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PROPOSED PLAN FOR SITE 38 RUM POINT LANDFILL NSWC INDIAN HEAD MD
07/01/2013
TETRA TECH

U.S. Navy Announces the Proposed Plan for Site 38, Rum Point Landfill Naval Support Facility Indian Head Indian Head, Maryland

Introduction

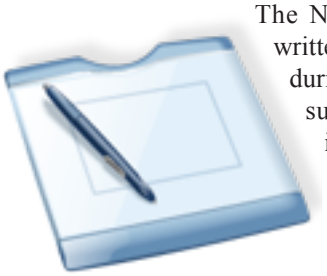
The purpose of this **Proposed Plan**[1] is to present the preferred alternative for a response action for groundwater, surface water, sediment, surface soil, and subsurface soil at Site 38, Rum Point Landfill, at Naval Support Facility Indian Head (NSF-IH), Maryland. This Proposed Plan recommends Landfill Removal, Monitoring, and Land Use Controls (LUCs) to address potential risk at Site 38. This Proposed Plan provides the rationale for this recommendation, based on the investigative activities performed at Site 38, and explains how the public can participate in the decision-making process. The locations of the NSF-IH and Site 38 are shown on Figures 1 and 2, respectively.

The Department of the Navy (Navy), the lead agency for the site activities, and the U. S. Environmental Protection Agency Region 3 (EPA), in consultation with the Maryland Department of the Environment (MDE), issue this document as part of the public participation requirements under Section 117(a) of the **Comprehensive Environmental Response, Compensation and Liability Act** of 1980 (CERCLA), as amended, and Title 40 of the Code of Federal Regulations (CFR), Section 300.430(f)(2). Title 40 CFR 300 is known as the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**. This Proposed Plan summarizes information that can be found in detail in the Site Screening Process (SSP) report, Feasibility Study (FS) and other documents contained in the **Administrative Record File** for this site.

The Navy and EPA, in consultation with MDE, will make a final decision on the **response action** for the site after reviewing and considering all information submitted during the 30-day public **comment period**, and may modify the preferred response action or select another action, based on any new information or public comments. Therefore, community involvement is critical and the public is encouraged to review and comment on this Proposed Plan. After the public comment period has ended and the comments and information submitted during that time have been reviewed and considered, the Navy and EPA, in consultation with MDE, will document the action selected.

Mark Your Calendar for the Public Comment Period

Public Comment Period
July 29, 2013 through August 28, 2013
Submit Written Comments



The Navy, EPA, and MDE will accept written comments on the Proposed Plan during the public comment period. To submit comments or obtain further information, please refer to the insert page.

Attend the Public Meeting
August 21, 2013 from 5:00pm to 6:00pm

Indian Head Senior Center
100 Cornwallis Square
Indian Head, MD 20640

The Public Comment period will include a public meeting during which the Navy, EPA, and MDE will provide an overview of the site, previous investigation findings, remedial alternatives evaluated, and the preferred alternative, answer questions, and accept public comments on the Proposed Plan.

Location of Information Repository

Indian Head Town Hall
4195 Indian Head Hwy.
Indian head, MD 20640
(301) 743-5511
Hours: Monday through Friday
8:30am to 4:30pm

Charles County Public Library
2 Garrett Ave.
LaPlata, MD 20646-5959
(301) 924-9001 and (301) 870-3520
Hours: Monday through Thursday 9am to 8pm
Friday and Sunday 1-5pm
Saturday 9am to 5pm

Naval Support Facility, Indian Head
General Library
Building 620 (The Crossroads)
4163 N. Jackson Road
Indian Head, MD 20640-5117
Hours: Monday through Wednesday
9am to 8pm
Thurs. & Fri. 9am to 5:30pm
Sunday 12 noon to 4pm

1 A glossary of specialized terms used in this Proposed Plan is attached. Words included in the glossary are indicated in bold print the first time they appear in the plan.

Site History

NSF-IH is located in northwestern Charles County, Maryland. It consists of the Main Installation (2,500 acres) on Cornwallis Neck Peninsula and the Stump Neck Annex on Stump Neck Peninsula (Figures 1 and 2). NSF-IH was established in 1890 and is the Navy's oldest continuously operating ordnance station. At various times during its operation, NSF-IH has served as a gun and armor proving ground, a powder factory, a propellant plant, and a research facility. Stump Neck Annex, which was acquired in 1901, provided a safety buffer for the testing of larger naval guns that were tested by firing into the Potomac River and at Stump Neck.

The production of gunpowder and development of new explosives during the onset of World War II resulted in the construction of several new facilities at Indian Head, as well as the construction of Route 210 as a Defense Access Road in 1943. Development and improvements at Indian Head continued throughout the 1950s and 1960s.

After the Vietnam conflict, the mission of NSF-IH shifted from primarily a production facility to a highly technical engineering support operation. In 1987, the facility was established as a Center for Excellence to promote technological excellence in the following specialized fields: energetic chemicals; guns, rockets and missile propulsion; ordnance devices; explosives; safety and environmental protection; and simulators and training.

Current military land use includes operations and training; production; maintenance and utilities; research, development, testing and evaluation; explosive storage; supply and nonexplosive storage; administration; community facilities and services; housing; and open space.

