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ANNOUNCEMENT OF PUBLIC COMMENT PERIOD FOR PROPOSED PLAN AT LAB AREA

NSWC INDIAN HEAD MD

4/1/2010

NAVFAC WASHINGTON

Proposed Plan

Lab Area

U.S. Navy Announces the Lab Area Proposed Plan

Naval Support Facility, Indian Head

Indian Head, Maryland

April 2010

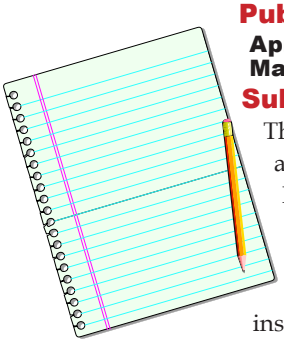
Introduction

This **Proposed Plan** presents the remedial alternatives evaluated and recommended to address contaminated surface soil, subsurface soil, and sediment at the Lab Area at Naval Support Facility Indian Head (NSF-IH) in Indian Head, Maryland. The Lab Area consists of Sites 14, 15, 15, 49, 50, 53, 54, and 55; other buildings (Buildings 303, 304, 555, and 596); and the Wetland Area. Because of similar historic usage, proximity, the sharing of sewer utilities, and overlapping field investigations, the area encompassing these sites is referred to as the "Lab Area".

This Proposed Plan recommends excavation, off-site disposal, and site restoration for surface soil at all sites (Sites 15, 16, 49, 50, 53, 54, and 55; and other buildings [Buildings 303, 304, 555, and 596]) except Sites 14 and 49 in the Lab Area; excavation, off-site disposal, and site restoration for the wetland sediment; and **institutional controls (ICs)** for the subsurface soil (including sewer pipes) at all sites (Sites 15, 16, 49, 50, 53, 54, and 55; and other buildings [Buildings 303, 304, 555, and 596]) except Sites 14 and 49 in the Lab Area. Based on the human health and ecological risk assessments performed during the **remedial investigation (RI)**, no **contaminants of concern (COCs)** were identified for surface water; therefore, no remedial action is warranted for this medium. Shallow **groundwater** was not encountered at the site during the remedial investigation; therefore, it was not identified as a pathway for transport or exposure. Thus, a remedial action is not warranted for groundwater. No further action (NFA) is recommended for Sites 14 and 49 because of past removal actions performed at these sites. This Proposed Plan provides the rationale for the recommendations, based on investigative activities performed at the Lab Area to date, and explains how the public can participate in the decision making process. The locations of NSF-IH and the Lab Area are shown in Figure 1.

The Department of the Navy (Navy), the lead agency for the site activities, and the U. S. Environmental Protection Agency Region III (EPA), a support agency, in consultation with the Maryland Department of the Environment (MDE), a support agency, issue this document as part of the public participation responsibilities under Title 40 of the Code of Federal Regulations (CFR), Section 300.430(f)(2). Title 40 CFR Part 300 is known as the **National Oil and Hazardous**

Mark Your Calendar for the Public Comment Period



Public Comment Period

April 12, 2010 through May 12, 2010

Submit Written Comments

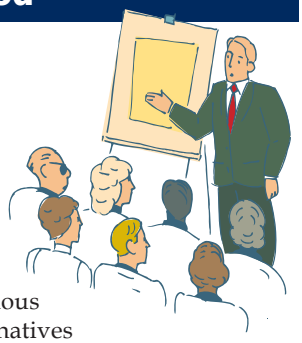
The Navy, EPA, and MDE will accept written comments on the Proposed Plan during the public comment period. To submit comments or obtain further information, please refer to the insert page.

Attend the Public Meeting

April 15, 2010 from 6:00 P.M. to 7:00 P.M.

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.



Location of Information Repository

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

Charles County Public Library
2 Garrett Ave.
La Plata, MD 20646-5959
(301) 934-9001 and (301) 870-3520
Hours: Monday through Thursday 9:00 a.m. to 8:00 p.m.
Friday and Sunday 1:00 to 5:00 p.m.
Saturday 9:00 a.m. to 5:00 p.m.

Naval Support Facility, Indian Head General Library
Building 620 (The Crossroads)
4163 N. Jackson Rd.
Indian Head, MD 20640-5117
Hours: Monday through Wednesday 9:00 a.m. to 8:00 p.m.
Thursday and Friday 9:00 a.m. to 5:00 p.m.

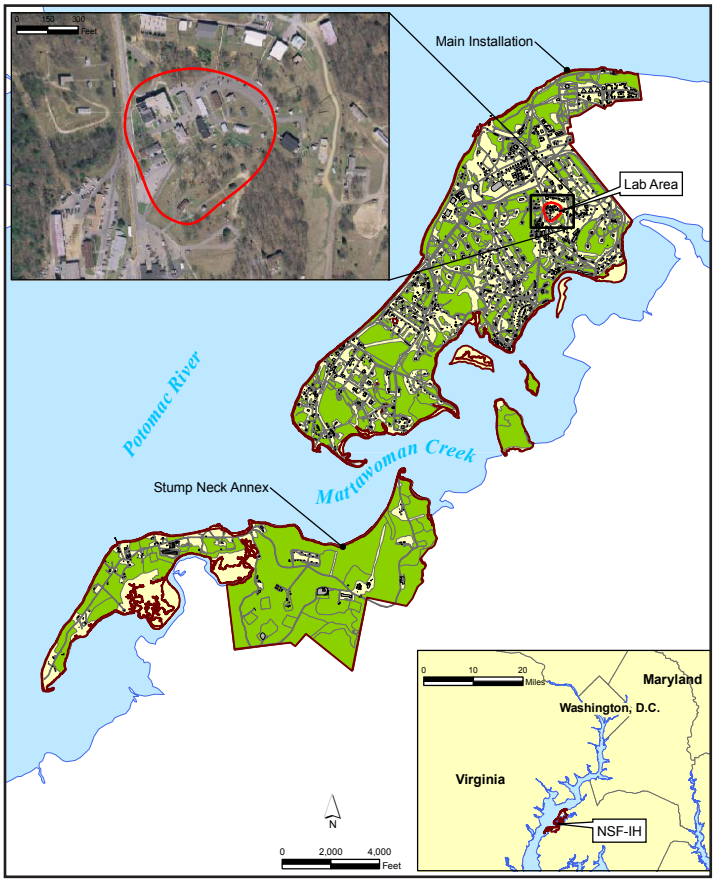


Figure 1 - Facility Location, NSF-IH, Indian Head, MD

Substances Pollution Contingency Plan (NCP). This Proposed Plan summarizes information that can be found in greater detail in the RI report, **Focused Feasibility Study (FFS)** report, 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 Lab Area 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 for the site in a **Record of Decision (ROD)**.

A glossary of specialized terms used in this Proposed Plan is attached. Words listed in the glossary are indicated in **bold print** the first time they appear in this 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 (Figure 1). 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 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, and in 1966, NSF-IH was renamed the Naval Ordnance Station (NOS).

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 NOS 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 (Parsons Engineering Science, Inc., 2000).

