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PROPOSED PLAN FOR REMEDIAL ACTION SITE 7 OPERABLE UNIT 3 (OU3) NAS CECIL
FIELD FL
10/1/1997
NAS CECIL FIELD

Proposed Plan for Remedial Action Naval Air Station Cecil Field Site 7, Operable Unit 3, Former Firefighting Training Area

Jacksonville, Florida

October 1997

Contents

1.0 Introduction	1
2.0 Site Background	3
3.0 Remedial Alternatives	6
4.0 Alternatives Evaluation	9
5.0 Preferred Alternative	15
6.0 Upcoming Site-Related Community Participation Activities	15
7.0 Glossary	18

Terms that appear in *italics* within the text are defined in the glossary.

1.0 INTRODUCTION

The purpose of this *Proposed Plan* is to facilitate public participation in the selection of the remedial technology that will be used to clean up contamination at Site 7 (Operable Unit [OU] 3), the Former Firefighting Training Area, at Naval Air Station (NAS) Cecil Field (Figure 1).

In order to assist the public in understanding and evaluating the *remedial alternatives* being considered, the following information is presented in this document:

- background information on Site 7 developed through records review and field investigation;
- cleanup methods, or remedial alternatives, developed during the feasibility study (FS);
- the preferred alternative and the rationale for recommending it; and
- the schedule of events for public participation.

The cleanup alternatives discussed in this plan were developed for groundwater and soil at Site 7 and were prepared by the Navy (the lead agency for site activities), the *U.S. Environmental Protection Agency* (USEPA), and the *Florida Department of Environmental Protection* (FDEP), in consultation with the NAS Cecil Field *Restoration Advisory*

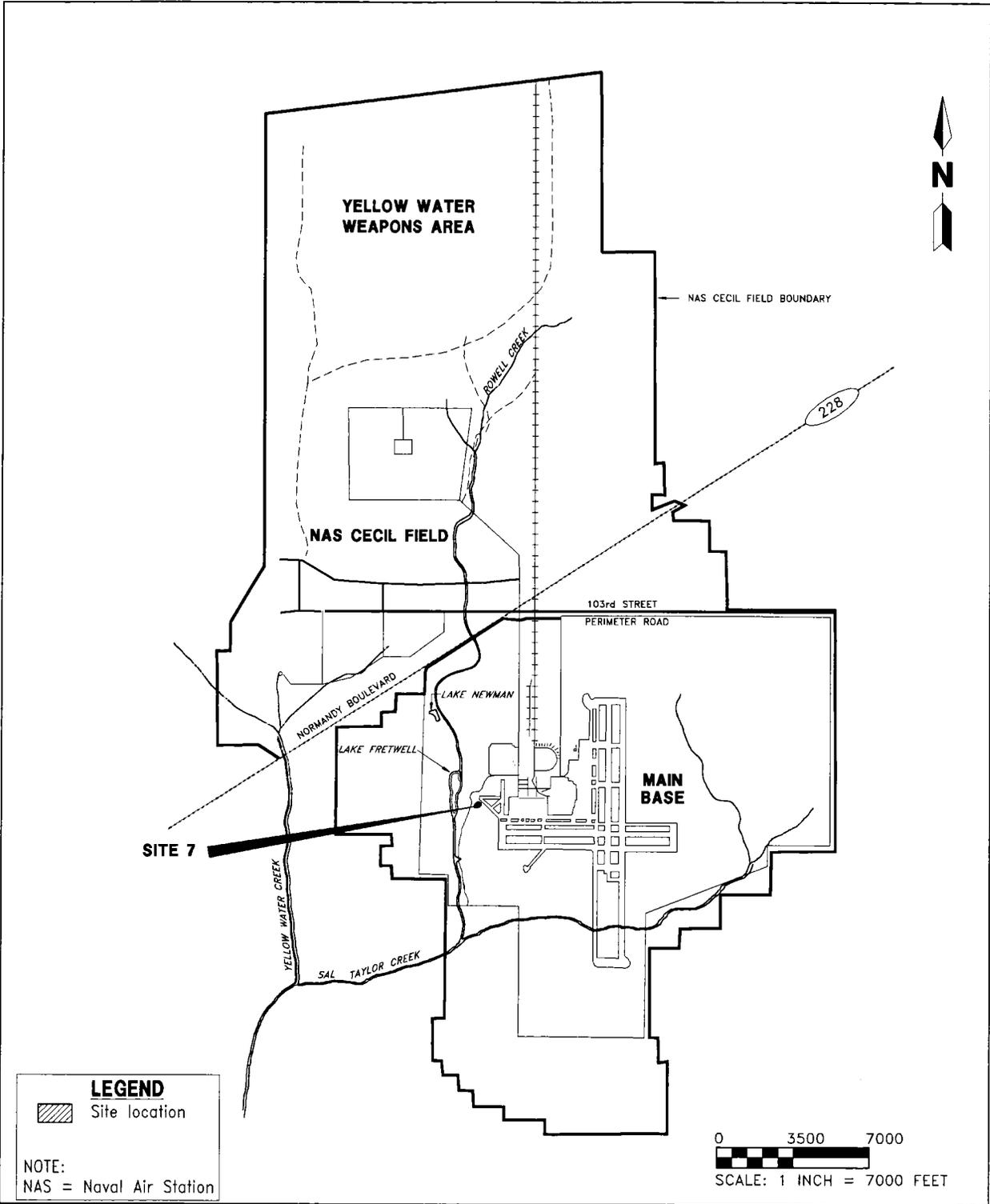
Board (RAB). The Navy, USEPA, and FDEP will select a remedy for Site 7 after receiving, reviewing, and considering comments from the public.

Public Participation

This Proposed Plan is intended to meet the public participation requirements of the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), section 117(a). CERCLA requires that the Navy, as the lead agency, publish a document that describes all of the remedial alternatives being considered for a site and identify the *preferred alternative*.

Public input is a key element in the decision-making process of selecting a remedy for the site. Community members are encouraged to submit comments on this proposed plan during a public comment period from October 28 to November 28, 1997. Comments were also requested by Public Notice to the October 21, 1997, RAB meeting to discuss the draft Proposed Plan. If requested, a public meeting will also be held.

People are encouraged to submit comments or voice any concerns they have regarding this Proposed Plan. In a *Responsiveness Summary*, which will be included in the *Record of Decision* (ROD) for Site 7, the Navy will summarize and respond to the questions and comments received.



