Former Naval Station Treasure Island
San Francisco, California
PFAS Program Fact Sheet

August 2021

What are PFAS Chemicals?

PFAS (per- and polyfluoroalkyl substances) are man-made chemicals that have been used since the 1950s. The substances have widespread application in household and industrial products such as non-stick cookware, stain-resistant fabrics and carpets, some food packaging and lifesaving firefighting foams.

Unfortunately, the chemicals do not readily break down in the environment and have the potential of migrating to groundwater.

The United States Environmental Protection Agency (U.S. EPA) identified PFAS as "emerging chemicals of concern."

> ***Emerging Chemicals of Concern***
>
> These are chemicals characterized by a confirmed or potential threat to human health or the environment that have new or changing toxicity values or new or changing human health or environmental regulatory standards. Changes may be due to new science discoveries, detection capabilities, or exposure pathways.

Due to their widespread use and possible adverse health effects PFAS are monitored by public safety agencies. Two of the most widely manufactured PFAS chemicals are:

- perfluorooctanoic acid (PFOA); and
- perfluorooctanesulfonic acid (PFOS)

In May 2016, the U.S. EPA issued drinking water health advisories for PFOA and PFOS, which may offer protection from exposure to PFOA and PFOS in drinking water over a long period of time.

To learn more about PFAS-containing products, visit:

https://www.epa.gov/pfas

Historical Use of PFAS on Former Naval Station Treasure Island (NSTI)

In the 1970s, the Department of Defense (DoD) began using a firefighting foam called AFFF (aqueous film forming foam), which often contained PFOS or PFOA.

Because petroleum-based (gas/oil) fires cannot be extinguished with water alone, AFFF was mixed with water to create a foam blanket over the fire's surface that removes oxygen and suffocate the fire.

The Navy used AFFF in battling aircraft and other vehicle fires, as well as in fire suppression systems at many of its bases across the United States. The Navy stopped using AFFF at former NSTI following its closure in 1997.

Potential Exposure Pathways at Former NSTI

Generally, there are multiple ways that people at former NSTI could be exposed to PFAS. Construction workers may be exposed to impacted groundwater during redevelopment activities.

The general public could be exposed to PFAS in soil, in sediment, and in the bay. Wildlife, including marine life, in and around former NSTI may also be exposed to PFAS.

Treasure Island residents are not exposed to PFAS via drinking water as it is provided by the San Francisco Public Utilities Commission (SFPUC) via a pipeline attached to the Bay Bridge. SFPUC obtains water from the Hetch Hetchy Regional Water System. Note: groundwater at former NSTI is not suitable as a potential source of drinking water per State Water Board Resolution number (No.) 88-63.

For more information about former NSTI drinking water supply, visit https://www.sfpuc.org/accounts-services/water-quality/annual-water-quality-reports

PFAS Investigations at Former NSTI

In 2019, the DoD developed recommendations for acceptable levels of PFAS for bases that fell under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) oversight. The Navy used the DoD criteria to develop a preliminary assessment (PA). The criteria are applied to investigations at former NSTI to determine known or suspected releases of PFAS into the environment.

In 2020, a basewide PA was done to determine PFAS use and storage at former NSTI. Its objectives were:

- Research areas at former NSTI that could have potentially been impacted by PFAS based on past activities;
- Identify areas where further investigation may be needed to confirm the presence of a PFAS release; and
- Identify areas where no release of PFAS is suspected to have occurred (and not requiring further action).

During the PA, research was conducted to identify areas where materials containing PFAS could have been stored, handled, released, disposed of, or used at former NSTI. The research included:

- Historical images and drawings, technical reports, property records, and news articles referencing any crash sites or aircraft fires;
- Navy research and historical document reviews of military operations and site activities;
- Interviews with former NSTI workers and other knowledgeable individuals; and
- Property and land use information on activities after the base was closed.

Results of the Basewide PFAS PA

Of the 89 areas that were evaluated in the basewide PFAS PA; 12 were identified for further investigation by the Navy. The areas are shown on Figure 1 on the next page and discussed below.

Site Investigations

For 11 of the areas identified for further investigation, the next step in the CERCLA process is a Site Investigation (SI). For one area, Installation Restoration (IR) Site 6, the next step in the process is a remedial investigation (RI). An SI is an investigation of soil or groundwater to determine whether PFAS are present, at what level, and to identify potential threats to people and the environment.