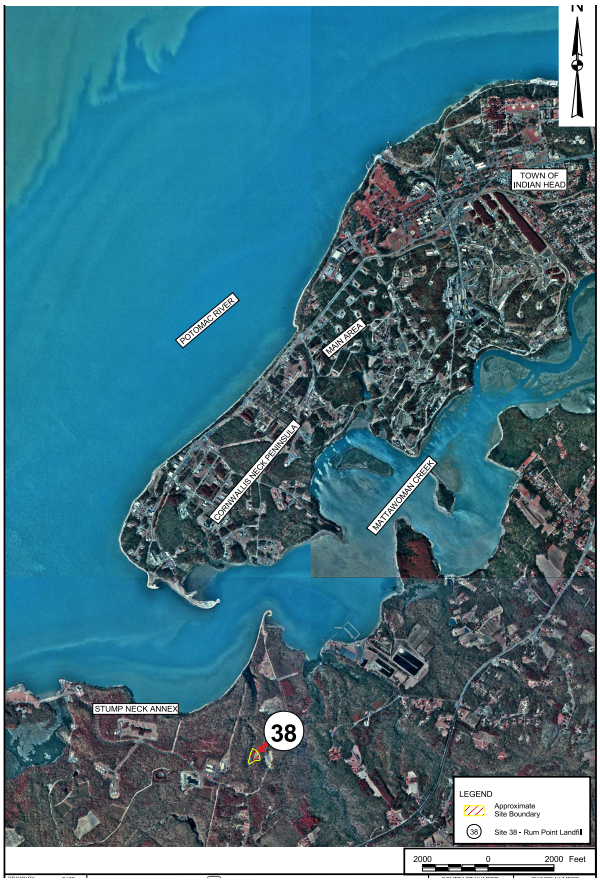


Figure 2: NSF-IH Indian Head, MD

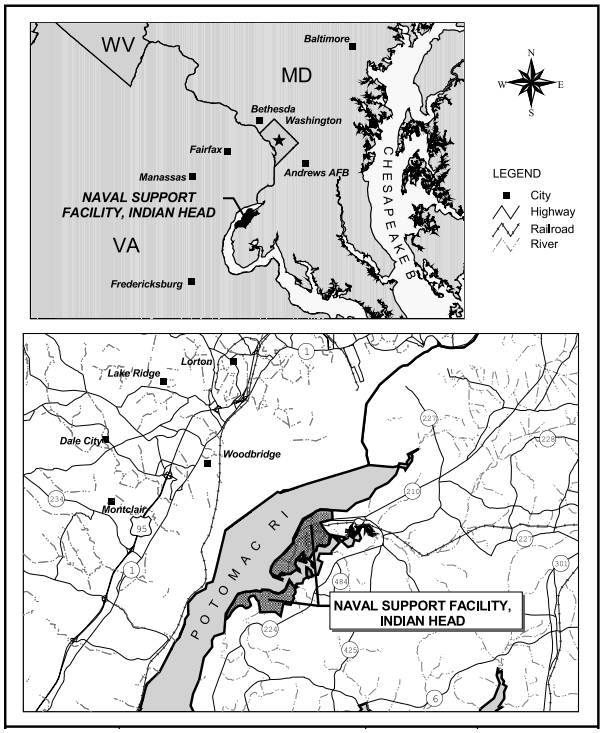


Figure 1: Facility Location Map

Site 38 – Rum Point Landfill is located in the eastern portion of Stump Neck Annex west of Rum Point Road (Figure 2). The landfill was intended for disposal of biodegradable waste and has been inactive since December 1989. The date when waste disposal began is not known, and little is known about the site history. Ash from a thermal treatment tank may have been disposed of at the site on a one-time basis. Wastes observed on the landfill surface include scrap metal, tires, wood, and concrete construction debris.

The top of the landfill is relatively flat and slopes steeply to the west, north, and northeast toward intermittent streams. The landfill covers an area of approximately 1 acre, and the surface of the site is mostly covered with grasses, with some trees present. The area surrounding the landfill is wooded, and trees have grown on the landfill slopes. Intermittent streams located west and northeast of the landfill join north of the site and flow toward Mattawoman Creek, which is located more than 2,000 feet north of Site 38. Precipitation either infiltrates into the soil or runs off into the intermittent streams. There are no obvious drainage channels on the surface or slopes of the landfill.

Site Characteristics

Investigation History

Several investigations were conducted at Site 38 between 1983 and 2012. Below is a chronological list, including a description of each of these investigations.

Initial Assessment Study

The site was identified as a landfill in the **Initial Assessment Study** (IAS) (Hart, 1983). A site visit during the IAS indicated the presence of metal parts in addition to biodegradable material such as wood on the surface of the site. The IAS did not include a recommendation concerning future actions at Site 38.

Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI)

An RFI conducted at the site in 1997 reported that visible wastes included pieces of metal, rusted empty 55-gallon drums, tires, wood, and concrete construction debris. During the RFI, soil borings were installed and converted into six **groundwater** monitoring wells. Surface soil, subsurface soil, shallow groundwater, surface water, and sediment samples were collected.

2003 Site Visit

A site visit was conducted in April 2003 in preparation for the Site 38 SSP investigation. This visit verified that previously observed site conditions were essentially unchanged.

Site Screening Process

The SSP investigation was conducted in 2005 and supplemented in 2008. The results of these studies provided sufficient data to characterize the site and evaluate potential remedial alternatives. Therefore, a subsequent Remedial Investigation was not performed.

