

ACTION MEMORANDUM



NON-TIME CRITICAL REMOVAL ACTION INSTALLATION RESTORATION SITE 28 ORIGINAL BURNING GROUND

NAVAL SUPPORT FACILITY, INDIAN HEAD INDIAN HEAD, MARYLAND

Prepared By:



Naval Facilities Engineering Command Washington
1314 Harwood Street, S. E.
Washington Navy Yard, DC 20374-5018

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1. PURPOSE

This action memorandum describes and officially documents a non-time critical removal action (NTCRA) being undertaken at Installation Restoration (IR) Site 28 – Original Burning Ground (also known as the Former Zinc Recovery Furnace) at the Naval Support Facility, Indian Head (NSF-IH), Maryland, which is part of the Naval Support Activity South Potomac in the Naval District Washington Region. This NTCRA is being conducted by the Navy under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); and applicable provisions of the National Contingency Plan (NCP) and the Federal Facility Agreement (FFA) between the EPA and the Navy for NSF-IH. The removal action is required to eliminate unacceptable risks to human and ecological receptors associated with site soil.

The information in this action memorandum summarizes that provided in the attached Final Engineering Evaluation/Cost Analysis (EE/CA), Site 28, Naval Support Facility, Indian Head of September 2006.

2. SITE DESCRIPTION

a. Facility Description

The Naval Support Facility, Indian Head (formerly Naval District Washington, Indian Head) is located in northwestern Charles County, Maryland, approximately 25 miles southwest of Washington, DC. NSF-IH is a military facility consisting of the main area on the Cornwallis Neck Peninsula and the Annex on Stump Neck. The main area is bounded by the Potomac River to the northwest, west, and south, Mattawoman Creek to the south and east, and the town of Indian Head to the northeast. Stump Neck Annex is located across Mattawoman Creek.

b. Background of Site 28

Site 28, also referred to as the “Original Naval Ordnance Station (NOS) Burning Ground,” the “Slavins Dock Area,” and the “Wildlife Area,” is located on the main installation of NSF-IH. The site encompasses the former site of a zinc recovery furnace, Observation Well 14, and a shoreline burning cage. During World War I, the U.S. Navy initiated a metal-recycling program, which was vital during World War II. In 1928, the zinc recovery furnace, designated Building 415, was erected. The last station map on which the building appears is dated October 31, 1952. A small burning cage to the south of Observation Well 14 was used to burn debris (e.g., wooden crates). The exact location of this former burning cage is unknown. The burning cage is shown outside of the existing perimeter fence on at least one historical map; however, burned debris, glass, and slag-like materials were observed inside the fence in an area adjacent to the mouth of Swale 4, as designated in Figure 2-2 of Attachment A.

The area where the zinc recovery furnace and the small burning cage were located is referred to as Zone A. Zone A comprises the area between the north and south fence lines, the area outside of the fence line to the north, and shoreline to the east. The area referred to as the “Original Burning Ground” in the Initial Assessment Study (IAS) and as the “Shoreline Burning Cage” is

included in Zone B. This area, outside the NSF-IH fence line but within Navy property, is south of Zone A.

c. Physical Setting

The approximately 1.8-acre, eastward-sloping site includes a mixture of habitats. The northern portion of Zone A is comprised mostly of tall grass, with significant areas of exposed substrate (i.e., debris, soil, and gravel). There are four swales in Zone A that discharge to Mattawoman Creek. Swales 2 and 3 connect with Swale 1, which conveys storm water runoff into Mattawoman Creek. The discharge area for Swale 1 supports a small emergent wetland habitat dominated by obligate wetland vegetation (i.e. plants found in wetlands 99% of the time). Flow in these swales is intermittent, responding to seasonal fluctuations, and appears to contain groundwater discharging to the ground surface as springs.

Swale 4, in the southern portion of Zone A, collects water via a culvert that runs from west of the dirt road at Site 28 under the road. This drainage also receives runoff from the site. The results of the Remedial Investigation (RI) suggest that the major source of water in Swale 4 is likely groundwater. The presence of water and obligate wetlands vegetation during dry periods suggest that Swale 4 flows perennially.

The southern portion of Zone A, and most of Zone B, is mixed hardwood forest. The tree cover in this area is primarily deciduous (e.g., oak, maple, and sweet gum), with a few conifer species. There are several areas (e.g., adjacent to the southern fence line) where a shrubby understory is present. There are also several wetland areas in the forested portion of the site.

The shoreline between Site 28 and Mattawoman Creek is tidally influenced, varies from a sand/gravel to muddy composition, and supports few herbaceous plant species. The littoral zone adjacent to the site is composed of a predominantly sand and gravel substrate along the central portion of the site, in contrast to the fine silty mud substrate immediately upstream and downstream of the site. The abundance of sand and gravel adjacent to the site may be an indication of historical erosion of soils from the site to Mattawoman Creek.