**FIGURE 1
LOCATION MAP**



**PROPOSED PLAN
SITE 7, OPERABLE UNIT 3**

**NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

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All available documents pertaining to Site 7 will become part of the public record and will be placed in the *Information Repository* located at the Charles D. Webb Wesconnett Public Library. The library address and telephone number are presented in Section 6.0 of this Proposed Plan.

2.0 SITE BACKGROUND.

Site 7, Former Firefighting Training Area, situated near the northwest end of the old 310 flightline, is located approximately 800 feet east of Lake Fretwell (Figure 2) and 1,200 feet northwest of the east and west flightline. The areas immediately surrounding the old flightline are open fields.

Site 7 consisted of a training area on the old asphalt flightline and an unlined pit northeast of and adjacent to the old flightline. From the 1950s to 1965 training activities were conducted on the old flightline. From approximately 1965 until training ceased in 1975, training activities were also conducted in the unlined pit. Training activities included placing aircraft frames on the old flightline and in the pit and dousing the frames with flammable waste liquids. The aircraft frames were ignited, and firefighting personnel practiced fire containment and extinguishing techniques on the burning frames. Flammable liquids used in the training activities included waste paints and paint thinners, spent chlorinated and nonchlorinated solvents, and petroleum, oil, and lubricant wastes. Extinguishing materials consisted of water and nontoxic proteinaceous materials such as fish, feather, horn, or hoof meal. Extinguishing materials and unburned wastes were left on the site, where they evaporated, infiltrated through the cracks in the asphalt and into the soil, or migrated from the site via surface runoff.

Currently, Site 7 is used as an ordnance storage and general storage area. Storage structures are located at the end of the old flightline. Explosive ordnance is stored in Building 865, and unarmed ordnance is stored in portable storage units. Building 865 was erected sometime after firefighting training ceased in 1975 and before 1980, as evidenced by aerial photographs. Based on the NAS Cecil Field Reuse Plan, the future use of the land at both sites has been designated as industrial (aviation-related).

Summary of Previous Investigations

Investigations at Site 7 began in 1985. The findings of previous investigations are summarized below in chronological order.

Initial Assessment Study (IAS). The IAS was conducted in 1985 by Envirodyne Engineers to identify waste sites at NAS Cecil Field warranting further investigation. The study included a review of historical data, as well as site visits and personnel interviews. No sampling activities were conducted. Eighteen sites, including Site 7, were identified by the IAS as requiring further study.

Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI). The RFI was conducted in 1988 by Harding Lawson Associates to assess the 18 sites identified in the IAS. Three groundwater and two surface soil samples were collected during the RFI at Site 7. Groundwater analytical results indicated the presence of chromium, lead, and benzene at concentrations above Federal and State maximum contaminant levels (MCLs). Surface soil analytical results indicated the presence of methylene chloride, cadmium, and lead at concentrations above detection limits. No surface water or sediment samples were collected at this site.

Remedial Investigation (RI). RI activities were conducted by ABB Environmental Services (ABB-ES) during the fall of 1994, the spring of 1995, and the summer of 1997 to characterize the nature and extent of contamination at Site 7. Environmental samples for laboratory analysis were collected from surface soil, subsurface soil, and groundwater. Analytical results indicate the presence of volatile and semivolatile organic compounds, as well as inorganics, in surface soil, subsurface soil, and groundwater.

Polynuclear aromatic hydrocarbons (PAHs), total recoverable petroleum hydrocarbons (TRPH), and inorganics were found in Site 7 surface soil. These chemicals were detected in the vicinity of the firefighting training areas, grassy areas adjacent to the flightline, and at the end of the old flightline, an area that could receive surface runoff from the training areas.

