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FINAL CORRECTIVE MEASURES IMPLEMENTATION PLAN (CMIP) SOLID WASTE
MANAGEMENT UNITS 6 AND 7 (SWMU6) (SWMU7) WITH TRANSMITTAL NS MAYPORT FL
7/18/2012
TETRA TECH



Document Tracking Number 12JAX0116

July 18, 2012

Project Number 112G00436

Naval Facilities Engineering Command, Southeast
ATTN: Mr. Brian Syme (OPC 6)
Remedial Project Manager
Building 135
Naval Air Station Jacksonville
Jacksonville, FL 32212-0030

Reference: CLEAN IV Contract Number N62467-04-D-0055
Contract Task Order Number 0033

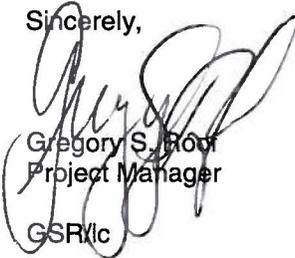
Subject: Final Corrective Measures Implementation Plan (CMIP) for Solid Waste Management
Units (SWMUs) 6 and 7
Naval Station (NAVSTA) Mayport, Jacksonville, Florida

Dear Mr. Syme:

Tetra Tech is pleased to submit the Final CMIP for SWMUs 6 and 7, NAVSTA Mayport, Jacksonville, Florida that was prepared for the United States Navy, Naval Facilities Engineering Command Southeast under Contract Task Order (CTO) 0033 for the Comprehensive Long-term Environmental Action Navy (CLEAN) IV Contract Number N62467-04-D-0055. The only comment received from the draft-final review was to add MS 4535 to John Winters' contact information, which was completed.

If you have any questions with regard to this submittal, please do not hesitate to contact me by telephone at (904) 730-4669, extension 215, or via e-mail at Gregory.Roof@tetrattech.com.

Sincerely,



Gregory S. Roof
Project Manager
GSR/lc

Enclosure

c: John Winters, FDEP (CD only)
Paul Malewicki, NAVSTA Mayport (1 hardcopy, 1 CD)
Debra Humbert, Tetra Tech (1 unbound, 1 CD)
RDM, Tetra Tech (unbound, 1 CD)
Administrative Record (electronic only)
CTO 0033 Project File

**NAVAL STATION MAYPORT
CORRECTIVE MEASURES IMPLEMENTATION PLAN**

**SOLID WASTE MANAGEMENT UNIT 6
FORMER OIL PIT AND SLUDGE DRYING BED
AND
SOLID WASTE MANAGEMENT UNIT 7
OILY WASTE TREATMENT PLANT SLUDGE DRYING BEDS**

FACILITY IDENTIFICATION NUMBER FL9 170 024 260

1. OBJECTIVE

The Resource Conservation and Recovery Act (RCRA) Statement of Basis (SB) for Solid Waste Management Unit (SWMU) 6, the Former Waste Oil Pit and Sludge Drying Bed, and SWMU 7, the Oily Waste Treatment Plant (OWTP) Sludge Drying Beds, completed public comment in December 2010. Each SB stipulated the implementation of land use controls (LUCs) and monitored natural attenuation (MNA) to prevent unacceptable human health risks from exposure to contaminated surface soil or groundwater at SWMUs 6 and 7. The objective of this Corrective Measures Implementation Plan (CMIP) is to ensure the corrective measures selected in the SB are implemented and maintained for SWMUs 6 and 7 at Naval Station (NAVSTA) Mayport.

Pursuant to RCRA, as amended by the 1984 Hazardous and Solid Waste Amendments (HSWA), the Florida Department of Environmental Protection (FDEP) issued the current HSWA permit to NAVSTA Mayport on August 17, 2009. The HSWA permit requires the CMIP to include identification of the LUC objectives.

The requirements set forth in this CMIP shall supersede the requirements of the LUC Memorandum of Agreement signed on September 7, 1999, by the United States Navy, the United States Environmental Protection Agency, and the FDEP. The inspections and reporting requirements described herein will be effective immediately upon approval of this CMIP by the FDEP. Once put into effect, the requirements set forth in this document will remain applicable to SWMUs 6 and 7 during Navy ownership as well as subsequent ownership of the SWMUs unless otherwise amended by the Navy and with FDEP concurrence.

