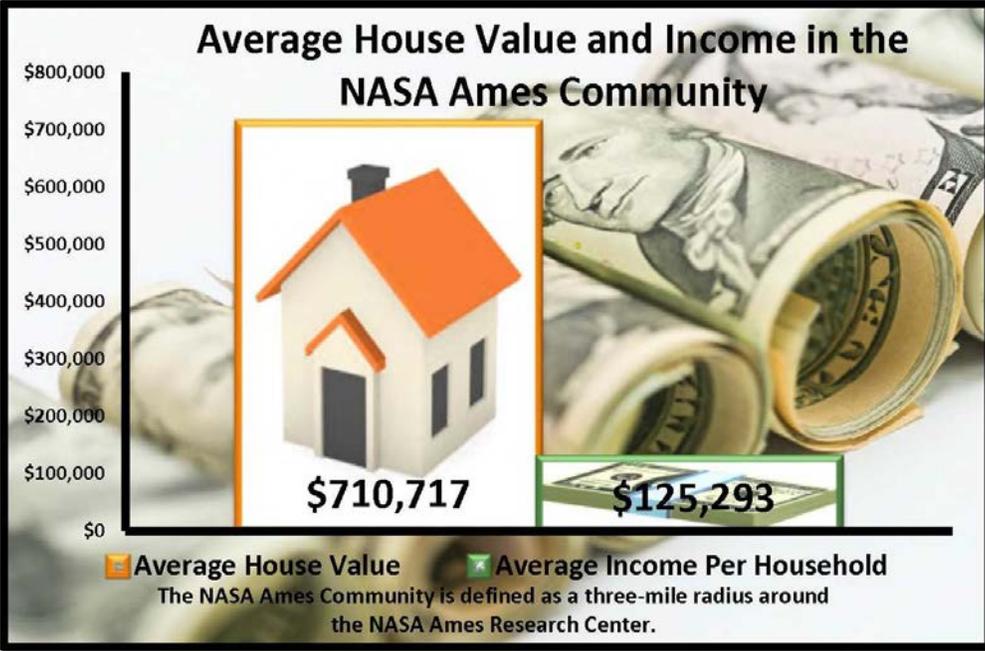
The NASA Ames Community is defined as a three-mile radius around the NASA Ames Research Center.





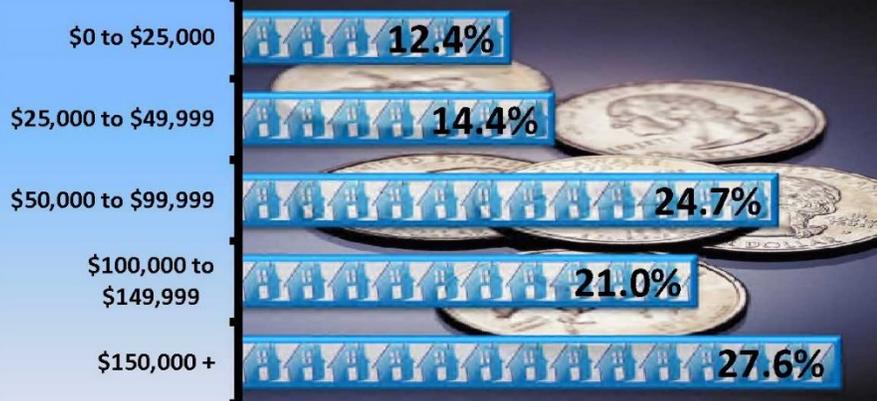
Education level for population age 25 and older. Associates Degrees and Bachelor's Degrees: Typically 2 to 4 year degrees. Masters, Doctoral, and Professional Degrees: Graduate academic or professional degree programs composed of advanced studies. Includes but is not limited to MS, MA, PhD, EdD, DPH, MD, DDS, DSW, DO, JD, and ThD.

The NASA Ames Community is defined as a three-mile radius around the NASA Ames Research Center.



The NASA Ames Community is defined as a three-mile radius around the NASA Ames Research Center.

Household Income Levels in the NASA Ames Community

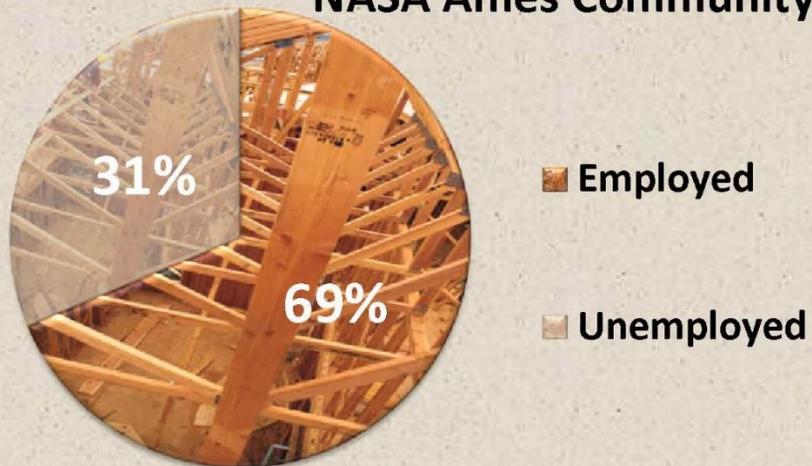


Average household income: \$125,293

Average household size: 2.4 persons

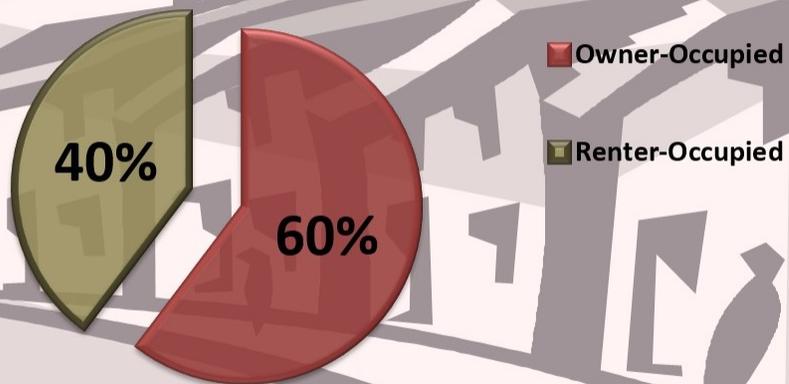
The NASA Ames Community is defined as a three-mile radius around the NASA Ames Research Center.

Employment in the NASA Ames Community



Employment percentage for population age 16 and older.
The NASA Ames Community is defined as a three-mile radius around the NASA Ames Research Center.

Housing in the NASA Ames Community



The NASA Ames Community is defined as a three-mile radius around the NASA Ames Research Center.

2.0 COMMUNITY INTERVIEWS AND FEEDBACK

In March and April 2015, NASA conducted outreach via e-mail and telephone to over 20 NASA Ames tenants, local residents, community organizations, schools, and elected officials inviting them to participate in the CIP interview process. Of these, 11 groups were interested and available to participate in the interview process. Seven interviews were conducted via teleconference, and three interviews were conducted in person. The interviewers included a NASA representative, the EPA Community Involvement Coordinator, and NASA's contractor, Tetra Tech, EMI. The interviews focused on compiling the community's interests and concerns regarding NASA's environmental cleanup program, as well as communication needs and preferences. The list of interview questions is included in [Appendix A](#). The general themes from the interviews include the following:

- Theme 1.** The preferred method for providing information to the community is through brief, easy-to-understand updates. These updates should be provided via e-mail and website resources. These updates could also be provided to contacts at already established websites and e-mail distribution lists for posting at their discretion.
- Theme 2.** The majority of the community members interviewed expressed interest in NASA's cleanup activities. All interviewees stated that they are confident that NASA's cleanup activities are being protective of tenants and the surrounding community. The interviewees stressed that the timeliness of cleanup is important regardless of the federal agency that is funded to conduct the environmental cleanup
- Theme 3.** The Navy's Restoration Advisory Board (**RAB**) and various internet resources have been effective tools to inform and involve the segment of the community that is interested in the technical details of NASA Ames environmental cleanup.

2.1 BACKGROUNDS OF INTERVIEWEES

The interviewees are involved in a broad range of community organizations including civic organizations, homeowners associations, and environmental groups. NASA interviewed 10 different groups. During some of the interviews, more than one person from the organization participated; NASA spoke with a total of 16 people during the preparation of the CIP. The interviewees are actively involved in more than 11 organizations that serve the surrounding Cities of Mountain View and Sunnyvale and former NAS Moffett Field. The interviewees included NASA Ames tenants, Navy RAB members, residents, elected officials, and educational representatives that live and/or work on former NAS Moffett Field or in the Cities of Mountain View and Sunnyvale. The list of community members NASA interviewed and their affiliations is presented in [Table 1](#).

The average amount of time interviewees have lived or worked in the vicinity of NASA Ames or in the Cities of Mountain View and Sunnyvale is 25 years. Almost all of the interviewees belong to at least one community, civic, or neighborhood association. More than half of the interviewees belong to more than two organizations.

More than half of the interviewees have given input or participated in community outreach events at NASA Ames. Eight of the interviewees have attended at least one of the Navy's Moffett Field RAB meetings. The majority of interviewees had some information about NASA Ames and NASA Ames environmental cleanup activities. The interviewees have received information on NASA Ames through e-mail, websites, NASA and EPA documents, the newspaper, Navy RAB meetings, Mountain View and Sunnyvale City Council meetings, or their own research. More than half of the interviewees are on either the Navy's and/or EPA's e-mail or mailing lists to receive meeting notices concerning environmental cleanup and general information such as fact sheets and Proposed Plans. Most of the interviewees prefer to receive updates from NASA Ames via e-mail. The interviewees indicated that the best way to present information is via e-mail, websites, or in person at already established group meetings. The interviewees responded that they do not think NASA needs to host separate meetings to provide updates on NASA's environmental program and that they prefer not to participate in additional meetings.