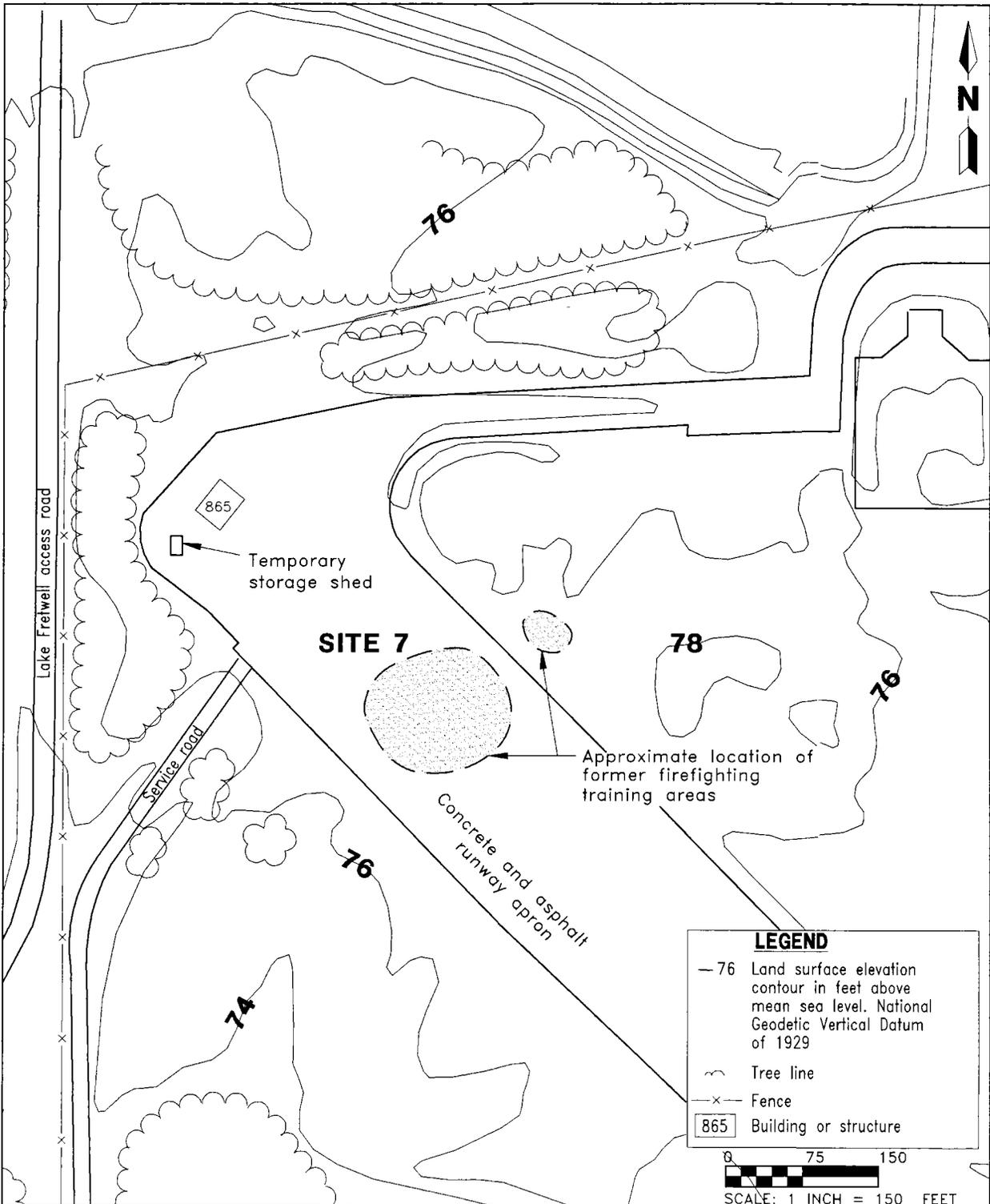


FIGURE 2
SITE 7, GENERAL FEATURES



PROPOSED PLAN
SITE 7, OPERABLE UNIT 3

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

The chemicals detected in subsurface soil consists of TRPH, which was detected in the vicinity of the training areas. Groundwater contamination consists of petroleum-related compounds, which were detected in the vicinity of the training areas, and inorganics, which were detected over much of the site.

Baseline Risk Assessment (BRA). The BRA is an evaluation of whether or not existing or future exposure to contamination at the site could pose a risk to human health or the environment. For the BRA, the risks presented by the site are estimated with the assumption that no action would be taken to address contamination. This evaluation then serves as a baseline for assessing whether or not cleanup of the site is necessary. The first step in completing the BRA is to identify chemicals of potential concern, which are those chemicals present at the site above background conditions and USEPA risk-screening levels and could potentially pose a risk to human health or the environment. Different chemicals are identified as chemicals of potential concern for humans and ecological receptors.

The second step in completing the BRA is to conduct the exposure assessment. In this step, all the ways by which humans and ecological receptors can come into contact with soil, groundwater, surface water, and sediment are considered:

- For humans, under current conditions, the populations that may be exposed to media at Site 7 include adult and adolescent trespassers, adult site maintenance workers, and adult excavation workers. These populations may be exposed to contaminants through direct contact or inhalation.
- For humans, under future conditions, the hypothetical populations that may be exposed include adult and child resident, adult and adolescent trespasser, adult occupational worker, adult site maintenance worker, and adult excavation worker. These populations may be exposed to contaminants through ingestion, direct contact, or inhalation.
- For ecological receptors, the populations that may be exposed to surface soil include terrestrial animals.

The third step in completing the BRA is to complete the toxicity assessment. At this step in the process,

the possible harmful effects of exposure to each chemical of potential concern are evaluated. Generally, contaminants are separated into two groups: carcinogens (contaminants that cause cancer), and noncarcinogens (contaminants that cause adverse effects other than cancer).

The last step in completing the BRA is to conduct the risk characterization. In this step, the results of the exposure and toxicity assessments are combined to estimate the overall risk from exposure to site contamination.

Potential ecological and human health risks were identified for chemicals detected in surface soil and groundwater at Site 7. Most of the ecological risk was derived from a single concentration of lead detected in surface soil. Supporting data indicate this single concentration is an anomalous measurement. Risk to wildlife, such as small mammals, is low without the anomalous lead measurement, and terrestrial plants and invertebrates are not impacted by Site 7 contaminants.

Human health risks were estimated for chemicals in Site 7 surface soil and groundwater. Seven PAHs and arsenic in Site 7 surface soil account for the excess lifetime cancer risk due to exposure to surface soil contaminants by a trespasser (4×10^{-6}), possible future occupational worker (7×10^{-6}), and aggregate resident (adult and child) (6×10^{-5}). These risks are within the USEPA acceptable risk range of 1 in 1,000,000 (1×10^{-6}) to 1 in 10,000 (1×10^{-4}), but greater than the FDEP threshold of 1×10^{-6} . Concentrations of the PAH benzo(a)pyrene contribute to most of the risk. The noncancer risk to a child resident has a hazard index (HI) of 2; the HI threshold value for both USEPA and FDEP is 1. Antimony, arsenic, and TRPH are major contributors to the HI value.

If the surficial aquifer groundwater were used as a potable water supply, ingestion of that groundwater would pose a noncancer HI of 2 for a child. Major contributors to the HI value are iron, antimony, aluminum, and a single detection of benzene. Analytical results indicate that benzene, at a concentration of 13 micrograms per liter ($\mu\text{g}/\ell$), exceeds the State primary drinking water standard of $1 \mu\text{g}/\ell$. Iron and aluminum concentrations exceed their State secondary drinking water standards of $300 \mu\text{g}/\ell$ and $200 \mu\text{g}/\ell$, respectively, in several groundwater samples.

Summary of Site 7 Baseline Risk Assessment

Media	Human Health Risk	Ecological Risk
Surface Soil	Yes	none
Subsurface Soil	None	not applicable
Groundwater	Yes	not applicable

Remedial Action Objectives (RAOs)

Based on site conditions, estimated risks, applicable or relevant and appropriate requirements (ARARs), and State criteria, and as a result of discussions with the NAS Cecil Field Base Realignment and Closure (Act) (BRAC) cleanup team (BCT) (which consists of representatives from the Navy, USEPA, and FDEP), the following RAOs were established for Site 7:

- Prevent exposure to contaminants that pose an unacceptable human health risk and are present at concentrations exceeding the Florida soil cleanup goal (FSCG) for industrial sites.
- Prevent exposure to groundwater that contains benzene at concentrations greater than the Florida groundwater cleanup goal.

In order to meet these objectives, two alternatives for soil and two alternatives for groundwater were evaluated for managing the migration of contaminants. A description of the alternatives is presented in Section 3.0. An alternatives evaluation summary is presented in Section 4.0, and the preferred alternative is presented in Section 5.0.

3.0 REMEDIAL ALTERNATIVES

Each of the alternatives for addressing soil and groundwater contamination is discussed below. A description of each alternative is provided along with important factors to consider when evaluating each alternative.

