



DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION, MID-ATLANTIC
6506 HAMPTON BLVD.
NORFOLK, VA 23508-1273

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IN REPLY REFER TO:

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920/15/0025

7 FEB 2000

Mrs. Bonnie Capito (Code 1832)
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, VA 23511-2699

Dear Mrs. Capito:

SUBJECT: RESTORATION ADVISORY BOARD MEETING, FEBRUARY 29, 2000

On behalf of the Commander, Navy Region, Mid-Atlantic, I cordially invite you to the Naval Amphibious Base Little Creek Restoration Advisory Board (RAB) meeting on February 29, 1999. The meeting will start at 1:00 p.m. in the Base Conference Center behind the Drexler Manor Bachelor Officers' Quarters (BOQ), Building 3430. Parking is available behind the BOQ (see the enclosed map). A copy of the meeting agenda is also enclosed.

The Site Investigation Report dated December 1999 for Solid Waste Management Unit 3 and Installation Restoration Site 8 will be discussed at the meeting. An Executive Summary of this report is attached for your review. Copies of the report will be available at the RAB meeting; however, if you wish an advance copy, please contact John Ballinger at (757) 433-3443. These documents are also available for review at our information repositories: the Central Library and Bayside Area Library in Virginia Beach, Naval Amphibious Base Little Creek Library, and the Little Creek Branch of the Norfolk Public Library.

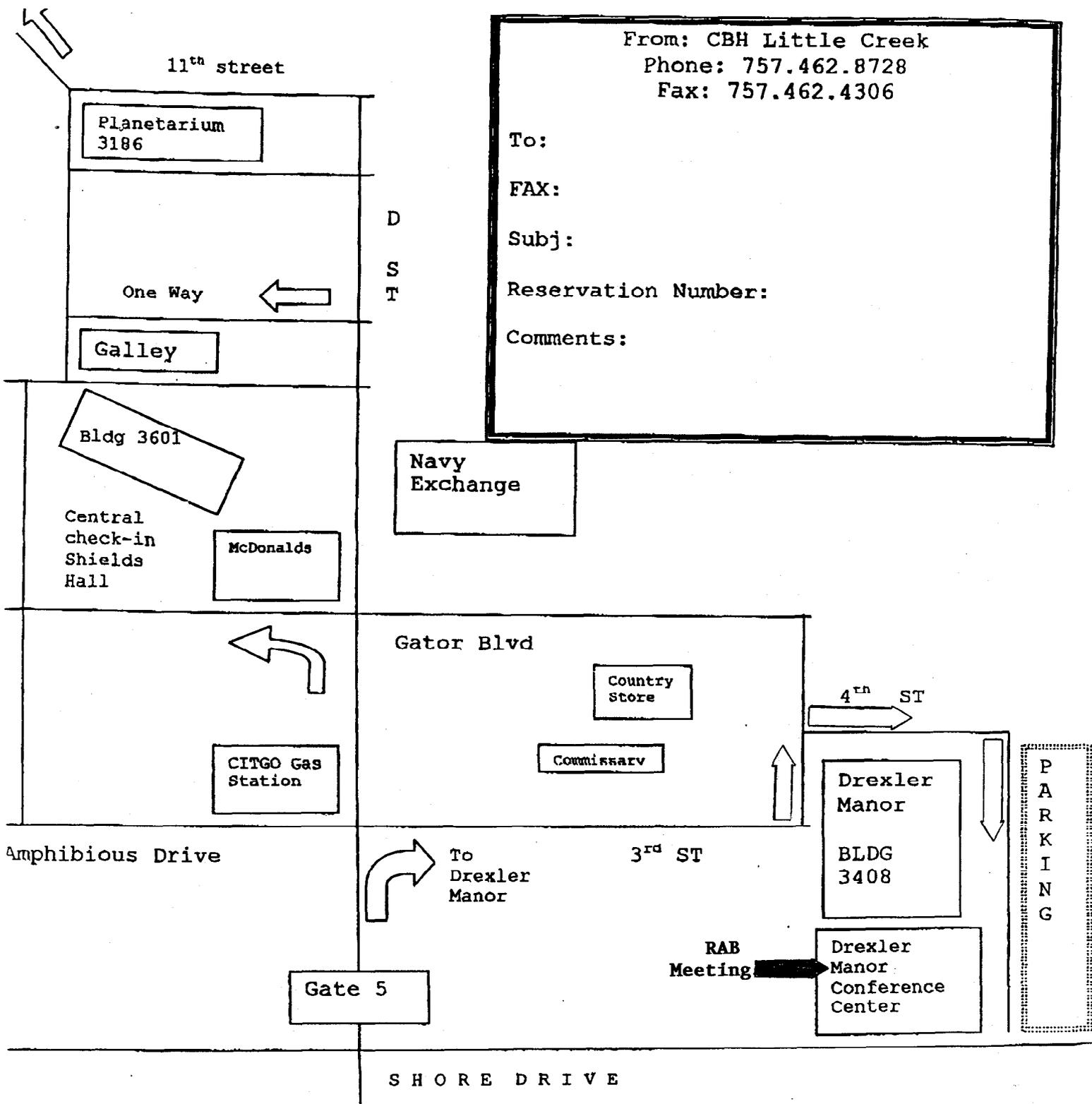
If you are unable to attend the meeting, a substitute is welcome. Please do not hesitate to call Mr. Ballinger if you have any questions.