TABLE 1 NASA COMMUNITY INTERVIEWEES

Name	Primary Affiliations
Bill Berry	Navy RAB Co-Chair/Former NASA Ames Employee
Rebecca Kohn	Santa Clara Audubon Society/Navy RAB Member
Jim Davis Jennifer Garnett Lynne Kilpatrick	City of Sunnyvale/RAB Participants
Tom Clausen Kristi Dunbar David Schwenke Leland Stone	NASA Union Representatives
John Inks	City of Mountain View/Navy RAB Participant
Dan Lunk Patricia Ponzini	University Associates Silicon Valley (NASA Ames Tenant)
Stacy Marshall	Carnegie Mellon (NASA Ames Tenant)
Lenny Siegel	Center for Public Environmental Oversight/Navy RAB Member
Ida Stevens	Ames Child Care Center
Oscar Zelada	The Villages Property Management (Wescoast Housing)

2.2 COMMUNITY INTERESTS AND CONCERNS

The primary interest for interviewees is the general status of planned cleanup of the sites. Interviewees were concerned that NASA Ames would have to assume responsibility for environmental cleanup of sites that are the responsibility of other parties. Several interviewees mentioned that the community wants to see the cleanup completed cost-effectively. The interviewees stressed that the timeliness of cleanup is important and that they want the cleanup to move forward regardless of the federal agency that is funded to conduct the environmental cleanup. Tenants of former NAS Moffett Field and local residents have concerns about whether their health is protected from the groundwater plume beneath the property. There is concern about vapor intrusion and if there are any health impacts working or living above a trichloroethene (TCE) groundwater plume.

Interests or concerns relating to investigation and cleanup by NASA Ames include:

- **General Status Updates:** Most of the interviewees were interested in updates on the status of the environmental cleanup by NASA Ames. The interviewees said that the community is interested in receiving updates on groundwater, vapor intrusion, and how the lease between NASA and Planetary Ventures will impact the local community. The interviewees said the community is mostly concerned about whether it is safe to live and work at NASA Ames.
- **Accessibility of Information:** Interviewees said that information on the cleanup of environmental sites by NASA Ames and contact information should be easily accessible online. The local community and NASA Ames community look for a majority of their information online.

The interviewees were asked what specific issues and concerns they, or the community at large, have related to the environmental cleanup by NASA Ames. Most interviewees were concerned primarily about how groundwater contamination and vapor intrusion will impact their working or living environments. Interviewees said that the community is generally not aware of the progress of the cleanup of sites by NASA Ames other than the regional groundwater remediation program.

2.3 COMMUNICATION AND CONFIDENCE IN NASA AND FEDERAL/STATE REGULATORY AGENCIES

More than half of the interviewees have contacted elected officials, NASA, or the regulatory agencies for general information about NASA Ames. When asked if the responses from elected officials, NASA, or regulatory agencies were timely and helpful, the majority of the interviewees said yes. One interviewee said they did not receive any response to their question. Over half of the interviewees said they knew the appropriate contact information for NASA or knew how to find out whom to contact. Most of the interviewees prefer to contact NASA via e-mail or telephone for information about the environmental cleanup program. Interviewees suggested that NASA post regular site updates on a website or send e-mails to make it convenient, reducing the need for people having to contact NASA via telephone or e-mail. Most interviewees did not have a specific time frame for NASA to send out general information, rather requested that information be sent in a timely manner and as necessary.

2.4 COMMUNITY COMMUNICATION PREFERENCES

Interviewees were provided a list of communication methods and identified the ones they found valuable and convenient. [Table 2](#) provides a ranking of communication preferences based on interviewee responses.

TABLE 2 PREFERRED COMMUNICATION METHODS

Preferred Communication Methods (in order of preference)	
1.	E-mail Announcements/Updates (which may include providing electronic fact sheets)
2.	Navy RAB Meetings
3.	Site Tours
4.	NASA Website

TABLE 2 PREFERRED COMMUNICATION METHODS (CONTINUED)

Preferred Communication Methods (in order of preference)	
5.	Public Notices in the Newspaper
6.	Outreach to Established Community Organizations (attending their meetings or sending materials to share)
7.	Table or Booth at a Community Event
8.	Other Recommendations Provided: <ul style="list-style-type: none"> • Social media presence • Public notices posted in buildings at NASA Ames • Town hall meetings at NASA Ames • Pre-existing meeting • Environmental reports • Informational posters posted in the NASA Ames cafeteria

The majority of interviewees thought that the community would be sufficiently informed via e-mail as needed. More information on the NASA Ames mailing list can be found in [Appendix F](#).

Half of the interviewees have attended at least one Navy RAB meeting. They thought the information provided by NASA at the Navy RAB meetings was sufficient for the community members that attended the meetings. However, it was noted that some information provided by other presenters at the Navy RAB meetings has been too technical for the general public. More information on meeting locations can be found in [Appendix C](#).

When asked what organizations NASA should contact, interviewees suggested various organizations including environmental organizations, neighborhood associations, historical organizations, local chambers of commerce, schools and parents groups, Rotary Clubs, and community groups that include local residents. Interviewees suggested that the Cities of Mountain View and Sunnyvale could assist by providing NASA environmental information on their city websites.

Only four of the interviewees knew that environmental documents regarding NASA Ames are housed at the Mountain View Public Library, and of those four, only two of them had accessed the Information Repository. A few of the interviewees have looked at NASA’s website to search for documents. A majority of interviewees said that having environmental documents and information available online would be convenient for the community to access. Interviewees said that NASA needs to keep the information on their website up to date and easily accessible for the community. NASA keeps an Administrative Record that contains all documents considered or relied on during the process of making environmental cleanup decisions at NASA Ames. More information on the Administrative Record and Information Repository for NASA Ames can be found in [Appendix D](#).

Interviewees said that they receive local news from the newspaper or online website from the *Mountain View Voice*, *Palo Alto Weekly*, the *Sunnyvale Sun*, and *San Jose Mercury News*. Most of the interviewees rely on websites to obtain environmental cleanup information. These include [EPA’s website](#), [NASA’s website](#), and [Navy RAB member Steve William’s blog](#). Some of the NASA Ames tenants interviewed said they get local information from the [NASA Ames website](#).

A majority of the interviewees suggested that NASA use more online tools such as posting information on websites, sending e-mails, and getting connected to established websites as the best way to provide information to the public.

It was suggested by a few of the interviewees that the NASA Ames website is difficult to navigate and could be redesigned to make it more user-friendly. The information on NASA Ames website should be easily accessible, searchable, and with a visible and interactive platform.

3.0 COMMUNITY INVOLVEMENT GOALS AND ACTIVITIES

This section identifies NASA's specific goals and activities for community involvement at NASA Ames in the future. NASA used feedback from the community interviews, community census information, and regulatory agency community involvement guidance to compile these goals and activities.

3.1 COMMUNITY INVOLVEMENT GOALS

NASA's community involvement goals include the following:

- Provide timely updates on topics of greatest interest or concern to the community
- Communicate information in a way that is user-friendly and accessible to the community
- Respond to and show how the community's concerns and input are used in making decisions about environmental cleanup activities at NASA Ames

3.2 COMMUNITY INVOLVEMENT ACTIVITIES

The community involvement program activities discussed in this section are designed to meet the communication needs, concerns, and preferences of the NASA Ames community. NASA will have to balance its resources and staff to appropriately plan and implement any of these activities.

Feedback from the NASA Ames community on the environmental cleanup program will be considered and used as appropriate by NASA and the regulatory agencies. If written formal comments are received, NASA will respond to those comments in writing. NASA will also respond to oral comments recorded at public meetings.

As part of its ongoing community involvement program, NASA will conduct the following activities:

- **Administrative Record/Information Repository** (ongoing):
 - NASA will maintain an Administrative Record of documents that have been prepared in conjunction with NASA Ames environmental cleanup sites.
 - Information Repository of NASA's Administrative Record are located in the Mountain View Public Library, at NASA Ames and on the NASA Ames website, and at the EPA Region 9 Office. These Information Repository are accessible to the public. For more information on the Administrative Record and Information Repository for NASA Ames, see [Appendix D](#).
- **Maintain presence at the Navy's RAB** (ongoing):
 - Continue to provide updates on the NASA Ames environmental program at the regularly scheduled quarterly Navy RAB meetings.

- Address comments and concerns on the NASA Ames environmental program from RAB members and the public at RAB meetings.
- Post a link to the Navy's RAB meeting schedule, agendas, and past meeting minutes on the NASA Ames website.
- **Maintain the NASA Ames Website** (regularly):
 - Provide meeting schedules, agendas, meeting minutes, presentations for NASA Ames-led projects, and environmental documents on the [NASA Ames website](#).
 - Update NASA, regulatory agency, Cities of Mountain View and Sunnyvale, and Navy member contact information.
- **Provide E-Mail Updates** (as needed):
 - Maintain an e-mail distribution list of community members interested in NASA updates.
 - Provide updates to e-mail distribution list members about upcoming meetings, general information, and documents requiring public input.
- **Prepare and Distribute Fact Sheets** (as needed):
 - Announce significant activities such as completion of technical milestones, upcoming public meetings, and opportunities for involvement in the environmental restoration process.
 - Prepare fact sheets for final engineering designs (per the National Oil and Hazardous Substances Pollution Contingency Plan [**NCP**] [EPA 2005b]), response actions (per the California Health and Safety Code [**HSC**] [DTSC 2001]), and when there are significant findings or other information to be conveyed to the community. Proposed Plans also serve as fact sheets during remedy selection and may be used in lieu of separate fact sheets, if appropriate.
 - Provide a timeline of investigation and cleanup activities at NASA Ames.
 - Inform the community of progress on key sites.
- **Hold Public Meetings** (as required or needed):
 - Public meetings will be held for preparation of Proposed Plans per the Superfund Amendments and Reauthorization Act of 1986 (**SARA**) and the NCP. Public meetings will also be held for a proposed Record of Decision (**ROD**) Amendment (EPA 2005b).
 - Usually announced by a public notice.
- **Publish Public Notices** (as required or needed):
 - Meet the requirements of federal and state laws.
 - Announce significant events including:
 - Public comment periods and public meetings for Proposed Plans and Engineering Evaluation/Cost Analysis (**EE/CA**) documents.