2. SWMU DESCRIPTION

SWMUs 6 and 7 are located in the northern portion of NAVSTA Mayport near the southern shore of the St. Johns River. SWMU 6, located directly adjacent to the west of SWMU 7, served as a waste oil pit and sludge drying bed prior to the installation of SWMU 7 in 1979. SWMU 7 is made up of four OWTP sludge drying beds, which are enclosed by earthen berms. The sludge drying beds received sludge from the OWTP clarifiers and bilge water from receiving tanks. The easternmost drying bed was excavated in 1989, at which time a lined, diked enclosure and three bilge water receiving tanks were constructed. Records indicate that approximately 1,500 gallons of sludge were transferred to the drying beds on an average of twice per week until late 1994 when operations were discontinued. SWMUs 6 and 7 were identified in the 1989 Visual Site Inspection and were included in Group II SWMUs for the RCRA Facility

Investigation (RFI). The Group II SWMUs RFI was completed in 1996 and recommended that a Corrective Measures Study (CMS) be conducted for the Group II SWMUs. A CMS was conducted for the Group II SWMUs and was completed in 1996. From 1996 through December 2000, three source removal projects have been conducted at SWMUs 6 and 7 to remove petroleum-impacted soil and light nonaqueous phase liquids (LNAPL). Approximately 3,357 gallons of LNAPL and 5,234 tons of petroleum-impacted soil were removed from SWMUs 6 and 7 for disposal during the source removal projects. From September through December 2007, additional interim measure (IM) activities were completed to remove petroleum-impacted soil and LNAPL from SWMUs 6 and 7. A total of 2,853.67 tons of petroleum impacted soil, 1,800 gallons of LNAPL, and 43,945 gallons of petroleum-impacted groundwater were removed from SWMUs 6 and 7.

Surface soils were removed during the IM conducted in 2007, and petroleum-impacted soils at SWMUs 6 and 7 were removed to the extent practicable, but intermittent areas of soil contamination remain (CH2M HILL, 2008). During monitoring of the groundwater, intermittent occurrences of free product were noted in select wells. Free product has been removed with sorbent socks.

SWMUs 6 and 7 Constituents of Concern (COCs)

Media of Concern	COCs
Soil	<ul style="list-style-type: none"> • Benzo(a)pyrene Equivalents • Total Petroleum Hydrocarbons (TPH)
Groundwater	<ul style="list-style-type: none"> • 1-Methylnaphthalene • 2-Methylnaphthalene • Benzo(a)anthracene • Naphthalene • TPH • Free Product (LNAPL)

3. CORRECTIVE MEASURES

a. **Engineering Controls:** None proposed.

b. **Institutional Controls:** The following are the corrective measures for the LUC corrective action to be implemented at SWMUs 6 and 7 until such time as the concentrations of COCs in soil and groundwater are at levels to allow for unrestricted use:

1. Prevent exposure to contaminated groundwater underlying SWMUs 6 and 7 as shown in Attachment 1 including, but not limited to, dewatering, irrigation, heating/cooling purposes, and industrial processes unless prior written approval is obtained from the Navy.
2. Prohibit residential development or use of the SWMU until corrective measure(s) allow for unrestricted use and prior written approval is obtained from the Navy and the FDEP. Prohibited residential development and uses shall include, but are not limited to, any form of housing, child-care facilities, pre-schools,

elementary schools, secondary schools, playgrounds, or full-time adult convalescent or nursing care facilities.

