RECORD OF DECISION AT SITE 6 NSWC INDIAN HEAD MD

1/1/2010

NSWC INDIAN HEAD

RECORD OF DECISION

Site 6 - Radiographic Facility, Building 1349

for

Naval Support Facility, Indian Head
Indian Head, Maryland

January 2010

Contents

Photographs

Acronyms and Abbreviations

µg/L	microgram(s) per liter
BERA	baseline ecological risk assessment
bgs	below ground surface
CDI	chronic daily intake
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COPC	chemical of potential concern
CSM	conceptual site model
CTE	central tendency exposure
EE/CA	engineering evaluation/cost analysis
EPA	U.S. Environmental Protection Agency
EPC	exposure point concentrations
HHRA	human health risk assessment
HI	hazard index
HQ	hazard quotient
IAS	Initial Assessment Study
IR	Installation Restoration
MDE	Maryland Department of the Environment
mg/kg	milligrams per kilogram
Navy	Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NOS	Naval Ordnance Station
NSF-IH	Naval Support Facility Indian Head
RBC	risk-based concentration
RFA	Resource Conservation and Recovery Act Facility Assessment
RfD	reference dose
RI	Remedial Investigation
RME	reasonable maximum exposure
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SERA	screening-level ecological risk assessment
UCL	upper confidence limit

SECTION 1

Declaration

1.1 Site Name and Location

Site 6— Radiographic Facility, Building 1349
Naval Support Facility Indian Head
Indian Head, Maryland
CERCLIS ID No. MD7170024684

1.2 Statement of Basis and Purpose

This Record of Decision (ROD) presents the Selected Remedy for Site 6, Radiographic Facility, Building 1349, at the Naval Support Facility Indian Head (NSF-IH) at Indian Head, Maryland. The Selected Remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and, to the extent practical, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on information contained in the Administrative Record file for NSF-IH.

The Department of the Navy (Navy) and the U.S. Environmental Protection Agency (EPA) jointly selected the remedy, and the Maryland Department of the Environment (MDE) concurs with the selected remedy.

1.3 Description of the Selected Remedy

The selected remedy is no further action for soil, surface water, sediment, and groundwater at Site 6. This remedy selection is based on the evaluation of site conditions and site-related risks during a remedial investigation (RI), and the Navy's September 2008 removal action inside the fenced area, which determined that there are no unacceptable current or future risks associated with soil, surface water, sediment, and groundwater at Site 6. The locations of NSF-IH and Site 6 are shown on Figure 1-1.

1.4 Statutory Determinations

The selected remedy is protective of human health and the environment because it will not result in hazardous substances, pollutants, or contaminants remaining on site above levels that prevent unlimited use and unrestricted exposure; therefore, a 5-year review will not be required for this action.

1.5 Authorizing Signatures

2 Oct 09

Catherine Hanft, CAPT
Commanding Officer
Naval Support Activity South Potomac

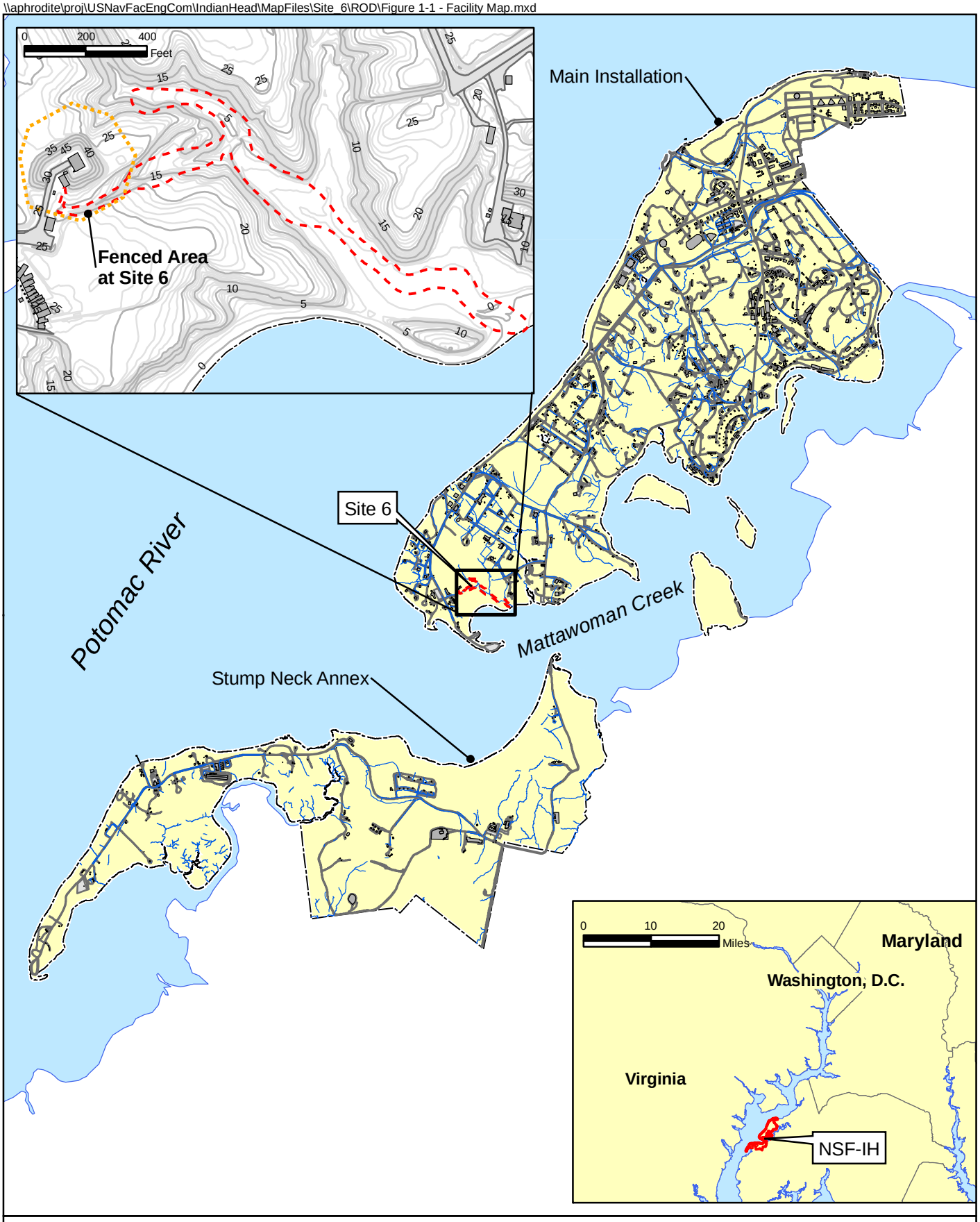
Date

Dec. 14, 2009

Henry J. Sokolowski, P.E.
Director, Office of Federal Facility Remediation and Site Assessment
U.S. EPA - Region III

Date

\\aphrodite\proj\USNavFacEngCom\IndianHead\MapFiles\Site_6\ROD\Figure 1-1 - Facility Map.mxd



Legend

- Streams
- Topographic Contours
- Site 6 Boundary
- Buildings
- Roads and Paved Areas
- NSF-IH Base Boundary
- Water Bodies

N

0 1,875 3,750
Feet

1 inch equals 3,750 feet

Figure 1-1
Facility Map
Record of Decision - Site 6
NSF-IH, Indian Head, Maryland

CH2MHILL

SECTION 2

Decision Summary

2.1 Site Name, Location, and Description

NSF-IH is located in northwestern Charles County, Maryland, approximately 25 miles southwest of Washington, DC. NSF-IH is a Navy facility consisting of the Main Installation on Cornwallis Neck Peninsula and the Stump Neck Annex on Stump Neck Peninsula. The Main Installation encompasses approximately 2,500 acres and is bounded by the Potomac River to the northwest, west, and south; Mattawoman Creek to the south and east; and the town of Indian Head to the northeast. Included as part of the Main Installation are Marsh Island and Thoroughfare Island, which are located in Mattawoman Creek. Site 6 is located on the Main Installation (Figure 1-1).

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 testing 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, 2000). Current military land uses 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 Navy is the lead agency for site activities at NSF-IH. EPA and the MDE are support agencies. Funding is provided by the Navy.

2.2 Site History and Enforcement Activities

2.2.1 Site History

Site 6 consists of the area around Building 1349 (the former control building, currently used for storage), Building 1718 (the current control building), and Building 1140 (the radiographic accelerator building) inside the fenced area (Figure 2-1). X-ray photographs of

explosives are taken in Building 1140, and they are developed in the control building (Building 1349) using silver-contained fixer and developer solutions. Before 1977, all photographic process liquid wastes, including spent fixer, were discharged to an open ditch (Fred C. Hart Associates Inc., 1983). Since the mid-1980s, photographic washwater has been discharged to the sanitary sewer system, while the spent fixer has been put in containers for later recovery of the silver. Therefore, there is no current source of contamination beyond the residue of the photographic process wastewater. As documented in Dolph (2001), the only industrial process that has been performed at Site 6 is the development of x-ray photographs.

