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MINUTES FROM 20 JANUARY 1999 RESTORATION ADVISORY BOARD MEETING NTC
ORLANDO FL
1/20/1999
NAVFAC SOUTHERN

Meeting Summary
Restoration Advisory Board
Naval Training Center (NTC), Orlando
January 20, 1999

A meeting of the NTC, Orlando Restoration Advisory Board (RAB) was held on January 20, 1999 in the City Commission Chambers, Winter Park City Hall. Attached to this meeting summary are:

- Attachment A: Meeting Agenda
- Attachment B: RAB Member Sign-in Sheet
- Attachment C: 1998 RAB Attendance Record
- Attachment D: Base Realignment and Closure (BRAC) Update
(Information Repository copy only)
- Attachment E: Final IRA Fact Sheets
(Information Repository copy only)
- Attachment F: Community Mailing List Notice
- Attachment G: Community Sign-In Sheet

RAB members present at the meeting were:

Hank Beers	Wayne Hansel
Penelope Felger	Bruce Hossfield
David Grabka	Nancy Rodriguez
Blanche Olson	Lt. Gary Whipple

Other Navy and support personnel present at the meeting included:

- Rick Allen, Harding Lawson Associates (HLA)
- Bob Cohose, Bechtel Environmental, Inc.
- Steve Goldfarb, Galileo
- Susan Carroll, Tetra Tech NUS
- Steve McCoy, Tetra Tech NUS

Welcome

Navy RAB Co-Chair Lt. Whipple opened the meeting at 7:10. He welcomed the RAB and others in attendance, and reviewed the agenda. A quorum of community members was not present,

Don Fuller, Ed Granberry, Philip Jaffe, Robert Mackey, Nancy Maloney, Tom Nelson, Robert Underwood, Ann Williams, Geraldine Wojack, Kay Yeuell, and Thomas Yost were noted as excused. Co-Chair Whipple invited members of the public to sign in and join the NTC community mailing list.

RAB News

During Christmas RAB member Ed Jones passed away.

RAB Administration and Comments

November RAB Meeting Summary: The November meeting summary had no comment from members in attendance, they will be mailed to the excused members for review. Lt. Whipple called for comments or questions on the IRA Public Fact Sheets. There was a request that clarification on any soil volume changes be shown in the minutes. Lt. Whipple explained there still could be some changes in the field once the work has begun.

Upcoming Meeting Schedule: The next RAB meeting is scheduled for March 17, 1999 at 7 p.m. in the Winter Park City Commission Chambers.

BRAC Update/Upcoming Activities

Wayne Hansel provided an update on ongoing and upcoming environmental activities at NTC. His full report is summarized in Attachment D. New information since Mr. Hansel's November 1998 meeting report is presented below:

Operable Unit (OU) 2 - The Draft RI Report was issued for review and comment in January 1999.

Main Base, Operable Unit (OU) 3 (Recruit Training Area) - The Final RI response to comments was submitted in November. The Draft Feasibility Study (FS) was submitted to the Navy late November.

Operable Unit (OU) 4 - The RI will be issued final in a combined final RI/FS document later in 1999.

SA 35, SA 37, and SA 42, - Soil removal will be conducted by Environmental Detachment Charleston (DET). Fact Sheets have been prepared to support the IRAs.

SA 36 - Groundwater results are back.

Herndon Annex (SA 2) - There will be additional sampling at SA 2.

SA 3 - Recommending continued quarterly monitoring until groundwater contaminant levels meet state and federal groundwater criteria.

McCoy Annex Sites - SA 17 (Training Material Storage area): Additional soil sampling to show area where soil removal should be performed.

SA 39, SA 40, and SA 55, - The sampling is done and the reports are being reviewed.

Petroleum Tank Program -

- Tank work is still scheduled for February. There is a preliminary construction meeting scheduled for Feb. 2. Tank removals should begin in middle of the month.
- Some sites are still being evaluated.
- Buildings 2426, 2273, 7174, 7182, 7241, 2040, and 2273 - no change.
- Building 129 (Old Bulk Storage Area) - SAR has been started for this site. Wells are being installed.
- The Exchange Gas station will still be in operation until the end of March.

RAB Comments and Questions on the BRAC Update (paraphrased)

Was the change at SA 3 a drop? Yes from 5.8 to 3.8.

Have there been changes at OU4 since November? Contaminant concentrations dropped in the January analyses.

How long has the renovated well been running? Since just before Christmas.

Other RAB Comments and Questions (paraphrased)

Wayne Hansel asked the RAB if they would like to see a synopsis of the OU reports (there are full copies of the report in the library) and the developer package or if they would like this to be a special topic for an upcoming meeting? Yes, would like to see a synopsis of the OU reports

and the Developer package could possibly be worked into the March special topic (Business Plan Update).

Will the Business Plan give time frame? Yes with the projection changes.

Where do the real estate negotiations stand? The Navy and the City are still working on the negotiations; nothing is final yet (it will be another month to 2 months at least).

A resident asked if the ship is going? Yes.

How much longer will the RAB be needed? 2000 to 2001; by 2001 most of the final remedies will be in place.

Co-Chair Whipple concluded the business portion of the meeting and then the meeting was opened to community questions.

Community Questions and Comments (paraphrased)

Lt. Whipple called for public comments on the IRA Public Fact Sheets. None were forthcoming.

We are with contractor working on a water tower we would like some information regarding remediation of the Main Base Golf Course. Negotiation as part of transfer agreement about who will clean up, a work plan showing how and where the dirt will go.

What is the status of the lawsuit? Call Stacy Adams at the City Attorney's office to find out.

When is the next public meeting? March 17th; if there is a question in the future about a meeting call Lt. Whipple.

Are the numbers about soil removal at the Main Base Golf Course in the Fact Sheet correct? Yes, at this point they are correct.

No more community questions were forthcoming, and Lt. Whipple adjourned the meeting at 7:50.

Attachment A

AGENDA

***NTC, Orlando Restoration Advisory Board Meeting
January 20, 1999, 7:00 p.m.***

Welcome/Opening Comments

Navy Co-Chair Lt. Gary Whipple

**RAB Administration
And New Business**

RAB Co-Chairs

BRAC Update

**Wayne Hansel,
BRAC Environmental Coordinator**

Feedback on November meeting:

RAB Members

- **Soil Remediation Actions; Public Review**

Close RAB Business

Community Comments and Questions

Notes:

Attachment B

NTC, ORLANDO RAB MEMBER SIGN-IN SHEET

January 20, 1999

PRINT name clearly
GARY WHIPPLE
Nancy Rodriguez
Hank Buns
David Habbs
John Haggard
Blanche Olson
Penelope Felger
Wm Havel

Attachment C

Attachment D

(Information Repository Copy only)

UST UPDATE AND STATUS

January 1999

Bldg 200: Wells MW-6 and MW-8 exceeded the GCTL for TRPH and dibenz(a,h)anthracene in the previous sampling event (see FDEP letter dated August 24, 1998). Monitoring wells MW-2, MW-3, MW-6, and MW-8 were sampled on 10/16/98. On 1/8/99 a SAR addendum was submitted to FDEP with the sampling results and recommending an MOP for the site.

Bldg 369: FDEP issued a letter on 10/20/98, requesting additional soil sampling. Soil samples were collected on 12/10/98. Laboratory analytical results for soil sample SS-1, collected at 4 to 6 feet below land surface reported Total Petroleum Recoverable Hydrocarbons (TRPH) of 660 mg/kg. This concentration is above the residential SCTL of 350 mg/kg, but is below the industrial. HLA will submit a SAR addendum requesting NFA for the site.

Bldg 2036: First quarter MOP report was submitted to FDEP on 10/2/98. Sampling for the 2nd quarter MOP was conducted on 11/25/98. The second quarter MOP report was submitted to FDEP on 1/8/99.

Bldg 2040: Awaiting source removal (summarized in 11/5/98 letter to Navy). Two soil samples were collected on 11/5/98 from the area impacted by petroleum product, assessed during the CAR for the site. The soil samples were submitted to an off-site laboratory for analysis. On 1/8/99, HLA submitted a SAR addendum requesting an NFA from FDEP for the site.

Bldg 2273 (No Change): The City of Orlando's contractor is installing utilities in the area, and HLA screened soil from the excavation during the weeks of 9/28/98 and 10/5/98. The stockpile of petroleum-impacted excavated soil was sampled on 11/5/98 and submitted to an off-site laboratory for analysis. Laboratory analytical results indicate that the soil stockpile at the site will require treatment. A letter/report was submitted to the OPT with a recommendation for disposal on 12/8/98. A cost estimate was prepared and submitted to the Navy on 12/9/98 for the replacement of monitoring wells destroyed by the City of Orlando.

Bldg 2426 (No Change): The SAR was completed on 5/29/98. FDEP approved recommendations for the excavation of petroleum-impacted soil and free-product removal on 7/7/98. Site is on hold awaiting remediation. Awaiting source removal (summarized in 11/5/98 letter to Navy). A volume of petroleum-impacted soil that needs to be excavated has been estimated and was presented in a letter dated 12/9/98 to Mr. Nick Ugolini.

Bldg 7125: The site has petroleum-impacted soil. Additional monitoring wells will be installed to complete groundwater plume delineation. Free-floating product was discovered in one of the monitoring wells and in a piezometer. Free-product delineation will be conducted as part of this site assessment. The SAR was submitted to FDEP on 1/15/99; HLA recommended active remediation for the site.

Bldg 7174 (No Change): The SAR was issued on 5/5/98 recommending a RAP; FDEP provided comments approving recommendation for RAP 5/26/98. RAP for Building 7174 was submitted on 9/25/98. After reviewing the site data, natural attenuation is not considered to be an effective remedial alternative for this site. Active remediation will be required in order to meet FDEP requirements.

Bldg 7175: A soil assessment was conducted at this site and the data presented in a letter dated 4/28/97. HLA recommended the excavation of petroleum-contaminated soil prior to conducting a site assessment.

Awaiting source removal (summarized in 11/5/98 letter to Navy). A SAR will be prepared for this site after the petroleum-impacted soil is excavated by the Charleston Detachment in Feb/Mar 99.

Bldg 7182 (No Change): Three monitoring wells were installed and sampled on the week of 7/6/98. Site assessment activities initiated at Building 7182 were completed for the suspected petroleum contamination; however, chlorinated solvents were found at concentrations above the State of Florida GCTLs. A SAR was submitted under Chapter 62-770 FAC on 10/30/98 requesting an NFA for petroleum constituents and recommending additional assessment for the chlorinated solvents under the IR program. FDEP has not provided comments to the SAR.

Bldg 7241 (No Change): The Remedial Action Plan (RAP) for Building 7241 was submitted to FDEP on 8/10/98 and was approved by FDEP on 8/22/98. The site is on hold until the Navy removes soil and free-product from the site. A SARA will be completed following Navy actions (summarized in 11/5/98 letter to Navy).

Bldg 7171: A SAR has been started for this site. A drilling contractor has been selected to install the monitoring wells. Mobilization scheduled for 1/28/99.

Bldg 129: A SAR has been started for this site. A drilling contractor has been selected to install the monitoring wells. Mobilization scheduled for 1/28/99.

Bldgs 2040, and 2273 (No Change): actions are still on hold. A letter dated 8/10/98 was submitted to LT Whipple requesting authorization to initiate work at the above mentioned sites. A letter was submitted to the Navy on 11/5/98 identifying sites on hold awaiting source removal. The sites identified were 2040, 2273, 2426, 7175, and 7241.

Note: The Navy is in the process of removing (bailing) free product from wells and piezometers at Buildings 2426, 7171 and 7241.

Note: The Charleston Detachment is scheduled to be at NTC on 2/2/99 for a pre-construction meeting. Soil removals and tank removals are scheduled for the period 2/16/99 to 3/2/99.

IR UPDATE AND STATUS January 1999

OPERABLE UNITS

OU 2: The Draft RI report for OU 2 was issued for review and comment on January 9, 1999. The last of the IDW was removed from the site in mid-December 1998.

OU 3: Final RI report response to comments were submitted on 11/12/98. The draft FS report for OU 3 was submitted to the Navy on 11/24/98.

OU 4: The recirculation wells were both dismantled; performed chemical treatment and development of both wells to destroy/remove any iron fouling and biological growth. Performed drawdown and recovery pumping tests for both UVB wells. Modified treatment system equipment; installed equalization tanks,

new pumps, instrumentation, sequestering agent and revised piping configuration. Ran UVB 01 and sampled for treatment efficiency and presence of iron and bacteria. A fact sheet has been prepared to support the IRA for those isolated areas of the site where the PAH concentration in surface soil exceeded the SCTLs.

HLA last collected performance monitoring data on September 29. As previously presented to the OPT, these results continued to show decreases in total VOCs entering the lake. No further sampling has been conducted, as the IRA has not been operational.

The OU 4 FS is still on track to be issued in December. HLA will be discussing the OU 4 remedial alternatives, conceptual designs, and preliminary costs at the December OPT.

HLA is continuing with planning for the permanganate pilot study. Additional bench-scale studies on OU4 soil are very favorable. Paperwork for a UIC Variance (to exceed manganese secondary standards) was received from FDEP in November. However, HLA is awaiting word regarding a possible blanket waiver for this technology.

OU4 RI and Natural Attenuation Tech Memo comments have been received from EPA. HLA will prepare a response to comments after receiving RI comments from FDEP. The NA Tech Memo will also be finalized. The RI will be issued final as a combined final RI/FS document later in 1999.

GROUPS IV AND V:

SA 35: Soil removal to be conducted by Environmental Detachment Charleston (DET). IRA Workplan with HLA recommendations for soil removal was issued in September 1998. Workplan is being revised to address FDEP concerns about arsenic in surface soils. A fact sheet has been prepared to support the IRA.

SA 36: Three additional wells have been installed, followed by groundwater sampling of new wells and eight existing wells for volatiles and natural attenuation parameters. Analytical results are pending from lab. No chlorinated solvents were detected in samples from the deep wells. A site screening report summarizing investigation activities to date is in preparation.

SA 37: Soil removal to be conducted by DET; well installation to follow soil removal. IRA Workplan with HLA recommendations for soil removal was issued in September 1998. A fact sheet has been prepared to support the IRA.

SA 42: Soil removal to be conducted by DET. A fact sheet has been prepared to support the IRA.

OTHER STUDY AREAS:

SA 2: HLA has installed two additional wells, and sampled the new wells and 19 existing wells for volatiles and natural attenuation parameters. Analytical results are pending from the lab and should be available at the January OPT meeting. HLA also has collected a synoptic round of water level measurements from site wells and piezometers.

SA 3: Have finalized Environmental Site Screening Report recommending that groundwater monitoring continue on a quarterly basis until the groundwater contaminant levels at monitoring wells OLD-03-01 and OLD-03-04 meet State and Federal groundwater criteria.

SA 17: Draft final of the Environmental Site Screening Report is complete and was submitted for review at the October OPT meeting. EPA comments received 12/9/98. IRA Workplan with HLA recommendations for soil removal was issued in mid-September and was revised 1/99 following receipt of analytical results from 12 supplemental surface soil samples. A fact sheet has been prepared to support the IRA.