Current military land uses at the facility are operations and training; production; maintenance and utilities; research, development, testing and evaluation; explosive storage; supply and non-explosive storage; administration; community facilities and services; housing; and open space.

The Lab Area is in the northeastern area of NSF-IH and consists of the following sites:

- Site 14 – Old Waste Acid Pit (OWAP)
- Site 15 – Mercury Deposits in Manhole, Fluorine Lab (Buildings 103 and 502 sewers)
- Site 16 – Laboratory Chemical Disposal (Building 600 sewers)
- Site 49 – Chemical Disposal Pit
- Site 50 – Building 103 Crawl Space
- Site 53 – Mercury Contamination of the Area-Wide Sewage System
- Site 54 – Building 101
- Site 55 – Building 102
- Other Buildings (Buildings 303, 304, 555, and 596)
- Wetland Area

Site 14 and Site 49 are collocated and contained disposal pits. Site 14 housed the OWAP, which was designed to receive waste acids from surrounding laboratories. The

Photograph 1 - View of small ponded area in center of wetland. Buildings 0256 and 0257 can be seen in the background.

OWAP was reportedly dug out and filled with concrete in 1975. Site 49 housed the Chemical Disposal Pit, which was approximately 2.5 feet in diameter and 3 feet deep. The Pit was removed in May 2001, along with 1 foot of surrounding soil and two vitrified clay sewer drainage pipes connecting the Pit to two manholes.

Site 15 is the location of facilities that analyzed raw materials and manufactured propellants for surveillance tests and developed, provided, and analyzed bench-scale quantities of experimental chemicals and fuels. Wastewater from these facilities was discharged into a storm drain manhole and eventually discharged into Mattawoman Creek. Site 16 contained chemical research laboratories. Waste chemicals from these laboratories were disposed of into the plumbing system, where they combined with sanitary sewage and flowed to the sewage treatment plant.

Site 50 consists of the crawl space beneath Building 103, which was used as a laboratory. Mercury used in the laboratory was disposed of in sinks, which were later discovered to discharge directly to the soil beneath the building rather than to the storm or sanitary sewer system. Site 53 consists of the sewer lines serving the laboratory research buildings in the Lab Area. Site 54 consists of Building 101, a laboratory where mercury compounds were used in research and development. Site 55 consists of Building 102, a laboratory for testing nitrocellulose by the nitrometer method.

Similar to other buildings mentioned above, Buildings 303, 304, 555, and 596 have also been used as laboratories or for chemical storage at some time during their history, which involved activities such as disposing unusable chemicals directly on the ground surface outside laboratory doors. The Wetland Area is a small emergent wetland (less than 0.5 acre) with cattails, rushes, and several trees (Photograph 1). The shape and size of the wetland change depending on precipitation and saturation of the soil, condensate from nearby aboveground steam pipes, and leaking freshwater pipes that lie beneath the area.

Site Characteristics

The Lab Area covers approximately 14 acres. The buildings within the Lab Area are currently unoccupied or are used as offices and laboratories. Most of the area contains maintained grassy areas and trees. The areas around the buildings consist of paved roads, parking areas, and lawn. The buildings are generally clustered near the top of a hill that gradually slopes downward towards the

southeast and south. For the purpose of this Proposed Plan, the site is divided into two areas: Upland Area and Wetland Area. The Upland Area consists of the buildings and roads at the site, and the Wetland Area consists of an emergent wetland in a low-lying area to the southeast of the site.

The shallow geology at the Lab Area consists of fine- to medium-grained silty sand from ground surface to a depth of approximately 4 feet below ground surface (bgs). Below this depth, a dense clay layer is encountered that extends to a depth of 40 feet bgs. The lower limit of this clay layer was not encountered in borings advanced to depths of up to 16 feet bgs during the RI. However, previous investigations detailed that the clay layer extends from 4 to 40 feet bgs, below which a medium- to fine-grained, reddish to white quartz sand, moderately cemented and very hard marker bed was encountered during the 1992 site inspection (SI) (Ensafe/Allen & Hoshall, 1994). Groundwater was not encountered at the site during advancement of boreholes. Because groundwater is more than 40 feet bgs at the site, it does not discharge to the wetland. Overflow from the wetland area drains into the storm drain systems, which discharge to Mattawoman Creek near Site 41.

Environmental Investigation History

Several investigations were conducted at the Lab Area between 1992 and 2005. Below is a chronological summary of these investigations.

Preliminary Assessment

A Preliminary Assessment (PA) report (Navy Environmental Enforcement and Support Activities (NEESA), 1992) evaluated 17 sites (Sites 39 to 55) to identify contamination resulting from past activities. This report is an addendum to the **Initial Assessment Study** (NEESA, 1983) completed for other sites. Except for Sites 51 and 52, all sites were recommended for further study.

Phase II Site Inspection

In 1994, an SI was conducted in two phases as a follow up to the PA at Sites 39 through 50, 53, 54, and 55 (Ensafe/Allen & Hoshall, 1994). Based on the results of the SI, all the sites were recommended for further study. Site 15 (Building 103 and 502 sewers) and Site 16 (Building 600 sewers) were not independently investigated, although they are encompassed by Site 53.

Remedial Investigation

The objectives of the RI were to: (1) characterize the nature, extent, and concentrations of site-related **contaminants** in surface soil, subsurface soil, manhole and wetland sediments, and surface water, and determine the rate of migration of site-related contaminants in the environment; (2) conduct sampling at Site 14, which required excavation and disposal of the Chemical Disposal Pit at Site 49; and (3) identify actual or potential human or **ecological receptors** and potential contaminant migration pathways (CH2M HILL, 2004).

Field activities included surface soil sampling, subsurface pipe bedding soil sampling, sewer sediment sampling, and wetlands surface water and sediment sampling. In addition, the Chemical Disposal Pit was removed. In most instances, where analytical samples were collected, a full suite of analyses was performed, comprising **target compound list (TCL) volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), target analyte list (TAL)** inorganics (i.e., metals and cyanide), and explosives (which included nitroglycerin, nitroguanadine, pentaerythritol tetranitrate, and perchlorate, in addition to the list of analytes included in EPA SW-846 Method 8330). It is noted in the respective sections where analyses differ from those shown above. Figure 2 shows the surface soil, wetlands sediment, subsurface soil, and sewer sediment sampling locations. The analytical results for the Upland Area and Wetland Area are summarized below.

Upland Area

- Surface Soil:

  A total of 84 surface soil samples including samples in areas considered to be uncontaminated, called **background** samples, were collected and analyzedfor metals and for the following explosives: pentaerythritol tetranitrate (PETN), nitroglycerine (NG), nitrocellulose (NC), and nitroguanidine (NQ). Nineteen of the 84 samples were further analyzed for TCL VOCs and TCL SVOCs.

  Tetrachloroethene (PCE) was the only VOC detected and was observed in four surface soil samples at low concentrations. SVOCs, most commonly benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, butylbenzylphthalate, chrysene, di-n-butylphthalate, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene, were detected in 18 of the 19 surface soil samples. The concentrations of these compounds exceeded the basewide 95 percent **upper confidence limits (UCLs)**; however, the distribution didnot show a distinct spatial pattern.

