N00129.AR.000693
NSB NEW LONDON
5090.3a

Site Management Plan

for

Naval Submarine Base New London
Groton, Connecticut

Northern Division
Naval Facilities Engineering Command
Contract Number N62472-90-D-1298
Contract Task Order 0257

March 1999

TETRA TECH NUS, INC.

039602/P

SITE MANAGEMENT PLAN
FOR
NAVAL SUBMARINE BASE - NEW LONDON
GROTON, CONNECTICUT

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Northern Division
Environmental Branch Code 18
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113-2090

Submitted by:
Tetra Tech NUS, Inc.
600 Clark Avenue, Suite 3
King of Prussia, Pennsylvania 19406-1433

CONTRACT NUMBER N62472-90-D-1298
CONTRACT TASK ORDER 0257

MARCH 1999

PREPARED BY:

COREY A. RICH, P.E.
PROJECT MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA

APPROVED BY:

JOHN J. TREPANOWSKI, P.E.
PROGRAM MANAGER
TETRA TECH NUS, INC.
KING OF PRUSSIA, PENNSYLVANIA

TABLE OF CONTENTS

SECTION			PAGE NO.
1.0	**INTRODUCTION**		**1-1**
	1.1	NSB-NLON BACKGROUND	1-1
	1.1.2	Base History	1-2
	1.1.3	Environmental History	1-3
	1.2	SMP SITES	1-6
	1.3	REPORT ORGANIZATION	1-7
2.0	**SITE DESCRIPTIONS AND GROUPINGS**		**2-1**
	2.1	SITE DESCRIPTIONS	2-1
	2.1.1	Site 1 - Construction Battalion Unit (CBU) Drum Storage Area	2-1
	2.1.2	Site 2 - Area A Landfill and Area A Wetland	2-2
	2.1.3	Site 3 - Area A Downstream Watercourses and Over Bank Disposal Area	2-4
	2.1.4	Site 4 - Rubble Fill Area at Bunker A-86	2-5
	2.1.5	Site 6 - Defense Reutilization and Marketing Office (DRMO)	2-6
	2.1.6	Site 7 - Torpedo Shops	2-6
	2.1.7	Site 8 - Goss Cove Landfill	2-8
	2.1.8	Site 9 - Oily Wastewater Tank (OT-5)	2-9
	2.1.9	Site 10 - Lower Subase-Fuel Storage Tanks and Tank 54-H	2-10
	2.1.10	Site 11 - Lower Subase - Power Plant Oil Tanks	2-10
	2.1.11	Site 13 - Lower Subase-Building 79 Waste Oil Pit	2-11
	2.1.12	Site 14 - Over Bank Disposal Area-Northeast	2-11
	2.1.13	Site 15 - Spent Acid Storage and Disposal Area	2-12
	2.1.14	Site 16 - Hospital Incinerator	2-13
	2.1.15	Site 17 - Lower Subase-Hazardous Materials/Solvent Storage Area (Building 31)	2-13
	2.1.16	Site 18 - Solvent Storage Area (Building 33)	2-14
	2.1.17	Site 19 - Lower Subase-Solvent Storage Area (Building 316)	2-14
	2.1.18	Site 20 - Area A Weapons Center	2-15
	2.1.19	Site 21 - Lower Subase-Berth 16	2-15
	2.1.20	Site 22 - Lower Subase - Pier 33	2-16
	2.1.21	Site 23 - Fuel Farm	2-16
	2.1.22	Site 24 - Lower Subase-Central Paint Accumulation Area (Building 174)	2-18
	2.1.23	Site 25 - Lower Subase-Classified Materials Incinerator	2-18
	2.2	SITE GROUPINGS	2-19
3.0	**REGULATORY PROCESS ACTIVITIES**		**3-1**
	3.1	CERCLA PROCESS ACTIVITIES	3-2
	3.1.1	Preliminary Assessment/Site Investigation and Site Screening Process	3-2
	3.1.2	Remedial Investigation/Feasibility Study	3-2
	3.1.3	Removal Action	3-3
	3.1.4	Interim Remedial Actions	3-3
	3.1.5	Remedial Design/Remedial Action	3-3
4.0	**SITE RANKING**		**4-1**
	4.1	REQUIREMENTS FOR RELATIVE RISK SITE EVALUATIONS	4-1
	4.2	RELATIVE RISK SITE EVALUATION FRAMEWORK	4-2
	4.3	SUMMARY OF SITE RISK RANKING FOR NSB-NLON	4-3

TABLE OF CONTENTS (Continued)

SECTION **PAGE NO.**

5.0 SCHEDULE 5-1
5.1 SCHEDULE DEVELOPMENT 5-1
5.1.1 Primary Documents 5-1
5.1.2 Secondary Documents 5-2
5.1.3 Durations 5-3

6.0 NSB-NLON CLEANUP TEAM 6-1

7.0 ABRIDGED BIBLIOGRAPHY 7-1

8.0 FIGURES 8-1

REFERENCES R-1

APPENDICES

A EXECUTIVE SUMMARY: THE RELATIVE RISK SITE EVALUATION CONCEPT

B RELATIVE RISK EVALUATION SITE WORKSHEETS

C SUMMARY AND DETAILED SCHEDULES

D RESPONSES TO U.S. EPA's COMMENTS

E RESPONSES TO CTDEP's COMMENTS

TABLES

NUMBER		PAGE NO.
2-1	Summary of Findings, Site 1 - Construction Battalion Unit (CBU) Drum Storage Area	2-21
2-2	Summary of Findings, Site 2 - Area A Landfill	2-22
2-3	Summary of Findings, Site 2 - Area A Wetland	2-23
2-4	Summary of Findings, Site 3 - Area A Downstream Water Courses/OBDA Pond	2-24
2-5	Summary of Findings, Site 3 - OBDA Debris	2-26
2-6	Summary of Findings, Site 4 - Rubble Fill Area at Bunker A86	2-27
2-7	Summary of Findings, Site 6 - Defense Reutilization and Marketing Office	2-28
2-8	Summary of Findings, Site 7 - Torpedo Shops	2-30
2-9	Summary of Findings, Site 8 - Goss Cove Landfill	2-32
2-10	Summary of Findings, Site 9 - Oily Wastewater Tank (OT-5)	2-34
2-11	Summary of Findings, Site 10 - Lower Subase - Fuel Storage Tanks and Tank 54-H	2-36
2-12	Summary of Findings, Site 11 - Lower Subase - Power Plant Oil Tanks	2-37
2-13	Summary of Findings, Site 13 - Lower Subase - Building 79 Waste Oil Pit	2-38
2-14	Summary of Findings, Site 14 - Over Bank Disposal Area - Northeast	2-39
2-15	Summary of Findings, Site 15 - Spent Acid Storage and Disposal Area	2-40
2-16	Summary of Findings, Site 16 - Hospital Incinerators	2-42
2-17	Summary of Findings, Site 17 - Lower Subase - Hazardous Materials/ Solvent Storage Area (Building 31)	2-43
2-18	Summary of Findings, Site 18 - Solvent Storage Area (Building 33)	2-45
2-19	Summary of Findings, Site 19 - Lower Subase - Solvent Storage Area (Building 316)	2-46
2-20	Summary of Findings, Site 20 - Area A Weapons Center	2-47
2-21	Summary of Findings, Site 21 - Lower Subase - Berth 16	2-48
2-22	Summary of Findings, Site 22 - Lower Subase - Pier 33	2-50
2-23	Summary of Findings, Site 23 - Fuel Farm	2-52
2-24	Summary of Findings, Site 24 - Lower Subase - Central Paint Accumulation Area (Building 174)	2-54
2-25	Summary of Findings, Site 25 - Lower Subase - Classified Materials Incinerator	2-55
4-1	Relative Risk Ranking Results	4-4
7-1	Abridged Bibliography	7-2

FIGURES

NUMBER

8-1 Base Location Map
8-2 Site Locations Map
8-3 Site Map, Site 1-CBU Drum Storage Area
8-4 Site Map, Site 2-Area A Landfill
8-5 Site Map, Site 2-Area A Wetland
8-6 Site Map, Site 3, Area A Downstream Watercourses/OBDA
8-7 Site Map, Site 4-Rubble Fill Area At Bunker A-86
8-8 Site Map, Site 6-DRMO
8-9 Site Map, Site 7-Torpedo Shops
8-10 Site Map, Site 8-Goss Cove Landfill
8-11 Site 9, Oil/Wastewater Tank
8-12 Site Map, Lower Subase
Site 10 - Fuel Storage Tanks and Tank 54-H
Site 11 - Power Plant Oil Tanks
Site 13 - Building 79 Waste Oil Pit
Site 17 - Hazardous/Flammable Materials Warehouse (Building 31)
Quay Wall Study Area
Site 19 - Solvent Storage Area (Building 316)
8-13 Site Map, Site 14-OBDANE
8-14 Site Map, Site 15-Spent Acid Storage and Disposal Area
8-15 Site Map, Site 16-Hospital Incinerators
8-16 Site Map, Site 17-Hazardous Materials/Solvent Storage Area (Building 31)
8-17 Site Map, Site 18-Solvent Storage Area (Building 33)
8-18 Site Map, Site 20-Area A Weapons Center
8-19 Site Map, Site 21-Berth 16 and Site 25, Classified Material Incinerator
8-20 Site Map, Site 22-Pier 33
8-21 Site Map, Site 23-Fuel Farm
8-22 Site Map, Site 24-Central Paint Accumulation Area (Building 174)

1.0 INTRODUCTION

This Site Management Plan (SMP) for the Naval Submarine Base - New London (NSB-NLON), Groton, Connecticut, was prepared for the U.S. Department of the Navy (Navy) by Tetra Tech NUS, Inc. (TtNUS), under the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract, Contract Number N62472-90-D-1298, Contract Task Order (CTO) 0257. TtNUS was formerly Brown & Root Environmental. The SMP serves as a management tool for planning, reviewing, and setting priorities for environmental investigative and remedial response activities to be conducted at NSB-NLON within the Navy's Installation Restoration (IR) Program. Ultimately, the SMP serves as the schedule for implementation of the IR Program at NSB-NLON. The SMP is updated annually to revise priorities and schedules of activities as additional information (including funding availability) becomes available.

This version of the SMP presents the rationale for the sequence of future investigation and remediation activities and the estimated schedule for completion of these activities, with detailed schedules presented through Fiscal Year 2013. The use of an SMP allows for annual adjustment in scheduled activities for reasons such as Federal budgetary constraints, changes in scope of investigation/remediation activities, or other unanticipated events. A Federal Facilities Agreement (FFA) has been developed for NSB-NLON. The FFA establishes the roles and responsibilities of the Navy, United States Environmental Protection Agency (U.S. EPA), and State of Connecticut Department of Environmental Protection (CTDEP) and serves as an Interagency Agreement (IAG) for the completion of all necessary investigation and remedial actions at NSB-NLON. The SMP provides the schedule for completion of the investigation and remedial actions.

1.1 NSB-NLON BACKGROUND

As detailed in the FFA, "Naval Submarine Base New London" or "NSBNL" shall mean the real property located on the east bank of the Thames River in the Towns of Groton and Ledyard, Connecticut, known as the Naval Submarine Base New London and the Nautilus Memorial consisting of approximately 568 acres and NSBNL shall include the Navy family housing commonly known as Polaris Park, Nautilus Park, Trident Park, Conning Towers, and Dolphin Gardens, consisting of approximately 534 acres and located in said towns.

Base Description

NSB-NLON is located in southeastern Connecticut in the towns of Ledyard and Groton, as depicted on Figure 8-1. NSB-NLON is situated on the east bank of the Thames River, approximately 6 miles north of

Long Island Sound. The site is bounded to the east by Connecticut Route 12, to the south by Crystal Lake Road, and to the west by the Thames River. The northern border is a low ridge that trends approximately east-southeast from the river to Baldwin Hill.

NSB-NLON currently provides a base command for Naval submarine activities in the Atlantic Ocean. Additionally, NSB-NLON includes housing for Navy personnel and their families; submarine training facilities; military offices; medical facilities; and facilities designed for the maintenance, repair, and overhaul of submarines.

Land use adjacent to the base is residential and commercial. Residential development along Military Highway, Sleepy Hollow, Long Cove Road, and Pinelock Drive borders the site to the north and extends north into the Gales Ferry section of Ledyard. Property along Route 12 to the east of the base consists of widely spaced private homes and open, wooded land. Farther south on Route 12, development is mixed commercial and residential, and includes a church, automobile sales and repair facilities, convenience stores, restaurants, and a gas station. Private residences, an automobile service station, and a dry cleaning establishment are located along the south side of Crystal Lake Road; farther south is housing for Navy personnel.

1.1.2 Base History

In 1867, the State of Connecticut donated a 112-acre parcel of land on the east bank of the Thames River to the Navy. The Navy did not use the property until 1868 when it officially designated the property a Navy Yard. The site was then used to moor small craft and obsolete warships, and served as a coaling station for the Atlantic fleet. The Department of the Navy designated the site a Submarine Base in 1916. During World War I, facilities at the base were expanded extensively; 6 piers and 81 buildings were added. In 1917, a submarine school was established, and in 1918 the Submarine Medical Center was founded.

NSB-NLON underwent another period of growth during World War II. Between 1935 and 1945 the Navy built in excess of 180 buildings and acquired adjacent land to expand NSB-NLON from 112 to 497 acres of land. The growth of NSB-NLON continued after World War II. The Medical Research Laboratory was established in 1946.

In 1968 the status of the Submarine School was changed from an activity to a command and became the largest tenant on the base. The Naval Submarine Support Facility was established in 1974, and the Naval Undersea Medical Institute was established the following year.

1.1.3 Environmental History

The Navy initiated the Naval Assessment and Control of Installation Pollutants (NACIP) Program on September 11, 1980, to identify and control environmental contaminants from past use and disposal of hazardous substances. Subsequently, the Initial Assessment Study (IAS), (Envirodyne, 1982), completed in March 1983, identified several potential disposal areas. The results of the IAS lead to the inclusion of NSB-NLON on the Federal Agency Hazardous Waste Compliance Docket on February 12, 1988; a forming of the Technical Review Committee; U.S. EPA's proposing that NSB-NLON be added to the National Priorities List (NPL) on October 25, 1989; and finally, the placement of NSB-NLON on the NPL on August 30, 1990.

Previous investigations and enforcement histories for NSB-NLON are summarized as follows:

- Initial Assessment Study (IAS), Envirodyne Engineers, Inc. (Envirodyne, 1982). The purpose of the IAS was to identify and evaluate past waste disposal practices at NSB-NLON and to assess the potential for environmental impacts.

- Installation Restoration Program, 1986. In response to the growing awareness of the potential effects of hazardous materials on human health and the environment, the U.S. Department of Defense (DOD) developed the IR Program to investigate and clean up potential problem areas created by past events at federal facilities. The IRP was the catalyst for environmental investigations at the NSB-NLON.

- Verification Study, Wehran Engineering, Inc., (Wehran, 1988). The purpose of the Verification Study was to determine whether toxic and hazardous materials identified in the IAS were present on site and to recommend whether additional study was warranted.

- Placement of NSB-NLON on the National Priorities List (NPL) by the U.S. EPA, 1990.

- Phase I Remedial Investigation (RI) NSB-NLON, Atlantic Environmental Services, Inc. (Atlantic 1992). In May 1990, Atlantic Environmental Services, Inc., initiated an IR Study of NSB-NLON. The scope of work for this IR Study included a Phase I Remedial Investigation (RI) of the following 11 sites located at NSB-NLON (Atlantic, 1992):

  Site 1 - Construction Battalion Unit Drum Storage Area
  Site 2 - Area A (Area Landfill, Area A Wetland, and Area A Downstream Watercourses)
  Site 3 - Over Bank Disposal Area

Site 4 - Rubble Fill at Bunker A-86
Site 6 - Defense Reutilization and Marketing Office
Site 7 - Torpedo Shops
Site 8 - Goss Cove Landfill
Site 13 - Lower Subase
Site 14 - Over Bank Disposal Area Northeast
Site 15 - Spent Acid Storage and Disposal Area
Site 18 - Former Gasoline Station

The sites were initially identified in the IAS (NEESA, 1983). The site numbers listed above were assigned to each site during this IAS.

Elements of this RI report included a review of the physical characteristics of each study area, a characterization of the nature and extent of contamination within each study area, a characterization of contaminant fate and transport within each study area, and a health and ecological risk assessment of contaminants contained within each of the 11 sites.

- Supplement to Initial Assessment Study Draft Final (NFESC, 1995). The March 1983 IAS, prepared by the Naval Energy and Environmental Support Activity [NEESA], investigated potential hazardous substance release sites at NSB-NLON [NEESA, 1983]. A Supplement to the Initial Assessment Study (SIAS) was prepared in April 1995 by the Naval Facilities Engineering Service Center following completion of the Phase I and Phase II RIs and a Verification Study, (NFESC, 1995). The purpose of the SIAS was to update the IAS for the period between 1983 and 1995. The scope of the SIAS included identification of all hazardous waste storage areas and all releases of hazardous substances within NSB-NLON.

  The field team for the SIAS used on-base record searches, site visits, and employee interviews to develop information for the report. The following sites were included in the evaluation:

  Defense Reutilization and Marketing Office (DRMO), Building 355
  Building 450, OTTO Fuel Wastewater Tank
  Building 450, Drum Storage Area
  Pesticide Use: Golf Course
  Pesticide Use: Public Works
  Transformer at Building 157, Vault 31
  Paint Residue from Repainting Potable Water Tank 99

Paint Residue from Repainting Potable Water Tank 326
Paint Residue from Repainting Potable Water Tank 444
Paint Residue from Repainting Potable Water Tank 452
Paint Residue from Repainting Potable Water Tank 480
DRMO Scrap Metal Storage Area
Hazardous Waste Accumulation Areas

- Federal Facility Agreement (FFA) for NSB-NLON, 1994. The Navy entered into an FFA with U.S. EPA and the CTDEP regarding the cleanup of environmental contamination at NSB-NLON. The document was signed by all three parties and became effective on January 11, 1995. The FFA established the roles and responsibilities of each agency, set deadlines for the investigation and cleanup of hazardous waste sites, and established a mechanism for the resolution of disputes among the agencies.

- Phase II Remedial Investigation, B&R Environmental Final, (B&RE, 1997b) A Phase II RI Report was prepared in March 1997 by B&R Environmental for 13 sites. These sites include 10 of the 11 sites covered in the Phase I RI, in addition to the Thames River and the Area A Weapons Center (Site 20). Site 18, the Former Gasoline Station, was not investigated in the Phase II RI but was generally discussed for informational purposes. According to the Navy, the designation for Site 18 has been changed to refer to the Solvent Storage Area (Building 33), as presented in the Phase II RI Report (B&RE, 1997b), and not to the Former Gasoline Station, as presented in the Phase I RI Report (Atlantic, 1992).

  The Phase II RI field investigations were used to further develop the elements of the Phase I RI, including the physical characteristics of each study area, a characterization of the nature and extent of contamination within each study area, a characterization of contaminant fate and transport within each study area, and a baseline human health and ecological risk assessment of contaminants contained within each of the sites. Remedial action objectives were identified for each of the sites in the Phase II RI. These objectives were used to support No Further Action, further characterization, or feasibility study recommendations for sites.

- Additional documents have been generated since the Phase II RI was completed. Because of the large number of documents, they are not discussed in detail in this section. The appropriate references to these additional documents are provided in Sections 2.0 and 7.0.

1.2 SMP SITES

Although various site designation numbers have been used in the past, an updated site designation list has been established for NSB-NLON. These designations are consistent with the Phase II RI and will be used throughout this SMP and subsequent activities. The site number does not imply that the site is an Area of Concern (AOC). The following sites will be addressed within this SMP:

Site 1 - Construction Battalion Unit (CBU) Drum Storage Area
Site 2 - Area A Landfill and
Area A Wetland
Site 3 - Area A Downstream Water Courses/OBDA Pond and
Over Bank Disposal Area (OBDA)
Site 4 - Rubble Fill Area at Bunker A-86
Site 6 - Defense Reutilization and Marketing Office (DRMO)
Site 7 - Torpedo Shops
Site 8 - Goss Cove Landfill
Site 9 - Oily Wastewater Tank (OT-5)
Site 10 - Lower Subase - Fuel Storage Tanks and Tank 54-H
Site 11 - Lower Subase - Power Plant Oil Tanks
Site 13 - Lower Subase - Building 79 Waste Oil Pit
Site 14 - Over Bank Disposal Area Northeast (OBDANE)
Site 15 - Spent Acid Storage and Disposal Area (SASDA)
Site 16 - Hospital Incinerators
Site 17 - Lower Subase - Hazardous Materials/Solvent Storage Area (Building 31)
Site 18 - Solvent Storage Area (Building 33)
Site 19 - Lower Subase - Solvent Storage Area (Building 316)
Site 20 - Area A Weapons Center
Site 21 - Lower Subase - Berth 16
Site 22 - Lower Subase - Pier 33
Site 23 - Fuel Farm
Site 24 - Lower Subase - Central Paint Accumulation Area (Building 174)
Site 25 - Lower Subase - Classified Materials Incinerator

Site 5 (Hazardous Waste Storage Facility at Bunker A-85) is not addressed in this SMP because future activities at the site will be conducted under the Resource Conservation and Recovery Act (RCRA Part A Permit). Site 12 (Building 428 Gas Tanks) is also not addressed in this SMP because it is not a CERCLA site and it is being evaluated under the CTDEP's UST Program.

The soil and groundwater operable units at Site 23 (Fuel Farm) are addressed in Section 2.0 of this SMP. However, the soil operable unit will be further investigated and remediated under RCRA and is not discussed in the subsequent sections of this SMP. The groundwater operable unit will be further investigated under CERCLA as part of the Basewide Groundwater OU Remedial Investigation and is therefore included in the remaining sections of this SMP.

Because of recent remedial actions completed at NSB-NLON under the IR Program, seven sites now fall into the categories of Remedies in Place (RIP) or Response Complete (RC). Site 2 – Area A Landfill, Site 3B – Over Bank Disposal Area (OBDA) Debris, Site 6 – Defense Reutilization and Marketing Office (DRMO), and Site 4 – Rubble Fill at Bunker A-86 fall into the RIP category and Site 1 – CBU Drum Storage Area, Site 9 – Oily Wastewater Tank (OT-5), and Site 15 – Spent Acid Storage and Disposal Area (SASDA) fall into the RC category. Further explanation of the RIP and RC categories is provided in Section 4.1.

1.3 REPORT ORGANIZATION

The SMP is organized as follows:

- Section 1.0 consists of this introduction.
- Section 2.0 describes the history and status of each site at NSB-NLON.
- Section 3.0 provides a description of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedial process.
- Section 4.0 provides a description of the ranking procedure and a summary of ranking results.
- Section 5.0 presents the sequence of activities and target dates for primary/secondary documents along with a discussion of their development.
- Section 6.0 provides the names and responsibilities of cleanup team members.
- Section 7.0 provides a listing of site-specific documents.
- Section 8.0 provides site maps and figures.

- References for in-text citations are provided in the reference section following Section 8.0.

The Appendices are as follows:

- Appendix A presents the Executive Summary for the Relative Risk Site Evaluation Concept.
- Appendix B presents the Relative Risk Ranking Worksheets.
- Appendix C presents the Summary and Detailed Schedules.
- Appendix D presents responses to USEPA's comments on the draft 1998 SMP.
- Appendix E presents responses to CTDEP's comments on the draft 1998 SMP.

2.0 SITE DESCRIPTIONS AND GROUPINGS

This section presents a brief history and status of each site addressed within this SMP for NSB-NLON. Included in the summary of findings tables, if available, are a description of the site and remedial activities conducted or ongoing at the site, as well as, the nature and extent of contamination, potential migration pathways, toxicity and persistence of contaminants, and potential for adverse impact to the environment. Figure 8-2 presents the location of the sites.

2.1 SITE DESCRIPTIONS

2.1.1 Site 1 - Construction Battalion Unit (CBU) Drum Storage Area

Site 1, Construction Battalion Unit (CBU) Drum Storage Area, was a 15-foot by 30-foot, open, unpaved area located in the northern section of NSB-NLON, adjacent to the deployed personnel parking lot and the Area A Landfill. The site was situated on a flat, open area at the edge of a wooded hillside that slopes toward the site. The site map is included as Figure 8-3. The 1983 IAS indicated that twenty-six 55-gallon drums containing waste oil, lube oil, and paint materials were stored at the site (NEESA, 1983). In a later site inspection in 1988, field personnel identified two 55-gallon drums containing engine oil (Atlantic, 1992). Field personnel did not find any drums at the site during a 1994 investigation (B&RE, 1997b). All drums had been disposed of off site by NSB-NLON personnel. Also, no surface soil staining or stressed vegetation was evident during the 1994 investigation (B&RE, 1997b).

Field personnel reported a fuel odor and an oily sheen during drilling operations (Atlantic, 1992). Polynuclear aromatic hydrocarbons (PAHs) were detected in the Site 1 soil samples.

Historically, surface drainage from the CBU Drum Storage Area flowed northeast across the unpaved Deployed Parking Lot (which covers a portion of the Area A Landfill) and into the Area A Wetland via a catch basin and storm sewer located approximately 40 feet northeast of the CBU Drum Storage Area (B&RE, 1997b). Groundwater in this area flows in a northeasterly direction toward Area A Wetland (B&RE, 1997b). Because of the relatively low concentrations of detected contaminants, the immobile nature of these contaminants within the soil matrix and the lack of contamination detected in the groundwater, No Further Action was recommended for this site. This site was included in the Phase II RI and a summary of findings table is included as Table 2-1. The groundwater operable unit associated with this site will be investigated as part of the Area A Landfill Groundwater Monitoring Program and the Basewide Groundwater OU RI.

A No Further Action Decision Document for this site was signed by all parties and distributed on September 19, 1996 (USEPA, 1996). This document removed the CBU Drum Storage Area from the further consideration in the IRP process and changed the status of this site to RC. In addition, this site fell within the limits of the low-permeability cover system installed at the Area A Landfill. Construction of this system was completed in September 1997; therefore, the site is currently capped.

2.1.2 Site 2 - Area A Landfill and Area A Wetland

Site 2 - Area A Landfill

Site 2, Area A Landfill, is located in the northeastern and northcentral sections of NSB-NLON and encompasses approximately 13 acres. The site map is included as Figure 8-4. The western edge of the Area A Landfill boarders the Area A Wetland. According to test boring data, the landfill depth is estimated to average between 10 to 20 feet (B&RE, 1997b). Aerial photographs of the site indicate that a majority of the fill material is located along the eastern and western boundaries of the landfill.

According to the Initial Assessment Study (IAS), landfilling operations were initiated at the site during the mid-1950's (NEESA, 1983). Prior to 1963, residual materials collected from the base incinerator were deposited in the Area A Landfill. Following closure of the base incinerator in 1963, all refuse and debris generated by base operations were disposed of directly into the Area A Landfill. The Area A Landfill was closed in 1973 and a concrete pad was constructed on the southwestern section, adjacent to Building 373, for above-ground storage of industrial wastes. At the time of the IAS, 42 steel drums containing mineral oil and PCB's, 87 transformers, and 60 to 80 electric switches were stored on the pad on wooden pallets. Two transformers and several electrical switches were observed to be leaking. Leaked oil was also noted. No materials are currently stored on this concrete pad (B&RE, 1997b).

The IAS also reported that refuse including steel drums, oxygen candles, wood and metal scraps, concrete, and tires, were evident at the edge of the landfill adjacent to the Area A Wetland (NEESA, 1983). According to the report, petroleum compounds had been poured into the northwestern section of the landfill and eventually drained into the Area A Wetland. Also, waste sulfuric acid collected in barrels during battery maintenance operations was buried in trenches excavated in the Area A Landfill. During the Phase I RI, Atlantic field personnel observed orange residue extending along the base of the landfill slope from the dike to the east end of the deployed parking lot (Atlantic, 1992).

Landfill runoff drains north as overland flow into the Area A Wetland (B&RE, 1997b). Water from the Area A Wetland subsequently discharges to the Area A Downstream Watercourses and into the Thames River.

Groundwater flows northeast across most of the landfill, toward the Area A Wetland. Although groundwater flow directions in the bedrock and overburden are similar, the degree of hydraulic connection varies across the site area (B&RE, 1997b).

This site was included in the Phase II RI. A summary of findings table is included as Table 2-2.

An interim remedial action was performed at the Area A Landfill which involved the construction of a low-permeability cover system over the landfill area. The final cover system was constructed during the period from March 3, 1997 through September 5, 1997 (B&RE, 1998c). The status of Area A Landfill is considered remedies in place (RIP). Groundwater monitoring will be completed at this site to verify the effectiveness of the cover system to reduce contaminant migration. A draft final Groundwater Monitoring Plan for the Area A Landfill was issued in January 1999 (TtNUS, 1999b). The groundwater will also be evaluated during the Basewide Groundwater OU RI.

Site 2 - Area A Wetland

Site 2, Area A Wetland, is adjacent to the northern edge of the Area A Landfill. The site map is included as Figure 8-5. In the late 1950s, dredge spoils from the Thames River were pumped to the Area A Wetland and contained within an earthen dike that extended from the Area A Landfill to the south side of the Area A Weapons Center (Atlantic, 1992). Based on boring logs, the total volume of dredged material in the wetland was estimated to be 1.2 million cubic yards (Atlantic, 1992). A small pond containing between 1 and 3 feet of water is located at the southeast end of the Area A Wetland. The wetland receives runoff from surrounding areas including Route 12, the Area A Weapons Center, and the Area A Landfill. Wetland discharge is directed through an earthen dike via four, 24-inch metal culverts to the Area A Downstream Watercourses, which discharge and into the Thames River (B&RE, 1997b).

In the 1960s and early 1970s, pesticide "bricks" containing formulated (water-soluble) dichlorodiphenyl-trichloroethane (DDT) were placed on the wetland ice during the winter and allowed to melt as a mosquito control measure (Atlantic, 1992). This site was included in the Phase II RI and the recommendation for the site in the RI was limited action. Groundwater beneath the Area A Wetland will be reinvestigated as part of the Area A Landfill Groundwater Monitoring Program (TtNUS, 1999b). The groundwater will also be investigated as part of the Basewide Groundwater OU RI (TtNUS, 1998). A summary of findings table is included as Table 2-3.

2.1.3 Site 3 - Area A Downstream Watercourses and Over Bank Disposal Area

Site 3 - Area A Downstream Watercourses/OBDA Pond

Site 3, the Area A Downstream Watercourses, includes North Lake, Upper Pond, Lower Pond, the Over Bank Disposal Area (OBDA) Pond, and interconnected Streams 1 through 6. The site map is included as Figure 8-6. The primary discharge point of the Area A Wetland is through a dike. The discharge forms Stream 4, which flows west into Upper Pond. Stream 3 directs discharge from the Upper Pond into Stream 5. Stream 5 flows west into the Thames River. Stream 2 directs discharge from the Lower Pond to a confluence with Stream 1. Stream 1 directs discharge from the OBDA Pond to this confluence, and the combined Stream 1 and Stream 2 flows are directed to Stream 6, which flows west to the Thames River. Further development is not planned for the Area A Downstream Watercourses because this area lies within designated Explosive Safety Quantity Distance arcs defined for the Weapons Center.

Site 3, Area A Downstream Watercourses, was included in the Phase II RI (B&RE, 1997b). North Lake was proposed for No Further Action in the Phase II RI. A feasibility study (B&RE, 1997j) was prepared for the soils and sediments at Site 3. A ROD for the soil and sediment at this site was signed in March 1998. Preparation of the remedial design for the site has begun (FWEC, 1999). A pre-design sampling effort of the soil and sediment was conducted in July 1998 to confirm the extent of contamination. The groundwater associated with this site will be further investigated during the Basewide Groundwater OU RI. A summary of findings table for Site 3 is included as Table 2-4.

Site 3 - OBDA Debris

The OBDA is located along the southeastern bank of the OBDA Pond. The site map is included as Figure 8-6. According to the Initial Assessment Study, 30 partially covered, 200-gallon metal fuel tanks, in addition to scrap lumber, were found deposited at the OBDA (NEESA, 1983). A site inspection of the OBDA confirmed these earlier observations and also included telephone poles, rolls of wire, and several empty, unlabeled 55-gallon drums (Atlantic, 1992). Also, orange sediments were observed in the seep being discharged from under the bank of OBDA (Atlantic, 1992).

A time-critical removal action was conducted at this site in 1997. Tanks, large metal items, timbers and miscellaneous construction debris was removed from the site. Potentially contaminated debris was decontaminated onsite. Potentially contaminated material and soil removed from the debris during decontamination was sampled and analyzed for DDT. DDT is the primary chemical of concern at Site 3. DDT was not detected in any of the samples (FWEC, 1997c). The soil resulting from the decontamination of debris and concrete debris were incorporated into the subgrade of the Area A Landfill. Two gas cylinders were removed from the OBDA. One of the tanks (i.e., acetylene) was disposed of as hazardous

waste. All other debris was disposed off site as clean waste in permitted landfills or at metal recycling facilities. An Action Memorandum was written for this site in July 1997 (U.S. Navy, 1997b). Since the debris has been removed, the status of this site was changed to RIP. Confirmatory sampling of the soil which had underlain the debris will be conducted as part of the Site 3 Area A Downstream Watercourses remedial action. A summary of findings for the OBDA is included as Table 2-5. The groundwater associated with this site will be further investigation during the Basewide Groundwater OU RI.

2.1.4 Site 4 - Rubble Fill Area at Bunker A-86

Site 4, the Rubble Fill Area, was a 25-foot by 60-foot plot located in the north central section of NSB-NLON, approximately 80 feet west of Bunker A-86. The site map is included as Figure 8-7. According to the Initial Assessment Study report (Envirodyne, 1982), waste materials, including an electric motor, concrete, asphalt, tar buckets, wood, and gravel, were discarded at the site in the early 1970s (NEESA, 1983). In addition to wood and concrete construction debris, previous investigations located an empty 5-gallon container of monothanolanine (labeled as a corrosive), an empty 5-gallon container of thorite (labeled as nonshrinking compound for patching concrete), and a 55-gallon drum of lube oil that was approximately 10 percent full at the site (Atlantic, 1992).

After pooling in a small drainage swale located immediately west of the fill area, excess surface runoff from this site flows north-northeast toward the Area A Landfill and the Area A Wetland. Groundwater also flows to the north-northeast toward the Area A Landfill and Area A Wetland (B&RE, 1997b). This site was included in the Phase II RI.

A low-permeability cover system has been installed on the Area A Landfill. In conjunction with the construction of the low-permeability cover system on the Area A Landfill, an interception trench was constructed into the hillside between the landfill and Site 4. Grading required for the construction of the interception trench involved excavating the soil at Site 4 and the hillside between the Site 4 and the Area A Landfill to a depth of approximately 8 feet. This excavation constituted a time-critical removal action for Site 4. The excavated soil and construction debris was incorporated into the Area A Landfill subgrade, except wood debris which was sampled and disposed of off-site (FWEC, 1997b). Following the excavation, verification sampling was conducted in an area of about 17,000 square feet to determine the extent of residual contamination (B&RE, 1997c).

The Verification Sampling Report (B&RE, 1997c) concluded that if the human health risk assessment conducted for the Phase II RI were revised using the verification sampling data, the cumulative incremental cancer risk would be expected to exceed the upper limit of the USEPA target risk range (i.e., $1x\ 10^{-4}$). The remaining soil at Site 4 was subsequently removed, leaving only exposed bedrock. An Action Memorandum was written for this site in September 1997 (U.S. Navy, 1997d). The Navy prepared

a risk evaluation memorandum in March 1998 to document the negligible remaining risks associated with the site. A No Further Action PRAP (U.S. Navy, 1998c) and ROD (U.S. Navy, 1998d) were prepared for this site. The status of this site is considered to be RIP. The groundwater in this area will be monitored in conjunction with the Area A Landfill Groundwater Monitoring Plan and the Basewide Groundwater OU RI. A summary of findings table for this site is included as Table 2-6.

2.1.5 Site 6 - Defense Reutilization and Marketing Office (DRMO)

The Defense Reutilization and Marketing Office (DRMO) is a 3.5-acre site located adjacent to the Thames River in the northwestern section of NSB-NLON. The site map is included as Figure 8-8. The site currently includes Buildings 491, 479, 355, 397, and 353.

Between 1950 and 1969, the DRMO site was used as a primary landfill and burning site for nonsalvageable waste items, including construction materials and combustible scrap. In 1992 the burned materials were pushed to the shoreline and partially covered (NEESA, 1983). In a 1982 site inspection, field personnel found metal scrap, submarine batteries, and metal bailing materials stored over most of the site (Atlantic, 1992). A former battery acid handling facility was located within Building 491, and an in-ground, rubber-lined tank and associated pumping equipment were located adjacent to the east side of Building 491 (Atlantic, 1992).

At the same time the Phase II RI was being performed, approximately 2500 cubic yards (cy) of lead-, PAH-, and PCB-contaminated soils were excavated from the northern portion of the DRMO (B&RE, 1997b) as part of a time-critical removal action. The excavated area was backfilled with clean soil, and the excavated soil was transported off site to a RCRA landfill (B&RE, 1997b). The backfilled area was then capped with woven geotextile liner, a geosynthetic clay liner, and a nonwoven geotextile liner and approximately 9 inches of crushed stone, and 3 inches of asphalt. The remaining portion of the DRMO was repaved.

An Action Memorandum was prepared in March 1995 (Atlantic, 1995b) to document the removal action completed at the DRMO. A feasibility study (B&RE, 1997g) was completed for the site and the selected remedial alternative was documented in an interim ROD (U.S. Navy, 1998a). The status of the site has been changed to RIP. A summary of findings table is included as Table 2-7.

2.1.6 Site 7 - Torpedo Shops

Site 7, the Torpedo Shops, includes Buildings 477, 450 and 325, which are located in the northern portion of NSB-NLON, along the north side of Triton Avenue. The site map is included as Figure 8-9.

Building 450 is the primary MK-48 torpedo overhaul/assembly facility. Additional torpedo overhaul activities are performed within Building 325. Building 477 was formerly used to store Otto fuel in drums.

Between 1955 and 1983, wastewater discharges from Building 325 were directed through a leach field located southwest of the Building. In 1975 the original leachfield clogged and was replaced by a new leachfield immediately adjacent to the original one. The building was connected to the sanitary sewage system in 1983. Building 450 was constructed in 1974 (B&RE, 1997b). Wastewater generated from toilets, lavatories, and showers in Building 450 was directed to the Building 450 septic system. Building 450 was connected to the sanitary sewer system in 1983. Building 450 was also constructed with a liquid waste collection system, which discharged through floor drainage into a 1500-gallon, underground waste tank/sump. The waste tank was periodically pumped, and the contents were disposed off site. Building 477 is located approximately 65 feet east of Building 450, and petroleum products have been used in this building for torpedo maintenance.

The following items were noted during an inspection of Building 325 (B&RE, 1997b): a variety of fuels, solvents, and petroleum products have been used in the building. Otto fuel (a nitrated ester that produces hydrogen cyanide when burned), high-octane alcohol (190 proof), and TH-Dimer (jet rocket fuel) were observed in the Building 325 maintenance areas. Solvents, including mineral spirits, alcohol, and 1,1,1-trichloroethane, as well as petroleum products, such as motor oil and grease, were used in Building 325. A sink in one area was previously used for film development, and another sink was used for the overhaul of alkaline batteries. Liquids dumped into these sinks drained into the septic system until 1983. Weapons washdown fluids were directed into a shallow sump covered by a flush-mounted steel grating. The outlet from this sump was not located. An 8,000-gallon underground fuel oil tank was located on the south side of Building 325. A storage closet located in an attached building included containers of 1,1,1-trichloroethane and methyl ethyl ketone (2-butanone). Drums and cylinders containing propane, isobutane, 2-butanone (MEK), xylot, methylene chloride, propellant, and zinc chromate were stored along the outer, east wall of this attached building.

