

Department of the Navy

Proposed Plan for OU-10

No Action for Site 5 Soils & Monitoring of Sediment Potentially Impacted by Area B

Naval Air Warfare Center
Warminster, Pennsylvania

August 2000

NAVY ANNOUNCES PROPOSED PLAN

The Department of the Navy has completed a final Remedial Investigation (RI) for Operable Unit 10 (OU-10), at the Naval Air Warfare Center (NAWC or "the Site") in Warminster, Pennsylvania. OU-10 consists of soil and waste at Site 5 and surface water and sediment potentially impacted by Area B at the Site (hereafter referred to as "Area B surface water and sediment"). This RI has been completed as part of the Navy's Installation Restoration Program (IRP) and the Superfund Remedial Program. The purpose of an RI is to determine the nature and extent of a contaminated medium.

This Proposed Plan summarizes the findings of the final RI for OU-10, and proposes that no action is necessary for Site 5 soils. In addition, this Proposed Plan proposes that no action is necessary for Area B surface water and sediment, and proposes that additional stream monitoring be conducted to confirm that any impacts on sediment by Area B have been mitigated by previous and ongoing response actions. This Proposed Plan also provides a rationale for this proposal. In addition, the Proposed Plan explains how the public can participate in the decision-making process and provides addresses and telephone numbers for the appropriate Navy contacts.

NOTE: A glossary of relevant technical and regulatory terms is provided at the end of this Proposed Plan. These terms are indicated in **boldface** within the Proposed Plan.

This document is issued by the Navy, the lead agency for IRP and Superfund activities at the Site, and by EPA, the support agency for

Superfund actions. The Navy and EPA will issue a final decision regarding the disposition of OU-10 after the public comment period has ended and the comments submitted during this time have been reviewed and considered.

The Navy is issuing this Proposed Plan as part of its public participation responsibilities under Sections 113 (k), 117(a), and 121(f) of the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly referred to as the Superfund Law)**, as amended by the Superfund Amendments and Reauthorization Act. This document summarizes information that can be found in greater detail in the final **Remedial Investigation (RI)** report for OU-10 and other Site documents contained in the **administrative record** file for this Site. The Navy invites the public to review these and to comment on the Proposed Plan during the comment period. The administrative record file, which supports this Proposed Plan, is available for review at the Bucks County Library: 150 South Pine Street, Doylestown, Pennsylvania 18901; (215) 348-9081 Hours: Monday - Thursday, 9 a.m. - 9 p.m. Friday, 9 a.m - 6 p.m; Saturday, 9 a.m. - 5 p.m.

A final decision regarding the disposition of OU-10 will be documented in a Record of Decision (ROD) which will be issued after all public comments are considered. The ROD will be placed in the administrative record file for review by the public.

This is the twelfth Proposed Plan issued by the Navy for the Site. The first Proposed Plan was issued on April 26, 1993, and addressed Operable Unit 1 (OU-1), which included contaminated groundwater in overburden and shallow bedrock attributable to Area A and Area

B at NAWC. Subsequent to the issuance of the Proposed Plan for OU-1, the Navy and EPA conducted a Superfund Removal Action, providing water treatment system and public water connections to residences in the vicinity of NAWC. This Removal Action was designated as Operable Unit 2 (OU-2). Due to the time-critical nature of this Removal Action, a Proposed Plan was not issued for OU-2. The second Proposed Plan was issued on August 19, 1994, and addressed Operable Unit 3 (OU-3), which included contaminated groundwater attributable to Area C at NAWC. Site 4 is located within Area C. Since the issuance of the Proposed Plan and subsequent Records of Decisions for OU-1 and OU-3, a groundwater treatment plant has been constructed within Area A and the cleanup of contaminated groundwater attributable to both Area A and Area C has begun. (See Site Background below for further discussion regarding the history of Area B groundwater) The third Proposed Plan was issued on June 5, 1997, and addressed contaminated groundwater attributable to Area D at NAWC, or Operable Unit 4 (OU-4). A Record of Decision for OU-4 was issued and cleanup of contaminated groundwater attributable to Area D has also been initiated. The fourth Proposed Plan was issued on August 20, 1999, and addressed soil,