2.2.2 Previous Investigations

Several investigations were conducted at Site 6 between 1983 and 2008. Below is a chronological description of each of these investigations.

Initial Assessment Study

The objective of the Initial Assessment Study (IAS) (Fred C. Hart Associates Inc., 1983) was to identify and assess sites posing a threat to human health or to the environment owing to contamination from past hazardous materials operations at NSF-IH. The IAS report identified Site 6 as one of five sites exhibiting a potential threat. The IAS recommended a Confirmation Study for Site 6 only if silver at Site 5 was found to be a danger to aquatic life. Site 5 is the site of the Grain Manufacture and X-ray Building (Building 731). Site 6 is similar to Site 5 in that both sites discharged photographic developing wastes to open ditches. Results of the Confirmation Study conducted at Site 5 showed elevated levels of silver in soil samples collected from a drainage ditch at Site 5 (CH2M HILL, 1985).

Phase II Resource Conservation and Recovery Act Facility Assessment

A Phase II Resource Conservation and Recovery Act Facility Assessment (RFA) (A.T. Kearney, Inc. and K.W. Brown & Associates, Inc., 1988) conducted in 1988 by EPA consisted of a preliminary review of available documents and a visual site inspection. The RFA report stated that operations at Building 1140 included the development of X-ray photographs. Approximately 2,000 X-ray sheets were developed in a month, and spent fixer and developer were discharged to an open ditch. It also reported that spent solutions were discharged into a 200-gallon polyurethane tank located outside of Building 1140. Building 1140 was constructed in 1965, and the tank was installed in the late 1970s. The tank was observed to be covered and rested on bare soil.

The RFA report noted that approximately 10 gallons of fixer was reportedly spilled behind Building 1349, and a previous site inspection reported bare soil and stressed vegetation in an area covering approximately 200 square feet in the area of the spill. Although areas of bare soil were observed during the visual site inspection, there was no indication of what had caused it.

Remedial Investigation

Because no sampling had been conducted at this site as of the Phase II RFA, seven surface soil samples, five surface soil samples from intermittently wet areas, four subsurface soil samples, two surface water samples, and three groundwater samples were collected as part

of the RI conducted at Site 6 and two other sites (HydroGeoLogic, Inc., 2004). In addition, a site-specific background surface sample and a subsurface soil sample were collected. All samples were collected from within the fenced area of Site 6 (Figure 2-1) and analyzed only for silver because it was the only potential contaminant in photographic process wastewater residues. This investigation was conducted to determine whether suspected releases of photographic process wastewaters were the cause of silver contamination of the soil, intermittent surface water, and shallow groundwater at Site 6. In general, surface soil, surface soil from intermittently wet areas, and subsurface soil contained silver at levels that exceeded the facilitywide and site-specific background concentrations. The results are summarized below:

- For surface soil, the maximum silver concentration (1,160 milligrams per kilogram [mg/kg]) exceeded the 95 percent upper confidence limit (UCL) for facilitywide background (0.84 mg/kg) and the site-specific background (nondetect above 0.56 mg/kg) concentrations.
- For surface soil from intermittently wet areas, the maximum silver concentration (867 mg/kg) exceeded the 95 percent UCL for facilitywide background concentration (0.92 mg/kg).
- For subsurface soil, the maximum silver concentration (1,100 mg/kg; collected at a depth of 30 to 36 inches below ground surface [bgs]) exceeded the 95 percent UCL for the facilitywide background (2.2 mg/kg) and site-specific background concentrations (non-detect above 0.47 mg/kg).
- Dissolved (2 micrograms per liter [µg/L]) and total (17.3 µg/L) silver were detected in one of the two surface water samples collected. There are no facility-wide background values or site-specific background values against which to compare these concentrations. Silver in surface water was attributed to weathering of surface soil and the surface soil from intermittently wet areas.
- Total silver was not detected in any of the three groundwater samples collected. However, dissolved silver (4.8 µg/L) was detected in monitoring well IS06MW03. Typically, a sample would have a higher total silver concentration than dissolved silver. The detection of dissolved silver but not a corresponding total silver in this sample was attributed to the analytical variability that occurs when a concentration is close to the detection limit, which was 1.7 µg/L.

A baseline human health risk assessment (HHRA) and a screening-level ecological risk assessment (SERA) were performed as part of the RI. The results of the risk assessments are presented in Section 2.7.

Site 6 Additional Investigation

Based on the findings and conclusions of the RI report, three co-located sediment and surface water samples along the drainage ditch beyond the fenced area were collected in November 2004 to evaluate potential offsite migration of silver (Figure 2-2). The sediment samples were analyzed for silver and the surface water samples for total and dissolved silver. A comparison of the silver results to background levels and ecological screening

values indicated that silver could have migrated beyond the fence line and might pose a potential risk to the environment.

An additional investigation was conducted in 2005 to: (1) identify the lateral extent of silver contamination to support either a removal action or a finding of no further action inside the fenced area; and (2) assess the need for a baseline ecological risk assessment (BERA) or remediation outside the fenced area. Inside the fenced area, 44 surface soil samples were collected (Figure 2-1); outside the fenced area, 35 surface soil/sediment and 4 surface water samples were collected (Figure 2-2). All samples were analyzed for silver. The results of the additional investigation (CH2M HILL, 2006a) indicated that an engineering evaluation/cost analysis (EE/CA) should be prepared to address soil removal to a depth of 1 foot bgs using a soil removal cleanup level of 2 mg/kg inside the fenced area. The Navy, EPA, and MDE agreed to a cleanup level of 2 mg/kg because it is a conservative ecological risk-based value. It was further recommended that a BERA be conducted for the area outside the fence to evaluate potential risk to ecological receptors.

Streamlined Screening Ecological Risk Assessment for Site 6 (Outside the Fenced Area)

To focus the BERA investigation, a streamlined SERA and Step 3A of a BERA were completed before performing the BERA to identify potential ecological risks from the silver in surface soil, sediment, and surface water outside of the fenced area. The assessment used data from the 2004 sampling outside the fenced area and data collected during the 2005 additional investigation. The SERA compared the results from these investigations to ecological benchmarks to develop a screening-level estimate of ecological risk for the area outside the fence line. The results of the assessment suggested that potentially unacceptable ecological risks from silver were present in the sediment and soil outside the fenced area (CH2M HILL, 2006b).

Pre-Excavation Silver Results in Subsurface Soil at Site 6 (Fenced Area)

In 2006, pre-excavation sampling was conducted at four locations along the drainage ditch inside the fenced area (Figure 2-1). Subsurface soil samples were collected from two depth intervals for silver analysis: 1 foot to 1.5 feet bgs and 2 feet to 2.5 feet bgs. The primary objective of this investigation was to characterize the vertical extent of silver in soil along the ditch. The results confirmed the 1-foot vertical extent for soil removal (CH2M HILL, 2007a). After reviewing the results, the Navy, EPA, and MDE agreed that the excavation should be extended laterally to the 2 mg/kg isoconcentration line and vertically to a depth of 1 foot bgs (Figure 2-1). In addition, the areas around sample locations IS06SS10 and IS06SD09 were to be excavated vertically to a depth of 4 feet bgs to address the elevated silver concentrations observed during the RI in these two discrete areas.

Engineering Evaluation/Cost Analysis Site 6 (Inside Fenced Area)

An EE/CA was prepared for a non-time-critical removal action for soil and sediment inside the fenced area at Site 6 (CH2M HILL, 2007b). The focus of the removal action was the surface soil (0 to 1 foot bgs) from Building 1718 to the fence line. The overall objectives of the EE/CA were to remove and dispose of surface soil contaminated with levels of silver unacceptable to ecological receptors and to mitigate the potential transport of silver from the surface soil to the soil and/or stream and sediment beyond the fence line. In addition, to mitigate unacceptable potential risk to construction workers and child residents based on

reasonable maximum exposure (RME) scenarios, soil was to be removed to a depth of 4 feet bgs at locations IS06SS10 and IS06SD09, where silver concentrations of 1,160 mg/kg and 867 mg/kg, respectively, were found (Figure 2-1). Soil excavation and offsite disposal were selected because the removal would decrease silver concentration in surface soil to acceptable levels, thereby reducing risks to ecological receptors.