Sincerely,

Carolyn H. Neill

CAROLYN H. NEILL
Director
Installation Restoration Program
By direction of the Commander

Enclosures: 1. Map
2. RAB Agenda
3. Executive Summary



Directions from Norfolk Airport
 Take I 64 East to Northhampton BLVD
 Northhampton BLVD for @ 6 - 10 miles to Amphibious Base exit.
 This will put you on Independence BLVD and leads directly into Gate 5.

Check-in time is 1300 at Shields Hall unless otherwise noted
 Check out is 1100

**NAVAL AMPHIBIOUS BASE, LITTLE CREEK
RESTORATION ADVISORY BOARD MEETING
FEBRUARY 29, 2000**

1:05	Introduction	Mr. John Ballinger Regional Environmental Group
1:10	Regionalization Update	Mr. Rick Hilton Regional Environmental Group
1:20	NPL Update	Mr. Bruce Beach U. S. EPA Mr. Robert Weld VDEQ
1:30	Proposed FY 00 Installation Restoration Program Work	Mr. Robert Schirmer LANTDIV
1:40	Site 12 Update	Mr. Scott MacEwen CH2MHILL
1:55	Break	
2:10	SWMU 3 & IR Site 8	Mr. Scott MacEwen CH2MHILL
2:25	Background Overview	Ms. Donna Caldwell CH2MHILL
2:40	Adjourn	

Final
Site Investigation Report
SWMU 3 and IR Site 8
Naval Amphibious Base Little Creek
Virginia Beach, Virginia



Prepared for

Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia

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Prepared by

CH2MHILL

Baker
Environmental, Inc.

CDM
Federal Programs Corp.

Executive Summary

The purpose of this SI is to further characterize the contamination at SWMU 3 and Site 8 and to determine whether additional environmental characterization and/or remediation activities are necessary at either site. The objectives of the SI were to:

- identify and evaluate existing information for SWMU 3 and Site 8;
- characterize the surface and subsurface soil, sediment, and groundwater contamination at SWMU 3 and Site 8;
- conduct a qualitative human health risk assessment and collect data for an ecological risk assessment; and
- evaluate the need for additional environmental characterization and/or remediation activities at SWMU 3 and Site 8.

E.1 Site Descriptions

At SWMU 3, the Pier 10 Sandblast Yard, sandblasting activities producing paint chips and grit were formerly conducted on an unenclosed concrete pad. Although sandblast grit was removed periodically from the site in the past, sandblast grit covered the nearshore bottom of Little Creek Channel and the unpaved ground surface south of the former pad. Historical releases likely occurred when sandblast grit was lying directly on these ground surfaces. Since 1996, all sandblasting activities are conducted elsewhere on the base within a completely contained state of the art building.