- Notice of availability of RODs.
- Five-year reviews.
- Post public notices in the *Mountain View Voice*. Additionally, public notices may also be placed in other local newspapers such as the *Sunnyvale Sun*, *Palo Alto Weekly*, and *San Jose Mercury News*.
- NASA will respond to public comments in writing that are provided during formal comment periods throughout the Comprehensive Environmental Response, Compensation, and Liability Act (**CERCLA**) process. The responses to public comments are called a “responsiveness summary,” which is usually provided as appendices to decision documents (see [Figure 4](#) for more information on the CERCLA process).
- **Update Mailing Lists** (ongoing):
 - Maintain the electronic and hard-copy mailing lists by revising elected official information as necessary and making appropriate additions and corrections for others, as received.
 - NASA may occasionally use a smaller subset of the electronic and/or hard-copy mailing lists depending on the content of the mailing.
 - Expand the mailing list by adding individuals and organizations identified during the interview process and community outreach functions.
- **Conduct Outreach to Local Organizations** (as requested):
 - Provide general cleanup information electronically and via hard copy to community organizations, schools, and local blogs and websites.
- **Hold Site Tours** (as possible):
 - When possible and appropriate, host a site tour of the cleanup sites so that representatives from the community can obtain a first-hand look at ongoing or completed activities.

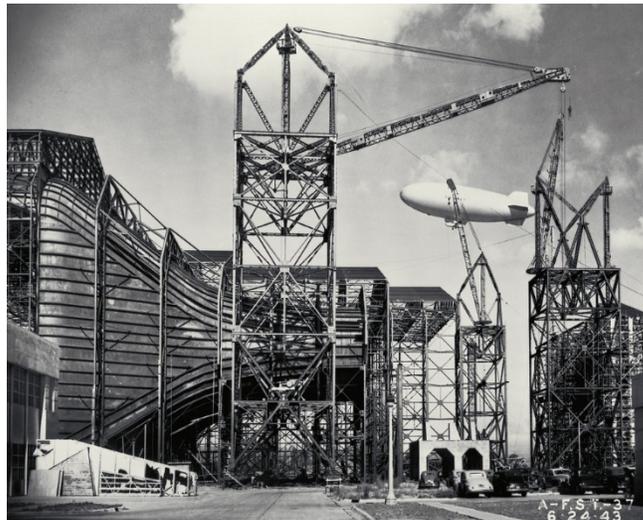
NASA will seek feedback during community involvement events about whether community members are getting the information they need. A general reference list of local Bay Area media contacts is included in [Appendix E](#). NASA will evaluate goals for each activity on a regular basis to ensure that they are being met. NASA will periodically review this CIP and update it accordingly.

4.0 NASA CLEANUP PROGRAM

To help the community better understand the NASA Ames cleanup process, this section discusses historical operations at NASA Ames, presents a timeline of these past activities, and provides the current status of NASA's environmental cleanup program. This section also presents the regulations and guidance that shape the environmental cleanup and community involvement activities.

4.1 SITE HISTORY

NASA Ames was established in 1939 as the Ames Aeronautical Laboratory of the National Advisory Committee for Aeronautics. The Ames Aeronautical Laboratory was located on land adjacent to the west of former NAS Moffett Field and consisted of wind tunnels, hangars, aircraft operations, and other research facilities. In 1958, NASA was established under the Space Act, and Ames Aeronautical Laboratory became Ames Research Center. This property is now referred to as the NASA Ames Campus. Although NASA Ames was founded primarily to engage in wind tunnel research on the aerodynamics of propeller-driven aircraft, its role has expanded to encompass spaceflight and information technology. NASA Ames currently supports NASA's missions in astrobiology, small satellites, robotic lunar exploration, the search for habitable planets, supercomputing, intelligent/adaptive systems, advanced thermal protection and airborne astronomy.



1943 Photograph of the Construction of the Ames 40- by 80-foot Wind Tunnel with a Side-View Entrance Cone and Blimp in the Background.

(Photo Courtesy of NASA Ames Research Center)

As part of its operations, NASA Ames has used various hazardous materials including metals, solvents, fuels, oils, polychlorinated biphenyls (PCB), acids, bases, and radioactive materials. Previous investigations have indicated that some of these hazardous materials have been released to the environment.

The NAS Moffett Field Superfund site located immediately east of the NASA Ames Campus was listed on the National Priorities List (NPL) in July 1987. The Navy has been addressing contamination at the site pursuant to the Navy's 1990 Moffett FFA, as amended in 1994. In 1991,

the Base Realignment and Closure (**BRAC**) identified former NAS Moffett Field for closure. On July 1, 1994, a majority of former NAS Moffett Field property was transferred from the Navy to NASA, excluding the Orion Park and Wescoat military housing facilities, which were transferred initially to the U.S. Air Force and then to the U.S. Army. The Navy and NASA entered into a Memorandum of Understanding (**MOU**) that established roles for environmental restoration and ongoing environmental compliance at former NAS Moffett Field. The Navy continues to address contamination at former NAS Moffett Field in accordance with the Navy's FFA and MOU with NASA.

In addition to releases from NASA Ames and Navy operations, groundwater contamination is present beneath NASA Ames from upgradient sources. This groundwater contamination, which resulted from releases from the Middlefield-Ellis-Whisman (**MEW**) Superfund site and from operations at the former NAS Moffett Field, exists on the western side of the former NAS Moffett Field and under the NASA Ames campus. The comingled groundwater contamination is referred to as the "MEW Regional Plume." NASA, Navy, and the MEW Superfund site responsible parties (referred to as MEW Companies) are each responsible for remediation of a portion of the plume.

NASA Ames signed a NASA Moffett FFA with EPA and the Water Board on March 11, 2015. In implementing the NASA Moffett FFA, NASA is the lead agency and EPA and the Water Board are the lead environmental regulatory agencies. Under the terms of the FFA, NASA must address its own sources of contamination while also implementing land use controls (**LUC**) that ensure the protectiveness of other parties' response actions at NASA Ames. This includes the CERCLA response actions at former NAS Moffett Field being conducted by the Navy and by the MEW Companies. This CIP applies to the environmental cleanup actions conducted by NASA under the NASA Moffett FFA.

4.2 STATUS OF ENVIRONMENTAL CLEANUP

Numerous investigations have been performed by NASA Ames to study potential sources of soil and groundwater contamination from past NASA activities. In the early 1990s, NASA implemented a Center-wide Sampling and Analysis Program to systematically evaluate potential soil and groundwater impacts at NASA Ames. As part of this plan and subsequent investigations, NASA Ames was divided into 16 areas of investigation (**AOI**). These AOIs are in various stages of characterization or cleanup or have been closed. Several AOIs are subject to the NASA Moffett FFA, and the remaining AOIs are being addressed by voluntary cleanup agreements with DTSC. The AOIs subject to the NASA Moffett FFA are AOI 6, AOI 14, and AOIs 3/7/9, described below.

AOI 6, Former Lindbergh Avenue Storm Drain Ditch, encompasses a former drainage ditch that paralleled Lindbergh Avenue, beginning north of Building N250B and terminating south of North Perimeter Road. The storm drain channel collected runoff from the areas along McCord Avenue, King Road, and Severyns Avenue and from the N211 aircraft ramp. It also collected runoff from the western portion of former NAS Moffett Field, including Hangar 1. The stormwater drainage system also received NASA Ames wastewater containing chemicals and oil. NASA conducted remediation at AOI 6 in 1994, 1995, 1996, and 2001 for lead and PCBs (Aroclors-1254, 1260, 1262, and 1268), removing the concrete lining and soil to depths of up to 3.5 feet along the entire 2,000-foot length of the ditch. NASA is preparing a Remedial Action Completion Report to be submitted to EPA and the Water Board in 2015.

AOI 14 consists of three peninsulas (former soil fill area [FSFA], N217, and N217A) that extend into a stormwater retention pond that is part of Navy Installation Restoration (IR) Site 25. The FSFA and N217A peninsulas were constructed by depositing fill material on the existing surface of the stormwater retention pond. Historical aerial photographs indicate that the N217 peninsula consists of native soil. Visual observations of the surfaces of the FSFA and N217A peninsulas indicate that the fill material consists of soil and construction debris including concrete, rebar, and metal piping. The fill soil contains metals, pesticide, and PCB contaminants. NASA completed an interim corrective action measure at AOI 14 that included installing a silt fence to control and monitor potential soil erosion from the FSFA into the surrounding Navy IR Site 25 stormwater retention pond. NASA is implementing a removal action that is intended to serve as a final action for AOI 14. The first step of the removal action process was the preparation of an EE/CA of removal action alternatives which was issued in September 2015.