  Four explosives compounds were detected in the surface soil samples: 2,4-dinitrotoluene, 2-amino-4,6-dinitrotoluene, octahydro-1,3,5,7-tetranitro- 1,3,5,7-tetrazocine (HMX), and NC. The concentrations of one or more of these compounds exceeded the facility-wide background 95 percent UCLs.

  Twenty-four inorganic analytes were detected, all of which were above facility-wide background 95 percent UCLs in one or more surface soil samples. The metals with the highest detection frequencies were arsenic, lead, and mercury.

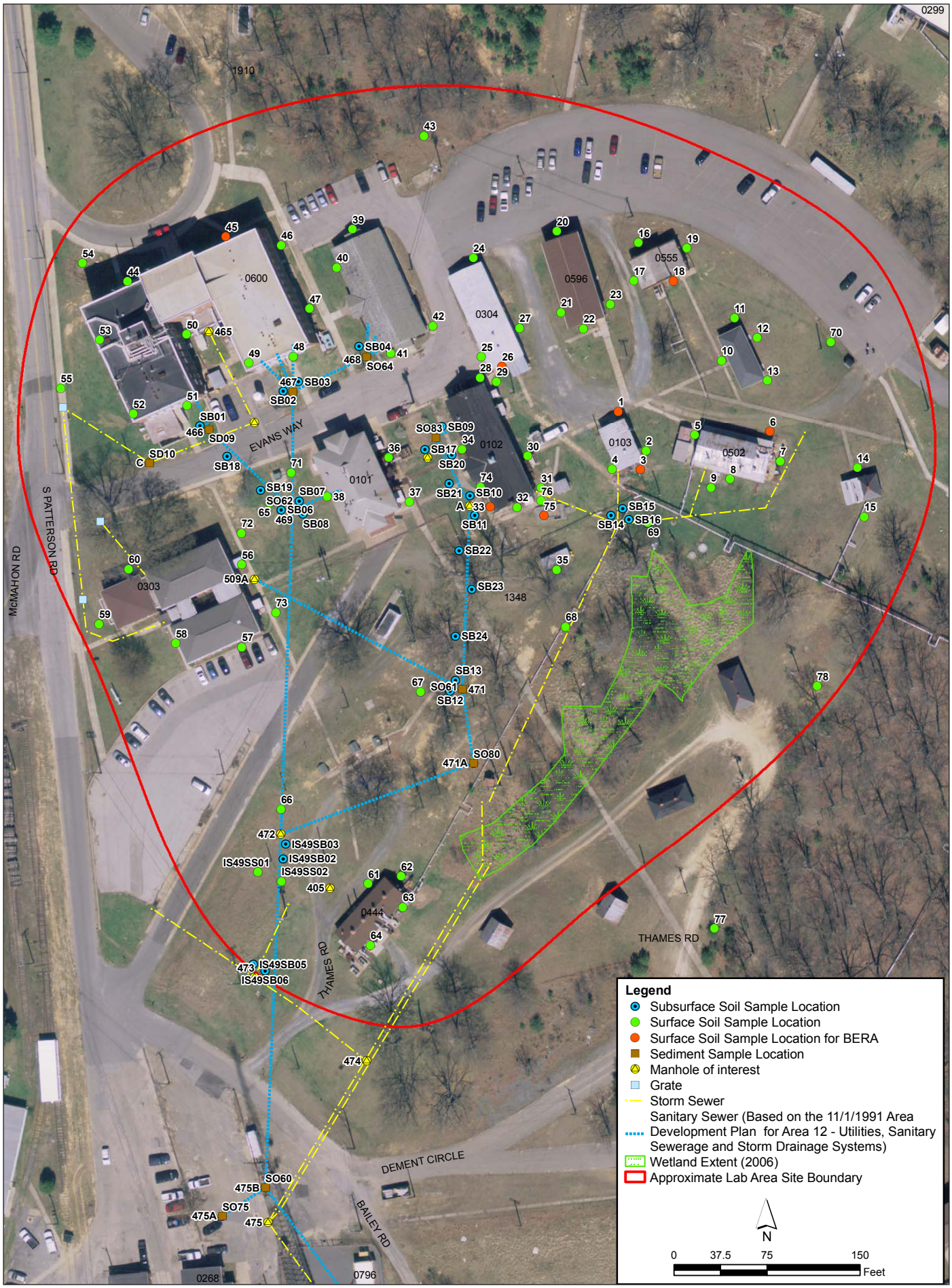


Figure 2 - Lab Area Surface Soil, Wetlands, Sediment, Subsurface Soil, and Sewer Sediment Sampling Locations

- Subsurface Soil:

  A total of 28 subsurface soil samples were collected and analyzed for TAL inorganics. Ten of the 28 samples were further analyzed for TCL VOCs, TCL SVOCs, and explosives. A total of eight sediment samples were collected from the sewer lines and were analyzed for TCL VOCs, TCL SVOCs, TAL inorganics, and explosives (including ammonium perchlorate).

  Low concentrations of three VOCs (i.e., cumene, PCE, and trichloroethene [TCE]) were observed in two subsurface soil samples. PCE was detected beneath the Chemical Disposal Pit in the confirmatory soil sample, but not in any other subsurface soil or sediment sample associated with the Chemical Disposal Pit. This suggests that VOC contamination was localized directly beneath the pit. VOC detections in the sewer sediment were limited to low-level detections of PCE, which were observed in two sewer sediment samples near Manholes A and 466. Overall, the low concentrations of VOCs in the subsurface soil and sewer sediment suggest that leaky sewers or manholes have caused minimal VOC contamination.

  Five SVOCs, butylbenzylphthalate, di-n-butylphthalate, diethylphthalate, pyrene, and bis(2-ethylhexyl) phthalate, were detected in 9 of the 10 subsurface soil samples. These detections were estimated (J-qualified) and considered low.

  Two explosives compounds (NC and 4-nitrotoluene) were detected in the subsurface soil samples. A high concentration of NC was detected in the Chemical Disposal Pit confirmatory subsurface soil sample and two sewer sediment samples from Manholes 471 and 466. However, no explosives were detected in the subsurface soil around Manhole 466. The absence or low detection of explosives in the subsurface soil samples outside the manholes suggests that leaky sewers or manholes have minimal contribution to the subsurface soil contamination.

  Twenty-two inorganic analytes were detected in the subsurface soil samples collected. Arsenic, calcium, copper, iron, lead, mercury, potassium, sodium, vanadium, and zinc were all detected above facility-wide background 95 percent UCLs in one or more subsurface soil samples. The metals with the highest detection frequencies were arsenic, lead, and mercury.

- Sewer Sediment

  Sewer sediment sampling activities consisted of collecting a total of eight sediment samples from the sewer lines and analyzing them for TCL VOCs and TCL SVOCs. VOC detections in the sewer sediment were limited to low -level detections of PCE, which were observed in two sewer sediment samples near Manholes A and 466. Overall, the low concentrations of VOCs in the subsurface soil and sewer sediment suggest that leaky sewers or manholes have caused minimal VOC contamination.