3. Maintain the integrity of any existing or future monitoring or remediation system(s).
- c. Monitoring:** The following are the corrective measures for the monitoring corrective action to be implemented at SWMUs 6 and 7:
1. The Navy will monitor SWMUs 6 and 7 groundwater to remove any existing free product using sorbent socks and to assess natural attenuation and contaminant migration of 1-methylnaphthalene, 2-methylnaphthalene, benzo(a)anthracene, naphthalene, and TPH. The monitoring is anticipated to occur over a period of 30 years or until the Florida Groundwater Cleanup Target Levels (GCTLs) are consistently achieved, and consists of collecting groundwater samples from eight existing monitoring wells. Monitoring of eight wells would occur on a quarterly basis for the first year, after which it will be adjusted as agreed upon by the Navy and the FDEP.
 2. The eight monitoring wells to be sampled as part of a monitoring program are MPT-08-RW01, MPT-08-MW01S, MPT-08-MW02S, MPT-08-MW03S, MPT-08-MW04S, MPT-08-MW07S, MPT-08-MW015SR, and MPT-08-MW016S. Monitoring wells may be added or removed from the program as agreed to by the Navy and the FDEP. In general, wells may be removed from the program if two consecutive monitoring events showed that no COCs exceed FDEP GCTLs. If all wells are removed from the monitoring program due to no COCs exceeding FDEP GCTLs, the monitoring program will be stopped and No Further Action will be recommended for groundwater.
 3. At the conclusion of each monitoring event, a report summarizing the analytical results shall be submitted to the FDEP as soon as practical after laboratory results have been made final. In the event two consecutive monitoring events determine that detections of 1-methylnaphthalene, 2-methylnaphthalene, benzo(a)anthracene, naphthalene, and TPH in groundwater at SWMUs 6 and 7 are less than their respective FDEP GCTLs, MNA may be terminated upon the approval of the FDEP.

4. CORRECTIVE ACTION IMPLEMENTATION

The following implementation plan shall be executed by the Navy to ensure that the corrective measures for SWMUs 6 and 7 are met and maintained:

- a. CMIP Distribution:** Within 30 days of receiving FDEP approval of this CMIP, the Navy will place the CMIP in the Information Repository located at the Jacksonville Public Library – Beaches Branch, 600 3rd Street, Neptune Beach, Florida, 32266, (904) 241-1141.
- b. Implementing Corrective Actions:** Groundwater monitoring to assess possible contaminant migration at SWMUs 6 and 7 shall begin within one year of the approval of this CMIP.

- c. SWMU Inspections:** Upon the approval of this CMIP, the Navy will conduct annual physical inspections of SWMUs 6 and 7 to confirm compliance with the corrective measures. Any activity inconsistent with the corrective measures objectives or use restrictions, or any other action that may interfere with the effectiveness of the corrective measures, will be addressed by the Navy upon discovery. Continued and/or additional groundwater monitoring may be required once these inconsistent activities have been corrected.
- d. Compliance Reporting:** Upon approval of this CMIP, the Navy will provide to the FDEP an annual Corrective Measures Compliance Certificate (consistent with Attachment 2) after the inspection of SWMUs 6 and 7 has been completed. A summary of the annual analytical results shall accompany the Corrective Measures Compliance Certificate. In addition, should any deficiencies be discovered during the annual inspection, the Navy will provide the FDEP a written description of the deficiencies and the measures that are proposed to correct the deficiencies.
- e. Remedy Reviews:** The Navy will conduct routine reviews of the corrective measures at SWMUs 6 and 7 to ensure that the corrective measures remain protective of human health and the environment.
- f. Notice of Planned Property Conveyances:** Although the Navy may later transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Navy shall retain ultimate responsibility for corrective measures integrity. In the event of any conveyance of the SWMUs 6 and 7 properties to any other agency, person, or entity, the Navy shall provide notice to the FDEP of such intended conveyance at least 6 months prior to the conveyance. If it is not possible for the Navy to notify the FDEP at least 6 months prior to the conveyance, then the Navy will notify FDEP as soon as possible, but no later than 60 days prior to the conveyance. The notice shall describe the mechanism for maintenance of corrective measures and the responsible party. In the event of a property transfer, the Navy and the FDEP shall have the opportunity to review the intended deed restrictions.
- g. Changes and Termination of Corrective Measures:** The Navy shall not modify or terminate corrective measures, implementation actions, or modify land use without approval by the FDEP. The Navy shall seek prior concurrence before any anticipated action that may disrupt the effectiveness of the corrective measures or any action that may alter or negate the need for corrective measures. When the Navy determines, with the FDEP concurrence, that one or more of the corrective measures at SWMUs 6 and 7 are no longer needed for protection of human health and the environment, the Navy shall complete the appropriate documentation.