AOIs 3/7/9 are broad areas identified for investigation as potential NASA Ames and Navy source areas of groundwater contamination contributing to the MEW Regional Plume, which consists primarily of volatile organic compounds (VOC). The MEW Companies, the Navy, and NASA have been operating groundwater extraction and treatment systems to address and control various portions of the MEW Regional Plume. To date, NASA has been implementing the remedy and operating a groundwater extraction and treatment system in its designated area of responsibility in the northernmost area of the MEW Regional Plume (see [Figure 5](#)). NASA remedy operation and data reporting are submitted by NASA in Annual Progress Reports to EPA and the Water Board and are included in the Navy and MEW Companies monitoring reports on the MEW Regional Plume.

In addition to groundwater contamination, vapor intrusion is a concern at AOIs 3/7/9. The primary source of vapor intrusion into buildings within the MEW Superfund Site is TCE contamination in shallow groundwater. NASA is responsible for implementing the vapor intrusion remedy in NASA's designated area of responsibility. NASA continues to extract and treat groundwater, monitor groundwater and monitor indoor air within its area of responsibility, and prepare reports of results.

As the current land owner of former NAS Moffett Field, NASA is responsible for implementing LUCs that ensure the protectiveness of other parties' response actions at NASA Ames. This includes the CERCLA response actions at former NAS Moffett Field being conducted by the Navy and by the MEW Companies (see [Figure 6](#)). Specifically, NASA is responsible for implementing existing LUCs at Navy Operable Unit (OU) 1 (Navy Sites 1 and 2), Navy Site 22, Navy OU 5 (Site 26), Navy Site 28, and the former NAS Moffett Field Area of the MEW 1989 ROD and 2010 Vapor Intrusion Amendment. In addition, NASA is responsible as the land owner for implementing any LUCs established for Navy Site 8 and Navy Site 29 (Hangar 1) in the Final ROD. The Navy sites are in various stages of the CERCLA process. Navy Sites 8 and 29 have undergone some form of remediation but do not have final RODs or Memoranda of Agreement (MOAs) that document Navy and NASA LUC responsibilities at the sites. Navy Site 28 has a signed ROD. Navy OU 1, OU 5, and Site 22 have signed RODs and MOAs. Most of NASA's LUC implementation responsibilities are administrative rather than substantive. [Table 3](#) summarizes the status of the NASA Ames AOIs and sites for which NASA has LUC responsibilities as the property owner subject to the NASA Moffett FFA.

NASA works closely with the regulatory agencies. EPA and the Water Board evaluate NASA's work plans, investigation activities, cleanup alternatives, and public outreach activities to assist

NASA in the process of selecting remedial alternatives and cleanup for those sites in the NASA Moffett FFA. Sites not under the NASA Moffett FFA are under the oversight of DTSC.

4.3 REGULATIONS AND GUIDANCE FOR CLEANUP AND COMMUNITY INVOLVEMENT

NASA intends to achieve closure of its cleanup sites consistent with state and federal environmental requirements. As outlined in the NASA Moffett FFA, the applicable environmental requirements include portions of CERCLA, as amended by the SARA, Resource Conservation and Recovery Act, California HSC, and California Water Code.

Federal and state environmental statutes and amendments require community involvement for hazardous waste sites, and guidance documents have been created to address these requirements. The EPA community involvement guidance documents can be found on the [EPA website](#).

This CIP for NASA Ames meets both the EPA and DTSC requirements for community involvement. The following state and federal environmental statutes and amendments require community involvement program activities for hazardous waste sites:

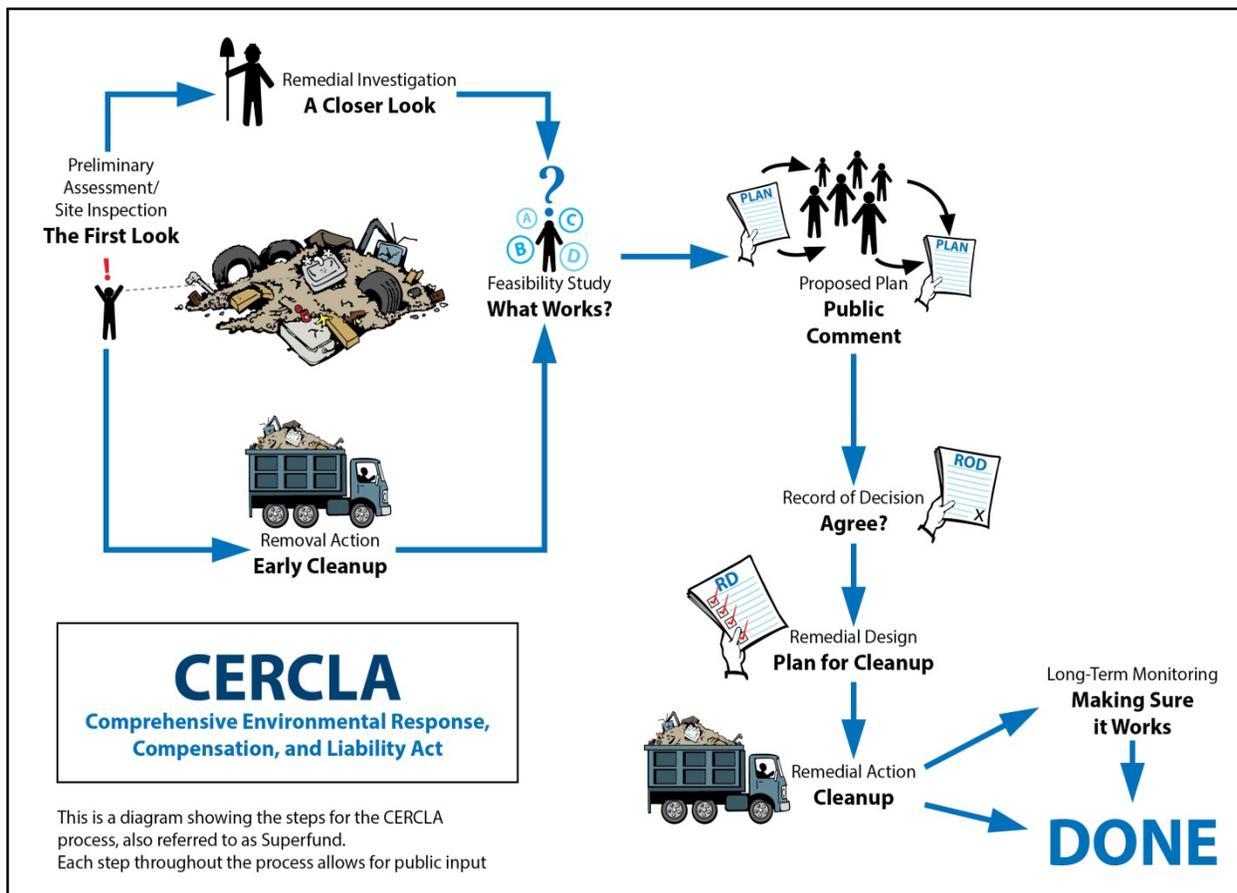
- Comprehensive Environmental Response, Compensation, and Liability Act (Title 42, *United States Code*, Section 9601, and following sections), also known as Superfund
- Superfund Amendments and Reauthorization Act of 1986, which amended CERCLA
- Community Environmental Response Facilitation Act of 1992, which also amended CERCLA
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations.
- *California HSC*, Division 20
- Title 22, *California Code of Regulations*, Division 4.5
- *California Public Resources Code*, Section 21000 and the sections that follow Section 21000 in the *Public Resource Code*

The guidelines for conducting community involvement activities, including preparing a CIP, are set forth in the following:

- Public Participation Manual (DTSC 2001)
- Superfund Community Involvement Handbook (EPA 2005a)
- Superfund Community Involvement Toolkit (EPA 2005b)

The stages of each phase of CERCLA are illustrated on Figure 4 and discussed on the following pages. This discussion includes the required CERCLA community involvement program activities.

FIGURE 4 CERCLA PROCESS



4.4 REMEDIAL ACTION PROCESS

The CERCLA remedial action process specifies the phases required to thoroughly evaluate the nature and extent of contamination and to identify and evaluate cleanup alternatives. NASA provides members of the community access to reports and work plans throughout the CERCLA process as one method of involving the community throughout the steps of the remedial action process described below. The community at large has access to NASA Ames Information Repository, is invited to participate in public meetings where information is presented, and can be involved in the formal public comment period when Proposed Plans are released.

Discovery and Notification: Discovery occurs when a hazardous waste site is discovered or a release is noticed. The EPA and state regulatory agencies are notified upon discovery of a hazardous waste site.

Preliminary Assessment (PA): A PA is conducted to evaluate whether current or past waste management practices have resulted in a release of hazardous substances. The PA is completed through record searches and visual inspections of the area. This stage results in a list of potential areas of concern that warrant further investigation.

Site Inspection (SI): The SI usually requires sampling and analysis of soil, surface water, groundwater, or any combination of the three. Based on the data that result, the site will be (1) slated for no action, (2) recommended for a removal action, or (3) investigated further in the Remedial Investigation (RI) phase.

Remedial Investigation: The RI involves a comprehensive study of site soil, sediment, soil vapor, surface water, and groundwater (as appropriate) to evaluate the lateral and vertical extent of contamination. Risks to human health and the environment are also assessed. Based on the estimated risk posed, the site could be (1) recommended for a removal action, (2) recommended for no action, or (3) entered into the next phase, the Feasibility Study (FS).

Early Cleanup, Removal Action: Early cleanup, termed removal action, is taken if a significant threat to human health or the environment exists, if the source of the contamination can be removed quickly and effectively, if access to contamination can be limited with a cleanup, or if the cleanup is the fastest way of remediating the site. These removal actions are engineered, assessed for costs, and documented in a memorandum that summarizes the action undertaken. Further details about removal actions are summarized in the sections that follow.