The 11 areas identified for the SI include:

IR Site 5, Three 55-gallon drums of AFFF were stored in an open space northwest of the old boiler plant at Building 455.

IR Site 7, the wastewater treatment plant (WWTP) sludge disposal area received AFFF-impacted wastewater solids. A known source of AFFF-impacted wastewater to the WWTP was IR Site 6, the Former Fire Training School.

IR Site 14, materials containing PFAS may have been used at the fuel storage and distribution center when the fuel farm operated.

IR Site 21, the Vessel Waste Oil Recovery Area, was used to store firefighting foam tanks and barrels (the site is close to area of interest (AOI) 3, the Helicopter Landing Area, where former fire training activities occurred).

IR Site 24, Approximately 200 gallons of AFFF was stored on site at the former dry cleaner.

AOI 1, the "New" Fire Training School stored AFFF at Building 615 and structures 610 and 611. The 10,000-gallon concrete tanks were used to capture wastewater generated during firefighting training activities.

AOI 2, Buildings 70, 157, and 421 at the old fire station location may have been used to conduct firefighting training. These are within a currently fenced-in area.

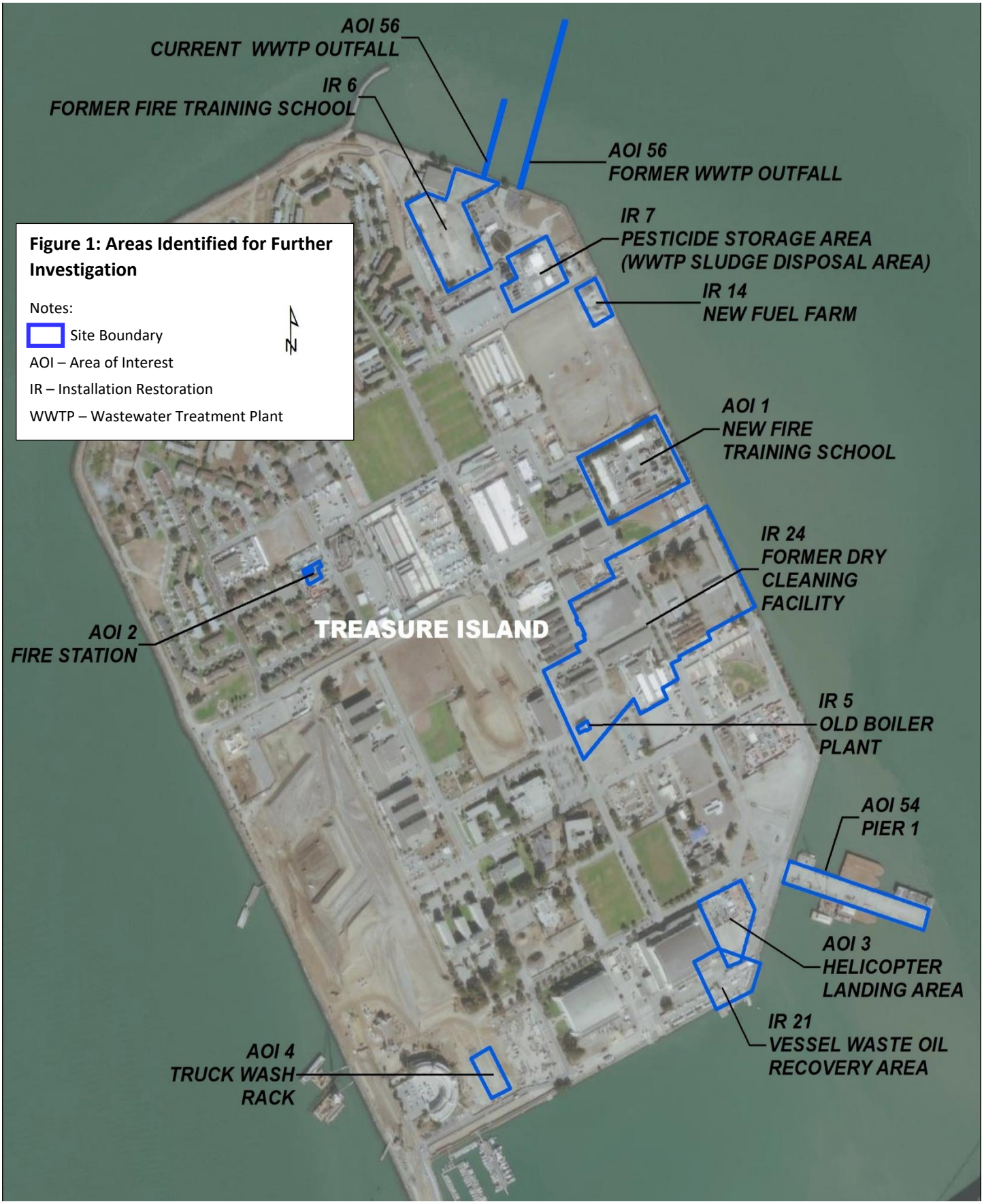
AOI 3, the Helicopter Landing Area was used for firefighting training twice a year.