During torpedo maintenance operations in Building 450, an Otto fuel and seawater mixture was drained from the torpedoes and replaced with fresh fuel (B&RE, 1996a). According to an earlier study, Building 450 generated approximately 3,000 gallons Otto fuel waste water per month (Atlantic, 1992). This Otto fuel was previously stored in a 4,000-gallon, underground tank south of Building 450. Onsite personnel reported that solvents, including 1,1,1-trichloroethane, trichloroethene, toluene, mineral spirits, alcohol, and bulk freon, and petroleum products including TL-250 motor oil and hydraulic fluid have been used in this building for torpedo maintenance (Atlantic, 1992). During an inspection of Building 450, field personnel noted the following items (Atlantic, 1992): the hazardous waste sump was decommissioned in 1987. It was replaced with three, 1,000-gallon, above-ground tanks located to the south of the building.

The floor drains were sealed and replaced with a new system for pumping waste products to the new tanks. A 4,000-gallon, above-ground, Otto fuel storage tank replaced the previous tank and was located to the south of the building.

Surface runoff from the site flows southwest to drainage swales and storm sewers located on the south side of Buildings 325 and 450 (B&RE, 1997b). These drainage swales and storm sewers pass through culverts under Triton Avenue, into the Area A Downstream Watercourses and into the Thames River. The general direction of shallow groundwater flow is to the west-southwest toward the Area A Downstream Watercourses (B&RE, 1997b).

An interim removal action was completed within the Torpedo Shops along the southern side of Building 325 in December of 1995. This action was completed under the CTDEP UST Program. The focus of the effort was to remove soil contaminated with Total Petroleum Hydrocarbons in excess of the direct exposure remediation standard for residential use. Approximately 12 cubic yards of soil were removed from the site and disposed at an approved landfill (B&RE, 1996a). This site was included in the Phase II RI. Further characterization of the groundwater and soil at the Torpedo Shops will be completed during the Basewide Groundwater OU RI. A summary of findings table is included as Table 2-8.

2.1.7 Site 8 - Goss Cove Landfill

Site 8 consists of the Goss Cove Landfill site, which is located in the southwestern portion of NSB-NLON, along the eastern bank of the Thames River. The site map is included as Figure 8-10. The Nautilus Submarine Museum and a paved parking lot are constructed directly over the former site of the landfill.

The Goss Cove Landfill was operated between 1946 and 1957 (NEESA, 1983). Items disposed of at the landfill include incinerator ash; inert rubble; and several large compressed gas cylinders that were empty and others that contained propane and ammonia (NEESA, 1983).

A review of the boring logs generated during construction of the Nautilus Museum indicated the presence of fill material consisting of cinders, metal, brick, glass, and sand and gravel to a depth of 15 feet (Atlantic, 1992). Beneath the fill is a layer of organic silt approximately 10 to 15 feet thick. This material is presumably the sediment bottom of the former cove. The silt is underlain by fine sand to depths ranging from 25 to 100 feet below the surface. The thickness of overburden increases from east to west. Groundwater flows through the Goss Cove area toward the Thames River (B&RE, 1997b).

Some of the most substantial environmental contamination detected at NSB-NLON was encountered at the Goss Cove Landfill Site. The analytical results indicate that the landfill acts as a source of contamination (B&RE, 1997b). Many of the chemicals detected in the soil samples were also detected in

the groundwater, surface water, and sediment samples, a fact which confirms the likelihood of contaminant transport from the site. Based on the available data, it appears likely that the Goss Cove Landfill has contributed to environmental contamination in Goss Cove (B&RE, 1997b). This site is included in the Phase II RI.

A data gap investigation (DGI) was conducted at the Goss Cove Landfill Site (B&RE, 1997e). The primary objective of the DGI was to determine if the source of the tetrachloroethene (PCE) contamination detected during the Phase II RI in the groundwater lies within the Goss Cove Landfill Site (B&RE, 1997e). The DGI concluded that the PCE contamination appears to be migrating on to the Goss Cove Site from an upgradient source. In addition, a Wetlands Function and Values Assessment (Connecticut College, 1998) and a chemical and toxicological assessment (SAIC, 1998), were completed on Goss Cove to address concerns resulting from the Phase II RI. A summary of findings table is included as Table 2-9. A draft final feasibility study for the soil OU at Goss Cove Landfill has been completed (TtNUS, 1999d). The groundwater OU at this site will be investigated during the Basewide Groundwater OU RI.

2.1.8 Site 9 - Oily Wastewater Tank (OT-5)

Site 9, Waste Oil Tank (OT-5), was an underground, concrete storage tank located between Sculpin Avenue and Tang Avenue in the southern portion of NSB-NLON. The investigations conducted at Site 9 have been done under the CTDEP UST program. The site map is included as Figure 8-11. The tank had a diameter of approximately 112 feet and was 11 feet deep. The top of the tank was approximately 5 feet below the ground surface. The tank had a capacity of approximately 810,000 gallons.

The tank was constructed in the 1940s and used to store fuel oil. In the late 1970s the tank was converted to a storage tank for bilge water and other waste solutions. Use of OT-5 was stopped in 1993 when all tank contents, including floating product and most of the settled sludge, were removed (HNUS, 1994a). A residual sludge layer of approximately 2 to 3 inches was left in the tank during purging. This sludge contained PCB's at concentrations exceeding 500 milligram per kilogram (mg/kg) (HNUS, 1994a).

After OT-5 had been emptied, groundwater infiltrated through cracks in the concrete surface and partially refilled the tank (HNUS, 1994a). Subsurface contamination of the surrounding soil and groundwater may have been caused by draining of the infiltrated water through the cracks and into the surrounding media.

In 1993, a majority of the contents of OT-5 including the floating product layer, water, and sludge were removed and disposed of off site. Residual materials contained in OT-5 were later removed and stored on site as follows:

Storage Vessel	Contents
Frac Trailer No. 1	6,000 Gallons Waste Decontamination Fluid
Frac Trailer No. 2	19,000 Gallons OT-5 Bottom Sludge
Roll-Off Container No. 1	20,000 Pounds Bottom Sludge + Waste Wipe Cloths + Discarded PPE
Roll-Off Container No. 2	20,000 Pounds Bottom Sludge + Waste Wipe Cloths + Discarded PPE

The primary waste contaminants were PCBs at concentrations up to 500 mg/kg.

In April 1994, B&R Environmental completed a removal action of these materials and then performed Post Removal Action sampling that confirmed the residual waste materials had been properly shipped and disposed of and that the waste storage vessels had been properly decontaminated (HNUS, 1994b). After the contents of OT-5 were removed, the tank was cleaned and the top of the tank was crushed. The tank was closed in place by filling it with inert material. The status of this site is considered to be RC. A summary of findings table is included as Table 2-10.

2.1.9 Site 10 - Lower Subase-Fuel Storage Tanks and Tank 54-H

Six former underground storage tanks, including tank 54-H, are located at the Lower Subase at the corner of Corvina Road and Amber Jack Road. The site map is included as Figure 8-12. According to the FFA, Tanks E, F, and G each had 125,000-gallon capacities and were used to store diesel fuel. Tanks K and L each had 25,000-gallon capacities and were used to store lubrication and hydraulic oil. Tank 54-H had a 30,000-gallon capacity and was used as a reclamation tank for the other five tanks. Tanks E, F and G have been filled with sand, and new steel tanks have been installed within the concrete shells at locations K and L (FFA, 1995). Tank 54-H has also been decommissioned. This site was included in the Phase II RI (B&RE, 1997b) and Lower Subase RI (TtNUS, 1999c). Sites 10 and 11 were evaluated collectively as Zone 1 in the Lower Subase RI. Petroleum compounds and metals were identified during the Lower Subase RI as the primary contaminants of concern. The RI recommends that the soil and groundwater operable units proceed to a feasibility study to evaluate appropriate remedial alternatives. A summary of findings table is included as Table 2-11.

2.1.10 Site 11 - Lower Subase - Power Plant Oil Tanks

Site 11 consists of four former underground tanks (A, B, C, and D) located immediately east of Building 29. The site map is included as Figure 8-12. According to the FFA, concrete tanks A and B each had a capacity of 250,000 gallons and were used to store No. 6 grade fuel oil that was pumped from tank farms located at the south end of NSB-NLON. Concrete tanks C and D each have a capacity of 125,000

gallons and were used to store diesel oil. The tanks have been in place since World War II. The old concrete tanks were repaired and are now used as containment structures for three new, 150,000 gallon, steel tanks. An additional 30,000 gallon, concrete tank was repaired and used as a shell for a new, 30,000 gallon steel inner tank. This site was included in the Phase II RI (B&RE, 1997b) and Lower Subase RI (TtNUS, 1999c). Sites 10 and 11 were evaluated collectively as Zone 1 in the Lower Subase RI. Petroleum compounds and metals were identified during the Lower Subase RI as the primary contaminants of concern. The RI recommends that the soil and groundwater operable units proceed to a feasibility study to evaluate appropriate remedial alternatives. A summary of findings table is included as Table 2-12.

2.1.11 Site 13 - Lower Subase-Building 79 Waste Oil Pit

Site 13 consists of the waste oil pit located in the northwest corner of Building 79 on the Lower Subase. The site map is included as Figure 8-12. The pit was formerly used as a collection area for waste oil and solvents that were generated during cleaning and servicing of diesel train engines. The pit has been filled with concrete (Wehran, 1987).

Analytical results from soil samples collected from borings in the area of the waste oil pit indicate that subsurface contamination is primarily lubricating/motor oil (NESO, 1979). The oil was detected at a sample interval of 6 to 9 feet below the ground surface (NESO, 1979). It is estimated that the saturated volume of contamination is approximately 50 feet by 50 feet by 4 feet deep.

A majority of the site is paved or covered with buildings. Surface water runoff from these paved area and structures is directed through numerous catch basins and storm sewers that discharge into the Thames River. Groundwater flows toward the Thames River and may be locally affected by tidal fluctuations in the Thames River. This site was included in the Phase II RI and Lower Subase RI. The site was included in Zone 4 for the Lower Subase RI. Petroleum compounds and lead were identified during the Lower Subase RI as the primary contaminants of concern. The RI recommends that the soil and groundwater operable units proceed to a feasibility study to evaluate appropriate remedial alternatives. A summary of findings table is included as Table 2-13.

2.1.12 Site 14 - Over Bank Disposal Area-Northeast

Site 14 consists of the Over Bank Disposal Area Northeast (OBDANE) site, which is located in a heavily wooded area on the edge of a ravine northwest of the Area A Landfill and west of the Area A Weapons Center and south of the Torpedo Shops. The site is circular and approximately 80 feet in diameter. The site map is included as Figure 8-13.

Several empty, fiber drums were identified at the site during a previous field investigation (Atlantic, 1992). No visual staining or stressed vegetation was evident during this investigation. No development is planned for this area.

Surface runoff from the OBDANE site flows to the southwest into a stream (Stream 3) that originates from the Area A Downstream Watercourses (B&RE, 1997b). The stream then flows along Triton Road and ultimately discharges into the Thames River at the southern end of the DRMO site. Groundwater flows west toward the Area A Downstream Watercourses and the Thames River. Further characterization was recommended for this site in the Phase II RI. A removal action is recommended for the soil at this site in the draft EDSR for the Basewide Groundwater OU RI (TtNUS, 1998). The removal action should be done in conjunction with the remedial actions at the Area A Downstream Watercourses/OBDA Pond, Site 3. The groundwater OU at the site will be further characterized during the Basewide Groundwater OU RI. A summary of findings table is included as Table 2-14.

2.1.13 Site 15 - Spent Acid Storage and Disposal Area

Site 15, the Spent Acid Storage and Disposal Area (SASDA), was located between the southern side of Building 409 and Building 410 in the southeastern portion of NSB-NLON. The site map is included as Figure 8-14. The site consisted of a concrete storage pad and an underground storage tank.

According to previous reports (Atlantic, 1994b), the area was used for storage and disposal of discarded batteries. Acid was removed from the battery housings and temporarily stored in the 4- by 4- by 12-foot, rubber-coated, underground tank. The acid was periodically emptied from the tank by a pumper truck and disposed of off site. The battery housings were temporarily stored on the adjacent concrete pad.

All battery acid and housing storage at the site was terminated. According to documentation (Atlantic, 1994b), the acid storage tank was filled with soil and covered by a concrete pad. Future plans for this area included the demolition of Buildings 409 and 410 and the construction of a warehouse. This site was included in the Phase II RI.

A Removal Action was completed at this site by OHM. The September 1995 Final Report for Soil Remediation (OHM, 1995b) indicated the following items:

- All contaminated pavement, tank contents, and tank materials have been excavated, characterized, and properly disposed of.

- All soil around and beneath the spent acid tank to a depth of 4 feet below ground surface (BGS), or with a total lead concentration of 500 mg/kg or more, or a TCLP extract lead concentration of 5.0 mg/L or more, have been excavated and properly disposed of.

- The site has been regraded, repaved, and restored to its original condition.

An Action Memorandum (Atlantic, 1995b) was prepared to document the remedial action. Additional sampling and analysis was completed at the site by the CTDEP in 1997. The focus of the sampling and analysis effort was to verify if remaining concentrations of inorganics were a potential problem based on mobility. The results of the effort showed that the inorganics do not represent a potential problem. A source control Record of Decision (U.S. Navy, 1997c) for this site was written and signed on September 19, 1997, documenting the selected remedy of No Further Action. The status of this site is RC. A summary of findings table is included as Table 2-15. The groundwater associated with this site will be further characterized as part of the Basewide Groundwater OU RI.

2.1.14 Site 16 - Hospital Incinerator

Site 16 consists of the hospital incinerator. In the 1980s, the Naval Hospital Groton operated a skid-mounted waste incinerator at two sites adjacent to the base hospital. The two sites are located west of Tautog Road, adjacent to Building 449 and Building 452. The site map is included as Figure 8-15.

According to the FFA, the incinerator was used to destroy medical records and medical waste contaminated with pathological agents. Ash generated by the waste incinerator was transferred by dumpster and disposed of at the municipal landfill. This site will be investigated during the Basewide Groundwater OU RI. A summary of findings table is included as Table 2-16.

2.1.15 Site 17 - Lower Subase-Hazardous Materials/Solvent Storage Area (Building 31)

Site 17, Building 31, is located along Albacore Road on the Lower Subase. The site map is included as Figure 8-16. Constructed in 1917, Building 31 was originally used as a battery overhaul facility (HNUS, 1993). After World War II the building was converted to a storage facility for hazardous materials. Materials stored in the building include paint thinners, paints, epoxy coatings, lubricating oils, adhesives, welding flux, solder, photographic supplies, batteries, antifreeze, detergents, bleach, disinfectants, and numerous containerized organic compounds (HNUS, 1993).

During reconstruction activities, lead was detected in the soil underlying a section of the concrete slab floor of Building 31. Several subsequent soil samples collected from various locations within Building 31

contained significant lead concentrations (HNUS, 1993). This site was included in the Phase II RI (B&RE, 1997b) and Lower Subase RI (TtNUS, 1999c).

A time-critical removal action was completed by the National Environmental Services Corporation (NESC) in October 1993. The removal action included excavation of lead contaminated soil, onsite solidification of a concrete floor over the backfilled solidified soil, offsite solidification/stabilization and disposal of the contaminated soil excavated outside Building 31, and backfilling of the areas excavated outside Building 31 with clean fill. Post removal action field sampling conducted by B&R Environmental verified that the following objectives had been met:

- All soil above mean low tide elevation with a total lead concentration of 500 mg/kg or more has been excavated.
- Solidified soil has a TCLP extract lead concentration of less than 5.0 mg/L.
- Solidified soils have acceptable geotechnical strength.
- Those demolition debris slated for offsite nonhazardous landfilling were disposed of at an approved hazardous waste landfill by the Navy's remediation contractor, NESC, and the remaining concrete floor slab within Building 31 was either not contaminated or was properly decontaminated. Decontamination of debris and disposal in a non-hazardous landfill was not as cost effective as direct disposal of the debris in the hazardous landfill.

Additional soil, groundwater and sediment sampling (in the adjacent Thames River) and analysis were conducted at this site in conjunction with the Lower Subase RI (TtNUS, 1999c). The site was included in Zone 3 for the Lower Subase RI report. The results of the Lower Subase RI indicated that lead is still a concern in the soil and groundwater at this site and that petroleum compounds are also of concern in the soil. The RI recommends that the soil and groundwater operable units proceed to a feasibility study to evaluate appropriate remedial alternatives. A summary of findings table is include as Table 2-17.

2.1.16 Site 18 - Solvent Storage Area (Building 33)

Site 18 consists of Building 33, which is located east of Gray Ave. The site map is included as Figure 8-17. Several 55-gallon drums and gas cylinders containing solvents, such as trichloroethene and dichloroethene, are stored in Building 33 (FFA, 1995). This site will be investigated during the Basewide Groundwater OU RI. A summary of findings table is included as Table 2-18.

2.1.17 Site 19 - Lower Subase-Solvent Storage Area (Building 316)

Site 19, Building 316, is located on the Lower Subase, west of Pier 2. The site map is included as Figure 8-12. Several 5-gallon cans containing methylethyl ketone were stored in Building 316 (FFA, 1995). A summary of findings table is included as Table 2-19. Solvents are no longer stored in this facility.

Soil and groundwater sampling and analysis were conducted at this site during the Lower Subase RI (TtNUS, 1999c). Metals and PAHs were identified as contaminants of concern at this site. This site was included in Zone 4 during the Lower Subase RI and Zone 4 will proceed to a feasibility study to evaluate appropriate remedial alternatives for the soil and groundwater operable units.

2.1.18 Site 20 - Area A Weapons Center

Site 20 is the Area A Weapons Center, which is located north of the terminus of Triton Avenue, adjacent to the Area A Wetland. The site map is included as Figure 8-18. The site includes Building 524 and the north and south weapons storage areas. Building 524 is used for administration, minor torpedo assembly, and storage of simulator torpedoes (B&RE, 1997b). No weapons production takes place in this building. Chemicals and chemical wastes, including cleaning and lubricating compounds, paints, and adhesive generated by activities in Building 524, are stored in 1-gallon to 5-gallon containers in seven metal storage cabinets located on a paved area to the south of the building (B&RE, 1997b). Many of these materials are classified as corrosive or flammable.

The north and south weapons storage bunkers are located southeast of Building 524. Weapons containing liquid fuels, such as Otto fuel, JP-10, and TH Dimer (jet rocket fuel), are stored in these bunkers (B&RE, 1997b). Routine maintenance and security improvements that are planned for the Area A Weapons Center include grouting and waterproofing of bunkers, repaving of roads, regrading, and culvert installation. Minimal contamination of surface water and groundwater exists and potential for substantial contaminant transport is low. Therefore, limited action was recommended for this site in the Phase II RI (B&RE, 1997b). A feasibility study is currently being prepared for the soil OU at this site. The groundwater OU will be investigated during the Basewide Groundwater OU RI. A summary of findings table is included as Table 2-19.

2.1.19 Site 21 - Lower Subase-Berth 16

Site 21 is Berth 16. Berth 16 site is located at the Lower Subase along the Thames River at the intersection of Amberjack Road and Albacore Road. The site map is included as Figure 8-19. The following structures are currently included in Berth 16 (Atlantic, 1995a):

Building	Original Use	Current Use
103	Instruction	Instruction
173	Substation	Electrical distribution
106	Photolab and electronics	Storage
157	Periscope Shop	Optical Shop
456, 478	Maintenance Shop	Maintenance Shop

Berth 16 formerly included a refuse/classified materials incinerator; an underground, 250-gallon, diesel fuel storage tank; and an underground, diesel-fuel transfer line (Atlantic, 1995a). The incinerator was located at the current site of Building 478. The incinerator has been separated from Site 21 and is now Site 25. Sites 21 and 25 were evaluated collectively as Zone 7 during the Lower Subase RI. The underground storage tank was located adjacent to the northern wall of Building 157, and the underground fuel line extended along Pier 15, east of Building 173. All of these items are currently decommissioned (Atlantic, 1995a).

Additional soil, groundwater and sediment sampling (in the adjacent Thames River) and analysis were conducted at this site in conjunction with the Lower Subase RI (TtNUS, 1999c). Lead and petroleum compounds were identified as the primary contaminants of concern for Zone 7. The RI recommended that this Zone proceed to a feasibility study to evaluate appropriate remedial alternatives for the soil and groundwater operable units. A summary of findings table is included as Table 2-21.

2.1.20 Site 22 - Lower Subase - Pier 33

Pier 33 is located at the Lower Subase along the Thames River and includes Pier 33, Building 175 and approximately 800 feet of property in the area of Pier 33, Building 175 and Amberjack Road. The site map is included as Figure 8-20. Building 175 was originally used to house several above-ground battery acid storage tanks (Atlantic, 1995a). Transfer lines from the battery acid storage tanks extended along Amberjack Road in trenches to the piers (Atlantic, 1995a). These storage tanks and the associated transfer piping have been removed.

Currently, a 1000-gallon, underground fuel storage tank is located adjacent to the southern side of Building 175 and a 250-gallon, underground diesel storage tank is located adjacent to the northern side of Building 175 (Atlantic, 1995a). The building is now used for miscellaneous storage.

Additional soil, groundwater and sediment sampling (in the adjacent Thames River) and analysis were completed for this site in conjunction with the Lower Subase RI (TtNUS, 1999c). This site was included in Zone 5 for the Lower Subase RI report. Petroleum compounds and lead were identified as the primary contaminants of concern for this site. The RI recommended that this site proceed to a feasibility study to

evaluate appropriate remedial alternatives for the soil and groundwater operable units. A summary of findings table is included as Table 2-22.

2.1.21 Site 23 - Fuel Farm

Site 23 consists of the Fuel Farm, which is located at the southern end of NSB-NLON and covers an area of approximately 35 to 37 acres. The investigations conducted at Site 23 have been done under the RCRA UST program. The site map is included as Figure 8-21. The Fuel Farm features include the following (B&RE, 1997i):

- Nine former 110-foot-diameter, 11-foot-high fuel oil USTs (OT-1 to OT-9)
- A 30,000-gallon, double-walled UST (OT-10)
- Oil/water separator
- Waste oil tank
- Fuel oil loading rack
- Tanker truck pumping pad and trough
- Associated UST piping systems
- MWR Recreation Center (Building 461)
- Buildings 310, 322, and O-831
- Six baseball fields
- Restroom facility (Building 445)

In the early 1940s, Crystal Lake was drained and dredged to allow for construction of the nine concrete underground storage tanks. When construction was complete, the former lake bed was reportedly filed with soils excavated from a small hill west of the tank area and graded to create a level surface for development of NSB-NLON (B&RE, 1997i).

Each of the nine USTs had a holding capacity of 750,000 gallons (B&RE, 1997i). No. 6 fuel oil was stored in tanks OT-1 through OT-3 from the date of construction until removed from service in the summer of 1991. The remaining tanks were used to store diesel fuel. A reduced demand for diesel in the mid-1970s by NSB-NLON lead to the decommissioning and demolition of tank OT-6. The reduced demand for diesel also led to the modification of tank OT-5 for waste oil storage purposes (B&RE, 1996b). Tank OT-4 was used to store tank bottom wastes from OT-1. Tank OT-5 was used as part of an oil/water separator system. Tanks OT-4 and OT-5 were reportedly decommissioned after the installation of a new 30,000-gallon waste oil underground tank (OT-10) in 1990 (B&RE, 1997i). Tanks OT-7 through OT-9 were decommissioned in the summer of 1990 and were used exclusively for storage of diesel during all 48 years of service.

Currently tanks OT-1 through OT-9 have been demolished and closed in place. Tank closure was accomplished by demolishing the tank roof supports and allowing the roof to collapse into the tank. The void was then filled with gravel and the site restored using soil and topsoil. A Final Site Investigation Report for the Tank Farm was issued in September 1997 (B&RE, 1997i). No Further Action was recommended for OT-1, OT-4, OT-5, OT-6, OT-7, OT-9, and the Loading Area. Free product removal and soil excavation were completed at OT-8. Design of a replacement storm sewer system has begun and it is anticipated that the design will be completed in 1999. Two data gap investigations will be completed to facilitate the design of the replacement storm sewer system. One of the investigations will be a hydrogeologic study and the other will be an investigation of the soil and groundwater in the vicinity of OT-2 and OT-3. It is likely that hot spot excavation will be completed during the installation of the new storm sewer. Excavation at GS-7 and GS-8 along the Upper Base fuel pipeline was recommended. The Lower Subase fuel pipelines were evaluated in the Lower Subase RI and will be addressed in the upcoming FS. A summary of findings table is included as Table 2-23. The groundwater associated with this site will be further characterized during the Basewide Groundwater OU RI.

2.1.22 Site 24 - Lower Subase-Central Paint Accumulation Area (Building 174)

Site 24, Building 174, is located at the Lower Subase along the Thames River, immediately east of Pier 32. The site map is included as Figure 8-22.

In 1982, Building 174 was refitted to contain boat anchor sandblasting and painting activities (FFA, 1995). Also, in the late 1980s, the building was used as the primary paint storage facility for all paints used for boat maintenance activities (FFA, 1995).

Soil, groundwater and sediment sampling (in the adjacent Thames River) and analysis were completed for this site in conjunction with the Lower Subase RI (TtNUS, 1999c). This site was included in Zone 6 for the Lower Subase RI. Petroleum compounds and several inorganics were identified as contaminants of concern for this site. The RI recommended that this site proceed to a feasibility study to evaluate appropriate remedial alternatives for the soil and groundwater operable units. A summary of findings table is included as Table 2-24.

2.1.23 Site 25 - Lower Subase-Classified Materials Incinerator

Site 25 consists of the former classified materials incinerator located on the Lower Subase, approximately 300 feet east of Pier 17. The site map is included as Figure 8-19. It has been reported that, between 1944 and 1963, facilities within former Building 97 (current Building 478) were used to burn classified materials and other solid wastes generated at NSB-NLON (FFA, 1995). Residual ash produced by

materials burning were disposed in the Goss Cove Landfill (FFA, 1995). The incinerator was demolished in 1979.

Soil, groundwater, and sediment sampling (in the adjacent Thames River) and analysis were completed for this site in conjunction with the Lower Subase RI (TtNUS, 1999c). This site was evaluated collectively with Site 21 as Zone 7 during the RI. Lead and petroleum compounds were identified as the primary contaminants of concern for Zone 7. The RI recommended that Zone 7 proceed to a feasibility study to evaluate appropriate remedial alternatives for the soil and groundwater operable units. A summary of findings table is included as Table 2-25.

2.2 SITE GROUPINGS

Several sites are located in the area of NSB-NLON referred to as the Lower Subase. The Lower Subase site is bounded on the west by the Thames River and to the east by the Providence and Worcester Railroad. The Lower Subase extends to and includes Pier 1 to the south and Pier 33 to the north. The Lower Subase is the original Subase and, therefore, the history of its use dates back to 1867. Most of the construction at the Lower Subase took place in the early 1900s, with a major expansion from 1935 to 1945. These sites, which were described in previous sections, have been grouped together to facilitate additional investigation. The following sites are included in the Lower Subase:

Site 10 - Lower Subase - Fuel Storage Tanks and Tank 54-H
Site 11 - Lower Subase - Power Plant Oil Tanks
Site 13 - Lower Subase - Building 79 Waste Oil Pit
Site 17 - Lower Subase - Hazardous Materials/Solvent Storage Area (Building 31)
Site 19 - Lower Subase - Solvent Storage Area (Building 316)
Site 21 - Lower Subase - Berth 16
Site 22 - Lower Subase - Pier 33
Site 24 - Lower Subase - Central Paint Accumulation Area (Building 174)
Site 25 - Lower Subase - Classified Materials Incinerator

This page intentionally left blank.

TABLE 2-1

SUMMARY OF FINDINGS
SITE 1 - CONSTRUCTION BATTALION UNIT (CBU) DRUM STORAGE AREA
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of soil and groundwater contamination at the site.	
Source of Contamination	Waste oils, lubricants, and paint solvents leaked from 55-gallon storage drums formerly located on the site.	
Analytical Parameters	Atlantic, Phase I RI (1992) Soils: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and cyanide Other TPH and TCLP metals and PCBs	B&RE, Phase II RI (1997b) Soils and Groundwater: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and boron and hardness Other TPH
Nature and Extent of Contamination	Soils: PAH contamination detected in subsurface soils up to a maximum concentration of 16,000 µg/kg. Pesticides detected in surface soils up to a maximum concentration of 3900 µg/kg (4,4'-DDD) and in the subsurface soils up to a maximum concentration of 2100 µg/kg (4,4'-DDD). Metals detected in soils at maximum concentrations exceeding background levels. Highest detected contaminant concentrations occurred at soil depths between 5 and 8 feet below ground surface. Groundwater: Various metals detected in filtered and unfiltered samples. The maximum detected concentration of VOCs was 24 µg/L (xylenes) and SVOCs was 31 µg/L (naphthalene).	
Recommended Remedial Alternative	A No Further Action Decision Document was signed by all parties and was distributed on September 19, 1996. This document removed the CBU Drum Storage Area from further consideration in the IRP process and changed the status to RC. The site was capped during construction of the Area A Landfill Cover System. Groundwater associated with this site will be monitored as part of the Area A Landfill Groundwater Monitoring Plan and the Basewide Groundwater OU RI.	

TABLE 2-2

SUMMARY OF FINDINGS
SITE 2 - AREA A LANDFILL
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of soil and groundwater contamination at the site.		
Source of Contamination	Landfilling of refuse generated from on-base activities; leaks of transformer fluids, PCBs, and waste acids from drums stored at this site.		
Analytical Parameters	Atlantic, Phase I RI (1992) Soil and Groundwater: TCL organics (volatiles, semi-volatiles, pesticides/PCBs) TAL inorganics and cyanide Other TCLP metals and pesticides (soil), radiological (groundwater)	Atlantic, FFS (1994) Soil: TCL organics (volatiles, semi-volatiles, pesticides/PCBs) TAL inorganics plus boron and cyanide Dioxin Engineering parameters TCLP (volatiles, semi-volatiles, pesticides/PCBs, herbicides, metals)	B&RE, Phase II RI (1997b) Soil: Dioxin Groundwater: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics plus boron and hardness Radiological
Nature and Extent of Contamination	Soil: Relatively high concentrations of various organic and inorganic chemicals were detected in a few soil samples. Ethylbenzene and xylenes were detected in the subsurface soil at maximum concentrations of 28,000 µg/kg, and 140,000 µg/kg, respectively. Chlorobenzene was detected in the surface and subsurface soil at maximum concentrations of 4,500 µg/kg. Aroclor-1254 was detected in the subsurface soil at a maximum concentration of 100,000 µg/kg. Aroclor-1260 was detected in the surface soil at a maximum concentration of 12,000 µg/kg. In addition several PAHs were detected in the soil and several metals were detected in the surface soil at concentrations exceeding background. Groundwater: BTEX contamination at maximum concentrations of 760 µg/L (xylenes, total). Chlorobenzene contamination at maximum concentrations of 1200 µg/L. Aroclor-1260 contamination at a maximum concentration of 710 µg/L.		
Recommended Remedial Alternative	A low-permeability cover system was installed at the site in 1997. Groundwater monitoring will be completed at the site as part of a long-term Groundwater Monitoring Plan and Basewide Groundwater OU RI. The status of the landfill is considered to be RIP.		

BTEX - Benzene, toluene, ethylbenzene, and xylenes.

TABLE 2-3

SUMMARY OF FINDINGS
SITE 2 - AREA A WETLAND
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of contamination in the site soils, sediments, surface water and groundwater.		
Source of Contamination	Pesticide bricks used for mosquito control. Drainage from adjoining sites. Placement of Thames River dredge spoils in site.		
Analytical Parameters	Atlantic, Phase I, RI (1992) Soils, Sediment, Surface Water, Groundwater TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and cyanide and boron TCLP-metals, pesticides Other radiological for groundwater	Atlantic, FFS (1994) Sediment TCL inorganics (volatiles, semi-volatiles, pesticides/PCBs) TAL inorganics plus boron and cyanide Engineering parameters	B&RE, Phase II RI (1997b) Surface Water and Groundwater TCL organics (volatiles, semivolatiles) TCL pesticides/PCBs - surface water TAL inorganics and boron and hardness Sediment TCL Pesticides TCLP - metals, engineering parameters
Nature and Extent of Contamination	Soil and Sediments: Numerous PAHs in surface soil and sediments at concentrations up to a maximum of 80,000 µg/kg (fluoranthene). Maximum detected PCB concentration in sediment samples was 1,500 µg/kg (Aroclor - 1260). 4,4'-DDD, 4,4'-DDE and 4,4'-DDT were the most frequently detected pesticides (18 out of 43, 18 out of 46, and 13 out of 39, respectively) and at the highest concentrations (up to 4,800 µg/kg for 4,4'-DDD). Surface Water and Groundwater: Relatively low concentrations of all organic and inorganic contaminants were detected in surface water and groundwater samples. Manganese was detected in filtered, shallow and deep groundwater samples at maximum concentrations of 9,360 µg/kg and 7,090 µg/kg, respectively.		
Recommended Remedial Alternative	Limited Action was recommended for this site in the Phase II RI. The groundwater beneath the Area A Wetland will be monitored as part of the Area A Landfill Groundwater Monitoring Program and the Basewide Groundwater OU RI.		

TABLE 2-4

SUMMARY OF FINDINGS
SITE 3 - AREA A DOWNSTREAM WATER COURSES/OBDA POND
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil, sediment, surface water, and groundwater contamination at the site.		
Source of Contamination	Drainage into the water courses from adjoining base facilities. Direct disposal into the wetland located at the base of the OBDA dike. Pesticide bricks used for mosquito control.		
Analytical Parameters	Atlantic, Phase I RI (1992) Soils, Sediments, Surface Water, Groundwater TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and cyanide Other TCLP-metals, pesticides (soil, sediment) Radiology (surface water, groundwater)	Atlantic, FFS (1994) Soil TCL organics (pesticides/PCBs) Engineering Characteristics Sediment TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics plus boron and cyanide Dioxin, engineering char. TCLP (VOC, SVOC, pesticide, herbicide, metal)	B&RE, Phase II RI (1997b) Soil/Gas Survey - Area A Water Courses Sediment, Surface Water, Groundwater TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and boron and hardness Other radiological (groundwater) Dioxin (sediment)
Nature and Extent of Contamination	Soil: Concentrations of pesticides in soil detected up to a maximum concentration of 1,400,000 µg/kg (4,4'-DDT). Sediment: PAHs detected at a maximum concentration of 4,700 µg/kg (pyrene) adjacent to Shark Boulevard. Maximum pesticide contamination detected at Zone 1 (300,000 µg/kg of 4,4' DDD), Zone 2 (850,000 µg/kg of 4,4' DDD) and Zone 3 (120,000 µg/kg of 4, 4' DDD) sample locations. Surface Water: No significant pesticide contamination. Magnesium contamination at maximum concentration of 22,600 µg/L. Groundwater: Trichloroethene detected in deep wells at a maximum concentration of 17 µg/L. Vinyl chloride detected in shallow wells at maximum concentration of 130 µg/L. Magnesium detected in filtered shallow groundwater samples at maximum concentrations of 61,000 µg/L.		

TABLE 2-4

SUMMARY OF FINDINGS
SITE 3 - AREA A DOWNSTREAM WATER COURSES/OBDA POND
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Recommended Remedial Alternative	A Feasibility Study was prepared which focused on pesticide contamination in soil and sediments associated with the site. A ROD was written which describes the selected remedy as excavation and disposal of contaminated soils and sediment. The ROD was signed in March 1998. Additional investigation of the VOC contamination in the groundwater will be conducted during the Basewide Groundwater OU RI. No Further Action is recommended for North Lake. Preparation of the Remedial Design for the soil and sediment OUs at the site has begun. A pre-design sampling effort was conducted in July 1998 to confirm the extent of contamination in the soil and sediment.

TABLE 2-5

SUMMARY OF FINDINGS
SITE 3 - OBDA DEBRIS
NSB-NLON, GROTON, CONNECTICUT

Objective	Remove the debris from the site and dispose off-site.
Potential Source of Contamination	Direct disposal of debris over the OBDA dike.
Analytical Parameters	FWEC, OBDA PRR (1997c) Debris: 4,4'-DDT Soil Resulting from Decontamination of Debris: 4,4'-DDT
Nature and Extent of Contamination	No sample results available, action only involved determination of contamination of debris.
Recommended Remedial Alternative	The debris at this site was removed during a time-critical removal action and the status of the site has been changed to RIP. An Action Memorandum was prepared by the Navy in July 1997 to document the removal action. Confirmatory sampling of the soil which had underlain the debris will occur as part of the remedial action for the Downstream Water Courses/OBDA Pond. The groundwater associated with this site will be investigated as part of the Basewide Groundwater OU RI.

TABLE 2-6

SUMMARY OF FINDINGS
SITE 4 - RUBBLE FILL AREA AT BUNKER A86
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of soil, sediment, surface water, and groundwater contamination. Confirm removal of contaminated soil.
Source of Contamination	Refuse generated by on-base construction activities.
Analytical Parameters	Atlantic, Phase I RI (1992) Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and cyanide and boron Other TCLP-metals, PCBs B&RE, Bunker A-86 VSR (1997c) Soil: TCL semivolatiles TAL inorganics SPLP-Metals B&RE, Phase II RI (1997b) Soil, Sediment, Surface Water, Groundwater: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and boron and hardness Other TCLP-metals (soil) Engineering characteristics (soil, groundwater, sediment)
Nature and Extent of Contamination	Soil: PAH contamination in surface soil at a maximum concentration of 180,000 µg/kg (phenanthrene). Several metals were detected at concentrations that exceeded background. All of the soil at this site was removed during a removal action that took place in 1997. Sediment: Semivolatiles detected at maximum concentration of 820,000 µg/kg (butylbenzylphthalate). Surface Water: One semivolatile and eleven inorganics detected in unfiltered surface water. Only three inorganics detected in the filtered surface water. Groundwater: Low concentrations of volatiles (maximum detection=11µg/L of chloroform), semivolatiles (maximum detection=11µg/L of bis(2-ethylhexyl phthalate) and pesticides (maximum detection=0.53 µg/L of heptachlor). Concentrations of inorganics detected in groundwater exceeded federal and state screening criteria.
Recommended Remedial Alternative	The status of this site has been changed to RIP because all of the soil has been removed and groundwater in the area will be monitored in conjunction with the Area A Landfill Groundwater Monitoring Plan and the Basewide Groundwater OU RI. A risk evaluation memorandum was prepared for this site to document the minimal risks. A No Further Action PRAP and ROD were prepared for the soil OU at this site in 1998.

TABLE 2-7

SUMMARY OF FINDINGS
SITE 6 - DEFENSE REUTILIZATION AND MARKETING OFFICE
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil, surface water, and groundwater contamination at the site.	
Source of Contamination	Discharges from a former battery acid handling facility. Residue from previous onsite landfilling activities.	
Analytical Parameters	Atlantic, Phase I RI (1992) Soil, Surface Water, Groundwater: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganic plus boron and cyanide Other TCLP-metals (soil), Radiological (surface water, groundwater)	B&RE, Phase II RI (1997b) Soil, Groundwater: TCL organics (volatiles, semivolatiles, pesticides/PCBs) (soil) TCL organics (volatiles, semivolatiles) (groundwater) TAL inorganics plus boron and hardness Other radiological (groundwater) Engineering characteristics
	Atlantic, FFS (1994a) Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics plus boron and cyanide Dioxin, engineering characteristics TCLP (metals)	OHM, Final Report for Interim Remedial Action (1995a) Soil: Total lead, PCBs, and PAHs TCLP (metals) Pavement: PCBs, lead (total) Air: NIOSH lead, beryllium, PCBs, and PAHs

TABLE 2-7

SUMMARY OF FINDINGS
SITE 6 - DEFENSE REUTILIZATION AND MARKETING OFFICE
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Nature and Extent of Contamination	Soil: Numerous volatile and semivolatile organic compounds detected in subsurface soils. Trichloroethene and 1,1,2,2-tetrachloroethane detected at concentrations of 7,100 µg/kg and 6,400 µg/kg, respectively. 1,2-Dichloroethene was detected at a maximum concentration of 16,000 µg/kg. Aroclor 1260 detected in the subsurface soils at a maximum concentration of 12,000 µg/kg. Lead detected in surface and subsurface soils at maximum concentrations of 5,980 mg/kg and 2140 mg/kg, respectively. TCLP for lead exceeded federal standards. Surface Water: No organic chemicals were detected. Several metals were detected in the single sample analyzed. Groundwater: Concentrations of lead detected in shallow and deep unfiltered groundwater samples during the Phase II RI at maximum concentrations of 52.7 µg/L and 50.9 µg/L. Lead was only detected in one of the filtered samples of a concentration of 2.4 µg/L.
Recommended Remedial Alternative	The soil at the site was remediated in January 1995 to mitigate potential exposure and associated risk. After contaminated soil was removed, the area was backfilled with clean soil and capped. A feasibility study was completed to verify the appropriate remedial action. A Final Interim Record of Decision was prepared and signed in 1998, documenting the selected remedial action as institutional controls, monitoring, and maintenance of the existing cover system. The status of the site has been changed to RIP. The groundwater at this site is currently being monitored as part of the DRMO Groundwater Monitoring Plan to verify that contaminant migration is not occurring.