SOIL

Alternative 7SS1, No Action. A No Action alternative is required by law. "No Action" means leaving the site the way it is today. The No Action alternative provides a baseline against which other

alternatives can be compared. This alternative does not involve remedial actions to treat contaminated soil.

Alternative 7SS2, Soil Excavation and Disposal.

Under this alternative, soil in the vicinity of the surface soil locations with concentrations of PAHs or TRPH exceeding the risk management criteria based on an industrial land-use scenario would be excavated to a depth of approximately 1 foot below grade (Figure 3). Excavated soil would be transported to an appropriate off-site land disposal facility. Figure 4 presents alternative 7SS2.

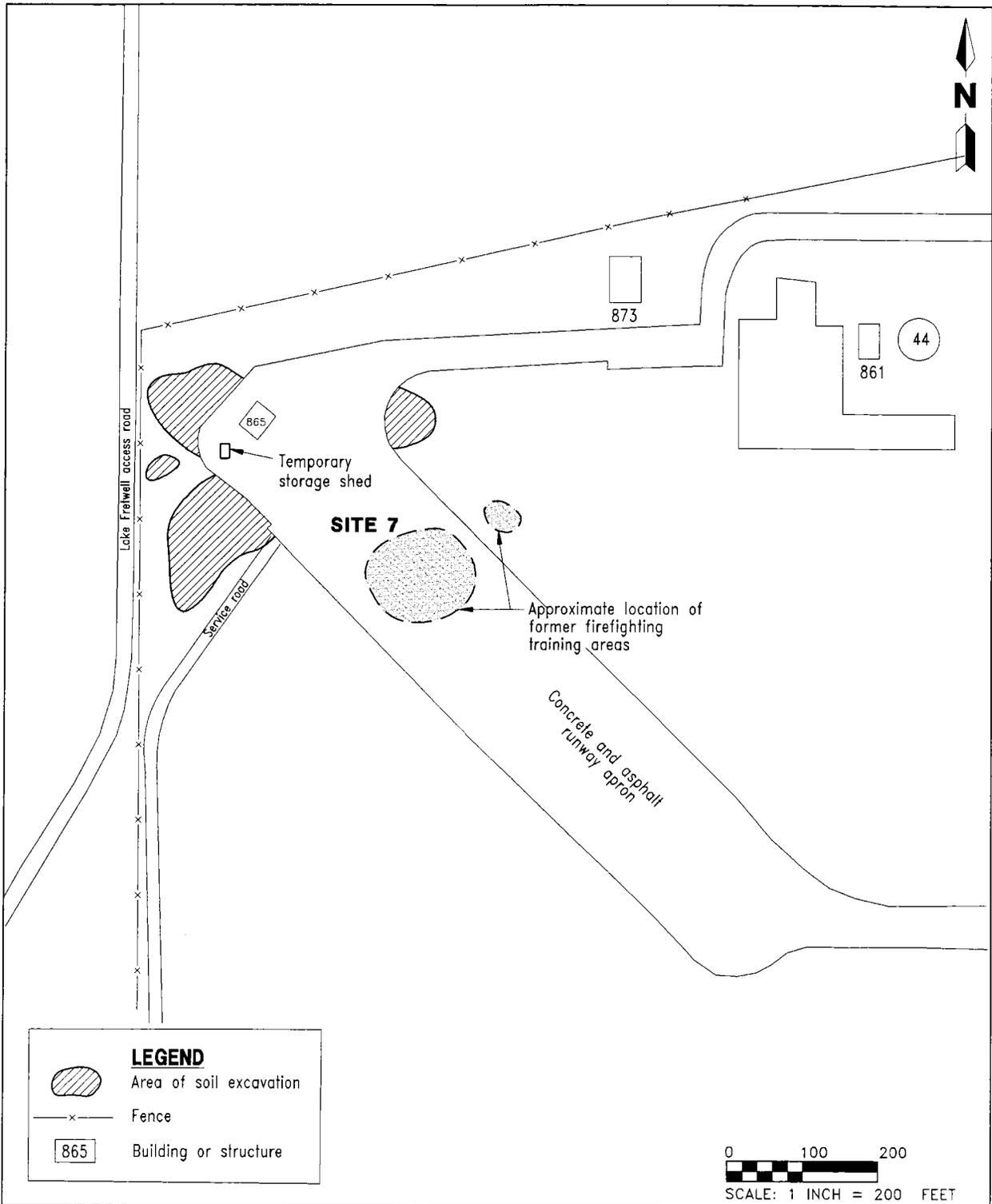
Excavated soil (approximately 790 cubic yards [yd³]) would be containerized for waste characterization and disposal. Depending on the results of the waste characterization, excavated surface soil may be eligible for disposal in an RCRA Subtitle D (solid waste) landfill. If the soil is not eligible for disposal in an RCRA Subtitle D (solid waste) facility, then it would be transported to an RCRA Subtitle C (hazardous waste) land disposal facility. Documents, such as waste profile sheets and waste manifests, will be prepared in accordance with ARARs, as necessary.

Once contaminated soil has been removed, the excavation area would be backfilled using certified clean topsoil. Once the areas have been backfilled, seed and fertilizer would be added to promote vegetative growth. Hay would be used to protect the seed and fertilizer during initial development.

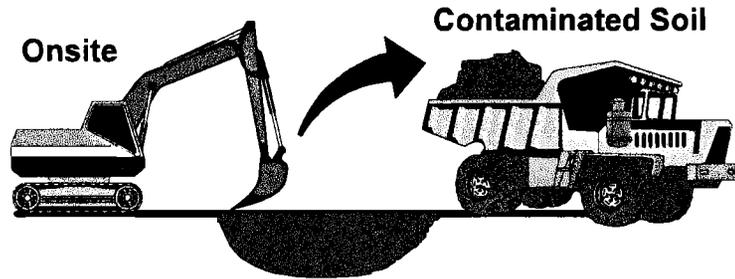
GROUNDWATER

Alternative 7GW1, No Action. No action means leaving the site the way it is today. Groundwater use restrictions would be imposed by deed restrictions or land-use plans and property deeds and annual reminders to owners of property affected by contaminated groundwater. A formal request would be made to agencies administering the well installation permit program in Duval County to not issue permits for installation of drinking water wells that would pump water from the shallow aquifer. The No Action alternative provides a baseline against which other alternatives can be compared. This alternative does not involve remedial actions to treat contaminated groundwater.