SA 23: IRA Workplan with HLA recommendations for soil removal was issued in mid-September. A fact sheet has been prepared to support the IRA.

SAs 39&40: IRA Workplan with HLA recommendations for soil removal was issued in mid-September and was revised 1/99 following receipt of analytical results from 3 supplemental surface soil samples. A fact sheet has been prepared to support the IRA. A fact sheet has been prepared to support the IRA.

SA 52: HLA has finalized Environmental Site Screening Report and will submit to OPT in 1/99. Has recommended continued monitoring of groundwater until contaminant levels meet FDEP GCTLs.

SA 54: Draft site screening report on the two background surface soil sample locations (ORS00901 and ORS01601) was submitted to the OPT for review on 12/2/98.

SA 55: Environmental Site Screening Report (Building 1104, Area C) was submitted to the OPT for review during the November OPT meeting. HLA has finalized Environmental Site Screening Report and will submit to OPT in 1/99.

STUDY AREA STATUS:

55 study areas have been screened¹

- ⇒ 37½ SAs have been submitted as final and approved for NFA: 1, 3, 4, 5, 6, 7, 8[WWTP], 10, 11, 15, 16, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 38, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 53
- ⇒ 3 SA reports required (2, 36, 52)
- ⇒ 4½ SAs became OUs (8 [greenskeeper storage] & 9 [OU3]; and 12, 13, and 14 [OU4])
- ⇒ 8 SAs require removal actions and/or additional screening (17, 18, 23, 35, 37, 39, 40 and 42).
- ⇒ 2 SA reports issued final draft in November and early December (54 and 55). SA 55 report to be issued for signature 1/20/99. SA 54 being reviewed by FDEP.

¹ includes SA 54 (background surface soil locations S009 and S016), and SA 55, Bldg. 1104 (alleged PCB storage)

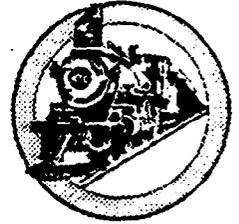
Attachment E

(Information Repository Copy only)



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Study Area 42



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Study Area (SA) 42 is located on the Main Base of NTC, Orlando, south of Iwo Jima Street and west of Leahy Avenue (Figure 1). The site includes Building 2055, which was built in 1943, and used as classrooms and laboratories. Currently, the eastern half of the building is occupied by Morale, Welfare, and Recreation, and used for vending machine maintenance. The western half of the building contains the NTC air conditioning maintenance contractor mechanical shops, administrative offices, and storage rooms. Areas of environmental interest at the site include flammable storage lockers at the northwest and southeast corners of the building, an air conditioner condenser pad on the east end of the building where stained concrete was observed, and the concrete sumps on the north side of the building (Figure 2). Sinks in the laboratories may have been connected to the concrete sumps located on the north side of the buildings.

Site Investigations

Investigations at SA 42 included

- a site walkover,
- a review of historical documents,
- a review of aerial photographs, and
- soil and groundwater sampling.

Other than the stain on the air conditioner condenser pad, there were no indications of environmental releases or stressed vegetation around the perimeter of Building 2055.

Surface soil samples were collected at or near the following locations:

- the flammables storage locations,
- the stained concrete pad, and
- grassy areas around the site.

Subsurface soil and groundwater samples were taken from near the flammables storage locations and the concrete sumps.

Findings

Two of the surface soil samples had benzo (a) pyrene in amounts exceeding Florida guidelines for residential land use. The area of the base occupied by SA 42 is intended for a residential re-use scenario. Benzo (a) pyrene is fuel-

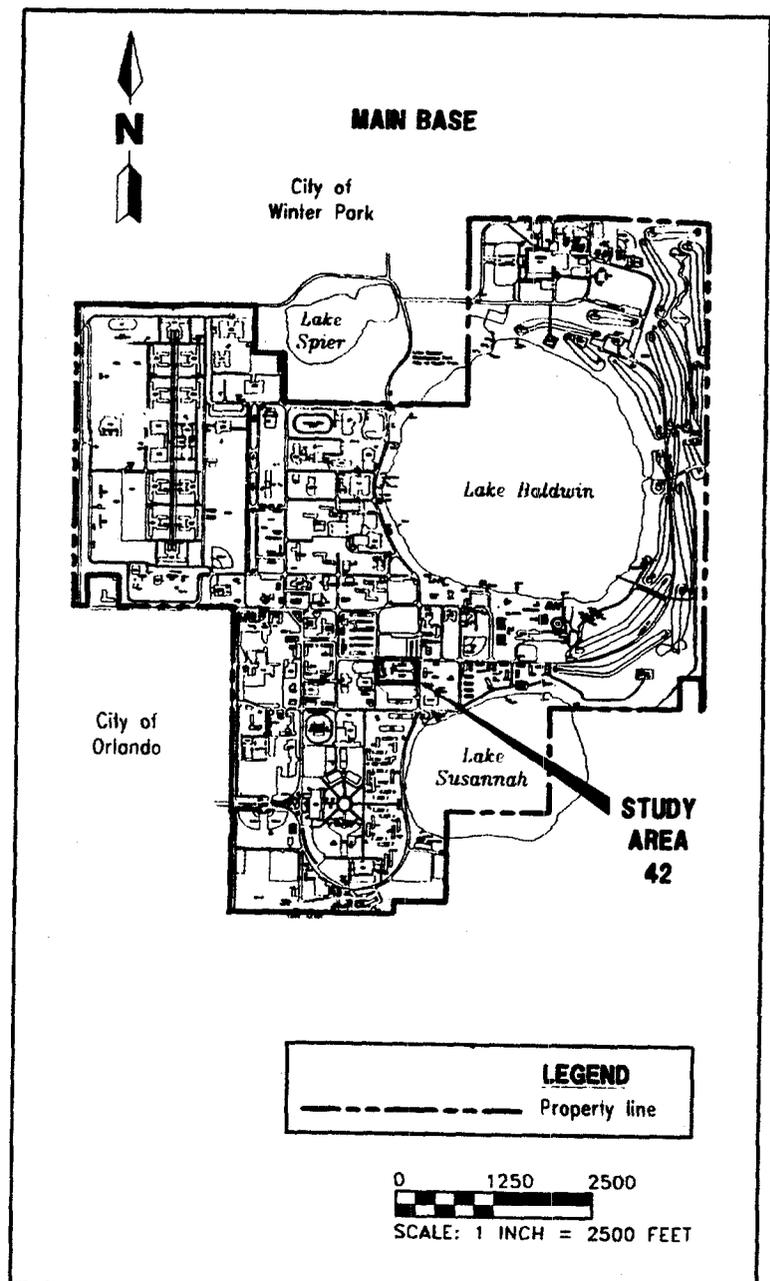


Figure 1. Study Area 42 Site Location Map

related and is often produced by incomplete burning of petroleum products. No contamination was detected in subsurface soil or groundwater.

Conclusions and Recommendations

The Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action (IRA) is appropriate at SA 42 to protect human health. An IRA is an early cleanup of a specific portion of a site and can be performed before the whole site has been looked at. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process.

What's Next?

Surface soil will be removed at the two locations that had benzo(a)pyrene in amounts exceeding Florida guidelines for residential land use. Each excavation will be approximately 10 feet in diameter and 1 foot deep. Samples will be collected from the walls or floor of each excavation to confirm that Florida guidelines for residential land use have been achieved. This approach is consistent with remedial actions at several other SAs that had minor exceedances of Florida guidelines for one or more compounds. Removal of

soils from the indicated areas will allow unrestricted use and will not affect future plans of the City of Orlando.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at SA 42, or on the environmental program at NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-5294. Reports on the work at SA 42 can be reviewed at these locations:

Orange County Public Library Orlando Branch (2nd floor)

101 East Central Boulevard, Orlando, Florida 32801
(407) 425-4694

NTC, Orlando Public Works Department

1350 Grace Hopper Avenue, Orlando, Florida 32813
(407) 646-4735

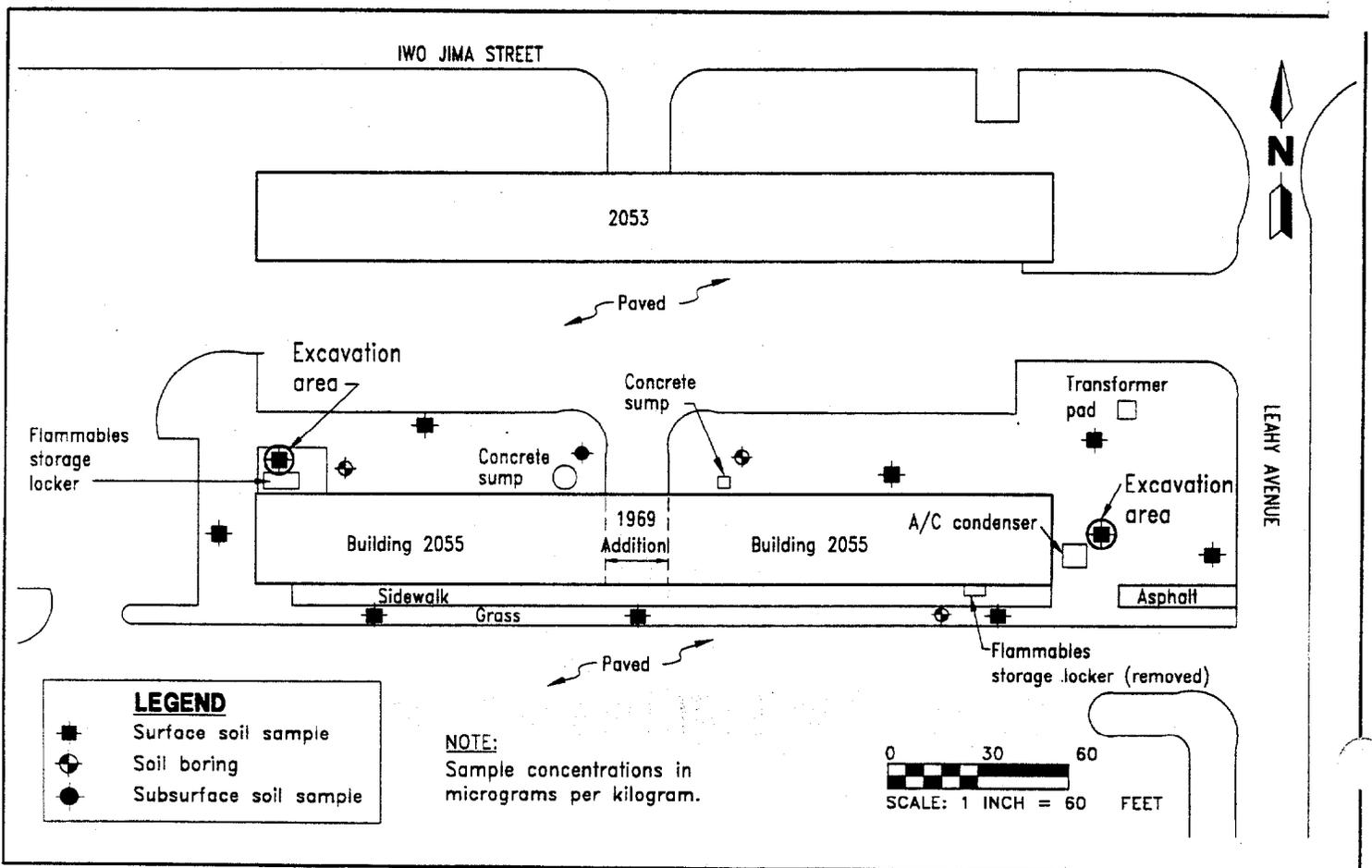
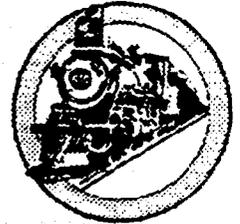


Figure 2. Study Area 42 Site Plan.



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Operable Unit 3



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Operable Unit (OU) 3 is composed of Study Areas (SAs) 8 and 9, which were investigated as part of the Installation Restoration Program performed at the Naval Training Center (NTC), Orlando facility. Both SAs are located on the west side of the former NTC, Orlando golf course, and immediately southeast of Lake Baldwin on the Main Base at the NTC, Orlando facility (Figure 1). SA 8 includes the former Greenskeeper's Storage Area. The site occupies approximately 1/3 acre of land and includes several structures formerly used for golf course maintenance equipment storage and repair. The site was once used to store supplies used to maintain the golf course (primarily pesticides and herbicides), but currently nothing is stored there.

SA 9 is identified as the Former Pesticide Handling and Storage Area. It is located immediately south of SA 8 and is composed of an approximately rectangular one-half acre tract of land including the former location of the pesticide and herbicide storage building. All of the structures at SA 9 have been removed. When in operation SA 9 was used to store and mix pesticides and herbicides and to clean application equipment for pest control activities at the Main Base.

Site Investigations

The original site screening investigations consisted of

- a site walkover.
- a review of aerial photographs.
- a review of historical documents.
- a geophysical survey (SA 9 only) to locate any buried objects that could pose a threat to the environment (e.g., drums, storage tanks, etc.), and
- the collection of soil, groundwater, sediment, and surface water samples from selected areas.

The geophysical survey at SA 9 did not indicate any buried objects, but contaminants were found in the soil and groundwater at both SA 8 and SA 9. At SA 8, arsenic, polynuclear aromatic hydrocarbons (PAHs), and herbicides were detected in soil at concentrations greater than Florida's residential guidelines. Arsenic, pesticide, and

herbicide concentrations exceeding the Florida drinking water standards were detected in groundwater. At SA 9, PAHs and pesticides were detected in the soil at concentrations greater than Florida residential guidelines. In groundwater at SA 9, arsenic, pesticide, herbicide, and semivolatile compounds were detected at concentrations greater than Florida drinking water standards. Because of their physical proximity and similar contaminants of concern, SA 8 and SA 9 were combined as OU 3 and additional characterization was conducted during the subsequent Remedial Investigation (RI).