TABLE 2-8

SUMMARY OF FINDINGS
SITE 7 - TORPEDO SHOPS
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil, sediment, surface water, and groundwater contamination at the site.		
Source of Contamination	Waste discharges from Torpedo Shop drains into the former Torpedo Shop septic systems.		
Analytical Parameters	Atlantic, Phase I RI (1992) Soil, Sediment, Surface Water and Groundwater TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and cyanide Other TCLP-metals (soil and surface water)	B&RE, Phase II RI (1997b) Soil, Sediment, Surface Water, and Groundwater TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics boron and hardness Other TPH (soils, groundwater) TCLP-metals, volatiles, semivolatiles, pesticides and herbicides (soils) Pesticide/PCBs (not for groundwater) Engineering characteristics (not for surface water)	B&RE, Site Characterization Report for Building 325 (1996a) Soil and Groundwater Volatiles (BTEX) TPH
Nature and Extent of Contamination	Soil: Concentrations of metals above background levels detected in surface and subsurface soils. Diethylphthalate detected in surface soil at maximum concentrations of 14,000 µg/kg. PAHs detected in shallow soil samples to a maximum concentration of 4300 µg/kg (phenanthrene). Sediment: Maximum concentrations for analytes detected in sediment included methylene chloride (18 µg/kg) pyrene (240 µg/kg), and 4,4'-DDD (93 µg/kg). Surface Water: Maximum concentrations of barium, lead and manganese detected in surface water were 30.5 µg/L, 4.4 µg/L, and 32.1 µg/L, respectively. No organic chemicals other than di-n-butylphthalate (0.6 µg/L) were detected.		

TABLE 2-8

SUMMARY OF FINDINGS
SITE 7 - TORPEDO SHOPS
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Nature and Extent of Contamination (Continued)	Groundwater: Various chlorinated volatile hydrocarbons detected during all three rounds of sampling in only unfiltered samples. The maximum detection was 42 µg/L (1,1,1-trichloroethane). Semivolatiles [maximum detection=380 µg/L of bis(2-ethylhexyl) phthalate] and inorganics (arsenic=112 µg/L, lead=84.1 µg/L and manganese=7,830 µg/L).
Recommended Remedial Alternative	Further characterization of the Torpedo Shops is required and will be completed during the Basewide Groundwater OU RI. The characterization will focus on the abandoned sewer lines and leach fields and on gaining a better understanding of the shops' historical sewer system. Both surface and subsurface soil sampling as well as groundwater sampling at additional monitoring points are required.

TABLE 2-9

SUMMARY OF FINDINGS
SITE 8 - GOSS COVE LANDFILL
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the natural and extent of soil, sediment, surface water, and groundwater contamination at the site.	
Source of Contamination	Contaminant migration from inactive landfill, tetrachloroethene contamination in groundwater is migrating onto the Goss Cove Site from a southeasterly direction, potentially from an off-site source.	
Analytical Parameters	Atlantic, Phase I RI (1992) Soil, Surface Water, Groundwater TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and cyanide and boron Other TCLP-metals (soil) Radiological (groundwater and surface water) B&RE, Data Gap Investigation Report for Goss Cove Landfill (B&RE, 1997d) Soil, Groundwater TCL organics (VOCs)	B&RE, Phase II RI (1997b) Soil, Sediment, Surface Water, Groundwater TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and boron and hardness Engineering characteristics Other TCLP-metals (soil and sediment), Radiological (groundwater) Dioxin (soil) Air TCL volatiles
Nature and Extent of Contamination	Soil: BTEX compounds detected in subsurface soil at a maximum concentration of 480,000 µg/kg (xylenes). Phenol and chrysene detected in subsurface soil at maximum concentrations of 1,600,000 µg/kg and 500,000 µg/kg, respectively. PCBs detected in subsurface soils at a maximum concentration of 33,000 µg/kg (Aroclor-1254). Sediment: PAHs detected at maximum concentration of 8,000 µg/kg (pyrene). Surface Water: Boron detected at a maximum concentration of 580 µg/L Groundwater: BTEX compounds detected in groundwater at a maximum concentration of 610 µg/L. Tetrachloroethene detected in deep well sample at a maximum concentration of 5,600 µg/L during the RI. During the Data Gap Investigation (DGI), tetrachloroethene was detected at a maximum concentration of 2,500 µg/L at the well closest to the off-site dry cleaners. Boron detected in filtered, deep well samples at a maximum concentration of 2,590 µg/L.	

TABLE 2-9

SUMMARY OF FINDINGS
SITE 8 - GOSS COVE LANDFILL
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Recommended Remedial Alternative	The Data Gap Investigation Report concluded that the tetrachloroethene contamination was not originating from the Goss Cove site. A draft final Feasibility Study has been prepared for the soil OU at this site. The preferred alternative includes capping, institutional controls, and monitoring. A PRAP and ROD will be prepared to document the preferred alternative. The groundwater at this site will be evaluated as part of the Basewide Groundwater OU RI. A Wetlands Function and Values Assessment and a Chemical and Toxicological Assessment of Goss Cove were completed to address outstanding data gaps. The results of the studies indicate that no further action is required for the sediment and surface water OUs at this site.

TABLE 2-10

SUMMARY OF FINDINGS
SITE 9 - OILY WASTEWATER TANK (OT-5)
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil and groundwater contamination at the site.			
Source of Contamination	Residual fuel oil contamination contained in tank sludge passing through cracks in the concrete tank walls and bottom.			
Analytical Parameters	Soil TCL organics (volatiles, semi-volatiles, pesticides/PCBs) TAL inorganics Other TCLP-metals	Groundwater TCL organics (volatiles, semi-volatiles pesticides/PCBs) TAL inorganics Other TCLP-metals	Tank Water TCL organics (volatiles, semi-volatiles pesticides/PCBs) TAL inorganics Other TCLP-metals	Concrete TCL organics (volatiles, semi-volatiles pesticides/PCBs) TAL inorganics Other TCLP-metals
Nature and Extent of Contamination	Soil: Semivolatile organic compounds and metals detected in samples collected above the tank (2 to 4 feet bgs). 2-Methylnaphthalene detected at a maximum concentration of 2,600 µg/kg. Arsenic, beryllium, and chromium detected at concentrations of 2,800 µg/kg, 430 µg/kg, and 30,700 µg/kg, respectively. No significant contamination detected below the tank. Groundwater: The only chemical which was found at a concentration slightly exceeding federal or state MCLs was tetrachloroethene. Tank Water: Various semivolatiles, pesticides, PCBs and inorganics were detected in the tank water. Concrete: No chemical concentrations detected in the analyzed samples were above screening levels.			

TABLE 2-10

SUMMARY OF FINDINGS
SITE 9 - OILY WASTEWATER TANK (OT-5)
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Recommended Remedial Alternative	OT-5 contents have not significantly affected subsurface soil or groundwater. The majority of soil contamination was detected above the tank at a depth of 2 to 4 feet below the ground surface. In 1993, a majority of the contents of OT-5, including the floating product layer, water, and sludge, were removed and disposed off site. Residual materials contained in OT-5 were later removed and stored onsite as follows: Storage Vessel — Contents Frac Trailer No. 1 — 6,000 Gallons Waste Decontamination Fluid Frac Trailer No. 2 — 19,000 Gallons OT-5 Bottom Sludge Roll-off Container No. 1 — 20,000 Pounds Bottom Sludge + Waste Wipe Cloths + Discarded PPE Roll-off Container No. 2 — 20,000 Pounds Bottom Sludge + Waste Wipe Cloths + Discarded PPE The primary waste contaminants were PCBs at concentrations up to 500 mg/kg. In April 1994, HNUS completed a removal action of these materials and then performed Post Removal Action sampling that confirmed the residual waste materials had been properly shipped and disposed of, and that the waste storage vessels had been properly decontaminated. After the contents of OT-5 was removed the tank was cleaned, and the top of the tank was crushed. The tank was closed in place by filling it with inert material. The status of this site is considered to be RC.

TABLE 2-11

SUMMARY OF FINDINGS
SITE 10 - LOWER SUBASE - FUEL STORAGE TANKS AND TANK 54-H
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of soil and groundwater contamination at the site.		
Source of Contamination	Leaks of stored fuels through cracks in the tank walls.		
Analytical Parameters	Atlantic, Phase I RI (1992)	B&RE, Phase II RI (1997b)	TtNUS, Lower Subase RI (1999c)
	Soil: TCL volatiles TAL metals TCLP - metals TPH, Fluorescence	Soil: TCLP - metals Lead TPH	Soil: TCL semivolatiles TAL metals SPLP lead TPH
	Groundwater: TCL volatiles TAL metals TPH, Fluorescence	Groundwater: TCL volatiles and semivolatiles TAL metals TPH Hardness	Groundwater: TCL semivolatiles TAL metals TPH Natural Attenuation Parameters
Nature and Extent of Contamination	Soil: High concentrations of TPH (51,600 mg/kg) detected in deep soil samples and high concentrations (2,300 mg/kg) detected in shallow soil samples. Concentrations of SVOCs in shallow soil were as high as 45 mg/kg and concentrations in deep soil were as high as 42 mg/kg. Lead was detected in shallow and deep soil samples and in TCLP leachates from shallow and deep soil samples. Groundwater: A small plume of lead contamination exists in the area between Building 89 and Site 11. TCL VOCs and SVOCs were infrequently detected at low concentrations. TPH and fluorescence data indicate petroleum contamination in groundwater. Free-phase product detected in well 13MW18.		
Recommended Remedial Alternative	The Lower Subase RI Report recommended that the soil and groundwater operable units proceed to a feasibility study. Passive or in-situ remedial alternatives should be considered for the soil. "Hot Spot" removal actions and institutional controls should also be considered. It is recommended that free-phase product be removed from the groundwater and that a monitored natural attenuation/tiered groundwater monitoring program be implemented. Cleaning and repair of the storm sewer system should also be evaluated in the feasibility study.		

TABLE 2-12

SUMMARY OF FINDINGS
SITE 11 - LOWER SUBASE - POWER PLANT OIL TANKS
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of soil and groundwater contamination at the site.		
Source of Contamination	Leaks of fuel oil through cracks in the concrete storage tanks.		
Analytical Parameters	Atlantic, Phase I RI (1992)	B&RE, Phase II RI (1997b)	TtNUS, Lower Subase RI (1999c)
	Soil: TCL volatiles TAL metals TCLP - metals TPH, Fluorescence	Soil: TCLP - metals Lead TPH	Soil: TCL semivolatiles TAL metals SPLP lead TPH
	Groundwater: TCL volatiles TAL metals TPH, Fluorescence	Groundwater: TCL volatiles and semivolatiles TAL metals TPH Hardness	Groundwater: TCL semivolatiles TAL metals TPH Natural Attenuation Parameters
Nature and Extent of Contamination	Soil: High concentrations of TPH (51,600 mg/kg) detected in deep soil samples and high concentrations (2,300 mg/kg) detected in shallow soil samples. Concentrations of SVOCs in shallow soil were as high as 45 mg/kg and concentrations in deep soil were as high as 42 mg/kg. Lead was detected in shallow and deep soil samples and in TCLP leachates from shallow and deep soil samples. Groundwater: A small plume of lead contamination exists in the area between Building 89 and Site 11. TCL VOCs and SVOCs were infrequently detected at low concentrations. TPH and fluorescence data indicate petroleum contamination in groundwater. Free-phase product detected in well 13MW18.		
Recommended Remedial Alternative	The Lower Subase RI Report recommended that the soil and groundwater operable units proceed to a feasibility study. Passive or in-situ remedial alternatives should be considered for the soil. "Hot Spot" removal actions and institutional controls should also be considered. It is recommended that free-phase product be removed from the groundwater and that a monitored natural attenuation/tiered groundwater monitoring program be implemented. Cleaning and repair of the storm sewer system should also be evaluated in the feasibility study.		

TABLE 2-13

SUMMARY OF FINDINGS
SITE 13 - LOWER SUBASE - BUILDING 79 WASTE OIL PIT
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of soil and groundwater contamination at the site.		
Source of Contamination	Contaminant migration from inactive waste disposal area.		
Analytical Parameters	Atlantic, Phase I RI (1992) Soil: TCL organics (volatiles) TPH TAL inorganics, boron and cyanide TCLP-metals Fluorescence oil identification Groundwater: TCL organics (volatiles) TAL inorganics, born and cyanide TPH Fluorescence oil identification	B&RE, Phase II RI (1997b) Soil: TPH Lead TCLP-metals Groundwater: TCL organics (volatiles, semivolatiles) TAL inorganics, boron and hardness	TtNUS, Lower Subase RI (1999c) Soil: TCL semivolatiles TAL metals SPLP lead TPH Groundwater: TCL semivolatiles TAL metals TPH Natural Attenuation Parameters
Nature and Extent of Contamination	Soil: Little VOC contamination was evident in the soils. PAH and TPH contamination was detected in shallow soils, but was more widespread in deep soils. Two areas of lead contamination were identified in shallow soils and lead was detected in TCLP leachates from shallow soils. Lead concentrations in deep soils were significantly less than in shallow soils. Lead was detected at a maximum concentration of 10,600 mg/kg. Detected TPH concentrations at this site reached 11,800 mg/kg. Groundwater: Minor concentrations of VOCs and SVOCs were detected in groundwater samples. Three small areas of lead contamination were detected in the groundwater. Other inorganics detected in the groundwater at significant concentrations included antimony, arsenic, beryllium, cadmium, chromium, copper, mercury, nickel, thallium, and zinc.		
Recommended Remedial Alternative	The Lower Subase RI Report recommended that the soil and groundwater operable units proceed to a feasibility study. Passive or in-situ remedial alternatives as well as "hot spot" removal actions and institutional controls should be considered for the soil. A tiered groundwater monitoring program and cleaning and repair of the storm sewer system should also be evaluated in the feasibility study.		

TABLE 2-14

SUMMARY OF FINDINGS
SITE 14 - OVER BANK DISPOSAL AREA - NORTHEAST
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of soil and groundwater contamination at the site.	
Source of Contamination	Contaminant migration from inactive waste disposal area.	
Analytical Parameters	Atlantic, Phase I RI (1992) Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics, cyanide and boron TCLP-metals	B&RE, Phase II RI (1997b) Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics, boron and hardness TCLP metals Groundwater: TCL organics (volatiles and semivolatiles) TAL inorganics, boron and hardness
Nature and Extent of Contamination	Soils: Concentrations of VOCs ranged no higher than 18 µg/kg. Arsenic and lead were detected at maximum concentrations of 16.3 mg/kg and 403 mg/kg, respectively, in the surface soil. Groundwater: Carbon disulfide and bis(2-ethylhexyl) phthalate were detected at 1 µg/L each in the groundwater. Arsenic was detected at 2.1 µg/L in one groundwater sample. Manganese, iron, aluminum, and zinc were detected in the groundwater at maximum concentrations of 779 µg/L, 4,430 µg/L, 171 µg/L, and 9.1 µg/L, respectively.	
Recommended Remedial Alternative	Based on detections of lead and arsenic in the surface soil at 14SS3, the Phase II RI recommended further characterization. A removal action is recommended for the soil at this site in the draft EDSR for the Basewide Groundwater OU RI (TtNUS, 1998). The removal action should be done in conjunction with the remedial actions at the Area A Downstream Watercourses/OBDA Pond, Site 3. Confirmation sampling should be done following the removal action. The groundwater OU should be further characterized during the Basewide Groundwater OU RI.	

TABLE 2-15

SUMMARY OF FINDINGS
SITE 15 - SPENT ACID STORAGE AND DISPOSAL AREA
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil, sediment, and groundwater contamination at the site.	
Source of Contamination	Acid leaks from the battery acid storage tank and battery housing storage pad located at the site.	
Analytical Parameters	Atlantic, Phase I RI (1992) Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL Inorganics TCLP - metals Atlantic, FFS (1994) Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL Inorganics Other TCLP (volatiles, semivolatiles, pesticides, herbicides, and metals) Engineering Characteristics	B&RE, Phase II RI (1997b) Soil, Sediment and Groundwater TCL Organics (volatiles, semivolatiles, pesticides/PCBs) TAL Inorganics Other engineering characteristics (sediment, groundwater) OHM, Final Report for Soil Remediation at SASDA (1995b) Soil: Total Lead TCLP Lead CTDEP Soil: SPLP Lead
Nature and Extent of Contamination	Soil: Volatile organic compounds were detected at trace levels. Semivolatile organic compounds, including benzoic acid, bis(2-ethylhexyl)phthalate, carbazole, dibenzofuran and several PAHs, were detected in surface soil at a maximum concentration of 3,705 µg/kg. Pesticides, particularly DDT, DDD, and DDE, were detected at a maximum concentration of 190 µg/kg, 55 µg/kg, and 130 µg/kg, respectively, in the surface soil. Lead was detected in the surface soil samples at a maximum concentration of 432 µg/kg with a corresponding TCLP concentration of 1.4 mg/L. It has been estimated that approximately 200 cubic yards of lead-contaminated soil surround the tank. Other metals detected in the soil includes barium, cadmium, and chromium. Sediment: Three phthalate esters were detected at concentrations ranging from 37 µg/kg to 990 µg/kg. Benzoic acid (260 µg/kg), carbazole (22 µg/kg), and several PAHs ranging from 25 µg/kg to 250 µg/kg were detected in the sediment. Three pesticides (4,4'-DDT [6 µg/kg], endosulfan sulfate [10 µg/kg] and heptachlor [2.5 µg/kg]) as well as several metals were detected. Lead was found at a concentration of 18.1 mg/kg.	

TABLE 2-15

SUMMARY OF FINDINGS
SITE 15 - SPENT ACID STORAGE AND DISPOSAL AREA
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Nature and Extent of Contamination (Continued)	Groundwater: Carbon disulfide was the only volatile detected at 3 µg/L. Semivolatiles detected in groundwater samples included bis(2-ethylhexyl)phthalate, naphthalene, phenanthrene, 1,4-dichlorobenzene, and di-n-butyl phthalate. One pesticide, heptachlor, was detected at 0.54 µg/L. Several metals were detected in the groundwater.
Recommended Remedial Alternative	A Removal Action was completed by OHM. All contaminated pavement, tank contents, and tank materials have been excavated, characterized, and properly disposed of. All soil around and beneath the spend acid tank to a depth of 4 feet below ground surface (BGS), or with a total lead concentration of 500 mg/kg or more, or a TCLP extract lead concentration of 5.0 mg/L or more, have been excavated and properly disposed of. The site has been regraded, repaved, and restored to its original condition. This small, paved site presents relatively low risks for contaminant migration or exposure. Normal health and safety procedures should be followed during any construction activities at the site. No Further Action is recommended. TCLP analysis of soil remaining after excavation showed lead concentrations in excess of Connecticut's Pollutant Mobility Criteria for GB designated areas, but not in excess of federal criteria. The CTDEP conducted additional testing of the soil and analyzed the samples by SPLP. The results confirmed that lead was not mobile. No Further Action was recommended for the site. A ROD has been signed for this site documenting the selected remedy as No Further Action for the soil. The status of the site is RC. The groundwater OU will be further characterized during the Basewide Groundwater OU RI.

TABLE 2-16

SUMMARY OF FINDINGS
SITE 16 - HOSPITAL INCINERATORS
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine by investigation if there is a potential for the existence of contamination due to past practices at the site that may pose a threat, or potential threat, to public health, welfare, or the environment.
Potential Source of Contamination	Former skid-mounted incinerator
Analytical Parameters	No sample results available
Nature and Extent of Contamination	No sample results available
Recommended Remedial Alternative	Further investigation of this site is recommended. The site will be investigated during the Basewide Groundwater OU RI.

TABLE 2-17

SUMMARY OF FINDINGS
SITE 17 - LOWER SUBASE - HAZARDOUS MATERIALS/SOLVENT STORAGE AREA (BUILDING 31)
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil and groundwater contamination at the site.		
Source of Contamination	Leaks of battery acid and other hazardous materials stored at the site through the concrete floor slabs.		
Analytical Parameters	Atlantic, Phase I RI (1992)	HNUS, Action Memorandum (1995a) Post-Removal Action Report	B&RE, Phase II RI (1997b)
	Soil: TCL volatiles TAL metals TCLP metals TPH Fluorescence	Soil: TCL volatiles TAL/RCRA metals TCLP metals Lead pH	Soil: TCLP metals Lead TPH
	Groundwater: TCL volatiles TAL metals TPH Fluorescence	Groundwater: TCL (volatiles, semivolatiles, pesticides/PCBs) TAL metals RCRA metals	Groundwater: TCL volatiles and semivolatiles TAL metals TPH Hardness
	TtNUS, Lower Subase RI (1999c)		
	Soil: TCL semivolatiles TAL metals SPLP lead TPH	Groundwater: TCL semivolatiles TAL metals TPH Natural Attenuation Parameters	
Nature and Extent of Contamination	Soil: Although a majority of soil under and adjacent to Building 31 has been remediated, some soils in the vicinity of Building 31 still have elevated levels of lead. The maximum concentrations of lead detected in remaining shallow and deep soil were 4,390 mg/kg and 6,060 mg/kg, respectively. SVOCs, primarily PAHs, and TPH, were also detected at relatively high concentrations in both shallow and deep soil. Groundwater: Lead was detected at a maximum total concentration of 392 µg/L in a sample taken from a temporary well inside of Building 31. The maximum concentration of lead detected in a permanent well outside of Building 31 was 10.5 µg/L. Analytical data does not indicate that SVOCs or TPH have migrated to the groundwater.		

TABLE 2-17

SUMMARY OF FINDINGS
SITE 17 - LOWER SUBASE - HAZARDOUS MATERIALS/SOLVENT STORAGE AREA (BUILDING 31)
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Recommended Remedial Alternative	A time-critical removal action was completed by the National Environmental Services Corporation (NESC) in October 1993. All soil above mean low tide elevation with a total lead concentration of 500 mg/kg or more has been excavated. Solidified soil has a TCLP extract lead concentration of less than 5.0 mg/L. Solidified soils have acceptable geotechnical strength. Those demolition debris slated for offsite nonhazardous landfilling were disposed of at an approved hazardous waste landfill by the Navy's remediation contractor, NESC. Decontamination of debris and disposal in a non-hazardous landfill was not as cost effective as direct disposal of the debris in the hazardous landfill. The remaining concrete floor slab within Building 31 was either not contaminated or was properly decontaminated. Further characterization activities at this site took place as part of the Lower Subase RI. The Lower Subase RI recommended that the soil and groundwater OUs proceed to a feasibility study. Institutional controls and "hot spot" removal actions should be evaluated for the lead contamination in the soil. A tiered groundwater monitoring program should be considered for the site's groundwater. In addition, the storm sewer system in the vicinity of Building 31 should be cleaned and repaired.

TABLE 2-18

SUMMARY OF FINDINGS
SITE 18 - SOLVENT STORAGE AREA (BUILDING 33)
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine if there is a potential for the existence of contamination due to past practices at the site that may pose a threat, or potential threat, to public health, welfare, or the environment.
Potential Source of Contamination	Solvent drums and gas cylinders
Analytical Parameters	No sample results available
Nature and Extent of Contamination	No sample results available
Recommended Remedial Alternative	Further investigation of this site is recommended. The site will be investigated during the Basewide Groundwater OU RI.

TABLE 2-19

SUMMARY OF FINDINGS
SITE 19 - LOWER SUBASE - SOLVENT STORAGE AREA (BUILDING 316)
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine by evaluation of newly acquired data if there is a potential for the existence of contamination due to past practices at the site that may pose a threat, or potential threat, to public health, welfare, or the environment.
Potential Source of Contamination	Cans of solvent
Analytical Parameters	TtNUS, Lower Subase RI (1999c) Soil: TCL semivolatiles TAL metals SPLP lead TPH Groundwater: TCL semivolatiles TAL metals TPH Natural Attenuation Parameters
Nature and Extent of Contamination	Semivolatiles, predominantly PAHs, and inorganics were detected in shallow and deep soil samples. Semivolatile concentrations ranged from 22 µg/kg (benzo(b)fluoranthene) to 65 µg/kg [indeno(1,2,3-cd)pyrene]. The maximum concentration of lead detected near this site was 57.1 mg/kg and the maximum aluminum concentration was 3,770 mg/kg. TPH was detected at a concentration of 210 mg/kg in a shallow soil sample. Inorganics were detected in filtered and unfiltered groundwater samples. Antimony, barium, copper, and zinc were detected in filtered samples. Semivolatiles and TPH were not detected in the groundwater samples.
Recommended Remedial Alternative	This site was investigated as part of zone 4 during the Lower Subase RI. It is recommended in the RI that Zone 4 proceed to a feasibility study to evaluate appropriate remedial alternatives for the soil and groundwater OUs. "Hot spot" removal actions, passive or in-situ remedial alternatives, and institutional controls are recommended for evaluation for the soil in the feasibility study. A tiered groundwater monitoring program and cleaning and repair of the Zone 4 storm sewer system are also recommended.

TABLE 2-20

SUMMARY OF FINDINGS
SITE 20 - AREA A WEAPONS CENTER
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine the nature and extent of soil, sediment, surface water, and groundwater contamination.	
Source of Contamination	Possible leaks from containers of cleaning solutions, paints, adhesives, and lubricants stored in metal storage cabinets located south of Building 524. Leaks of liquid fuels from the weapons storage bunkers.	
Analytical Parameters	Atlantic, Phase I RI (1992) Soil, groundwater TCL organics, (volatiles semivolatiles, pesticides/PCBs) TAL inorganics plus boron and cyanide TCLP-metals and pesticides (soil) Radiological (groundwater)	B&RE, Phase II RI (1997b) Soils, Sediments, Surface Water, Groundwater: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics and boron and hardness Other TCLP inorganics (soils, sediments), dioxin (sediments)
Nature and Extent of Contamination	Soils: The most prevalent contaminants detected were phthalate esters and PAHs. PAH contamination was detected in surface soils at concentrations as high as 5700 µg/kg (fluoranthene). A few phthalate esters were detected in several of the subsurface and surface soil samples, however these compounds were generally detected less frequently and at lower concentrations than the PAHs. The maximum concentration of VOC detected was 690 µg/kg (acetone in one sample). Sediments: The most prevalent contaminants detected were phthalate esters and PAHs. PAH contamination at concentrations up to 6900 µg/kg (flouranthene and pyrene) was detected. Concentrations of phthalate esters ranged from 26 µg/kg to 1,100 µg/kg. Surface Water, Groundwater: Minimal organic and inorganic contamination. The only organic compounds detected in surface water were di-n-octylphthalate and butyl benzylphthalate (both at concentrations of 2 µg/L or less). Concentrations of organics in groundwater were all less than 12 µg/L. Manganese was detected at elevated levels (6,500 µg/L) in the groundwater.	
Recommended Remedial Alternative	A feasibility study is currently being prepared for the soil OU at this site. The groundwater OU will be further characterized during the Basewide Groundwater OU RI.	

TABLE 2-21

SUMMARY OF FINDINGS
SITE 21 - LOWER SUBASE - BERTH 16
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil and groundwater contamination at the site.
Source of Contamination	Leaks and operating residues generated by underground storage tanks, underground fuel transfer piping, and a refuse incinerator formerly operated on the site.
Analytical Parameters	Atlantic, Final Site Inspection Report (1995a) Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics TPH Fluorescence Dioxin Other TCLP-metals Sediments: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics TPH Fluorescence Other TCLP-metals Groundwater: TCL organics (volatiles, semivolatiles pesticides/PCBs) TAL inorganics TPH Fluorescence Other TCLP-metals TtNUS, Lower Subase RI (1999c) Soil: TCL semivolatiles TAL metals SPLP Lead TPH Groundwater: TCL semivolatiles TAL metals TPH Natural Attenuation Parameters
Nature and Extent of Contamination	Soil: Concentrations of TPH detected across the site, particularly northwest of Building 157. Maximum detected TPH concentration was 2,600 mg/kg. Several SVOCs, primarily PAHs, were detected in shallow and deep soil. High concentrations of inorganics were detected across the site. Detected concentrations of lead ranged from 1.6 to 189,000 mg/kg. Groundwater: Low VOC concentrations detected in groundwater samples (0.6 µg/L to 2 µg/L). No TPH concentrations detected in groundwater samples. High lead concentrations up to a maximum value of 117 µg/L (total). Maximum concentration of lead in filtered samples was 97.5 µg/L

TABLE 2-21

SUMMARY OF FINDINGS
SITE 21 - LOWER SUBASE - BERTH 16
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Nature and Extent of Contamination (Continued)	Sediments: TPH concentrations up to 1300 mg/kg detected in Berth-16 storm sewer sediment. Inorganics also detected in sediment samples.
Recommended Remedial Alternative	Additional investigations were conducted in conjunction with the Lower Subase RI in 1997 to determine the extent of TPH, lead, or SVOCs. The Lower Subase RI recommends that this site, which was collectively evaluated with Site 25 as Zone 7 in the RI, should proceed to a feasibility study to evaluate appropriate remedial alternatives for the soil and groundwater. "Hot spot" removal actions for lead, institutional controls, and passive or in-situ remedial alternatives should be evaluated for soil in the feasibility study. A tiered groundwater monitoring program and cleaning and repair of storm sewer system should also be evaluated in the feasibility study.

TABLE 2-22

SUMMARY OF FINDINGS
SITE 22 - LOWER SUBASE - PIER 33
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil and groundwater contamination at the site.
Source of Contamination	Leaks from underground fuel storage tanks and associated piping networks currently located at the site.
Analytical Parameters	Atlantic, 1995a Final Site Inspection Report Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics TPH Fluorescence Other TCLP-metals Sediments: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics TPH Fluorescence Groundwater: TCL organics (volatiles, semivolatiles pesticides/PCBs) TAL inorganics TPH Fluorescence TtNUS, Lower Subase RI (1999c) Soil: TCL semivolatiles TAL metals SPLP lead TPH Groundwater: TCL semivolatiles TAL metals TPH Natural Attenuation Parameters
Nature and Extent of Contamination	Soil: TPH detected in soils at a maximum concentration of 6,800 ppm. Concentrations of VOCs and SVOCs up to maximum concentrations of 1,900 µg/kg and 23,000 µg/kg, respectively. Contamination originating from tank on southern side of Building 175. Sediment: Maximum detected TPH concentration of 3,300 mg/kg in storm sewers. High concentration of lead up to a maximum value of 85,600 mg/kg. Groundwater: No detected concentrations of TPH. Low concentrations of VOCs. Low concentrations of metals.

TABLE 2-22

SUMMARY OF FINDINGS
SITE 22 - LOWER SUBASE - PIER 33
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Recommended Remedial Alternative	Additional investigations were conducted in conjunction with the Lower Subase RI in 1997 to determine the extent of TPH, lead, or SVOCs. The Lower Subase RI recommends that soil and groundwater operable units for this site proceed to a feasibility study to evaluate appropriate remedial alternatives. "Hot spot" removal actions for the petroleum contamination, institutional controls, and in-situ or passive remedial alternatives should be evaluated for the soil in the feasibility study. A combination of monitored natural attenuation and tiered-groundwater monitoring program should be evaluated for the groundwater. Cleaning and repair of the storm sewer system should also be considered during the feasibility study.

TABLE 2-23

SUMMARY OF FINDINGS
SITE 23 - FUEL FARM
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine the nature and extent of soil and groundwater contamination at the site.
Source of Contamination	Leaks from the nine former 110-foot-diameter, 11-foot-high concrete USTs and the associated underground fuel transfer piping.
Analytical Parameters	Tank Farm Soil: Tank Area TPH, BTEX Methyltert-butylether (MTBE) Tank Farm Groundwater: Tank Area TPH, BTEX MTBE, DRO, GRO Fuel Pipeline Soil: TPH Sitewide Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics, cyanide and TPH Sitewide Groundwater: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics, cyanide and TPH Sitewide Surface Water: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics, cyanide and TPH Sitewide Stream Sediments: TCL organics (volatiles, semivolatiles, pesticides/PCBS) TAL inorganics, cyanide and TPH Sitewide Pipe Sediments: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics, cyanide and TPH
Nature and Extent of Contamination	Sitewide Soil: Contaminants detected in the soil included volatiles, semivolatiles, pesticides, inorganics and TPH. Benzo(a)pyrene (1.7 mg/kg), chromium (26.1 mg/kg), and lead (85.1 mg/kg) were detected at concentrations exceeding their associated screening criteria. Inorganics are prevalent throughout the UST farm and are suspected to be attributed to the type of fill material used during the construction of the UST farm. Sitewide Groundwater: Volatiles, semivolatiles, pesticides, inorganics and TPH were detected in the groundwater. Acenaphthene (0.6 µg/L), benzo(a)anthracene (0.8 µg/L), phenanthrene (23 µg/L), arsenic (21.1 µg/L), beryllium (5.6 µg/L), copper (52.7 µg/L), lead (165 µg/L), mercury (5.8 µg/L), nickel (5,990 µg/L), and zinc (165 µg/L) were detected at concentrations exceeding their associated screening criteria. Sitewide Surface Water: Contaminants detected in the surface water included inorganics and TPH. None of the contaminants detected were at concentrations exceeding their associated screening criteria.

TABLE 2-23

SUMMARY OF FINDINGS
SITE 23 - FUEL FARM
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Nature and Extent of Contamination (Continued)	Sitewide Sediments: Volatiles, semivolatiles, pesticides, inorganics and TPH were detected in the sitewide sediments (i.e., stream and storm sewer sediments). Benzo(a)anthracene (3.3 mg/kg), benzo(a)pyrene (3.9 mg/kg), benzo(b)fluoranthene (5.1 mg/kg), benzo(k)fluoranthene (2.8 mg/kg), dibenzo(a,h)anthracene (1.1 mg/kg), cadmium (1.2 mg/kg), chromium (53.3 mg/kg), lead (185 mg/kg), and vanadium (41.9 mg/kg) were detected at concentrations exceeding their associated screening criteria. Sitewide Pipeline Sediments: Contaminants detected in the pipeline sediments (i.e., sediments from catch basins near tanks) included volatiles, semivolatiles, pesticides, PCBs, inorganics and TPH. Benzo(a)anthracene (3.5 mg/kg), benzo(a)pyrene (3.8 mg/kg), benzo(b)fluoranthene (4.3 mg/kg), benzo(k)fluoranthene (3.1 mg/kg), dibenzo(a,h)anthracene (1.1 mg/kg), aroclor-1260 (5.2 mg/kg), dieldrin (0.039 mg/kg), cadmium (2.2 mg/kg), chromium (27.7 mg/kg), lead (7,340 mg/kg), thallium (1.6 mg/kg), and vanadium (40.5 mg/kg) were detected at concentrations exceeding their associated screening criteria. Fuel Pipeline: Eight of eighty samples had TPH concentrations that were in excess of screening criteria. Tank Area Soil: TPH concentrations detected around OT-4 (9,860 mg/kg) exceeded the TPH screening criteria. Tank Area Groundwater: TPH concentrations detected at OT-1 (17,300 µg/L), OT-2 (5,400 µg/L), OT-3 (17,800 µg/L), OT-4 (120,000 µg/L), OT-8 (4,920,000 µg/L) and OT-9 (900 µg/L) exceeded the TPH screening criteria. The benzene (828 µg/L) concentration detected at OT-2 exceeded the screening criteria. Concentrations of phenanthrene (180 µg/L) and several inorganics were detected at OT-4 at levels exceeding their respective screening criteria. Free product was observed near OT-8 in well MW-7 at a thickness of 1.66 feet.
Recommended Remedial Alternative	Tanks OT-1 through OT-9 have been closed in place. No Further Action is recommended for the soil OUs at OT-1, OT-4, OT-5, OT-6, OT-7, OT-9, and the Loading Area. Free product removal and soil excavation have been completed at OT-8. Design of a replacement storm sewer system has begun and it is anticipated that the design will be completed in 1999. Two date gap investigations (i.e., hydrogeologic investigation and data gap investigation between OT-2 and OT-3) will be completed to facilitate the design of the replacement storm sewer system. It is likely that hot spot excavation will be completed during installation of the new storm sewer. Excavation at GS-7 and GS-8 along the Upper Base fuel pipeline was recommended. The Lower Subase fuel pipelines were evaluated in the Lower Subase RI and will be addressed in the upcoming FS. The groundwater associated with this site will be further characterized during the Basewide Groundwater OU RI.

TABLE 2-24

SUMMARY OF FINDINGS
SITE 24 - LOWER SUBASE - CENTRAL PAINT ACCUMULATION AREA (BUILDING 174)
NSB-NLON, GROTON, CONNECTICUT

Objective	Determine by investigation if there is a potential for the existence of contamination due to past practices at the site that may pose a threat, or potential threat, to public health, welfare or the environment.
Potential Source of Contamination	Accumulated Paint
Analytical Parameters	TtNUS, Lower Subase RI (1999c) Soil: TCL volatiles and semivolatiles TAL metals SPLP metals TPH Groundwater: TCL volatiles and semivolatiles TAL metals TPH Natural Attenuation Parameters
Nature and Extent of Contamination	TPH and SVOCs, primarily PAHs, were the primary contaminants detected in this area. The maximum concentration of TPH (4,000 mg/kg) was detected in a shallow soil sample. The maximum detected concentration of a SVOC was 1,000 µg/kg (pyrene). Several inorganics were also identified as contaminants of concern. Inorganics (antimony, barium, thallium) were detected in groundwater at significant levels. Four SVOCs were detected at low concentrations in the groundwater.
Recommended Remedial Alternative	This site was investigated during the Lower Subase RI. The RI recommended that this site proceed to a feasibility study to evaluate appropriate remedial alternatives for the soil and groundwater. Passive or in-situ remedial alternatives and institutional controls should be evaluated for the soil. A tiered groundwater monitoring program and cleaning and repair of the storm sewer system should also be evaluated during the feasibility study.

TABLE 2-25

SUMMARY OF FINDINGS
SITE 25 - LOWER SUBASE - CLASSIFIED MATERIALS INCINERATOR
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Objective	Determine by investigation if there is a potential for the existence of contamination due to past practices at the site that may pose a threat, or potential threat, to public health, welfare, or the environment.
Source of Contamination	Former Incinerator
Analytical Parameters	Atlantic, Final Site Inspection Report (1995a) Soil: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics TPH Fluorescence Dioxin Other TCLP-metals Sediments: TCL organics (volatiles, semivolatiles, pesticides/PCBs) TAL inorganics TPH Fluorescence Other TCLP-metals Groundwater: TCL organics (volatiles, semivolatiles pesticides/PCBs) TAL inorganics TPH Fluorescence Other TCLP-metals TtNUS, Lower Subase RI (1999c) Soil: TCL semivolatiles TAL metals SPLP Lead TPH Groundwater: TCL semivolatiles TAL metals TPH Natural Attenuation Parameters
Nature and Extent of Contamination	Soil: Concentrations of TPH detected across the site particularly northwest of Building 157. Maximum detected TPH concentration was 2600 mg/kg. Several SVOCs, primarily PAHs, were detected in shallow and deep soil. High concentrations of inorganics were detected across the site. Detected concentrations of lead ranged from 1.6 to 189,000 mg/kg. Groundwater: Low VOC concentrations detected in groundwater samples (0.6 µg/L to 2 µg/L). No TPH concentrations detected in groundwater samples. High lead concentrations up to a maximum value of 117 µg/L (total). Maximum concentration of lead in filtered sample was 97.5 µg/L Sediments: TPH concentrations up to 1300 mg/kg detected in Berth-16 storm sewer sediment. Inorganics also detected in sediment samples.