Feasibility Study: The FS uses the data collected during the RI to develop and evaluate cleanup alternatives. Cleanup alternatives are evaluated with respect to the nine NCP criteria (see [Figure 5](#)). Each cleanup alternative is rated in the FS based on the first seven NCP criteria. The last two NCP criteria are considered after regulatory agency and public comments are received in the next phase on the Proposed Plan, which presents NASA's preferred alternative.

Proposed Plan: The Proposed Plan is a fact sheet that is developed and distributed to the community to describe cleanup alternatives and explain the rationale for NASA's preferred alternative. As per SARA and NCP regulations, NASA will provide a fact sheet and perform a public meeting for proposed plans. ***This plan is the key point when all members of the community are invited to participate in review and submittal of comments.*** NASA considers all comments received on the Proposed Plan before a final decision is made. NASA provides replies to all significant comments in a responsiveness summary in the next phase, the ROD.

Record of Decision: The selected cleanup alternative is documented in the ROD. The notice of availability of the ROD is ***publicized in a local newspaper of general circulation.***

Remedial Design (RD): The RD for the cleanup is prepared. Either the Proposed Plan fact sheet or a public notice will be distributed, as appropriate, at the 30-percent design phase in anticipation of community input before NASA begins a remedial action (or cleanup). NASA and regulatory agencies will determine which method of notification is appropriate.

Remedial Action: The cleanup alternative is carried out, and the ***public is kept informed.*** At a minimum, the community will have a point of contact for questions and concerns. After the completion of the final engineering design, NASA will issue a fact sheet or public notice and provide, as appropriate, a public briefing prior to the initiation of the remedial action.

Post-Project Activities: Post-project activities may include long-term monitoring. Long-term monitoring occurs at sites where hazardous substances, pollutants, or contaminants remain after the remedial action has been completed. Long-term monitoring is also used to confirm that previous site remediation continues to be effective. NASA will review the cleanup remedy every 5 years where waste is left in place in excess of levels appropriate for unrestricted use to ensure that the remedy remains protective of human health and the environment.

Site Closeout: Site closeout occurs at the completion of remedial action activities when NASA and regulatory agencies agree that no further action (**NFA**) is appropriate at the site. Site closeout can also occur at any time during the remedial action process when NASA and regulatory agencies conclude that NFA is needed at the site.

National Priorities List Deletion: EPA may delete a final NPL site if it determines, in conjunction with the state, that no further response is required to protect human health or the environment.

FIGURE 5 U.S. EPA'S NINE EVALUATION CRITERIA

- 1 Overall Protection of Human Health and the Environment**
How the risks are eliminated, reduced, or controlled through treatment, engineering, or institutional controls.


- 2 Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)**
Federal and state environmental statutes met or grounds for waiver provided.


- 3 Long-term Effectiveness**
Maintain reliable protection of human health and the environment over time, once cleanup goals are met.


- 4 Reduction of Toxicity, Mobility, or Volume (TMV) through Treatment**
Ability of a remedy to reduce the toxicity, mobility, and volume of the hazardous contaminants present at the site.


- 5 Short-term Effectiveness**
Protection of human health and the environment during construction and implementation period.


- 6 Implementability**
Technical and administrative feasibility of a remedy, including the availability of materials and services needed to carry it out.


- 7 Cost**
Estimated capital, operation, and maintenance costs of each alternative.


- 8 State Acceptance**
State concurs with, opposes, or has no comment on the preferred alternative.


- 9 Community Acceptance**
Community concerns addressed; community preferences considered



4.5 REMOVAL ACTION PROCESS

In some cases, NASA and regulatory agencies may conduct a removal action to address hazardous substances at a site. These removal actions are carried out in accordance with federal and state requirements and can be implemented at any time during the CERCLA remedial action process. Any one or more of the following criteria must be met to implement a removal action: a significant threat to human health or the environment exists; the source of the contamination can be removed quickly and effectively; access to contamination can be limited; or a removal action is the fastest way of remediating the site.

EPA has defined three types of removal actions: (1) emergency, (2) time-critical, and (3) non-time critical. For all three types of removal actions, the following public participation activities must be conducted: designate a spokesperson; notify affected citizens; and notify the public of the administrative record. The removal action types, supporting documentation, and additional public participation activities for each type of removal action are described below.

Emergency Removal Actions: Emergency removal actions occur when cleanup must begin as soon as possible after the lead agency determines that a removal action is necessary.

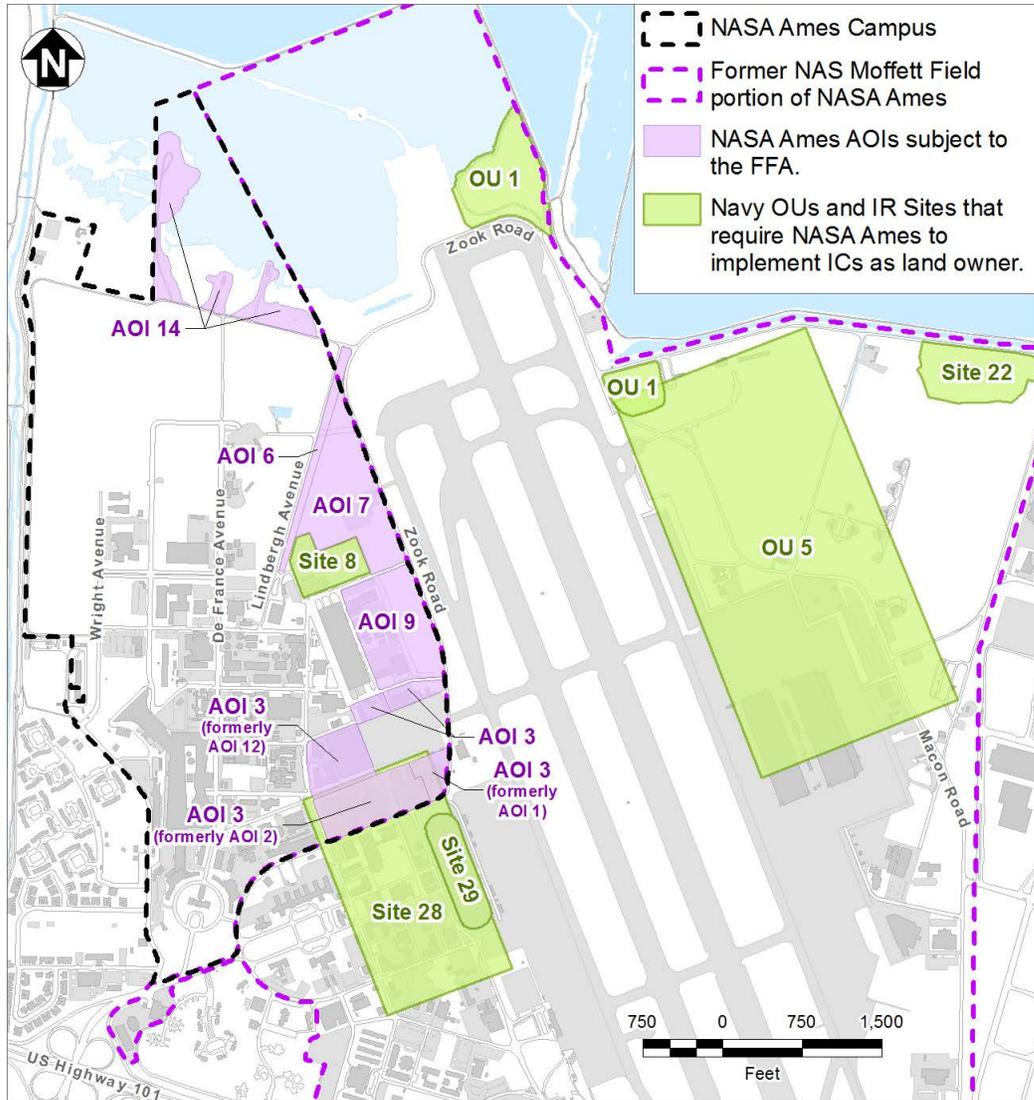
Time-Critical Removal Actions (TCRA): TCRAs occur when cleanup must begin within 6 months after the lead agency determines that a removal action is necessary. Preparation of an Action Memorandum is required for TCRAs. Additional public participation activities include holding at least a 30-day public comment period after the Administrative Record is made available to the public for review and issuing a responsiveness summary.

Non-Time-Critical Removal Actions (NTCRA): NTCRAs occur when cleanup does not need to begin within 6 months after the lead agency determines that a removal action is necessary. Preparation of an EE/CA and Action Memorandum are required for NTCRAs. Additional public participation activities include publishing a notice in a local newspaper of document availability in the Information Repository, holding at least a 30-day public comment period after the EE/CA is completed, and issuing a responsiveness summary with the final Action Memorandum.

Engineering Evaluation/Cost Analysis (EE/CA): An EE/CA is the first step in the NTCRA process. An EE/CA evaluates technologies and alternatives for conducting a NTCRA. The EE/CA includes the preferred removal action alternative to address potential risks to human health and the environment from contamination. Community and state acceptance will be evaluated based on comments received on the EE/CA and Action Memorandum (discussed below) and during the public comment period required for the EE/CA. The removal action may be modified based on community and state input.

Action Memorandum: The final decision about the cleanup technology selected is documented in the Action Memorandum. The draft Action Memorandum is normally announced with the EE/CA in a public notice. After the Action Memorandum is signed, NASA will prepare a removal action work plan (**RAW**) and implement the NTCRA. The state combines this step with the approval of the RAW/remedial action plan.