  The highest concentration of SVOCs was observed in the samples from Manholes 466 and C. SVOCs detected in the subsurface soil and sewer sediment at the site and in its vicinity may be site-related, considering the absence of SVOCs in the subsurface background samples, the lack of sewer sediment background data, and the presence of various SVOCs both inside and outside of various manholes.

  Two explosives compounds (NC and 4-nitrotoluene) were detected in the sewer sediment samples from Manholes 466 and 471. It is notable that various explosives were detected in Manhole B during the SI; however, none were detected during the RI. No correlation between subsurface soil and sewer sediment data for explosives could be ascertained. Therefore, the explosives subsurface soil and sewer sediment data did not suggest the presence of that there is significant explosives contamination in the Lab Area resulting from leaky sewers or manholes.

  Twenty-four inorganic analytes were detected in the sewer samples collected. The metals with the highest detection frequencies were arsenic, lead, and mercury.

Wetland Area

- Surface Water:

  One surface water sample was collected from a channel that developed in the emergent wetland, within the boundary of the Lab Area. The surface water sample was analyzed for TCL SVOCs, TAL inorganics, explosives (PETN, NG, NC, and NQ), perchlorate, and hardness. No SVOCs or explosives were detected in the sample. Eighteen inorganic analytes were detected in the sample at relatively low concentrations.

- Sediment:

  Six sediment samples were proposed for collection. During the field event, four of the six samples were characterized as surface soil because they were dry during sampling. The two sediment samples collected were analyzed for TAL inorganics and explosives (including ammonium perchlorate). One sample was further analyzed for TCL SVOCs. Neither sample was analyzed for VOCs. Twenty inorganic analytes were detected. Of these, nine analytes (arsenic, cadmium, cobalt, lead, mercury, silver, sodium, vanadium, and zinc) were detected at concentrations above base-wide background 95 percent UCLs. Similar to the subsurface soil samples, the metals with the highest detection frequencies in sediment were arsenic, lead, and mercury. No explosives were detected in either

of the two samples. The only SVOC detected was di-n-butylphthalate, which was found at a low concentration.

Confirmatory Soil Sampling for Chemical Disposal Pit Removal

Following the removal of the Chemical Disposal Pit (Site 49), three confirmatory soil samples were collected. Two of these were surface soil samples from outside of the excavation footprint and the third was a subsurface soil sample from the base of the excavation footprint. All three samples were analyzed for TCL VOCs, SVOCs, explosives, and TAL inorganics.

In the surface soil, all VOC and SVOC detections were low. The detection of explosives was limited to NC, which was found at a high concentration. Ten metals (arsenic, calcium, chromium, cobalt, copper, magnesium, mercury, nickel, potassium, and zinc) were all detected above their respective base-wide background 95 percent UCLs.

In the subsurface soil, the VOC detections were limited to cumene, PCE, and TCE, all of which were at low concentrations. Three SVOCs [diethylphthalate, pyrene, and bis(2-ethylhexyl)phthalate] were detected at low concentrations. Metal detections above the base-wide background 95 percent UCLs were limited to arsenic, calcium, copper, lead, and mercury.

The confirmatory soil sampling data from Site 49 were combined with the data collected from other sites within the Lab Area. These combined data were used in the baseline human health risk assessment (HHRA) and a screening ecological risk assessment (SERA) performed as part of the RI. The results are presented in the "Summary of Site Risks" section.

Baseline Ecological Risk Assessment

A baseline ecological risk assessment (BERA) was completed for the Upland Area (CH2M HILL, 2006a). High contaminant levels encountered in the Wetland Area clearly indicated that remediation would be necessary. Therefore, it was determined that a BERA was not needed. The objective of the BERA investigation was to confirm the potential risks posed by the chemicals of potential concern (COPCs), as defined in the Step 3A evaluation in the SERA. The area of focus was the surface soil around Buildings 102, 103, 304, 444, 502, 555, and 600. In support of the BERA, surface soil (0 to 6 inches bgs) samples were collected and analyzed for TAL metals, methylmercury, and SVOCs (Figure 3). To evaluate direct toxicity to soil invertebrates, laboratory toxicity tests with the earthworm *E. foetida* were conducted on split samples from the soil sampling locations. The results of the BERA are presented in the "Summary of Site Risks" section.

Wetland Delineation

The wetland in the Wetland Area was delineated in April 2006 (CH2M HILL, 2006b). The objective was to refine the boundary, which was based on visual observation of wet conditions during the RI. Figure 3 shows the boundary, which was drawn based on the three criteria used to delineate wetlands - vegetation, hydrology, and hydric soils.

Focused Feasibility Study

An FFS was completed to evaluate remedial alternatives to address contamination at the Lab Area (CH2M HILL, 2009). The remedial alternatives are presented in this Proposed Plan for public comment.

Principal Threats

There are no principal threats in any of the media at the Lab Area. Principal threats are explained in the box on this page.

Scope and the Role of the Action

This Proposed Plan addresses the evaluation of the preferred alternative for the Lab Area only. It does not include or directly affect any other sites at the facility. The purpose of the Proposed Plan is to summarize activities performed to date to investigate the Lab Area and provide a rationale for the proposed response action. The preferred remedy is excavation, offsite disposal, and site restoration for surface soil at all sites except Sites 14 and 49; excavation, offsite disposal, and site restoration for the wetland sediment; ICs for the subsurface soil (including sewer pipes) at all sites except Sites 14 and 49; and no further action for surface water, groundwater, and Sites 14 and 49.

What is a "Principal Threat?"

The National Contingency Plan establishes an expectation that EPA will use treatment to address "principal threats" posed by a site wherever practicable [40 CFR Section 300.430 (a)(1)(iii)(A)]. The "principal threat" concept is applied to the characterization of "source materials" at a **Superfund** site. A source material is material that includes or contains hazardous substances, pollutants, orcontaminants that act as a reservoir for migration of contamination to groundwater, surface water, or air or acts as a source for direct exposure. Contaminated groundwater generally is not considered to be a source material; however, non-aqueous-phase liquids (NAPLs) in groundwater may be viewed as a source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria. If through this analysis, a treatment remedy is selected, then this selection is reflected in the Record of Decision, which will include a finding that the remedy uses treatment as a principal element.