TABLE 2-25

SUMMARY OF FINDINGS
SITE 25 - LOWER SUBASE - CLASSIFIED MATERIALS INCINERATOR
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Recommended Remedial Alternative	This site was investigated jointly with Site 21 as Zone 7 during the Lower Subase RI. Additional investigations were conducted in conjunction with the Lower Subase RI in 1997 to determine the extent of TPH, lead, or SVOCs. The Lower Subase RI recommends that Zone 7 should proceed to a feasibility study to evaluate appropriate remedial alternatives for the soil and groundwater. "Hot spot" removal actions for lead, institutional controls, and passive or in-situ remedial alternatives should be evaluated for soil in the feasibility study. A tiered groundwater monitoring program and cleaning and repair of storm sewer system should also be evaluated in the feasibility study.

3.0 REGULATORY PROCESS ACTIVITIES

Beginning in 1980, investigations of the NSB-NLON hazardous waste sites were conducted under the Department of Navy Assessment and Control of Installation Pollutants (NACIP) Program. Since 1986, investigations at NSB-NLON have been conducted under the Department of Defense (DOD) IR Program. Funding to pay for such investigations is allocated for DOD sites under the Defense Environmental Restoration Account (DERA).

A Federal Facilities Agreement (FFA) for NSB-NLON was completed in January 1995 between the U.S. EPA, Region I, the State of Connecticut, and the United States Navy. This agreement was entered to:

- Ensure that the environmental impacts associated with the past and present activities at NSB-NLON are thoroughly investigated and that the appropriate remedial action is taken as necessary to protect human health and the environment.

- Establish a procedural framework and timetable for developing, implementing, and monitoring appropriate response actions at NSB-NLON in accordance with CERCLA as amended by the 1986 Superfund Amendments and Reauthorization Act (SARA) and the 1984 Hazardous and Solid Waste Amendments (HSWA).

- Provide for the operation and maintenance of any remedial action selected and implemented pursuant to the FFA.

- Provide for the appropriate state involvement in the initiation, development, selection, and enforcement of remedial actions to be undertaken at the NSB-NLON.

- Identify removal actions that are appropriate for the NSB-NLON.

The IR Program parallels CERCLA, otherwise known as Superfund. Under the Superfund program, abandoned waste sites that potentially contain hazardous constituents undergo several phases of environmental investigation, which would ultimately determine the need for a remedy, and if necessary, the selection and implementation of the remedy for the site. The phases of investigation under CERCLA include the Preliminary Assessment/Site Inspection (PA/SI), Remedial Investigation (RI), Feasibility Study (FS), Record of Decision (ROD), and Remedial Design/Remedial Action (RD/RA). The process required by the FFA that also follows the IR Program is analogous to CERCLA with one exception: the PA/SI is replaced by the Site Screening Process (SSP). Superfund also has provisions for Interim Measures (IM) that can be implemented if a site poses an immediate threat to the environment.

3.1 CERCLA PROCESS ACTIVITIES

3.1.1 Preliminary Assessment/Site Investigation and Site Screening Process

The initial study conducted under CERCLA at a site in response to a real or suspected hazardous substance release is the Preliminary Assessment/Site Investigation (PA/SI). The PA/SI is usually conducted by U.S. EPA or an authorized state agency. The PA/SI relies heavily on existing information and is limited in scope. If the PA/SI identifies sites or study areas as potentially posing a threat to human health or the environment, a Remedial Investigation/Feasibility Study is conducted.

The Site Screening Process (SSP) is the FFA's alternative to the PA/SI process. The SSP is the mechanism for evaluating whether identified Site Screening Areas (SSAs) should proceed with an RI/FS. SSAs refer to areas not previously identified that may pose a threat, or potential threat, to public health, welfare or the environment.

The SSP considers current CERCLA guidance to determine whether there have been releases of hazardous substances, pollutants, or contaminants, to the environment from the SSAs. The SSP Report provides the basis for whether an RI/FS be performed or removed from further study. Those SSAs which require an RI/FS become Areas of Concern (AOCs). AOCs are areas at the site where hazardous substances, pollutants, or contaminants are or may have been placed or eventually will be located.

3.1.2 Remedial Investigation/Feasibility Study

The Remedial Investigation/Feasibility Study (RI/FS) is the next phase of the CERCLA remedial process and is required for all AOCs. The RI is intended to determine the nature and extent of contamination, potential migration pathways, toxicity and persistence of contaminants, and potential (risk) for adverse impacts to human health or the environment. The FS is intended to develop remedial objectives, identify Applicable or Relevant and Appropriate Requirements (ARARs), develop and screen remedial alternatives, analyze remedial alternatives, and recommend the alternative(s) that best meets the CERCLA criteria (protection of human health and the environment; compliance with ARARS; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; long-term effectiveness; implementability; cost; state acceptance; and community acceptance). CERCLA does not provide specific requirements for concentration limits or groundwater monitoring.

After completion of the RI/FS, a Proposed Remedial Action Plan (PRAP) is completed prior to the beginning of the formal public comment period. Subsequently, a Record of Decision (ROD) that identifies the preferred remedial alternative(s) is issued by the U.S. EPA.

3.1.3 Removal Action

A removal action may be completed prior to or during the RI/FS to reduce the threat to human health or the environment by removing released hazardous substances or reducing potential exposure pathways. Time-critical removal actions are taken when there is an imminent threat to human health or the environment. Non-time-critical removal actions may be delayed 6 months or more, based on the reduced threat to human health of the environment.

To enable the selection of the best remedial alternative for non-time-critical removal actions, an Engineering Evaluation/Cost Analysis (EE/CA) is prepared. Unlike the FS, the EE/CA focuses only on the material to be removed and does not use the full CERCLA criteria. An Action Memorandum is completed prior to a formal public comment period.

Subsequent to a removal action, the FS may conclude that no further action is required to reduce the threat to human health and the environment. In this case, a no-action ROD would be issued and the CERCLA remedial process would be concluded.

3.1.4 Interim Remedial Actions

An interim remedial action may be completed prior to or during the RI/FS to reduce the threat to human health or the environment by removing released hazardous substances or reducing potential exposure pathways. To facilitate selection of the best remedial alternative for an interim remedial action, a Focused FS is prepared. An interim ROD is issued, and interim remedial design and remedial action activities are initiated. After implementation of the interim remedial action, the FS may conclude that no further action is required to reduce the threat to human health and the environment. In this case, a no-action ROD would be issued and the CERCLA remedial process would be concluded.

3.1.5 Remedial Design/Remedial Action

The ROD establishes the scope and schedule for the development of the Remedial Design (RD) and Remedial Action (RA). The RD often proceeds in a stepped process (30, 60, and 100 percent complete) and addresses detailed design issues not addressed during the FS. The RA involves implementation of the RD.

4.0 SITE RANKING

This section provides a summary of the relative risk ranking procedure. A detailed description of this procedure can be found in the Relative Risk Site Evaluation Primer, Revised Edition (DOD, Summer 1996). A summary of relative ranking results for each site at NSB-NLON are also provided in this section. Results of the risk ranking procedure are intended to assist in prioritizing site cleanups.

4.1 REQUIREMENTS FOR RELATIVE RISK SITE EVALUATIONS

Relative risk site evaluations are required for all sites at active military installations, BRAC installations, and formerly used defense properties that have future funding requirements that are not classified as (1) RIP, (2) RC, (3) lacking sufficient information, or (4) abandoned ordnance. Relative risk site evaluations were performed for eighteen of the twenty-five sites at NSB-NLON. Because of recent remedial/removal actions that were completed at NSB-NLON under the IR Program, seven sites now fall into the categories of RIP or RC. Site 2 - Area A Landfill, Site 3 - Over Bank Disposal Area (OBDA) Debris, Site 6 - Defense Reutilization and Marketing Office (DRMO), and Site 4 - Rubble Fill at Bunker A-86 fall into the RIP category and Site 1 - CBU Drum Storage Area, Site 9 – Oily Wastewater Tank (OT-5), and Site 15 - Spent Acid Storage and Disposal Area (SASDA) fall into the RC category. Relative risk site evaluations were not performed for these seven sites. A more detailed description of the RIP and RC categories is provided below.

Relative risk site evaluations are not required for sites classified as having all RIP even though they may be in remedial action operation (RAO) or long-term monitoring (LTM). A RIP determination requires that remedial action construction is complete for a site.

Relative risk site evaluations are not required for sites classified as RC. Sites classified as RC are those where a Department of Defense (DOD) Component deems that no further action (NFA) is required with the possible exception of LTM. A RC determination requires that one of the following apply: (1) there is no evidence that contaminants were released at the site, (2) no contaminants were detected at the site other than at background concentrations, (3) contaminants attributable to the site are below action levels used for risk screening, (4) the results of a baseline risk assessment demonstrate that cumulative risks posed by the site are below established thresholds, or (5) removal and/or remedial action operations (RAOs) at a site have been implemented, completed, and are the final action for the site. Based upon one of these designations, only LTM remains for the site.

4.2 RELATIVE RISK SITE EVALUATION FRAMEWORK

The DOD has developed a Relative Risk Site Evaluation framework as a means of categorizing sites in the Defense Environmental Restoration Program (DERP) into High, Medium, and Low relative risk groups. The ranking of sites is not a substitute for a baseline human health risk assessment nor is it a means of placing sites into a no further action category. The categorization of sites into relative risk groups is based on an evaluation of contaminants, pathways, and human and ecological receptors for groundwater, surface water and sediment, and surface soils. The air media is not considered. Each of these environmental media is evaluated using three factors:

1. The Contaminant Hazard Factor.
2. The Migration Pathway Factor.
3. The Receptor Factor.

The Contaminant Hazard Factor (CHF) is a combined measure of contaminant concentrations in a given environmental medium. CHF ratings are either "significant," "moderate," or "minimal" for each media. A CHF rating is determined based on the ratio of the maximum concentration of a contaminant in each media (groundwater, surface water and sediment, surface soil) to a risk-based concentration standard for that contaminant (Media Protection Standard or Preliminary Remediation Goal). For media containing more than one contaminant, the ratios are added.

The Migration Pathway Factor (MPF) is a measure of the movement or potential movement of contamination away from the original source. MPF ratings are either "evident," "potential," or "confined" for each media. A rating of "evident" means that analytical data or observable evidence indicates that contamination in the media is present at, is moving towards, or has moved to a point of exposure. A rating of "potential" indicates that contamination has moved only slightly beyond the source, could move but is not moving appreciably; or information is not sufficient to make a determination of "evident" or "confined." A rating of "confined" indicates low possibility for contamination to be present at or migrate from the source to a point of exposure.

The Receptor Factor (RF) is an indication of the potential for human or ecological contact with site contaminants. RF ratings are either "identified," "potential," or "limited" for each media. A rating of "identified" indicates that receptors have been identified that have access to contaminated media. A rating of "potential" indicates potential for receptors to have access to contaminated media. A rating of "limited" indicates that there is little or no potential for receptors to have access to contaminated media.

The risk-based concentration standards used in the risk ranking procedure for each media are included in Appendix B of the Relative Risk Site Evaluation Primer (DOD, Summer 1996). The standards that are

applicable to each media are discussed on page 6 of the Primer. Assumptions for ratings are discussed on pages 24 through 30 of the Primer.

Sites lacking reliable concentration data will be designated as "not evaluated." Actions on these sites may be deferred, or the sites may be programmed for additional data collection. In addition, removal action or another appropriate response action may be appropriate.

Upon determination of the CHF, MPF, and RF, a decision matrix is used to determine the category of relative risk for each media. Relative risk categories are High, Medium, and Low. The highest rating resulting from the evaluation of the three media becomes the relative risk category of the site. A site's rating may change based on new or additional information or as a result of remediation activities.

The results of the Relative Risk Site Evaluation are used, in conjunction with other risk management concerns, to assist in the sequencing of remedial work. Appendix A contains the Executive Summary for the Relative Risk Site Evaluation Concept.

4.3 SUMMARY OF SITE RISK RANKING FOR NSB-NLON

A summary of relative risk ranking results for the applicable NSB-NLON sites is shown on Table 4-1. Complete relative risk ranking worksheets are included in Appendix B.

TABLE 4-1

RELATIVE RISK RANKING RESULTS
NSB-NLON, GROTON, CONNECTICUT

Site	Name	Rank
1	Construction Battalion Unit (CBU) Drum Storage Area	NA(1)
2	Area A Landfill and Area A Wetland	NA(2) High(3)
3	Area A Downstream Water Courses/OBDA Pond Over Bank Disposal Area (OBDA) Debris	High NA(2)
4	Rubble Fill Area at Bunker A-86	NA(2)
6	Defense Reutilization and Marketing Office (DRMO)	NA(2)
7	Torpedo Shops	Medium
8	Goss Cove Landfill	High
9	Oily Wastewater Tank (OT-5)	NA(1)
10	Lower Subase-Fuel Storage Tanks and Tank 54-H	High
11	Lower Subase-Power Plant Oil Tanks	High
13	Lower Subase-Building 79 Waste Oil Pit	High
14	Over Bank Disposal Area Northeast (OBDANE)	Medium
15	Spent Acid Storage and Disposal Area (SASDA)	NA(1)
16	Hospital Incinerators	Low
17	Lower Subase-Hazardous Materials/Solvent Storage Area (Building 31)	Medium
18	Solvent Storage Area (Building 33)	Medium
19	Lower Subase-Solvent Storage Area (Building 316)	Low
20	Area A Weapons Center	High
21	Lower Subase-Berth 16	High
22	Lower Subase-Pier 33	High
23	Fuel Farm	High
24	Lower Subase-Central Paint Accumulation Area (Building 174)	Low
25	Lower Subase-Classified Materials Incinerator	Medium

1 NA = Response Complete
2 NA = Remedies In Place
3 Only one risk ranking evaluation spreadsheet was developed for Site 2. The data used for the risk ranking includes soil and groundwater data for the Area A Landfill as well as surface water and sediment data from the Area A Wetland.

5.0 SCHEDULE

A summary schedule, a schedule of milestones, and detailed site-specific schedules for the Site Management Plan (i.e., Sites 2, 3-8, 14, 16, 18, and 20, and Lower Subase Sites 10, 11, 13, 17, 19, 21, 22, 24, and 25) are attached as Appendix C. A schedule is also included for the Basewide Groundwater Operable Unit (OU) Remedial Investigation (RI). The schedule for the Phase II RI was removed because this task is complete. In addition, the schedules for Sites 1, 9, and 15 were removed because remedial actions are complete for these sites. As discussed in Section 1.0, the schedule for the groundwater OU at the Fuel Farm (Site 23) will follow the schedule for the Basewide Groundwater OU RI.

5.1 SCHEDULE DEVELOPMENT

The schedules were developed using the current status of activity for each site at NSB-NLON, anticipated activities, and projected funding availability. Line item durations were typically developed using the FFA. The FFA provides durations for specific process activities.

In some cases, due to requests from regulators, accelerated durations were used for scheduling. The "deliverables" required during the remedial process are separated into two categories: primary and secondary. A description of each of these "deliverables" is provided below.

5.1.1 Primary Documents

According to the FFA, Primary Documents are developed by the Navy and initially submitted as a draft. The draft Primary Documents are subject to review by the U.S. EPA, CTDEP, and the RAB.

Following the Navy response to, and resolution of, U.S. EPA, CTDEP, and RAB comments on draft Primary Documents, a draft final version Primary Document is prepared. Following a regulator concurrence period, the final Primary Document is prepared and issued. Primary Documents include:

- Proposed Plan
- Scope of Work for RD/RA
- Remedial Design (RD) Work Plan
- Sixty percent (60 percent) Remedial Design (including Quality Assurance/Quality Control [QA/QC] and Contingency Plan)

- Final Remedial Design (including Remedial Action Work Plan and Final Construction QA/QC Project Plan)
- Project Closeout Report
- Final Plan of Action for Installation Restoration (IR) - August 1989
- Scope of Work for RI/FS
- Supplemental Initial Assessment Study
- Preliminary Assessment
- Study Area Screening Evaluation Report
- RI/FS Work Plan (and any RI/FS Work Plan addenda for subsequent phases)
- RI/FS Report (including Treatability and Pilot Study(s), Initial Screening of Alternatives, Detailed Analysis of Alternatives, and Risk Assessment Addendum, if warranted by the scope of the Remedial Investigation)

5.1.2 Secondary Documents

Secondary Documents include those documents that are discrete portions of the Primary Documents and are typically input or feeder documents. Secondary Documents are issued by the Navy in draft and are subject to review and comment by U.S. EPA and the CTDEP. Although the Navy will respond to comments received, the draft Secondary Documents may be finalized in the context of the corresponding draft final Primary Documents. Secondary Documents include:

- Study Area Screening Evaluation Work Plan
- Initial Screening of Alternatives
- Detailed Analysis of Alternatives
- Treatability and Pilot Study Work Plan (if warranted by the scope of the RI/FS)
- Treatability and/or Pilot Study(ies) (if warranted by the scope of the RI/FS)
- Sampling and Data Results

5.1.3 Durations

The FFA defines review, response, and revision time frames for Primary and Secondary documents:

- EPA/State review of draft Secondary and Primary Documents - 60 days
- Navy review and response to EPA/State comments of draft Primary and Secondary Documents - 45 days
- Meeting(s) held to informally dispute any unresolved issues regarding draft Primary Documents or discuss any unresolved issues regarding draft Secondary Documents; Navy submittal of draft final Primary and Secondary Documents - 45 days
- EPA/State submit Letter of Concurrence with draft final Primary Document or invoke Formal Dispute Resolution in accordance with Section XIII (Dispute Resolution) - 30 days
- Navy issuance of final Primary Document after Navy submittal of draft final Primary Document pursuant to Section 7.6 (e) (3) - 60 days
- Navy issuance of final Primary Document which conforms to the results of Dispute Resolution - 45 days

The FFA provides a provision to extend a timetable, deadline, or schedule for good cause.

The Site Management Plan is reviewed and revised as necessary each year. The review cycle is as follows:

- Discussion (90 days) of budget with USEPA/CTDEP, Natural Resources Trustees and community members; amended SMP submitted by April 30th of the following year.
- 30-day review/comment period
- 30-day respond to comment period

6.0 NSB-NLON CLEANUP TEAM

The names, addresses, and responsibilities of the cleanup team are as follows:

Project Managers:

Mr. Mark Evans
Naval Facilities Engineering Command
Northern Division
10 Industrial Highway
Mail Stop #82 (Code 1823/ME)
Lester, PA 19113-2090

Mr. Richard Conant
Naval Submarine Base - New London
Environmental Department
Building 166
Groton, CT 06349-5039

Ms. Kymberlee Keckler
Remedial Project Manager
U.S. EPA Region I
1 Congress Street
Suite 1100 (HBT)
Boston, MA 02114-2023

Mr. Mark Lewis
CT Dept. of Environmental Protection
Water Management Bureau
Permitting, Enforcement, and
Remediation Division
Federal Remediation Program
79 Elm Street
Hartford, CT 06106-5127

Restoration Advisory Board Community Members:

Mrs. Deborah Motycka Downie
5 Back Acres Way
Stonington, CT 06378

Mr. Andrew Parrella
790 Eastern Point Road
Groton, CT 06340

Ms. Susan Orrill
7 Pinelock Drive
Gales Ferry, CT 06355

Mr. Norman Richards
29 Attawan Avenue
Niantic, CT 06357

Mr. Harry Watson
175 Shennecossett Parkway
Groton, CT 06320

At-Large Members:

Mr. Brian Savageau
New London Health Department
120 Broad Street
New London, CT 06320

Mr. Felix Prokop III
Ledgelight Health District
1 Fort Hill Road
Groton, CT 06340

Kenneth Finkelstein, Ph.D.
NOAA
Office of Ocean Resource Conserv. & Assess.
Hazardous Materials Response & Assess. Div.
c/o EPA Office of Site Remediation and
Restoration (HIO)
J.F.K. Federal Bldge.
Boston, MA 02203

Mr. Jim Citak
State of Connecticut
Department of Agriculture
P.O. Box 97
Milford, CT 06460

Ms. Carole Hossam
ATSDR
Mail Stop E-32
1600 Clifton Road, N.E.
Atlanta, GA 30333

Ms. Debrah Jones
Town of Groton
45 Fort Hill Road
Groton CT 06340

Ms. Pamela Kilbey-Fox
City of New London
120 Broad Street
New London, CT 06320

Mr. Bart Pearson
1292 Route 12
Groton, CT 06340-2452

Mr. Arthur Cohen
Director of Health
Uncas Health District
372 West Main Street
Second Floor
Norwich, CT 06360-5450

Mr. Thomas Wagner
Town of Waterford
15 Rope Ferry Road
Waterford, CT 06385

Mr. Noah Levine
46 Summit Avenue
New London, CT 06320

Mr. L. J. Chmura
Groton City Conservation Commission
236 Eastern Pt. Road
Groton, CT 06340

Mr. Larry H. Gibson
22 Partridge Hollow
Gales Ferry, CT 06335

Mr. Steve Cicoria
62 Jupiter Point Road
Groton, CT 06340

Other Navy Members

Captain H.A. Lincoln
Commanding Officer
Submarine Base New London
Box 00
Groton, CT 06349-5000

Mr. Andy Stockpole
Director of the Environmental Department
Naval Submarine Base-New London
Building 166
Groton, CT 06349-5039

Ms. Janice Peret
Public Affairs Officer, Box 44
Naval Submarine Base-New London
Groton, CT 06349-5044

Mr. Robert Jones
Regional Environmental Coord.
COMSUBGRP2
Box 100
Groton, CT 06349-5100

Mr. Chuck McGuire
CINCLANTFLT
Code N465
Norfolk, VA 23511

Ms. Andrea Lunsford
Environmental Programs
Navy Environmental Health Center
2510 Walmer Avenue
Norfolk, VA 25313-2617

7.0 ABRIDGED BIBLIOGRAPHY

Table 7-1 presents a chronological listing of select site-specific documents for use as a guide to these documents.

TABLE 7-1

ABRIDGED BIBLIOGRAPHY
NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 5

No.	Title	Author	Date	Abbreviation
1	Final Environmental Impact Statement (Vol. 1), Naval Submarine Base - New London, Groton, Connecticut, Dredge River Channel	Department of the Navy	1973	Environmental Impact Statement
2	An Investigation of the Impact of Dredging Operations on Suspended Material Transport in the Lower Thames River Estuary Physical, Chemical and Biological Effects of Dredging in the Thames River (CT) and Spoil Disposal at the New London (CT)	W.F. Bohlen and J.M. Tramontano	1977	Dredging Operations Impact Investigation
3	Oil Contamination of the Ground Water at SUBASE	NESO 1-026	Feb-79	Oil Contamination Report
4	Initial Assessment Study: Naval Submarine Base, New London Connecticut, prepared for Naval Assessment and Control of Installation Pollutants Department	Environdyne Engineers, Inc.	1982	1982 IAS
5	Final Initial Assessment Study of Naval Submarine Base - New London, Groton, Connecticut	Naval Energy and Environmental Support Activity, Port Hueneme,	Mar-83	1983 IAS
6	Final Assessment Study of Naval Submarine Base - New London, Groton, Connecticut	Naval Energy and Environmental Support Activity, Port Hueneme,	Mar-83	1983 FAS
7	Site Investigation - Subsurface Oil Contamination - Lower Subase: Naval Submarine Base - New London, Groton, Connecticut	Wehran Engineering Corporation, Methuen, Massachusetts	1987	1987 SI
8	Data Report - Conforming Storage Facility, Groton, Connecticut, prepared for Donahue and Associates, Inc.	Goldberg-Zoino & Associates, Inc., Vernon, Connecticut	1988	Data Report
9	Master Plan for Naval Submarine Base New London	Naval Facilities Engineering Command	1988	Master Plan
10	Draft Verification Step IA Study - Naval Submarine Base - New London, Groton, Connecticut	Wehran Engineering Corporation, Methuen, Massachusetts	1988	1988 Verification Study
11	Verification Study, Naval Submarine Base - New London, Groton, Connecticut	Wehran Engineering Corporation, Methuen, Massachusetts	1988	1988 Verification Study
12	Plan of Action, Installation Restoration Study, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	1989	Plan of Action
13	Wetland Delineation Report for P-418, Bachelor Enlisted Quarters - Parking Lot	Northern Division Naval Facilities Engineering Command	1989	Wetland Delineation Report
14	Hydrogeologic Investigation Underground Storage Tanks OT-4, OT-7, OT-8, OT-9, and 54H, Naval Submarine Base - New London, Groton, Connecticut	Fuss & O'Neill, Inc., Manchester, Connecticut	Sep-89	Hydrogeologic Investigation - Storage Tanks
15	UST Removal, Waste Oil Tank 5 Naval Submarine Base - New London, Groton, Connecticut	Goldberg-Zoino & Associates, Inc., Vernon, Connecticut	1991	OT 5 - UST Removal
16	Environmental Testing Waste Oil Tank 5, Naval Submarine Base - New London, Groton, Connecticut	Goldberg-Zoino & Associates, Inc., Vernon, Connecticut	1992	OT 5 - Environmental Testing
17	Thames River Water Quality Study, Phase I - Model Selection, prepared for the Connecticut Department of Environmental Protection, Thames River Advisory Committee, and Southeastern Connecticut Regional Planning Agency, Pearl River, New York	LMS Engineers, Pearl River, New York	1992	Thames River Water Quality Study
18	Site Analysis of Naval Submarine Base New London, Groton, Connecticut	United States Environmental Protection Agency	Mar-92	Site Analysis
19	Phase I Remedial Investigation Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Aug-92	Phase I RI
20	Plan of Action - Installation Restoration Study - Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	1993	Plan of Action
21	Supplemental to the Final Plan of Action Pier 33 and Berth 16/Former Incinerator: Installation Restoration Naval Submarine Base New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	1993	Plan of Action, Pier 33/Berth 16
22	Project Design Report: Remediation of Contaminated Soil/Ground Water, Naval Submarine Base - New London, Groton, Connecticut	HRP Associates, Inc.	1993	Project Design Report

TABLE 7-1

ABRIDGED BIBLIOGRAPHY
NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 5

No.	Title	Author	Date	Abbreviation
23	Abbreviated Field Sampling Plan for Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	Feb-93	Abbreviated FSP
24	Work Plan, Field Sampling Plan, QA/QC Plan, Health and Safety Plan, Phase II Remedial Investigation	Atlantic Environmental Services, Inc., Colchester, Connecticut	May-93	WP, FS, QA/QC, H&S Plan
25	Action Memorandum for Building 31, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	May-93	Building 31 - Action Memorandum
26	Remedial Design for the Building 31, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	May-93	Building 31 - Remedial Design
27	Briefing Document, Proposed Interim Remedial Actions. Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	May-93	Proposed IRA
28	Otto Fuel Storage Evaluation, Building 450, Naval Submarine Base - New London, Groton, Connecticut	Goldberg-Zoino & Associates, Inc., Vernon, Connecticut	1994	Otto Fuel Storage Evaluation
29	Environmental Assessment for Pier 17 Replacement, Naval Submarine Base - New London, Groton, Connecticut	McGuire Group Inc.	1994	Pier 17 EA
30	Draft Focused Feasibility Study, Spent Acid Storage and Disposal Area, Installation Restoration Program, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Mar-94	FFS - SASDA
31	Draft Focused Feasibility Study, Defense Reutilization and Marketing Office, Installation Restoration Program, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Mar-94	FFS - DRMO
32	Draft Focused Feasibility Study, Area A Downstream/OBDA, Installation Restoration Program, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Apr-94	FFS - Area A Downstream/OBDA
33	Site Characterization Report for Waste Oil Tank 5, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	May-94	OT 5 - Site Characterization
34	Design Analysis, Basis of Design Calculations, Area A Landfill Cap, prepared for Northern Division Naval Facilities Engineering Command	Atlantic Environmental Services, Inc., Colchester, Connecticut	Jun-94	Landfill A Design Analysis
35	Background Soils Data Report - Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Jul-94	Background Soils Data
36	Offsite Residential Well Water Data Evaluation Report - Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Jul-94	Well Water Data Evaluation
37	Wetland Delineation Area A, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Jul-94	Wetland Delineation - Area A
38	100% Design Document for OT-5 Removal Action	Halliburton NUS Corporation, Wayne, Pennsylvania	Sep-94	100% Design for OT-5
39	Post Removal Action Report for Waste Oil Tank No. 5, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	Dec-94	OT-5 Post-Removal Action Report
40	Federal Facility Agreement Under CERCLA 120, In the Matter of The US Department of the Navy, Naval Submarine Base - New London, Groton, Connecticut	US Environmental Protection Agency	Jan-95	FFA
41	Post Removal Action Report for Building 31 Lead Remediation, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	Jan-95	Building 31 - Post Removal Action Report
42	Final Site Inspection Report, Pier 33 and Berth 16/Former Incinerator, Installation Restoration Program, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Feb-95	Site Inspection - Pier 33/Berth 16
43	Action Memorandum for the Defense Reutilization and Marketing Office and the Spent Acid Storage and Disposal Area	Atlantic Environmental Services, Inc., Colchester, Connecticut	Mar-95	DRMO & SASDA Action Memorandum
44	Background Concentrations of Inorganics in Soil. Installation Restoration Program Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Apr-95	Background Data Soils
45	Draft Final Supplement to Initial Assessment Study. Naval Submarine Base - New London, Groton, Connecticut	Naval Energy and Environmental Support Activity, Port Hueneme, California	Apr-95	1995 Supplemental IAS

TABLE 7-1

ABRIDGED BIBLIOGRAPHY
NSB-NLON, GROTON, CONNECTICUT
PAGE 3 OF 5

No.	Title	Author	Date	Abbreviation
46	Final Focused Feasibility Study, Area A Landfill, Installation Restoration Program, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	May-95	FFS - Area A Landfill
47	Geotechnical Field Investigation Report for Area A Landfill Remedial Design, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	May-95	Geotech Report - Area A Landfill
48	100% Design Document for Area A Landfill Interim Remedial Action, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	May-95	100% Design - Area A Landfill
49	Addendum to the Focused Feasibility Study Area A Landfill, Installation Restoration Program, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	May-95	FFS Addendum - Area A Landfill
50	Removal Site Evaluation for Quay Wall, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	May-95	RSE - Quay Wall
51	Work Plan for Tank Farm Investigation for Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Jun-95	Tank Farm Work Plan
52	Environmental Evaluation Report for Proposed Interim Remedial Action Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	Jun-95	Area A Landfill EER
53	Proposed Plan for the Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Jun-95	Area A Landfill PRAP
54	Final Environmental Impact Statement for Seawolf Class Submarine Homeporting on East Coast of the United States	McGuire Group Inc.	Jul-95	EIS - Seawolf
55	Work Plan Attachment, Area A Landfill	Naval Facilities Engineering Service Center	Jul-95	Area A Landfill WP Attachment
56	Record of Decision for the Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut	Atlantic Environmental Services, Inc., Colchester, Connecticut	Sep-95	Area A Landfill ROD
57	Work Plan Addendum for Tank Farm Investigation for Naval Submarine Base - New London, Groton, Connecticut	Halliburton NUS Corporation, Wayne, Pennsylvania	Sep-95	Tank Farm - Work Plan Addendum
58	Final Report for interim Remedial Action, Site 6, Naval Submarine Base - New London, Groton, Connecticut	OHM Remediation Services Corporation, Hopkinton, Massachusetts	Sep-95	DRMO RA Final Report
59	Final Report for Soil Remediation, Spent Acid Storage and Disposal Area, Naval Submarine Base - New London, Groton, Connecticut	OHM Remediation Services Corporation, Hopkinton, Massachusetts	Sep-95	SASDA RA Final Report
60	CBU Drum Storage Area No Further Action Decision Document, Naval Submarine Base - New London, Groton, Connecticut	U.S. Environmental Protection Agency (Region 1), Boston, Massachusetts	Apr-96	CBU NFA DD
61	Final Site Characterization Report for OT-10, Building 325, and Building 89, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Jun-96	OT-10 - Final Site Characterization
62	Groundwater/Leachate Modeling Study Report, Area A Landfill Remedial Design, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Oct-96	GW/Leachate Modeling Report - Area A Landfill
63	Revised Design Analysis Report, Area A Landfill Remedial Design, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Dec-96	Revised Design Report - Area A Landfill
64	Area A East End Investigation, Area A Landfill Remedial Design, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Dec-96	East End Investigation - Area A Landfill
65	Final Quality Control Plan for Area A Landfill Cap at Naval Submarine Base - New London, Groton, Connecticut	Foster Wheeler Environmental Corporation.	Jan-97	Area A Landfill Quality Control Plan
66	Goss Cove Habitat Evaluation Memorandum Report, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Feb-97	Goss Cove Habitat Evaluation

TABLE 7-1

ABRIDGED BIBLIOGRAPHY
NSB-NLON, GROTON, CONNECTICUT
PAGE 4 OF 5

No.	Title	Author	Date	Abbreviation
67	Final Work Plan for Area A Landfill Cap, Naval Submarine Base - New London, Groton, Connecticut	Foster Wheeler Environmental Corporation.	Feb-97	Area A Landfill WP
68	Existing Data Summary Report for the Lower Subase Remedial Investigation, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Mar-97	Lower Subase EDSR
69	Phase II Remedial Investigation Report for Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Mar-97	Phase II RI
70	Final MQA/CQA Plan for Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, Wayne, Pennsylvania	Mar-97	Area A Landfill MQA/CQA
71	Goss Cove Landfill/Goss Cove Contaminant Migration Letter Report, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	May-97	GSL/GCCM Letter Report
72	Environmental Evaluation Report for Proposed Remedial Action Area A Downstream/OBDA, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	May-97	Area A Downstream/OBDA EER
73	Verification Sampling Report for Site 4 (Rubble Fill at Bunker A-86) Removal Action, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Jun-97	Bunker A-86 VSR
74	Proposed Plan for the Spent Acid Storage and Disposal Area, Naval Submarine Base - New London, Groton, Connecticut	U.S. Navy, Lester, Pennsylvania	Jul-97	SASDA PRAP
75	Final Post Removal Report for Site 4 - Rubble Fill at Bunker A-86, Naval Submarine Base - New London, Groton, Connecticut	Foster Wheeler Environmental Corporation, Boston, Massachuetts	Jul-97	Bunker A-86 PRR
76	Final Post Removal Report for Over Bank Disposal Area, Naval Submarine Base - New London, Groton, Connecticut	Foster Wheeler Environmental Corporation, Boston, Massachuetts	Jul-97	OBDA PRR
77	Action Memorandum for Over Bank Disposal Area, Naval Submarine Base - New London, Groton, Connecticut	U.S. Navy, Lester, Pennsylvania	Jul-97	OBDA AM
78	Proposed Plan for Area A Downstream/OBDA (Site 3), Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Jul-97	Area A Downstream/OBDA PRAP
79	Data Gap Investigation Report for Goss Cove Landfill, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Aug-97	Goss Cove DGI
80	Record of Decision for the Spent Acid Storage and Disposal Area, Naval Submarine Base - New London, Groton, Connecticut	U.S. Navy, Lester, Pennsylvania	Sep-97	SASDA ROD
81	Site Investigation - Report for Tank Farm Investigation for Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Sep-97	Tank Farm SI
82	Final Lower Subase Remedial Investigation Work Plan and Sampling and Analysis Plan, Naval Submarine Base-New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Sep-97	Lower Subase RI WP/SAP
83	Action Memorandum for Site 4 - Rubble Fill at Bunker A-86, Naval Submarine Base - New London, Groton, Connecticut	U.S. Navy, Lester, Pennsylvania	Sep-97	Bunker A-86 AM
84	Feasibility Study for the Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Sep-97	DRMO FS
85	Proposed Plan for the Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Sep-97	DRMO PRAP
86	Feasibility Study for Soil and Sediment, Area A Downstream/OBDA (Site 3), Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Dec-97	Area A Downstream/OBDA FS
87	Final Groundwater Monitoring Plan for Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Feb-98	DRMO GW Monitoring Plan
88	Site Management Plan for Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Feb-98	SMP for 1998

TABLE 7-1

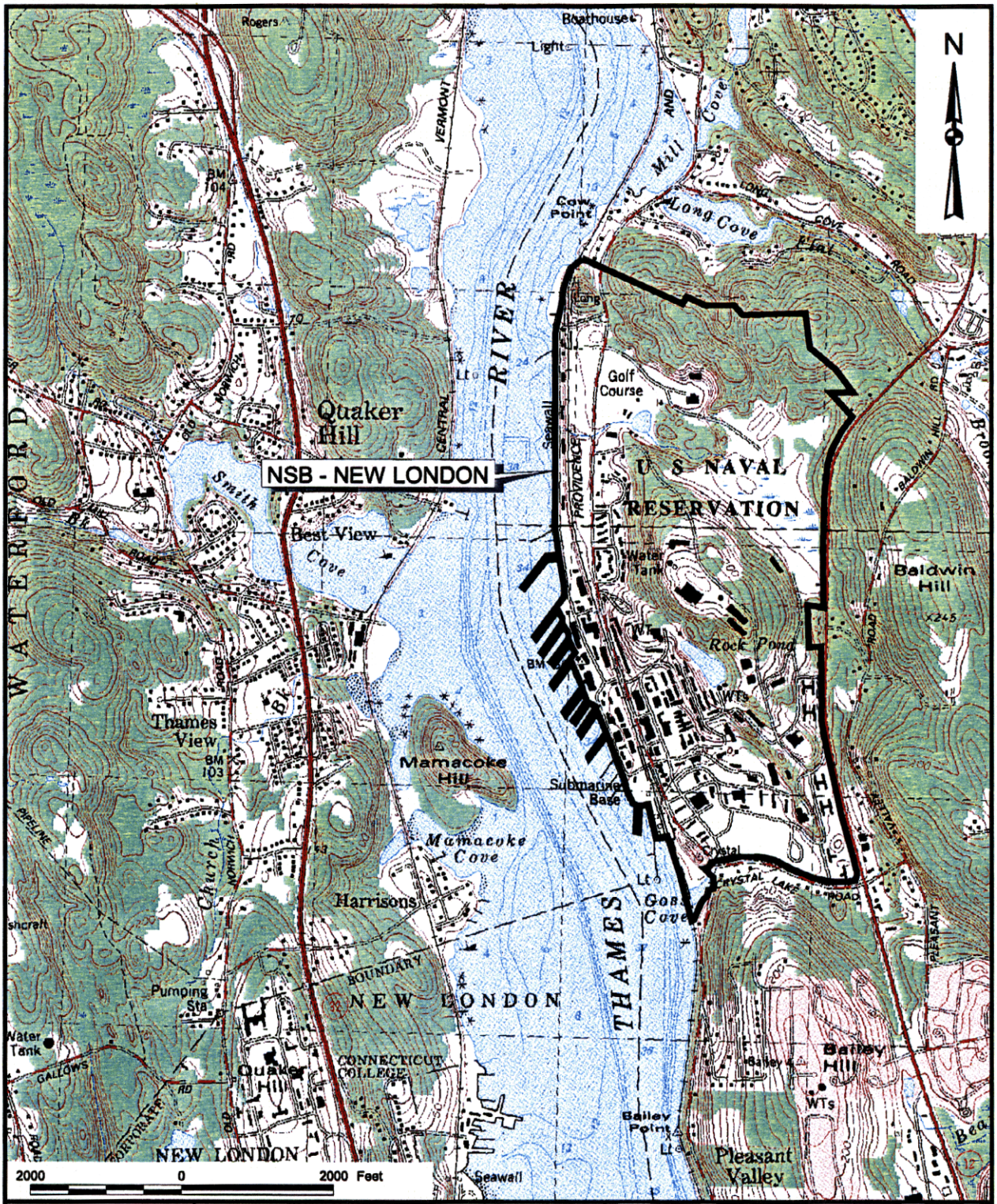
ABRIDGED BIBLIOGRAPHY
NSB-NLON, GROTON, CONNECTICUT
PAGE 5 OF 5

No.	Title	Author	Date	Abbreviation
89	Final Interim Record of Decision for the Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut	U.S. Navy, Lester, Pennsylvania	Mar-98	DRMO ROD
90	Final Report for Interim Remedial Action at Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Mar-98	Area A Landfill PCAS
91	Final Record of Decision for Soil and Sediment, Area A Downstream Watercourses/OBDA, Naval Submarine Base - New London, Groton, Connecticut	U.S. Navy, Lester, Pennsylvania	Mar-98	Area A Downstream/OBDA ROD
92	Proposed Plan for Site 4 Bunker A-86, Naval Submarine Base - New London, Groton, Connecticut	U.S. Navy, Lester, Pennsylvania	Apr-98	Bunker A-86 PRAP
93	Final Record of Decision for Site 4, Source Control for Soil Operable Unit, Naval Submarine Base - New London, Groton, Connecticut	U.S. Navy, Lester, Pennsylvania	Jun-98	Bunker A-86 ROD
94	Interim (Round 1) Groundwater Monitoring Report for Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut	Brown & Root Environmental, King of Prussia, Pennsylvania	Jul-98	Round 1 GMR for DRMO
95	Draft Wetland Functions and Values Assessment: The Ecological Evaluation of Vegetation Along Goss Cove	Connecticut College	Sep-98	Goss Cove Wetland F&V Assessment
96	Draft Existing Data Summary Report for the Basewide Groundwater OU Remedial Investigation, Naval Submarine Base - New London, Groton, Connecticut	Tetra Tech NUS, Inc. King of Prussia, Pennsylvania	Dec-98	EDSR for GW OU RI
97	Draft Evaluation of Chemical and Toxicological Data for Goss Cove, Naval Submarine Base, Groton, Connecticut	SAIC, Narragansett, Rhode Island	Dec-98	Evaluation of C&T Data for Goss Cove
98	Interim (Round 2) Groundwater Monitoring Report for Defense Reuitilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut	Tetra Tech NUS, Inc. King of Prussia, Pennsylvania	Jan-99	Round 2 GMR for DRMO
99	Final Lower Subase Remedial Investigation Report, Naval Submarine Base - New London, Groton, Connecticut	Tetra Tech NUS, Inc. King of Prussia, Pennsylvania	Jan-99	Lower Subase RI
100	Draft Preliminary Design Report for Area A Downstream/OBDA	Foster Wheeler Environmental Corporation, Boston, Massachusetts	Jan-99	Pre-Design for Area A Downstream/OBDA
101	Draft Final Groundwater Monitoring Plan for the Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut	Tetra Tech NUS, Inc. King of Prussia, Pennsylvania	Jan-99	Area A Landfill GMP
102	Draft Final Feasibility Study for Goss Cove Landfill, Naval Submarine Base - New London, Groton, Connecticut	Tetra Tech NUS, Inc. King of Prussia, Pennsylvania	Mar-99	Goss Cove FS