Alternative 7GW2, Annual Monitoring. Under this alternative, groundwater at monitoring well



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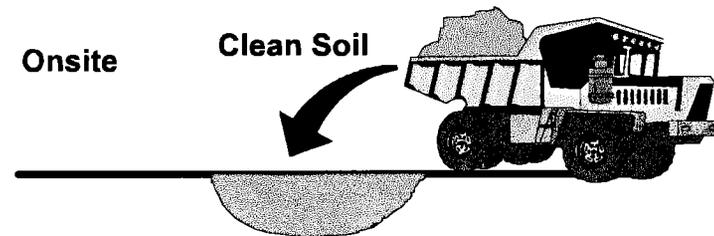


Alternative 7SS-2: Excavation and Off-Site Disposal

- Removes contaminated soil from the site
- Removed soil appropriately disposed of off site
- Excavated area filled with clean soil
- Site restored with seeding and natural cover

Factors To Consider

- Cost expected to vary from \$99,100 to \$609,000, depending on volume of excavated soil and type of disposal



**FIGURE 4
EXCAVATION AND OFF-SITE DISPOSAL**



**PROPOSED PLAN
SITE 7, OPERABLE UNIT 3**

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CF7MW8S, with a benzene concentration exceeding the State groundwater cleanup level, will be monitored for benzene annually for a period of 30 years. Because groundwater flows in a downward and northwestern direction, monitoring wells CF7MW9I, CF7MW12S, and CF7MW14I will also be monitored for benzene annually for a period of 30 years. Well CF7MW9I is adjacent to and screened below CF7MW8S, and wells CF7MW12S and CF7MW14I are downgradient of CF7MW8S (Figure 5). Any migration of benzene should be detected by monitoring groundwater from these wells. Figure 6 presents alternative 7GW2.

Every monitoring well at Site 7 had a concentration of aluminum, iron, and/or manganese exceeding State secondary drinking water standards, standards which address the appearance, odor, and taste of drinking water. Until such time that water from the surficial aquifer, in which monitoring wells are placed, is actually used as a drinking water source, it is recommended that Site 7 groundwater not be monitored for these parameters.

Analytical results from the annual monitoring program will be evaluated to determine if the monitoring program should be continued further or if benzene concentrations have reached concentrations below the cleanup levels through natural attenuation.

4.0 ALTERNATIVES EVALUATION

The *National Oil and Hazardous Substances Contingency Plan* outlines the approach for performing the *comparative analysis* of alternatives. The two alternatives are compared to nine criteria. The first seven criteria are technical criteria based on environmental protection, cost, and engineering feasibility. Table 1 presents an explanation of all nine criteria.

The nine criteria may be separated into three groups: threshold criteria, primary balancing criteria, and modifying criteria. The preferred alternative must satisfy the threshold criteria. Primary balancing criteria weigh the major tradeoffs among alternatives. Modifying criteria will be considered after review of public comments received on the Proposed Plan. The comparative analysis of the five alternatives is provided in the following paragraphs.

SOIL

Overall Protection of Human Health and the Environment. According to the RI, human health risks for exposure to Site 7 surface soil were within the USEPA acceptable risk range, but were greater than 1×10^{-6} , the State human health risk threshold. Alternative 7SS1 provides no action or treatment and, therefore, would not reduce human health risk. Alternative 7SS2 would eliminate human receptor exposure to chemicals of concern in Site 7 surface soil because the surface soil would be excavated and disposed of off the site. Furthermore, the excavation would be backfilled using clean topsoil. As a result, risks posed to human receptors by potential exposure to surface soil would be eliminated.

The slight risk estimated for ecological receptors and the environment would be eliminated by alternative 7SS2 based on excavation and off-site disposal of the surface soil. Site restoration activities, such as seeding and fertilizing, would promote vegetative growth and maintain current environmental conditions.

Compliance with ARARs. Alternative 7SS1 would not provide near-term compliance and may not be expected to achieve chemical-specific ARARs over time. Alternative 7SS2 would comply with both chemical-specific and action-specific ARARs, as waste characterization of the surface soil and decontamination would be performed prior to off-site disposal. The analytical results of the waste characterization for excavated soil will determine which ARARs apply (i.e., whether or not hazardous waste regulations would apply) and the types of off-site facilities that can accept the waste.

Long-Term Effectiveness and Permanence. Alternative 7SS1 could possibly provide long-term effectiveness and permanence through decay of the contaminants of concern. Alternative 7SS1 does not provide monitoring; therefore, effectiveness and permanence cannot be evaluated. Under alternative 7SS2, surface soil would be removed and transported off the site to an appropriately permitted landfill for long-term containment and monitoring. In this manner, alternative 7SS2 is effective in preventing further exposure of humans to contaminants currently in surface soil at Site 7.