The RI investigation at OU 3 involved the collection of additional samples to determine the nature and extent of

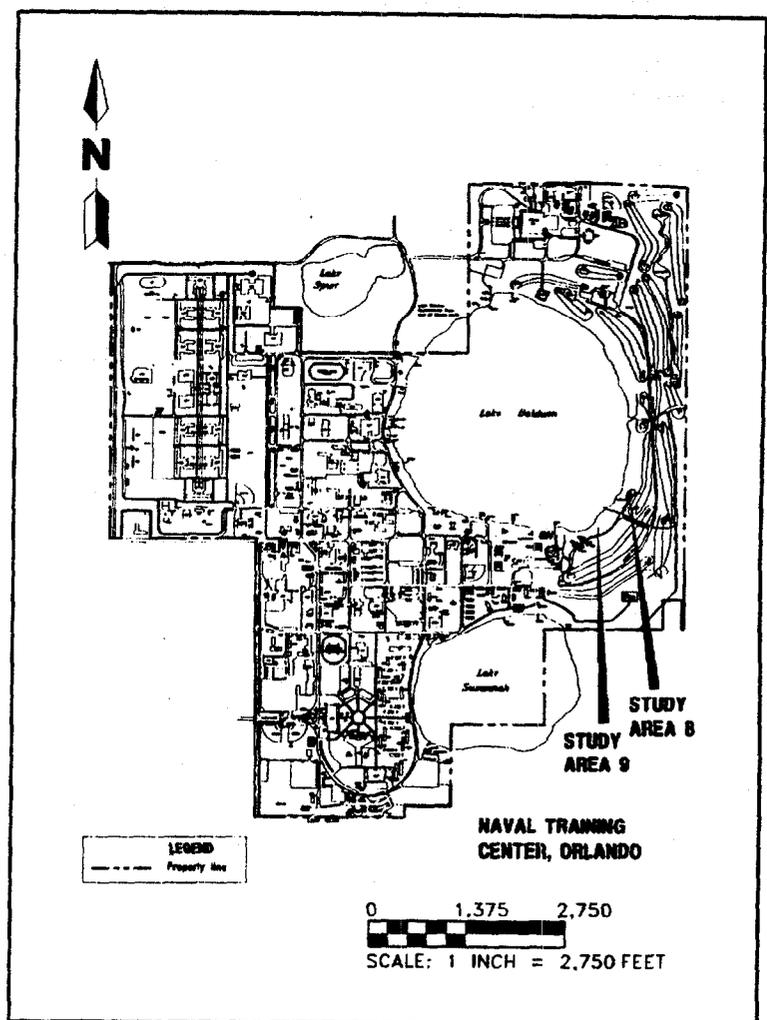


Figure 1. Study Areas 8 and 9 Site Location Map

contamination in soil and groundwater resulting from the former storage and handling of pesticides and herbicides. The contaminated soil is limited to areas adjacent to current and former building locations. The contaminated groundwater is limited to the shallow aquifer. This aquifer is not utilized locally as a source of drinking water.

Conclusions and Recommendations

Upon review of the RI results at OU 3, the Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action (IRA) is appropriate for the site. An IRA is an early cleanup of a specific portion of a site. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process. The first phase of the IRA was performed in September 1997 to address those areas where the highest arsenic concentrations were found at SAs 8 and 9.

What's Next?

The next phase of the IRA at OU 3 is scheduled for early 1999 and will address the remaining contaminated soil that exceeds allowable State regulatory limits for residential land use. It will involve the excavation of approximately 5,000 cubic yards of soil from the central part of SA 8 (Figure 2), and approximately 30 cubic yards of soil from a drainage swale located along the northwest side of SA 9 (Figure 3). During excavation activities, soil samples will be collected from the side walls and bottom of each excavation to confirm that Florida regulatory guidelines for residential

land use have been achieved. The excavated soil will be treated to reduce contamination or transported to an off-base facility designed to handle this type of material. After the soil is removed, it will be replaced with clean backfill.

Once the IRA is completed the Navy will focus its attention on the contaminated groundwater. A feasibility study is currently being completed to determine the most appropriate method to address the contaminated groundwater.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at OU 3, or on the environmental program at the NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-5294. Reports on the work at OU 3 can be reviewed at these locations:

**Orange County Public Library
Orlando Branch (2nd floor)**
101 East Central Boulevard, Orlando, Florida 32801
(407) 425-4694

NTC, Orlando Public Works Department
1350 Grace Hopper Avenue, Orlando, Florida 32813
(407) 646-4735

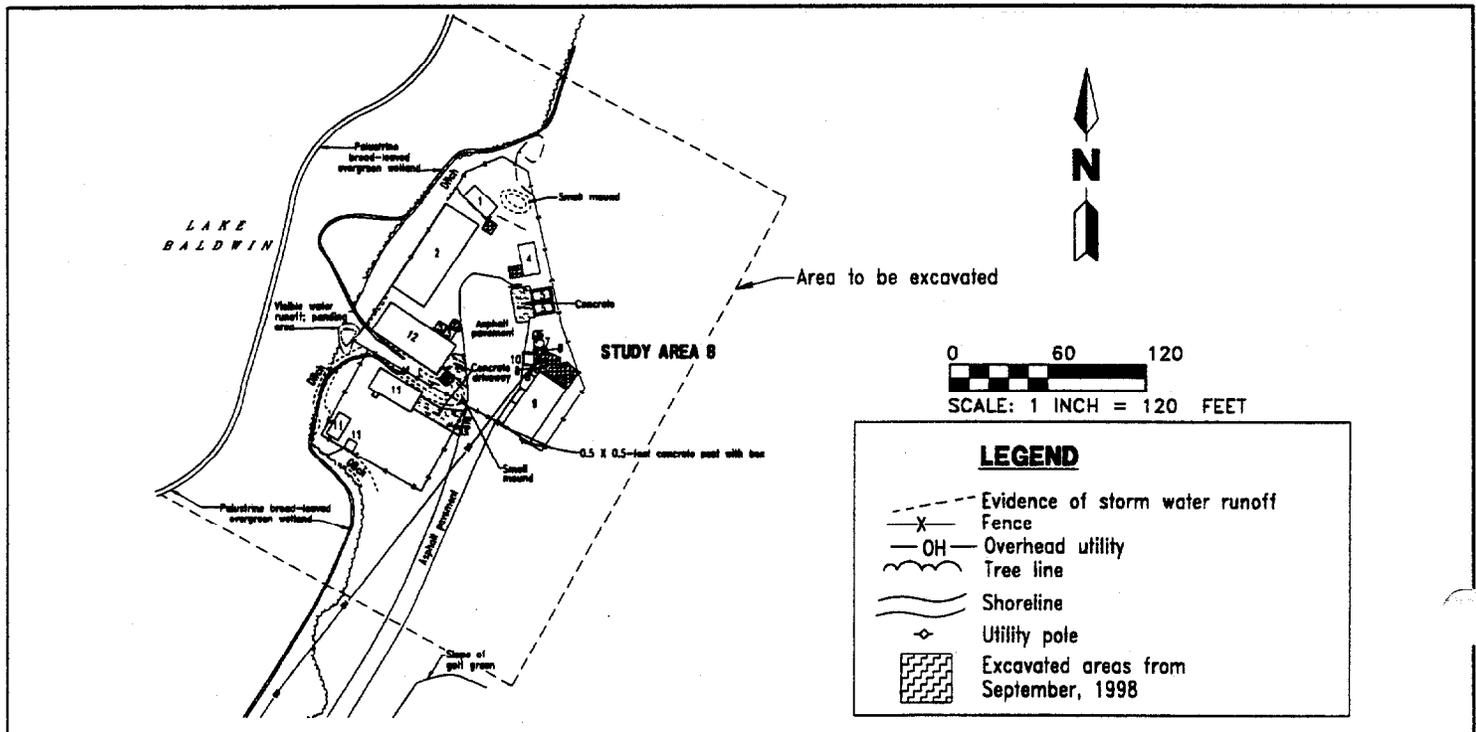


Figure 2. Study Area 8 Site Plan.

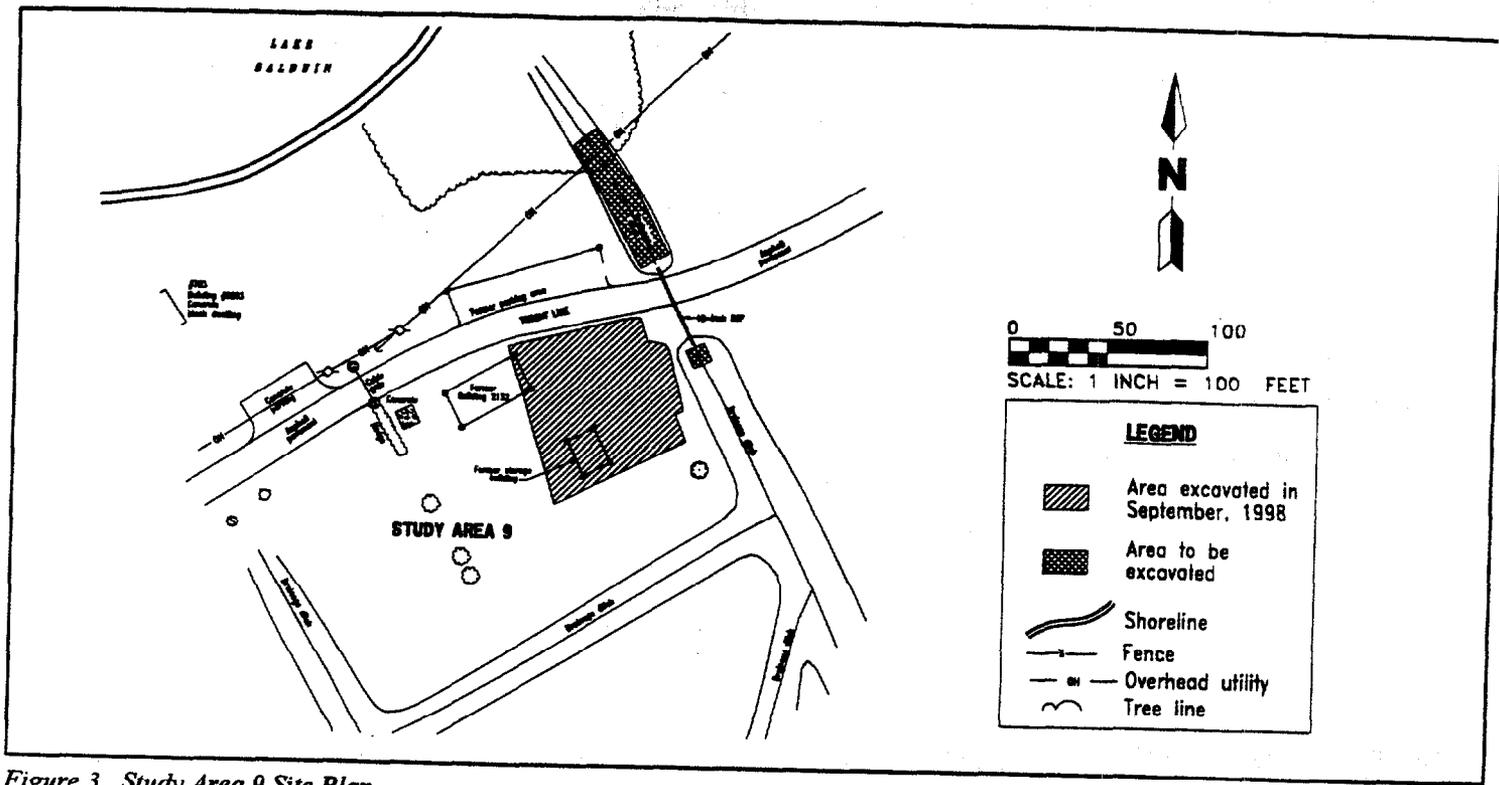


Figure 3. Study Area 9 Site Plan.



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Main Base Golf Course

This fact sheet was prepared to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

The former Main Base Golf Course (MBGC) is located on the eastern side of Lake Baldwin at the Naval Training Center (NTC), Orlando facility (Figure 1). The 18-hole course covers approximately 150 acres and was operated from 1962 to May 1998.

Located on the west side of the MBGC and immediately southeast of Lake Baldwin are Study Areas (SAs) 8 and 9. SA 8 includes the former Greenskeeper Storage Area and was once used to store supplies for maintaining the

golf course (primarily pesticides and herbicides). SA 9 is located west of the 4th fairway, and was operated by the Air Force (1950's and 1960's) and the Navy (1970's) to store and mix pesticides for base pest-control operations. Because of their physical proximity and similar contaminants of concern, SA 8 and SA 9 were combined as Operational Unit (OU) 3.

Site Investigations

In October 1997 the Remedial Investigation of OU 3 began. The preliminary data indicated that arsenic concentrations in a drainage swale on the east side of SA 9 and throughout SA 8 were higher than the Florida residential soil cleanup target level of 0.8 mg/kg. Arsenic is a component of the pesticides and herbicides used regularly on the course. In May 1998 the Navy initiated a comprehensive investigation of the golf course property for arsenic and found arsenic concentrations above the Florida residential soil cleanup target level, with the highest concentrations on the course tees and greens. In August 1998 the City of Orlando confirmed the Navy findings with their own investigation. A human health risk assessment performed for the Navy concluded that the arsenic concentrations in the soil would have to be reduced to meet the State of Florida acceptable risk level of one in a million (1×10^{-6}) for the intended residential reuse of the property.

Conclusions and Recommendations

Upon review of the investigation results at the golf course, the Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action (IRA) would be appropriate for the site. An IRA is an early cleanup of a specific portion of a site. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process.

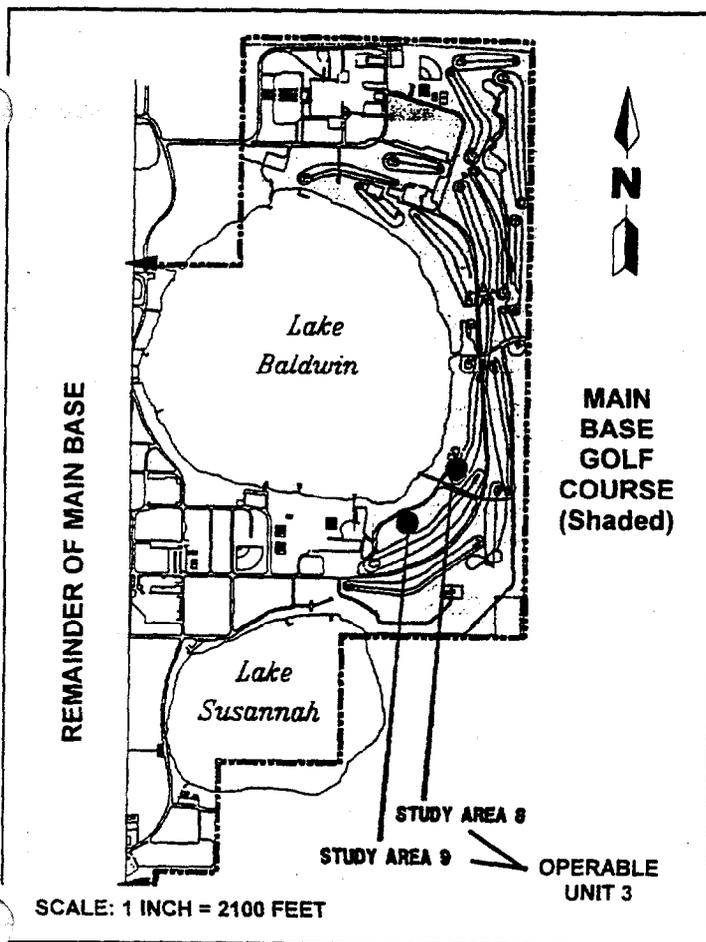


Figure 1. Main Base Golf Course Location

To reduce the arsenic level at the MBGC, excavation and removal of the soil with the highest arsenic concentrations was selected as the preferred alternative. The soil will be excavated, loaded into dump trucks, and transported to the wooded area south of the McCoy Annex Golf Course (Figure 2), which is also Navy property. This area is not presently in use but may be developed in the future to expand the golf course facility. While the arsenic concentrations are too high for the residential reuse of the MBGC, the arsenic will not pose an unacceptable risk for "recreational" usage. The risk to humans exposed to the soil during recreational activities or while maintaining the course will be less than one in a million (1×10^{-6}).