The 2005 SSP investigation was conducted to identify the presence or absence of contamination at Site 38. The field investigation included collection of four surface soil, six shallow groundwater (unfiltered), six groundwater (filtered), four surface water (unfiltered), and four sediment samples. Surface soil samples were collected from the surface of the landfill. Surface water and sediment samples were collected from two locations in the intermittent stream west of the landfill. Groundwater samples were collected from all monitoring wells and piezometers. Sample locations are shown on Figure 3. All samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs), explosives, nitrocellulose, nitroglycerin, nitroguanidine, Target Analyte List (TAL) metals, hexavalent chromium and cyanide.

During the 2008 Expanded SSP investigation, four monitoring wells were installed, two upgradient from the landfill and two at the toe of the landfill slope. Groundwater samples, 10 filtered and 10 unfiltered, were collected from all new and existing monitoring wells and piezometers. All samples were analyzed for TCL VOCs, TCL SVOCs, explosives, nitrocellulose, nitroglycerin, nitroguanidine, TAL metals, hexavalent chromium, and cyanide.

Several VOCs, many SVOCs [mostly polynuclear aromatic hydrocarbons (PAHs)], one explosive, and many metals were detected in surface soil samples, and two VOCs, one SVOC, and many metals were detected in subsurface soil samples. Benzo(a) pyrene (a PAH) and arsenic (a metal) were the contaminants found at the greatest concentrations relative to appropriate risk screening criteria, with maximum concentrations of 1.4 and 39.6 milligrams per kilogram (mg/kg), respectively. One VOC, one SVOC, one explosive, and many metals were detected in surface water, and four VOCs, many SVOCs (mostly PAHs), three explosives, and many metals were detected in sediment. Manganese (a metal) was detected in surface water in excess of risk screening criteria at a maximum concentration of 101 micrograms per liter (µg/l) while benzo(a)pyrene was detected in sediment in excess of screening criteria at a maximum concentration of 0.15 mg/kg. Two VOCs, several SVOCs, one explosive, and many metals were detected in unfiltered groundwater samples collected in 2005, and two VOCs, one SVOC, five explosives, and several metals were detected in unfiltered groundwater samples from the 2008 Expanded SSP investigation. Manganese was the contaminant found in groundwater at the greatest concentration relative to appropriate risk screening criteria, with a maximum concentration of 2,250 µg/l.

Human Health Risk Screening Evaluation

The Human Health Risk Screening Evaluation which was conducted as part of the SSP, compared maximum concentrations in soil, groundwater, surface water, and sediment to risk based screening levels to estimate potential carcinogenic risks and non-carcinogenic

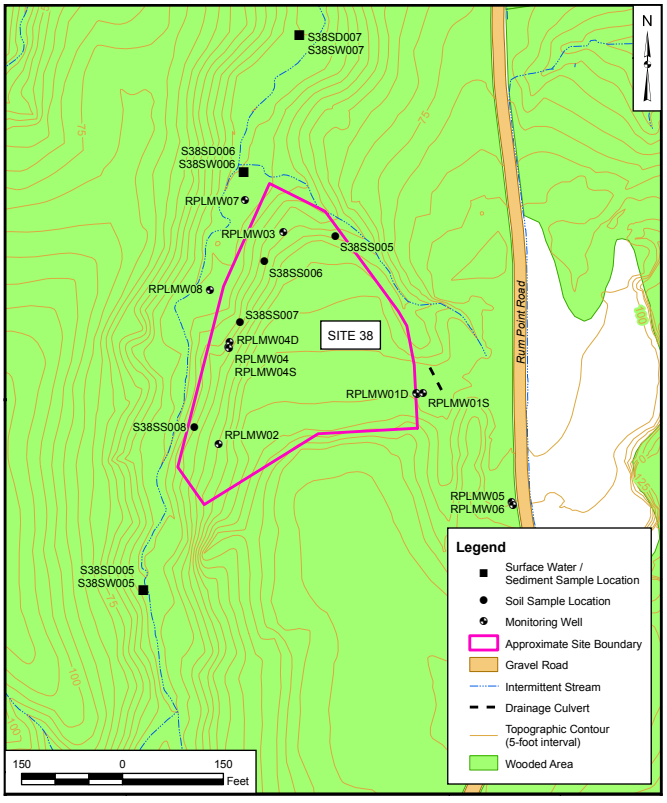


Figure 3: SSP and Expanded SSP Sample Locations

adverse health impacts from site exposure. Additional details are provided in the SSP Report (Tetra Tech, 2008).

Ecological Risk Screening Evaluation

The ecological risk screening evaluation compared detected chemical concentrations in Site 38 samples to EPA ecological screening levels and alternative guidelines and food-chain modeling to determine potential adverse effects on ecological receptors. Additional details are provided in the SSP Report (Tetra Tech, 2008).

Geophysical Survey and Test Trenching

A geophysical survey was conducted in 2009 and test trenches were excavated in 2011 and 2012 to further define the limits of waste present at Site 38.

Interpretations presented following the geophysical survey were developed taking into account geophysical and other available supporting data (i.e., soil borings and visual evidence of waste). In general, this data indicated that the fill was predominantly placed on the slope, which confirmed the previously predicted limits of waste disposal at the site.

A limited volume of waste and fill was identified in the test trenches. As a result, the limits of the landfill were refined. The majority of waste present at Site 38 is present on the surface and slopes of the site, with limited waste buried in the subsurface. The test trenches and updated landfill limits are shown on Figure 4.