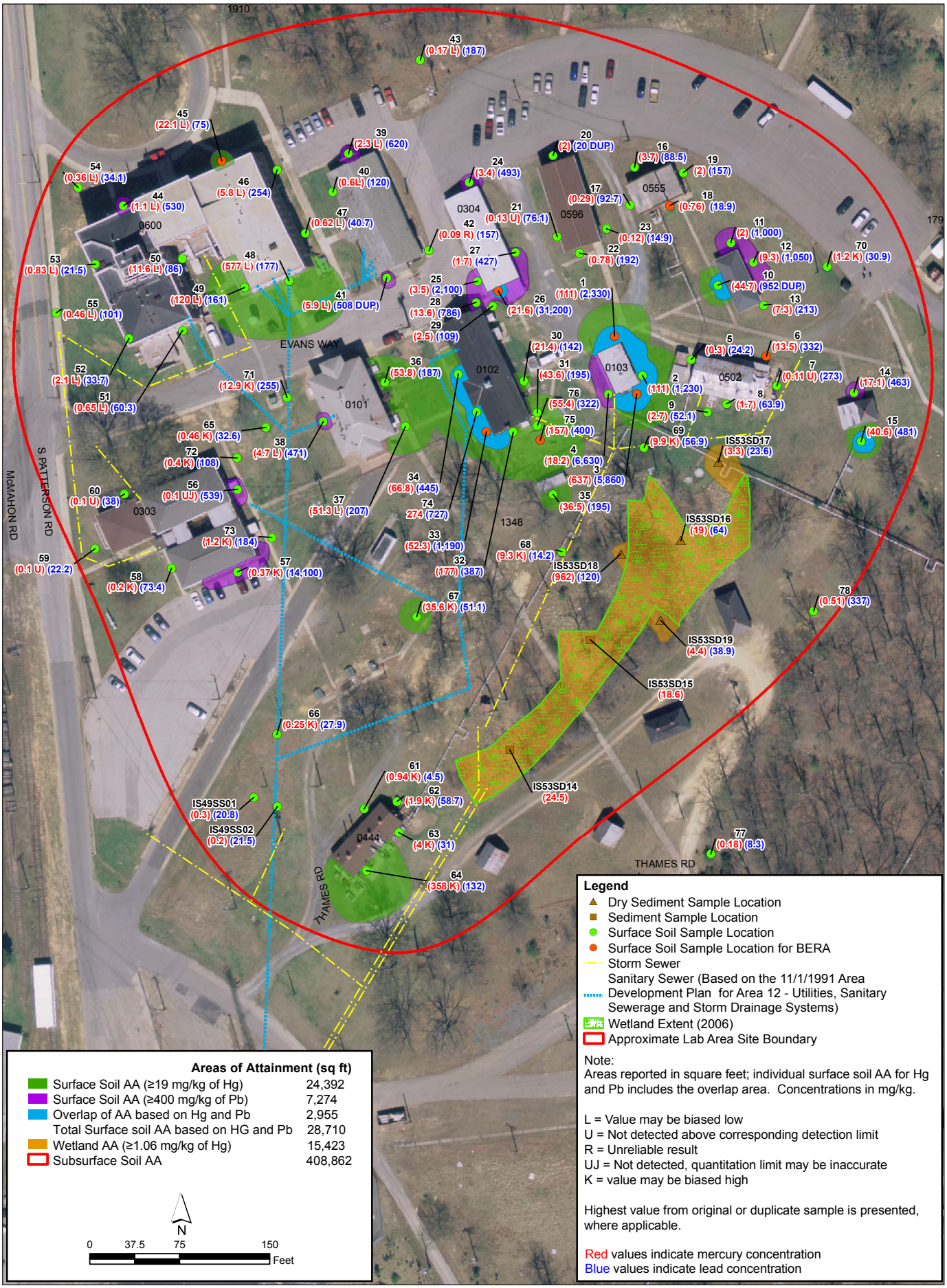


Figure 3 - Areas of Attainment

Summary of Site Risks

This section summarizes the results of the baseline risk assessment conducted for the Lab Area. A baseline risk assessment evaluates the potential for chemicals at a site to have an adverse effect on human and ecological receptors if no action is taken to clean up the site. A detailed discussion of potential risks and the risk evaluation process can be found in the Final Remedial Investigation Report for the Lab Area (Sites 15, 16, 49, 50, 53, 54, and 55), Naval District Washington, Indian Head, Indian Head, Maryland (CH2M HILL, 2004), and the Final Lab Area Baseline Ecological Risk Assessment, Naval Support Facility, Indian Head, Indian Head, Maryland (CH2M HILL, 2006).

Human Health Risks

A baseline HHRA was performed as part of the RI (CH2M HILL, 2004) for surface soil, subsurface soil, surface water, and sediment at the Lab Area. The HHRA was conducted after removal of the Chemical Disposal Pit (Site 49) and included the surface and subsurface soil from the excavation pit.

The HHRA evaluated the Lab Area using the following groupings of sites:

- Upland Area subsurface soil and sewer sediment (referred to as 'Underground Sewer Lines' in the HHRA)
- Upland Area surface soil and Wetland Area sediment and surface water

The receptors evaluated for the underground sewer lines group were as follows:

- For current uses – sewer maintenance workers
- For future uses - adult and adolescent trespasser/ visitor, adult and child resident, industrial worker, and construction worker

The receptors evaluated for the surface soil and Wetland Area group were as follows:

- For current uses - adult and adolescent trespasser, recreational adult and child, and industrial worker
- For future uses - adult and child resident, and construction worker

The Navy evaluated the residential exposure scenario to confirm that no land use restrictions would be necessary at the site. The site is on an industrial facility. There are no other current or projected future land uses for the site. It is unlikely that this land use will change in the future.

COPCs were identified for each medium in the initial screening of site chemical data against EPA Region III **risk-based concentrations (RBCs)**. Because the screening process is conservative, the identification of COPCs does not necessarily mean that a risk exists. These COPCs were further evaluated in subsequent steps in the HHRA process to identify the COCs for each medium evaluated. The text box on this page provides an explanation of the HHRA process.

No unacceptable **carcinogenic** risks were identified (carcinogenic risks were within EPA's acceptable risk range). Surface soil, subsurface soil, and emergent wetland sediment were the only media that had noncarcinogenic hazards greater than the EPA acceptable risk levels.

WHAT IS HUMAN HEALTH RISK AND HOW IS IT CALCULATED?

A human health risk assessment estimates "baseline risk." This is an estimate of the likelihood of health problems occurring if no cleanup action were taken at a site. The Navy undertakes a four-step process to estimate baseline risk at a site:

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 on 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 the greatest threat 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 and duration of exposure. Using this information, EPA calculates a "reasonable maximum exposure" (RME) scenario that portrays the highest level of human exposure that reasonably could 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: cancer risk and non-cancer risk. The likelihood of any kind of cancer resulting from a site is generally expressed as an upper-bound probability, for example, a "1 in 10,000 chance." 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. An extra cancer case means that one more person could get cancer than would normally be expected to from all other causes. For non-cancer health effects, the Navy calculates a "hazard index (HI)." The key concept here is that a "threshold level" (measured usually as a hazard index of less than 1) exists below which adverse, non-cancer 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 together the potential risks from the individual contaminants to determine the total risk resulting from the site.

Underground Sewer Lines

- Subsurface Soil:

  Reasonable Maximum Exposure (RME) risk estimates for exposure to subsurface soil were calculated for an adult worker (e.g., maintenance workers) under current site use, as well as for an adult construction worker, industrial worker, trespasser/visitor, and resident under future site use. The noncarcinogenic hazards associated with exposure to subsurface soil for a construction worker (hazard index [HI] of 2.3), child resident (HI of 7), and adult resident (HI of 1.6) were above EPA's HI of 1.0. The main contributor to the noncarcinogenic HI for a construction worker was mercury (HI of 1.5). For the child resident, inhalation and ingestion of mercury, as well as ingestion of iron, provided most of the noncarcinogenic hazard. The main contributor to the noncarcinogenic HI for the adult resident was mercury through the inhalation pathway.