Figure 5 - Site 7, Confirmatory Groundwater Sample Locations

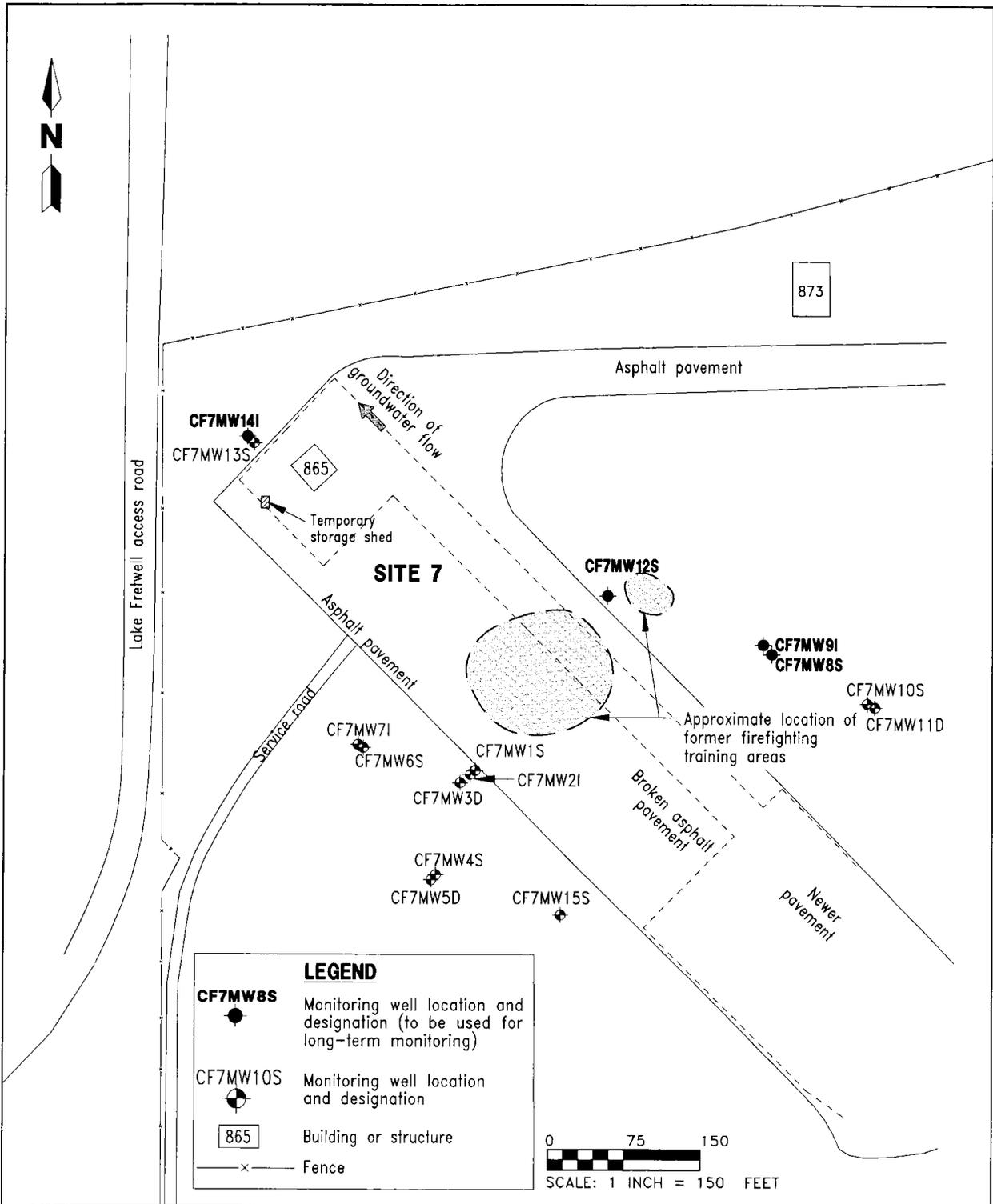


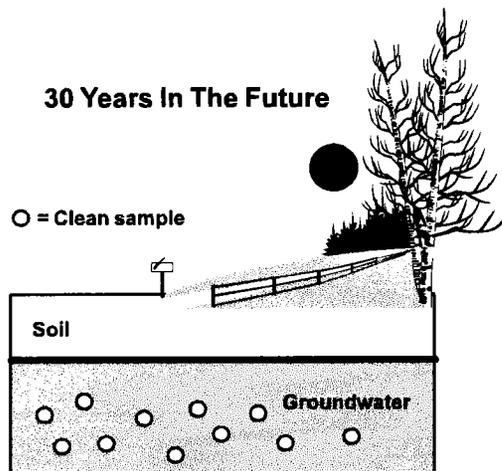
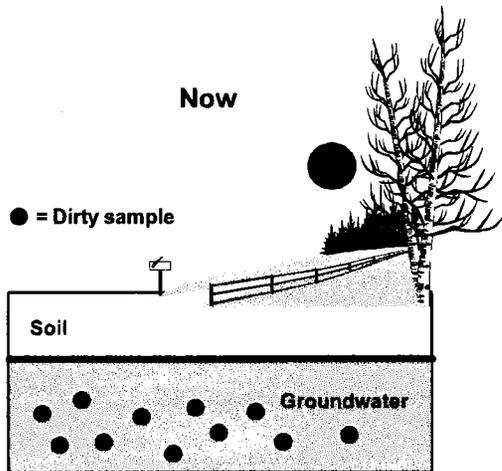
FIGURE 5
SITE 7, CONFIRMATORY GROUNDWATER
SAMPLE LOCATIONS



PROPOSED PLAN
SITE 7, OPERABLE UNIT 3

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Alternative 7GW-2: Annual Monitoring

- Leaves contamination in groundwater, relies on natural contamination breakdown and dispersion processes
- Includes groundwater-use restrictions and/or other institutional controls
- Includes monitoring program
- Site conditions reviewed once per year

Factors To Consider

- Cost would be \$137,000 over an estimated 30 years
- Federal and State chemical concentrations limits currently exceeded in groundwater expected to be met within the 30-year period
- Preventing groundwater use would protect human health
- Requires enforcement and maintenance of institutional controls



**FIGURE 6
ALTERNATIVE 7GW-2: ANNUAL MONITORING**



**PROPOSED PLAN
SITE 7, OPERABLE UNIT 3**

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Table 1
Explanation of Evaluation Criteria

Criteria	Description
Threshold	<p>Overall Protection of Human Health and the Environment. This criterion evaluates the degree to which each alternative eliminates, reduces, or controls threats to human health and the environment through treatment, engineering methods, or institutional controls (e.g., access restrictions).</p> <p>Compliance with State and Federal Regulations. The alternatives are evaluated for compliance with environmental protection regulations determined to be applicable or relevant and appropriate to the site conditions.</p>
Primary Balancing	<p>Long-Term Effectiveness. The alternatives are evaluated based on their ability to maintain reliable protection of human health and the environment after implementation.</p> <p>Reduction of Contaminant Toxicity, Mobility, and Volume. Each alternative is evaluated based on how it reduces the harmful nature of the contaminants, their ability to move through the environment, and the amount of contamination.</p> <p>Short-Term Effectiveness. The risks that implementation of a particular remedy may pose to workers and nearby residents (e.g., whether or not contaminated dust will be produced during excavation), as well as the reduction in risks that results by controlling the contaminants, are assessed. The length of time needed to implement each alternative is also considered.</p> <p>Implementability. Both the technical feasibility and administrative ease (e.g., the amount of coordination with other government agencies needed) of a remedy, including availability of necessary goods and services, are assessed.</p> <p>Cost. The benefits of implementing a particular alternative are weighed against the cost of implementation.</p>
Modifying	<p>U.S. Environmental Protection Agency (USEPA) and Florida Department of Environmental Protection (FDEP) Acceptance. The final Feasibility Study and the Proposed Plan, which are placed in the Information Repository, represent a consensus by the Navy, USEPA, and FDEP.</p> <p>Community Acceptance. The Navy assesses community acceptance of the preferred alternative by giving the public an opportunity to comment on the remedy selection process and the preferred alternative and then responds to those comments.</p>

Reduction of Toxicity, Mobility, and Volume through Treatment. Alternative 7SS1 could possibly provide reductions in toxicity, mobility, and volume through decay of the contaminants of concern over time. Alternative 7SS1 does not provide a monitoring over time or evaluate the effectiveness of natural decay. With alternative 7SS2, the toxicity, mobility, and volume of waste would be reduced *onsite* for Site 7 surface soil because the waste would be transported and disposed of off the site.