Feasibility Study

A **Feasibility Study** (FS) was completed to address potential sources of contamination at Site 38 and to evaluate remedial alternatives to mitigate potential hazards associated with exposure to wastes within the landfill (Tetra Tech, 2013). Three remedial alternatives were evaluated in the FS and are described in detail below.

Scope And Role Of The Action

Site 38 is one of many sites in the IRP and MRP that are part of the comprehensive environmental investigation and cleanup activities currently being performed at NSF-IH under the CERCLA program. The status of these sites can be found in the current version of the Site Management Plan, which is located in the Administrative Record. There are 56 Installation Restoration sites in various stages of investigation or remediation at Indian Head. Remedial Investigations are underway for eight of these, one is undergoing a Site Screening Investigation, and six are in the Remedial / Removal Action phase and one is in the Remedial Design phase. Remedial Actions are complete on three sites where long-term monitoring is still required. There are eight sites that require no further action beyond LUCs but are included in Five-Year Reviews due to the presence of hazardous substances that remain at the site above levels that allow for unlimited use and unrestricted exposure. Previous investigations have determined that the remaining sites require no further action. The preferred alternative for Site 38 is Landfill Removal, Monitoring, and Land Use Controls. The purpose of this plan is to summarize activities performed to date to investigate Site 38 and provide a rationale for the proposed response action for soil, surface water, sediment, and groundwater.

Summary of Site Risks

This section summarizes the results of the risk evaluation conducted for Site 38. The risk screening evaluates the potential for chemicals at a site to have an adverse effect on human and ecological receptors

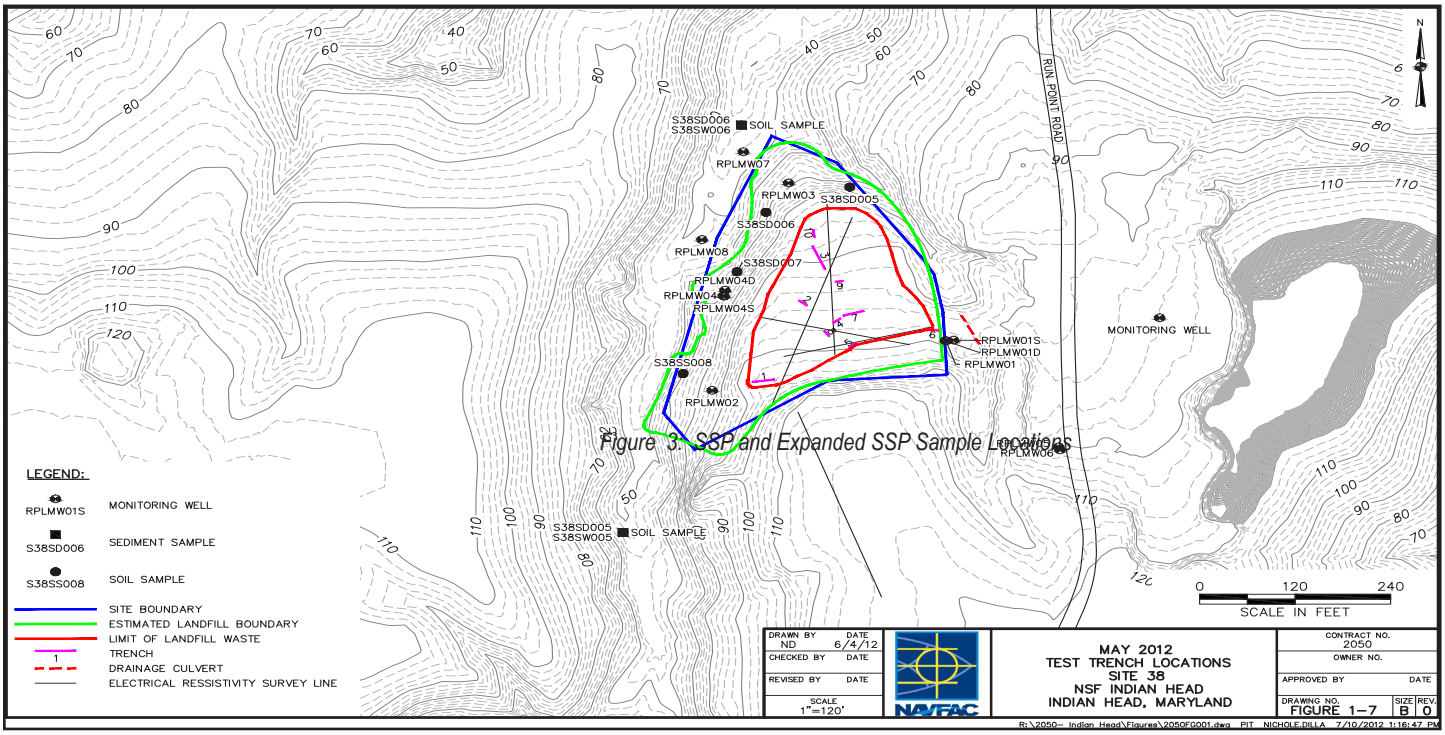


Figure 3: SSP and Expanded SSP Sample Locations

Figure 4: Test Trenches and Updated Landfill Limits

What is a Human Health Risk Assessment and How is it Calculated?