  Under current site use conditions, no unacceptable carcinogenic risks were identified (carcinogenic risks were within EPA's acceptable risk range). The results of the lead models indicated exposure to lead in soil by residents or industrial workers was not a potential concern.

  Central tendency exposure (CTE) risks were calculated for the construction worker, industrial worker, and resident and the CTE hazards and carcinogenic risks were all within EPA's recommended levels.

- Sewer Sediment:

  RME risk estimates for exposure to sediment were calculated for an adult sewer maintenance worker under current/future site use and an adult industrial worker for potential future site use. The noncarcinogenic hazards and carcinogenic risks associated with exposure to sediment by sewer maintenance workers and industrial workers were below EPA's acceptable HI of 1.0 and within the EPA's acceptable risk range of $1x10^{-6}$ to $1x10^{-4}$, respectively.

Surface Soil and Wetland Area

- Surface Soil:

  RME risk estimates for exposure to surface soil were calculated for the current/future industrial worker and trespasser/visitor, as well as for the construction worker and resident under future conditions. The noncarcinogenic hazards associated with exposure to surface soil for an industrial worker (HI of 2.3), construction worker (HI of 7.7), child resident (HI of 25), and adult resident (HI of 6.3) were above EPA's acceptable HI of 1.0. The main contributor to the noncarcinogenic HI for an industrial worker and a construction worker was mercury. For the child and adult resident, inhalation and ingestion of mercury were the main contributors to the noncarcinogenic hazard. Under current site use conditions, no unacceptable carcinogenic risks were identified (carcinogenic risks were within EPA's acceptable risk range).

  The adult lead model and the integrated exposure uptake biokinetic model were used to evaluate the potential impacts of lead in surface soil on the receptors. Using the average lead concentration across the site and in the specific area around Buildings 102, 103, and 304, the model indicated a potential risk to residents and industrial workers exposed to lead in surface soil from this specific area.

  Because the RME noncarcinogenic hazard and/or carcinogenic risks for the industrial worker, construction worker, and resident exceeded the EPA acceptable levels, CTE exposure risks were calculated. The CTE noncarcinogenic hazards and carcinogenic risks were all within EPA's recommended levels for the industrial worker, construction worker, and resident.

- Emergent Wetland Sediment:

  RME risk estimates for exposure to sediment were calculated for recreational persons under current/future site use. The RME noncarcinogenic hazards and/or carcinogenic risks for the adult and child recreational persons exceeded the EPA's acceptable noncarcinogenic HI of 1.0 and acceptable carcinogenic risk range of $1x10^{-6}$ to $1x10^{-4}$. The main contributor to the non carcinogenic HI and carcinogenic risk was arsenic. The CTE noncarcinogenic hazards and carcinogenic risks were within EPA's recommended levels.

- Surface Water:

  RME risk estimates for exposure to surface water were calculated for recreational users under current/future site use. The noncarcinogenic hazard and carcinogenic risk associated with exposure to surface water by an adult recreational person was below EPA's acceptable HI of 1.0 and within the EPA's acceptable risk range of $1x10^{-6}$ to $1x10^{-4}$. The noncarcinogenic hazard and carcinogenic risk associated with exposure to surface water by a child recreational person was below EPA's acceptable HI of 1.0 and within the EPA's acceptable risk range of $1x10^{-6}$ to $1x10^{-4}$.

In conclusion, the HHRA (conducted after removal of the Chemical Disposal Pit [Site 49]) identified mercury and lead as the COCs in the surface soil under both the residential and industrial use scenarios. Mercury was the COC for subsurface soil under both residential and industrial use scenarios, and arsenic was the COC in the wetland sediment under the residential scenario.

Ecological Risks

As part of the RI, the Navy conducted a SERA for surface soil, wetland surface water, and wetland sediment. The SERA identified potentially unacceptable risks to

WHAT IS ECOLOGICAL RISK AND HOW IS IT CALCULATED?

An ecological risk assessment evaluates the potential adverse effects that human activities have on the plants and animals that make up ecosystems. The ecological risk assessment process follows a phased approach similar to that of the human health risk assessment. The risk assessment results are used to help determine what measures, if any, are necessary to protect plants and animals.

Ecological risk assessment includes three steps:

Step 1: Problem Formulation

The problem formulation includes:

- Identifying area(s) and environmental media (e.g., surface water, soil, sediment) in which site-related constituents may be present
- Evaluating potential transport pathways (i.e., movement) of constituents in these areas/media
- Consideration of site-specific habitat information for identification of ecological receptors
- Identifying exposure pathways and routes for these receptors

Step 2: Risk Analysis

In the risk analysis, potential exposures to plants and animals are estimated and the concentrations of chemicals at which an effect may occur are evaluated.

Step 3: Risk Characterization

The risk characterization uses all of the information identified in the first two steps to estimate the risk to plants and animals. This step also includes an evaluation of the uncertainties (potential degree of error) associated with the predicted risk evaluation and their effects on the conclusions that have been made.

soil invertebrates for direct exposure to copper, lead, mercury, zinc, and some organics in soil; to aquatic biota for exposure to aluminum, copper, cyanide, iron, lead, manganese, and mercury in surface water; and to benthic invertebrates for direct exposure to arsenic, lead, manganese, mercury, and silver in sediment. Also, lead, mercury, and zinc were identified as posing potentially unacceptable risks to birds and mammals that might feed at the site. Mercury was the only constituent that was identified as posing a potential risk to upper trophic level receptors. Therefore, mercury was identified as determined to be the likely risk-driving COPC for the wetland.

Based on the results of the SERA showing potential unacceptable risk, a BERA was conducted for the Upland Area. High contaminant levels encountered in the Wetland Area clearly indicated that remediation would be necessary. Therefore, it was determined that a BERA was not needed. The results of the BERA for the Upland Area (including samples from the excavation pit following removal of the Chemical Disposal Pit) indicated that soil invertebrate survival is not affected. Reduced growth in nine samples relative to the reference sample in the test earthworms was observed to be statistically significant, and methylmercury was identified as possibly contributing to the reduced growth. However, the level of effect is unlikely to impair the soil invertebrate community. The observed decrease in growth was less than 20 percent at all locations, except one in comparison to the reference sample. In general, a reduction of less than 20 percent in the measurement endpoint is considered protective of the assessment endpoint (Suter, et al., 1995).

The results of the earthworm tissue analyses and exposure calculations for insectivorous terrestrial birds and omnivorous terrestrial mammals indicated that the risks to these receptors from COPCs in surface soils at the site are within ranges presumed to be acceptable. Hazard quotients based on the lowest observed adverse effects level were less than 1, indicating that population-level impacts are likely not occurring and no further investigation is required. The results of the BERA for the Upland Area indicated that the COPCs identified in the RI Report for the Lab Area do not pose unacceptable risks, so further investigation is not required. The ecological risk accessment process is explained in the box on this page.