Site 6 (Outside the Fenced Area) Baseline Ecological Risk Assessment Report

A BERA was completed for outside the fenced area at Site 6 (CH2M HILL, 2008). The objective of the BERA investigation was to refine the risk estimates from the SERA and Step 3A. The area of focus was the soil and sediment along the ditch from the fence line to the forested wetland downgradient of the site. In 2007, in support of the BERA, eight surface soil (0 to 6 inches bgs) samples, six surface sediment samples, and three earthworm tissue samples were collected and analyzed for various parameters (Figure 2-2).The results of the BERA are presented in Section 2.7.

Site 6 Soil Removal Action

A non-time-critical removal action was completed in September 2008 for soil and sediment along the drainage ditch inside the fenced area in accordance with the remedy selected in the EE/CA. The total excavation area was approximately 8,500 feet^2 to a depth of 1 foot bgs, which corresponded to approximately 342 cubic yards, or 512 tons, of excavated material. Two discrete 10-foot by 10-foot areas were also excavated to a depth of 4 feet bgs. The excavated material was disposed offsite as non-hazardous waste in an approved surface mining site, which was permitted to use the non-hazardous soil as backfill material. Post-excavation sampling was not conducted because it is unlikely that erosion and transport of silver-contaminated soil occurred in the time period between the pre-excavation sampling and delineation of the lateral and vertical extents of silver in the soil and the actual removal action. There were no areas of active erosion within the excavation footprint during the investigation and the area was maintained as mowed grass.

The excavated area was backfilled with clean fill material to existing grade, and the ditch was repaired and reshaped to capture stormwater runoff from the site (Photograph 1). Erosion control matting and seeding with native grasses were installed as soil stabilization measures in the upland portion of the site, and riprap was installed along the drainage swale (Photograph 2). In addition, a corrugated metal culvert piping, approximately 40 linear feet, was replaced within the drainage ditch. Figure 2-3 shows the as-built drawing for the site.

2.2.3 Enforcement Activities

In September 1995, NSF-IH was placed on the National Priorities List. No enforcement actions have occurred to date at Site 6. The Federal Facilities Agreement provides for CERCLA-directed enforcement activities at the site. As a result, an RI, EE/CA, removal action, and a Proposed Plan, have been completed for this site.

2.3 Community Participation

The NSF-IH Restoration Advisory Board is made up of community members, EPA, MDE, and the Navy. Meetings are held three times a year to provide a forum for the exchange of information among all parties regarding Installation Restoration (IR) activities.

In accordance with Sections 113 and 117 of CERCLA, the RI report (HydroGeoLogic, Inc., 2004), EE/CA (CH2M HILL, 2007b), and Proposed Plan for Site 6 (CH2M HILL, 2009) were made available to the public. These documents, which are included in the Administrative Record file, can be found in the Information Repositories maintained at the following locations:

Indian Head Town Hall	**Charles County Public Library**	**NSF-IH**
4195 Indian Head Hwy.	2 Garrett Ave.	**General Library**
Indian Head, MD 20640	La Plata, MD 20646-5959	Building 620 (The Crossroads)

The notice of the availability of the Proposed Plan was published in the *Maryland Independent* newspaper on February 6, 2009. A public comment period was held from February 9, 2009 to March 9, 2009. In addition, a public meeting was held on February 19, 2009 to present the Proposed Plan to a broader community audience.

At this meeting, representatives from the Navy, EPA, and MDE answered questions about the site and the decision that no further action is required to protect human health and the environment. No written comments were received during the public comment period. This is documented in Section 3, Responsiveness Summary.

2.4 Scope and Role of the Response Action

Site 6 is included in the NSF-IH IR Program. The results of the RI and BERA, including the human health and ecological risk assessments, and the removal action conducted for the site, indicated that no further action is required for this site. This response action affects Site 6 only and does not include or directly affect any other sites at NSF-IH. Separate investigations and assessments are being conducted for other IR sites at NSF-IH in accordance with CERCLA. Separate RODs and other CERCLA decision documents will be prepared for those other IR sites.

2.5 Site Characteristics

Characteristics of the site, the nature and extent of contamination, and the human health and ecological risk assessments are presented in greater detail in the RI report, *Final Site 6 Additional Investigation Results* (CH2M HILL, 2006a), *Final Streamlined Screening Ecological Risk Assessment for Site 6 (Outside the Fenced Area)* (CH2M HILL. 2006b), *Final Pre-Excavation Silver Results in Subsurface Soil at Site 6 (Fenced Area)* (CH2M HILL, 2007a) and *Final Site 6 (Outside the Fenced Area) Baseline Ecological Risk Assessment Report* (CH2M HILL, 2008), and are summarized in the following sections.

2.5.1 Physical Setting

Site 6 is surrounded by a fence with one gate for vehicles and one gate for pedestrians. Access to the Site 6 buildings is provided by a paved road. The buildings are on top of a grassy knoll, and the area surrounding the buildings is maintained and mowed grass. From the top of the knoll, precipitation runs off into a low area at the base of the knoll. A drainage ditch beginning just south of Building 1718 conveys surface runoff south to the low area. The low area is beneath the outlet of a culvert that carries stormwater from the wooded area west of the site. In addition to the ditch discharging into this low area, stormwater from areas offsite is carried by a culvert that crosses the access road and discharges into this low area. From the eastern edge of the low area, a ditch extends northeast along the edge of the site. This ditch carries water intermittently. On the eastern edge of the site, the ditch crosses under the fence and continues to flow through the adjacent woods. Before the 2008 removal action, the ditch had an approximate maximum width of 2 to 3 feet and depth of 3 to 6 inches upgradient of the fence line; it became deeper downgradient towards the fence line.

Outside the fence line, the ditch meanders through a wooded area, eventually forming a small intermittent headwater stream that intersects a second stream before entering a forested wetland (Figure 2-2). Standing water is present within the forested wetland. Farther downstream, the wetland transitions to a tidal emergent wetland, where the stream discharges into Mattawoman Creek. The wetland and stream system outside the fenced area is surrounded by mixed hardwood and pine forest and provides potential habitat for limited aquatic biota, such as small fish, aquatic insects, amphibians, and reptiles. The forested area may provide refuge and foraging habitats for some mammals and avian species using the areas inside and outside the fence line. The drainage ditch between the fence line and the wetland does not provide a viable habitat for aquatic receptors because the water that accumulates in it is shallow and transitory.

The soil at Site 6 is heterogeneous. It is characterized by silty clay to clay, which is underlain by a layer of sand or sand with silt that may be interbedded with clay. The elevation of the shallow groundwater, as determined from the monitoring wells installed at the site, ranges from about 14 feet above mean sea level to 17 feet above mean sea level. Based on the groundwater elevations, groundwater appears to flow to the east. This flow direction is consistent with the expected groundwater flow toward surface drainages to the east that flow southward into Mattawoman Creek. There are no known areas of archeological or historical importance at Site 6.

2.5.2 Conceptual Site Model

The conceptual site model (CSM) integrates information regarding the physical characteristics of the site, potentially exposed populations, sources of contamination, and contaminant mobility (fate and transport) to identify exposure routes and receptors evaluated in the risk assessment. A well-defined CSM allows for a better understanding of the risks at a site and aids in the identification of the potential need for remediation. The potential for the materials disposed of in the landfill to leach into the soil, and then leach from the soil to the shallow groundwater, is the source of contamination for the site.

Table 2-1 presents the CSM for human receptors. Human receptors evaluated under the current land use scenario were adolescent trespassers/visitors, adult trespassers/visitors,

and industrial workers. Human receptors evaluated under the future land use scenario were adult resident, child resident, lifetime resident, adolescent trespassers/visitors, adult trespassers/visitors, industrial workers, and construction workers. Hypothetical future residential use of the site was evaluated to confirm that no land use restrictions would be necessary at the site. The site is currently used for industrial purposes, is covered with grass, and the area outside of the fence is surrounded by woodland. There are no other current or projected future land uses for this site. Figures 2-4 and 2-5 present the CSM for ecological receptors inside and outside the fenced areas, respectively, at Site 6.

2.5.3 Nature and Extent of Contamination

The nature and extent of contamination is described in detail in the RI report, and is summarized below. The summary below also incorporates information from other investigations conducted after the RI.

The nature and extent of contamination at Site 6 can be summarized as follows: silver was detected in samples collected from surface soil, surface soil from intermittently wet areas, subsurface soil, surface water, and shallow groundwater. Except for soil, all other media had silver concentrations at levels that did not pose unacceptable risks to human health or the environment. In contrast, silver concentrations in soil were detected at levels that may pose unacceptable risks to the environment inside the fenced area. Silver-contaminated soil was removed from within the fenced area to acceptable human health and ecological levels. Silver was also found to have migrated outside of the fenced area, but at levels that were acceptable to ecological receptors.