8.0 FIGURES

NUMBER

8-1 Base Location Map
8-2 Site Location Map
8-3 Site Map, Site 1-Construction Battalion Unit (CBU) Drum Storage Area
8-4 Site Map, Site 2 - Area A Landfill
8-5 Site Map, Site 2 - Area A Wetland
8-6 Site 3-Site Map, Area A Downstream Watercourses/Overbank Disposal Area (OBDA)
8-7 Site Map, Site 4-Rubble Fill Area At Bunker A-86
8-8 Site Map, Site 6-Defense Reutilization and Marketing Office (DRMO)
8-9 Site Map, Site 7-Torpedo Shops
8-10 Site Map, Site 8-Goss Cove Landfill
8-11 Site 9, Oil/Wastewater Tank
8-12 Site Map, Lower Subase
Site 10 - Fuel Storage Tanks and Tank 54-H
Site 11 - Power Plant Oil Tanks
Site 13 - Building 79 Waste Oil Pit
Site 17 - Hazardous/Flammable Materials Warehouse (Building 31)
Quay Wall Study Area
Site 19 - Solvent Storage Area (Building 316)
8-13 Site Map, Site 14-Overbank Disposal Area Northeast (OBDANE)
8-14 Site Map, Site 15-Spent Acid Storage and Disposal Area (SASDA)
8-15 Site Map, Site 16-Hospital Incinerators
8-16 Site Map, Site 17-Hazardous Materials/Solvent Storage Area (Building 31)
8-17 Site Map, Site 18-Solvent Storage Area (Building 33)
8-18 Site Map, Site 20-Area A Weapons Center
8-19 Site Map, Site 21-Berth 16 & Site 25 Classified Material Incinerator
8-20 Site Map, Site 22-Pier 33
8-21 Site Map, Site 23-Fuel Farm
8-22 Site Map, Site 24-Central Paint Accumulation Area (Building 174)



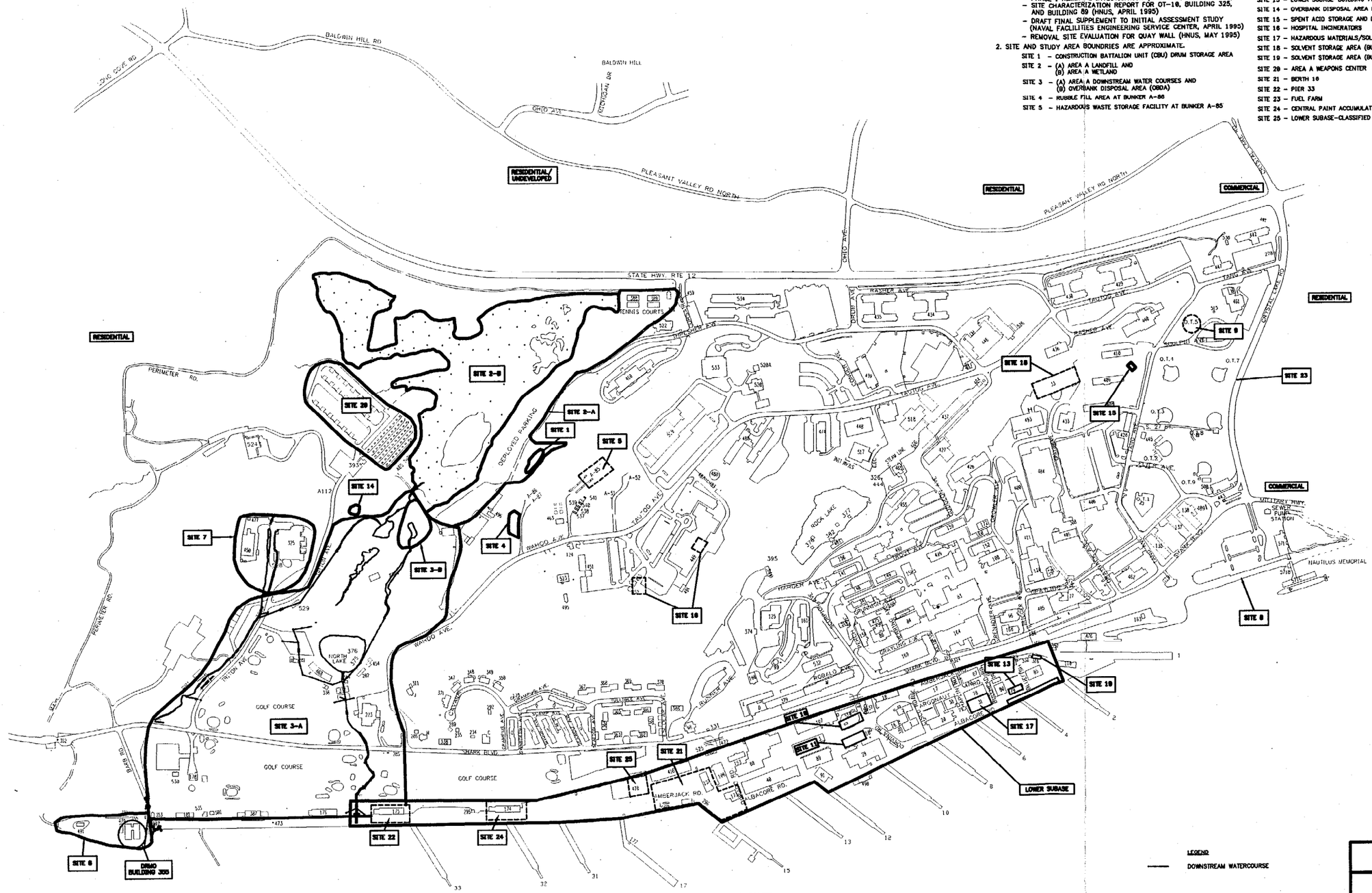
DRAWN BY	DATE	Tetra Tech NUS, Inc.	CONTRACT NUMBER	OWNER NO.
D. PERRY	15-MAR-99		7091	0257
CHECKED BY	DATE	LOCATION MAP NSB-NEW LONDON GROTON, CONNECTICUT	APPROVED BY Gary Rick	DATE 3/21/99
—	—		APPROVED BY	DATE
COST/SCHEDULE-AREA			—	—
SCALE			DRAWING NO.	REV
AS NOTED			FIGURE 8-1	0

P:\GIS\NLON\7091_257.APR 15-MAR-99 DNP USGS 2 LAYOUT

NOTES:

1. SITE AND STUDY AREA LOCATIONS WERE TAKEN FROM THE FOLLOWING REPORTS:
   - FEDERAL FACILITY AGREEMENT UNDER CERCLA 120, NAVAL SUBMARINE BASE, NEW LONDON, CONNECTICUT
   - FINAL INITIAL ASSESSMENT STUDY (ENVIRODYNE, MARCH 1983)
   - HYDROGEOLOGIC INVESTIGATION UNDERGROUND STORAGE TANKS OT-4, OT-7, OT-8, OT-9, AND 54-H (FUSS & O'NEILL, SEPTEMBER 1989)
   - PHASE I REMEDIAL INVESTIGATION (ATLANTIC, AUGUST 1992)
   - SITE CHARACTERIZATION REPORT FOR OT-10, BUILDING 325, AND BUILDING 89 (HNUS, APRIL 1995)
   - DRAFT FINAL SUPPLEMENT TO INITIAL ASSESSMENT STUDY (NAVAL FACILILITIES ENGINEERING SERVICE CENTER, APRIL 1995)
   - REMOVAL SITE EVALUATION FOR QUAY WALL (HNUS, MAY 1995)
2. SITE AND STUDY AREA BOUNDRIES ARE APPROXIMATE.

SITE 1 - CONSTRUCTION BATTALION UNIT (CBU) DRUM STORAGE AREA
SITE 2 - (A) AREA A LANDFILL AND (B) AREA A WETLAND
SITE 3 - (A) AREA A DOWNSTREAM WATER COURSES AND (B) OVERBANK DISPOSAL AREA (OBDA)
SITE 4 - RUBBLE FILL AREA AT BUNKER A-86
SITE 5 - HAZARDOUS WASTE STORAGE FACILITY AT BUNKER A-85
SITE 6 - DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO)
SITE 7 - TORPEDO SHOPS
SITE 8 - GOSS COVE LANDFILL
SITE 9 - OILY WASTEWATER TANK (OT-5)
SITE 10 - LOWER SUBASE-FUEL STORAGE TANKS AND TANK 54-H
SITE 11 - LOWER SUBASE-POWER PLANT OIL TANKS
SITE 13 - LOWER SUBASE-BUILDING 79 WASTE OIL PIT
SITE 14 - OVERBANK DISPOSAL AREA NORTHEAST (OBDANE)
SITE 15 - SPENT ACID STORAGE AND DISPOSAL AREA (SASDA)
SITE 16 - HOSPITAL INCINERATORS
SITE 17 - HAZARDOUS MATERIALS/SOLVENT STORAGE AREA (BUILDING 31)
SITE 18 - SOLVENT STORAGE AREA (BUILDING 33)
SITE 19 - SOLVENT STORAGE AREA (BUILDING 36)
SITE 20 - AREA A WEAPONS CENTER
SITE 21 - BERTH 16
SITE 22 - PIER 33
SITE 23 - FUEL FARM
SITE 24 - CENTRAL PAINT ACCUMULATION AREA (BUILDING 174)
SITE 25 - LOWER SUBASE-CLASSIFIED MATERIALS INCINERATOR



LEGEND

DOWNSTREAM WATERCOURSE

NOT TO SCALE

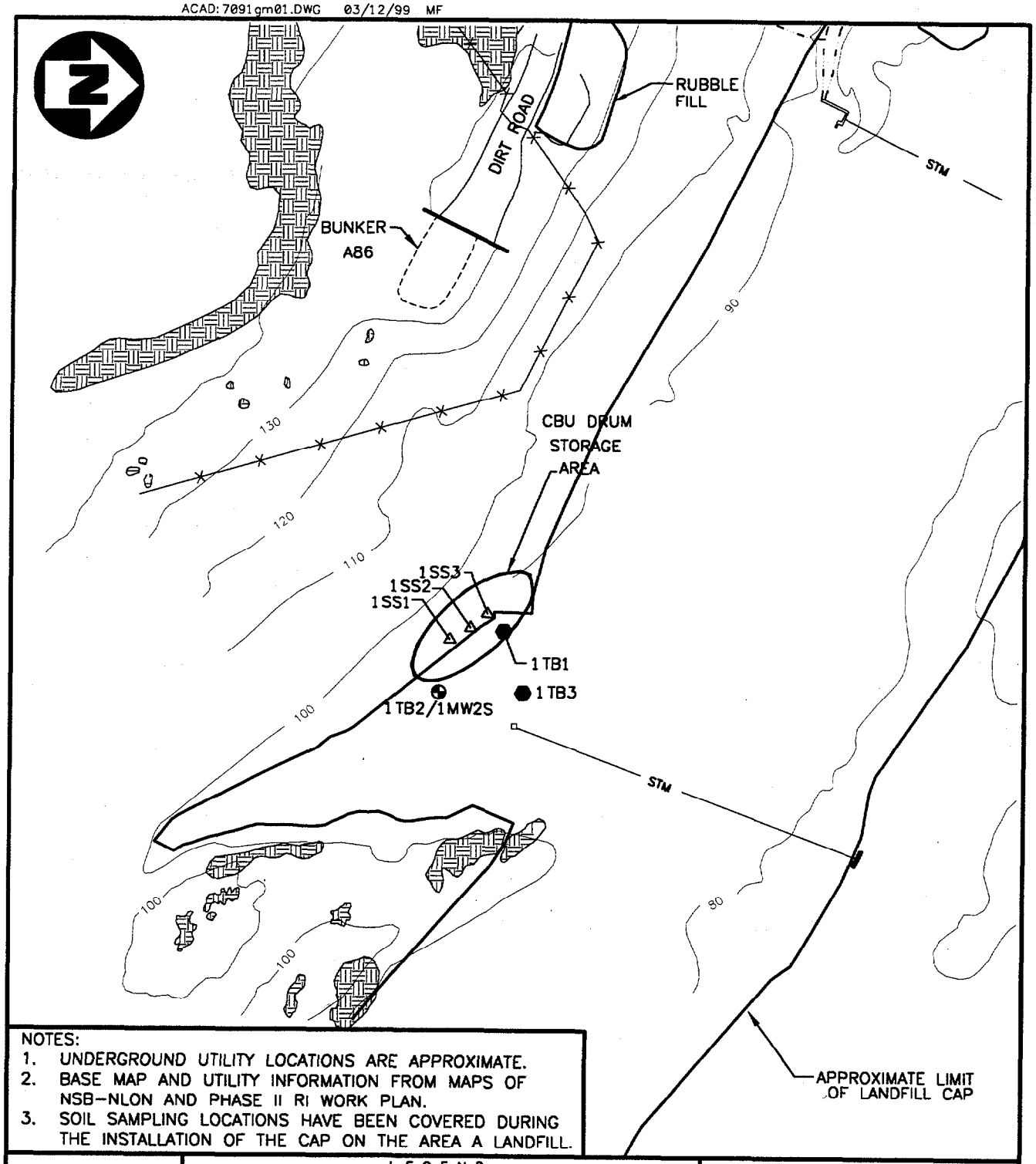
FIGURE B-2

SITE LOCATIONS MAP
NSB-NLON
GROTON, CONNECTICUT

Tetra Tech NUS, Inc.

01618022

ACAD: 7091gm01.DWG 03/12/99 MF



NOTES:
1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN.
3. SOIL SAMPLING LOCATIONS HAVE BEEN COVERED DURING THE INSTALLATION OF THE CAP ON THE AREA A LANDFILL.

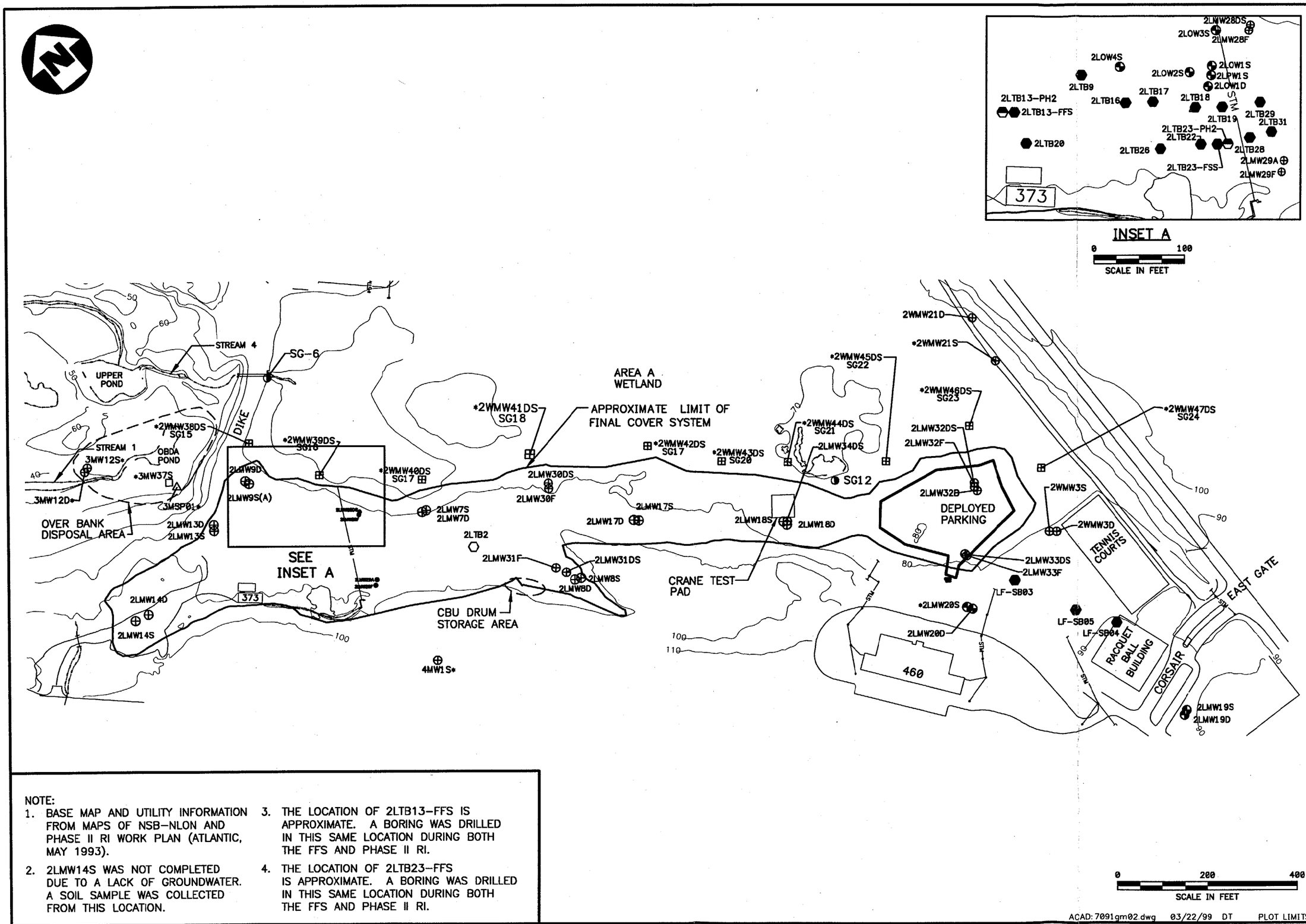
0 80
SCALE IN FEET

LEGEND

10 EXISTING CONTOUR
WATERCOURSE
STM STORM SEWER AND CATCH BASIN
EXPOSED BEDROCK
FENCE

FIGURE 8-3
SITE MAP
SITE 1-CBU DRUM STORAGE AREA

Tetra Tech NUS, Inc.



NOTE:

1. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN (ATLANTIC, MAY 1993).
2. 2LMW14S WAS NOT COMPLETED DUE TO A LACK OF GROUNDWATER. A SOIL SAMPLE WAS COLLECTED FROM THIS LOCATION.
3. THE LOCATION OF 2LTB13-FFS IS APPROXIMATE. A BORING WAS DRILLED IN THIS SAME LOCATION DURING BOTH THE FFS AND PHASE II RI.
4. THE LOCATION OF 2LTB23-FFS IS APPROXIMATE. A BORING WAS DRILLED IN THIS SAME LOCATION DURING BOTH THE FFS AND PHASE II RI.

FIGURE 8-4
SITE MAP
SITE 2-AREA A LANDFILL

Tetra Tech NUS, Inc.

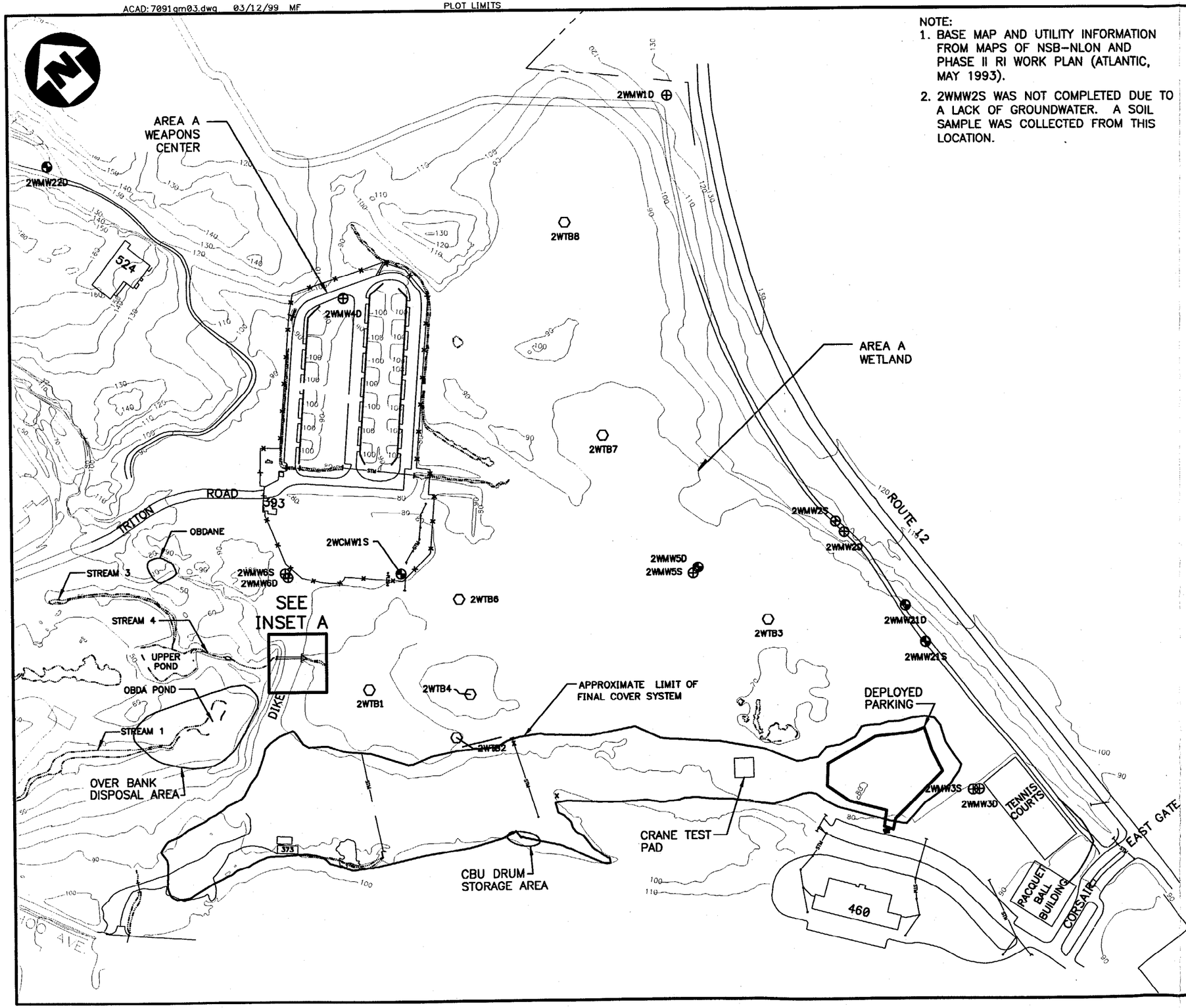
ACAD: 7091gm02.dwg 03/22/99 DT PLOT LIMITS

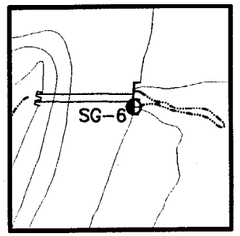
01618032

ACAD:7091gm03.dwg 03/12/99 MF

PLOT LIMITS

NOTE:
1. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN (ATLANTIC, MAY 1993).
2. 2WMW2S WAS NOT COMPLETED DUE TO A LACK OF GROUNDWATER. A SOIL SAMPLE WAS COLLECTED FROM THIS LOCATION.





INSET A

0 100
SCALE IN FEET

FIGURE 8-5
SITE MAP
SITE 2-AREA A WETLAND

Tetra Tech NUS, Inc.

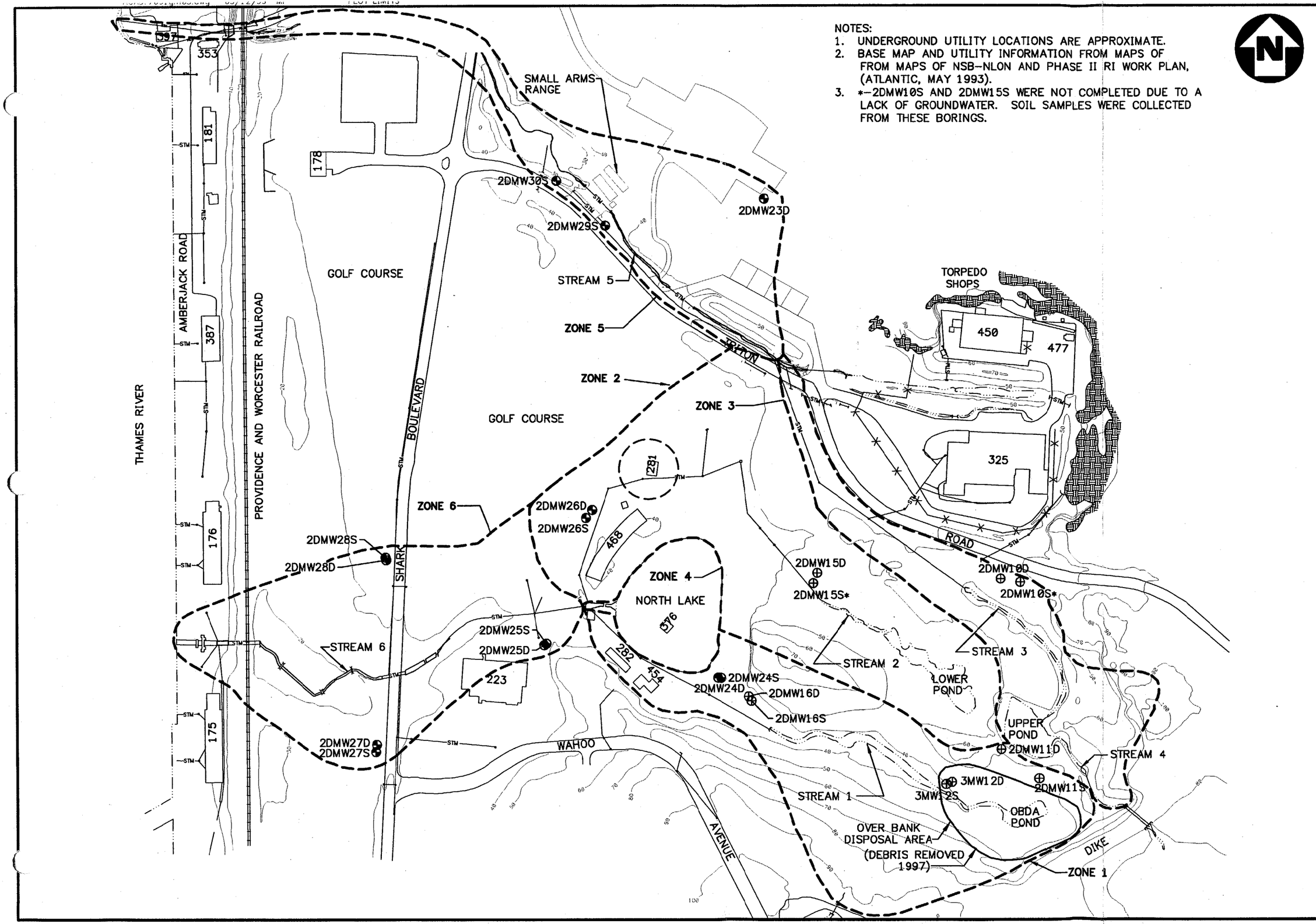
LEGEND

- 110 — EXISTING CONTOUR
- 123 — BUILDING No.
- WATERCOURSE
- STM — STORM SEWER AND CATCH BASIN
- EXPOSED BEDROCK
- FENCE
- 2WMW6S — PHASE I MONITORING WELL
- 2WMW5D — PHASE II MONITORING WELL
- 2WTB3 — PHASE I TEST BORING
- SG-6 — PHASE II STAFF GAUGE

0 250 500
SCALE IN FEET

01618042

NOTES:
1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. BASE MAP AND UTILITY INFORMATION FROM MAPS OF FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN, (ATLANTIC, MAY 1993).
3. *-2DMW10S AND 2DMW15S WERE NOT COMPLETED DUE TO A LACK OF GROUNDWATER. SOIL SAMPLES WERE COLLECTED FROM THESE BORINGS.



LEGEND

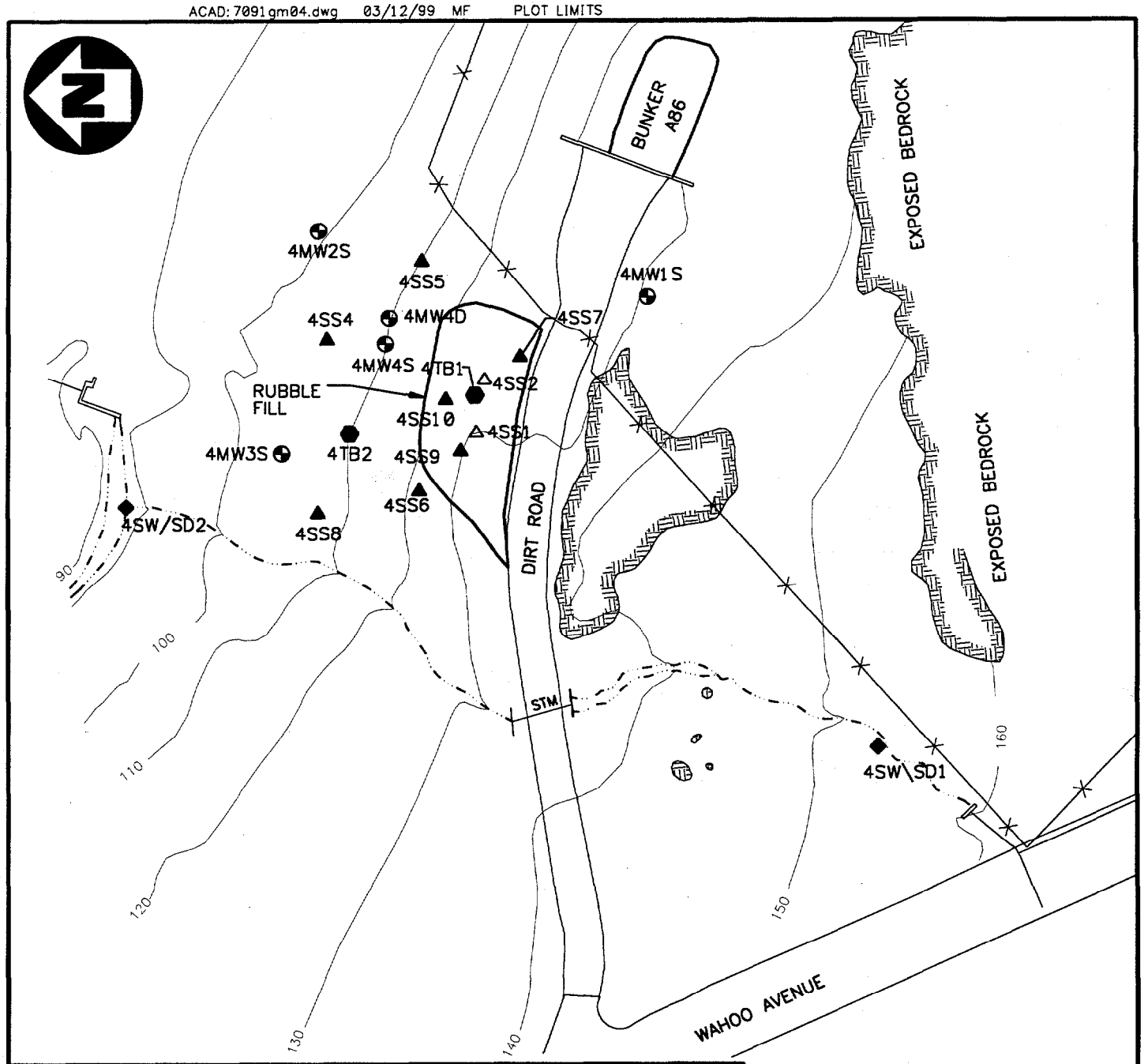
- 2DMW25D EXISTING MONITORING WELL
- 2DMW26D PHASE II MONITORING WELL
- ZONE BOUNDARY
- 123 EXISTING CONTOUR
- BUILDING No.
- WATERCOURSE
- STM STORM SEWER AND CATCH BASIN
- EXPOSED BEDROCK
- FENCE

FIGURE 8-6
SITE 3-SITE MAP
AREA A DOWNSTREAM WATERCOURSES/OBDA

Tetra Tech NUS, Inc.

01618052

ACAD: 7091gm04.dwg 03/12/99 MF PLOT LIMITS



NOTES:
1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN.
3. THE LOCATION OF 4SW/SD1 IS APPROXIMATE.
4. ALL SAMPLE LOCATIONS FOR SITE 4 EXCEPT 4MW1S AND 4SW\SD1 WERE EXCAVATED DURING THE REMOVAL ACTION IN 1997.
5. MONITORING WELLS 4MW2S, 4MW3S, AND 4MW4S WERE REMOVED DURING THE REMOVAL ACTION.

0 60
SCALE IN FEET

LEGEND

4MW3S	PHASE II MONITORING WELL
4TB2	PHASE II TEST BORING
4SS6	PHASE II SURFACE SOIL SAMPLE
4SW/SD2	PHASE II SURFACE WATER AND/OR SEDIMENT SAMPLE
4SS1	PHASE I SURFACE SOIL SAMPLE
10	EXISTING CONTOUR
	WATERCOURSE
STM	STORM SEWER AND CATCH BASIN
	EXPOSED BEDROCK
	FENCE

FIGURE 8-7
SITE MAP
SITE 4-RUBBLE FILL AREA
AT BUNKER A86

Tetra Tech NUS, Inc.

NOTES:
1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN, (ATLANTIC, MAY 1993).
3. SURFACE SOIL SAMPLES 6SS1C-1, 6SS1C-2, AND 6SS1C-3 WERE COMPOSITED TO FORM 6SS1C.
4. SURFACE SOIL SAMPLES 6SS2C-1, 6SS2C-2, AND 6SS2C-3 WERE COMPOSITED TO FORM 6SS2C.
5. SURFACE SOIL SAMPLES AND TWO MONITORING WELLS WITHIN THE EXCAVATION AREA HAVE BEEN EXCAVATED TO AN APPROXIMATE DEPTH OF 3 FEET.

6MW5D
6MW5S
DRMO SCRAP METAL STORAGE AREA
PROVIDENCE AND WORCESTER RAILROAD
BARB ROAD
6MW6D
6MW6S
6TB18
6TB11
6MW9S (DESTROYED)
UST
385
6SS3
WEIGH SCALE
6SS4
353
6TB8
6TB1
6MW7S
6TB20
6TB5
6SS1C-2
6TB22
6TB23
6TB15
6TB13
6TB2
LIMIT OF EXCAVATION
491
6TB7
6SS1C-3
6SW1
6TB6
6SS1C-1
6TB21
6MW10S
6SS2C-1
6MW10D
6SS2C-3
6SS2C-2
6MW4S
6TB16
6MW8S
6TB4
6TB9
479
355
UST
6TB3
397
AMBERJACK
ROAD
SG-1
6TB19
6TB17
6TB14
6TB12
6MW3S (ABANDONED)
6MW3D (ABANDONED)
6TB10
6MW1S
6MW2S
6MW2D
MEAN HIGH WATER ELEVATION
THAMES RIVER
MEAN LOW WATER ELEVATION
APPROXIMATE LIMIT OF CAP
DRMO BUILDING

LEGEND
- 6MW2S PHASE I MONITORING WELL
- 6MW2D PHASE II MONITORING WELL
- 6TB3 PHASE I TEST BORING
- 6TB9 FFS TEST BORING
- 6MW6S FFS MONITORING WELL
- 6SS1C-2 PHASE I SURFACE SOIL SAMPLE
- 6SW1 PHASE I SURFACE WATER SAMPLE
- SG-1 PHASE II STAFF GAUGE
- 10 EXISTING CONTOUR
- 123 BUILDING No.
- WATERCOURSE
- STM STORM SEWER AND CATCH BASIN
- EXPOSED BEDROCK
- LIMIT OF EXCAVATION

0 60 120 SCALE IN FEET

FIGURE 8-8
SITE MAP
SITE 6-DRMO

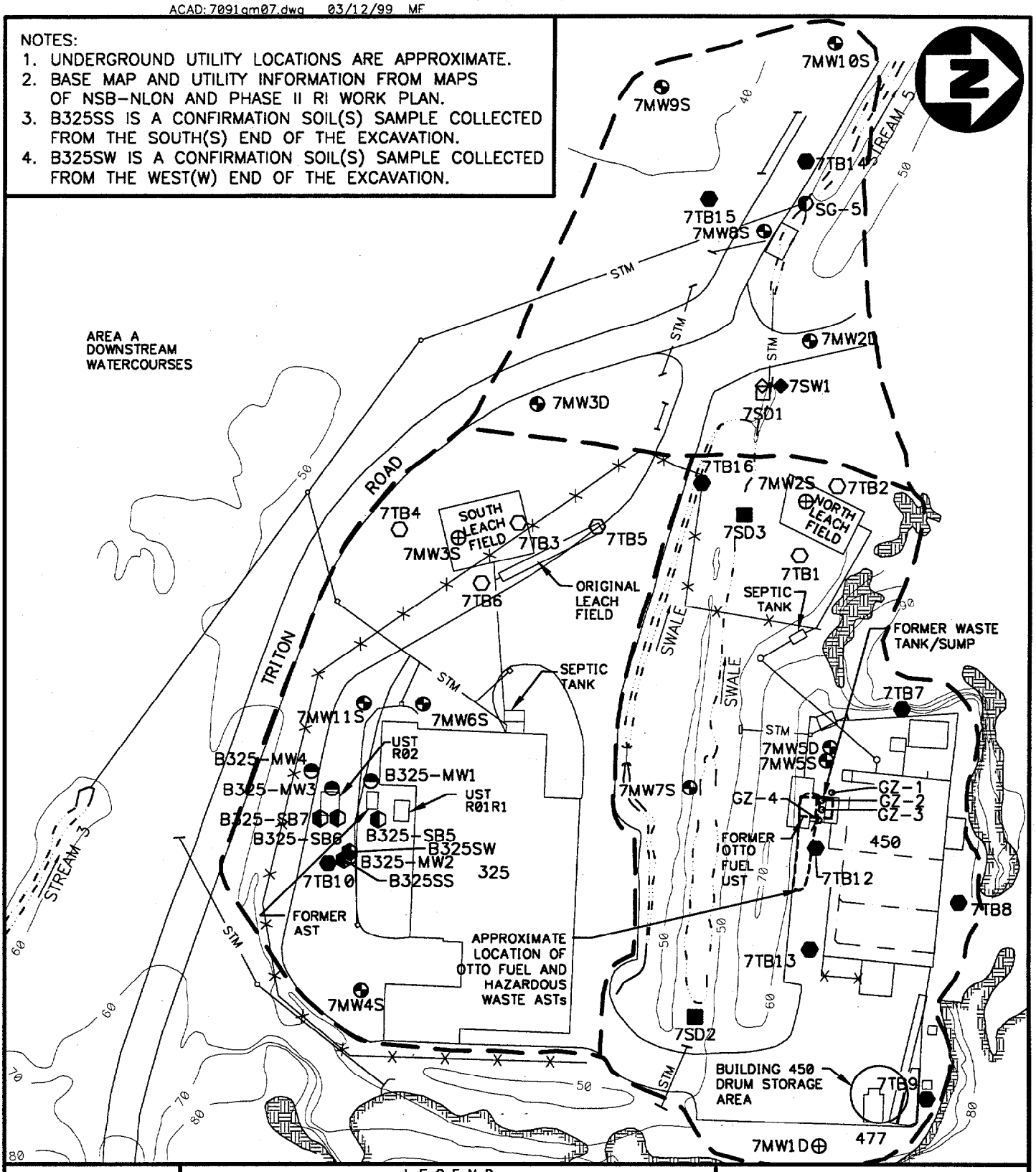
Tetra Tech NUS, Inc.