Site 28 contains a number of habitats and, therefore, is likely to support a number of species; including mammals, songbirds, raptors, reptiles, and amphibians. The portion of Site 28 that is directly adjacent to Mattawoman Creek supports a number of aquatic bird species.

d. Current Use

Site 28 is located in the immediate vicinity of the Slavins Dock Area, a community waterfront park, which is currently in use. The site is bounded on the south by Mattawoman Creek. The area includes a wildlife viewing deck, an adjacent roadway, and undeveloped areas. The shallow groundwater beneath the site is not used for any potable purpose. Base drinking water is obtained from a deeper aquifer (190 to 400 feet deep) and the nearest potable well is located approximately 1,000 feet southwest of the site. There is no known hydrogeological connection or communication between the shallow groundwater and the deeper aquifer used for drinking water.

e. Status

This site is currently under the Navy Installation Restoration (IR) Program and a Federal Facility Agreement (FFA) between the Navy and EPA. The Installation was placed on the National Priorities List in September 1995 and the FFA was signed in December 2000.

Site 28 has been under investigation since the site was identified in the IAS of the Navy Assessment and Control of Installation Pollutants (NACIP) Program in 1983. NACIP is the former name of the Navy IR Program and the IAS is equivalent to the Preliminary Assessment portion of the IR Program. The IAS recommended that a Confirmation Study not be performed for Site 28.

Soil samples were collected at the site in 1993 and analyzed for soil texture, pH, and fertility in an attempt to determine the cause for the poor quality vegetation. Elevated levels of zinc were detected. Sampling off shore of this site was performed during the Toxicity Identification Evaluation Study in 2000 and the Mattawoman Creek Study in 2001. Both studies confirmed elevated levels of zinc in the sediment. The Navy determined that an RI was warranted and completed that in April 2005.

f. Release Description

The site encompasses the former site of a zinc recovery furnace and a shoreline burning cage, which released metals, in particular zinc and lead, into the soil and, through runoff and erosion, to the adjacent sediment of Mattawoman Creek.

3. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

a. Threats to Public Health and Welfare

The baseline human health risk assessment identified potential unacceptable risks for hypothetical future residents exposed to soil. Risks to commercial and industrial workers from soil were not quantitatively evaluated in the risk assessment. However, based on the calculated risk to an adult resident exposed to soil through ingestion (i.e., a noncarcinogenic hazard that only marginally exceeded the EPA target hazard level), which is the most directly analogous receptor to a commercial worker, the potential risk to this receptor is likely acceptable. The analysis of the elevated lead concentrations in the Swale 3 area concluded that exposure to surface and subsurface soil in this area would potentially be a concern for fetuses of expectant construction workers, utility workers (if they are exposed at the upper end of the estimated range of parameter values), and adult trespassers (if they are exposed at the upper end of the estimated range of parameter values), and for future child residents. None of these receptors are present at the site, nor are they expected to be present at the site in the future. The human health risk assessment assumed residential use of the site in order to evaluate alternatives that would allow for unlimited use and unrestricted exposure at the site.

b. Threat to the Environment

The Screening Ecological Risk Assessment determined that a potentially unacceptable risk was present in the soil and sediment. A Baseline Ecological Risk Assessment to address potential ecological risks from immediate shoreline sediment, surface water, and groundwater-to-surface water exposure at Site 28 determined there are isolated unacceptable risks to benthic organisms and aquatic omnivorous birds from metals (zinc and lead) in shoreline sediment. Ecological risk from exposure to soil and immediate shoreline sediment will be addressed by the removal action.

4. NO ACTION ALTERNATIVE

Taking no action at this site could result in a negative impact to human and ecological receptors.

5. COMMUNITY PARTICIPATION

A Restoration Advisory Board (RAB) made up of community members and Navy, Federal, and state officials meets several times a year. The RAB is designed to act as a focal point for the exchange of information between the Navy and the local community regarding restoration activities.

Information for Site 28 – Original Burning Ground, was made available to the public. The RI Report was made available in April 2005 and placed in the Information Repository. The Information Repository is currently maintained at the NSF-IH General Library.

A notice of availability and a brief description of the EE/CA document and the removal action will be published in the *Maryland Independent* and the public will be given thirty days to provide any comments.

6. COMPLIANCE WITH ARARS AND TBCS

The removal action will comply with potentially applicable or relevant and appropriate requirements (ARARs) addressing the Clean Air Act; the Resource Conservation and Recovery Act; and Maryland Ambient Air Quality Standards. Other potentially applicable regulations will be addressed as necessary. A detailed summary of the ARAR determinations is contained in Attachment A. There are no applicable regulations to be considered (TBCs).

7. ACTIONS AND COSTS

a. Actions

Soil Removal for Human Health and Ecological Risks is the recommended alternative because it will achieve the Remedial Action Objectives (RAOs) for Site 28 with the greatest certainty of success. The RAOs are:

- Reduce potential risks to human health and ecological receptors associated with site soil contaminants to acceptable levels, represented by the agreed-upon preliminary remediation goals (PRGs).

- Restore the site to greatly improved conditions (e.g., grading and vegetation).

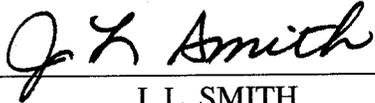
Furthermore, soil removal complies with the ARARs; is technically feasible; is a more permanent remedy than the other alternatives considered; and is comparable in cost to them. Soil removal provides the Navy with a solution that is potentially unhindered by future land use restrictions at Site 28.

b. Cost

The cost is estimated to have a present worth ranging from \$687,663 to \$1,473,564.

c. Project Schedule

The removal action is scheduled for completion during calendar year 2007.



J. L. SMITH
Capt, USN
Commanding Officer
Naval Support Activity
South Potomac



Date