Surface Soil: Silver was detected in surface soil samples at Site 6. Inside the fenced area, the highest concentrations of silver are from the southern corner of Building 1718 and along the swale that runs from Building 1718 to the depression in which water accumulates, adjacent to the culvert. Silver was also detected throughout the swale, with concentrations gradually decreasing downgradient (Figure 2-1). The presence of silver is not reflective of current activities but is likely due to the construction of Building 1718 and associated excavation and spreading of soil. Silver was also detected in samples outside the fenced area at various concentrations. In some samples, the concentrations exceeded the 2 mg/kg target cleanup concentration (Figure 2-2).

Surface Soils from Intermittently Wet Areas: Silver was detected in all of the surface soil samples from the intermittently wet areas within the fenced area (Figure 2-1). Based on the analytical results, the facilitywide background study results, and the site history, the silver observed in the surface soil from intermittently wet areas at Site 6 resulted from past site activities. The silver distribution in the intermittently wet areas was similar to that of the surface soil samples. The maximum concentration was near the outlet pipe adjacent to Building 1734. The concentrations tended to decrease moving east along the drainage ditch.

Subsurface Soil: Silver was detected in three of the four subsurface soil samples collected during the RI (Figure 2-1). The sample from location IS06SB10 had the highest concentration of silver. The subsurface soil silver concentration was greatest at the top of the hill along the southern corner of Building 1718. Sample IS06SB12, obtained west of Buildings 1718 and 1140, did not contain detectable levels of silver. In addition, silver was not detected in the

site-specific background sample, IS06SB13. Based on these findings and the surface soil data, the silver observed in the shallow subsurface soil at Site 6 is related to past land use. Silver results from the pre-excavation sampling event, showed that at a depth of 1 foot to 1.5 feet bgs, the 2 mg/kg target cleanup concentration was met at all sample locations along the centerline of the drainage ditch except at location IS06S096, which is nearest to the fence line (Figure 2-1). However, the average concentration of silver across the drainage ditch was less than 2 mg/kg.

Surface Water: Total and dissolved silver were detected in one (IS06SW01) of two surface water samples inside the fenced area (Figure 2-1). This sample was collected from the same location as the sample from location IS06SD09, which had the maximum silver concentration for the intermittently wet surface soils. Because of the elevated levels of silver observed in the Site 6 surface soils and surface soils from intermittently wet areas, it is likely that the silver detected in the surface water also resulted from past land use. Silver was also detected in three of seven surface water samples collected from outside the fenced area (Figure 2-2). The concentrations of silver decreased from the fence line to the beginning of the forested area; beyond the forested area, silver was not detected in any of the samples (Figure 2-2).

Groundwater: Total silver was not detected in any of the three shallow groundwater samples (Figure 2-1). A low concentration of dissolved silver was detected in the monitoring well IS06MW03. The monitoring well is located southeast of IS06SS10 and IS06SB10, the surface soil sample and subsurface soil sample with the highest observed silver concentrations. Silver was not detected in the groundwater sample collected from monitoring well IS06MW01, which was installed adjacent to the location of IS06SS10 and IS06SB10.

Sediment: Silver was detected at various concentrations outside the fenced area. Figure 2-2 shows the locations and concentrations of silver.

2.6 Current and Potential Future Land and Resource Uses

Site 6 is currently used for industrial purposes, is covered with grass, and the area outside of the fence is surrounded by woodland. No future land use changes are projected for Site 6, and no other land use for this site is planned by the Navy. Shallow groundwater beneath the site is not used for any purpose. The Navy has no plans to develop the groundwater resource in the future. It is unlikely that Site 6 would be developed for residential use. However, hypothetical future residential use of the site, including the groundwater resource, was evaluated in the risk assessment to determine if restrictions would be necessary at the site.

2.7 Summary of Site Risks

A detailed discussion of risks at Site 6 and the risk evaluation process can be found in the RI report; *Final Streamlined Screening Ecological Risk Assessment for Site 6 (Outside the Fenced Area)* (CH2M HILL. 2006b) and *Final Site 6 (Outside the Fenced Area) Baseline Ecological Risk Assessment Report* (CH2M HILL, 2008).

2.7.1 Human Health Risk Assessment

A baseline HHRA was performed in 2001 as part of the RI for soil, groundwater, and surface water at Site 6 to evaluate the current and future effects of silver in site media on human health. The HHRA was performed on the site data prior to the removal action and, therefore, includes data that no longer represents conditions at the site. The receptors evaluated in the risk assessment were as follows:

- For current uses—adolescent trespassers/visitors, adult trespassers/visitors, and industrial workers
- For future uses—adult resident, child resident, lifetime resident, adolescent trespassers/visitors, adult trespassers/visitors, industrial workers, and construction workers

As noted in Section 2.6, the site is currently used for industrial purposes, is covered with grass, and the area outside of the fence is surrounded by woodland. There are no other current or projected future land uses for this site. However, the Navy evaluated the residential exposure scenario to determine if land use restrictions would be necessary at the site. A detailed discussion of the HHRA is provided in Sections 4.4.1 and 5.6 of the RI report. The HHRA is composed of four parts, as discussed below: identification of chemicals of potential concern (COPCs), exposure assessment, toxicity assessment, and risk characterization.

Identification of COPCs

The maximum concentration of silver observed or estimated in each medium (soil, groundwater, surface water, and sediment) was screened against the EPA Region III risk-based concentration (RBC) for that medium as presented in the EPA Region III RBC table at the time the RI was performed. Only the exposure media for which the maximum silver concentration exceeded the RBC were quantitatively evaluated in the risk assessment. The maximum concentrations of silver detected in the shallow groundwater samples and in the surface water samples were below the corresponding RBC. In addition, the estimated ambient air concentrations of silver released from the current surface soil and future surface soil through fugitive dust were below the RBC. Therefore, the only environmental media quantitatively evaluated in the HHRA were current surface soil and future surface soil. Section 5.6.3 in the RI report discusses the identification of silver as a COPC for Site 6 soil.

Exposure Assessment

The exposure assessment defines and evaluates the type and magnitude of human exposure to the chemicals present at or migrating from a site. The exposure assessment is designed to depict the physical setting of the site, identify potentially exposed populations, and estimate chemical intakes under the identified exposure scenarios. Actual or potential exposures are based on the most likely pathways of contaminant release and transport, as well as human activity patterns. A complete exposure pathway has five elements: a source, a mechanism for release and migration, an environmental transport medium, a point of potential human contact, and a route of intake.

Exposure points are locations where humans could contact contamination. The current exposure points for the industrial worker, adult trespasser/visitor and adolescent

trespasser/ visitor are the surface soil across the site. The intake or exposure routes for soil include ingestion of and dermal contact with surface soil and surface soil from intermittently wet areas. All future receptors could be exposed to future surface soils (a mixture of surface soil, surface soil from intermittently wet areas, and subsurface soil) through dermal absorption and incidental ingestion.

The projected future use of the site is consistent with current activities (industrial area). Therefore, the trespasser/visitor and industrial worker were included for evaluation under future land use. It was also conservatively assumed that the site could be developed and used for residential activities in the future. Although it is not expected that development of the site for residential use would occur, this assumption was included in the risk evaluation per Navy policy. Therefore, the potential future receptors include construction worker, adult resident and child resident receptors, in addition to the trespasser/visitor and industrial worker receptors.

Exposure is quantified by estimating the exposure point concentrations (EPCs) of COPCs (in this case silver) in environmental media and the COPC intake by the receptor. The RME (EPC) was calculated in the risk assessment as the 95 percent UCL on the mean concentration based on the distribution the data best fit, as detailed in the RI. The central tendency exposure (CTE) EPC was calculated as the mean concentration based on the distribution the data best fit.

The COPC intake by a receptor was quantified using conservative parameter values for intake parameters such as ingestion rate, skin surface area, body weight, etc. The values for these parameters were presented in Section 5.6.3 of the RI report. Both RME and CTE parameter values were presented.

Toxicity Assessment

Toxicity assessment weighs the available evidence regarding the potential for a particular chemical to cause adverse effects in exposed individuals and provides a numerical estimate of the relationship between the extent of exposure and possible severity of adverse effects. Toxicity assessment consists of two steps: hazard identification and dose-response assessment. Hazard identification is the process of determining the potential adverse effects from exposure to a chemical. Dose-response assessment is the process of quantitatively evaluating the toxicity information and characterizing the relationship between the dose of the contaminant administered or received and the incidence of adverse health effects in the exposed population. From this quantitative dose-response relationship, toxicity values (e.g., non-cancer reference doses [RfDs] and carcinogenic slope factors) are derived. These are the toxicity values, used in conjunction with the exposure assessment, to estimate non-cancer hazards and cancer risks associated with exposure to the site media.