A human health risk assessment estimates the baseline risk, an estimate of the likelihood of health problems occurring if no cleanup action is taken at a site. To estimate the baseline risk at a site, the Navy performs the following four-step process:

Step 1: Analyze Contamination

Step 2: Estimate Exposure

Step 3: Assess Potential Health Dangers

Step 4: Characterize Site Risk

In Step 1, the Navy looks at the concentrations of contaminants found at a site as well as past scientific studies describing the effects these contaminants have had on people (or animals, when human studies are unavailable). Comparisons between site-specific concentrations and concentrations reported in past studies help the Navy to determine which contaminants are most likely to pose threats to human health.

In Step 2, the Navy considers the different ways that people might be exposed to the contaminants identified in Step 1, the concentrations that people might be exposed to, and the potential frequency (how often) and length of exposure. Using this information, the Navy calculates a "reasonable maximum exposure" (RME) scenario that portrays the highest level of human exposure that could reasonably be expected to occur.

In Step 3, the Navy uses the information from Step 2 combined with information on the toxicity of each chemical to assess potential health risks. The Navy considers two types of risk: (1) cancer risk, and (2) noncancer risk. The likelihood of any kind of cancer resulting from a contaminated site is generally expressed as an upper bound probability, or Incremental Lifetime Cancer Risk (ILCR); for example, a "1 in 10,000 chance," or in other words, for every 10,000 people that could be exposed, one extra cancer may occur as a result of exposure to site contaminants in one or more media. An extra cancer case means that one more person could get cancer than normally would be expected to from all other causes. For noncancer health effects, the Navy calculates a "hazard index." The HI represents the ratio between the Reasonable Maximum Exposure (RME), the estimated maximum exposure level for a given category of individuals coming into contact with contaminants at the Site in one or more media, and the "reference dose", the dosage at which no adverse health effects are expected to occur. The key concept here is that a "threshold level" (measured usually as a hazard index of less than 1) exists below which noncancer health effects are no longer predicted.

In Step 4, the Navy determines whether site risks are great enough to cause health problems for people at or near the site. The results of the three previous steps are combined, evaluated, and summarized. The Navy adds up the potential risks from the individual contaminants and exposure pathways and calculates a total site risk.

What is an Ecological Risk Assessment?

An ecological risk assessment evaluates the potential harmful effects that contaminants have on the plants and animals at a site. The first step is to describe the site, including plants and animals that live there and how they may be exposed to contaminants from the site. Next, exposures to site contaminants are estimated from site sampling data. For plants and invertebrates such as worms and clams, exposures are the concentrations of chemicals in the soil, water, or sediment. For wildlife such as deer and raccoons, exposures are the amounts of contaminants consumed with food and water (doses). The third step is gathering information about what doses to wildlife or what concentrations in soil, water, or sediment may be harmful to animals or plants. Finally, these harmful concentrations and exposures are compared to determine if plants and animals may be affected. In addition, uncertainties in all the steps are described and evaluated for their effect on the results of the assessment.

if no action is taken to clean up the site. A detailed discussion of risks at Site 38 and the risk screenimg process can be found in the SSP (Tetra Tech, 2008).

Human Health Risks

As part of the Expanded SSP completed in 2008, risks to human health were evaluated. For an explanation of the human health screening evaluation process, see the text box on page 5.

Based on current and anticipated future land use and the location of the site, military personnel, civilian employees, contractors, and trespassers were considered the most likely human **receptors**. However, in order to evaluate risks presented by the site conservatively, risks were evaluated based on a hypothetical future residential exposure scenario, which is the most sensitive exposure scenario. The risk screening evaluation included a comparison of maximum detected concentrations in soil, groundwater, surface water, and sediment to EPA risk-based screening levels and estimation of incremental lifetime cancer risks (ILCRs) for carcinogens and **hazard indices** (HIs) for non-carcinogens. The ILCRs and HIs were estimated as ratios of maximum concentrations to risk screening criteria. This limited risk evaluation method was performed as it was assumed from the beginning that the remedy would be landfill capping or removal. Either remedy would protect other potential receptors including military personnel, civilian employees, contractors, and trespassers because either remedy would prevent exposure to site contaminants.

The estimated total ILCR for all media for hypothetical future residents is $2.7X10^{-4}$, which is greater than the EPA acceptable risk range of $1X10^{-6}$ to $1X10^{-4}$. The estimated ILCR for exposure to all soil is $1.7X10^{-4}$, and the primary risk drivers are benzo(a)pyrene and arsenic in surface soil. There were no unacceptable carcinogenic risks to human health associated with exposure to groundwater, surface water, or sediment.

The estimated total cumulative HI is 5.87, which is greater than the EPA threshold of 1.0. Even when target organs were considered, the cumulative HIs for several target organs are greater than 1.0 for soil and groundwater. The primary risk driver for soil is arsenic, and the primary risk driver for groundwater is manganese. There are no unacceptable non-carcinogenic risks from exposure to surface water or sediment.

The human health risk screening evaluation also concluded that migration of chemicals detected in soil to shallow groundwater is not considered to be significant.

In summary, there is a potential risk to human health associated with exposure to chemicals in soil and groundwater under a hypothetical residential exposure scenario. COCs include arsenic, manganese, and benzo(a)pyrene. There is also an inherent risk from exposure to buried landfill waste at the site.

Ecological Risks

As part of the Expanded SSP completed in 2008, risks to ecological receptors were evaluated, for an explanation of the ecological risk screening evalatiom process, see the text box on Page 5.