Remedial Action Objectives

The **Remedial Action Objectives (RAOs)** for the Upland Area surface soil and subsurface soil and the Wetland Area sediment are:

- Reduce risks to human receptors from exposure to mercury and lead in the surface soil in the Upland Area to acceptable levels under industrial land use and residential use scenarios, respectively
- Reduce risks to human receptors from exposure to mercury potentially present in and around sewer pipes in the Upland Area to acceptable levels under industrial land use scenario
- Reduce risks to ecological receptors from exposure to mercury in the sediment in the Wetland Area to acceptable levels
- Reduce risks to human receptors from exposure to arsenic in the sediment in the Wetland Area to acceptable levels

To achieve the RAOs above, **site remediation goals (SRGs)** were developed for each COC identified in the human health and ecological risk assessments. The SRGs for soil were developed based on the greater of the site-specific, risk-based **preliminary remediation goals (PRGs)** or background concentrations (where applicable). The SRG for sediment was developed based on the risk-based PRG. The COCs were further screened to identify which ones required remediation. A COC was deemed to require remediation if its maximum detected concentration exceeded its SRG and the detection is

not considered isolated in nature. For the surface soils, the contaminants requiring remediation are mercury and lead. For the wetland sediment, mercury and arsenic were deemed to require remediation. The table below shows the SRG for each contaminant requiring remediation in the soil and wetland sediment, which were all based on either ecological or human health risk-based PRGs. Areas of attainment (AAs) are shown in Figure 3.

Contaminants Requiring Remediation	SRG (mg/kg)
Surface Soil	
Mercury	19
Lead	400
Sediment	
Mercury	1.06
Arsenic	34

Summary of Remedial Alternatives

Three remedial alternatives were developed for the AAs, which are summarized below.

Alternative 1 – No Action

This alternative is required by the NCP as a baseline. Under this alternative, no remediation or action is planned.

Alternative 1 - Estimated Cost	
2009 Capital Cost	$0
Lifetime Operation and Maintenance (O&M) Cost	$0
Lifetime Present-Worth O&M Cost	$0
Projected Time Frame to Achieve RAOs	Not Applicable (NA)

Alternative 2 – Institutional Controls

Alternative 2 consists of implementing ICs in the AAs in the Upland Area and Wetland Area in the form of land use restrictions to minimize the potential for human exposure to contamination.

Alternative 2 - Estimated Cost	
2009 Capital Cost	$0
Lifetime O&M Cost	$171,600
Lifetime Present-Worth O&M Cost	$96,000
Total Present-Worth Cost	$96,000
Projected Time Frame to Achieve RAOs	30 years (for cost estimating purposes)

Alternative 3 – Excavation of Upland Area Surface Soil and Wetland Area Sediment, Offsite Disposal, Site Restoration, and ICs

Alternative 3 consists of excavating surface soil and sediment, offsite disposal, and restoration. Because the locations of the network of pipelines are not completely known, the subsurface soil AA will not be excavated.

Alternative 3 - Estimated Cost	
2009 Capital Cost	$378,200
Lifetime O&M Cost	$22,100
Lifetime Present-Worth O&M Cost	$19,400
Total Present-Worth Cost	$397,600
Projected Time Frame to Achieve RAOs	3 years (for cost estimating purposes)

Instead, ICs similar to those described in Alternative 2, will be implemented for the subsurface soil AA to ensure the protection of site workers. Five-year reviews will be conducted to ensure that the ICs are still in place.

Evaluation of Remedial Alternatives

The NCP outlines the approach for comparing remedial alternatives. Remedial alternatives are evaluated using **nine evaluation 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:

1. Overall protection of human health and the environment
2. Compliance with **Applicable or Relevant and Appropriate Requirements (ARARs)**
3. Long-term effectiveness and permanence
4. Reduction of toxicity, mobility, and volume through treatment
5. Short-term effectiveness
6. Implementability
7. Cost
8. State acceptance
9. Community acceptance

The FFS 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. Table 1 summarizes how each alternative satisfies each criterion and how it compares to the other alternatives.

TABLE 1 – COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES

Criteria	Alternative 1	Alternative 2	Alternative 3
Overall Protectiveness of Human Health and the Environment	○	◎	●
Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)	○	◎	●
Long-Term Effectiveness and Permanence	○	○	◎
Reduction of Toxicity, Mobility or Volume Through Treatment	○	○	○
Short-Term Effectiveness	○	●	●
Implementability	●	●	●
Cost (Total Present Worth)[1]	$0k	$96k	$398k
State/Support Agency Acceptance	○	◎	●
Community Acceptance	To Be Determined	To Be Determined	To Be Determined

Ranking: ● Well satisfies criterion ◎ Moderately satisfies criterion ○ Poorly satisfies criterion

Alternative 1 – No Action

Alternative 2 – Institutional Controls

Alternative 3 – Excavation of Upland Area Surface Soil and Wetland Area Sediment, Offsite Disposal, Site Restoration, and ICs

1 – Cost accuracy ranges from -30% to +50%.

Preferred Remedial Alternatives

The Navy and EPA, with the support of the MDE, are proposing to implement Alternative 3, excavation of Upland Area surface soil and Wetland Area sediment, offsite disposal, site restoration, and ICs. In addition, no further action is proposed as the preferred alternative for surface water, groundwater, and collocated Sites 14 and 49. Based on the results of investigations conducted and the Navy's 2001 removal action at Sites 14 and 49, the Navy, EPA, and MDE have concluded that Sites 14 and 49 do not pose an unacceptable risk to human health and the environment because the COC concentrations are below the SRGs. Alternative 3 is expected to be protective of human health and the environment, and will comply with the ARARs.

The components of Alternative 3 include the following:

- Excavating the Upland Area surface soil and Wetland Area sediment in the AAs to a depth of 1 foot bgs
- Conducting post-excavation confirmatory sampling; only lateral confirmation will be conducted because vertical confirmation is not necessary
- Backfilling the excavated areas in the Upland Area with a 6-inch layer of clean **fill** and a 6-inch layer of topsoil, followed by proper compaction and reseeding
- Backfilling the excavated area in the Wetland Area with clean soil and planting native wetland species. The restored wetland will be inspected quarterly for the first year until the plants are established, followed by twice a year for the second year and once a year for the third through the fifth year
- Improving and maintaining best practices in surface water runoff management in the Upland Area, such as reseeding bare spots to minimize uncontrolled runoff sources and maintaining the conditions of the surface water runoff ditches or lines
- Transporting and disposing of the excavated material to an offsite permitted facility
- Implementing ICs on the subsurface soil AA (equivalent to the entire site boundary) to ensure that any workers conducting subsurface disturbance work are duly notified regarding potential mercury contamination. The AA boundary will be added to the base geographic information system and will indicate that the sewer pipe networks integrity may be poor and may contain high concentrations of mercury; the requirements of ICs will be integrated into the Comprehensive Work Approval Permit (CWAP) system and made into one of the criteria in the CWAP approval for any future work at the site
- Conducting 5-year reviews; for cost-estimating purposes, one 5-year review is assumed

Community Participation

The Navy and EPA provide information regarding the cleanup of NSF-IH sites to the public through public meetings, the Administrative Record File for each 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 sites and the **Comprehensive Environmental**

Response, Compensation, and Liability Act (CERCLA) activities that have been conducted at the sites.