EPA has assessed the toxicity of many chemicals and has published the resulting toxicity information and toxicity values in its Integrated Risk Information System and Health Effects Assessment Summary Tables databases. Additionally, toxicity information is available from EPA's National Center for Environmental Assessment.

Health effects are divided into two broad groups: non-cancer hazards and cancer effects. This division is based on the different mechanisms of action currently associated with each category. Chemicals causing non-cancer health effects were evaluated independently from

those having cancer effects. Section 4.4.1.4 in the RI report provides more detail about the toxicity assessment.

Risk Characterization

Methodology. The potential for noncarcinogenic effects is evaluated by comparing an exposure level over a specified time period with an RfD derived for a similar exposure period. The ratio of exposure to toxicity is called a hazard quotient (HQ). An HQ of less than 1.0 indicates that a receptor's dose of a single contaminant is less than the RfD and that toxic noncarcinogenic effects from that chemical are unlikely. The hazard index (HI) is generated by adding the HQs for all COPCs that affect the same target organ (e.g., liver) or that act through the same mechanisms of action within a medium or across all media to which a given individual may reasonably be exposed. An HI of less than 1.0 indicates that, based on the sum of all HQs from various contaminants and exposure routes, toxic noncarcinogenic effects from all contaminants are unlikely. An HI of more than 1.0 indicates that site-related exposures may present an unacceptable risk to human health.

The HQ is calculated as follows:

$$HQ = CDI/RfD$$

Where: CDI = chronic daily intake

RfD = reference dose

CDI and RfD are expressed in the same units and represent the same exposure period (i.e., chronic, subchronic, or short term).

Noncarcinogenic Risks. The calculated HIs associated with current site use (exposure to surface soil by adolescent trespassers/visitors, adult trespassers/visitors, and industrial workers) were all less than 1.0. Therefore, based on current site use, there are no unacceptable risks associated with exposure to surface soil.

For the future site use scenarios evaluated in the risk assessment, exposure to future surface soil by adolescent trespassers/visitors, adult trespassers/visitors, industrial workers, and adult residents all resulted in HIs below 1.0, and therefore, there are no unacceptable risks to these receptors associated with exposure to future surface soil.

The only two exposure routes that resulted in an HI greater than 1.0 were the RME exposure of a future child resident (HI=3.2, target organ of skin) and a future construction worker (HI = 1.2, target organ of skin). For the CTE scenario, the HIs were 0.024 and 0.02 for the future child resident and future construction worker, respectively. The difference in the HIs between the two scenarios is primarily related to the EPC and a smaller contribution from the RME versus CTE exposure parameters, such as soil ingestion rate and exposure frequency. For the RME scenario, the maximum concentration was used as the EPC; for the CTE scenario, the geometric mean was used as the EPC.

Although the HHRA showed the RME hazard was above the acceptable hazard level of 1.0 for the future child resident and construction worker, these risks were based on all of the soil data collected at the site and present at the site as of 2001. The RME hazards were

associated with two discrete areas of the site. The soils in these areas were removed during the 2008 soil removal action.

A detailed discussion of the risk characterization is provided in Section 4.4.1.5 and Section 5.6.5 of the RI report. Section 4.4.1.6 in the RI report presents the uncertainty analysis for the HHRA.

2.7.2 Ecological Risk Assessment

An SERA was conducted for the area inside the fence at Site 6 to estimate the risks the site would pose to ecological receptors if no action was taken. The SERA provided a conservative assessment of potential ecological risk. The general approach and site-specific approach for the ecological risk assessment are provided in Section 4.4.2 and Section 5.7, respectively, in the RI report. A second SERA was conducted separately for the area outside the fenced area at Site 6 as part of a followup investigation to the RI (CH2M HILL, 2006b).

Identification of COPCs

COPCs are selected in Step 3A of the risk assessment from a preliminary list of ecological COPCs. The selection process involves consideration of the ecological HQs based on refined exposure assumptions, patterns in detection, consideration of likely risk from chemicals without screening values, consideration of background concentrations, and consideration of the basis of the direct contact and ingestion-based screening values compared to site conditions. If there are COPCs at the end of Step 3A, the risk assessment process continues to Step 3B (revised problem formulation) and Step 4 (BERA work plan). Because COPCs were identified after Step 3A for Site 6 (outside the fenced area), a BERA was performed. Detailed steps for identifying the COPCs are provided in Sections 4.4.2, 5.7.3, and 5.7.4 in the RI Report.

Exposure Assessment

According to Superfund guidance (EPA, 1997), Step 3 initiates the problem formulation phase of the BERA. Under Navy guidance (Chief of Naval Operations, 1999), the BERA is defined as Tier 2, and the first activity under Tier 2 is Step 3A. In Step 3A, the conservative assumptions employed in Tier 1 are refined and risk estimates are recalculated using the same CSM for the site. This step is conducted to assist with the identification of risk drivers (i.e., chemicals that may pose the greatest risk).

In some cases, additional information is presented that has bearing on whether a chemical is identified as a potential risk driver. Risk estimates were based on maximum concentrations in Step 2 and average concentrations in Step 3A. For upper trophic level receptors, average chemical concentrations provide a more representative estimate of the likely level of chemical exposure because the local population (and, in many cases, individual organisms for highly mobile species with large home ranges relative to the size of the site) would be expected to occur throughout the site (where suitable habitat is present) and, in many cases, off the site. Mean concentrations (or some other estimate of central tendency) may also be appropriate for evaluating potential risks to populations of lower trophic level terrestrial and aquatic receptors because the members of the population are expected to be found throughout the site (where suitable habitat is present), rather than concentrated in one particular area.

While effects on individual organisms might be important for some receptors, such as rare and endangered species, population- and community-level effects are typically more relevant to ecosystems. In many cases, the average concentration is a conservative representation of the true site average because samples are generally biased toward areas of known or suspected contamination.

Ecological Effects Assessment

The purpose of the effects evaluation is to establish chemical exposure levels (screening values) that represent conservative thresholds for adverse ecological effects. Direct contact screening values were used to assess potential risks to the soil invertebrate and terrestrial plant communities. Ingestion screening values for dietary exposures were derived for each avian and mammalian receptor species and chemical evaluated in the assessment. Section 4.4.2 in the RI Report provides a detailed description of the screening values used in the ecological risk assessment.

Ecological Risk Characterization

Screening-Level Risk Characterization: Section 5.7.4 in the RI report provides a detailed description of the ecological risk characterization for the area inside the fence.

The mean concentration of silver in soils at Site 6 exceeded screening values for both soil microbes and terrestrial plants. In addition, the majority of the measured silver concentrations at individual sampling locations at Site 6 exceeded both screening values. Therefore, a potential risk existed for soil flora and fauna from silver in the surface soil. No unacceptable risks were identified for upper trophic level receptors from silver in the surface soil.

The results of the RI suggested that it was likely that silver was migrating or had migrated offsite into the down gradient stream. The soil removal action described in Section 2.2.2 was implemented because of the potential risk posed by silver in the surface soil inside the fenced area and its potential to act as a continuing source of silver for offsite migration.

Baseline Risk Characterization: The results of the BERA showed that: (1) silver in the drainage ditch and floodplain soils outside the fenced area at Site 6 does not pose unacceptable risks to terrestrial invertebrates or vermivorous wildlife; (2) silver in the wetland sediments does not pose unacceptable risk above background conditions to benthic invertebrates; and (3) silver in the wetland sediments does not pose unacceptable risk above background conditions to fish or amphibians.

2.7.3 Conclusions

The HHRA showed RME hazards above the acceptable hazard level of 1.0 for the future child resident and construction worker. These risks were based on all of the soil data collected at the site and present at the site as of 2001. The RME hazards were associated with two discrete areas of the site. The soils in these areas were removed during the 2008 soil removal action. Additionally, the soil removal will effectively prevent migration of silver to the groundwater. Therefore, there are no longer any unacceptable risks to human health remaining at Site 6.

The SERA concluded that there were potential risks to ecological receptors posed by silver in the surface soil within the fenced area, whereas the BERA concluded that there were no unacceptable risks to ecological receptors outside of the fenced area.

Sections 5.8.1.2 and 5.8.1.3 in the RI Report present the conclusions of the HHRA and SERA, respectively, and conclusions for the BERA can be found in Section 5.3 of the BERA report (CH2M HILL, 2008).