There are no unacceptable risks to ecological receptors. There are minimal risks to plants from exposure to PAHs in surface soil. No risks to soil invertebrates are expected. Potential risks to aquatic organisms exposed to surface water are not related to site activities because maximum chemical concentrations were detected in a sample collected upstream of the landfill. Potential risks to sediment invertebrates are not expected. The results from food-chain modeling indicate that there are no unacceptable risks to wildlife.

Remedial Action Objectives

Based on the potential pathways, receptors of concern, and current and potential future land use scenarios, the Remedial Action Objectives (RAOs) for Site 38 are:

- Close the landfill in a manner that protects human health and the environment in accordance with State of Maryland solid waste management regulations.
- Return groundwater to beneficial use to the extent practicable.

Summary of Remedial Alternatives

In the FS, several alternatives that would satisfy the RAOs were developed to address risks from exposure to landfill waste. There are no unacceptable risks to human health and the environment from exposure to surface water or sediment. There are inherent risks and safety concerns from exposure to landfill waste. Risks to human health are also associated with exposure to metals (i.e., manganese) in shallow groundwater used as a source of drinking water under a hypothetical future residential exposure scenario.

Three remedial alternatives were developed, as summarized below.

Alternative 1 – No Action

This alternative is included to serve as a baseline against which other alternatives are compared. In this alternative, no remediation or action is planned. However, five-year reviews are required because waste and contaminants would be left in place at concentrations exceeding those suitable for unlimited use and unrestricted exposure.

Alternative 1 - Estimated Cost	
Capital Cost	$0
Projected Time Frame to Achieve RAOs	NA

Alternative 2 – Engineered Cap and Land Use Controls

This alternative would include an engineered cap, LUCs, and monitoring. Existing vegetation would be removed, an impermeable multi-layer cap would be installed, and the capped area would be revegetated. Existing vegetation would not be replaced because the site would need to be revegetated with plants that would not penetrate the cap. LUCs would include land and groundwater use restrictions to prevent unauthorized excavation, residential development, and use of shallow groundwater. Groundwater monitoring would be conducted to confirm that contaminants are not migrating from the site at levels that might pose an unacceptable risk or in excess of Maximum Contaminant Levels (MCLs). Five-year reviews would be required because waste and contaminants would be left in place at concentrations exceeding those suitable for unlimited use and unrestricted exposure. Alternative 2 would comply with state landfill closure design requirements.

Alternative 2 - Estimated Cost	
Capital Cost	$1,127,000
Lifetime Present Worth O&M Cost	$514,000
Total Present-Worth Cost	$1,641,000
Projected Time Frame to Achieve RAOs	2 Months

Alternative 3 – Landfill Removal, Monitoring, and Land Use Controls

This alternative includes removal of the entire landfill. The excavated material would be dewatered, as necessary, screened for potential ordnance items, and transported off site for disposal. The excavated material will be characterized to determine if disposal is required at a hazardous or non-hazardous facility. The site would not be backfilled, and the excavated area would be regraded and soil and seed would be added for vegetated growth to match the surrounding area. Monitoring would be conducted to confirm that contaminants in groundwater are attenuating and not migrating from the site at levels that might pose an unacceptable risk or in excess of MCLs. The removal of the landfill waste is expected to alter groundwater chemistry and reduce contaminated concentrations to levels suitable for unrestricted use. LUCs would include groundwater use restrictions to prevent use of shallow groundwater until monitoring confirms that there are no risks associated with its unrestricted use (estimated 15 years). Five-year reviews would be required because groundwater contaminants would be left in

place at concentrations exceeding those suitable for unlimited use and unrestricted exposure.

Alternative 3 - Estimated Cost	
Capital Cost	$1,672,000
Lifetime Present Worth O&M Cost	$315,000
Total Present-Worth Cost	$1,987,000
Projected Time Frame to Achieve RAOs	2 Months

Evaluation of Remedial Alternatives

The NCP outlines the approach for comparing remedial alternatives. Remedial alternatives are evaluated using nine evaluation criteria, including two threshold criteria which must be met, five balancing criteria, and two modifying criteria, to facilitate a comparison of the relative performance of the alternatives and provide a means to identify their advantages and disadvantages. The criteria are:

Threshold:

1. Overall protection of human health and the environment
2. Compliance with **Applicable or Relevant and Appropriate Requirements (ARARs)**

Balancing:

3. Long-term effectiveness and permanence
4. Reduction of toxicity, mobility, and volume
5. Short-term effectiveness
6. Implementability
7. Cost

Modfying:

8. State acceptance
9. Community acceptance

The FS provides a detailed analysis and evaluation of the remedial alternatives based on criteria 1 through 7. Criteria 8 and 9 will be evaluated after receipt of the public's comments on this Proposed Plan during the 30-day comment period. A discussion of how each alternative satisfies each criterion and how it compares to the other alternatives is provided below and summarized in Table 1.

Overall Protection of Human Health and the Environment

All of the alternatives, except Alternative 1, would provide adequate protection of human health. Since Alternative 1 fails this threshold criterion, it will not be considered further in this analysis. Alternative 3 would provide the greatest protection through removal of the landfill contents and monitoring of groundwater. Alternative 2 would provide adequate protection through construction of an engineered cap, though contaminants in the landfill contents would remain on the site. Alternative 2 would require implementation of LUCs that would restrict both groundwater and land use to ensure protection of human health and the environment. Alternative 3 would require LUCs to restrict groundwater use to ensure protectiveness.