5. POINTS OF CONTACT

Listed below is the point-of-contact information for the Navy and FDEP.

Navy

Paul G. Malewicki
Environmental Division
Public Works Office
Naval Station Mayport
Jacksonville, FL 32228-0067
(904) 270-3188
Paul.G.Malewicki@navy.mil

FDEP

John Winters, PG (MS 4535)
FDEP, Bob Martinez Center
Bureau of Waste Cleanup
Federal Programs Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(850) 245-8999 or Fax (850) 245-7690
John.Winters@dep.state.fl.us

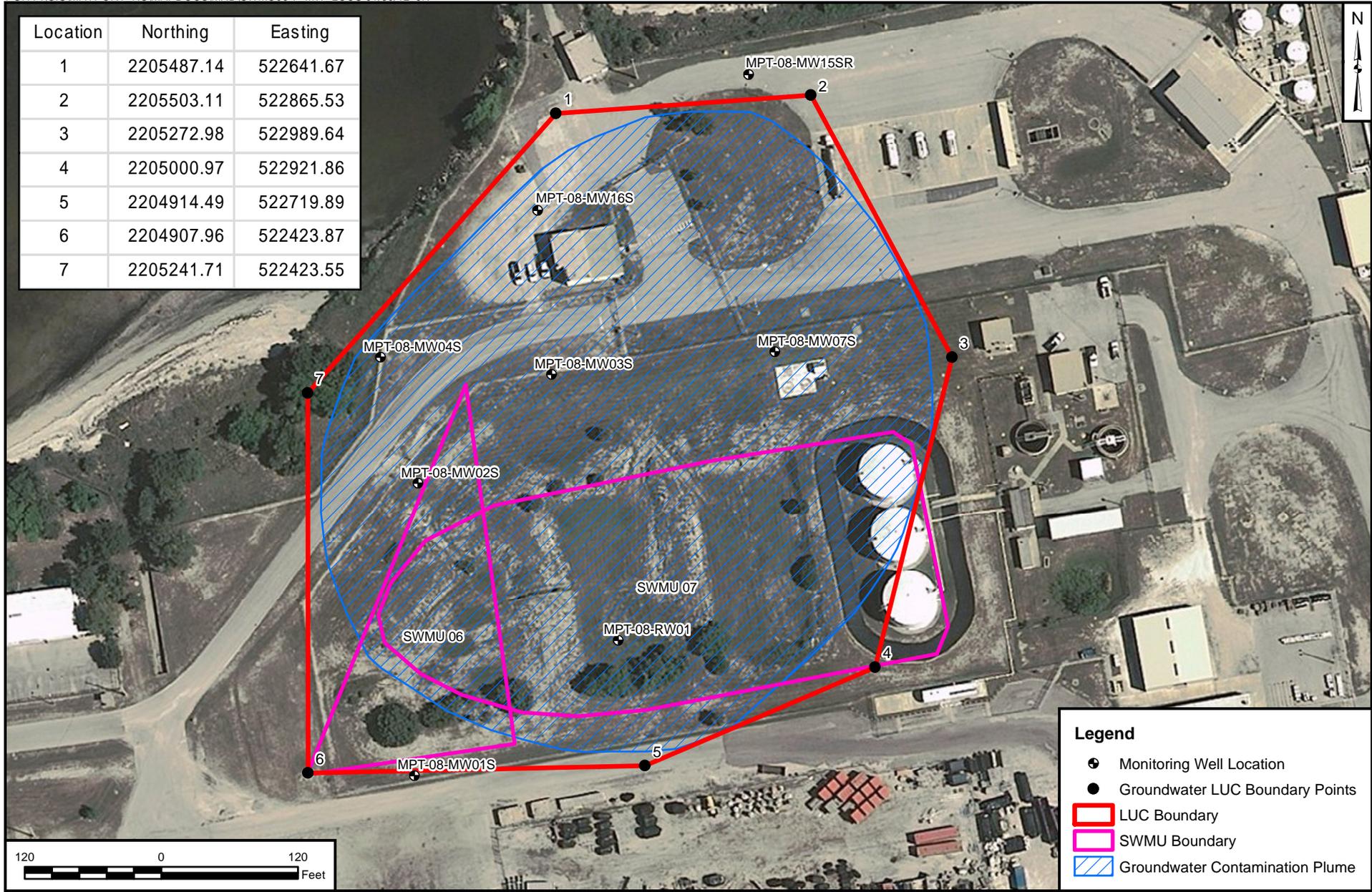
6. REFERENCES

CH2M HILL (CH2M HILL Constructors, Inc.), 2008. Interim Measures Completion Report Source Removal at SWMUs 6 and 7, Naval Station Mayport, Florida.