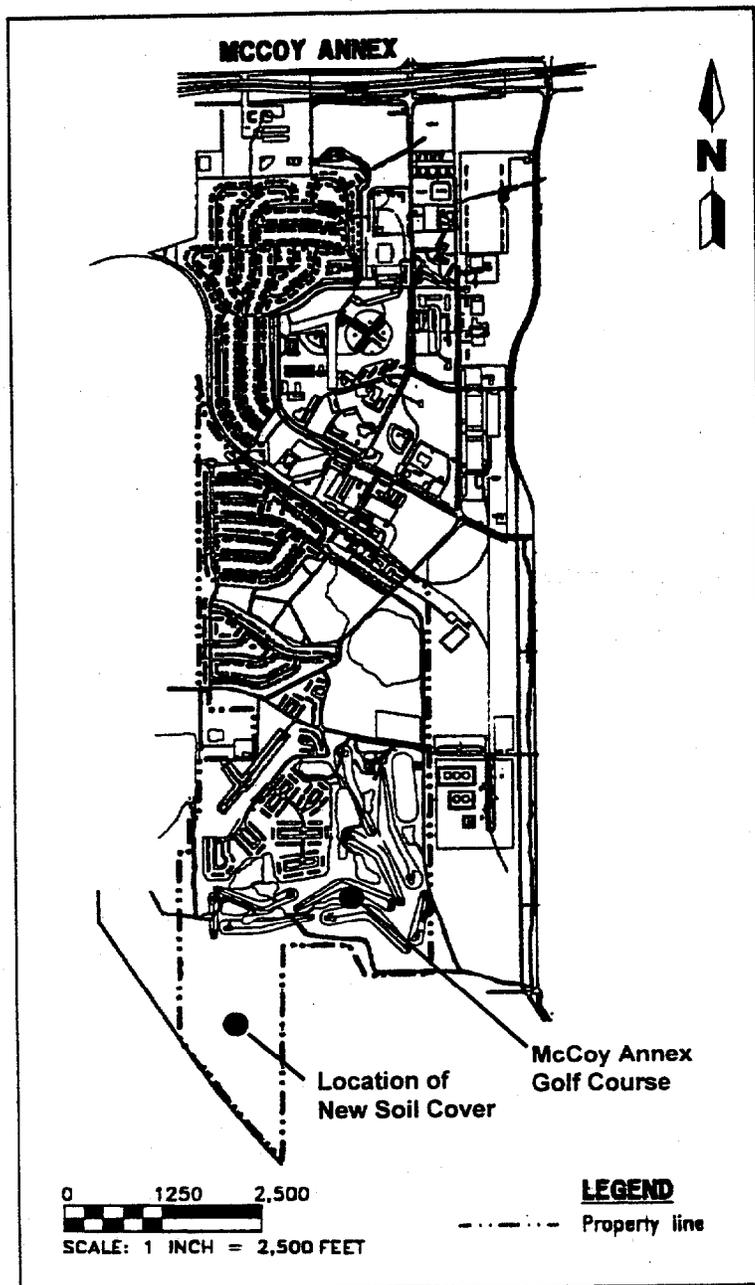


Figure 2. McCoy Annex Golf Course Location

Using the soil from the MBGC also solves a problem at the wooded area south of the McCoy Annex Golf Course. The golf course and wooded area overlie an old landfill closed about 1978 and additional soil is needed to cover the landfill in the wooded area. The trees will be removed and the area will be covered with approximately 2 feet of soil to reduce the likelihood of exposure to the buried landfill material.

What's Next?

The Navy is presently negotiating with the City of Orlando for the City and its developer to perform the excavation at the MBGC and transport the soil to the McCoy Annex. Approximately 130,000 tons of arsenic-containing soil will be excavated, loaded into dump trucks, and transported. Over a period of approximately 20 weeks, the trucks will make 4,000 round trips from the Main Base to the McCoy Annex, a distance of 12 miles. Prior to receiving the soil, the Navy and its contractor will remove the trees, clear brush from the area, and implement erosion and sediment controls. The soil will then be received and spread over the southern portion of the landfill in areas where the thickness of soil cover is presently inadequate.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at the MBGC, or on the environmental program at the NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-4430. Reports on the work at the MBGC can be reviewed at these locations:

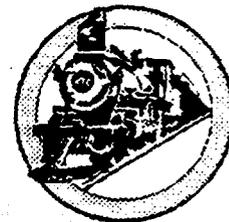
Orange County Public Library
Orlando Branch (2nd floor)
 101 East Central Boulevard
 Orlando, Florida 32801
 (407) 425-4694

NTC, Orlando Public Works Department
 1350 Grace Hopper Avenue
 Orlando, Florida 32813
 (407) 646-4735



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Study Area 17



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Study Area (SA) 17 occupies approximately 25 acres in the central part of the McCoy Annex at NTC, Orlando (Figure 1). The site is comprised of Buildings 7178, 7191, 7193, and the adjacent area that formerly served as the Defense Property Disposal Office complex for the McCoy Annex (Figure 2). The site also includes Building 7190, the former Administration and Warehouse building. The southwestern corner of the site is undeveloped and includes a fenced compound that once served as a motor pool parking area. Historically, a variety of hazardous compounds were stored at this site in underground and aboveground storage tanks, as well as in metal drums.

Site Investigations

Investigations at SA 17 included

- a site walkover,
- a review of aerial photographs,
- a review of historical documents,
- a geophysical survey,
- a passive soil gas survey, and
- the collection of soil, groundwater, sediment, and surface water samples from selected areas.

The geophysical survey was performed to locate any buried objects that could pose a threat to the environment (e.g., drums, storage tanks, etc.). The survey results indicated the presence of buried materials on the southwest side of the site that proved to be construction debris, including lumber, metal fragments, and glass. There was no evidence of buried material that pose a threat to the environment. The soil gas survey indicated only minor low-level detections of benzene and toluene at one sample location.

Polynuclear aromatic hydrocarbon (PAH) compounds were detected at several soil sample locations at concentrations exceeding Florida guidelines for residential and industrial land use. The area of the base occupied by SA 17 is intended for an industrial re-use scenario. Chlorinated solvents were also detected in the groundwater at concentrations that exceed the Federal and

State allowable limits for drinking water. Additional environmental studies were conducted to determine the extent of PAHs in the soil and of chlorinated solvents in groundwater. The soil studies indicated that there are three

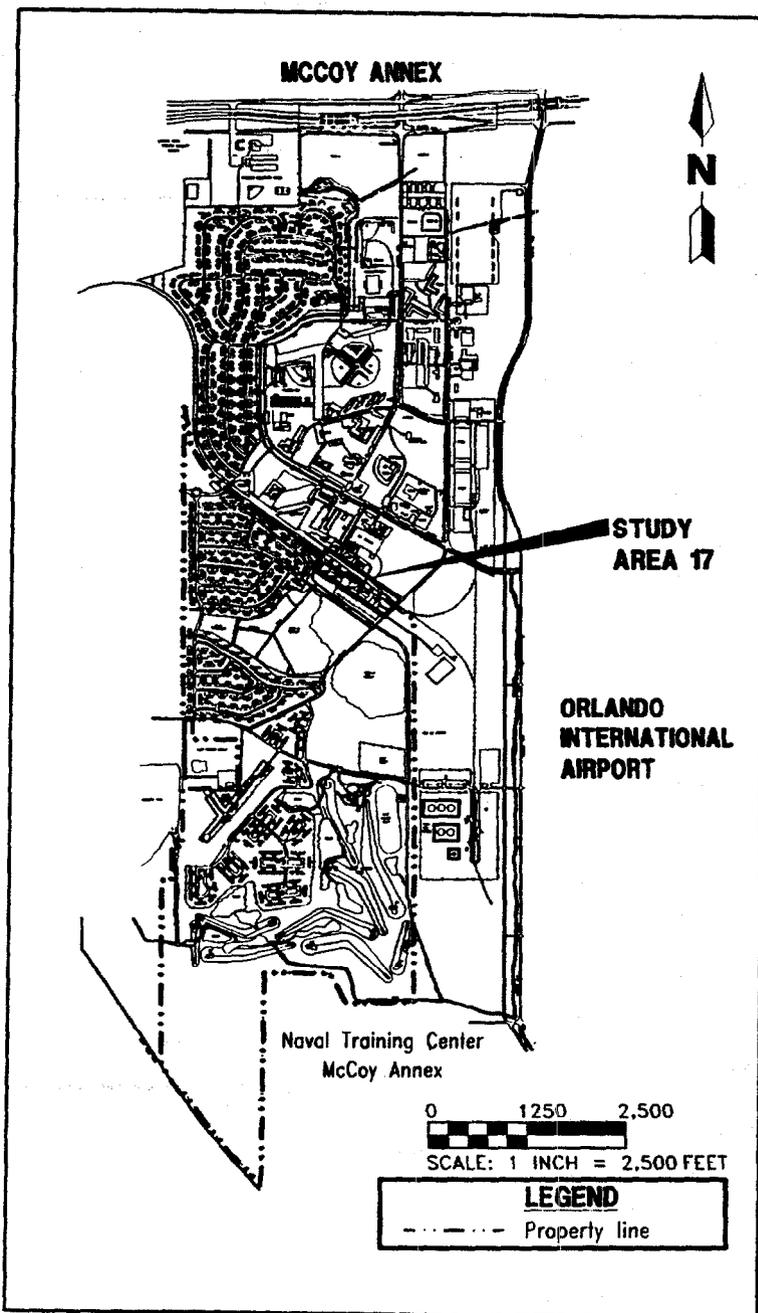


Figure 1. Study Area 17 Site Location Map

small areas in the shallow subsurface located on the southeastern portion of the site with PAHs above allowable industrial concentrations. The contaminated groundwater is located in the southeastern portion of the site and is limited to the shallow aquifer. Groundwater studies are still in progress.

Conclusions and Recommendations

The Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action (IRA) is appropriate at SA 17 to protect human health. An IRA is an early cleanup of a specific portion of a site and can be performed before the whole site has been looked at. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process.

What's Next?

The IRA will be completed in early 1999 and involve excavating the contaminated soil that exceeds allowable industrial concentrations. The locations of the excavation areas are shown on Figure 2 and include approximately 185 cubic yards of soil. During excavation activities, soil samples will be collected from the walls and floor of each excavation to confirm that Florida guidelines for non-residential land use have been achieved. The excavated soil will be treated to reduce contamination or transported to an off-base landfill designed to handle this type of material. After the soil is removed, it will be replaced with clean backfill.

When the IRA is completed, the Navy will focus on the groundwater at the site, which has chlorinated solvents above State and Federal drinking water standards. The contaminated groundwater is located in the southeastern portion of the site and is limited to the shallow aquifer, which is not used as a potable water source in the surrounding area. The findings of the investigation are currently in review, and recommendations for future actions at the site are under consideration.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at SA 17, or on the environmental program at the NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-5294. Reports on the work at SA 17 can be reviewed at these locations:

Orange County Public Library, Orlando Branch (2nd floor)
 101 East Central Boulevard, Orlando, Florida 32801
 (407) 425-4694

NTC, Orlando Public Works Department
 1350 Grace Hopper Avenue, Orlando, Florida 32813
 (407) 646-4735

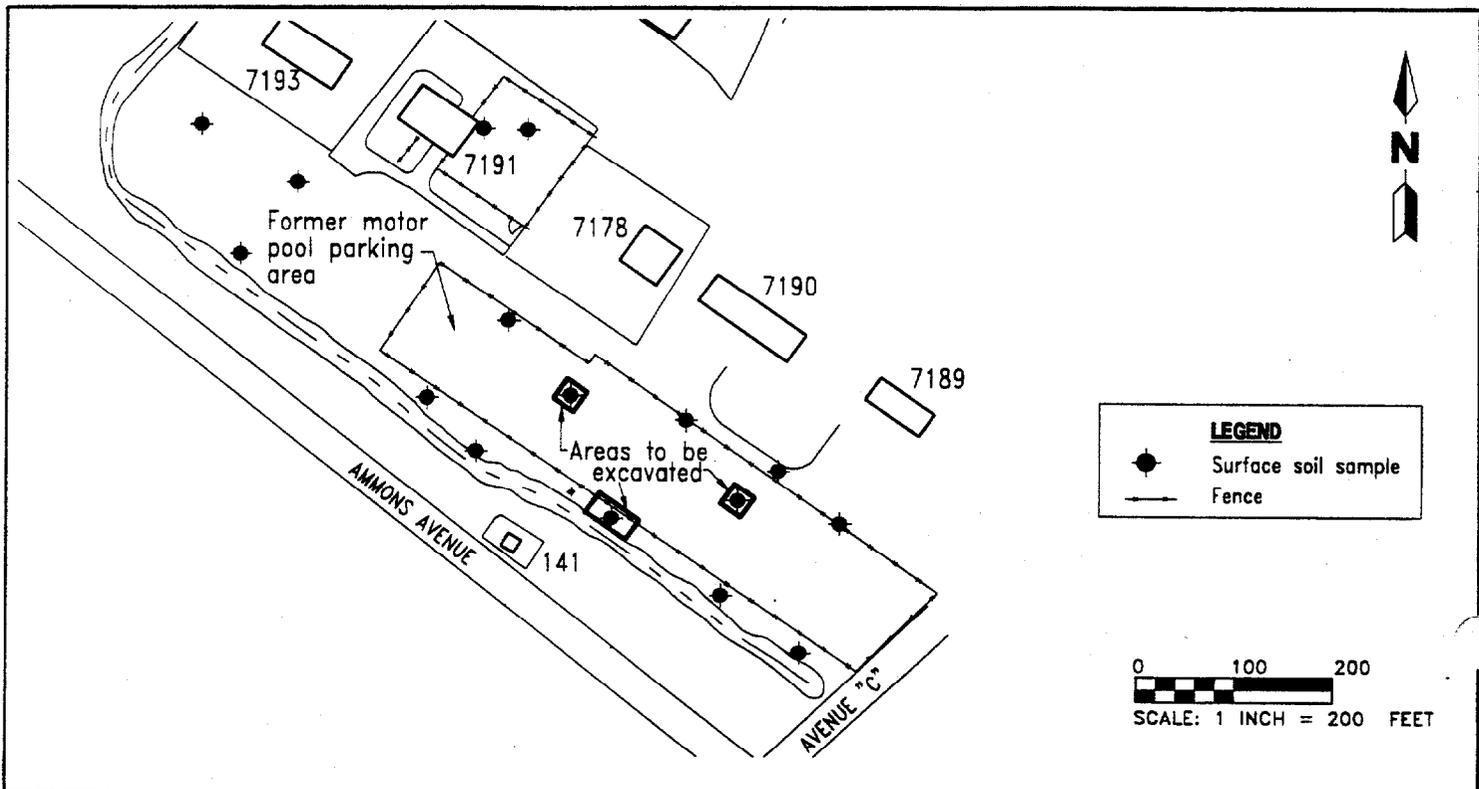
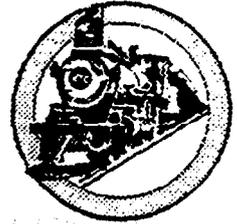


Figure 2. Study Area 17 Site Plan.