AOI 4, the Truck Wash Rack at Building 180 was used for storage of firefighting trucks and other fire equipment.

AOI 54, Pier 1 stored 1,000 gallons of AFFF in 1992.

AOI 56, the former and current WWTP outfalls, discharged AFFF-impacted water from Site 6 through the outfalls and into the bay.

IR Site 6 firefighting training in 1945


AOI 56
CURRENT WWTP OUTFALL
IR 6
FORMER FIRE TRAINING SCHOOL
AOI 56
FORMER WWTP OUTFALL
IR 7
PESTICIDE STORAGE AREA
(WWTP SLUDGE DISPOSAL AREA)
IR 14
NEW FUEL FARM
AOI 1
NEW FIRE
TRAINING SCHOOL
IR 24
FORMER DRY
CLEANING
FACILITY
AOI 2
FIRE STATION
TREASURE ISLAND
IR 5
OLD BOILER
PLANT
AOI 54
PIER 1
AOI 3
HELICOPTER
LANDING AREA
IR 21
VESSEL WASTE OIL
RECOVERY AREA
AOI 4
TRUCK WASH
RACK
Figure 1: Areas Identified for Further Investigation
Notes:
Site Boundary
AOI – Area of Interest
IR – Installation Restoration
WWTP – Wastewater Treatment Plant
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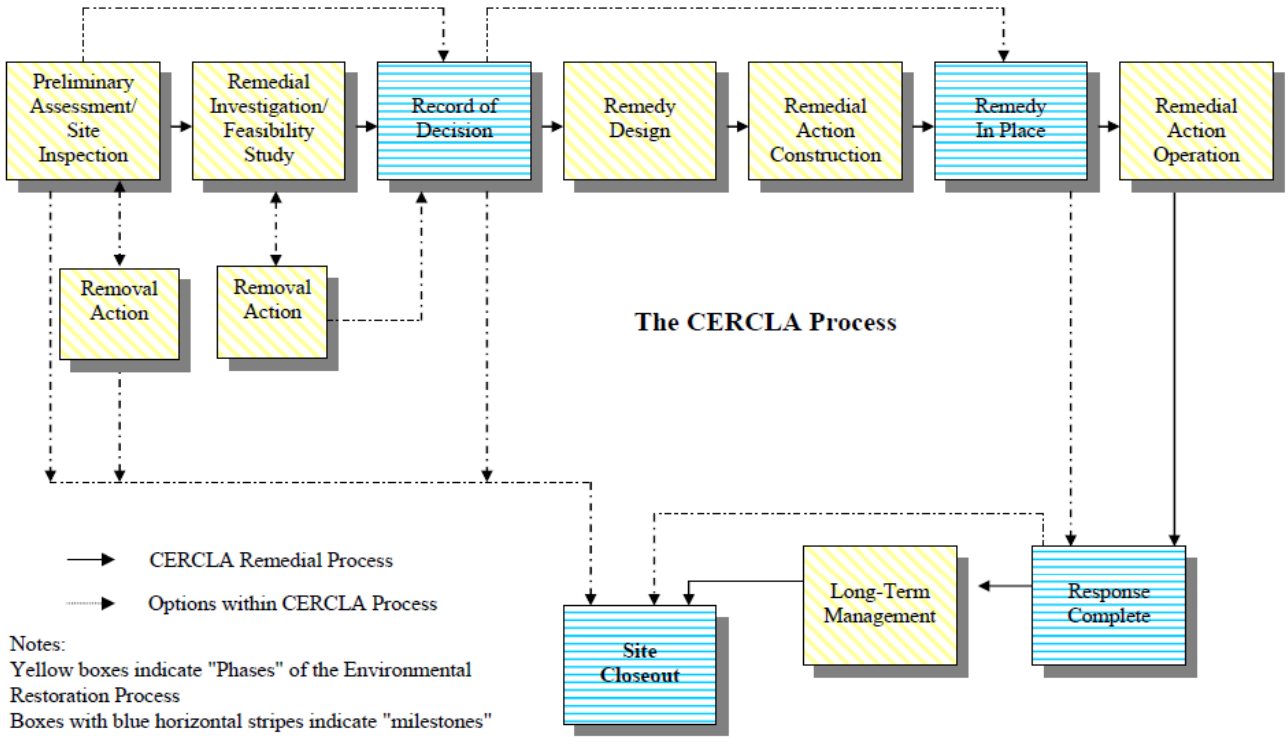