The public comment period provides the public time to review and comment on the information provided in the Proposed Plan. The 30-day public comment period for this Proposed Plan runs from April 12, 2010 to May 12, 2010. The public meeting will be held on April 15, 2010, from 6:00 P.M. to 7:00 P.M. at the Indian Head Senior Center, 100 Cornwallis Square, Indian Head, Maryland. The location of the Administrative Record and information repository are provided on page 1 of this Proposed Plan.

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 it also 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:

Naval Support Activity South Potomac
Attn: Public Affairs Officer, Code 00P
6509 Sampson Rd.
Dahlgren, VA 22448-5108
(540) 653-8153

For further information, please contact:

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Email: cdetore@mde.state.md.us

References

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CH2M HILL. 2006a. *Final Lab Area Baseline Ecological Risk Assessment, Naval Support Facility, Indian Head, Indian Head, Maryland.*

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Glossary of Terms

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

Applicable or Relevant and Appropriate Requirements (ARARs): State and Federal laws and regulations that must be complied within the implementation of a remedial action.

Background: Area not affected by facility or site activities.

Benthic invertebrates: Animals without backbones that inhabit aquatic bottoms or sediment habitats.

Carcinogenic: Causing or inciting cancer.

Central Tendency Exposure (CTE): The CTE scenario is based on the "average" level of human exposure that may be expected to occur at a site. It is often presented to show the potential range of risks at a site, and is probably more representative of the actual risk to most receptors.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act of 1986 (SARA). 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.

Contaminant: Any physical, biological, or radiological substance or matter that, at a high enough concentration, could have an adverse effect on human health or the environment.

Contaminants of concern (COCs):): COCs are the site-specific chemical substances that have been selected for further evaluation of potential health effects. Identifying COCs is an iterative process that requires a health assessor to examine contaminant concentrations at the site, the quality of environmental-sampling data, and the potential for human exposure.

Ecological Receptors: Non-human plant or animal species that may be exposed to site contaminants.

Focused Feasibility Study (FFS): An analysis of the appropriateness, efficacy, feasibility, and cost of a limited number of potential remedial options or cleanup alternatives for a site.

Fill: Material consisting of soil (sand, gravel, silt, and clay) and/or non-soil materials (such as brick and wood) placed artificially on a property to expand the area to its present shoreline boundary or to raise ground surface elevation.

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. Therefore, an HI of 1 means that the amount to which a receptor is exposed is equivalent to the amount not expected to cause adverse health effects.

Information Repository: A file containing information, technical reports, and reference documents regarding a National Priorities List (NPL) site. This file is usually maintained in a place with easy public access, such as a public library.

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 Navy Assessment and Control of Installation Pollutants program, the Confirmation Study, is completed if further action is required.

Institutional control (IC): A legal or administrative action or requirement imposed on a property to limit or prevent property owners or other people from coming into contact with contamination on the property. Institutional controls may be used to supplement a cleanup (by limiting contact with residual contamination), or may be used instead of conducting a cleanup. Examples include deed restrictions and site security requirements.

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

National Priorities List (NPL): The EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response. The

list is based, primarily, on the score a site receives on the Hazard Ranking System. EPA is required to update the NPL at least once a year.

Nine evaluation criteria: Criteria used by EPA at all Superfund sites to evaluate remediation alternatives and select a preferred alternative to be presented in a Proposed Plan.

Proposed Plan: A public participation requirement of SARA in which the lead agency summarizes the preferred cleanup strategy and rationale for the public. This agency also reviews the alternatives presented in the detailed analysis of the 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.

Reasonable Maximum Exposure (RME): The RME scenario portrays the highest level of human exposure that could reasonably be expected to occur. The RME scenario is used to make human-health-risk-based decisions at the site.

Record of Decision (ROD): An official public document that explains which cleanup alternative(s) will be used at an NPL site. The ROD is based on information and technical analysis generated during the RI/FS and consideration of public comments and community concerns. The ROD explains the remedy selection process and is issued by the lead agency following the public comment period.

Remedial Investigation (RI): An in-depth study designed to gather data needed to evaluate the nature and extent of contamination at a Superfund site, establish site cleanup criteria, identify preliminary alternatives for response action, and support technical and cost analyses of alternatives.

Remedial Action Objectives (RAOs): Objectives developed for the protection of human and ecological receptors at the site. These objectives may include cleanup or containment of contaminants and typically serve as the design basis for the remedial alternatives.

Response action: As defined by Section 101(25) of CERCLA, a 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.

Risk-based concentration (RBC): Conservative screening chemical-specific values that are protective of human health, used to identify contaminants of potential concern.

Semivolatile organic compound (SVOC): An organic compound that has a boiling point higher than water and that may vaporize when exposed to temperatures above room temperatures. SVOCs include phenols and PAHs.

Site remediation goals (SRGs): The (lower) concentration levels of constituents in a particular media that are met and are protective of human health and the environment, as a result of remediation activities.

Superfund Program: The program operated under the legislative authority of CERCLA and the Superfund Amendments and Reauthorization Act of 1986 (SARA) that funds and carries out EPA solid waste emergency and long-term removal and remedial activities. These activities include establishing the NPL, investigating sites for inclusion on the NPL, determining their priority, and conducting and/or supervising the cleanup and other remedial actions.

Target analyte list (TAL): was originally derived from the EPA Priority Pollutant List. In the years since the inception of the Contract Laboratory Program, analytes have been added to, and deleted from, this list based on advances in analytical methods, evaluation of method performance data, and the needs of the Superfund program.

Target compound list (TCL): was originally derived from the EPA Priority Pollutant List. In the years since the inception of the Contract Laboratory Program, compounds have been added to, and deleted from, this list based on advances in analytical methods, evaluation of method performance data, and the needs of the Superfund program.

Upper confidence limit: Value of the upper end of the confidence interval, the region of the sample mean that is likely to be representative of site-specific conditions.

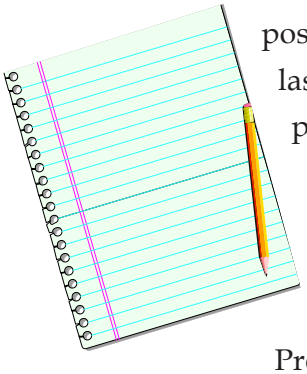
Volatile organic compounds (VOCs): Naturally occurring or manmade chemicals containing carbon. VOCs can evaporate more quickly than SVOCs.

Please print or type your comments for the Lab Area here

Mark Your Calendar for the Public Comment Period

Public Comment Period
April 12, 2010 through May 12, 2010

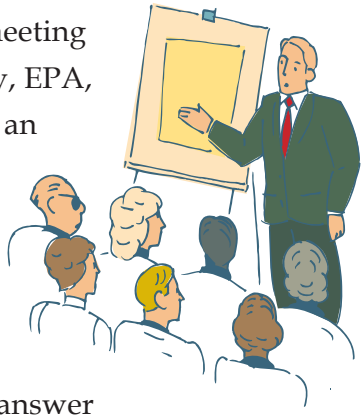
Submit Written Comments



Written comments must be postmarked no later than the last day of the public comment period, which is May 12, 2010. 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
April 15, 2010, from 6:00 P.M. to 7:00 P.M.

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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