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Study Area 23



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Study Area (SA) 23 is a 7-acre parcel located near the northeast corner of the McCoy Annex, NTC, Orlando (Figure 1). The site was previously used for the officer's bath house, two swimming pools, and a football field west of the bath house (Figure 2). The facilities were constructed in the 1950s and demolished in the 1980s. A 7-foot-high grass-covered mound remains at the site. The mound probably includes debris from the demolition of the bath house and swimming pools. A 12-inch-diameter metal drain pipe extends from beneath the mound to a drainage ditch east of the mound. Areas of environmental interest at the site include the mound itself, where demolition and other debris may have been buried, and the drain pipe, which receives storm water from the mound.

Site Investigations

Investigations at SA 23 included

- a site walkover,
- a review of historical documents,
- a review of aerial photographs,
- a soil gas survey,
- a geophysical survey,
- soil and groundwater sampling, and
- storm water and sediment sampling.

There was no physical evidence of chemical releases or stressed vegetation in the SA during the site walkover. The soil gas survey was performed to locate potential areas of soil or groundwater contamination, whereas the geophysical survey was used to determine the extent of debris buried in the mound. Surface soil samples were collected at and around the discharge point of the drain pipe. Subsurface soil and groundwater samples were collected from locations on top of the mound and near the discharge point of the drain pipe. Sediment samples were collected in the drainage ditch from locations upstream of, downstream of, and at the drain pipe. Storm water was also sampled at the end of the drain pipe.

Findings

One location at the end of the drain pipe had benzo(a)pyrene in surface soil and sediment in amounts exceeding Florida guidelines for residential land use. In addition, the storm water also had benzo(a)pyrene in amounts exceeding Florida

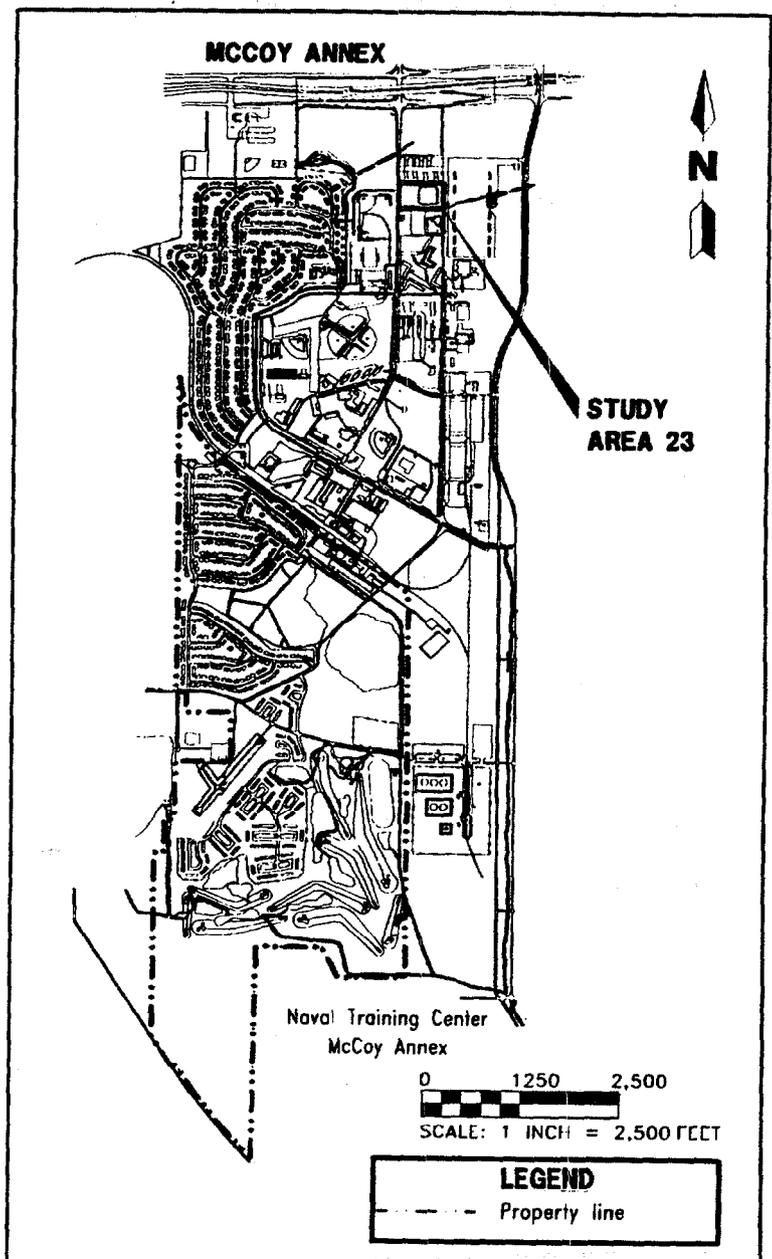


Figure 1. Study Area 23 Site Location Map

drinking water standards. Benzo(a)pyrene is a fuel-related compound that is often produced by incomplete burning of petroleum products.

The area of the base occupied by SA 23 is intended for a non-residential re-use scenario. No contamination was detected at other locations in surface soil, subsurface soil, sediment, or groundwater.

Conclusions and Recommendations

The Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action is appropriate at SA 23 to protect human health. An IRA is an early cleanup of a specific portion of a site and can be performed before the whole site has been looked at. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process.

What's Next?

Soil will be removed at the end of the drain pipe where benzo(a)pyrene was found in amounts exceeding Florida guidelines for residential land use. The excavation will be approximately 5-feet-long by 5-feet-wide by 2-feet-deep. The end of the drain pipe will be sealed to prevent future

discharge of storm water from the mound through the pipe. This approach is consistent with remedial actions at several other SAs that had minor exceedances of Florida guidelines for one or more compounds. Removal of soils from the indicated area will allow unrestricted use and will not affect future plans of the city of Orlando.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at SA 23, or on the environmental program at NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-5294. Reports on the work at SA 23 can be reviewed at these locations:

**Orange County Public Library
Orlando Branch (2nd floor)**
101 East Central Boulevard, Orlando, Florida 32801
(407) 425-4694

NTC, Orlando Public Works Department
1350 Grace Hopper Avenue, Orlando, Florida 32813
(407) 646-4735

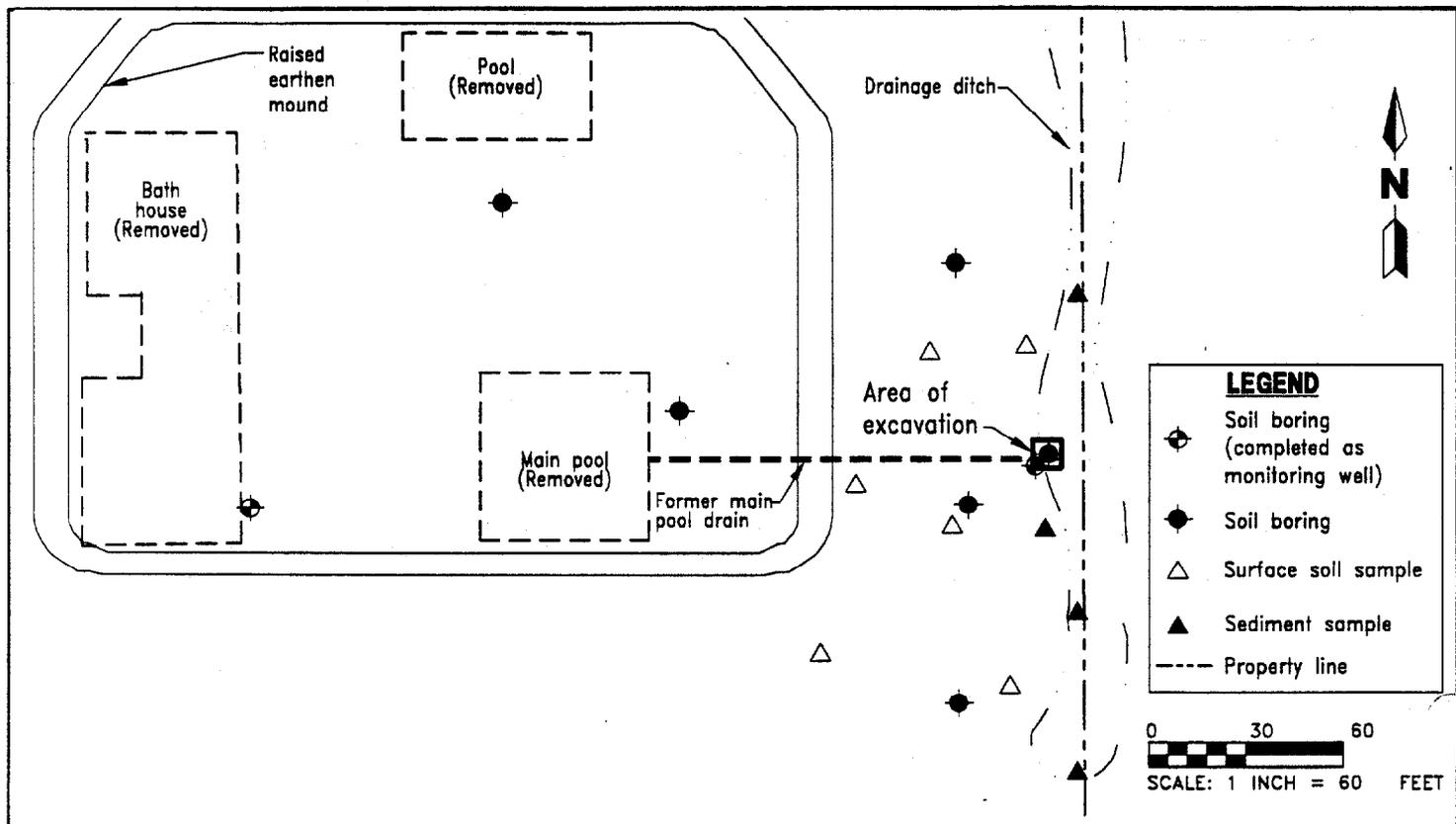
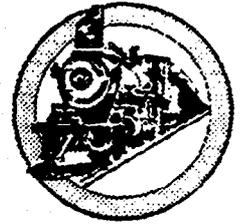


Figure 2. Study Area 23 Site Plan.



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Study Area 37



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Study Area (SA) 37 is located on the Main Base of the NTC, Orlando, north of Langley Street (Figure 1). Building 2414 is a storage facility associated with the Bachelor Officers Quarters (Figure 2). Currently, the building is used to store golf carts and spare towels. Paint and related chemicals were stored in flammable storage lockers in a gravel-floored wooden shed attached to the north side of the building. The shed and flammable storage lockers have since been removed, and there is no obvious evidence of releases of material stored in the shed. A storage room door inside the building is marked "Grounds Tools," which may indicate that landscape maintenance activities occurred at the building, and related chemicals may have been stored, mixed, and used in the area.

Site Investigations and Findings

Investigations at SA 37 included

- a site walkover,
- a review of historical documents,
- a review of aerial photographs, and
- soil and groundwater sampling.

The investigation focused on the former hazardous materials storage shed at the north end of Building 2414. Soil and groundwater samples were collected at this end of the building. A groundwater sample was also collected from a well south of the building, towards Lake Susannah. Sampling results showed that pesticide chemicals were present in surface soil in amounts exceeding Florida guidelines for residential land use. The presence of these pesticides is most likely related to landscape maintenance activities.

Based on these results, a follow-up investigation was planned. The focus of this investigation was to determine the extent, or area, affected by the pesticide chemicals. Additional soil samples were collected from all sides of the building. The investigation found that a small area of soil at the northeast corner of the building had pesticide chemicals in amounts exceeding Florida guidelines for residential land use.

Recommendations and Conclusions

The Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action (IRA) is

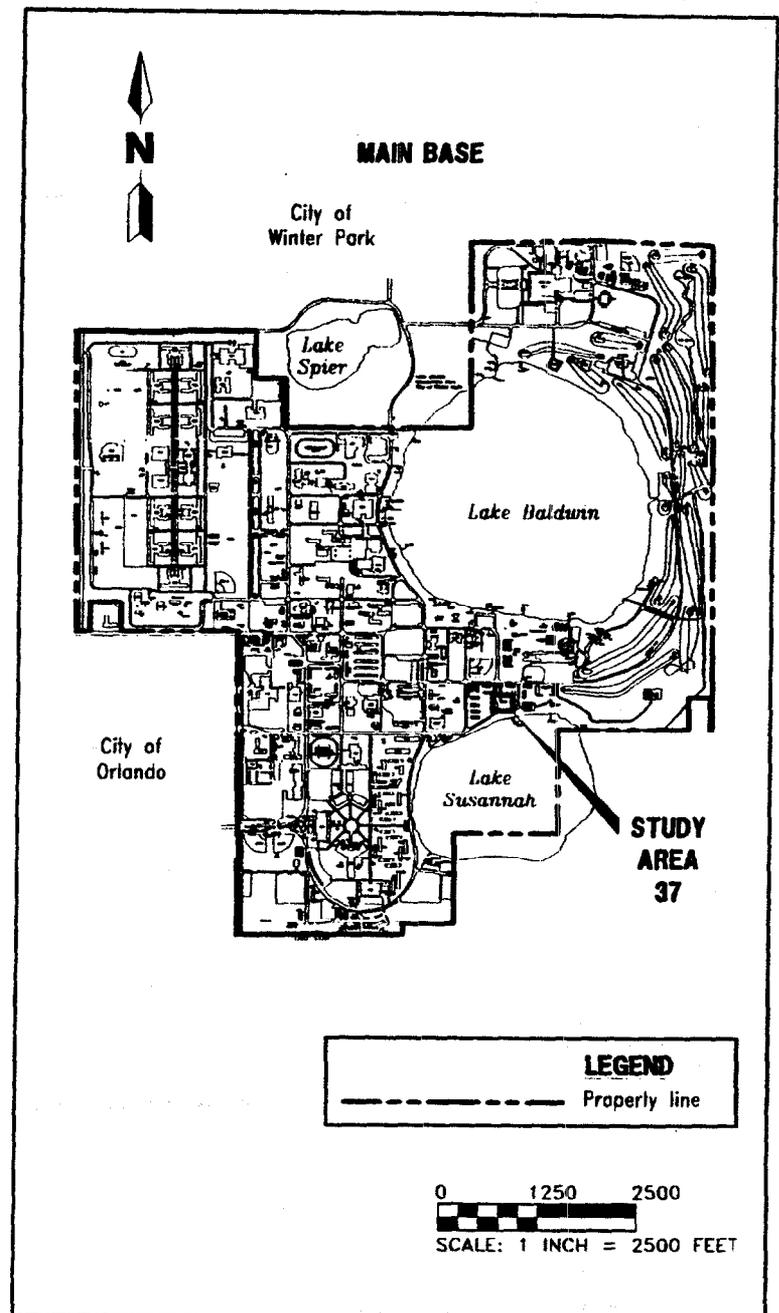


Figure 1. Study Area 37 Site Location Map

appropriate at SA 37 to protect human health. An IRA is an early cleanup of a specific portion of a site and can be performed before the whole site has been looked at. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process.