sediment and surface water associated with Site 8, or Operable Unit 5 (OU-5). A Record of Decision issued on September 29, 1999 selected no further action for OU-5. The fifth and sixth Proposed Plans were issued concurrently on February 14, 2000 and address Sites 6 and 7 (OU-7) and Site 4 (OU-6), respectively. The seventh, eighth and ninth proposed plans were issued on May 1, 2000 and address Area D soils (OU-8), Area D groundwater (OU-4), and Area A soils (OU-9), respectively. The tenth proposed plan and eleventh proposed plans were issued concurrently on July 10, 2000 and address Area A groundwater (OU-1A) and Area B Groundwater (OU-1B), respectively.

SITE BACKGROUND

NAWC is a 824-acre facility located in Warminster Township, Northampton Township and Ivyland Borough, Bucks County, Pennsylvania (see Figure 1 for Site Location Map). As a result of the Base Realignment and Closure Act (BRAC), NAWC ceased operations on September 30, 1996. The majority of NAWC is being transferred to the private sector. Site 5 is located in the area which is now Navy housing

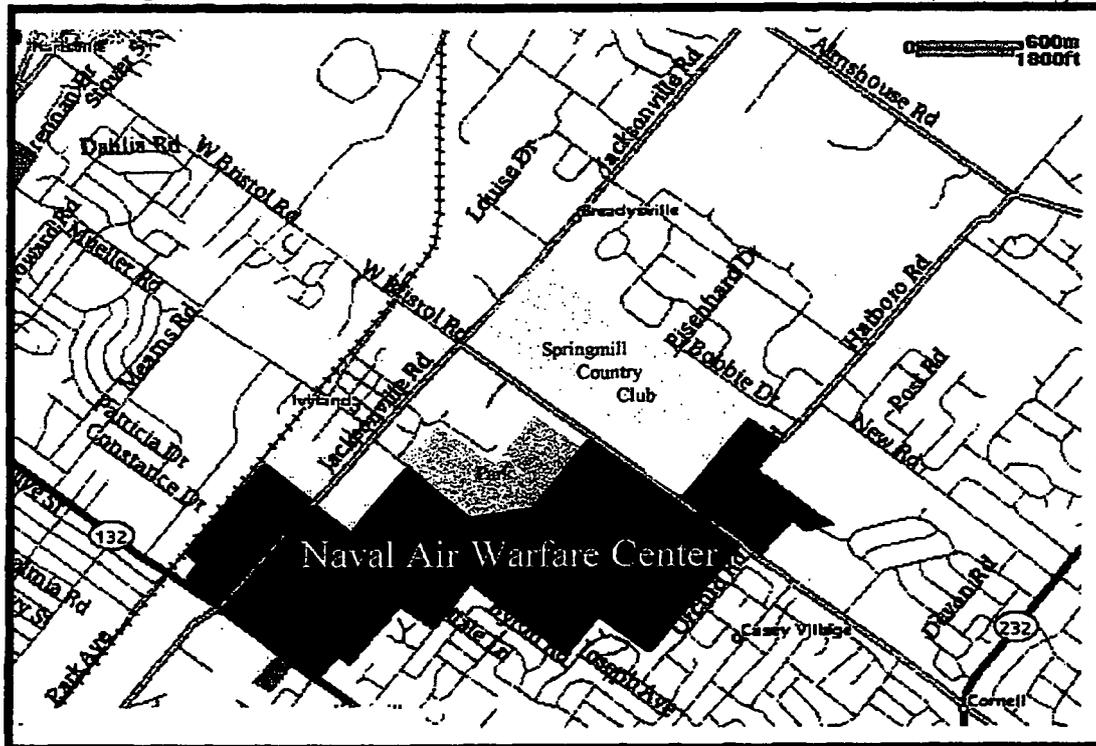


Figure 1. The former NAWC, Warminster, PA

and will be retained by NAS Willow Grove.