ACAD: 7091gm06.dwg 03/17/99 DT XREF: 9594/BASE001/DWG

01618062

ACAD: 7091gm07.dwg 03/12/99 MF

NOTES:
1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN.
3. B325SS IS A CONFIRMATION SOIL(S) SAMPLE COLLECTED FROM THE SOUTH(S) END OF THE EXCAVATION.
4. B325SW IS A CONFIRMATION SOIL(S) SAMPLE COLLECTED FROM THE WEST(W) END OF THE EXCAVATION.



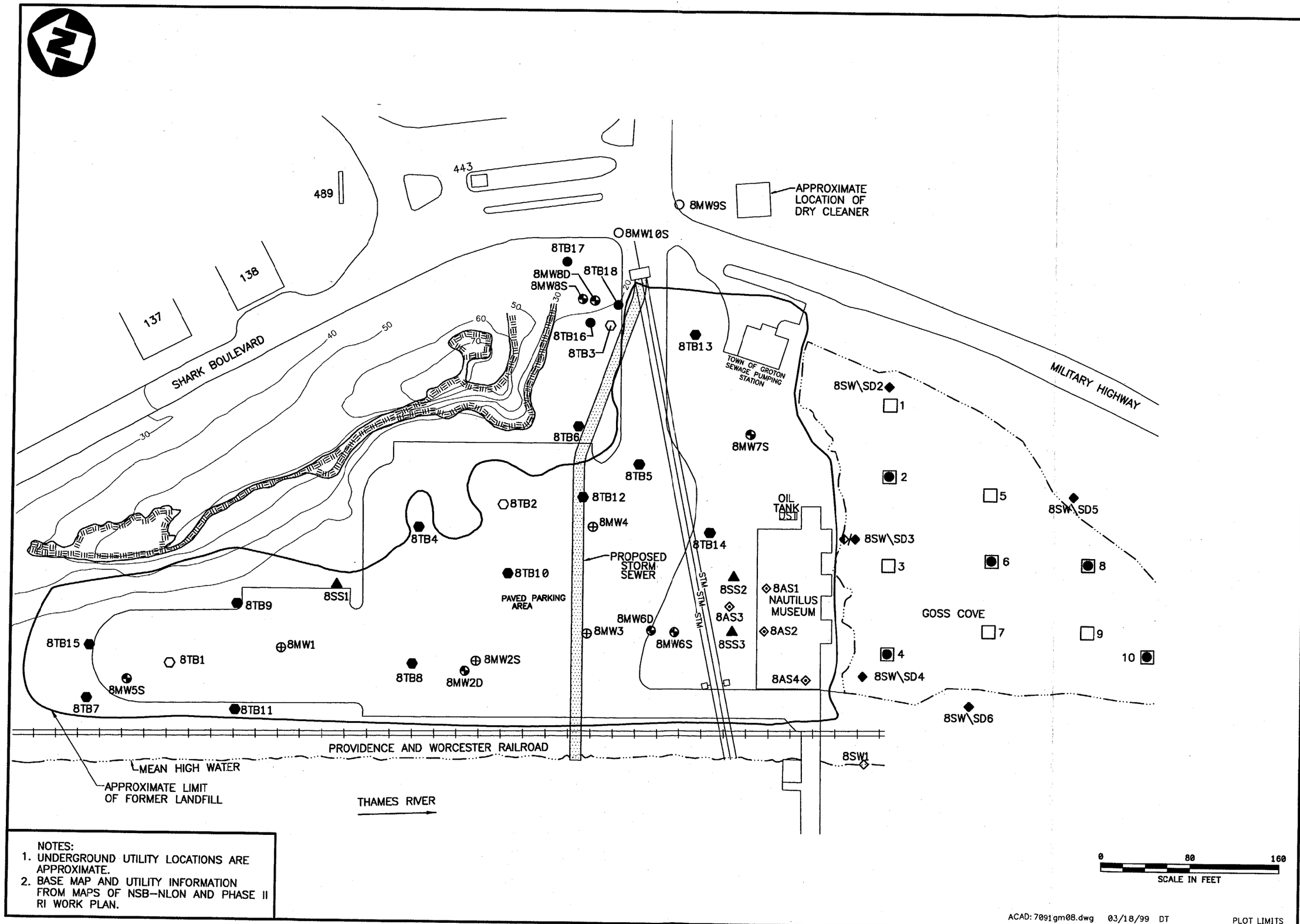
0 100
SCALE IN FEET

LEGEND

7MW2S	PHASE I MONITORING WELL
7MW7S	PHASE II MONITORING WELL
B325-MW1	SITE CHARACTERIZATION MONITORING WELL
7TB1	PHASE I TEST BORING
7TB12	PHASE II TEST BORING
B325-SB6	SITE CHARACTERIZATION SOIL BORING
7SW1	PHASE I EXISTING SURFACE WATER SAMPLE
7SW1	PHASE II SURFACE WATER SAMPLE
7SD1	PHASE I SEDIMENT SAMPLE
7SD3	PHASE II SEDIMENT SAMPLE
SG-5	PHASE II STAFF GAUGE
10	EXISTING CONTOUR
123	BUILDING No.
	WATERCOURSE
STM	STORM SEWER AND CATCH BASIN
	EXPOSED BEDROCK
	FENCE
	ZONE BOUNDARY

FIGURE 8-9
SITE MAP
SITE 7-TORPEDO SHOPS

Tetra Tech NUS, Inc.



NOTES:
1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB–NLON AND PHASE II RI WORK PLAN.

FIGURE 8-10
SITE MAP
SITE 8–GOSS COVE LANDFILL

Tetra Tech NUS, Inc.

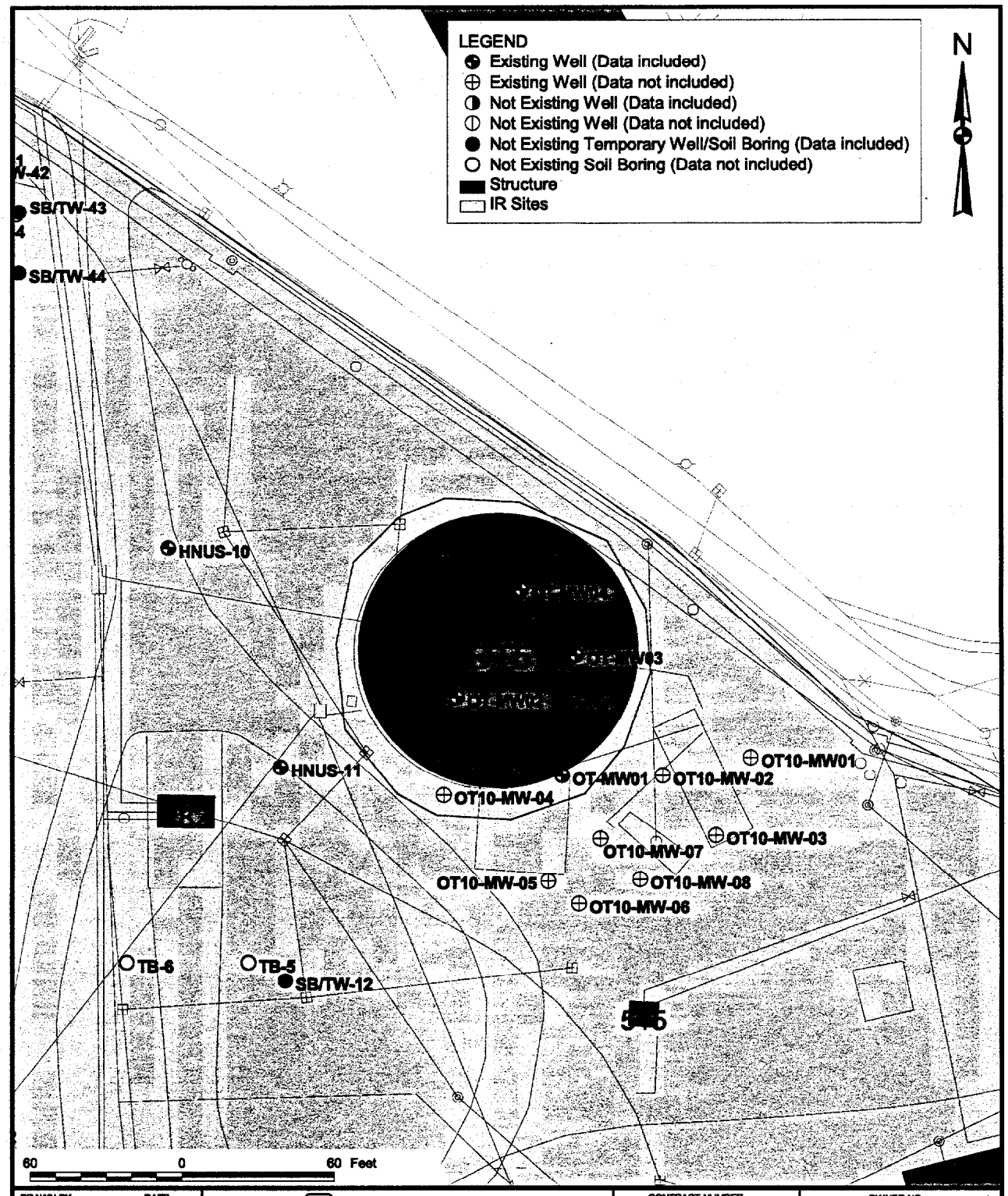
LEGEND

- 8SS2 PHASE II SURFACE SOIL SAMPLE
- 110 EXISTING CONTOUR
- 123 BUILDING No.
- STM WATERCOURSE
- STM STORM SEWER AND CATCH BASIN
- EXPOSED BEDROCK

- 8MW2S PHASE I–MONITORING WELL
- 8TB1 PHASE I TEST BORING
- 8SW1 PHASE I SURFACE WATER SAMPLE
- 8MW2D PHASE II MONITORING WELL
- 8TB8 PHASE II TEST BORING
- 8SW/SD3 PHASE II SURFACE WATER AND/OR SEDIMENT SAMPLE
- 8SW/SD3 PHASE II ADDITIONAL ECOLOGICAL SEDIMENT SAMPLE
- 8AS1 PHASE II AIR SAMPLE

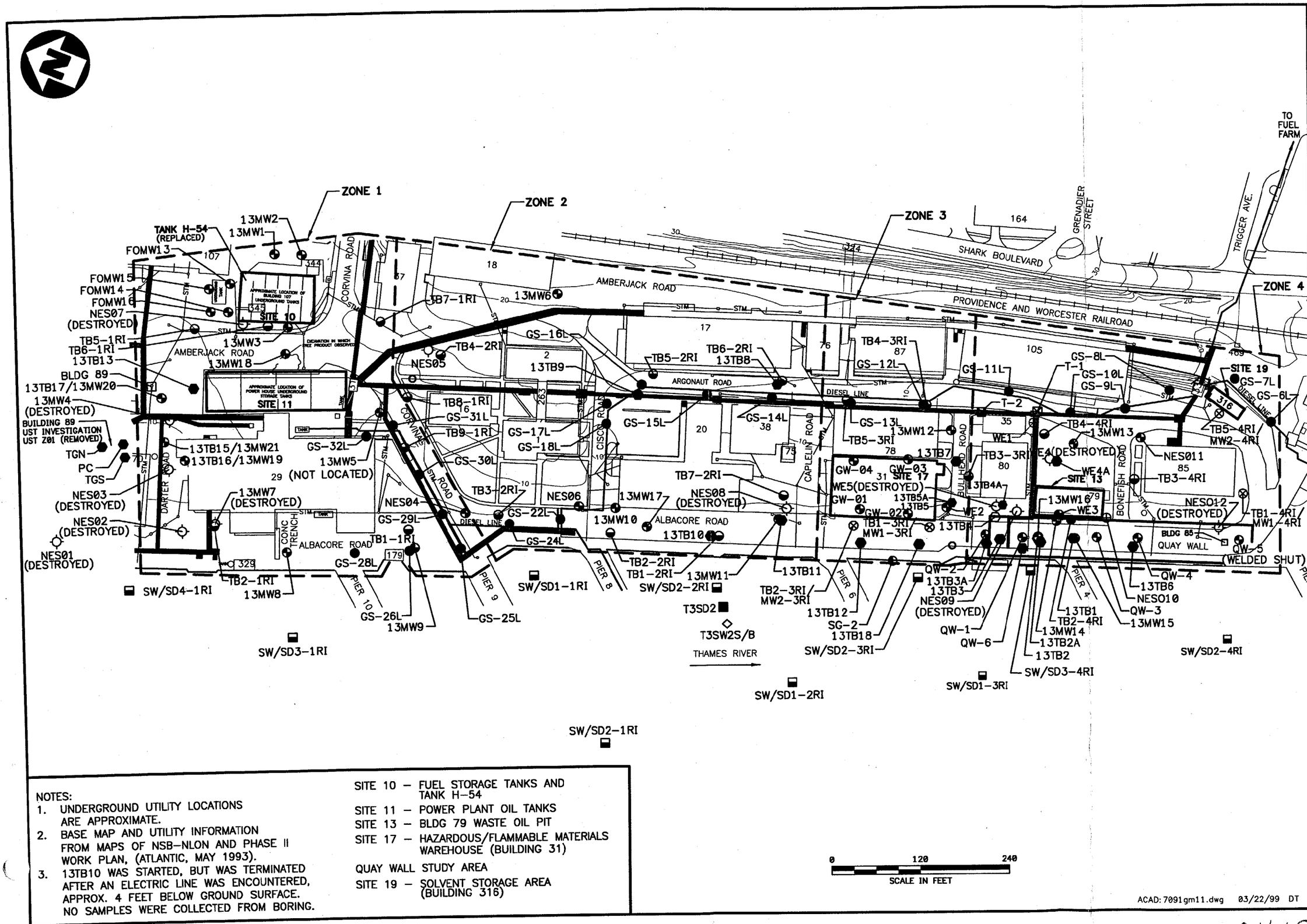
- 8MW9S DGI MONITORING WELL
- 8TB17 DGI SOIL BORING
- 1 GRAB SAMPLE; SURFACE (0–15 CM DEPTH) ONLY
- 2 CORE SAMPLE; SURFACE (0–20 CM DEPTH) AND BOTTOM (@20–35 CM DEPTH)

01618072



DRAWN BY	DATE	Tetra Tech NUS, Inc.	CONTRACT NUMBER	OWNER NO.
D. PERRY	15-MAR-99		7091	0257
CHECKED BY	DATE	SITE MAP SITE 9 - OT-5 OIL/WASTEWATER TANK NSB-NLON, GROTON, CT	APPROVED BY: Corey Rich	DATE: 3/21/99
COST/SCHEDULE-AREA			APPROVED BY	DATE
SCALE: AS NOTED			DRAWING NO.: FIGURE 8-11	REV: 0

P:\GIS\NLON\7091_257.APR 15-MAR-99 DNP SITE 9 AREA LAYOUT



NOTES:
1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II WORK PLAN, (ATLANTIC, MAY 1993).
3. 13TB10 WAS STARTED, BUT WAS TERMINATED AFTER AN ELECTRIC LINE WAS ENCOUNTERED, APPROX. 4 FEET BELOW GROUND SURFACE. NO SAMPLES WERE COLLECTED FROM BORING.

SITE 10 – FUEL STORAGE TANKS AND TANK H-54
SITE 11 – POWER PLANT OIL TANKS
SITE 13 – BLDG 79 WASTE OIL PIT
SITE 17 – HAZARDOUS/FLAMMABLE MATERIALS WAREHOUSE (BUILDING 31)
QUAY WALL STUDY AREA
SITE 19 – SOLVENT STORAGE AREA (BUILDING 316)

FIGURE 8-12
SITE MAP
LOWER SUBASE

Tetra Tech NUS, Inc.

LEGEND

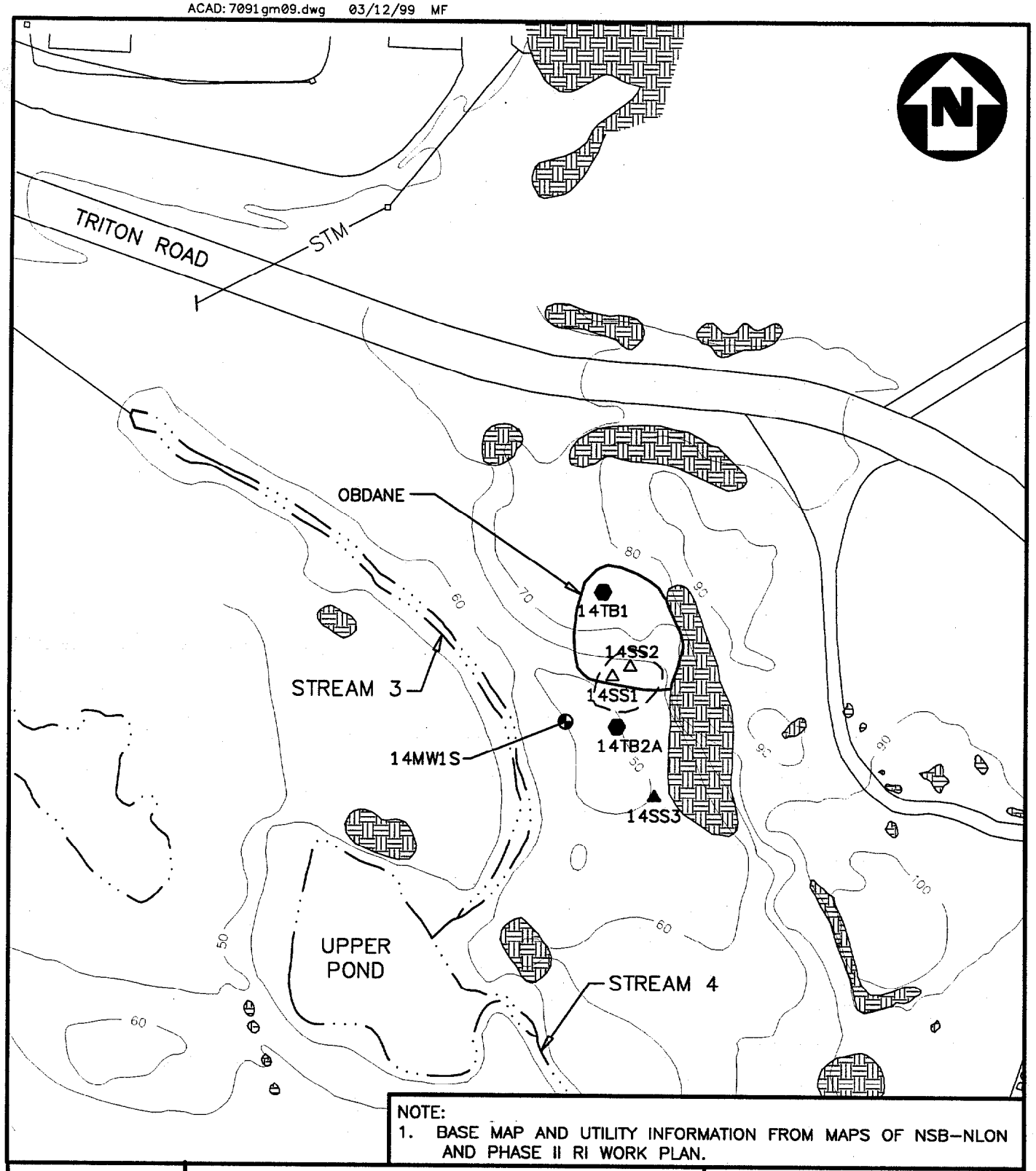
SITE/STUDY AREA
EXISTING CONTOUR
BUILDING No.
WATERCOURSE
STORM SEWER AND CATCH BASIN
EXPOSED BEDROCK
ZONE BOUNDARY

SG-2 HISTORIC STAFF GAUGE
LOWER SUBASE RI SURFACE WATER/SEDIMENT LOCATION
LOWER SUBASE RI MONITORING WELL LOCATION
LOWER SUBASE RI TEST BORING LOCATION
MANHOLES
CATCH BASINS
EXISTING DIESEL LINE
STEAM & CONDENSATE DUCT

HISTORIC MONITORING WELL LOCATION
HISTORIC TEST BORING LOCATION
HISTORIC DIRECT PUSH SAMPLE LOCATION
HISTORIC ABANDONED OR DESTROYED MONITORING WELL
HISTORIC SEDIMENT SAMPLE LOCATION
HISTORIC STORM SEWER MONITORING LOCATION
HISTORIC SURFACE WATER SAMPLE LOCATION
HISTORIC TRENCH SAMPLE LOCATION

01618082

ACAD: 7091gm09.dwg 03/12/99 MF



NOTE:
1. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN.

0 80
SCALE IN FEET

LEGEND

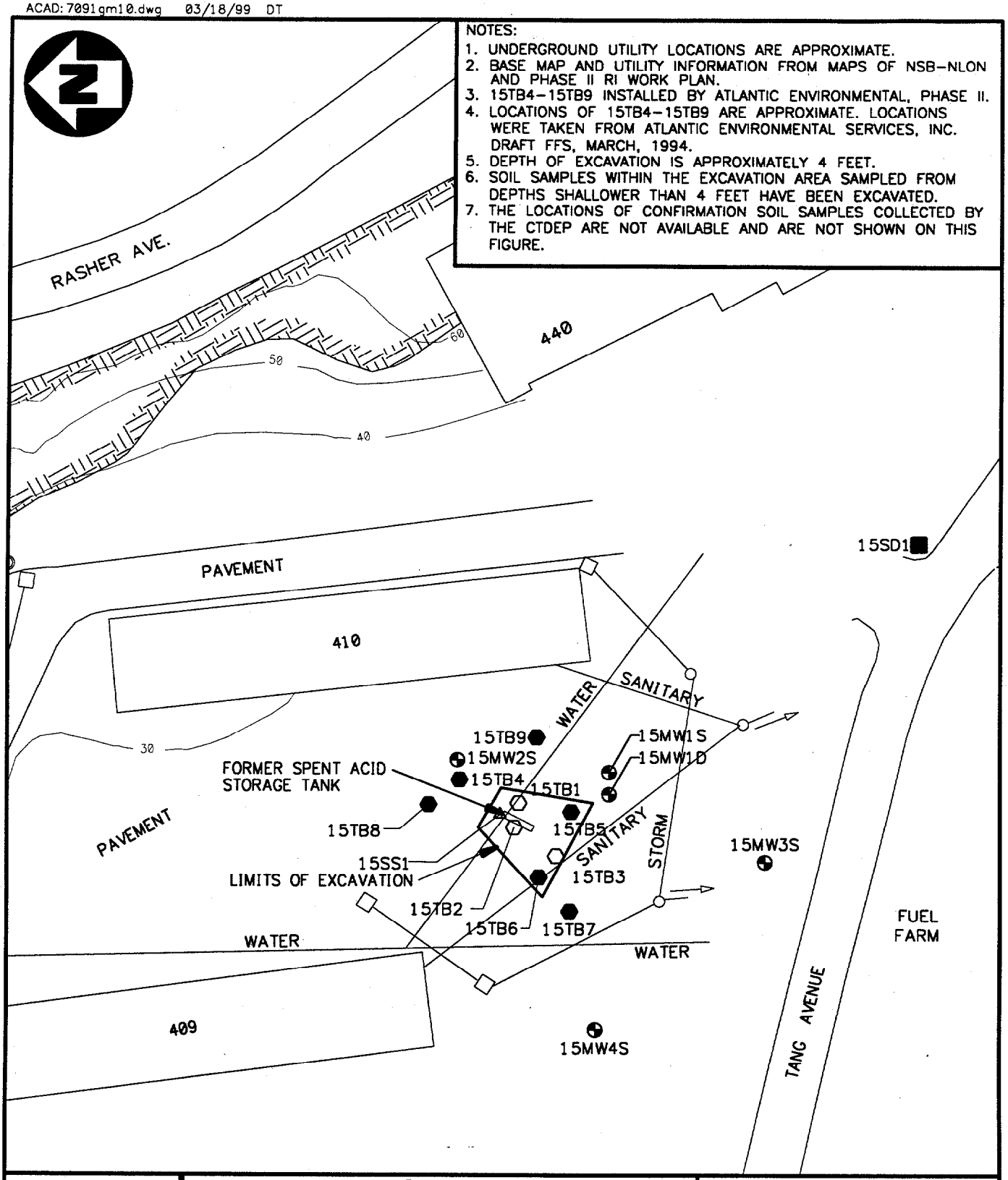
14MW1S	PHASE II MONITORING WELL
14TB1	PHASE II TEST BORING
14SS1	PHASE I SURFACE SOIL SAMPLE
14SS3	PHASE II SURFACE SOIL SAMPLE
10	EXISTING CONTOUR
123	BUILDING No.
	WATERCOURSE
	EXPOSED BEDROCK
-STM-	STORM SEWER AND CATCH BASIN

FIGURE 8-13
SITE MAP
SITE 14-OBDANE

Tetra Tech NUS, Inc.

ACAD: 7091gm10.dwg 03/18/99 DT

NOTES:
1. UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN.
3. 15TB4-15TB9 INSTALLED BY ATLANTIC ENVIRONMENTAL, PHASE II.
4. LOCATIONS OF 15TB4-15TB9 ARE APPROXIMATE. LOCATIONS WERE TAKEN FROM ATLANTIC ENVIRONMENTAL SERVICES, INC. DRAFT FFS, MARCH, 1994.
5. DEPTH OF EXCAVATION IS APPROXIMATELY 4 FEET.
6. SOIL SAMPLES WITHIN THE EXCAVATION AREA SAMPLED FROM DEPTHS SHALLOWER THAN 4 FEET HAVE BEEN EXCAVATED.
7. THE LOCATIONS OF CONFIRMATION SOIL SAMPLES COLLECTED BY THE CTDEP ARE NOT AVAILABLE AND ARE NOT SHOWN ON THIS FIGURE.



0 60
SCALE IN FEET

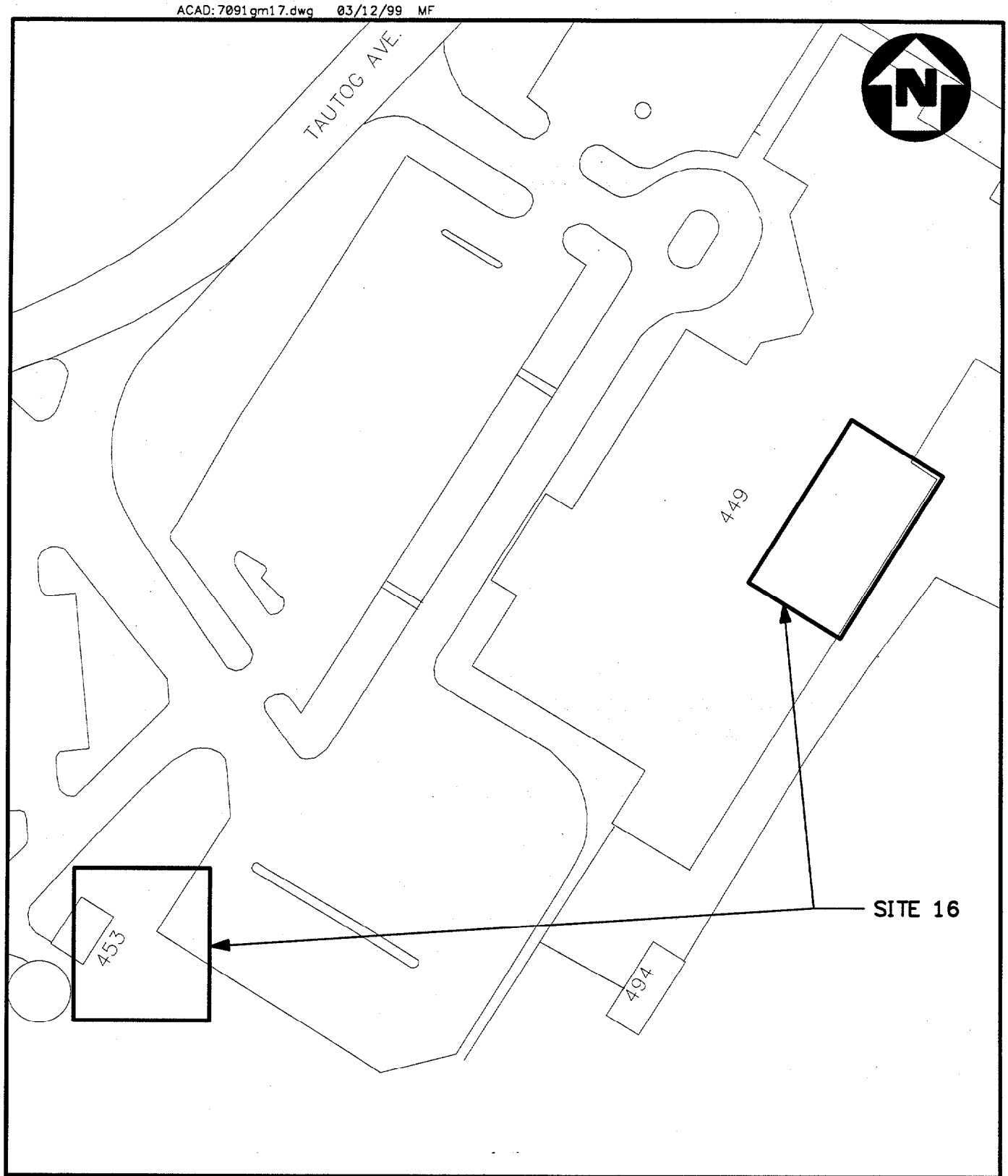
LEGEND

- PHASE II MONITORING WELL 15MW2S
- PHASE I TEST BORING 15TB3
- FFS TEST BORING 15TB5
- PHASE I SOIL SAMPLE 15SS1
- PHASE II SEDIMENT SAMPLE 15SD1
- 10 EXISTING CONTOUR
- 123 BUILDING No.
- WATERCOURSE
- STM STORM SEWER AND CATCH BASIN
- EXPOSED BEDROCK

FIGURE 8-14
SITE MAP
SITE 15-SPENT ACID STORAGE AND DISPOSAL AREA

Tetra Tech NUS, Inc.

ACAD: 7091gm17.dwg 03/12/99 MF



LEGEND

SITE BOUNDARY

0 80
SCALE IN FEET

FIGURE 8-15
SITE MAP
SITE 16-HOSPITAL INCINERATORS

Tetra Tech NUS, Inc.

ACAD:7091GM25.dwg 03/12/99 MF PLOT LIMITS

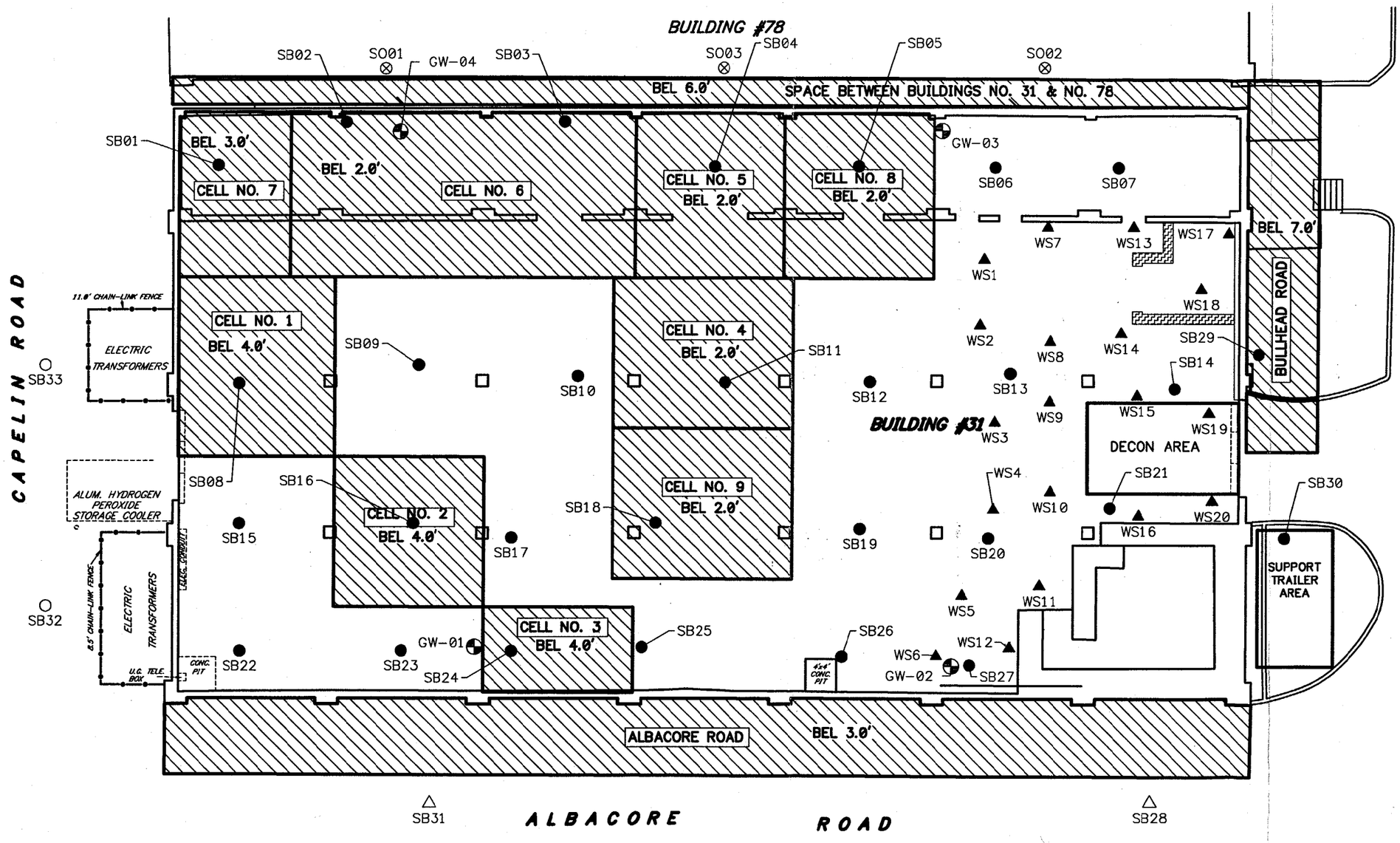


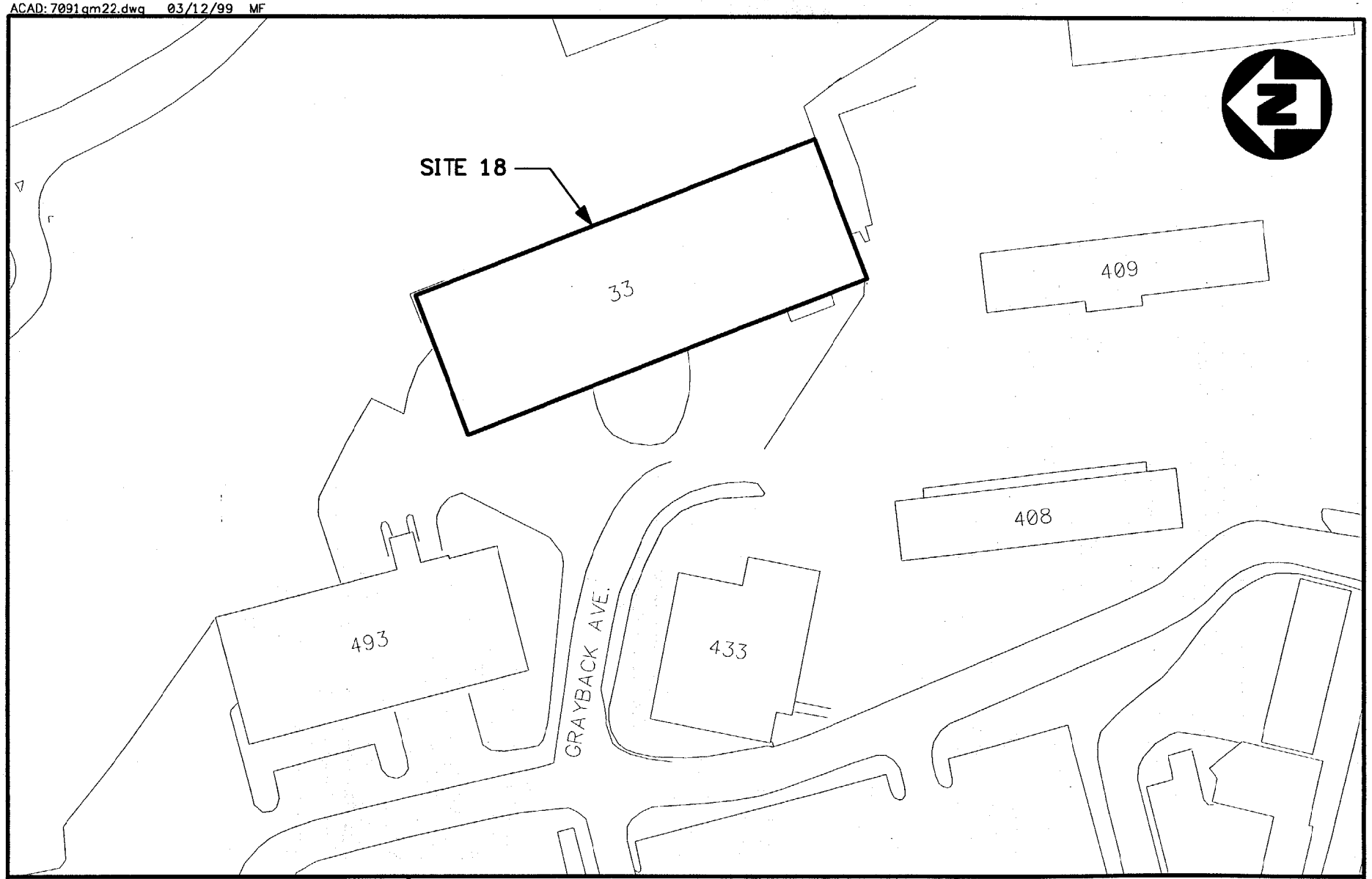
FIGURE 8-16
SITE MAP
SITE 17-HAZARDOUS MATERIALS/SOLVENT STORAGE AREA (BUILDING 31)

Tetra Tech NUS, Inc.