What's Next?

The IRA for Study Area 37, which will be completed in early 1999, will include digging up the contaminated soil at the northeast corner of the building. The soil excavated from the site will be treated to reduce contamination or transported to an off-base landfill designed to handle this type of material. An estimated 30 cubic yards of soil will be removed from an excavation 20-feet-long by 20-feet-wide by 2-feet-deep. Samples will be collected from the walls or floor of each excavation to confirm that Florida guidelines for residential land use have been achieved. After the soil is removed, clean soil will be placed into the hole left by the excavation.

After the contaminated soil from SA 37 has been removed, the Navy will focus on studying groundwater at the site. Monitoring wells will be installed and groundwater samples will be analyzed. These findings and recommendations for future actions at the site will be included in a report that will be reviewed by appropriate state, local, and federal agencies.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at SA 37, or on the environmental program at NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-5294. Reports on the work at SA 37 can be reviewed at these locations:

**Orange County Public Library
Orlando Branch (2nd floor)
101 East Central Boulevard
Orlando, Florida 32801
(407) 425-4694**

**NTC, Orlando Public Works Department
1350 Grace Hopper Avenue
Orlando, Florida 32813
(407) 646-4735**

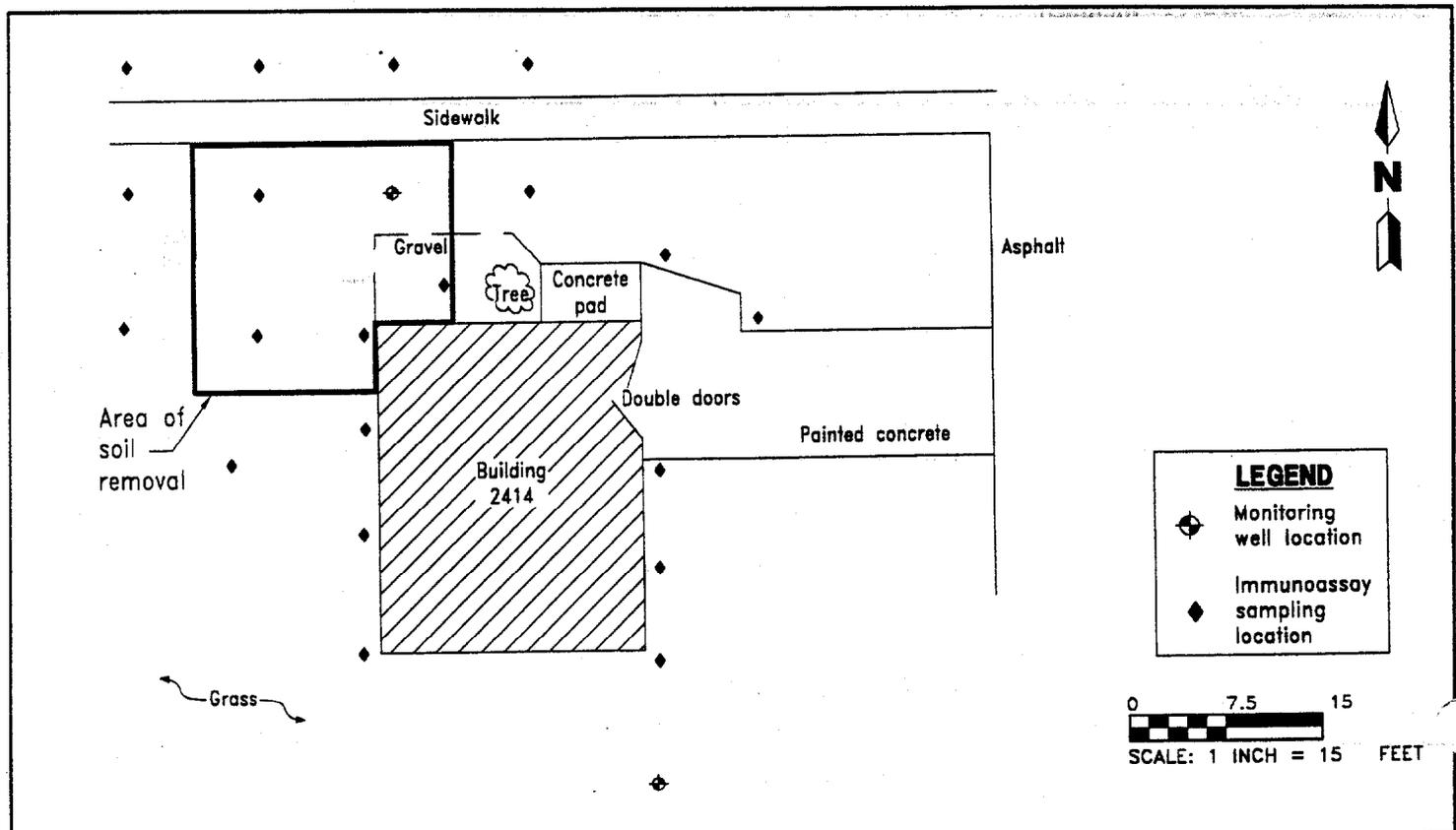
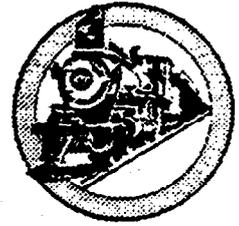


Figure 2. Study Area 37 Site Plan.



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Operable Unit 4



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Operable Unit (OU) 4 is located within the Area C property of the Naval Training Center (NTC), Orlando. Area C occupies approximately 45 acres of land and is located off Maguire Boulevard, approximately 1 mile west of the Main Base (Figure 1). When in operation, Area C served as the supply area for the NTC, Orlando. Most of the property is paved and includes numerous warehouse structures. The Area C property is situated in a suburban setting, including single and multifamily residential developments to the north and south and an office park to the east. Lake Druid is located immediately west of Area C. OU 4 is composed of three study areas (SAs): SA 12 (Defense Reutilization and Marketing Office [DRMO] Warehouses and Salvage Yard), SA 13 (the former base laundry and dry-cleaning facility), and SA 14 (the DRMO Storage Area) (Figure 2).

Site Investigations

The original site screening investigations at OU 4 consisted of

- a site walkover,
- a review of aerial photographs,
- a review of historical documents,
- a geophysical survey,
- a passive soil gas survey, and
- the collection of soil, groundwater, sediment, and surface water samples from selected areas.

The geophysical survey was performed to locate any buried objects that could pose a threat to the environment (e.g., drums, storage tanks, etc). None were found. The soil gas survey indicated detections of chlorinated volatile organic compounds (VOCs) at SA 13. The presence of the VOCs in the groundwater was confirmed by the analysis of groundwater samples. The VOCs were detected at SAs 12, 13, and 14 at concentrations that exceeded the Federal and State allowable limits for drinking water.

Based on these results, the three SAs were combined to form OU 4. A focused field investigation (FFI) and a remedial investigation (RI) were performed to determine the extent of the contamination. The results indicated that

the plume of the chlorinated VOCs extended from the former base laundry facility (Building 1100) to the eastern side of Lake Druid. All of the contaminated groundwater is contained within the shallow groundwater aquifer. This aquifer is not used locally as a source of potable water. An interim remediation system has been installed to capture and treat contaminated groundwater before it enters the lake.

Polynuclear aromatic hydrocarbon (PAH) compounds and arsenic were detected at several surface soil sample locations during the RI at concentrations exceeding Florida guidelines for residential and industrial land use. Results indicated that

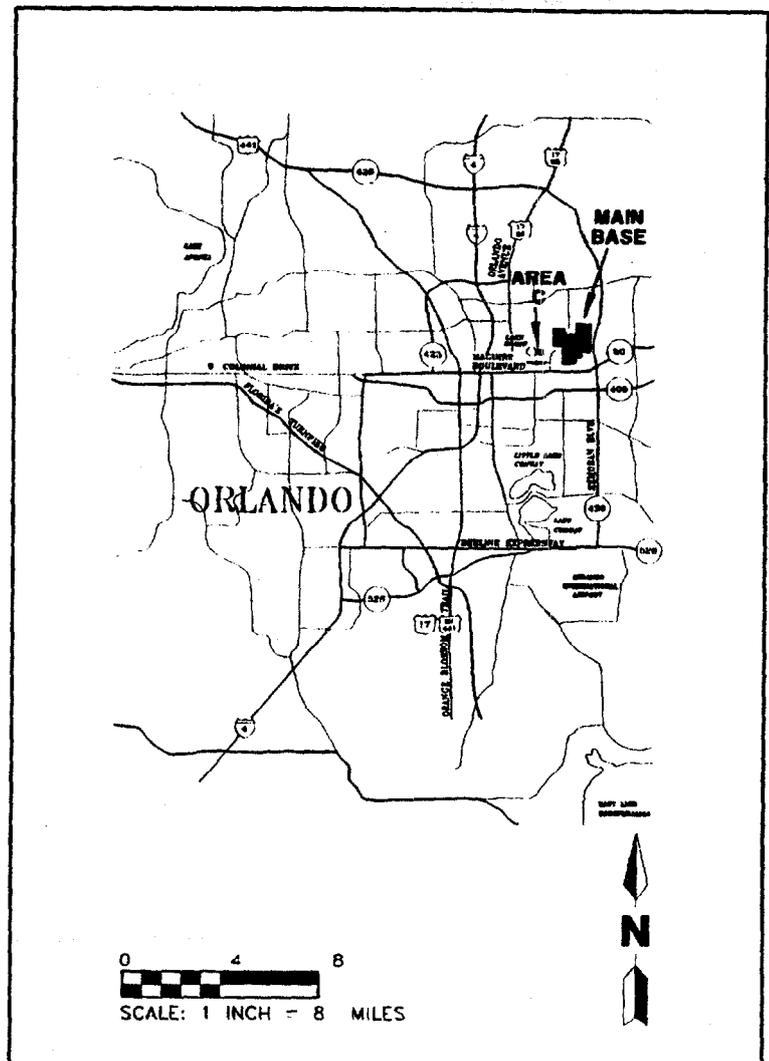
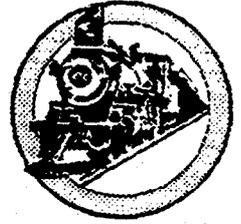


Figure 1. Operable Unit 4 Site Location Map



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Study Area 18



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Study Area (SA) 18 is located in the central part of the McCoy Annex at NTC, Orlando (Figure 1). SA 18 is comprised of Building 7182 and the surrounding storage and parking areas (Figure 2). Building 7182 contains the administrative offices and maintenance areas as well as storage space for paints, solvents, and lawn supplies. The paved lot surrounding the building includes a large fenced enclosure for trailer and RV storage, a gas cylinder storage area, a small paint storage building (Building 7177), and a hazardous material storage yard. A small diesel fuel underground storage tank is located beneath the parking area.

Site Investigations

Investigations at SA 18 included

- a site walkover,
- a review of aerial photographs,
- a review of historical documents, and
- the collection of soil and groundwater samples from selected areas.

Compounds detected in the soil at SA 18 at concentrations that exceed Florida guidelines for residential land use were polynuclear aromatic hydrocarbons (PAHs), pesticides, metals, and one type of polychlorinated biphenyl (PCB). The only compounds present at concentrations that exceed the Florida guidelines for industrial land use were the PAHs. Additional samples were collected to determine the limit and extent of PAHs in the soil. The results indicated that the only soil with PAHs exceeding guidelines for industrial land use is confined to a small area in the grass-covered strip located along the eastern boundary of the site.

Conclusions and Recommendations

The Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action (IRA) is appropriate at SA 18 to protect human health. An IRA is an early cleanup of a specific portion of a site and can be

performed before the whole site has been looked at. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process.

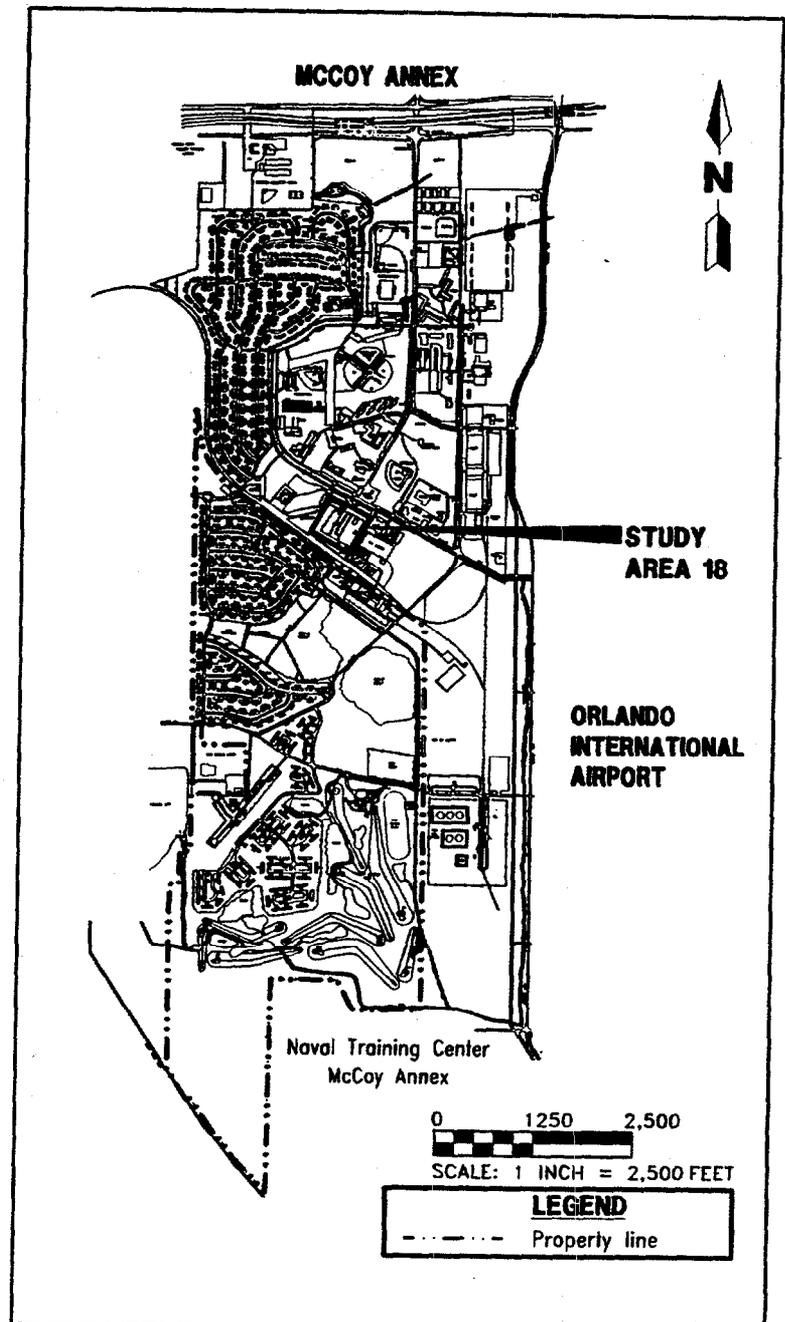


Figure 1. Study Area 18 Site Location Map

What Next?