The facility lies in a populated suburban area surrounded by private homes, various commercial and industrial activities, and a golf course. On-site areas include various buildings and other complexes connected by paved roads, the runway and ramp area, mowed fields, and a small wooded area.

Commissioned in 1944, the facility's main function was research, development, testing, and evaluation for naval aircraft systems. NAWC also conducted studies in anti-submarine warfare systems and software development. Historically, wastes were generated during aircraft maintenance and repair, pest control, fire-fighting training, machine and plating shop operations, spray painting and various materials research and testing activities in laboratories.

These wastes included paints, solvents, sludges from industrial wastewater treatment, and waste oils that were disposed in several pits, trenches, and landfills throughout the facility property. NAWC was listed on the Superfund **National Priorities List** in 1989. This list includes sites where uncontrolled hazardous substance releases present the most significant potential threats to human health and the environment.

Areas reported by the Navy to have been potentially used for disposal of hazardous substances include eight locations covering more than 7 acres. These locations include the following:

Three waste disposal areas (sites 1, 3, and 6)

Two sludge disposal pit areas (sites 2 and 7)

Two landfills (sites 4 and 5)

One Fire Training Area (site 8)

The Installation Restoration (IR) Sites are grouped into the following IR Areas: Sites 1,2 and 3 (Area A); Sites 5, 6 and 7 (Area B); and Sites 4 and 8 (Area C). See Figure 2 for Area Locations at the Site.

Site 5 reportedly consisted of up to eight trenches that were used for the disposal of demolition wastes, paints, solvents, scrap metal, aircraft paints, cans and asphalt. These disposal trenches were reportedly within 100 feet of the current location of the Shenandoah woods enlisted housing units located south of the runway, within 700 feet of the inertial navigation facility, and 400 feet from the NAWC