LEGEND
- ACTUAL LIMIT OF EXCAVATION
- GROUNDWATER MONITORING WELL
- WIPE SAMPLE LOCATION
- BEL ACTUAL EXCAVATION BOTTOM ELEVATION
- SURFACE SOIL SAMPLE (0-6")
- SURFACE SOIL SAMPLE (2', 4' & 6')
- SUBSURFACE SOIL SAMPLE (2')
- SUBSURFACE SOIL SAMPLE (2' & 4')

01618092

ACAD: 7091qm22.dwg 03/12/99 MF



0 100 200
SCALE IN FEET

LEGEND

SITE BOUNDARY

FIGURE 8-17
SITE MAP
SITE 18-SOLVENT STORAGE AREA
(BUILDING 33)

Tetra Tech NUS, Inc.

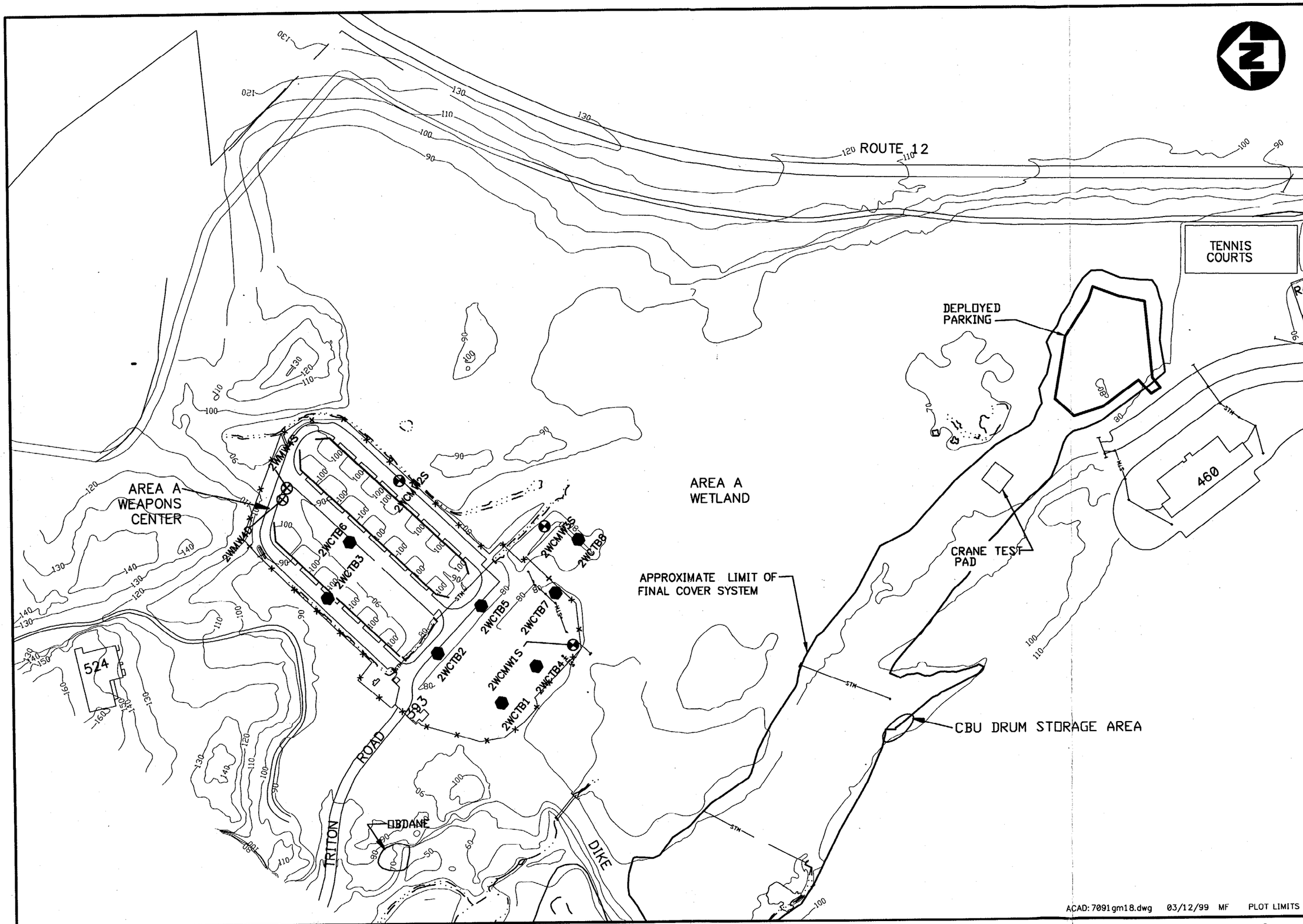


FIGURE 8-18
SITE MAP
SITE 20-AREA A WEAPONS CENTER

Tetra Tech NUS, Inc.

01618102

FIGURE 8-19
SITE MAP
SITE 21-BERTH 16 & SITE 25
CLASSIFIED MATERIAL INCINERATOR

Tetra Tech NUS, Inc.

APPROX. LOCATION OF FORMER INCINERATOR
APPROX. LOCATION OF FORMER DUMPSTER WASHING AREA
APPROX. LOCATION OF 250 GAL UNDERGROUND STORAGE TANK FOR GENERATOR DIESEL FUEL
SITE 25
SITE 21
AMBERJACK RD.
ALBACORE RD.
PORPOISE RD.
PIER 17
PIER 15
SURGE PIT
20MW1
20TB6
20TB7
20TB5
20MW6
20MW5
20SD1
20MW7
20TB4
20TB3
20TB1
20TB2
20MW4
20MW2
20MW3
20SD2
TB8-7RI
TB9-7RI
TB7-7RI/MW4-7RI
TB6-7RI/MW3-7RI
TB5-7RI
TB4-7RI/MW2-7RI
TB3-7RI/MW1-7RI
TB2-7RI
TB1-7RI
TB11-7RI
MW5-7RI/TB10-7RI
NBLDG157
VAULT 31
B-35
B-37
B-32
B-36
B-39
B-34
B-40
SW/SD3-7RI
SW/SD2-7RI
SW/SD1-7RI
EC-SDTR04
331
525
472
103
456
478
153
88
157
106
40
173

LEGEND

SITE BOUNDARY
ZONE BOUNDARY
EXISTING FUEL PIPELINE
SANITARY SEWER LINES
STORM SEWER LINES
STEAM/CONDENSATE LINES

MANHOLES
CATCH BASINS
HISTORIC MONITORING WELL LOCATION
HISTORIC TEST BORING LOCATION
HISTORIC DIRECT PUSH SAMPLE LOCATION
HISTORIC SURFACE SOIL SAMPLE LOCATION
HISTORIC SEDIMENT SAMPLE LOCATION

LOWER SUBASE RI WATER/SEDIMENT LOCATION
LOWER SUBASE RI TEST BORING LOCATION
LOWER SUBASE RI MONITORING WELL LOCATION

0 80 160
SCALE IN FEET

ACAD: 7091gm16.dwg 03/18/99 DT

01618112

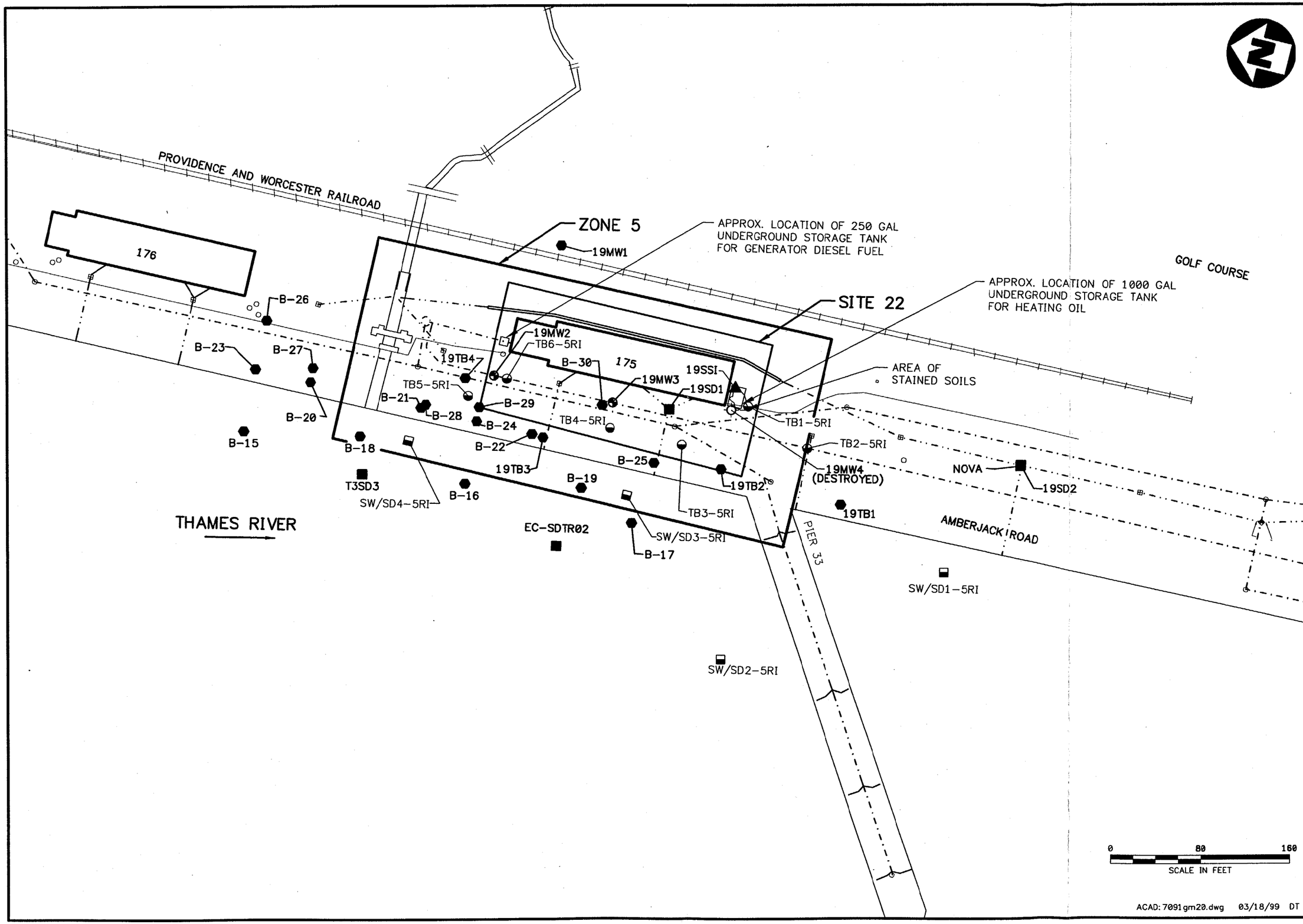
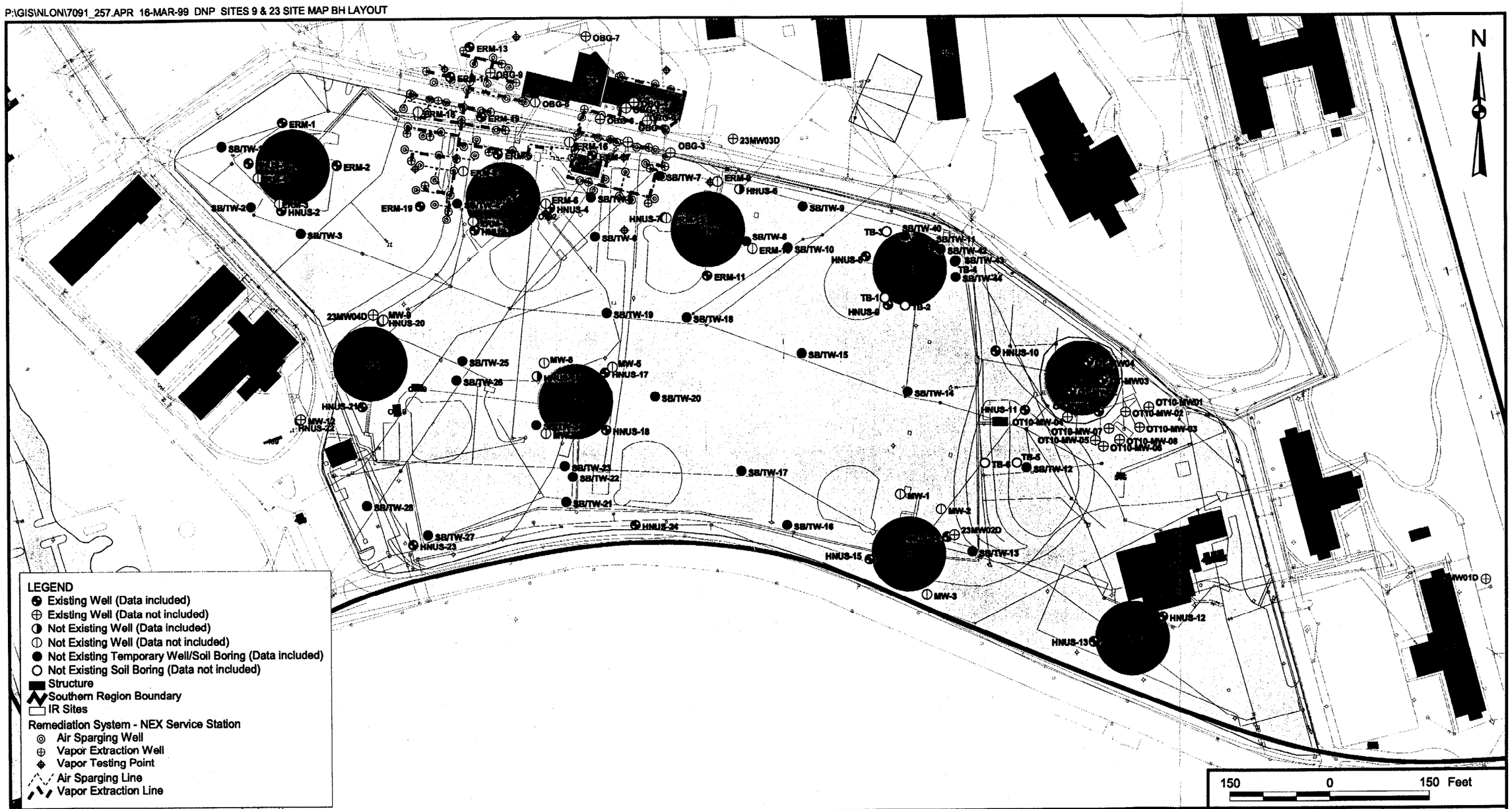


FIGURE 8-20
SITE MAP
SITE 22-PIER 33

Tetra Tech NUS, Inc.

01618122

P:\GIS\NLON\7091_257.APR 16-MAR-99 DNP SITES 9 & 23 SITE MAP BH LAYOUT



LEGEND
- Existing Well (Data included)
- Existing Well (Data not included)
- Not Existing Well (Data included)
- Not Existing Well (Data not included)
- Not Existing Temporary Well/Soil Boring (Data included)
- Not Existing Soil Boring (Data not included)
- Structure
- Southern Region Boundary
- IR Sites

Remediation System - NEX Service Station
- Air Sparging Well
- Vapor Extraction Well
- Vapor Testing Point
- Air Sparging Line
- Vapor Extraction Line

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY D. PERRY	DATE 15-MAR-99
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	

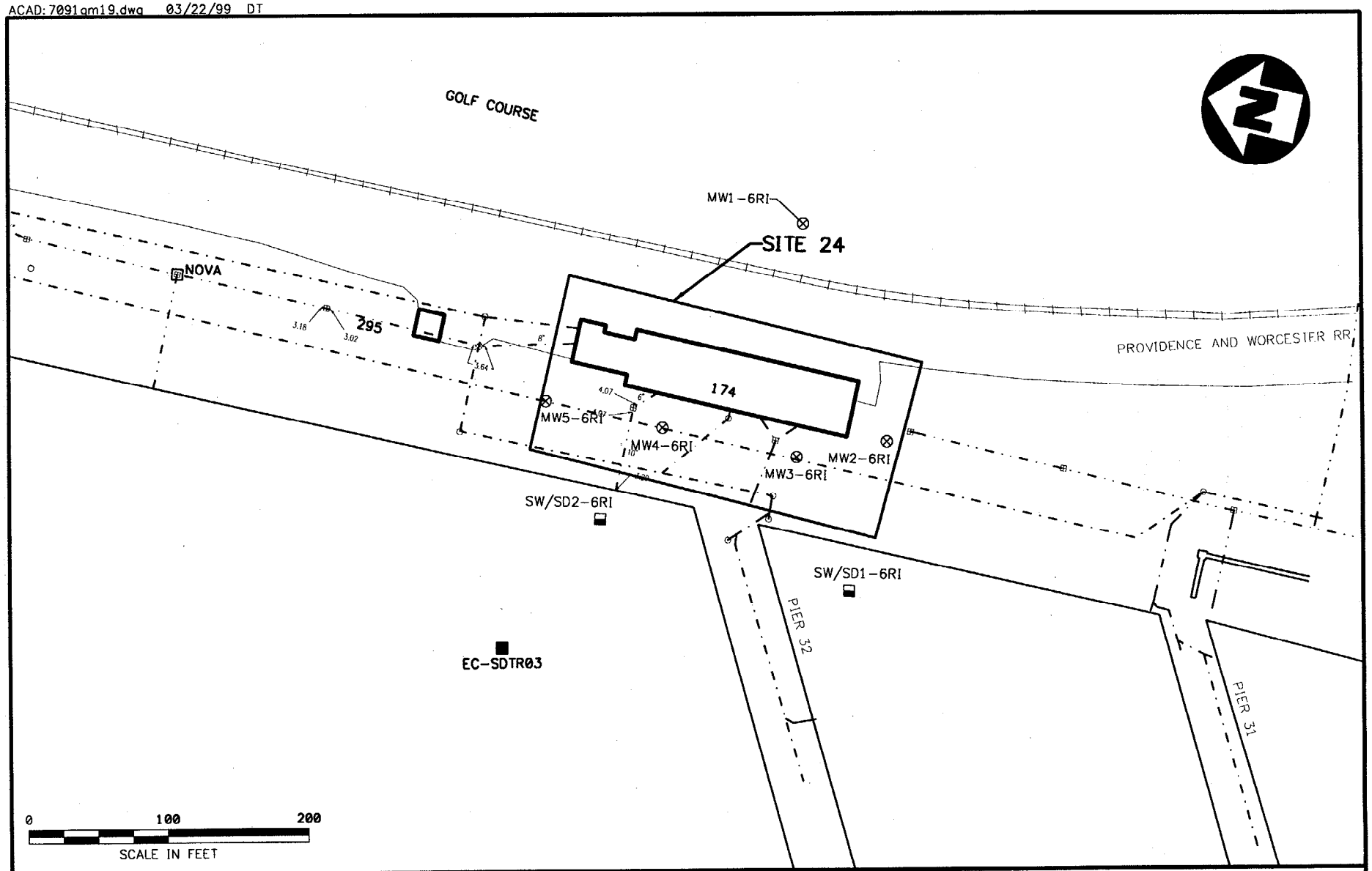
Tetra Tech NUS, Inc.

SITE MAP
SITE 23 - FUEL FARM
NSB-NLON, GROTON, CT

CONTRACT NUMBER 7091	OWNER NUMBER 0257
APPROVED BY Gary Riel	DATE 3/21/99
APPROVED BY	DATE
DRAWING NO. FIGURE 8-21	REV 0

01618132

ACAD: 7091gm19.dwg 03/22/99 DT



LEGEND

- SITE BOUNDARY
- SANITARY SEWER LINES
- STORM SEWER LINES
- HISTORIC SEDIMENT SAMPLE LOCATION
- HISTORIC STORM SEWER MONITORING LOCATION
- HISTORIC LOWER SUBASE RI SURFACE WATER/SEDIMENT LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION
- MANHOLES
- CATCH BASINS

FIGURE 8-22
SITE MAP
SITE 24-CENTRAL PAINT ACCUMULATION AREA (BUILDING 174)

Tetra Tech NUS, Inc.

REFERENCES

Atlantic, 1992. Phase I Remedial Investigation Naval Submarine Base - New London, Groton, Connecticut. Atlantic Environmental Services, Inc., Colchester, Connecticut, August.

Atlantic, 1993. Work Plan, Field Sampling Plan, QA/QC Plan, Health and Safety Plan, Phase II Remedial Investigation. Atlantic Environmental Services, Inc., Colchester, Connecticut, May.

Atlantic, 1994a. Draft Focused Feasibility Study, Defense Reutilization Marketing Office, Installation Restoration Program, Naval Submarine Base-New London, Groton, Connecticut. Atlantic Environmental Services, Inc., Colchester, Connecticut, March.

Atlantic, 1994b. Draft Focused Feasibility Study, Spent Acid Storage and Disposal Area, Installation Restoration Program, Naval Submarine Base - New London, Groton, Connecticut. Atlantic Environmental Services, Inc., Colchester, Connecticut, March.

Atlantic, 1995a. Final Site Inspection Report, Pier 33 and Berth 16/Former Incinerator, Installation Restoration Program, Naval Submarine Base - New London, Groton, Connecticut. Atlantic Environmental Services, Inc., Colchester, Connecticut, February.

Atlantic, 1995b. Action Memorandum for the Defense Reutilization and Marketing Office and the Spent Acid Storage and Disposal Area. Atlantic Environmental Services, Inc., Colchester, Connecticut, March.

Atlantic, 1995c. Proposed Plan for the Area A Landfill, Naval Submarine Base – New London, Groton, Connecticut. Atlantic Environmental Services, Inc., Colchester, Connecticut, June.

Atlantic, 1995d. Record of Decision for the Area A Landfill, Naval Submarine Base – New London, Groton, Connecticut. Atlantic Environmental Services, Inc., Colchester, Connecticut, September.

B&RE, 1996a. Final Site Characterization Report for OT-10, Building 325, and Building 89, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, Wayne, Pennsylvania, June.

B&RE, 1996b. Revised Design Analysis Report, Area A Landfill Remedial Design, Naval Submarine Base – New London, Groton, Connecticut. Brown & Root Environmental, Wayne, Pennsylvania, December.

B&RE, 1997a. Existing Data Summary Report for the Lower Subase Remedial Investigation, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, Wayne, Pennsylvania, March.

B&RE, 1997b. Phase II Remedial Investigation Report for Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, Wayne, Pennsylvania, March.

B&RE, 1997c. Verification Sampling Report for Site 4 Removal Action, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, Pennsylvania, June.

B&RE, 1997d. Proposed Plan for Area A Downstream/OBDA (Site 3), Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, Pennsylvania, July.

B&RE, 1997e. Data Gap Investigation Report for Goss Cove Landfill, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, Pennsylvania, August.

B&RE, 1997f. Final Lower Subase Remedial Investigation Work Plan and Sampling and Analysis Plan, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, September.

B&RE, 1997g. Feasibility Study for the Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, September.

B&RE, 1997h. Proposed Plan for the Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, September.

B&RE, 1997i. Site Investigation Report for Tank Farm Investigation for Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, Pennsylvania, September.

B&RE, 1997j. Feasibility Study for Soil and Sediment, Area A Downstream/OBDA (Site 3), Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, Pennsylvania, December.

B&RE, 1998a. Final Groundwater Monitoring Plan for Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, February.

B&RE, 1998b. Site Management Plan for Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, February.

B&RE, 1998c. Final Report for Interim Remedial Action at Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, March.

B&RE, 1998d. Interim (Round 1) Groundwater Monitoring Report for Defense Reutilization and Marketing Office, Naval Submarine Base-New London, Groton, Connecticut. Brown & Root Environmental, King of Prussia, Pennsylvania, July.

Connecticut College, 1998. Draft Wetland Functions and Values Assessment: The Ecological Evaluation of Vegetation Along Goss Cove. September.

Envirodyne, 1982. Initial Assessment Study: Naval Submarine Base, New London, Connecticut. Prepared for Naval Assessment and Control of Installation Pollutants Department, Envirodyne Engineers, Inc.

FFA, 1995. Federal Facility Agreement Under CERCLA 120, In the Matter of The US Department of the Navy, Naval Submarine Base - New London, Groton, Connecticut. U.S. Environmental Protection Agency, January.

FWEC, 1997a. Final Work Plan for Area A Landfill Cap, Naval Submarine Base - New London, Groton, Connecticut. Foster Wheeler Environmental Corporation, February.

FWEC, 1997b. Final Post Removal Report for Site 4 - Rubble Fill at Bunker A-86, Naval Submarine Base - New London, Groton, Connecticut. Foster Wheeler Environmental Corporation, July.

FWEC, 1997c. Final Post Removal Report for Over Bank Disposal Area, Naval Submarine Base - New London, Groton, Connecticut. Foster Wheeler Environmental Corporation, July.

FWEC, 1999. Draft Preliminary Design Report for Area A Downstream/OBDA, Naval Submarine Base – New London, Groton, Connecticut. Foster Wheeler Environmental Corporation, January.

HNUS, 1993. Action Memorandum for Building 31, Naval Submarine Base - New London, Groton, Connecticut. Halliburton NUS Corporation, Wayne, Pennsylvania, May.

HNUS, 1994a. Site Characterization Report for Waste Oil Tank 5, Naval Submarine Base - New London, Groton, Connecticut. Halliburton NUS Corporation, Wayne, Pennsylvania, May.

HNUS, 1994b. Post Removal Action Report for Waste Oil Tank No. 5, Naval Submarine Base - New London, Groton, Connecticut. Halliburton NUS Corporation, Wayne, Pennsylvania, December.

HNUS, 1995a. Post-Removal Action Report for Building 31 Lead Remediation, Naval Submarine Base - New London, Groton, Connecticut. Halliburton NUS Corporation, Wayne, Pennsylvania, January.

HNUS, 1995b. 100% Design Document for Area A Landfill Interim Remedial Action, Naval Submarine Base - New London, Groton, Connecticut. Halliburton NUS Corporation, Wayne, Pennsylvania, May.

NEESA, 1983. Final Initial Assessment Study of Naval Submarine Base - New London, Groton, Connecticut. Naval Energy and Environmental Support Act, 13-025, Port Hueneme, California, March.

NESO, 1979. Oil Contamination of the Ground Water at SUBASE. Naval Environmental Support Office 1-026, February.

NFESC, 1995. Draft Final Supplement to Initial Assessment Study. Naval Submarine Base, New London, Groton, Connecticut. Naval Facilities Engineer Service Center. Port Hueneme, California, April.

OHM, 1995a. Final Report for Interim Remedial Action, Site 6, Naval Submarine Base, New London, Groton, Connecticut. OHM Remediation Services Corp., Hopkinton, Massachusetts, September.

OHM, 1995b. Final Report for Soil Remediation, Spent Acid Storage and Disposal Area, Naval Submarine Base, New London, Groton, Connecticut. Hopkinton, Massachusetts, September.

SAIC, 1998. Draft Evaluation of Chemical and Toxicological Data for Goss Cove, Naval Submarine Base, Groton, Connecticut. Science Applications International Corporation, Narragansett, Rhode Island, December.

TtNUS, 1998. Draft Existing Data Summary Report for the Basewide Groundwater Operable Unit Remedial Investigation, Naval Submarine Base – New London, Groton, Connecticut. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania, December.

TtNUS, 1999a. Interim (Round 2) Groundwater Monitoring Report for Defense Reutilization and Marketing Office, Naval Submarine Base – New London, Groton, Connecticut. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania, January.

TtNUS, 1999b. Draft Final Groundwater Monitoring Plan for the Area A Landfill, Naval Submarine Base – New London, Groton, Connecticut. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania, January.

TtNUS, 1999c. Final Lower Subase Remedial Investigation Report, Naval Submarine Base – New London, Groton, Connecticut. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania, January.

TtNUS, 1999d. Draft Final Feasibility Study for Goss Cove Landfill, Naval Submarine Base - New London, Groton, Connecticut. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania, March.

U.S. Department of Defense (DOD), 1996. Relative Risk Site Evaluation Primer. Office of the Deputy Under Secretary of Defense, Summer, 1996, Revised Edition.

U.S. EPA, 1996. CBU Drum Storage Area No Further Action Decision Document, Naval Submarine Base - New London, Groton, Connecticut. United States Environmental Protection Agency, Region I, Boston, Massachusetts, September.

U.S. Navy, 1997a. Proposed Plan for the Spent Acid Storage and Disposal Area, Naval Submarine Base - New London, Groton, Connecticut. United States Navy, Northern Division, Lester, Pennsylvania. July.

U.S. Navy, 1997b. Action Memorandum for Over Bank Disposal Area, Naval Submarine Base - New London, Groton, Connecticut. United States Navy, Northern Division, Lester, Pennsylvania. July.

U.S. Navy, 1997c. Record of Decision for the Spent Acid Storage and Disposal Area, Naval Submarine Base - New London, Groton, Connecticut. United States Navy, Northern Division, Lester, Pennsylvania. September.

U.S. Navy, 1997d. Action Memorandum for Site 4 - Rubble Fill at Bunker A-86, Naval Submarine Base - New London, Groton, Connecticut. United States Navy, Northern Division, Lester, Pennsylvania. September.

U.S. Navy, 1998a. Final Interim Record of Decision for the Defense Reutilization and Marketing Office, Naval Submarine Base - New London, Groton, Connecticut. United States Navy, Northern Division, Lester, Pennsylvania. March.

U.S. Navy, 1998b. Final Record of Decision for Soil and Sediment, Area A Downstream Water Courses/Overbank Disposal Area, Naval Submarine Base - New London, Groton, Connecticut. United States Navy, Northern Division, Lester, Pennsylvania. March.

U.S. Navy, 1998c. Proposed Plan for Site 4 Bunker A-86, Naval Submarine Base - New London, Groton, Connecticut. United States Navy, Northern Division, Lester, Pennsylvania. April.

U.S. Navy, 1998d. Record of Decision for Site 4, Source Control for Soil OU, Naval Submarine Base - New London, Groton, Connecticut. United States Navy, Northern Division, Lester, Pennsylvania. June.

Wehran, 1987. Site Investigation - Subsurface Oil Contamination - Lower Subase: Naval Submarine Base - New London, Groton, Connecticut. Wehran Engineering Corporation, Methuen, Massachusetts.

Wehran, 1988. Verification Study, Naval Submarine Base - New London, Groton, Connecticut. Wehran Engineering Corporation, Methuen, Massachusetts.

APPENDIX A

EXECUTIVE SUMMARY:

The Relative Risk Site Evaluation Concept

Office of the Deputy Under Secretary of Defense
(Environmental Security)

Defense Environmental Cleanup Program Fact Sheet

The Relative Risk Site Evaluation Concept

Introduction

The Department of Defense (DoD) considers environmental restoration as an integral part of its daily mission activities. At installations around the country, environmental restoration activities are underway to address contamination resulting from past DoD operations. Environmental analysis and cleanup activities address a wide variety of sites contaminated with fuels, solvents, chemicals, heavy metals, and common industrial materials.

Given the large number of sites to be addressed and limitations on money and people to work on these sites each year, DoD believes that a risk-based approach should be applied to work sequencing at active military installations, Base Realignment and Closure (BRAC) installations, and formerly used defense properties using relative risk as a key factor. The relative risk site evaluation framework described in this fact sheet provides a means of helping accomplish this objective.

The framework for evaluating site relative risk was published in September 1994, in the *Relative Risk Site Evaluation Primer (Interim Edition)* which contained instructions for performing relative risk site evaluations at sites across DoD. A revised edition of the Primer was issued in June 1996.

Definition of Relative Risk Site Evaluation

The relative risk site evaluation framework is a methodology used by all DoD Components to evaluate the relative risk posed by a site in relation to other sites. It is a tool used across all of DoD to group sites into high, medium, and low categories based on an evaluation of site information using three factors: the contaminant hazard factor (CHF), the migration pathway factor (MPF), and the receptor factor (RF). Factors are based on a quantitative evaluation of contaminants and a qualitative evaluation of pathways and human and ecological receptors in the four media most likely to result in significant exposure—groundwater, surface water, sediment, and surface soils. A representation of this evaluation concept is presented in Figures 1 and 2. Figure 1 also depicts possible opportunities for stakeholder input into the technical evaluation.

The relative risk site evaluation framework is a qualitative and easy to understand methodology for evaluating the relative risks posed by sites and should not be equated with more formal risk assessments conducted to assess baseline risks posed by sites. It is a tool to assist in sequencing environmental restoration work (i.e., known requirements such as remedial investigation or cleanup actions) to be done by a DoD Component. It is designed to handle the broad range of sites that exist at DoD installations and the broad range of data available. The grouping of sites into high,

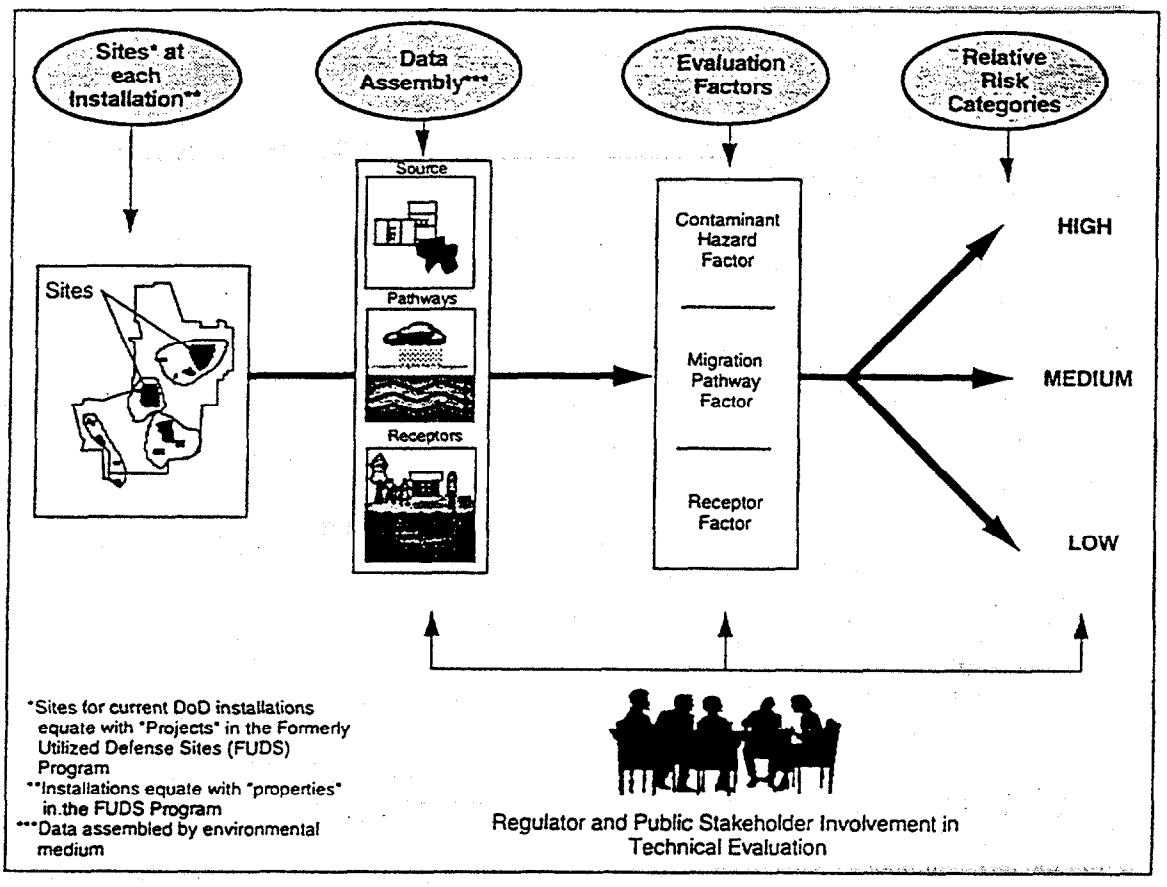


Figure 1. Relative Risk Site Evaluation Concept Summary

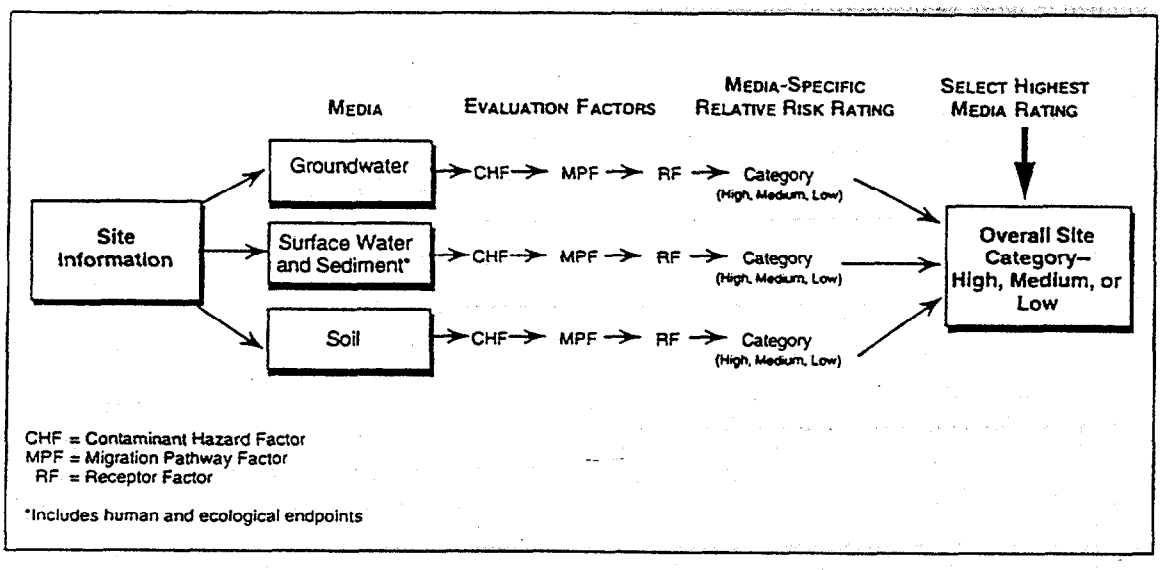


Figure 2. Flow Diagram of the Relative Risk Site Evaluation Framework

medium, or low relative risk categories **is not** a substitute for either a baseline risk assessment or health assessment; **it is not** a means of placing sites into a Response Complete/No Further Action category; and **it is not** a tool for justifying a particular type of action (e.g., the selection of a remedy).

Use of the relative risk site evaluation framework is restricted to environmental restoration sites and does not extend to unexploded ordnance (UXO) removal, building demolition/debris removal (BD/DR), potentially responsible party (PRP) activities, or compliance activities.

Relative Risk and Funding Decisions

Relative risk is not the sole factor in determining the sequence of environmental restoration work, but it is an important consideration in the priority setting process. It should be factored into all priority setting decisions, and should be discussed with regulators and public stakeholders in the environmental restoration process.

The actual funding priority for a site is identified after relative risk information is combined with other important risk management considerations (e.g., the statutory and regulatory status of a particular installation or site, public stakeholder concerns, program execution considerations, and economic factors). These additional risk management considerations can result in a decision to fund work at a site that is not classified as a high relative risk. DoD Components have each developed guidelines for combining relative risk and risk management considerations as part of their planning, programming, and budgeting process.

The relative risk site evaluation framework does not address the question of whether work is necessary at a site; it only provides information for use in helping to determine the general sequence in which sites will be addressed. At the DoD headquarters level, it also provides a framework for planning, programming, and budgeting requirements, a topic discussed below.

Requirements for Relative Risk Site Evaluations

Relative risk site evaluations are required for all sites at active military installations, BRAC installations, and formerly used defense properties that have future funding requirements that are not classified as (1) having "all remedies in place," (2) "response complete," (3) lacking sufficient information, or (4) abandoned ordnance. These four situations are discussed in the following four paragraphs.

Relative risk site evaluations are not required (NR) for sites classified as having all remedies in place (RIP) even though they may be in remedial action operation (RAO) or long-term monitoring (LTM). A RIP determination requires that remedial action construction is complete for a site.

Relative risk site evaluations are not required (NR) for sites classified as response complete (RC). Sites classified as RC are those where a DoD Component deems that no further action (NFA) is required with the possible exception of LTM. An RC determination requires that one of the following apply: (1) there is no evidence that contaminants were released at the site, (2) no contaminants were detected at the site other than at background concentrations, (3) contaminants attributable to the site are below action levels used for risk screening, (4) the results of a baseline risk assessment demonstrate that cumulative risks posed by the site are below established thresholds, or (5) removal and/or remedial action operations (RAOs) at a site have been implemented, completed, and are the final action for the site. Only LTM remains.