2.8 Selected Remedy

The Navy and EPA, with the support of the MDE, have selected no further action as the preferred alternative for Site 6. Based on the results of investigations and the removal action conducted at Site 6, the Navy, EPA, and MDE have concluded that the site does not pose an unacceptable risk to people, plants, and animals; therefore, no alternative other than the no further action alternative was evaluated. Under this alternative, no response action will be performed at the site; therefore, no institutional controls, remedy schedule, capital cost estimation, or annual operation and maintenance are necessary.

2.9 Documentation of Significant Changes

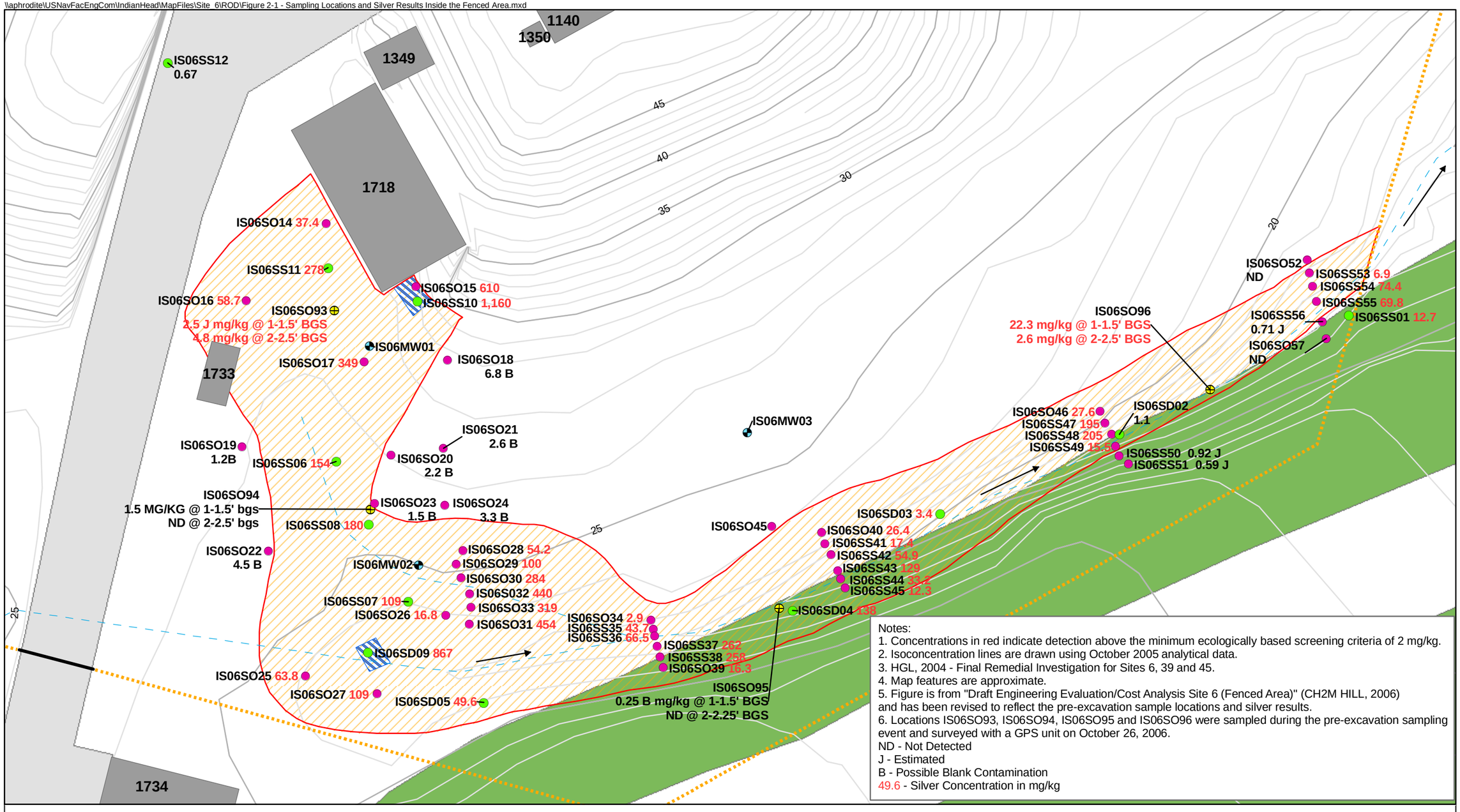
The Proposed Plan for Site 6 was released for public comment on February 19, 2009. The Proposed Plan identified that no action is necessary for protection of human health and the environment. No written or oral comments were received during the public comment period. It was concluded that no significant changes to this decision, as originally identified in the Proposed Plan, were necessary or appropriate.

Table 2-1
Conceptual Site Model for Human Health Receptors
Record of Decision - Site 6
NSF-IH, Indian Head, Maryland

Medium	Process
Surface Soil and Subsurface Soil from Intermittently Wet Areas	• Transport of silver via erosion and deposition as sediment. Re-entrainment of sediment during precipitation events and transport off Site 6. To a slight extent, dissolution of silver from the eroded material into surface water, with subsequent transport in the surface water off Site 6. • Leaching of silver to the subsurface soil via the infiltration of precipitation.
Subsurface Soil	• Leaching of silver to the shallow groundwater via the infiltration of precipitation.
Surface Water	• Transport of dissolved silver and silver associated with suspended particles in the drainage ditch that flows offsite.
Shallow Groundwater	• Movement of inorganics with the shallow groundwater flow. The flow is eastward from the site. Contaminant concentration will decrease with distance from the source area due to the dilution caused by advection and dispersion and due to the removal of silver from the aqueous phase via chemical precipitation.

Note:
Information is taken from Table 5.7 in the RI report (HydroGeologic, 2004)

\\aphrodite\USNavFacEngCom\IndianHead\MapFiles\Site_6\ROD\Figure 2-1 - Sampling Locations and Silver Results Inside the Fenced Area.mxd



Notes:
1. Concentrations in red indicate detection above the minimum ecologically based screening criteria of 2 mg/kg.
2. Isoconcentration lines are drawn using October 2005 analytical data.
3. HGL, 2004 - Final Remedial Investigation for Sites 6, 39 and 45.
4. Map features are approximate.
5. Figure is from "Draft Engineering Evaluation/Cost Analysis Site 6 (Fenced Area)" (CH2M HILL, 2006) and has been revised to reflect the pre-excavation sample locations and silver results.
6. Locations IS06SO93, IS06SO94, IS06SO95 and IS06SO96 were sampled during the pre-excavation sampling event and surveyed with a GPS unit on October 26, 2006.
ND - Not Detected
J - Estimated
B - Possible Blank Contamination
49.6 - Silver Concentration in mg/kg

Legend

- Previously Sampled Location - Soil (HGL, 2001)
- Sampling Location - Soil (2005)
- Pre-excavation Sample Location
- Monitoring Well (2001)
- Gate
- Flow of Water in Drainage Ditch
- Surface Water Drainage
- Fence
- 5-foot Topographic Contours
- 1-foot Topographic Contours
- Isoconcentration Line - 2 mg/kg
- Proposed Area of Excavation to 1 foot BGS
- Proposed Area for Excavation to 4 feet BGS
- Buildings
- Paved Roads
- Wooded Area

N

0 20 40 Feet

1 inch equals 20 feet

Figure 2-1
Sampling Locations and Silver Results Inside the Fenced Area
Record of Decision - Site 6
NSF-IH, Indian Head, Maryland

CH2MHILL

\\aphrodite\proj\USNavFacEngCom\IndianHead\MapFiles\Site_6\ROD\Figure 2-2 - Sampling Locations and Silver Results Outside the Fenced Area.mxd

Beginning of Forested Wetland

Transition to Tidal Marsh

IS06TX04 0.26
IS06SD93 0.21U
IS06SO66 SO=1.3J
IS06SO97 0.1UL
IS06SO67 SO=23.3J; 0.1U
IS06SO64 SO=0.91J
IS06SO68 SO=456J; 0.99J
IS06SO61 SO=223J; 200
IS06TX02 43.8
IS06SD15 SD=151 SW=5.7
IS06SO69 SO=274J
IS06TX03 137
IS06SD13 SD=248 SW=60.6 SO= 3.6
IS06SO62 SO=63.5J
IS06SO65 SO=36.6J
IS06SO74 SO=19.5
IS06SO70 SO=23.4J SD= 47.9
IS06SO73 SO=48.7J
IS06SO58 SO=2.2J; 0.18 J
IS06SD14 SD=57.0 SW=28.7 SO=82.3
IS06SO59 SO=145J; 217
IS06SO63 SO=231J; 205
IS06SO78 SO=18.4
IS06SO76 SO=28.1
IS06SO77 SO=234 SD= 87.3
IS06SO82 SD=38.7
IS06SO60 SO=208J
IS06SO71 SO=48.1J
IS06SO75 SO=104 SD= 92.4
IS06SW17 SW=ND
IS06SO81 SD=47.2
IS06TX01 79.1
IS06SO72 SO=28.1J
IS06SO80 SD=73.5 SD= 75
IS06SO84 SD=ND SW=ND
IS06SO79 SO=6.5 SD= 25.4
IS06SO83 SD=74.9
IS06SO85 SD=27.9
IS06SO86 SD=80.2 SD= 25.8
IS06SO87 SD=ND SW=ND
IS06SO88 SD=8.9
IS06SO89 SD=3.5J
IS06SO90 SD=6.3
IS06SO91 SD=4J
IS06SO92 SD=4.8 SW=ND
SD<0.59
SD=33.5
SD=10.1
SD<0.58