Site 8, the Demolition Debris Landfill was used from 1971 through 1979 for the disposal of primarily inert materials. Landfill contents, which include utility poles, at least two tanks, paint cans, waste containers, construction debris, concrete piping, burned building debris, and debris removed from the bar screen in the base sewage pump stations, were reportedly buried to a depth of at least 3-feet in unlined excavations. During the SI, landfill debris was observed to a maximum depth of 5.5 ft bgs. No release controls were in place at the site and no waste inventory is available.

E.2 Site Investigation Activities

The SI field activities at SWMU 3 and Site 8 are described in Table E-1. Sampling locations at SWMU 3 and Site 8 are shown in Figures 2-1 and 2-2, respectively.

E.3 Site Investigation Results

The analytical results for the soil, sediment, and groundwater sampling at SWMU 3 and Site 8 are summarized in Table E-2.

E.4 Site Conclusions and Recommendations

SWMU 3 Conclusions

The following conclusions are based on the results of the SI investigations at SWMU 3.

- Sandblast grit was observed throughout much of the surface and shallow subsurface soil and in the nearshore sediment.
- Metals concentrations in the surface and shallow subsurface soil and nearshore sediment were above screening criteria. These metal exceedances were detected primarily in the southern and eastern portions of SWMU 3 in areas where sandblast grit was generally found. Metals in the sediment are due likely to releases from the site. Beryllium, copper, lead, mercury, nickel, and zinc appear to be related to site activities.
- PAHs were detected during the SI in the surface and subsurface soil and nearshore sediment in the northern portion of SWMU 3 at concentrations exceeding screening criteria. The PAHs in the sediment are likely due to releases from the site.
- The metals and PAH exceedances in soil and sediment tend to occur in separate portions of SWMU 3 suggesting different source areas for these contaminants. Metals exceedances occur in the southern and eastern portions of SWMU 3, while PAH exceedances primarily occur in the northern portion of SWMU 3.
- Barium impacts to groundwater at SWMU 3 may be related to site activities. Barium concentrations in only one well exceeded screening levels and the maximum facility-wide background groundwater concentration. This concentration was approximately 65 percent greater than the screening criteria. No other metals exceedances in groundwater appear to be related to site activities.
- SWMU 3 is a possible source of the three VOCs and one SVOC detected at low concentrations but above screening criteria in groundwater.

Site 8 Conclusions

The following conclusions are based on the results of the SI investigations at Site 8.

- One pesticide, dieldrin, was detected in only one of the eight surface soil samples at a concentration slightly greater than screening criteria. This sample was collected in the middle of the landfill area. The pesticide exceedance is likely related to Site 8. No pesticide exceedances were found in subsurface soil, sediment, or groundwater.
- Two PAHs were observed above screening criteria in one sediment sample collected from the inlet to Little Creek Cove. This sample was collected near construction debris consisting of concrete and reinforcement bar. The PAHs in the sediment are possibly due to releases from the site. No PAH exceedances were observed in surface or subsurface soil or groundwater, although PAHs were detected at low concentrations in Site 8 soil.
- Mercury and iron in subsurface soil were detected above screening criteria and are likely related to site activities.

- Arsenic has been detected above screening levels in surface soil, subsurface soil, and sediment and is possibly related to the site.
- Arsenic, iron, and manganese concentrations in groundwater indicate likely impacts from Site 8.

SWMU 3 and Site 8 Recommendations

Based on the results and conclusions of the SI, additional data evaluation and investigations are recommended as described below at SWMU 3 and Site 8.

- Install a background monitoring upgradient of SWMU 3;
- Complete an Ecological Risk Assessment (ERA) Step 1 and 2 screening to identify potential risks;
- Conduct a remedial investigation (RI) at SWMU 3 to define the extent of sandblast grit and metals contamination in soil and sediment and to further define and confirm the site-related impacts on groundwater;
- Conduct a RI at Site 8 to further define or confirm the site related impacts;
- During the SWMU 3 and Site 8 RIs, collect additional data as needed for a feasibility study (FS), ERA and a baseline human health risk assessment (RA);
- Prepare an engineer's estimate/cost analysis (EE/CA) to address sandblast grit and contaminated soil and sediment at SWMU 3 as necessary.