Compliance with ARARs

Alternatives 2 and 3 equally comply with all chemical-specific, location-specific, and action-specific ARARs. The primary ARAR applicable to Alternative 2 is the State of Maryland landfill closure requirement at COMAR Section 26.04.07.21. Alternative 2 would comply with this ARAR. The primary ARARs relevant to Alternative 3 would include COMAR regulations at 26.13.05 addressing management of excavated waste prior to disposal.

Long-term Effectiveness and Permanence

Alternative 3 would be the most protective over the long term because the landfill waste would be removed from the site. LUCs and monitoring would be required to address residual groundwater contamination. Alternative 2 would be less effective in the long term because the landfill waste would remain on site. LUCs would be needed for both Alternatives 2 and 3 to restrict groundwater use, although the LUCs for Alternative 3 would only be necessary until contaminants in groundwater achieved levels that did not present an unacceptable risk for unlimited use and unrestricted exposure. Monitoring included under Alternatives 2 and 3 would help to confirm the effectiveness of these alternatives, determine whether contaminant concentrations were declining in groundwater as expected, or migrating off site at unacceptable levels, and evaluate whether future action is required.

Implementation of Alternatives 2 and 3 would require that all existing vegetation be removed from the site. For Alternative 2, this would destroy the existing ecological habitat until the vegetation planted on the engineered cap becomes established. Following implementation of Alternative 3, the site would be seeded and the existing terrestrial habitat would revert to forest.

Reduction of Toxicity, Mobility, and Volume Through Treatment

None of the alternatives considered employ any treatment components due to the nature/heterogeneity of the landfilled waste. Therefore, none of the alternatives satisfy this criterion.

Short-term Effectiveness

There would be no adverse impact on the community from implementation of Alternative 2. For Alternative 3, hauling wastes off site would generate additional traffic. Although there would be a potential for spills during transport, all materials would be solids that could easily be placed back into the transport container.

Implementation of Alternatives 2 and 3 could have short-term impacts on the nearby surface water bodies. Erosion controls would be provided during earth-moving activities to prevent migration of soil offsite. Any dust that is generated could be adequately controlled.

Implementability

Alternatives 2 and 3 are readily implementable. Equipment and services necessary to remove waste and construct an engineered cap are readily available. Groundwater use restrictions could be strictly enforced because the site is located within a military facility. Implementability concerns associated with MEC materials could impact the construction activities of Alternatives 2 and 3. These alternatives would involve procedures for MEC avoidance, removal, treatment/demilitarization, and disposal.

Cost

Alternative 2 would be the least costly alternative that is protective of human health and the environment, followed by Alternative 3.

Preferred Remedial Alternative

The Navy and EPA, in consultation with MDE, are proposing Alternative 3, Landfill Removal, Monitoring, and LUCs as the preferred alternative. Alternative 3 is expected to achieve substantial and long-term risk reduction, and to achieve the RAOs. Based on information currently available, the Navy believes Alternative 3 meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the primary balancing and modifying criteria. The Navy expects the preferred alternative to satisfy the following statutory requirements of CERCLA Section 121(b): to be protective of human health and the environment; to be in compliance with ARARs; to be cost effective; and to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable. The preferred alternative can change in response to public comment or new information.

Preferred Alternative – Landfill Removal, Monitoring, and Land Use Conrols

The components of this alternative include the following:

- Erosion controls would be installed and the landfill would be cleared of all vegetation.
- The landfill waste would be excavated, screened for MEC, dewatered as necessary, and disposed of off-site.
- The site would be graded and revegetated.
- Monitoring of groundwater.
- LUCs to prevent use of shallow groundwater at the property would be implemented until contaminants present at the site were at levels that would allow for unlimited use and unrestricted exposure. Requirements for the implementation, inspection, reporting and enforcement of LUCs would be detailed in a LUC Remedial Design document following issuance of the **Record of Decision (ROD)**.

Community Participation

The Navy and EPA provide information regarding the cleanup of the NSF-IH to the public through public meetings, the Administrative Record file for the site, the **information repository**, and announcements published in the newspaper. The Navy and EPA encourage the public to gain a more comprehensive understanding of the site and the **CERCLA** activities that have been conducted at the site.

The 30-day public comment period runs from July 29, 2013 through August 28, 2013. The public meeting will be held on August 21, 2013, from 5:00 P.M. to 6:00 P.M. at the Senior Center, 100 Cornwallis Square, Indian Head, Maryland [301-744-4627]. The location of the Administrative Record and Information Repository are also provided on page 1 of this Proposed Plan.

Table 1

Criteria	Alternative 1	Alternative 2	Alternative 3
Overall Protectiveness of Human Health and the Environment	X	●	●
Compliance with Applicable or Relavant and Appropriate Requirements (ARARs)	X	●	●
Long-Term Effectiveness and Performance	X	●	●
Reduction of Toxicity, Mobility, or Volume Through Treatment	X	X	X
Short-Term Effectiveness	X	●	●
Implementability	●	●	●
Cost	$0	$1,641,000	$1,987,000
State/Support Agency Acceptance	X	●	●
Community Acceptance	TBD	TBD	TBD

Legend: ● - Satisfies Criterion
○ - Partially Satisfies Criterion
X - Poorly Satisfies Criterion
TBD - To be Determined

Minutes of the public meeting will be included in the Administrative Record file. All comments received during the public meeting and comment period will be summarized, and responses will be provided in the **Responsiveness Summary** section of the ROD. The ROD is the document that will present the selected remedy and will be included in the Administrative Record file.