1438 1999 1467 1466 1140 1349 1350 1718 1733 1576 1734 1741 1517 1518 1759 1519 1654 1520 1522 1740 1739 1851 1430

Mattawoman Creek

Note:
1. Concentrations in red indicate detection above the minimum ecologically based screening value of 2 mg/kg for soil and 1 mg/kg for sediment.
2. Site Report for Sediment Toxicity Identification Evaluation Demonstration (SAIC, 2001)
3. Figure is from "Results for Site 6 Additional Investigation (CH2M Hill, 2006)
4. **2.2; 79** Silver Concentration
   (unit for soil and sediment is mg/kg;
   unit for surface water is ug/L)
5. Result in **red font** indicates the 2006 sampling event.
6. Result in **blue font** indicates the 2007 BERA.
7. SD - Sediment Analytical Result
8. SO - Surface Soil Analytical Result

Legend

- Previously Sampled Location (by CH2M HILL in 2004)
- Sediment Sample Locations for BERA (CH2M HILL, 2005)
- Soil Sample for BERA (CH2M HILL, 2005)
- Tissue Sample Location for BERA (CH2M HILL, 2005)
- Sample Location (CH2M HILL, 2006)
- Surface Water and Sediment Sample Location (CH2M HILL, 2006)
- Previously Sampled Location (by SIAC in 2001)
- Previously Sampled Location (by TTNUS in 2003)
- Steam Line
- Surface Water Drainage
- Fence
- Site 6 Boundary
- Buildings
- Paved Roads
- Wooded Area
- Water Bodies

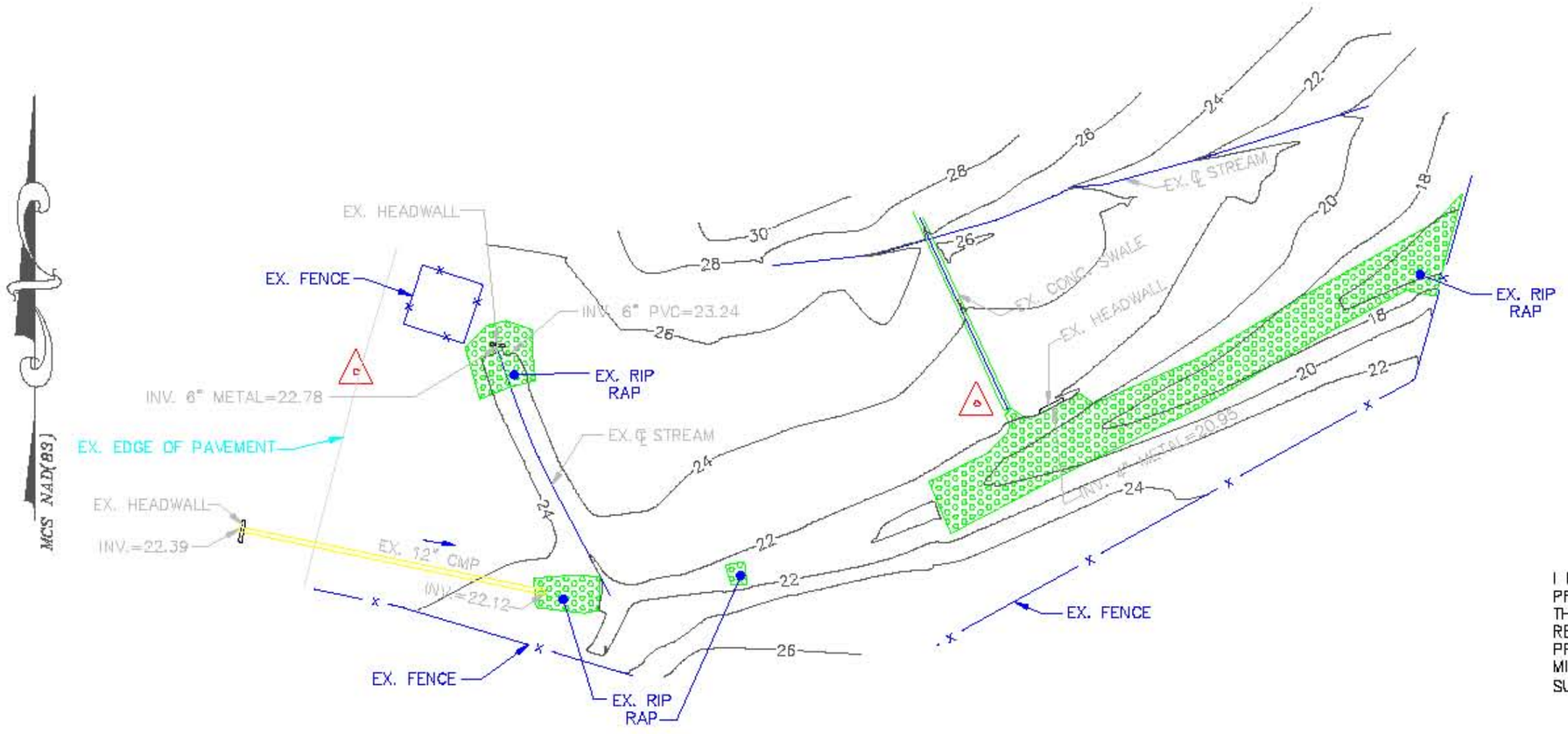
N

0 150 300 Feet

1 inch = 150 feet

Figure 2-2
Sampling Locations and Silver Results Outside the Fenced Area
Record of Decision - Site 6
NSF-IH, Indian Head, Maryland

CH2MHILL



GENERAL NOTES

1. THE BEARINGS SHOWN ON THIS SURVEY ARE IN THE MARYLAND COORDINATE SYSTEM NAD83. VERTICAL DATUM IS NAVD 88.

2. AS-BUILT SURVEY BY PATTON HARRIS RUST AND ASSOCIATES ON OR ABOUT SEPTEMBER 18, 2008.

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY, TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS SURVEY IS BASED UPON AVAILABLE LAND RECORDS, AS REFERENCED HEREON, AND WAS PREPARED IN ACCORDANCE WITH THE MARYLAND MINIMUM STANDARDS OF PRACTICE FOR TOPOGRAPHIC SURVEYS (COMAR 09.13.06.04).

STATE OF MARYLAND
ARTHUR M. BOTTERILL
No. 10886
PROFESSIONAL LAND SURVEYOR

ARTHUR M. BOTTERILL
PROFESSIONAL LAND SURVEYOR
MD REGISTRATION No. 10886

Note:
Survey was performed by PHRA in 2008 after the removal action.