Tetra Tech, 2010. Statement of Basis for SWMUs 6 and 7 – Mercury/Oily Waste Spill Area, Naval Station Mayport, Jacksonville, Florida, September.

ATTACHMENT 1
CORRECTIVE ACTIONS AND GROUNDWATER FIGURE

Location	Northing	Easting
1	2205487.14	522641.67
2	2205503.11	522865.53
3	2205272.98	522989.64
4	2205000.97	522921.86
5	2204914.49	522719.89
6	2204907.96	522423.87
7	2205241.71	522423.55



Legend

- Monitoring Well Location
- Groundwater LUC Boundary Points
- ▭ LUC Boundary
- ▭ SWMU Boundary
- ▨ Groundwater Contamination Plume

DRAWN BY	DATE
J. NOVAK	01/24/12
CHECKED BY	DATE
J. JOHNSON	01/30/12
REVISED BY	DATE
J. NOVAK	01/30/12
SCALE AS NOTED	



SWMU 6 AND SWMU 7
 SELECTED REMEDY PLAN FOR SOIL/GROUNDWATER
 CORRECTIVE MEASURE IMPLEMENTATION PLAN
 NAVAL STATION MAYPORT
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER	CTO NUMBER
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE	REV
1	0

ATTACHMENT 2
ANNUAL CORRECTIVE MEASURES COMPLIANCE CERTIFICATE

SWMUs 6 and 7

ANNUAL CORRECTIVE MEASURES COMPLIANCE CERTIFICATE

Naval Station Mayport
 Facility I.D. No.: FL9 170 024 260

SWMU and LUC boundaries are shown on Figure on provided in the Attachments in the CMIP for SWMUs 6 and 7.

This evaluation covers the period from **1 January through 31 December** _____. Form shall be submitted by **1 March** of the year following the reporting period.

CERTIFICATION CHECKLIST

	IN COMPLIANCE	NON- COMPLIANCE	SEE COMMENT	NOT APPLICABLE
1) No residential development or use on parcel including but not limited to, any form of housing, child-care facilities, pre-schools, elementary schools, secondary schools, playgrounds, or full-time adult convalescent or nursing care facilities. <i>Comments:</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) No excavation of the cap or uncontrolled removal/ disturbance of soil/sediment exceeding FDEP Direct Residential Exposure SCTLs (unless Previously approved by FDEP and the Navy). <i>Comments:</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) No digging into or disturbance of any concrete or asphalt covered areas (unless previously approved by the FDEP and the Navy.) <i>Comments:</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) No human consumption of groundwater. <i>Comments:</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SWMUs 6 and 7

	IN COMPLIANCE	NON- COMPLIANCE	SEE COMMENT	NOT APPLICABLE
5) No groundwater usage. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) No tampering or damage to any Navy monitoring or remediation systems. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Periodic assessments addressing contaminant migration <u>are</u> occurring reports summarizing the findings of each monitoring event and annual analytical results <u>are</u> being submitted to the Navy and the FDEP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

I, the undersigned, hereby certify that I am an authorized representative of the above named property owner and that the above described remedies and controls have been complied with for the period noted. Alternately, any known deficiency(ies) and the owner's completed or planned actions to address such deficiency(ies) are described in the attached page explaining the deficiency(ies).

Signature/Printed Name

Date

Mail completed form(s) to:

Chief, RCRA Programs Branch
U.S. Environmental Protection
Agency Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-3104

Florida Dept of Environmental Protection
Bob Martinez Building
Bureau of Waste Cleanup Federal
Facilities Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Commanding Officer
NAVFAC SE
Attn: Director, Environmental
Services Business Line
PO Box 30
Jacksonville, FL 32212-0030