FIGURE 6 NASA AMES SITE MAP



- Notes:
- AOI Area of Investigation
 - FFA Federal Facility Agreement
 - IR Installation Restoration
 - MEW Middlefield-Ellis-Whisman
 - NAS Naval Air Station
 - NASA National Aeronautics and Space Administration
 - OU Operable Unit

TABLE 3 SITE DESCRIPTION TABLE

AOI/OU Number	Site Name	Site Description	Overseeing Agency	Media	Contaminants of Potential Concern	Status
AOIs Requiring Investigation and/or Evaluation of Cleanup Alternatives						
AOIs 3/7/9	NASA Ames Groundwater Area of Responsibility to MEW Regional Plume	NASA Ames groundwater area of responsibility to MEW Regional Plume. Includes formerly independent AOIs 1, 2, 3 East, and 12.	EPA	Groundwater	VOCs	Remedial Action (MEW 1990 ROD)
AOIs 3/7/9	NASA Ames Area of Responsibility to NAS Moffett Field Area of the MEW Vapor Intrusion Study Area	NASA Ames area of responsibility within MEW vapor intrusion study area. Includes formerly independent AOIs 1, 2, 3 East, and 12.	EPA	Vapor Intrusion	VOCs	Remedial Design (MEW 2010 Vapor Intrusion ROD Amendment)
AOI 6	Former Lindbergh Avenue Storm Drain Ditch	Stormwater drainage system for the western portion of the site.	EPA/WB	Soil	PCBs/Lead	Remedial Action (Completion Report)
AOI 14	FSFA, N217, and N217A Areas	FSFA: constructed from fill, activities unknown; Buildings N217 and N217A constructed for magnetic field measurements.	EPA/WB	Soil	PCBs/Lead, DDT	Removal Action (NTCRA)

TABLE 3 SITE DESCRIPTION TABLE (CONTINUED)

AOI/OU Number	Site Name	Site Description	Overseeing Agency	Media	Contaminants of Potential Concern	Status
Sites Requiring NASA Ames Implementation of ICs as Property Owner						
Navy OU 1	Navy Sites 1 and 2 Landfills	Site 2 materials were excavated and placed within Site 1. The Site 1 remedy consists of a landfill cap with a biotic barrier and low-permeability layer, gas venting trench, and groundwater and gas monitoring system.	EPA/WB	Soil and groundwater	Petroleum hydrocarbons, chlorinated organics, BTEX compounds, VOCs, SVOCs, pesticides, PCBs	O&M (Navy 1997 OU1 ROD)
Navy OU 5	Navy Site 26 EATS	Groundwater extraction/treatment from 1999 to 2003; 2014 ROD Amendment specifies biostimulation/bioaugmentation and monitored natural attenuation.	EPA/WB	Soil and groundwater	Petroleum hydrocarbons, BTEX compounds, chlorinated organics	Remedial Action (2014 Site 26 ROD Amendment)
Navy Site 8	Navy Storage Area	Waste oils, transformer oils, solvents, transfer operation. Soil removal completed; groundwater monitoring.	EPA/WB	Soil and groundwater	PCBs, metals, VOCs, petroleum hydrocarbons	O&M
Navy Site 22	Navy Landfill (Golf Course)	Landfill cap consisting of biotic barrier and vegetative cover; landfill gas and groundwater monitoring.	EPA/WB	Soil and groundwater	Petroleum hydrocarbons, chlorinated organics, VOCs, SVOCs, pesticides, PCBs	O&M (Navy 2002 Site 22 ROD)

TABLE 3 SITE DESCRIPTION TABLE (CONTINUED)

AOI/OU Number	Site Name	Site Description	Overseeing Agency	Media	Contaminants of Potential Concern	Status
Navy Site 28	Navy WATS	Groundwater extraction/treatment for source areas comingled with the MEW Regional Plume. Treatment using oxidation and carbon filtration; treated water discharged to NASA storm drain system.	EPA/WB	Soil and groundwater	Petroleum hydrocarbons, BTEX compounds, chlorinated organics	O&M (MEW 1990 ROD)
Navy Site 29	Hangar 1	Navy removal action conducted in 2013 consisting of siding removal, soil excavation; storm drain sediment removal and frame coating application.	EPA/WB	Building material, soil, sediment	PCBs, metals	NTCRA (Draft Final ROD 2015 prepared by Navy)

Notes:

These locations are AOIs and OUs subject to the Moffett Federal Facility Agreement (FFA).

- Ames Ames Research Center
- AOI Area of investigation
- BTEX Benzene, toluene, ethylbenzene, and xylenes
- DDT Dichlorodiphenyltrichloroethane
- EATS East-side aquifer treatment system
- EPA United States Environmental Protection Agency
- FSFA Former soil fill area
- MEW Middlefield-Ellis-Whisman
- NASA National Aeronautics and Space Administration
- NTCRA Non-time-critical removal action
- O&M Operation and maintenance
- OU Operable unit
- PCB Polychlorinated biphenyl
- ROD Record of Decision
- SVOC Semivolatile organic compound
- VOC Volatile organic compound
- WATS West-side Aquifer Treatment System
- WB San Francisco Bay Regional Water Quality Control Board

5.0 CLEANUP ROLES AND RESPONSIBILITIES

The environmental cleanup of NASA Ames sites is a complex process involving both state and federal agencies. The state and federal regulatory agencies provide oversight to make sure NASA's cleanup complies with existing laws and regulations. This section describes the roles and responsibilities of NASA, the regulatory agencies, and the community involved with NASA Ames environmental cleanup. These roles reflect the laws and regulations discussed in [Section 4.0](#). To contact NASA or any of the regulatory agencies, see the contacts list in [Appendix B](#).

5.1 ROLE OF NASA IN THE PROCESS

Under the NASA Moffett FFA, NASA is the lead federal agency responsible for NASA Ames environmental cleanup activities and community involvement program. NASA's environmental cleanup program is ongoing and will be continued until NASA and the regulatory agencies have decided that cleanup is complete and has met requirements to protect human health and the environment at all sites.

As stated previously, NASA has a combined role. In addition to addressing its own sources of contamination, NASA is responsible for implementing LUCs that ensure the protectiveness of other parties' response actions including CERCLA response actions at former NAS Moffett Field being conducted by the Navy and the MEW Companies.

5.2 ROLES OF THE REGULATORY AGENCIES IN THE PROCESS



EPA / Water Board

- Members from the regulatory agencies work collectively
- Responsible for reviewing specific cleanup activities
- Can recommend additional actions for cleanup

Federal and state regulatory agencies provide oversight of NASA's environmental cleanup at NASA Ames. EPA is the lead environmental regulatory agency, and the Water Board is the lead state regulatory agency. Both agencies executed the NASA Moffett FFA. The regulatory agencies oversee all key decisions about cleanup and community involvement to ensure that the activities are meeting cleanup laws and regulations. The regulatory agencies also review specific environmental cleanup program activities and the overall environmental closeout process by NASA Ames, which includes meeting legal requirements and regulations designed to protect human health and the environment. In addition to overseeing the environmental cleanup, the regulatory agencies ensure that the cleanup meets the legal requirements for public participation.

The primary regulatory agencies actively involved at NASA Ames and their primary responsibilities at NASA Ames include the following:

- NASA is the lead agency responsible for implementing environmental cleanup at NASA Ames in accordance with the NASA Moffett FFA. NASA issues all reports, conducts public participation, and signs decision documents such as Action Memoranda and RODs.
- EPA is the lead federal environmental regulatory agency for all the sites and provides oversight for the environmental cleanup at NASA Ames. As a signatory to the NASA Moffett FFA, EPA reviews and approves CERCLA documents, including decision documents such as Action Memoranda, Proposed Plans, and RODs. NASA and EPA jointly select remedies and sign RODs.
- The Water Board is the lead state environmental agency for the sites and is a signatory to the NASA Moffett FFA. The Water Board reviews and approves CERCLA documents, including decision documents such as Action Memoranda, Proposed Plans, and RODs. The Water Board also participates in remedy selection and is a signatory on RODs.

Other agencies are involved in the environmental cleanup process when cleanup affects resources they regulate. The regulatory agencies are kept informed of the environmental cleanup process at NASA Ames by NASA.

5.3 ROLES OF THE COMMUNITY IN THE PROCESS



NASA Ames Community

- Provides input regarding human health and environmental concerns
- Provides input into preparation and revision of the CIP

One of the ways the NASA Ames community plays an active role in NASA’s environmental cleanup program is by providing input on cleanup alternatives and selection of the remedies. The community fulfills these roles by doing the following:

- Reviewing documents
- Providing comments
- Participating in meetings and other community involvement program activities
- Providing advice and solutions that can be incorporated into the cleanup process and decisions

6.0 CONCLUSION

An important part of the NASA Ames environmental cleanup program includes informing and involving the community in cleanup discussions. This CIP presents NASA's plans to inform and involve the community in the environmental cleanup program based on feedback obtained during community involvement interviews as well as federal and state guidance. This CIP adheres to applicable guidance from EPA and DTSC. The CIP is also a resource for general information on NASA's cleanup program and provides contact details for further information.

