World War II Landfill (Site 2) Proposed Plan

NCBC GULFPORT
ENVIRONMENTAL RESTORATION PROGRAM

Summary of the Site 2 Proposed Plan

This Fact Sheet summarizes the Navy's proposal to address contaminants detected in soil and groundwater at Site 2, the World War II Landfill, at the Naval Construction Battalion Center (NCBC) Gulfport. Site 2 was reportedly the primary area for waste disposal on the base from 1942 until 1948. Completed studies identified polynuclear aromatic hydrocarbons* (PAHs) as contaminants of concern (COCs) in soils. PAHs were also found in the groundwater beneath the site along with iron and arsenic. PAHs are a group of compounds that are created when hydrocarbons (such as coal or gasoline) do not burn completely.

The Proposed Plan for Site 2 recommends grading the site to ensure a 2-foot minimum clean fill and topsoil cover. The regrading effort would occur across the site and excavating a small area of PAH-contaminated surface soil and placing it under the soil cover. The remedy would be completed by limiting future use of the site with land use controls, and conducting long-term groundwater monitoring to ensure that contaminants are not leaving the site.

Site 2 is a mainly grass-covered area in the western portion of NCBC Gulfport. This photo was taken from the west, looking towards the northeast.

Site 2 — World War 2 Landfill

Background

Site 2 was reportedly the primary area for waste disposal on the base from 1942 until 1948. The landfill received wastes mainly from public works shops and the supply department. Waste fuel, oil, solvents, paint, and paint thinners were transported to the site, disposed in trenches (approximately 8 feet deep), burned, and buried. The waste disposal area was covered with soil when disposal activities ceased in 1948. Additional fill was added as part of the construction of the Pine Bayou Golf Course, which closed in 2011. The site is currently being used as a training area.

Site 2 is a relatively flat area located on approximately 11 acres north of 8th Street and east of Colby Avenue.

For more information please contact:
Gordon Crane
(228) 229-0446
gordon.crane@navy.mil

Or visit our website: http://go.usa.gov/ZVGV

Environmental Studies

The World War II Landfill was identified as a possible site in 1985 as part of a basewide initial assessment. A follow-on study in 1987 indicated that metal objects were likely present in the landfill. Environmental sampling results did not detect contamination exceeding regulatory levels. In 1994, a basewide groundwater investigation found dioxin north of Site 2. Recommendations from this study included resampling the groundwater due to the dioxin detection. Groundwater was resampled in 1999 as part of another basewide study. None of the newly installed monitoring wells at Site 2 contained dioxins during this sampling event.

In 2011, the Navy began a remedial investigation (RI) at Site 2. During the RI, low concentrations of PAHs, herbicides, and metals were found in soils and groundwater at concentrations exceeding Mississippi Department of Environmental Quality (MDEQ) criteria. Because the residential screening indicated buried waste lies beneath the pond, the Site 2 boundary was extended to the east to include the entire area of the pond.

In 2012, additional studies were completed to evaluate the existing soil cover and the depth of the landfill wastes. One soil sample, located outside of the Site 2 landfill boundary to the north, contained COCs in the surface soil at concentrations requiring further investigation. The study in this area will be completed as part of the Site 7 investigation that is currently underway.

***Polynuclear Aromatic Compounds**

Polynuclear aromatic compounds, commonly referred to as "PAHs", are organic compounds containing hydrogen and carbon composed in an (aromatic) ring. PAHs are found in oil, coal, and tar and can be produced by incomplete burning of organic matter as in forest fires, incinerators, and engines.

Evaluation of the Cleanup Alternatives

The Feasibility Study and Proposed Plan for Site 2

A Feasibility Study (FS) was completed to evaluate possible cleanup remedies for Site 2. Three remedies were evaluated in the FS: No Action (Alternative 1), Landfill Cover and Waste Containment with Land Use Controls (LUCs) and Long-term Monitoring (LTM) (Alternative 2), and Treatment and Capping (Alternative 3) as described below.

Alternative 1: No Action

A No Action alternative is always used as a baseline for comparison with other alternatives. This option assumes that no changes would be made to the existing conditions at the site.

Alternative 2: Landfill Cover and Waste Containment with LUCs and LTM

The Landfill Cover and Waste Containment with LUCs and LTM alternative includes the following:

1. **Limited Regrading of Existing Surface Soil:** Regrading of the surface soil across the site would promote drainage and site reuse. Additionally, PAH-contaminated surface soil would be excavated and placed beneath the soil cover during grading.
2. **Maintaining a Minimum 2-Foot Soil Cover:** This action will involve containing the landfill by ensuring that it is covered with at least 2 feet of clean soil. This action will prevent contact with contaminated soil and landfill contents and prevent migration of subsurface contaminants by erosion.

3. **Establishing and Maintaining a Vegetative Cover:** Grass or other shallow rooted vegetation will be planted to prevent soil erosion.
4. **LUCs:** Future residential and agricultural uses, excavation (or other activities that could compromise the soil cover) and use of groundwater from beneath the site would be prohibited. Annual inspections would be conducted to ensure these land use controls are being maintained.
5. **LTM:** Groundwater monitoring would consist of collecting samples from monitoring wells located around the perimeter of the landfill to ensure that contaminants are not moving from the site.

Alternative 3: Treatment and Capping

Alternative 3 consists of the following components:

1. **Waste Containment:** A landfill cap consistent with MDEQ solid waste regulations would be constructed to prevent erosion and rainwater infiltration and to collect landfill gas. Because the landfill contents are buried at or below the water table, it is unlikely that infiltration of rainwater would cause additional adverse effects. This alternative would also include placing PAH-contaminated soil under the cap. The site would be regraded before installing the final cover to promote rainwater runoff.
2. **Groundwater Treatment:** A chemical treatment barrier would be used reduce the mobility of arsenic and iron in the shallow aquifer at the edge of the landfill to convert the metal contaminants to insoluble forms that would not be transported by the groundwater. This treatment should also improve conditions to reduce PAH concentrations to acceptable levels.
3. **LUCs:** As described for Alternative 2.
4. **Landfill Gas Management and Monitoring:** Landfill gas would be managed to prevent the buildup of methane gas (produced by the break down of wastes within the landfill) that could become trapped beneath the impermeable cap.
5. **LTM:** As described for Alternative 2.

The Preferred Remedy

The Navy recommends Alternative 2, Landfill Cover and Waste Containment with LUCs and LTM, as the Preferred Remedy for Site 2. This alternative would be protective of human health and environment and meets all established evaluation criteria. More information on the evaluation criteria is available in the Site 2 Proposed Plan.

Public Meeting and Comment Period

An informal public meeting will be held to discuss the Proposed Plan for Site 2 with the Navy's engineers and scientists.

When: December 2, 2014
2:00—4:00 PM

Where: Gulfport Public Library
1708 25th Avenue
Gulfport, MS 39501

The Site 2 Proposed Plan is available for your review and comments during the public comment period from December 2, 2014, to January 5, 2015. Comments on this proposal may be provided in person at the public meeting or in writing to:

Mr. Gordon Crane
Installation Restoration Program Manager
2401 Upper Nixon Avenue
Gulfport, MS 39501

For More Information:

The World War II Landfill (Site 2) Proposed Plan and supporting documents are available at the NCBC Gulfport Information Repository located in the: Gulfport Public Library
1708 25th Avenue
Gulfport, MS 39501
Phone: (228) 871-7171

And on our website: **http://go.usa.gov/ZVGV**