PHR+A
Patton Harris Rust & Associates, pc
8818 Centre Park Drive,
Columbia, MD 21045
T 410.997.8900 F 410.997.9282

Figure 2-3
As-Built Drawing - Post Removal Action Inside the Fenced Area
Record of Decision - Site 6
NSF-IH, Indian Head, Maryland

CH2MHILL

DRAWN: H.J.M.
CHECKED: D.D.K.
DATE: 09-19-08
SCALE: 1"=30'
SHEET 1 OF 1
FILE NO: 13755-1-2

13755\1-2\SURVEY\FINAL\SITE 6 ASBUILT.DWG

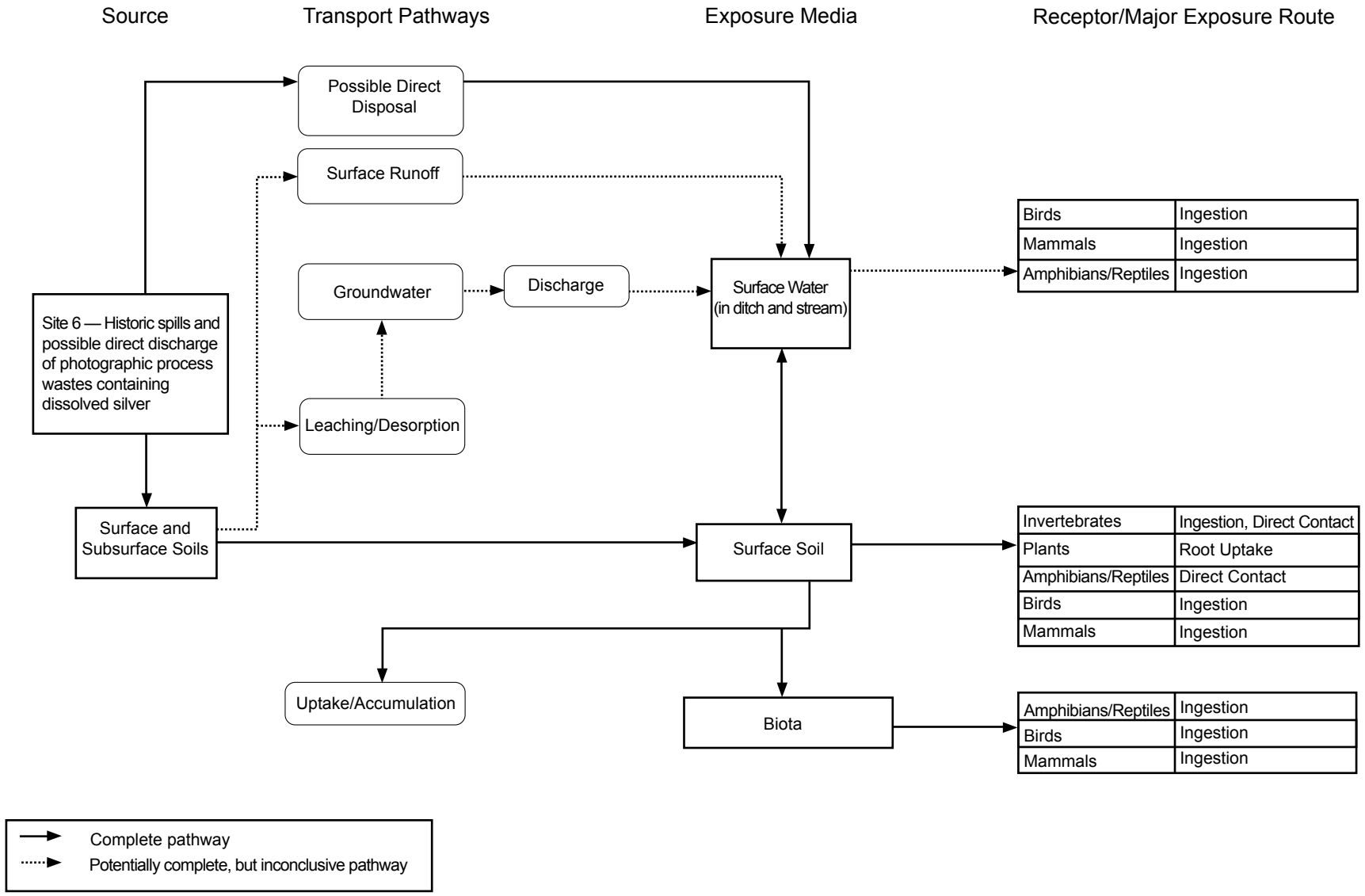


Figure 2-4
Conceptual Site Model for Ecological Receptors
Inside Fenced Area
Record of Decision - Site 6
NSF-IH, Indian Head, Maryland

Note:
Figure is taken from RI report *(HydroGeoLogic, 2004)*

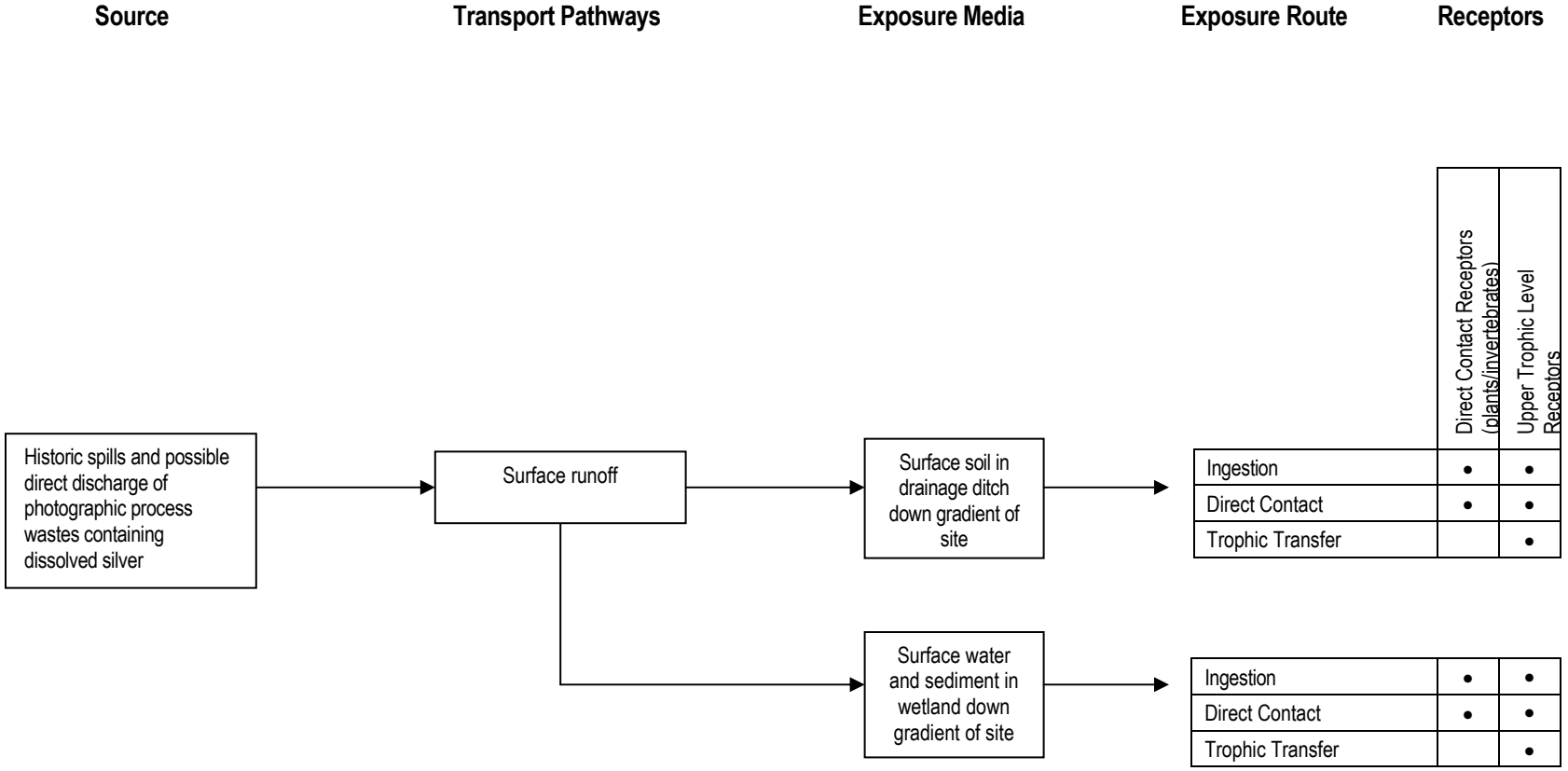


Figure 2-5
Conceptual Site Model for Ecological Receptors Outside the Fenced Area
Record of Decision – Site 6
NSF-IH, Indian Head, Maryland

Photograph 1: View to the east-northeast. Repaired drainage ditch toward the fence line.

Photograph 2: View to the northeast. Repaired drainage ditch adjacent to Building 1733.

SECTION 3

Responsiveness Summary

The Responsiveness Summary is a concise and complete summary of significant comments received from the public on the Proposed Plan and includes responses to these comments. This Responsiveness Summary provides the decision maker with information about the views of the community. It also documents how the Navy, EPA, and MDE considered public comments during the decision-making process and provide answers to major comments. It was prepared after the public comment period ended on March 9, 2009, in accordance with guidance in *Community Relations in Superfund: A Handbook* (EPA, 1992).

3.1 Stakeholder Comments and Lead Agency Responses

The 30-day public comment period for the Selected Remedy for Site 6 began on February 9, 2009 and ended on March 9, 2009. A public meeting was held on February 19, 2009, at the Indian Head Senior Center, 100 Cornwallis Square, Indian Head, Maryland, to accept oral and written comments on this decision.

3.2 Technical and Legal Issues

No technical or legal issues have been identified for Site 6 with respect to this ROD.

SECTION 4

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