Depending on the waste characterization results, off-site treatment may be required prior to land disposal in accordance with RCRA land disposal restrictions. However, based on sampling data from the RI (ABB-ES, 1997), off-site treatment of the removed soil prior to disposal does not appear likely. Furthermore, the chemical of concern at Site 7, benzo(a)pyrene, is not land-ban restricted, and, therefore, is not subject to applicable treatment standards prior to land disposal.

If treatment is required, the toxicity, mobility, and volume would be reduced. If no treatment is required, the soil would be disposed of in an RCRA Subtitle D (solid waste) facility, and the toxicity or volume of the waste would not be reduced.

Short-Term Effectiveness. Alternative 7SS1 would provide no short-term effectiveness. Through implementation, alternative 7SS2 would provide an immediate reduction in risk to human health. During excavation and soil handling activities, site workers would wear personal protection equipment to address potential exposure to site-related contaminants. Because Site 7 is in a primarily industrial area, activities proposed under this alternative would not affect the surrounding community.

Implementability. Alternative 7SS1 is easy to implement in that no action is required. Alternative 7SS2 is relatively easy to implement. This alternative involves mobilizing a backhoe and transport equipment to Site 7 to remove soil.

Furthermore, disposal of soil is easy to implement. Several solid waste landfills that accept nonhazardous soil exist in the Jacksonville area. In addition, FDEP has an approved list of thermal treatment facilities, if off-site treatment is required. Finally,

hazardous waste treatment, storage and disposal facilities exist in Alabama, if the soil is determined hazardous by waste characterization.

The implementation of this alternative may impact NAS Cecil Field activities planned, if any, at the firefighting training area. During implementation for this alternative, activities planned near the focus area would need to be restricted.

Cost. There is no cost associated with alternative 7SS1. The estimated present worth cost of alternative 7SS2 is \$99,100 to \$609,900 for an industrial-use scenario. A range of total costs is given based on disposal of soil and decontamination fluid as solid waste (RCRA Subtitle D) or hazardous waste (RCRA Subtitle C).

State Acceptance. Based on discussions among the Navy, FDEP, and USEPA, alternative 7SS2 is considered a viable solution. As a result, excavation and off-site disposal of the surface soil from areas of concern at Site 7 is acceptable to the State.

Community Acceptance. Community acceptance of the preferred alternative (Section 5.0) will be evaluated after the public comment period ends. Public comments will be addressed in the Responsiveness Summary prepared in conjunction with the ROD for Site 7.

A comparative analysis of the two alternatives is presented in Table 2.

GROUNDWATER

Overall Protection of Human Health and the Environment. There is no ecological risk posed by Site 7 groundwater. Currently, Site 7 groundwater from the surficial aquifer is not used as either a potable or nonpotable water source. It is unlikely that surficial aquifer groundwater will be used for potable water should Site 7 remain an industrial site. Groundwater use restrictions, however, will be put into place until such time as groundwater quality is deemed potable.

Human health risks for potential exposure to Site 7 groundwater as a potable water source are greater than the USEPA and FDEP HI threshold value of 1. Human health risk is posed by the presence of benzene at one location at Site 7. Alternative

Table 2
Comparative Analyses of Remedial Alternatives for Site 7

Alternative	Threshold Criteria		Primary Balancing Criteria				
	Overall Protection to Human Health and Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction in Toxicity, Mobility, and Volume of Contaminants	Short-Term Effectiveness	Implementability	Cost
Soil, 7SS1, Surface Soils-No Action	Protects by means of property deed restrictions.	Does not comply with the chemical-specific ARARs.	Not effective over the long term.	Natural transformation processes (physical, chemical, and biological) are anticipated to reduce the toxicity, mobility, and volume of contaminants.	Contaminated soil is left on site. Not effective over the short term.	Does not require any resources to implement "no action."	\$0
Soil, 7SS2, Surface Soils-Excavation and Off-site Disposal	Provides overall protection to human health and the environment.	Complies with the ARARs.	Provides long-term effectiveness.	Reduces the toxicity, mobility, and volume of contaminants.	Provides short-term effectiveness.	Excavation and off-site disposal are implementable.	Residential land use, \$530,100 to \$5,422,900. Industrial land use, \$99,100 to \$609,900
Groundwater, 7GW1, Groundwater - No Action	Could protect by means of property deed restrictions.	Does not comply with the chemical-specific ARARs.	May not be effective over the long term.	Natural transformation processes (physical, chemical, and biological) are anticipated to reduce the toxicity, mobility, and volume of contaminants.	Not effective over the short term.	Does not require any resources to implement "no action."	\$0
Groundwater, 7GW2, Groundwater - Annual Monitoring	Does not provide overall protection to human health. Groundwater restrictions will be in place until groundwater is potable.	Could, over time, comply with the chemical-specific ARARs.	May not be effective over the long term.	Limited purging during sampling episodes is anticipated to reduce toxicity, mobility, and volume of benzene.	Effective only through property deed restrictions.	Is readily implementable.	\$137,000

Note: ARAR = applicable or relevant and appropriate requirement.

7GW1 would provide no protection of human health. Alternative 7GW2 would eliminate human receptor exposure to benzene by restricting groundwater use as a potable water source.

Compliance with ARARs. In the short term, neither alternative would comply with ARARs. Through monitoring, alternative 7GW2 would likely indicate when chemical-specific ARARs have been met.

Long-Term Effectiveness and Permanence. Both alternatives may provide long-term effectiveness and permanence through degradation of benzene. Alternative 7GW1 would not monitor Site 7 groundwater, and site conditions could not be evaluated. Alternative 7GW2 will monitor the concentration and possible migration of benzene in groundwater, thus providing a mechanism for site evaluation.