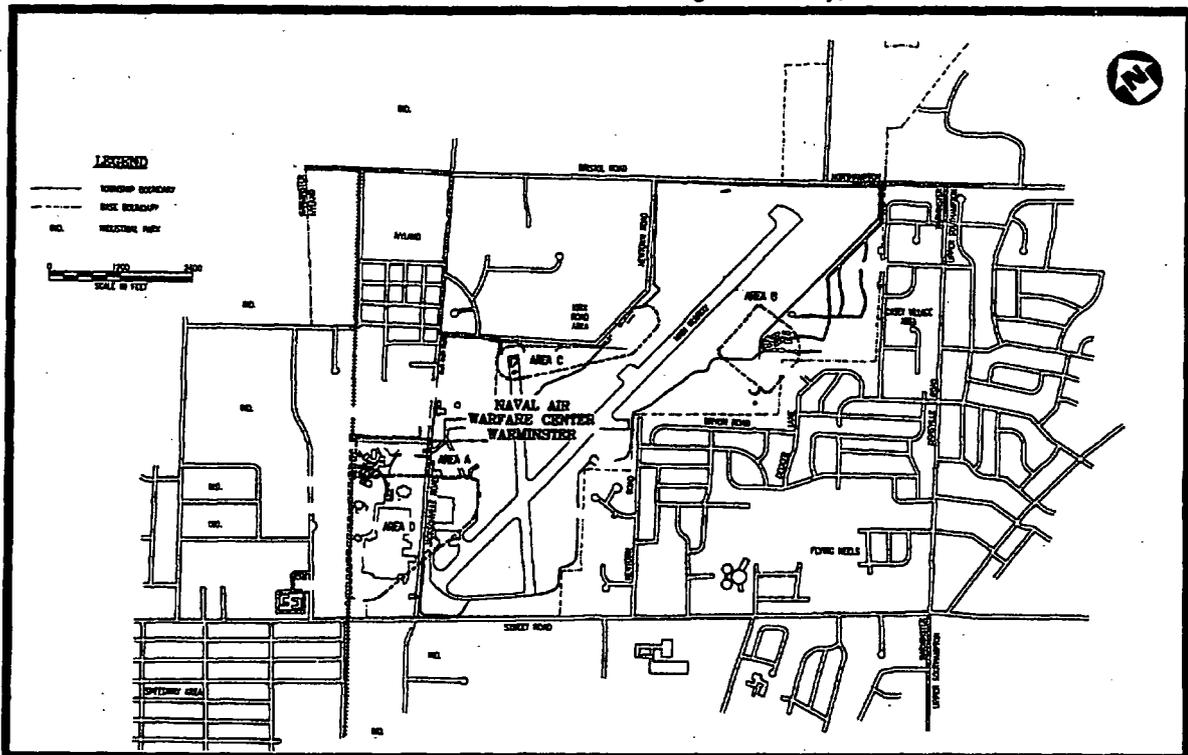


Figure 2. NAWC Site Location Map

property boundary (See Figure 3). The trenches were reportedly operated from 1955 to 1970 and were approximately 12 feet by 70 feet by 8 feet in dimension, and were covered with 2 feet of fill, graded and seeded. As indicated above, in addition to Site 5, Area B includes Sites 6 and 7. A portion of surface runoff from Area B drains to an unnamed tributary to Southampton Creek.

In response to the results of the RI work, a removal action was performed at Sites 6 and 7 in 1997. The action included the removal of over 3,500 tons of soil and debris to address subsurface contaminants. In addition, a Record of Decision issued in June 2000 selected a final remedy consisting of a vegetated soil cover and institutional controls for Site 6 and 7 soils. The soil cover has been placed and the vegetation of the soil is being completed at this time.

RI work addressing Site 5 soils, and surface water and sediment potentially impacted by Area B has been conducted in phases. The Phase I RI (SMC Martin, 1991) included limited soil gas and geographical surveys, air sampling, as well as surface water and sediment sample analysis. The Phase II RI (HNUS, 1992) included sampling of soils, surface water, and sediment. Based on the findings of the Aerial Photographic Site Analysis Report (EPIC, 1994), a more comprehensive Phase III RI was performed in 1995.

Phase III RI field activities focused on further characterizing surface soils, subsurface soils, buried materials, surface water, and sediment. The results of initial Phase III RI work for Site 5 were reported in a draft Phase III RI report, which was issued in November 1996. Following the review of the draft Phase III RI report, the Navy conducted a supplemental soil investigation in December 1999 to complete RI work for soils and wastes at Site 5.

The results of RI work for OU-10 are included in a final RI report dated July 2000. Significant conclusions of the final RI are as follows:

- Wastes and fill were identified in the subsurface within the area reportedly used for disposal. However, the pattern of disposal was not indicative of trenches.
- Buried waste materials included ash, wood, glass, cardboard, paper, scrap metal pieces, tree limbs and roots, brick fragments, wire, and charred material. The wastes were located adjacent to several enlisted housing units and under roadways and paving.
- Lead, copper and vanadium were the only inorganics detected above preliminary soil screening levels (SSLs) protective of residential use in more than one soil/waste sample.