Based on feedback from interviews with the NASA Ames community, NASA will inform and involve the community on the environmental cleanup program at NASA Ames through the following means:

- Maintain the NASA Ames Administrative Record/Information Repository
- Maintain the NASA Ames website
- Maintain presence and participation at the Navy's RAB Meetings
- Distribute e-mail announcements/updates and maintain e-mail and hard-copy mailing lists
- Prepare and distribute fact sheets
- Hold public meetings separate from the Navy RAB as needed
- Publish public notices
- Conduct outreach to local organizations
- Hold site tours

The NASA Ames community identified the following primary issues and concerns regarding the NASA Ames cleanup program:

- Most of the interviewees were interested in updates on the status of the environmental cleanup at NASA Ames. The interviewees said the community is interested in receiving updates on groundwater, vapor intrusion, and how the leasing between NASA and Planetary Ventures will impact the local community. The interviewees said the community is mostly concerned about whether it is environmentally safe to live and work at the NASA Ames campus.
- Interviewees said that information on the cleanup of environmental sites at NASA Ames and contact information should be easily accessible online. The local community and tenants of former NASA Moffett Field look for a majority of their information online.

NASA anticipates that the NASA Ames community will play an active role in NASA's environmental cleanup program by providing input to the regulatory agencies and NASA on cleanup alternatives and selection of remedies. NASA will evaluate goals for each community involvement activity on a regular basis to ensure that they are being met. NASA will periodically review this CIP and update it accordingly.

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APPENDIX A
COMMUNITY INVOLVEMENT PLAN INTERVIEW QUESTIONNAIRE

**NASA AMES RESEARCH CENTER
COMMUNITY INVOLVEMENT PLAN (CIP)
INTERVIEW QUESTIONNAIRE**

Date:
Interviewee:
Address:
City:
State:
Zip Code:
Phone:
E-mail:
Category:
Interview Team:

Background of Interviewee

1. How long have you worked or lived in the vicinity of NASA Ames or in Mountain View?
 - a. Live/Work/Both
 - b. Do you have school-aged children (preschool through high school)? If so, how many?
2. Do you belong to a community organization or group?
 - a. If so, which one(s)?
3. Have you given any input or attended NASA/community outreach events at NASA Ames?
 - a. If so, which one(s)?
 - b. Was there environmental information available at the event?

General Knowledge about NASA Ames

4. How much would you say you know about the NASA Ames' environmental cleanup activities:
 - a. Nothing;
 - b. A little bit;
 - c. A lot.
5. If you know a little bit or a lot, how did you get most of the information you know about NASA Ames cleanup activities?
6. Do you have any interests or concerns regarding NASA Ames' cleanup program?
 - a. If yes, what are they?

Your Information Needs and Resources

7. Would you be interested in being on an e-mail or mailing list for information on NASA Ames' cleanup activities?
 - a. If yes, circle: e-mail, mailing, or both
8. Are you interested in receiving information and updates about a particular environmental cleanup topic, such as a specific site or types of cleanup activity? Some examples could include:
 - i. Soil cleanup
 - ii. Groundwater cleanup
 - iii. Vapor intrusion
 - iv. Other
9. Do you have or have you heard of any issues and/or concerns related to environmental cleanup at NASA Ames from the community at large?
10. Which of the ways below are useful for you to receive information? Select all that you prefer:
 - Fact Sheets (one specific topic or site-proposed plan)
 - Public Meetings
 - Updates at the Naval Air Station Moffett Field Restoration Advisory Board (RAB) meetings
 - Public Notices
 - E-mail Announcements
 - Site Tours
 - Community Outreach to various organizations
 - Hosting an outreach table at various activities
 - NASA Website
 - Other (list):
 - a. How often would you prefer information be provided to you?
11. Do you attend any local festivals or community meetings where NASA could present information?
12. Have you ever attended a former Naval Air Station Moffett Field Navy RAB meeting?
Yes / No
If yes:
 - a. Did the meeting meet your needs/was the information helpful?
 - b. What information would you like to see presented at future meetings?
 - c. Does the date and time for RAB meetings work for you?
 - d. Does the location of the RAB meetings work for you?
 - e. Do you know who the RAB community members are?

13. Would it be useful to the community for NASA to conduct a separate community meeting specific to just NASA Ames topics? Yes / No
If yes:
 - a. Is there a particular day of the week/time that is convenient?
 - b. Do you have any suggestions for convenient meeting locations?
14. Have you contacted elected officials, NASA, regulatory agencies, Naval Air Station Moffett Field Navy RAB members, or community groups about the cleanup activities at NASA Ames?
 - a. If so, what information were you requesting?
 - b. Did you receive a response and was it helpful?
15. If you wanted to contact NASA with a question about environmental cleanup, would you know who to contact and how to reach them? Yes / No
 - a. What is your preferred method for contacting NASA? (e-mail / phone / in-person)
16. Are there local civic or service clubs that NASA could contact to provide information to or speak with?
17. What newspaper do you prefer for local information or news?
18. What websites do you look at for local information or news?
19. Are you aware the Public Library in downtown Mountain View houses a collection of NASA Ames environmental cleanup records and other documents associated with NASA Ames? Yes / No
 - a. Have you ever viewed any of the NASA Ames material at the Public Library?
 - b. Have you ever viewed any of the NASA Ames material on the NASA website?

The Community

20. Do you think the community at large has the information they need or know where to get it?
 - a. If not, how can NASA make information available to the community?

Thank You and Wrap Up

21. Do you have any other comments, questions, or suggestions regarding NASA's communication with the community about the environmental cleanup program at NASA Ames?

****Please be assured that your actual responses will be summarized and kept confidential. May we identify you as an interview respondent in the CIP document.**** Yes / No

APPENDIX B
KEY CONTACTS

Name	Title / Project Role	Address	Phone / E-mail
Key Contacts			
Don Chuck	NASA Ames Research Center Chief, Environmental Division	MS 204-15 Moffett Field, CA 94035	(650) 604-0237 donald.m.chuck@nasa.gov
Kimberly Finch	NASA Ames Research Center Restoration Program Manager	MS 204-15 Moffett Field, CA 94035	(650) 604-1294 kimberly.s.finch@nasa.gov
Lili Pirbazari	NASA Ames Research Center Vapor Intrusion Program	MS 204-15 Moffett Field, CA 94035	(650) 604-1767 lili.pirbazari-1@nasa.gov
Jessica Culler	NASA Ames Research Center Public Affairs	MS 943-4 Moffett Field, CA 94035	(650) 604-4110 jessica.s.culler@nasa.gov
Yvonne Fong	U.S. Environmental Protection Agency (EPA) Remedial Project Manager	75 Hawthorne Street San Francisco, CA 94105	(415) 947-4117 fong.yvonnew@epa.gov
Alana Lee	EPA Remedial Project Manager	75 Hawthorne Street San Francisco, CA 94105	(415) 972-3141 lee.alana@epa.gov
Jackie Lane	EPA Community Involvement Manager	75 Hawthorne Street San Francisco, CA 94105	(415) 972-3236 lane.jackie@epa.gov
Elizabeth Wells	California Regional Water Quality Control Board (Water Board) Water Resources Control Engineer	1515 Clay Street, Suite 1400 Oakland, CA 64612	(510) 622-2440 ewells@waterboards.ca.gov
Bill Berry	Restoration Advisory Board (RAB) Community Co-Chair	21610 Edward Way Cupertino CA, 95014	(408) 761-4593 wmeberry@comcast.net

Agency	Website
NASA	
NASA Ames Research Center	http://environment.arc.nasa.gov
State and Federal Government	
U.S. Environmental Protection Agency (EPA) Region 9	http://www.epa.gov/aboutepa/region9.html
California Regional Water Quality Control Board (Water Board), San Francisco Bay Region	http://www.swrcb.ca.gov/rwqcb2/
Navy RAB Information Website	
Navy Base Realignment and Closure (BRAC) Program Management Office	http://bracpmo.navy.mil/brac_bases/california/former_nas_moffett_field.html
Local Government	
City of Mountain View	http://www.mountainview.gov/
City of San Jose	http://www.sanjoseca.gov/
City of Sunnyvale	http://sunnyvale.ca.gov/
City of Santa Clara	http://santaclaraca.gov/
City of Palo Alto	http://www.cityofpaloalto.org/
Mountain View Community Websites	
Save Hangar One Committee	http://www.savehangarone.org/
News for Users of Moffett Federal Airfield (website hosted by Navy Restoration Advisory Board member Steve Williams)	http://www.nuqu.org/

APPENDIX C
COMMUNITY MEETING LOCATION INFORMATION

APPENDIX C COMMUNITY MEETING LOCATION INFORMATION

NASA participates in the Navy's former Naval Air Station (NAS) Moffett Field Restoration Advisory Board (RAB) meetings. During these meetings, NASA gives presentations and provides updates on NASA Ames sites, as applicable.

Open to the public, these meetings start at 7:00 p.m. on the Second Thursday in February, May, August, and November at the Mountain View Senior Center Social Hall, 266 Escuela Avenue, Mountain View, California, 94040-1813, unless changed by notice. The Navy's former NAS Moffett Field RAB meeting notices are currently published in the *San Jose Mercury News*, *Palo Alto Weekly*, and *Mountain View Voice* one week before the meeting. Anyone who would like more information on the Navy's RAB or is interested in participating may contact the Navy RAB Co-Chair, Mr. Scott Anderson at (619) 532-0938 or scott.d.anderson@navy.mil or the NASA Environmental Restoration Manager, Ms. Kimberly Finch at (650) 604-1294 or kimberly.s.finch@nasa.gov.

APPENDIX D
ADMINISTRATIVE RECORD AND INFORMATION REPOSITORY

APPENDIX D ADMINISTRATIVE RECORD AND INFORMATION REPOSITORY

ADMINISTRATIVE RECORD LOCATION

NASA Ames' official CERCLA Administrative Record contains all relevant documents considered or relied on for the environmental cleanup program under the NASA Moffett FFA. The Administrative Record is a comprehensive library of environmental cleanup documents and contains an index. The Administrative Record is maintained at the following locations and can be reviewed by making an appointment.