Reduction of Toxicity, Mobility, and Volume through Treatment. Alternative 7GW1 may not be effective in reducing the toxicity, mobility, and volume of benzene. Alternative 7GW2 will reduce toxicity, mobility, and volume to some degree due to purging required during groundwater sampling.

Short-Term Effectiveness. There would be no immediate reduction in risk to human health from alternative 7GW1. Alternative 7GW2 would reduce risk to human health through groundwater-use restrictions.

Implementability. Both alternatives can be easily implemented. Alternative 7GW1 requires no action. Alternative 7GW2 requires that groundwater samples will be collected annually. This alternative is easily implemented as it requires only groundwater sampling equipment, sample containers, waste water disposal, and a minimum number of personnel.

Cost. There is no cost associated with Alternative 7GW1. The estimated cost of Alternative 7GW2 over a 30-year period is \$137,000.

State Acceptance. Based on discussions among the Navy, FDEP, and USEPA, alternative 7GW2 is considered a viable option.

Community Acceptance. Community acceptance of the preferred alternative (Section 5.0) will be evaluated after the public comment period ends.

Public comments will be addressed in the Responsiveness Summary prepared in conjunction with the ROD for Site 7.

A comparative analysis of the two remedial alternatives is presented in Table 2.

5.0 PREFERRED ALTERNATIVE

The preferred alternative is a combination of alternatives 7SS2, soil excavation and disposal, and 7GW2, annual monitoring. Alternative 7SS2 is an immediate action that will remove 790 yd³ of soil and meet the nine criteria. Alternative 7SS2, though dependent on disposal classification, is effective in that it requires a small volume to be removed and does not require long-term monitoring or operation and maintenance costs.

Alternative 7GW2 was selected because it will monitor the extent and potential migration of benzene, the only organic contaminant in groundwater that poses a human health risk. Currently, benzene has been detected only at the CF8MW8S well location and at a depth no greater than 15 feet below land surface. Four wells have been selected to monitor benzene in groundwater. These wells are strategically located and screened such that any change of benzene concentrations or migration of benzene will be detected. Because the extent of contamination is restricted, the groundwater is not used as a potable water supply, and monitoring is cost-effective, 7GW2 is a reasonable alternative.

6.0 UPCOMING SITE-RELATED COMMUNITY PARTICIPATION ACTIVITIES

Public Comment Period

The public comment period for the Proposed Plan is the next step in selecting the preferred alternative for Site 7, OU 3. A public comment period will be held from October 28 to November 28, 1997, to accept comments on the Proposed Plan for Site 7, OU 3.

During the public comment period, interested parties may submit written comments to Mr. Charles Underwood, the NAS Cecil Field Public Affairs Officer, NAS Cecil Field, P.O. Box 111, Jacksonville, Florida 32215-0111 or email: pao@cecilfield.com. Based on public comments or new information, the Navy may modify the preferred alternative.

Public Meeting

The public was invited to attend a meeting with the RAB on October 21, 1997, to discuss the Proposed Plan. If requested, a public meeting will be held to discuss recommendations of the Site 7 Proposed Plan. To request a meeting, please contact the NAS Cecil Field Public Affairs Office (see Available Information on page 13 for address and telephone number).

Signing of the ROD

Following evaluation of comments received during the public comment period, the USEPA, FDEP, and the Navy will sign the ROD for Site 7. The ROD will detail the preferred alternative for the site and will include the Navy's responses to comments received during the public comment period. Once the design of the selected alternative is complete, the remedial action will begin.

Ongoing Informational Updates

NAS Cecil Field will keep the local community informed about new developments at Site 7 by preparing fact sheets and distributing them to individuals on the NAS Cecil Field mailing list. If you would like to be added to the mailing list, please contact Mr. Charles Underwood.

Available Information

Copies of the documents prepared by the Navy during the investigation of Site 7, OU 3, including the RI, BRA, and FS, are available for review at the following Information Repository:

Charles D. Webb Wesconnett Branch
Jacksonville Public Library
6887 103rd Street
Jacksonville, FL 32210
(904) 778-7305

For further information on Site 7, OU 3 or any other *Installation Restoration program* activities at NAS Cecil Field, please contact the Public Affairs Officer:

Mr. Charles Underwood, Public Affairs Officer
NAS Cecil Field
P.O. Box 111
Jacksonville, FL 32215-0111
pao@cecilfield.com

7.0 GLOSSARY

Comparative analysis: A method for comparing the remedial alternatives to one another.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): An act of Congress that established Superfund and the laws that must be followed when cleaning up certain hazardous waste sites.

Feasibility Study: A description of the *remedial action objectives* and an engineering analysis of the potential cleanup alternatives for a site that poses risks to public health or the environment.

Florida Department of Environmental Protection (FDEP): The State agency that is involved in identifying and enforcing regulations and concurring with the preferred remedy at a site.

Information Repository: A public file containing the administrative record, site information, documents on site activities, and general information about the site.

Installation Restoration program: A program designed by the Navy for cleaning up contaminated sites at Navy bases.

National Oil and Hazardous Substances Contingency Plan: The Federal regulation (40 Code of Federal Regulations Part 300) that guides the Superfund program. The Navy's *Installation Restoration program* is patterned after the Superfund program.

Onsite: The region within a site's boundaries or within the limits of an area of concern.

Preferred Alternative: The remedial technology selected to address contamination at a remedial investigation site.

Proposed Plan: A document that describes all the alternatives considered for addressing contamination at the site, including a description of the preferred alternative for remedial action at the site.

Record of Decision (ROD): The document, signed by the Navy, FDEP, and USEPA, that records the rationale and ultimate cleanup decision for a given site or operable unit.

Remedial Alternatives: A combination of technical and administrative methods developed and evaluated in the FS that can be used to treat or manage contamination at a site.

Responsiveness Summary: A section within the ROD that presents the Navy's responses to public comments on the Proposed Plan.

Restoration Advisory Board (RAB): An advisory board, composed mainly of concerned citizens and

supported by representatives of the Navy, USEPA, and FDEP, tasked with advising NAS Cecil Field on activities associated with environmental restoration.

U.S. Environmental Protection Agency (USEPA): The Federal agency responsible for identifying and enforcing regulations and concurring with the preferred remedy at a site.