Written comments can be submitted via mail, e-mail, or fax, and should be sent to the following addressee:

Public Affairs Officer
Naval Support Facility South Potomac
Attn: Public Affairs Officer, Code 00P
6509 Sampson Rd.
Dahlgren, VA 22448-5108
(540) 653-1475
FAX: 540 653-4269
Email: gary.wagner@navy.mil

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References

Fred C. Hart Associates, Inc. 1983. *Initial Assessment Study of Naval Ordnance Station, Indian Head, Maryland*.

Tetra Tech, 2008. *Site Screening Process Report, Site 38 – Run Point Landfill, Naval Support Facility, Indian Head, Maryland. Prepared for Naval Facilities Engineering Command Washington, Washington Navy Yard, D.C. King of Prussia, Pennsylvania*.

Tetra Tech, 2013. *Feasibility Study for Site 38 – Rum Point Landfill, Naval Support Facility, Indian Head, Maryland. Prepared for Naval Facilities Engineering Command Washington, Washington Navy Yard, D.C. King of Prussia, Pennsylvania*.

Glossary of Terms

Administrative Record File: A record made available to the public that includes all information considered and relied upon in selecting a remedy for a site.

Applicable or Relevant and Appropriate Requirements (ARARs): The federal and state environmental laws and regulations that a selected remedy will meet. These requirements may vary among sites.

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act (1980), also known as the **Superfund** Law, as amended. CERCLA provides the authority and procedures for responding to releases of hazardous substances, pollutants, and contaminants from inactive hazardous waste disposal sites.

Comment Period: A time for the public to review and comment on various documents and actions taken, either by the Navy, EPA, or MDE. A minimum 30-day comment period is held to allow community members to review the Administrative Record file and review and comment on the Proposed Plan.

Feasibility Study (FS): A document that identifies the site cleanup criteria, identifies the different approaches that may be used to clean up the site, and evaluates these cleanup approaches.

Groundwater: Water beneath the ground surface that fills pore spaces between materials such as sand, soil, or gravel to the point of saturation. In aquifers, groundwater occurs in quantities sufficient for drinking water, irrigation, and other uses. Groundwater may transport substances that have percolated downward from the ground surface as it flows towards its point of discharge.

Hazard Index (HI): The ratio of the daily intake of chemicals from onsite exposure divided by the reference dose for those chemicals. The reference dose represents the daily intake of a chemical not expected to cause adverse health effects.

Information Repository: A file containing information, technical reports, reference documents, and the Administrative Record regarding a National Priorities List site. This file is usually maintained in a place with easy public access, such as a public library. However, for security reasons following September 11, 2001, files are now maintained at NSF-IH in Building 620.

Initial Assessment Study (IAS): The first of two phases of environmental investigation under the Navy Assessment and Control of Installation Pollutants program. The IAS is a preliminary evaluation of a facility that (1) identifies areas potentially contaminated by previous handling, storage, and disposal of hazardous substances; (2) assesses the potential effects of the contamination on human health and animals; and (3) recommends remedial measures appropriate for the contaminated areas. The second phase of the program, the Confirmation Study, is performed if further action is required.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The purpose of the NCP is to provide the organizational structure and procedures for preparing for, and responding to, discharges of oil and releases of hazardous substances, pollutants, or contaminants.

Proposed Plan: A public participation requirement of CERCLA, implemented through the Superfund Amendments and Reauthorization Act of 1986 (SARA) in which the lead government agency (in this case, the Navy) summarizes the preferred cleanup strategy and rationale for the public. This agency also reviews the alternatives presented in the detailed analysis of the Feasibility Study (FS). The Proposed Plan may be prepared either as a fact sheet or as a separate document. In either case, it must actively solicit public review and comment on all alternatives under consideration.

Receptor: An individual, either a human, plant or animal, which may be exposed to a chemical present at the site.

Record of Decision (ROD): An official public document that sets forth the Navy's final remedy for a site. The ROD is based on information and technical analysis generated during the RI and FS or EE/CA and consideration of public comments and community concerns. The ROD explains the remedy selection process and is issued by the Navy following the public comment period.

Response Action: As defined by Section 101(25) of CERCLA. Response Action means remove, removal, remedy, or response action, including related enforcement activities.

Responsiveness Summary: A summary of oral and written public comments received by the lead agency during a comment period and the responses to these comments, prepared by the lead agency. The Responsiveness Summary is an important part of the ROD, highlighting community concerns for decision makers.

Superfund: The program operated under the legislative authority of CERCLA and SARA that funds and carries out EPA hazardous waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising the cleanup and other remedial actions.

Please print or type your comments for Site 38 here

Mark Your Calendar for the Public Comment Period

Public Comment Period
July 29, 2013 through August 28, 2013
Submit Written Comments

Written comments must be postmarked no later than the last day of the public comment period, which is August 28, 2013. Based on the public comments or on any new information obtained, the Navy may modify the Preferred Alternative. The insert page of this proposed Plan may be used to provide comments, although the use of the form is not required. If the form is used to submit comments, please fold page, seal, add postage where indicated, and mail to addressee as provided.

Attend the Public Meeting
August 21, 2013 from 5:00pm to 6:00pm

Indian Head Senior Center
100 Cornwallis Square
Indian Head, MD 20640

The Public Comment period will include a public meeting during which the Navy, EPA, and MDE will provide an overview of the site, previous investigation findings, remedial alternatives evaluated, and the Preferred Alternative, answer questions, and accept public comments on the Proposed Plan.

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