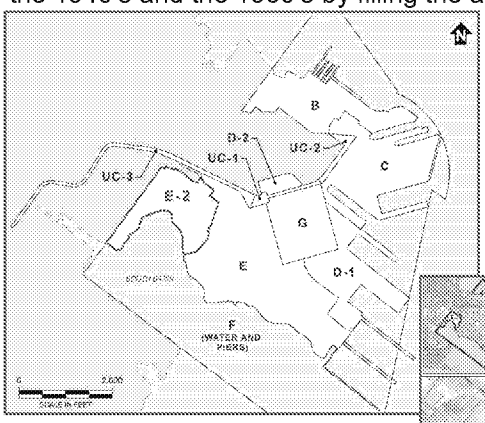
# FACT SHEET
# Hunters Point Naval Shipyard
## Frequently Asked Questions About the Shipyard Landfill at Parcel E-2

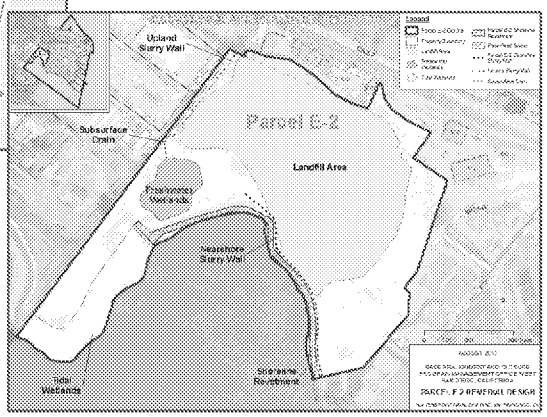
August 2017

## History of Parcel E-2

Parcel E-2 consists of 47 acres in the southwest portion of Hunters Point Naval Shipyard (HPNS) that was created between the 1940's and the 1960's by filling the area along the edges of the San Francisco Bay with artificial fill. Parcel E-2 includes a 22-acre landfill for the historic disposal of construction debris, municipal-type trash, and a variety of industrial wastes.




Location of Parcel E-2 at HPNS




Detail of areas that make up Parcel E-2

## What do we know about what's in the landfill?

The Navy has studied the landfill at Parcel E-2 extensively, including the review of historical records and collection of hundreds of samples. Many investigations have been conducted by the Navy, including digging test pits, drilling boreholes to take samples from below the ground, using radiation detectors over the entire surface, and sampling the water from under the landfill. Based on this work, the Navy knows that municipal trash, construction debris, soil, and shipyard industrial waste were buried in the landfill. The Navy took more than 300 samples of soil within the landfill from soil borings, excavation holes where polychlorinated biphenyls (PCBs) were being removed, groundwater monitoring wells, and test pits. The sample results showed low levels of contamination, of which most were within United States Environmental Protection Agency's (USEPA's) acceptable risk range. Lead, PCBs and chemicals related to asphalt were the most common contaminants found. The areas with the highest levels of contamination were excavated and removed from the site.

## Who is making decisions about the landfill?

The Comprehensive Environmental Response Liability Compensation Act (CERCLA) of 1980 is a federal law that established a process for environmental cleanup at contaminated sites, including HPNS. In accordance with CERCLA requirements, the landfill project at HPNS involves the Navy, USEPA, California Department of Toxic Substances Control (DTSC), the San Francisco Regional Water Quality Control Board, and other regulatory agencies. The Navy worked closely with the environmental regulators and the City of San Francisco during the development of the proposed cleanup solution for the landfill, which was outlined in the Navy's 2011 Proposed Plan (PP). After a public comment period and regulatory review, this remedy was documented in the November 2012 Final Record of Decision (ROD), a public document that describes the selected remedy for the cleanup of a site that has been agreed upon by the Navy and the regulators. The community was engaged throughout the PP and ROD process, and their concerns and feedback were taken into account when choosing the selected remedy.

## Is there radioactive waste in the landfill?

The Navy has found glow-in-the-dark dials and markers during several excavations. These devices were painted with radium, which is a radioactive material that is no longer used. The Navy has excavated the two areas most likely to have such devices; there may be more buried throughout the landfill. The radiation levels from these devices are low and do not pose a risk to human health or the environment if they remain underground.

## What about dust and risk?

As soil is moved, there is a risk of releasing dust that has chemicals and asbestos (which occur naturally in the Hunters Point environment). The Navy follows an approved dust control plan that prevents public exposure to dust during earth-moving activities. Measures include containing soil to prevent contaminated dust from getting into the air; covering the beds of all truck carrying soil on or off HPNS; washing and/or brushing off truck wheels before leaving HPNS; continuous watering down of any areas where soil is being moved to prevent dust from blowing; and regularly monitoring the air around all of the active cleanup areas. To date, air monitoring test results show no risk to the members of the surrounding community, tenants, or the workers at HPNS. Air monitoring results can be found on the Navy's website at www.bracpmo.navy.mil and on the DTSC website at www.envirostor.dtsc.ca.gov.