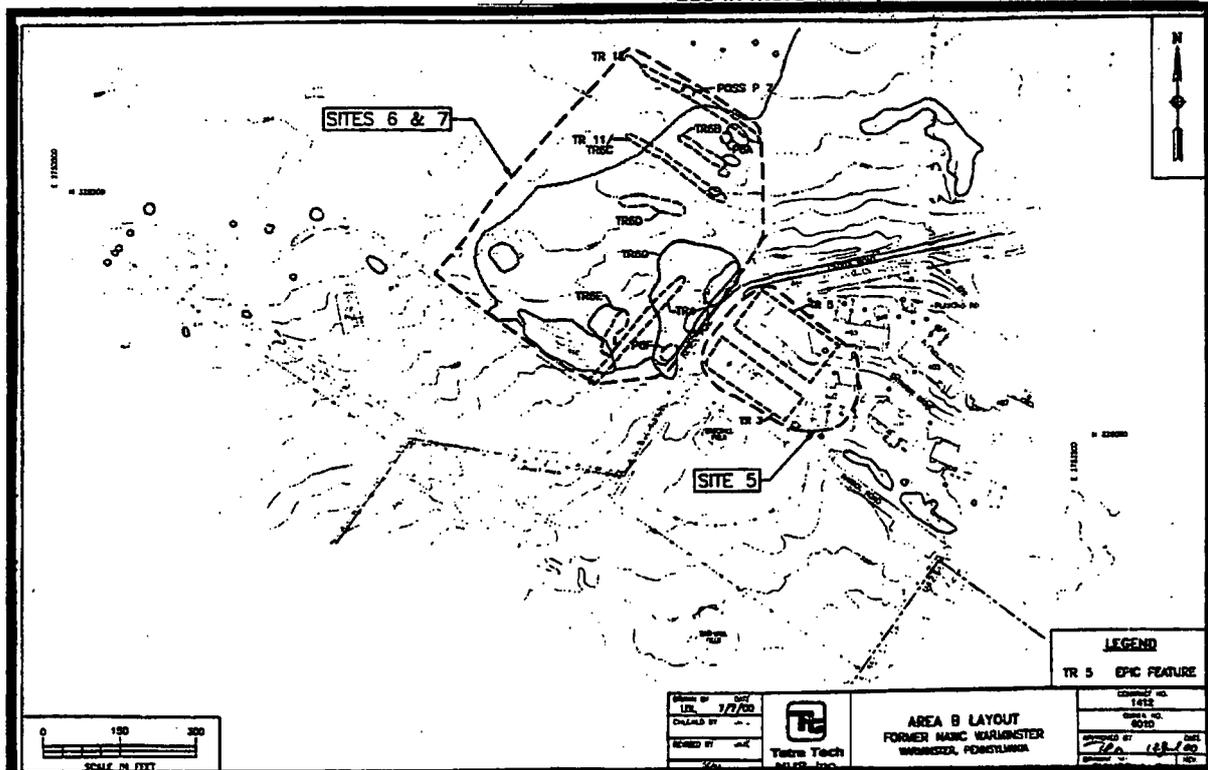


Figure 3. Location Map for Site 5

- The only organics detected in more than one soil/waste sample above the referenced SSLs were Aroclor-1254, a polychlorinated biphenyl (PCB), and benzo(a)pyrene.
- Numerous sediment screening criteria protective of aquatic life were exceeded in sediment potentially impacted by Area B.

SUMMARY OF SITE RISKS

As part of the RI, the Navy conducted a risk assessment to estimate the potential risks to human health and the environment posed by Site 5 soils and Area B surface water and sediment.

To assess the human health risks, hypothetical exposure scenarios under residential use were calculated. Potential human health risks are categorized as **carcinogenic or noncarcinogenic**. A hypothetical carcinogenic risk increase from exposure should not exceed a risk range from 1×10^{-6} (an increase of one case of cancer for one million people exposed) to 1×10^{-4} (one additional case per 10,000 people exposed). Noncarcinogenic risks are estimated utilizing Hazard Indices (HI), where an HI exceeding one is considered an unacceptable health risk.

The area of Site 5 is expected to continue to be used for residential purposes. Risks posed to human health by surface and subsurface soils at Site 5 were evaluated assuming residential as well as potential industrial use. The highest carcinogenic risk estimated by the risk assessment identified a risk of 1.2×10^{-5} for a lifetime resident exposed to subsurface soils. This carcinogenic risk is well within the acceptable risk range. Therefore, carcinogenic risks associated with both surface and subsurface soils are acceptable. The highest non-carcinogenic risk was estimated for a resident child exposed to subsurface soil. In this case, an HI of 1.3 for iron was calculated where the target organs were the liver and pancreas. However, iron is an essential nutrient, there is uncertainty regarding available toxicity criteria for iron and the estimated HI in this case only marginally above the acceptable level. Under these circumstances, iron in Site 5 soils is not considered to present an unacceptable non-carcinogenic risk. In no other case was an HI

for a target organ estimated at greater than one. Therefore, the non-carcinogenic risks posed by Site 5 soils are acceptable. The risk assessment also found that adverse health effects to children were not expected from lead in Site 5 soils.