The IRA will be completed in early 1999 and will involve excavating the contaminated soil that exceeds allowable industrial concentrations. During excavation activities, soil samples will be collected from the walls and floor of the excavation to confirm that Florida guidelines for non-residential land use have been achieved. The excavated soil will be treated to reduce contamination or transported to an off-base landfill designed to handle this type of material. After the soil is removed, it will be replaced with clean backfill. The location of the excavation area is shown on Figure 2 and involves approximately 30 cubic yards of soil.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at SA 18, or on the environmental program at NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-5294. Reports on the work at SA 18 can be reviewed at these locations:

**Orange County Public Library
Orlando Branch (2nd floor)
101 East Central Boulevard
Orlando, Florida 32801
(407) 425-4694**

**NTC, Orlando Public Works Department
1350 Grace Hopper Avenue
Orlando, Florida 32813
(407) 646-4735**

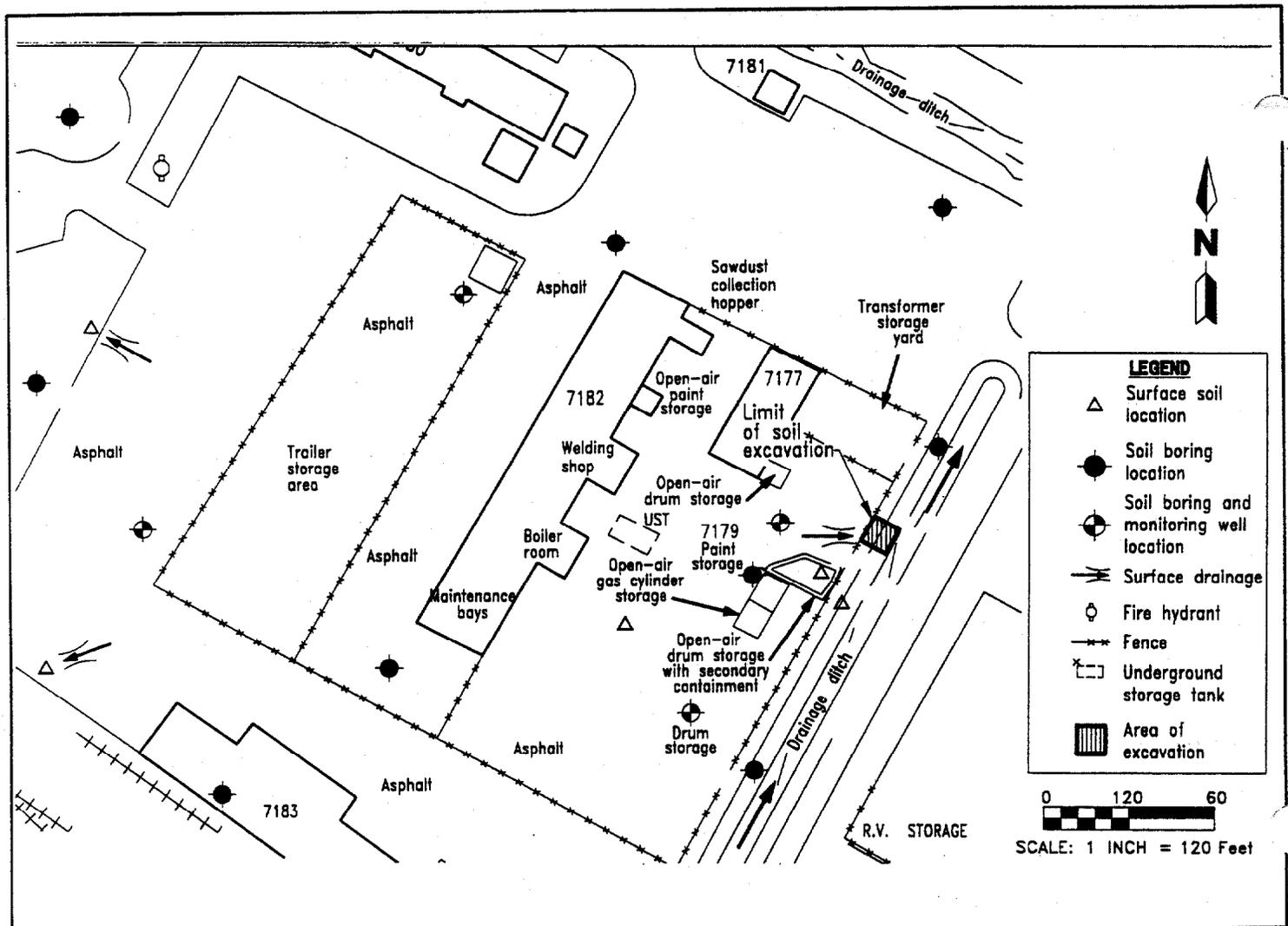
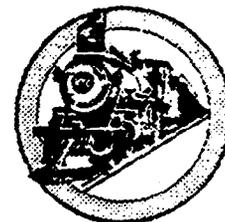


Figure 2. Study Area 18 Site Plan.



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Study Areas 39 and 40



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Study Areas (SAs) 39 and 40 are located in the southwest corner of the Main Base at the Naval Training Center, Orlando (Figure 1). SA 39 encompasses a 12-acre parcel of land bounded on the south and west by the Main Base's property line, on the east by Grace Hopper Avenue, and on the north by Nautilus Street. Nautilus Street marks the boundary between SAs 39 and 40. Most of the western side of SA 39 is undeveloped and covered with grass except for a small stand of trees in the southwest corner (Figure 2). The northeastern corner of SA 39 is occupied by a paved parking lot. A storm water retention pond is located in the central portion of the SA. Building 137, the Hazardous Materials Storage Facility, is located in the southeast corner of SA 39. The southwest corner is undeveloped and covered with grass. This area was once utilized as a coal staging area before disposition to the various steam-generating boilers located throughout the facility. There were also allegations of unexploded ordinance (UXO) disposal in the grassy area in the western portion of the SA.

SA 40 encompasses approximately 8 acres of land bounded on the south by Nautilus Street, on the west by the Main Base's western property line, on the north by Maguire Boulevard, and on the east by Grace Hopper Avenue. The southwestern corner of SA 40 is open and covered with grass. This area was once used as a landfill for the disposal of used glass items, household waste, construction debris, and possibly UXO. Two softball fields are located in the northwestern portion of SA 40, and there is a tennis court complex in the eastern portion of the site.

Site Investigations

Investigations at SAs 39 and 40 were performed concurrently and included

- a site walkover,
- a review of aerial photographs,
- a review of historical documents,
- a geophysical survey,
- a UXO survey,
- a passive soil gas survey, and
- the collection of soil, groundwater, sediment, and surface water samples from selected areas.

The geophysical survey was performed across the entire site to locate any buried objects that may pose a threat to the environment, such as drums, storage tanks, and UXO. The survey was also designed to delineate the boundaries of the former landfill. The survey results indicated the presence of numerous small metallic objects. These objects were excavated and

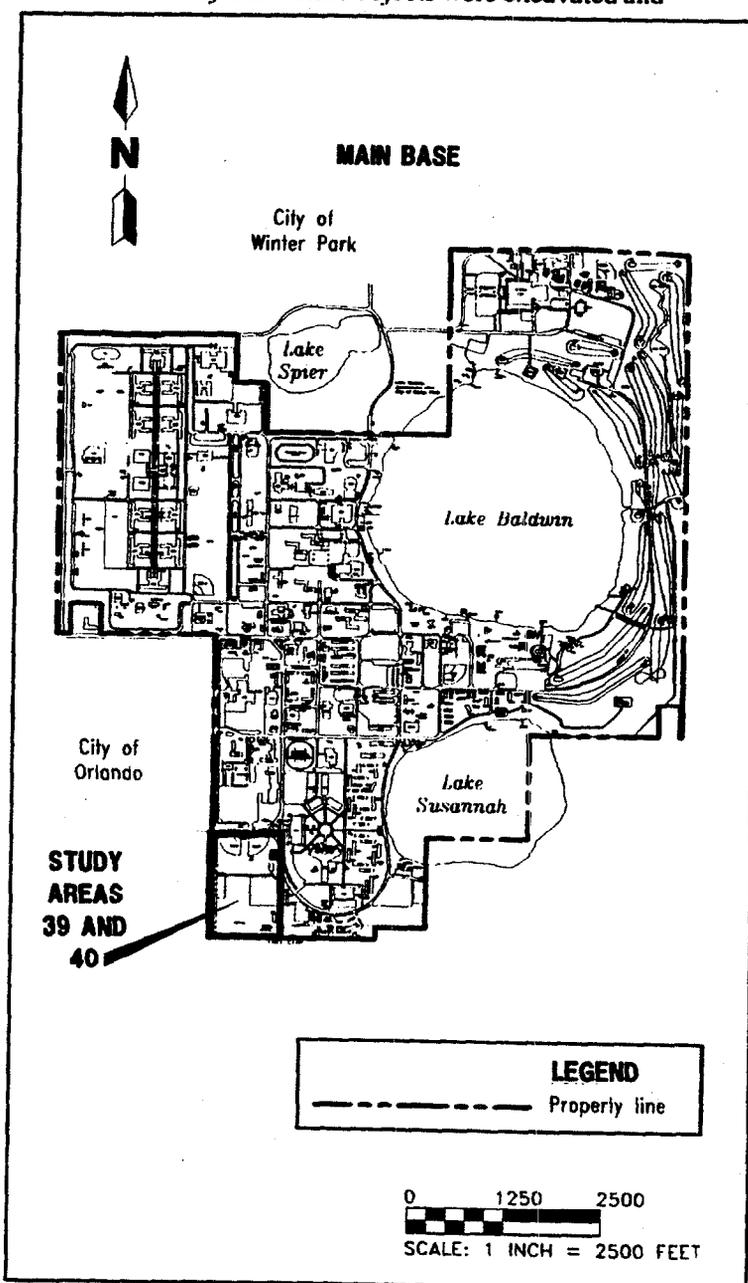


Figure 1. Study Areas 39 and 40 Site Location Map

examined by Navy UXO experts. None of the objects were UXO-related. The material instead consisted primarily of construction debris, including lumber, metal fragments, and glass. The survey results did not indicate any direct evidence of the presence of a landfill.

Soil gas survey results indicated detections of chlorinated solvents at several sampling points in the southeast corner of SA 39. Groundwater samples were later collected from this area. The sample analytical results confirmed that chlorinated solvents are present in the groundwater at SA 39 at concentrations that exceed the Federal and State allowable limits for drinking water. The contaminated groundwater is isolated to the southeast corner of SA 39 and to the shallow groundwater aquifer.

Laboratory analytical results from the soil samples collected indicate that polynuclear aromatic hydrocarbon (PAH) compounds and arsenic are present in the soil at both SAs at concentrations that exceed Florida's residential guidance levels. The area of the PAH- and arsenic-contaminated soil encompasses much of the southern portion of SA 39 in an area formerly occupied by coal stockpiles. In SA 40, there are five isolated areas with PAHs or arsenic that exceed permissible residential soil levels.

Conclusions and Recommendations

The Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action (IRA) is appropriate at SAs 39 and 40 to protect human health. An IRA is an early cleanup of a specific portion of a site and can be performed before the whole site has been looked at. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process.

What's Next?

The IRA for SAs 39 and 40, which will be completed in early 1999, will include digging up the contaminated soil. The soil will either be treated to reduce contamination, or transported to an off-base landfill designed to handle this type of material. Samples will be collected from the walls or floor of each site to confirm that Florida guidelines for residential land use have been achieved. After the soil is removed, clean soil will be placed into the hole left by the excavation. Excavation areas are shown on Figure 2 and involve approximately 8,100 cubic yards of soil.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at SAs 39 and 40, or on the environmental program at NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-5294. Reports on the work at SA 39 and 40 can be reviewed at these locations:

Orange County Public Library
Orlando Branch (2nd floor)
 101 East Central Boulevard, Orlando, Florida 32801
 (407) 425-4694

NTC, Orlando Public Works Department
 1350 Grace Hopper Avenue
 Orlando, Florida 32813, telephone (407) 646-4735

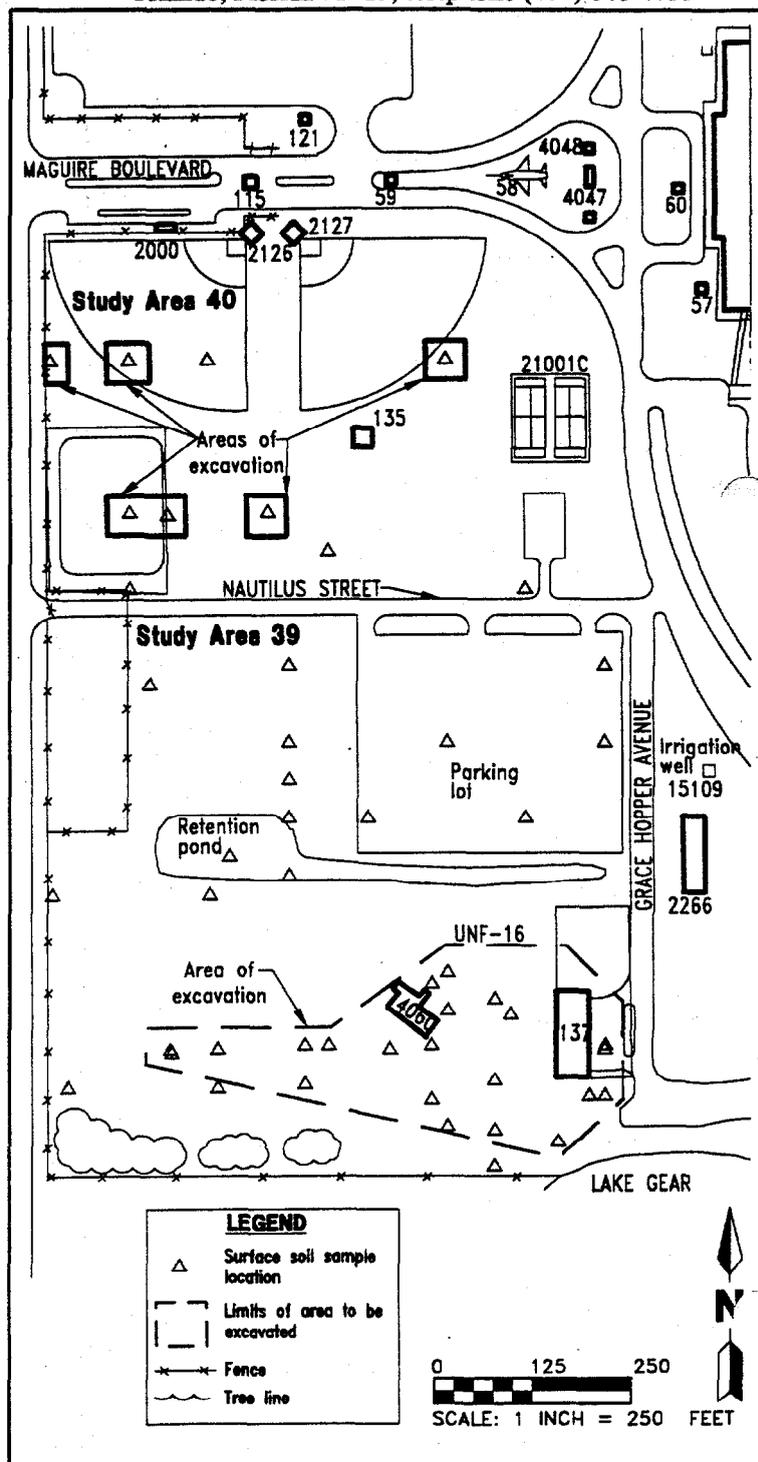
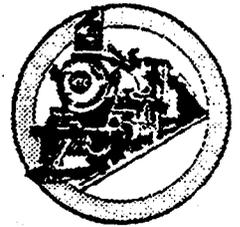


Figure 2. Study Areas 39 and 40 Site Plan.