Remedial Investigation

IR Site 6, the Former Fire Training School, was used for nearly 50 years for firefighting training. The training overlapped with the Navy's use of AFFF for at least 20 years. PFAS compounds were detected in soil samples collected in 2015 and in groundwater samples collected in 2017 and 2020. Since PFAS have already been found onsite, the Navy immediately moved IR Site 6 to a RI to determine the specific PFAS chemicals present and how widespread they are. The investigation will also evaluate potential risks to future construction workers, recreational users, and wildlife.

The objectives of the RI are to:

- Collect soil and groundwater samples to determine the specific PFAS chemicals present and how widespread they are;
- Collect sediment and pore water (water in the spaces between grains of sediment and rock) samples to evaluate potential movement of PFAS offshore;
- Assess risk to construction workers due to potential exposure to PFAS in soil and groundwater;
- Assess risk to recreational users from potential exposure to PFAS in soil, sediment, and pore water;
- Assess risk to fish, birds, and other wildlife potential exposure to PFAS in sediment and pore water; and
- Use results from above studies to determine next steps.

Next CERCLA Steps

The SI results will lead to recommendations for further studies under the RI phase of CERCLA or no further studies as warranted. Further investigation under the CERCLA process may require a feasibility study to evaluate the cleanup alternative to protect people and the environment. A proposed plan then identifies the preferred cleanup plan that will be distributed for public review and comment. Once the best plan is selected, it will be documented in a decision document and then implemented during the remedial design/remedial action phase. The public will be informed throughout the process via Restoration Advisory Board meetings, fact sheets, and documents posted to the Navy's website.

For More Information on PFAS

U.S. EPA: Basin Information about PFAS

https://www.epa.gov/pfas

U.S. EPA: Drinking Water PFOA and PFAS Lifetime Health Advisory

https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos

Assistant Secretary of the Navy PFAS website

https://www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

Agency for Toxic Substances and Disease Registry: PFAS and Your Health

https://www.atsdr.cdc.gov/pfas/index.html

Interstate Technology and Regulatory Council PFAS Website

https://pfas-1.itrcweb.org/

San Francisco Estuary Institute PFAS Website

https://www.sfei.org/projects/perfluoroalkyl-and-polyfluoroalkyl-substances-pfass

Department of Defense 2019 PFAS Screening Levels

https://media.defense.gov/2020/Feb/04/2002243735/-1/-1/1/PFAS-SCREENING-LEVEL-MEMO.PDF

To be added to the Base Realignment and Closure (BRAC) website mailing list, please email Tahirih Linz, the Navy BRAC Environmental Coordinator at tahirih.p.linz.civ@us.navy.mil.

Visit the Former Naval Station Treasure Island BRAC website for Public Notices and Restoration Advisory Board meeting details: https://www.bracpmo.navy.mil/nsti. Use the tabs on the left hand side to select "Meeting Material" or "Public Notices".

For questions, please contact the Navy BRAC Environmental Coordinator, Ms. Tahirih Linz
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