An evaluation of potential risks posed to children by surface water and sediment impacted by Area B also found that carcinogenic and non-carcinogenic risks were well within the acceptable range.

An evaluation was also performed to determine if groundwater quality is threatened by Site 5 soils. As part of the RI, contaminant concentrations in Site 5 soils were compared to soil screening levels protective of groundwater quality. Only thallium, silver and methylene chloride exceeded these criteria. However, these substances have not been detected in Area B groundwater at levels of concern. As a result, Site 5 soils do not present a threat to groundwater quality.

As part of the RI, a screening ecological risk assessment was performed to identify whether surface water and sediment downstream of Area B presented a potential for adverse impact to the environment. Risks presented to aquatic receptors by surface water and to aquatic and semi-aquatic receptors for sediment were evaluated. Surface water downstream of Area B was estimated to present a very low potential risk. Sediment downstream was estimated to present a low to moderate potential risk to both aquatic and semi-aquatic receptors.

SUMMARY OF THE PROPOSED REMEDY

Based on the risk assessment, Site 5 soils and surface water do not present an unacceptable risk to human health or the environment. The risk assessment has concluded that Area B sediment presents a low to moderate risk to the environment. Previous and ongoing response actions in Area B are expected to mitigate any further impacts on the sediment and no response action appears necessary to directly address the sediment. The Navy, with support of the EPA, proposes that no action is necessary to address Site 5 soils and that additional stream monitoring should be performed to confirm that

any impacts on sediment by Area B have been mitigated by previous and ongoing response actions.

THE COMMUNITY ROLE IN THE SELECTION PROCESS

The Navy solicits written comments from the community on the proposed remedy for OU-10 identified in this Proposed Plan. The Navy has set a public comment period from August 7, 2000 through September 5, 2000 to encourage public participation in the remedy selection process for OU-10.

A public meeting has been scheduled for Wednesday evening, August 16th, at 7:00 p.m. in the Caretaker Site Office trailer conference room, located on the west side of Jacksonville Road, adjacent to the treatment plant. Comments from the public meeting and proposed plan 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.

To obtain further information, contact Mr. Lonnie Monaco, BRAC Environmental Coordinator, at 610-595-0567 x164, or send written comments to:

Mr. Lonnie Monaco
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113-2090

Please note that all comments must be Submitted and postmarked on or before September 5, 2000.

GLOSSARY

Administrative Record – Section 113K of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) requires the establishment of an administrative record which forms the basis for the selection of a response action. The administrative record should include the final documents which are a part of the Department of the Navy's (DON's) decision making process.

Carcinogenic – Cancer producing.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – A federal law passed in 1980 and modified by the Superfund Amendments and Reauthorization Act (SARA) of 1986. The Acts created a special tax that goes into a Trust Fund, commonly known as Superfund, to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under this program, EPA either can pay for a clean up when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work; or can take legal action to force the parties responsible for site contamination to clean up the sit or pay back the federal government for the cost of the cleanup.

National Priorities List (NPL) – EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action, under Superfund. A site must be on NPL to receive money from the Trust Fund for remedial action. The list is based primarily on the score a site receives from the Hazard Ranking System. EPA is required to update the NPL at least once a year.

Remedial Investigation (RI) – An in-depth study designed to gather the data necessary to determine the nature and extent of contamination at a Superfund site; establish criteria for cleaning up the site; identify preliminary alternatives for remedial actions; support the technical and cost analyses of the alternativ s. The remedial investigation is usually done with the feasibility study. Together they are usually referred to as the RI / FS.

Volatile Organic Compound (VOC) – Any organic compound which participates in atmospheric photochemical reactions except for those designated by the EPA Administrator as having negligible photochemical reactivity.

MAILING LIST

If you did not receive this Proposed Plan in the mail and wish to be placed on the mailing list for future information pertaining to this site, please fill out, detach, and mail this form to

Mr. Lonnie J. Monaco
BRAC Environmental Coordinator
Northern Division – Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113-2090

Name _____ Affiliation _____
Address _____ Phone () _____

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