Naval Training Center Orlando, Florida

Proposed Interim Remedial Action Study Area 35



This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by calling the NTC, Orlando Public Affairs Office at (407) 646-4430.

Site Description

Study Area (SA) 35 is located in the central part of the NTC, Orlando Main Base, north of Langley Street between Mitscher and Leahy Avenues (Figure 1). Most of the site is a large paved parking area fringed with grassy swales and lawn (Figure 2). Two buildings, 2078 and 2079, are included in the SA. Building 2078 is a former aircraft hangar used since 1968 for vehicle maintenance. There were eight hydraulic lifts used for vehicle repair, seven inside the building and one outside of the building. The outside lift and six of the inside lifts were constructed in long narrow pits approximately 8 feet deep. Building 2079 was used to store tires, batteries, and hazardous materials.

Site Investigations

Investigations at SA 35 included

- a site walkover,
- a review of aerial photographs,
- a review of historical documents,
- a soil gas survey, and
- the collection of soil and groundwater samples.

The site investigation evaluated whether automotive repair operations resulted in releases of hazardous materials. Soil gas collectors were used to look for potential "hot spots" in soil and groundwater. Surface soil, subsurface soil, and groundwater samples were collected from areas where maintenance activities occurred, materials were stored, or storm water would run off. The construction of each of the hydraulic lift pits was evaluated to determine if the pits had native soil or cement-lined bottoms. Soil samples were collected from the four lift pits that have native soil-lined bottoms. The construction of the pit outside of Building 2078 was not evaluated, and the pit was not sampled because the pit was partially filled with water.

Findings

Sampling results showed that total recoverable petroleum hydrocarbons (TRPH) were present in surface soil at two locations outside of the buildings in amounts exceeding Florida guidelines for residential land use. TRPH can include a wide range of petroleum-based products, including fuels, heating oils, lubricating oils, and hydraulic fluid. The lack of other related compounds in the soil samples indicates

that the TRPH in soils at SA 35 is likely due to the release of hydraulic oil or other similar materials.

Soil samples from the four lift pits with native soil bottoms also had TRPH in amounts greater than the Florida guidelines. Two of the samples from soil borings advanced between the lift pits indicate that the TRPH has moved laterally away from the pits.

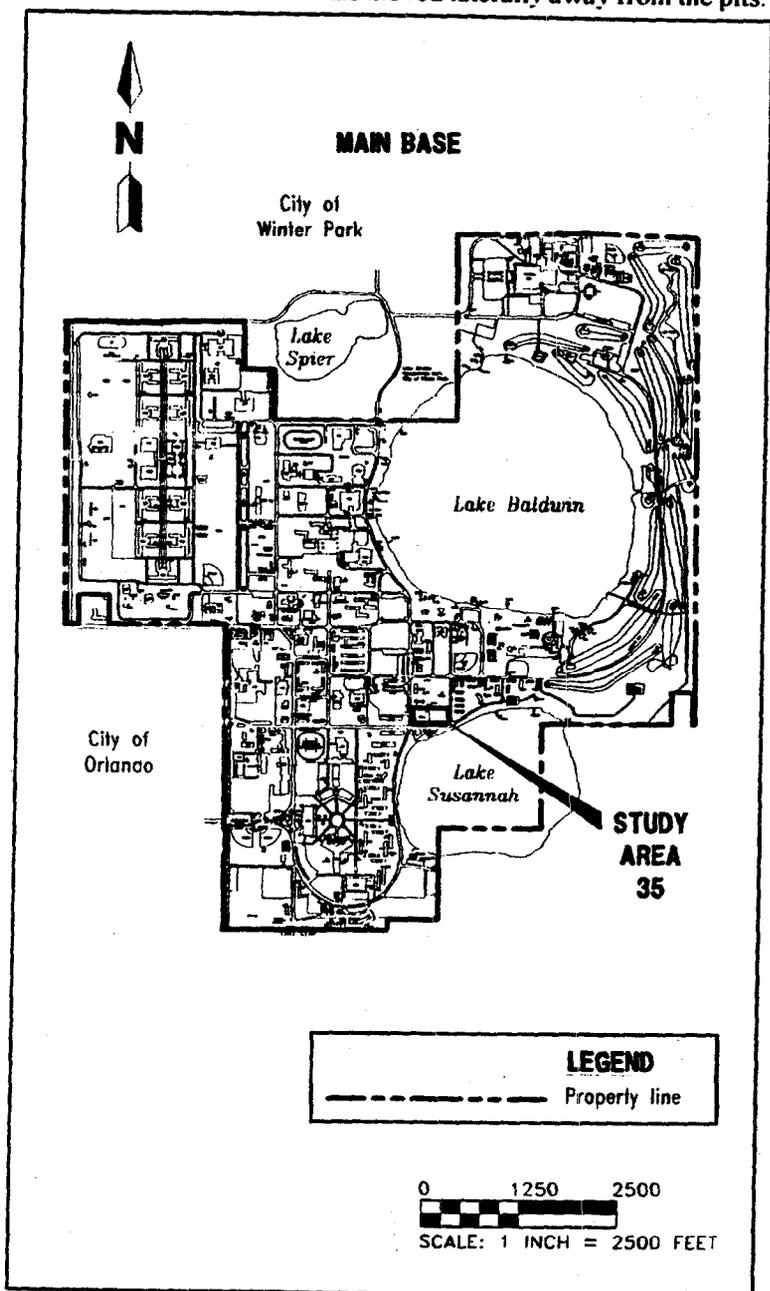


Figure 1. Study Area 35 Site Location Map

One of the exterior sample locations was located to the north of Building 2079, adjacent to a door in the north side of the building, where waste material may have been dumped. The other location was at the northeast corner of Building 2078, adjacent to a garage bay in the east side of the building. Additionally, the exterior lift pit north of Building 2078 has evidence of release of petroleum products, based on the oily sheen on the water in the pit. No contamination was detected in groundwater

Conclusions and Recommendations

The Navy, U.S. Environmental Protection Agency, and Florida Department of Environmental Protection have determined that an interim remedial action (IRA) is appropriate at SA 35 to protect human health. An IRA is an early cleanup of a specific portion of a site and can be performed before the whole site has been looked at. IRAs respond to environmental contamination of immediate concern and are sometimes the final action at a site. In this way, IRAs can help speed up the entire cleanup process.

What's Next?

The IRA for SA 35, which will be completed in early 1999, will include digging up the contaminated soil. The soil excavated will be treated to reduce contamination or transported to an off-base landfill designed to handle this type of material. Samples will be collected from the walls or floor to confirm that Florida guidelines for residential land use have been achieved. After the soil is removed, clean soil will be placed into the hole left by the excavation.

Two areas outside of Building 2078 will require excavation of surface soil to a depth of two feet: an 8-foot-by-10-foot area will be excavated north of Building 2079, and a 10-foot-by-10-

foot area will be excavated at the northeast corner of Building 2078. Three excavations will be required to remove the soil from the lift pit areas: two of the excavations will be approximately 30 feet by 17 feet by 10 feet deep and the third will be approximately 30 feet by 50 feet by 10 feet deep. Two excavations will first require removal of overlying clean soil, then excavation of the TRPH-contaminated soil.

A total of approximately 600 cubic yards of clean soil and 300 cubic yards of TRPH-contaminated soil will be excavated.

Opportunities for Public Comment

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Written or verbal comments should be directed to the NTC, Orlando Public Works Office (see phone number listed below). A public comment period will be announced soon in the *Orlando Sentinel*.

For More Information...

If you have questions about the Navy's action at SA 35, or on the environmental program at NTC, Orlando in general, please contact Mr. Wayne Hansel at the NTC, Orlando Public Works Office, (407) 646-5294. Reports on the work at SA 35 can be reviewed at these locations:

Orange County Public Library

Orlando Branch (2nd floor)

101 East Central Boulevard, Orlando, Florida 32801

(407) 425-4694

NTC, Orlando Public Works Department

1350 Grace Hopper Avenue, Orlando, Florida 32813

(407) 646-4735

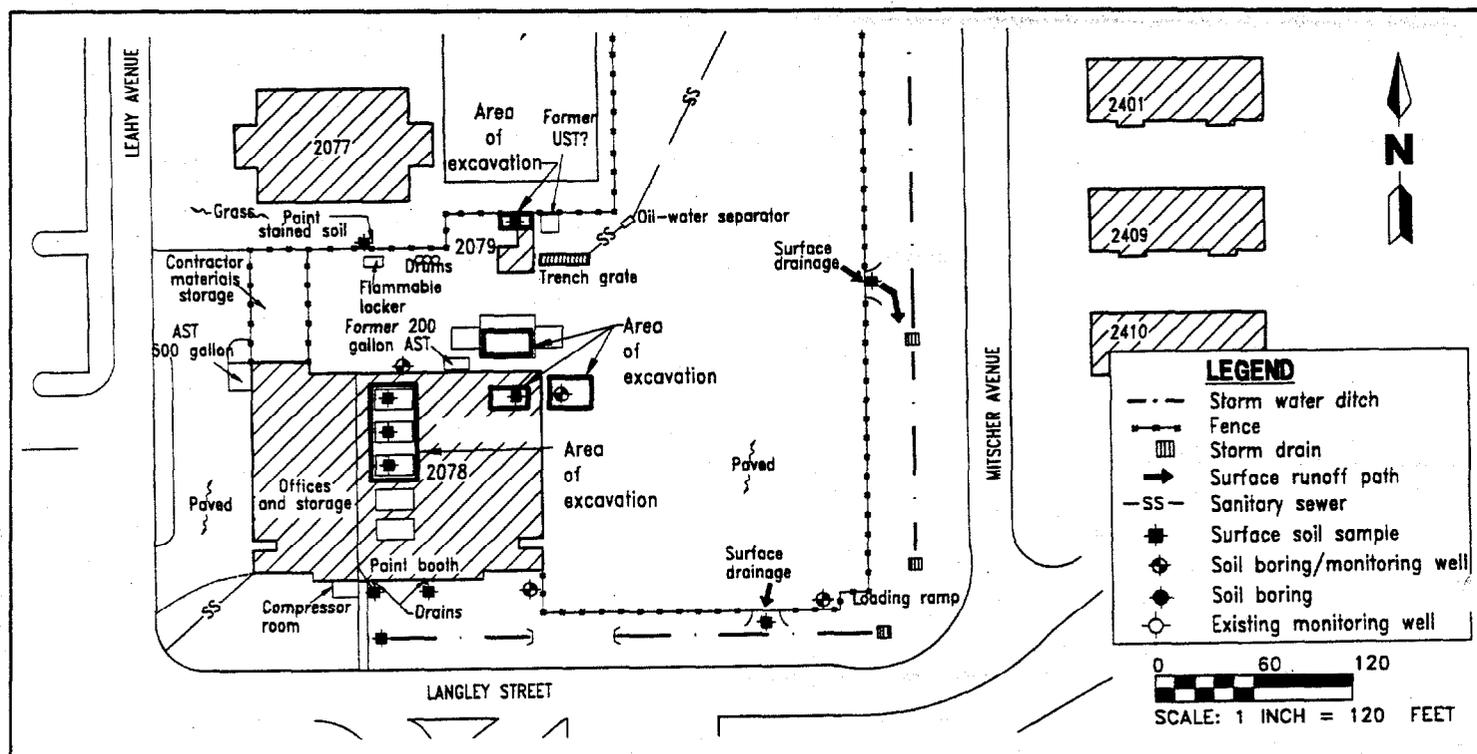


Figure 2. Study Area 35 Site Plan.

Attachment F

Environmental Meeting - Public Invited

Restoration Advisory Board Naval Training Center, Orlando

The Naval Training Center's Restoration Advisory Board (RAB) will hold its regular meeting concerning ongoing environmental studies and cleanup at NTC.

**When: 7:00 - 9:00 P.M.
Wednesday, January 20, 1999**

**Where: Winter Park City Hall
City Commission Chamber - second floor
401 Park Avenue South, Winter Park**

The current status of all NTC environmental program sites will be presented. An open floor period for community comments or questions will follow the RAB business portion of the meeting.

Documents on the environmental program at NTC, Orlando, including summaries of prior RAB meetings, are available for public review at the Orange County Library, 101 East Central Avenue, Orlando. They are located in the Information Repository in the Social Sciences Department (Aisle 27) on the second floor.

Need More Information?

Call Lt. Gary Whipple at 646-4735

or

Penny Felger at 657-8276

Attachment G

**NAVAL TRAINING CENTER, ORLANDO
RESTORATION ADVISORY BOARD MEETING
WINTER PARK CITY HALL COMMISSION CHAMBER, January 20, 1998**

COMMUNITY SIGN-IN SHEET (please PRINT clearly)

NAME	ADDRESS (please include zip code)	TELEPHONE NO. (day/evening)	AFFILIATION (if any)	Would you like to be added to our mailing list?
Peggy Sherry	916 Palmetto W.P. 32789	647 2384		
Eleanor Fisher	2325 Sherbrooke Rd. WP 32792	644 - 4415		
Mark Peto	Vogel Bros. Const. Co. 2720 Drane Field Rd. Lakeland FL 33811	941-646-5018		yes
JOHN C. HEALY	C.D.M Inc. 2301 MAITLAND CTR. PKWY SUITE 300 MAITLAND FL. 32751	407 660 2552		yes