Ms. Kimberly Finch, Restoration Program Manager
NASA Ames Research Center
MS 204-15
Moffett Field, CA 94035
Phone: (650) 604-1294
E-mail: kimberly.s.finch@nasa.gov

U.S. Environmental Protection Agency
Superfund Record Center
95 Hawthorne Street
San Francisco, CA 94105
Phone: (415) 536-3000

Hours are 8:00 a.m. to 4:00 p.m. Monday through Friday. Documents may not be removed from the facility; however, they may be photocopied.

NASA Ames' Moffett FFA Administrative Record documents and index are also available for viewing and downloading on [NASA Ames website](#).

INFORMATION REPOSITORY LOCATION

An Information Repository for the Administrative Record has also been established for public review at the Information Repository at:

Mountain View Public Library

585 Franklin Street
Mountain View, CA, 94041
Contact: Reference Desk
Phone: (650) 903-6337

Library Hours:

Monday and Thursday: 10:00 a.m.-9:00 p.m.
Friday and Saturday: 10:00 a.m.-6:00 p.m.
Sunday: 1:00 p.m.-5:00 p.m.

Documents may not be removed from the library but can viewed and photocopied.

APPENDIX E
MEDIA CONTACTS

APPENDIX E MEDIA CONTACTS

This list of general Bay Area media outlets is provided as a reference for different sources that provide news to the surrounding community. For all NASA media inquiries or communications to the media, they go through the NASA Ames Public Affairs Office. Please contact NASA Ames Public Affairs - Jessica Culler at 650-604-4110 or jessica.s.culler@nasa.gov for all media inquiries.

Name	Address	Phone / E-mail	Website	Media Type	Language / Audience	Notes / Distribution Frequency
Media Contacts (Listed Alphabetically by Media Type)						
El Reportero	2601 Mission Street Suite 105 San Francisco, CA 94110	(415) 648-3711 lreportero@aol.com	http://elreporterosf.com	Newspaper and Online	Spanish/Latino	Weekly
El Tecolote	2958 24th Street San Francisco, CA 94110	Inaki Fernandez Managing Editor (415) 648-1045 inaki@eltecolote.org	http://eltecolote.org/content/	Newspaper and Online	Spanish/Latino	Bi-weekly (every other Wednesday)
San Francisco Chronicle	901 Mission Street San Francisco, CA 94103	(415) 777-1111	http://www.sfgate.com	Newspaper and Online	Bay Area	Daily
San Francisco Examiner	225 Bush Street, 17th Floor San Francisco, CA 94102	(415) 359-2600	http://www.sfexaminer.com/	Newspaper and Online	English	Daily
San Francisco Weekly	225 Bush Street, 17th Floor San Francisco, CA 94104	(415) 536-8100	http://www.sfweekly.com	Newspaper and Online	English	Weekly (available on Wednesday; submit ad the Thursday before publication)
San Jose Mercury	4 North 2 nd Street, #800 San Jose, CA 95113	(408) 920-5000	http://www.mercurynews.com/	Newspaper and Online	Santa Clara County	Daily
Asian Week	564 Market Street, Ste 320 San Francisco, CA 94104	(415) 373-4002	http://www.asianweek.com	Online	Multiple/Asian	Weekly
Mountain View Gazette	5013 - 51 Street, Olds, Alberta T4H 1P6 Canada	(403) 556-7510	http://www.mountainviewgazette.ca/	Online	Mountain View	Weekly
Mountain View Patch	Unavailable	Unavailable	http://patch.com/california/mountainview	Online	Mountain View	Daily
Mountain View Voice	450 Cambridge Ave Palo Alto, CA 94306	(650) 964-6300	http://www.mv-voice.com/	Online	Mountain View	Daily
New America Media	209 Ninth Street, Suite 200 San Francisco, CA 94103	(415) 503-4170	http://newamericamedia.org/about/	Online	Multi-lingual and multi-ethnic (Arabic, Spanish, Chinese, and Korean)	
Palo Alto Weekly/ Palo Alto Online	450 Cambridge Ave Palo Alto, CA 94306	(650) 326-8210	http://www.paloaltoonline.com/	Online	Local	Daily
Sunnyvale Sun	1095 The Alameda	(408) 200-1000	http://www.mercurynews.com/sunnyvale	Online	Local	Daily

APPENDIX E MEDIA CONTACTS (CONTINUED)

Name	Address	Phone / E-mail	Website	Media Type	Language / Audience	Notes / Distribution Frequency
Media Contacts (Listed Alphabetically by Media Type)						
KTNC (Comcast: Channel 19 DirecTV/Dish/AT&T U-Verse: Channel 42)	1700 Montgomery Street Suite 400 San Francisco, CA 94111	(415) 398-4242	http://www.ktnc.com/	Hispanic TV	Bay Area	Affiliate of Estrella TV
KGO (Channel 7)	900 Front Street San Francisco, CA 94111	(415) 954-7777	http://abclocal.go.com/kgo/index	Network Television	Bay Area	
KPIX 5 (Channel 5)	855 Battery Street San Francisco, CA 94111	(415) 362-5550	http://sanfrancisco.cbslocal.com	Network Television	Bay Area	
KRON (Channel 4)	1001 Van Ness Ave San Francisco, CA 94109	(415) 441-4444 4listens@kron4.com	http://www.kron.com	Network Television	Bay Area	
KTVU (Channel 2)	P.O. Box 22222 Oakland, CA 94623	(510) 834-1212	http://www.ktvu.com	Network Television	Bay Area	
KQED (Channel 9)	2601 Mariposa Street San Francisco, CA 94110	(415) 864-2000 tv@kqed.org	http://www.kqed.org/tv/	Public Television	Bay Area	
KCBS (740 AM & 106.9 FM)	865 Battery Street San Francisco, CA 94111	(415) 765-4000	http://www.kcbs.com	Radio	English	News
KGO (810 AM)	900 Front Street San Francisco, CA 94111	(415) 954-8183	http://www.kgoam810.com	Radio	English	News
KLIV (1590 AM)	750 Story Road San Jose, CA 95122	(408) 293 - 8030	http://www.kliv.com/	Radio	English	News
KQED/NPR (88.5 FM)	2601 Mariposa Street San Francisco, CA 94110	(415) 864-2000 CommunityEngagement@kqed.org	http://www.kqed.org	Radio	English	News / National Public Radio
KTSF News Southbay	2349 Bering Drive San Jose, CA 95131	(408) 943-8600	http://www.sanjose.com/ktsf-news-southbay-b2437591	Radio	English	News / National Public Radio
KUIC (95.3 FM)	555 Mason Street, Ste 245 Vacaville, CA 95688	(707) 447-6397 gm@KUIC.com	http://www.kuicfm.com/	Radio	English	News / National Public Radio
Sing Tao Chinese Radio (1400 AM, 1450 AM, and 96.1 FM)	625 Kearny Street San Francisco, CA 94108	(415) 989-7111 sf@singtaousa.com	http://www.singtaousa.com http://www.sanfranciscochinatown.com/culture/radio.html	Radio	Cantonese and Mandarin/Asian	
Santa Clara County Office of Emergency Services	55 W. Younger Ave, Ste 450 San Jose, CA 95110	Dana Reed Director of Emergency Management (408) 808-7801 DPSnedeker@SolanoCounty.com	http://www.sccgov.org/sites/oes/Pages/Office-of-Emergency-Services.aspx		Santa Clara County	

APPENDIX F
COMMUNITY MAILING LIST INFORMATION

APPENDIX F COMMUNITY MAILING LIST

The NASA Ames community mailing list is used to distribute information and updates via e-mail and hard copies to the NASA Ames community and other interested parties. The e-mail list contains more than 300 members, and the hard-copy mailing list has more than 1,500 addresses, including local residents; community organizations; local, state, and federal regulatory agencies; elected officials; business associations; and other interested parties. Individuals and organizations on the list will receive fact sheets, meeting notifications, and other important information.

To create and maintain the e-mail and hard-copy mailing lists, NASA adds the following:

- Anyone who makes a verbal, telephone, or e-mail request for NASA Ames information
- Community Involvement Plan (CIP) interviewees
- Meeting attendees
- Local elected officials (updated regularly)

NASA also updates the list with mailing or e-mail returns, as required, to update addresses or remove people from the lists. The mailing list will continue to be updated to ensure that NASA is reaching all interested and concerned parties. If you want to be added to NASA's e-mail or hard-copy mailing list, please contact Ms. Kimberly Finch at (650) 604-1294 or kimberly.s.finch@nasa.gov.

APPENDIX G
ACRONYMS AND ABBREVIATIONS

APPENDIX G ACRONYMS AND ABBREVIATIONS

Ames	Ames Research Center
AOI	Area of investigation
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIP	Community Involvement Plan
DTSC	Department of Toxic Substances Control
EATS	East-side Aquifer Treatment System
EE/CA	Engineering evaluation/cost analysis
EPA	United States Environmental Protection Agency
FFA	Federal Facility Agreement
FS	Feasibility Study
FSFA	Former soil fill area
HSC	Health and Safety Code
IR	Installation Restoration
LUC	Land use control
MEW	Middlefield-Ellis-Whisman
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NAS	Naval Air Station
NASA	National Aeronautics and Space Administration
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No further action
NPL	National Priorities List
NTCRA	Non-Time-Critical Removal Action
OU	Operable Unit
PA	Preliminary Assessment
PCB	Polychlorinated biphenyl
RAB	Restoration Advisory Board
RAW	Removal action work plan
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act of 1986
SI	Site Inspection
TCE	Trichloroethene
TCRA	Time-Critical Removal Action

VOC	Volatile organic compound
Water Board	San Francisco Bay Regional Water Quality Control Board
WATS	West-side Aquifer Treatment System