## What cleanup actions have been completed at the landfill and in Parcel E-2?

Cleanup actions completed at the landfill and within Parcel E-2 include:

- Installed a sheet-pile wall (below-ground barrier) and a groundwater extraction system in the southeast portion of Parcel E-2 in 1998 to keep PCBs from moving towards the Bay—the system operated until 2005 when the Navy excavated (44,500 cubic yards) and removed the source of contamination
- Installed a cap, made up of a multi-layer protective liner system covered by two feet of clean soil, in order to manage the penetration of water and the release of gases, over 14.5 acres of the landfill in 2000
- Installed a landfill gas control and extraction system in 2002 (see below for more information on landfill gases)
- Removed debris from the shoreline in 2003, including 81 tons of metal sent to a recycler, 52 dump trucks of non-metal debris, 344 tires and 10 cubic yards of material containing asbestos

*continued on page 2*

*continued from page 1*

- Removed 8,200 cubic yards of contaminated soil and sediment from the Metal Slag Area in 2005-2006
- From 2010-2012, removed another 40,000 cubic yards of contaminated soil that was remaining after the initial PCB removal action in 2005
- In 2012, removed 3,800 cubic yards of soil and screened it for radiological contamination
- An additional 39,000 cubic yards of impacted soil was removed from hot spot excavations and an underground barrier made up of wet clay mixed with soil and cement in large trenches (known as a slurry wall) was installed along the shoreline in 2016-2017 to limit the flow of groundwater between areas

## What about gases from the landfill?

The primary gases from landfills (including Hunters' Point landfill) are methane and carbon dioxide as a result of rotting material. Neither of these gases are toxic, however methane must be controlled because it is flammable. In addition, there are small amounts of other gases present, called non-methane organic compounds.

The Navy installed an engineered cap over the landfill in 2000 to trap the gases, which are then sent through a carbon filter that removes the non-methane organic compounds before venting them to the atmosphere. Navy tests have shown the gases do not pose a risk to the community. The Navy is planning for the installation of a new multi-layer cap and an upgraded methane collection system in late 2018.

## What about earthquakes and liquefaction?

The Navy has done geotechnical testing of the landfill area and found a low likelihood for major soil movement, called liquefaction. Liquefaction and earthquake-related effects are well understood in California. CERCLA, the federal law regulating cleanup at HPNS, requires an evaluation of nine criteria, including short and long-term protectiveness for any remedy proposed. The remedy chosen has been designed to be protective during and after an earthquake. Technologies used to implement the landfill remedy (currently under construction) were designed and will be constructed with this in mind.

## Can contaminants move into the San Francisco Bay?

The Navy has completed a large amount of sampling in the San Francisco Bay and did find PCBs at low levels in sediment near the landfill and the mouth of Yosemite Slough, a result of historical use by private companies located or operated near Yosemite Slough and the PCB Hotspot Area along the shoreline of the landfill. The Navy has removed the PCB Hotspot Area and is currently evaluating methods to dredge or clean contaminated sediments near Yosemite Slough and the landfill.
The Navy has thoroughly sampled groundwater flowing underneath the landfill and has not found any groundwater plumes with contamination migrating towards the San Francisco Bay. Installation of slurry and sheet-pile walls, as well as the construction of rock walls (revetments) built along Parcel E-2's shoreline will prevent human exposure to contaminated soil or sediment and prevent erosion of the soil cover, protective liner, and underground barriers into the San Francisco Bay.

## What if there is a rise in sea level?

All Navy remedies at HPNS, including those proposed for the landfill, are designed to withstand potential sea level rise. The landfill remedy revetments and elevations will account for significant sea level rise.

## Will the landfill be safe for future use?

The remedy at the landfill includes an engineered cap, soil cover, and a protective rock wall (revetment) along the shoreline. The remedy, as summarized in the Navy's Proposed Plan (available on the Navy's website at www.bracpmo.navy.mil), has removed access to any possible contamination left beneath the ground. This action protects humans and the environment for future alternative use of the landfill site. The current projected future use of the landfill and immediately surrounding area is open space, including a park and Bay Trail.

## Where can I get more information about the landfill and Parcel E-2 cleanup at HPNS?

There are several ways to learn more about the Navy's cleanup at HPNS.

### Review an HPNS Report

**City of San Francisco Main Library**
100 Larkin Street, 5th Floor, Gov't Information Center
San Francisco, CA 94102 (415) 557-4400
**Hunters Point Naval Shipyard Site Trailer**
690 Hudson Avenue, San Francisco, CA 94124
**Navy Website:** www.bracpmo.navy.mil
*There is a link to the online HPNS Administrative Record on the Documents Page of the Navy's HPNS web pages*

有关海军在雇人角海军造船厂的清理活动方案的更多信息，
请拨打 (415) 295-4742 并留言。

Para más información sobre el programa de limpieza de la Marina en Hunters Point Naval Shipyard, favor de dejar un mensaje en (415) 295-4742.

Para sa higit pang impormasyon sa programa sa paglilinis ng Navy sa Hunters Point Naval Shipyard, mangyaring mag iwan ng mensahe sa (415) 295-4742.

Mo nisi faamatalaga e uiga i le polokalame faamama a le Navy i Hunter's Point, faamolemole tuu mai se feau i le telefoni (415) 295-4742.

### Contact HPNS Program Management

**Derek Robinson,** BRAC Environmental Coordinator
Dept of the Navy, BRAC Program Management Office West
33000 Nixie Way, Bldg. 50, 2nd Deck, San Diego CA 92147
(619) 524-6026 derek.j.robinson1@navy.mil

*To be added to the HPNS mailing list or for additional information, email info@sfhpns.com or call (415) 295-4742*

### Contact the Radiological Health and Safety Community Technical Advisor with Questions

**Dr. Kathryn Higley**
(541) 737-7063
kathryn.higley@oregonstate.edu
*www.ne.oregonstate.edu/kathryn-higley*

Dr. Higley is the Head of the School of Nuclear Science and Engineering at Oregon State University and is a Certified Health Physicist with a Ph.D. and M.S. in Radiological Health Sciences. She is available to answer community member questions by phone or email.