Relative risk site evaluations should be based on the information currently available on contaminants, migration pathways, and receptors. Sites lacking sufficient information

for the conduct of a relative risk site evaluation should be given a "Not Evaluated" designation and should then be programmed for additional study, a removal action if warranted, or other appropriate response action, including deferral, before they are evaluated.

Sites comprised solely of abandoned ordnance are not subject to the relative risk site evaluation described in this Primer. Such sites should be evaluated using a separate risk procedure, which is discussed in the management guidance cited above (Office of the Under Secretary of Defense [Environmental Security], 1994).

Implementation of the Relative Risk Site Evaluation Framework

DoD's goal is to conduct relative risk site evaluations at the field level with the involvement of the regulators and public stakeholders (see Figure 1). The technical evaluation of sites using the evaluation framework can serve as a basis for discussion and negotiation with regulators and public stakeholders. In particular, regulators and public stakeholders can help identify receptors, and can make judgments about the extent of contaminant migration in various environmental media at a site. Where they exist, Restoration Advisory Boards (RABs) are an excellent forum for obtaining public stakeholder input on these aspects of site relative risk. Other opportunities for public stakeholder involvement may also be appropriate. Regulators and public stakeholders should always be given the opportunity to participate in the development and review of relative risk site evaluation data before the data is used in planning and programming.

Management Uses of Relative Risk Information

DoD and DoD Components are using the relative risk site evaluation framework as a tool to help sequence work at sites and as a headquarters program management tool. As a program management tool, the framework is being used by DoD and DoD Components to periodically identify the distribution of sites in each of three relative risk categories—high, medium, and low. A series of discrete relative risk site evaluations provides headquarters program managers with a macro-level view of changes in relative risk distributions within DoD over time.

The relative risk site evaluation framework and resulting data also provide DoD with a basis for establishing goals and performance measures for the environmental restoration program. In this regard, DoD has established goals for all DoD Components to reduce relative risk at sites in Defense Environmental Restoration Account (DERA) and BRAC programs or to have remedial systems in place where necessary for these sites, within the context of legal agreements. DoD and DoD Components are tracking progress towards these relative risk reduction goals as one of several program measures of merit (MOMs) at the headquarters level. Another MOM tracks the number of sites where cleanup action has been taken and relative risk has been reduced in one or more media. Resultant information is used to provide the necessary feedback to develop and adjust program requirements and budget projections, as well as to assess whether established goals reflect fiscal reality.

For More Information

At the Installation, contact

At DoD Headquarters, contact the Office of the Deputy Under Secretary of Defense (Environmental Security - Cleanup) at 703/697-7475.

APPENDIX B

RELATIVE RISK EVALUATION WORKSHEETS

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 2/23/99

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SWH SWEF SEDH SEDEF SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00002

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: LANDFILL

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified as a landfill during the IAS. The landfill is adjacent to the Area "A" Wetlands. The type of material disposed of at the landfill consisted of scrap wood, metal, waste chemicals, waste acid, drums containing soluents. Transformers and electrical switches were observed on the concrete pad built for hazardous waste storage. Landfill operated from prior to 1957 until 1973.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Site is capped. Migration potential has been minimized for the soil and groundwater. Surface water and sediments are related to the adjacent wetlands.

Brief Description of Receptors (Human and Ecological):
Remedy for this site is in place. Site has been capped and a groundwater monitoring plan is being developed.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Arochlor 1254	140.0	0.73	191.780
1,1,2,2-Tetrachloroethane	140.0	5.5	25.450
Iron	192,500.0	11,000.0	17.500
Manganese	1,030.0	180.0	5.720
Chlorobenzene	180.0	39.0	4.620
1,4-Dichlorobenzene	119.5	47.0	2.540
Lead	8.5	4.0	2.130
Cadmium and compounds	28.85	18.0	1.600
Arsenic (noncancer)	4.4	4.5	0.980
Xylene	730.0	1,400.0	0.520
		Total:	**254.346**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: X

Brief Rationale for Selection: Site is capped. GW monitoring plan is in place.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Brief Rationale for Selection: Site is capped. GW monitoring plan is in place.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00002 **Groundwater Category:** Low
(High, Medium, Low)

Surface Water Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Cadmium and compounds	66.55	18.0	3.700
Lead	7.8	4.0	1.950
Arsenic (cancer)	2.9	4.5	0.640
Nickel and compounds	84.7	730.0	0.120
Boron	369.0	3,300.0	0.110
Barium and compounds	115.0	2,600.0	0.040
Chromium VI and compounds	6.8	180.0	0.040
Zinc	334.0	11,000.0	0.030
Copper and compounds	29.3	1,400.0	0.020
Mercury and compounds (inorganic)	0.22	11.0	0.020
		Total:	**6.674**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Confined - Information indicates a low potential for contamination to a potential point of exposure (could by due to the presence of geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: There exists the possibility of contaminants in the wetlands to migrate to a point of expo - sure in the downstream area.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Limited - Little or no potential for receptors to have access to surface water

Potential - Potential for receptors to have access to surface water

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Although access is limited in the wetlands, there is still the possiblity that human recep - tors can come in contact with the contaminants in the wetlands.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00002 **Surface Water Human Category:** Med
(High, Medium, Low)

Surface Water Eco Fresh

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Cadmium and compounds	66.55	1.1	60.500
Mercury	0.22	0.012	18.330
Zinc	334.0	110.0	3.040
Copper and compounds	29.3	12.0	2.440
Lead	7.8	3.2	2.440
Chromium VI and compounds	6.8	11.0	0.620
Nickel and compounds	84.7	160.0	0.530
Boron	369.0	750.0	0.490
Arsenic (cancer)	2.9	190.0	0.020
Barium and compounds	115.0	0.0	0.000
		Total:	**88.404**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Site is capped and a GW monitoring plan is being developed, there is still potential for m - igration of contaminants in the wetlands.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Limited - Little or no potential for receptors to have access to surface water

Potential - *Potential for receptors to have access to surface water*

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Remedy for the landfill is in place, but receptors still possibly exist for the contaminan - ts associated with the wetlands.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00002 **Surface Water Fresh Category:** Med
(High, Medium, Low)

Sediment Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Benzo[a]pyrene	35.0	6.1	5.740
Arsenic (cancer)	14.0	22.0	0.640
Lead	241.0	400.0	0.600
Cadmium and compounds	7.2	38.0	0.190
Anthracene	2.4	19.0	0.130
Nickel and compounds	61.0	1,500.0	0.040
Zinc	702.0	23,000.0	0.030
Fluoranthene	80.0	2,600.0	0.030
Chrysene	0.042	24.0	0.000
Carbazole	0.13	2,200.0	0.000
		Total:	**7.400**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: There is potential for the contaminants in the wetlands sediments to migrate downstream to - a point of exposure.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Limited - Little or no potential for receptors to have access to sediment

Potential - Potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Although access to this area is limited, there still exists the potential for human recept - ors to come in contact with the sediments.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00002 **Sediment Human Category:** Med
(High, Medium, Low)

Sediment Eco Fresh

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard mg/Kg	Ratio (2)
Chrysene	42.0	0.06	700.000
Fluoranthene	80.0	0.75	106.670
Benzo[a]pyrene	35.0	0.37	94.590
Cadmium and compounds	7.2	0.6	12.000
Anthracene	2.4	0.22	10.910
Lead	241.0	31.0	7.770
Zinc	702.0	120.0	5.850
Nickel and compounds	61.0	16.0	3.810
Arsenic (cancer)	14.0	6.0	2.330
Carbazole	0.13	0.34	0.380
		Total:	**944.323**

(1) Evaluate for human contaminants only
(2) *Ratio = Maximum Concentration/Standard*
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Remedy for the landifll is in place, but there is still a possibility of migration for con - taminants in the wetlands area.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Remedy is in place for landfill, but there is still potential for receptors to come in con - tact with contaminants in the wetlands..

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00002 **Sediment Fresh Category:** High
(High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Arochlor 1254	19.4	1.4	13.860
Copper and compounds	21,600.0	2,800.0	7.710
Lead	1,780.0	400.0	4.450
Manganese and compounds	1,150.0	380.0	3.030
Benzo[a]pyrene	15.0	6.1	2.460
Aroclor-1260	12.0	0.0	1.710
Nickel and compounds	1,440.0	1,500.0	0.960
Chrysene	19.0	24.0	0.790
Arsenic (cancer endpoint)	10.6	22.0	0.480
Zinc	9,850.0	23,000.0	0.430
		Total:	**38.052**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

Brief Rationale for Selection: Site is capped.

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: X

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

Brief Rationale for Selection: Site is capped.

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00002 **Soil Category:** Low
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 3/23/98

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SWH SWEF SEDH SEDEF SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00003

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: SURFACE DISPOSAL AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified as a surface disposal area during the IAS. This site consists of the OBDA and the Area A Downstream water course area. The material disposed of at the site consisted of creosote telephone poles, 55 gallon drum, scrap wire rolls, approximately 30-200 gallon fuel tanks. The site was probably used from 1957 to 1973. The OBDA is located in the downstream water course area. The Area A Downstream has a history of pesticide use with DDT.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Groundwater in this area has some low level volatile organics. Sediment in the OBDA down streams and ponds show elevated levels of DDT, DDE, DDD. Soils in the area of OBDA/downstream water course have elevated levels of DDT, DDD, DDE.

Brief Description of Receptors (Human and Ecological):
The entire downstream water course area (OBDA) has been fenced to prohibit trespassing. The major concern is possible impact on ecological receptors.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Lead	220.0	4.0	55.000
Manganese and compounds	6,710.0	180.0	37.280
Vinyl chloride	29.0	2.0	14.500
Iron	121,000.0	11,000.0	11.000
Calcium	73,800.0	11,000.0	6.710
Arsenic (cancer)	23.9	4.5	5.310
Beryllium and compounds	4.4	1.6	2.750
Aluminum	97,400.0	37,000.0	2.630
Dichloroethane, 1,2- (EDC)	11.0	12.0	0.920
Vanadium	229.0	260.0	0.880
		Total:	**138.980**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Analytical results show low levels of contaminants present in groundwater.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Brief Rationale for Selection: The GW is not used as a drinking water aquifer.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Groundwater Category:** Med (High, Medium, Low)

Surface Water Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Manganese and compounds	1,545.0	180.0	8.580
Boron	16,000.0	3,300.0	4.850
Lead	10.6	4.0	2.650
Iron	6,660.0	11,000.0	0.610
Calcium	3,300.0	11,000.0	0.300
Mercury and compounds (inorganic)	1.5	11.0	0.140
Carbon disulfide	2.0	21.0	0.100
Tetrachloroethylene (PCE)	3.0	110.0	0.030
Copper and compounds	12.6	1,400.0	0.010
Aluminum	164.0	37,000.0	0.000
		Total:	**17.267**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could by due to the presence of geological structures or physical controls)

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Contaminants have been found at relatively high concentrations in the surface water.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Potential - Potential for receptors to have access to surface water

Limited - Little or no potential for receptors to have access to surface water

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Although site access is limited, human receptors could come in contact with the surface water downstream of the site.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Surface Water Human Category:** High (High, Medium, Low)

Surface Water Eco Fresh

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Calcium	29,700.0	110.0	270.000
Iron	6,560.0	1,000.0	6.560
Lead	5.2	3.2	1.620
Zinc	35.3	110.0	0.320
Boron	113.0	750.0	0.150
Copper and compounds	1.3	12.0	0.110
DDE	0.32	1,050.0	0.000
		Total:	**278.765**

(1) Evaluate for human contaminants only
(2) Ratio – Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or physical controls)

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Contamination could migrate toward the Thames River.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Potential - Potential for receptors to have access to surface water

Limited - Little or no potential for receptors to have access to surface water

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Ecological receptors have been identified.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Surface Water Fresh Category:** High
(High, Medium, Low)

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Lead	220.0	4.0	55.000
Manganese and compounds	6,710.0	180.0	37.280
Vinyl chloride	29.0	2.0	14.500
Iron	121,000.0	11,000.0	11.000
Calcium	73,800.0	11,000.0	6.710
Arsenic (cancer)	23.9	4.5	5.310
Beryllium and compounds	4.4	1.6	2.750
Aluminum	97,400.0	37,000.0	2.630
Dichloroethane, 1,2- (EDC)	11.0	12.0	0.920
Vanadium	229.0	260.0	0.880
		Total:	**138.980**

(1) Evaluate for human contaminants only
(2) *Ratio = Maximum Concentration/Standard*
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Analytical results show low levels of contaminants present in groundwater.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Brief Rationale for Selection: The GW is not used as a drinking water aquifer.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Groundwater Category:** Med
(High, Medium, Low)

Surface Water Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Manganese and compounds	1,545.0	180.0	8.580
Boron	16,000.0	3,300.0	4.850
Lead	10.6	4.0	2.650
Iron	6,660.0	11,000.0	0.610
Calcium	3,300.0	11,000.0	0.300
Mercury and compounds (inorganic)	1.5	11.0	0.140
Carbon disulfide	2.0	21.0	0.100
Tetrachloroethylene (PCE)	3.0	110.0	0.030
Copper and compounds	12.6	1,400.0	0.010
Aluminum	164.0	37,000.0	0.000
		Total:	**17.267**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Confined - Information indicates a low potential for contamination to a potential point of exposure (could by due to the presence of geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Contaminants have been found at relatively high concentrations in the surface water.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Limited - Little or no potential for receptors to have access to surface water

Potential - Potential for receptors to have access to surface water

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Although site access is limited, human receptors could come in contact with the surface water downstream of the site.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Surface Water Human Category:** High
(High, Medium, Low)

Surface Water Eco Fresh

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Calcium	29,700.0	110.0	270.000
Iron	6,560.0	1,000.0	6.560
Lead	5.2	3.2	1.620
Zinc	35.3	110.0	0.320
Boron	113.0	750.0	0.150
Copper and compounds	1.3	12.0	0.110
DDE	0.32	1,050.0	0.000
		Total:	**278.765**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or physical controls)

Brief Rationale for Selection: Contamination could migrate toward the Thames River.

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Potential - Potential for receptors to have access to surface water

Limited - Little or no potential for receptors to have access to surface water

Brief Rationale for Selection: Ecological receptors have been identified.

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Surface Water Fresh Category:** High (High, Medium, Low)

Sediment Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
DDD,4,4-	300,000.0	190.0	1578.950
DDT	94,000.0	130.0	723.080
Dieldrin	370.0	2.8	132.140
DDE,4,4-	15,000.0	130.0	115.380
Chrysene	1,200.0	24.0	50.000
Manganese and compounds	2,850.0	380.0	7.500
Arsenic (cancer endpoint)	39.9	22.0	1.810
Boron	8,300.0	5,900.0	1.410
Nitroaniline, 2	3.1	3.9	0.790
Cadmium and compounds	30.1	38.0	0.790
		Total:	**2613.979**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

Brief Rationale for Selection: Contamination could migrate toward the Thames River.

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: X

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

Brief Rationale for Selection: Area is fenced off, therefore access is restriced.

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Sediment Human Category:** Low (High, Medium, Low)

Sediment Eco Fresh

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard mg/Kg	Ratio (2)
Dieldrin	370.0	0.002	########
Endrin	84.0	0.003	28000.000
Pyrene	4,700.0	0.49	9591.840
Phenanthrene	1,600.0	0.56	2857.140
Mercury	7.0	0.2	35.000
Copper and compounds	45.7	1.6	28.560
Nickel and compounds	44.6	16.0	2.790
Benz(a)anthracene	0.78	0.32	2.440
Lead	64.2	31.0	2.070
Benzo[a]pyrene	0.64	0.37	1.730
		Total:	########

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: ERA has indicated that the contamination is present at the point of exposure.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Ecological receptors have been identified.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Sediment Fresh Category:** High (High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
DDT	1,400.0	130.0	10.770
DDD,4,4-	240.0	190.0	1.260
Manganese and compounds	255.0	380.0	0.670
DDE,4,4-	24.0	130.0	0.180
Aluminum	14,000.0	77,000.0	0.180
Cadmium and compounds	5.1	38.0	0.130
Calcium	2,590.0	23,000.0	0.110
Vanadium	31.3	540.0	0.060
Lead	17.8	400.0	0.040
Barium and compounds	70.6	5,300.0	0.010
		Total:	**13.463**

(1) Evaluate for human contaminants only
(2) Ratio – Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: The risk assessement for this site determined that a migration pathway for DDT exist from the soil and sediments to ecological receptors.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Ecological receptors have been identified. A fence was installed to prevent children from - entering the area.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00003 **Soil Category:** High
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 3/23/98

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SEDH SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00007

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: UNEXPLODED MUNITIONS/ORDNANCE AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** Med

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
Various fuels, solvents and petroleum products are used in this facility. Site includes a leach field system that potentially could be an old source of contamination.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Thames River and a recreational Lake (north lake) are down gradient of the site.

Brief Description of Receptors (Human and Ecological):
Ecological receptors include inhabitants of the Thames River. Human receptors include Torpedo shop personnel.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Manganese and compounds	2,170.0	180.0	12.060
Iron	81,800.0	11,000.0	7.440
Calcium	79,600.0	11,000.0	7.240
Aluminum	18,500.0	37,000.0	0.500
Dichloroethylene, 1,1-	2.0	4.6	0.430
Copper and compounds	164.0	1,400.0	0.120
Barium and compounds	247.0	2,600.0	0.090
Boron	184.0	3,300.0	0.060
Trichloroethane, 1,1,1-	42.0	1,300.0	0.030
Zinc	280.0	11,000.0	0.030
		Total:	**27.996**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Low levels of VOCs have ben observed in the groundwater. Possibility exists for contamina - nts to migrate toward the Thames River.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: GW is considered a potential source of drinking water.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00007 **Groundwater Category:** Med (High, Medium, Low)

Sediment Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Cadmium and compounds	2,300.0	38.0	60.530
Manganese	173.0	330.0	0.520
Iron	11,600.0	23,000.0	0.500
Lead	119.0	400.0	0.300
Aluminum	11,900.0	77,000.0	0.150
Benzo[a]pyrene	0.1	6.1	0.020
Copper and compounds	30.3	2,800.0	0.010
Mercury	0.24	23.0	0.010
Barium and compounds	45.6	5,300.0	0.010
Chrysene	0.18	24.0	0.010
		Total:	**62.072**

(1) *Evaluate for human contaminants only*
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: A drainage swale exists downgradient of the site that utimately drains into the Thames Riv - er.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: There is potential for human receptors to come in contact with contaminants in the sedimen - ts of the drainage swale.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00007 **Sediment Human Category:** Med
(High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Manganese and compounds	300.0	380.0	0.790
Antimony and compounds	19.4	31.0	0.630
Calcium	5,830.0	23,000.0	0.250
Aluminum	13,700.0	77,000.0	0.180
Cadmium and compounds	4.6	38.0	0.120
Benzo[a]pyrene	0.57	6.1	0.090
Vanadium	45.8	540.0	0.080
Lead	16.8	400.0	0.040
Cobalt	14.8	380.0	0.040
Barium and compounds	159.0	5,300.0	0.030
		Total:	**2.346**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Elevated level of VOCs have been observed. Contaminants could migrated toward the Thames - River.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Torpedo shop personnel could come in contact with soils from the site.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00007 **Soil Category:** Med
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Location (State): CT

Site (Name/RMIS ID) / Project for FUDS: SITE 00008

RMIS Site Type: LANDFILL

Point of Contact (Name/Phone):

Date Entered (Day, Month, Year): 3/23/98

Media Evaluated (GW, SW, Sediment, Soil): GW SWH SWEM SEDEM SOIL

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
Former landfill operated from 1946 to 1957. Material consists of incinerator ash and rubble.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Site is located adjacent to the Thames River.

Brief Description of Receptors (Human and Ecological):
Both Human and Ecological receptors in the Thames River and in Goss Cove exist.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req
A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati
(or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Boron	50,000.0	3,300.0	15.150
Calcium	94,900.0	11,000.0	8.630
Methylphenol, 4-	500.0	180.0	2.780
Vinyl chloride	5.0	2.0	2.500
Manganese and compounds	226.0	180.0	1.260
Tetrachloroethylene (PCE)	100.0	110.0	0.910
Toluene	450.0	720.0	0.630
Barium and compounds	1,220.0	2,600.0	0.470
Xylene (mixed)	610.0	1,400.0	0.440
Dimethylphenol, 2,4-	310.0	730.0	0.420
		Total:	**34.046**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Elevated levels of VOCs have been observed. Potential exists for contaminants to migrate to the cove or Thames River.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Brief Rationale for Selection: There is potential for construction workers to come in contact with the GW.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00008 **Groundwater Category:** Med
(High, Medium, Low)

Surface Water Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Boron	38,000.0	3,300.0	11.520
Calcium	81,400.0	11,000.0	7.400
Manganese and compounds	44.2	180.0	0.250
		Total:	**19.161**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could by due to the presence of geological structures or physical controls)

Brief Rationale for Selection: Contamination has been identified in the Cove.

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Potential - Potential for receptors to have access to surface water

Limited - Little or no potential for receptors to have access to surface water

Brief Rationale for Selection: Human receptors could have access to the Cove.

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00008 **Surface Water Human Category:** High
(High, Medium, Low)

Surface Water Eco Marine

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Heptachlor	0.05	0.0036	13.890
Nickel and compounds	13.7	8.3	1.650
Lead	2.5	8.5	0.290
Zinc	15.0	86.0	0.170
Selenium	5.0	71.0	0.070
Butyl benzyl phthalate	1.0	29.4	0.030
Bis(2-ethylhexyl)phthalate (DEHP)	3.0	360.0	0.010
Toluene	2.0	5,000.0	0.000
Vanadium	5.0	0.0	0.000
Aluminum	136.0	0.0	0.000
		Total:	**16.121**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or physical controls)

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Contamination has been identified in the Cove which is connected to the Thames River.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Potential - Potential for receptors to have access to surface water

Limited - Little or no potential for receptors to have access to surface water

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Receptors have been identified in the Cove.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00008 **Surface Water Marine Category:** High
(High, Medium, Low)

Sediment Eco Marine

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Copper and compounds	199.0	7.0	28.430
Aroclor	1.0	0.05	20.000
Lead	646.0	35.0	18.460
Mercury	1.2	0.15	8.000
Arsenic (cancer)	247.0	33.0	7.480
Chromium VI and compounds	51.0	8.0	6.380
Zinc	320.0	120.0	2.670
Nickel and compounds	38.0	30.0	1.270
Silver and compounds	0.58	1.0	0.580
Cadmium and compounds	2.7	5.0	0.540
		Total:	**93.799**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Contamination has been identified in the sediments in the Cove.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Ecological receptors have been identified in the cove.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00008 **Sediment Marine Category:** High
(High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Arochlor 1254	33.0	1.4	23.570
Chrysene	500.0	24.0	20.830
Lead	3,540.0	400.0	8.850
Benzo[a]pyrene	44.0	6.1	7.210
Iron	139,000.0	23,000.0	6.040
Arsenic (cancer)	121.0	22.0	5.500
Copper and compounds	14,300.0	2,800.0	5.110
Manganese	1,080.0	330.0	3.270
Anthracene	55.0	19.0	2.890
Mercury	63.0	23.0	2.740
		Total:	**93.932**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: X

Brief Rationale for Selection: There is potential for human receptors to come in contact with the soil. Site is open to t - he public because of the a museum being located on the landfill.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Human receptors in the form of construction workers, visitors and workers of the museum ex - ist.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00008 **Soil Category:** Low
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 2/26/99

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00010

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: UNDERGROUND STORAGE TANK

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
Three 125,000 gallon tanks were used to store diesel oil from 1942 to 1987.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Site is adjacent to Thames River. GW is contaminated with TPH's. Elevated levels of lead have observed in the soils.

Brief Description of Receptors (Human and Ecological):
This is a highly industrialized area. Human receptors could come in contact with soils during excavation operations. Ecological receptors from the Thames River could come in contact from contaminants that have migrated.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Calcium	157,000.0	11,000.0	14.270
Manganese and compounds	1,090.0	180.0	6.060
Vinyl chloride	12.0	2.0	6.000
Boron	19,000.0	3,300.0	5.760
Lead	9.4	4.0	2.350
Dichloroethylene, 1,2- (mixture)	57.0	55.0	1.040
Cadmium and compounds	6.7	18.0	0.370
Benzene	5.0	39.0	0.130
Selenium	22.0	180.0	0.120
Carbon disulfide	2.0	21.0	0.100
		Total:	**36.442**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Contaminants could migrate to Thames River. Oil has been detected migrating through the qu - ay wall

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: This area is a heavily industrialized area. There is potential for workers to come is con - tact with the GW.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00010 **Groundwater Category:** High (High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Mercury	83.4	23.0	3.630
Benzo[a]pyrene	17.0	6.1	2.790
Lead	383.0	400.0	0.960
Dibenz[ah]anthracene	5.2	6.1	0.850
Chrysene	19.0	24.0	0.790
Anthracene	12.0	19.0	0.630
Manganese and compounds	228.0	380.0	0.600
Arsenic (cancer)	12.3	22.0	0.560
Iron	11,600.0	23,000.0	0.500
Benzo(b)fluoranthene	17.0	61.0	0.280
		Total:	**12.343**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: There exists a potential for contaminants to migrate to the adjacent river.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Human receptors could come in contact with contaminants during excavation operations.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00010 **Soil Category:** High
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 2/26/99

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00011

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: UNDERGROUND STORAGE TANK

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified as an underground storage tank site during the IAS. There were three 125,000 gallon concrete tanks were used to store diesel oil from 1942 to 1987, when they were emptied, cleaned, and filled with sand. Two 25,000 gallon concrete tanks were used to store lube and hydraulic oils from 1954 to 1989. They were replaced with 20,000 gallon concrete tank was used to collect diesel oil off-located from submarines from 1042 to 1989. This tank is scheduled to be abandoned in 1994.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Ground water is a pathway because free product/sheen has been seen floating on ground water and has been detected in some monitoring wells. The soils pathway is also considered because the soils are saturated with old weathered oils.

Brief Description of Receptors (Human and Ecological):
The human receptors are the workers who might come in contact with contaminated soils during ereanatum of the tanks or construction projects. The ecological receptors are probably a greater concern because oil can be seen leaking out of the quay wall area of the lower base into the Thames River.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Calcium	157,000.0	11,000.0	14.270
Manganese and compounds	1,090.0	180.0	6.060
Vinyl chloride	12.0	2.0	6.000
Boron	19,000.0	3,300.0	5.760
Lead	9.4	4.0	2.350
Dichloroethylene, 1,2- (mixture)	57.0	55.0	1.040
Cadmium and compounds	6.7	18.0	0.370
Benzene	5.0	39.0	0.130
Selenium	22.0	180.0	0.120
Carbon disulfide	2.0	21.0	0.100
		Total:	**36.423**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Oil has been observed migrating out into the Thames River from the Quay Wall.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Ecological receptors are potentially threatened in the Thames River. Human receptors are these workers who could potentially come in contact with groundwater when excavating tanks and construction projects.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00011 **Groundwater Category:** High (High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Mercury	83.4	23.0	3.630
Benzo[a]pyrene	17.0	6.1	2.790
Lead	383.0	400.0	0.960
Dibenz[ah]anthracene	5.2	6.1	0.850
Chrysene	19.0	24.0	0.790
Anthracene	12.0	19.0	0.630
Manganese and compounds	228.0	380.0	0.600
Arsenic (cancer)	12.3	22.0	0.560
Iron	11,600.0	23,000.0	0.500
Benzo[b]fluoranthene	17.0	61.0	0.280
		Total:	**11.594**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Contaminants could migrateto the Thames River. Oil has been observed migrating from the lo - wer base into the Thames River.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Human receptors might have access to contaminated soil during excavation tasks or construc - tion projects on the lower base. Ecological receptors do not come in direct contact with s - oils since the area.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00011 **Soil Category:** High
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 3/23/98

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00013

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: UNDERGROUND STORAGE TANK

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified as an UST during the IAS. The building was used to overhaul railroad engines in the 1930's and 1940's. There was a sump in the northwest corner of the building were lube oils were reported drained. The sump was sealed in the early 1980's.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Weathered petroleum products and lead have been identified in both the soil and ground water.

Brief Description of Receptors (Human and Ecological):
Both Humand and Ecological receptors could potentially come in contact with product oozing out of the quay wall into Thames River.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Lead	2,760.0	4.0	690.000
Calcium	157,000.0	11,000.0	14.270
Manganese and compounds	2,290.0	180.0	12.720
Vinyl chloride	12.0	2.0	6.000
Boron	19,000.0	3,300.0	5.760
Cadmium and compounds	21.0	18.0	1.170
Dichloroethylene, 1,2- (mixture)	57.0	55.0	1.040
Aluminum	26,100.0	37,000.0	0.710
Carbon disulfide	3.0	21.0	0.140
Benzene	5.0	39.0	0.130
		Total:	**732.315**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Groundwater shows low levels of weathered petroleum products and groundwater flows to the Thames River.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Human receptors could come in contact with any product carried or oozing from the quay wall into the Thames River.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00013 **Groundwater Category:** High (High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Lead	10,600.0	400.0	26.500
Iron	16,900.0	23,000.0	0.730
Manganese	208.0	330.0	0.630
Arsenic (cancer)	4.3	22.0	0.200
Aluminum	6,980.0	77,000.0	0.090
Vanadium	36.0	540.0	0.070
Cadmium and compounds	2.5	38.0	0.070
Beryllium and compounds	0.34	14.0	0.020
Copper and compounds	59.6	2,800.0	0.020
Mercury	0.48	23.0	0.020
		Total:	**28.389**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Analytical results show weathered petroleum products with low VOC levels.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Human receptors have been identified (Utility workers).

Activity Name NEW LONDON CT NSB

Site Name: SITE 00013

Soil Category: High
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 3/23/98

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00014

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: SURFACE DISPOSAL AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** Med

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified as a surface disposal area during the IAS. Several filter drums were identified at this location with suspected impacts near by surface drainage system. Disposal of refuse materials was suspected to have occurred here.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
During the Phase I RI and Phase II RI, little contamination was detected in the soils. Results of the ground water analysis in the area has indicated low levels of contamination.

Brief Description of Receptors (Human and Ecological):
Area is fenced off. There is a slight potential for receptors to come in contact with soils on the site.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Manganese	779.0	180.0	4.330
Iron	4,430.0	11,000.0	0.400
Carbon disulfide	1.0	21.0	0.050
Aluminum	171.0	37,000.0	0.000
Bis(2-ethylhexyl)phthalate	1.0	480.0	0.000
Zinc	9.1	11,000.0	0.000
		Total:	**4.786**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - *Analytical data or observable evidence indicates that* contamination in the media is moving away from the source.

Potential - *Possibility for contamination* to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: GW flows toward the Area A Wetland. Therefore, there exists the possibility of contaminan - ts to migrate to a point of exposure

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: *GW is this area could potentially be used for DW.*

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00014 **Groundwater Category:** Med
(High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Iron	38,000.0	23,000.0	1.650
Lead	403.0	400.0	1.010
Manganese and compounds	330.0	380.0	0.870
Arsenic (noncancer)	16.3	22.0	0.740
Aluminum	18,100.0	77,000.0	0.240
Vanadium	56.3	540.0	0.100
Calcium	1,950.0	23,000.0	0.080
Cadmium and compounds	1.2	38.0	0.030
Chromium (total)	61.8	3,000.0	0.020
Benzo[a]pyrene	0.085	6.1	0.010
		Total:	**4.773**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Low levels of contamination have been observed down gradient of the site.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Brief Rationale for Selection: Access is limited. It is unlikely human receptors would come in contact with the soils.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00014 **Soil Category:** Low
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 1/22/97

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00016

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: SURFACE DISPOSAL AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** Low

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified during the IAS as the hospital.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
There might be a potential soils pathway if any ash came in contact with the soils. There is no data available.

Brief Description of Receptors (Human and Ecological):
Since most of the site is under an asphalt parking lot, there are limited receptors.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req
A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati
(or RFA) phase that has not been entered into RMIS.

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Arsenic (cancer)	150.0	22.0	6.820
Fluoranthene	38.0	2,600.0	0.010
DDT	0.38	130.0	0.000
		Total:	**6.836**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Insufficient information exists to support an MPF of evident or confined.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Brief Rationale for Selection: Site is paved, therefore it is unlikely receptors could come in contact with soils.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00016 **Soil Category:** Low
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 3/23/98

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00017

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: STORAGE AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** Med

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
Bldg 31 was used as the main haz/flamm material warehouse from the 1970's to the present. A time critical removal action was completed within the foot print of the building. Lead contamination still exists outside the perimeter of the building.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Soil - direct contact construction workers.

Brief Description of Receptors (Human and Ecological):
Human - construction workers.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Lead	6,060.0	400.0	15.150
		Total:	**15.150**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Brief Rationale for Selection: Elevated levels of lead contamination have been found in the soils.

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Brief Rationale for Selection: Any construction in this area would create the potential for exposure.

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00017 **Soil Category:** Med
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 11/6/95

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00018

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: STORAGE AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** Med

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
Bldg 33 is currently used to store 55 gallon drums of solvents.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Workers - contact with soils.

Brief Description of Receptors (Human and Ecological):
Human - direct contact.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req
A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati
(or RFA) phase that has not been entered into RMIS.

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Lead	1,540.0	400.0	3.850
Manganese and compounds	230.0	380.0	0.610
		Total:	**4.455**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

Potential - *Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined*

Brief Rationale for Selection: *Insufficient information exists to support a MPF of evident or confined.*

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Brief Rationale for Selection: Access is not restricted.

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00018 **Soil Category:** Med
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 2/26/99

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00019

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: STORAGE AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** Low

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This building is currently used to store 5 gallon drums of acetone.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
The direct contact with soils pathway could exist. Site is in close proximity to the Thames River, therefore, there is potential for migration to this water body.

Brief Description of Receptors (Human and Ecological):
Human receptors possibly exist in the form of utility workers. Receptors associated with the Thames river could potentially come in contact with site contaminants.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Antimony and compounds	11.4	15.0	0.760
Barium and compounds	344.0	2,600.0	0.130
Zinc	105.0	11,000.0	0.010
Copper and compounds	1.6	1,400.0	0.000
Mercury	0.01	11.0	0.000
		Total:	**0.900**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): X

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Site is adjacent to the Thames River, therefore, there is potential for GW contaminants to - migrate.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Utility workers could come in contact with GW contaminants.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00019 **Groundwater Category:** Low
(High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Nickel and compounds	1,280.0	1,500.0	0.850
Iron	5,220.0	23,000.0	0.230
Manganese and compounds	76.4	380.0	0.200
Arsenic (cancer)	3.8	22.0	0.170
Lead	57.1	400.0	0.140
Aluminum	3,770.0	77,000.0	0.050
Vanadium	8.7	540.0	0.020
Benzo[a]pyrene	0.059	6.1	0.010
Dibenz[ah]anthracene	0.059	6.1	0.010
Barium and compounds	24.5	5,300.0	0.000
		Total:	**1.681**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): X

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Insufficient information exists to support a MPF of evident or confined.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Access is restricted, but utility workers could come in contact with soils during excavati - on operations.

Activity Name NEW LONDON NSB **Site Name:** SITE 00019 **Soil Category:** Low
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 3/4/99

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SWH SEDH SEDEF SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00020

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: STORAGE AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified as a storage area. A wide variety of high explosives including demolition charges, boosters, hand grenades, igniters, detonators, primers, and MK 37, 48 and 107 warheads were stored in magazines. Facility is currently used for the same type of operations.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Ground water flows toward the Area A Wetlands.

Brief Description of Receptors (Human and Ecological):
Ecological and human receptors could potentially came in contact with contaminated soil that could wash from the weapons area into the wetlands and downstream water course area.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Manganese	6,540.0	180.0	36.330
Arsenic (cancer)	19.9	4.5	4.420
Lead	16.8	4.0	4.200
Iron	43,700.0	11,000.0	3.970
Cyanide (free)	2,530.0	730.0	3.470
Boron	3,810.0	3,300.0	1.150
Antimony and compounds	15.0	15.0	1.000
Beryllium and compounds	1.4	1.6	0.880
Aluminum	9,210.0	37,000.0	0.250
Chromium VI and compounds	25.0	180.0	0.140
		Total:	**56.272**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: There is potential for contaminants in the GW to flow toward the wetlands.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: GW in this area could potentially be used for DW.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00020 **Groundwater Category:** Med
(High, Medium, Low)

Surface Water Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Arsenic (cancer)	2.6	4.5	0.580
Cadmium and compounds	6.6	18.0	0.370
Manganese and compounds	48.0	182.5	0.260
Iron	1,100.0	11,000.0	0.100
Zinc	135.0	11,000.0	0.010
Barium and compounds	6.8	2,600.0	0.000
di-n-Octyl phthalate	1.0	730.0	0.000
Butyl benzyl phthalate	2.0	7,300.0	0.000
		Total:	**1.322**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): X

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Confined - Information indicates a low potential for contamination to a potential point of exposure (could by due to the presence of geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Analytical results of surface discharge outlet from Weapons Center show elevated levels of - cyanide.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water

Limited - Little or no potential for receptors to have access to surface water

Potential - Potential for receptors to have access to surface water

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Surface water discharges outlet flows toward Area A wetlands and downstream water cause. E - cological receptors.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00020 **Surface Water Human Category:** Low
(High, Medium, Low)

Sediment Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Manganese	2,640.0	330.0	8.000
Iron	51,600.0	23,000.0	2.240
Cadmium and compounds	29.5	38.0	0.780
Benzo[a]pyrene	4.4	6.1	0.720
Arsenic (cancer)	13.5	22.0	0.610
Lead	204.0	400.0	0.510
Antimony and compounds	15.0	31.0	0.480
Aluminum	26,400.0	77,000.0	0.340
Chrysene	4.3	24.0	0.180
Dibenz[ah]anthracene	0.87	6.1	0.140
		Total:	**14.541**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Contaminants in the sediments could migrate toward a point of exposure for receptors in Area A Wetlands.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Human receptors could come in contact with the sediments.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00020 **Sediment Human Category:** Med (High, Medium, Low)

Sediment Eco Fresh

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard mg/Kg	Ratio (2)
Chrysene	4.3	0.06	71.670
Cadmium and compounds	29.5	0.6	49.170
Benzo[a]pyrene	4.4	0.37	11.890
Lead	204.0	31.0	6.580
Iron	51,600.0	20,000.0	2.580
Arsenic (cancer)	13.5	6.0	2.250
Dibenz[ah]anthracene	0.87	0.0	0.000
Aluminum	26,400.0	0.0	0.000
Antimony and compounds	15.0	0.0	0.000
Manganese and compounds	2,640.0	0.0	0.000
		Total:	**144.140**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Contaminates in the sediments could migrate toward the Area A Wetlands.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Although limited receptors exists in the wetlands, there is potential for receptors to com - e in contact with contaminated sediments.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00020 **Sediment Fresh Category:** High
(High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Iron	28,600.0	23,000.0	1.240
Manganese	390.0	330.0	1.180
Arsenic (cancer)	10.8	22.0	0.490
Benzo[a]pyrene	1.8	6.1	0.300
Aluminum	18,200.0	77,000.0	0.240
Antimony and compounds	5.4	31.0	0.170
Lead	66.0	400.0	0.170
Chrysene	2.3	24.0	0.100
Dibenz[ah]anthracene	0.57	6.1	0.090
Beryllium and compounds	0.84	14.0	0.060
		Total:	**4.293**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - *Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure*

Potential - *Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined*

Confined - *Low possibility for contamination to be present at or migrate to a point of exposure*

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Contaminants could migrate due to erosion into the Area A Wetlands or Downstream site.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - *Little or no potential for receptors to have access to contaminated soil*

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: *Both human and ecological receptors could come in contact with the soils.*

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00020 **Soil Category:** Med
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Location (State): CT

Site (Name/RMIS ID) / Project for FUDS: SITE 00021

RMIS Site Type: POL (PETROLEUM/LUBRICANTS) LINES

Point of Contact (Name/Phone):

Date Entered (Day, Month, Year): 3/23/98

Media Evaluated (GW, SW, Sediment, Soil): GW SEDH SEDEM SOIL

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified as a POL site. This site was previously used for coal storage. Between 1918 and 1944, buildings 173, 157, 106 and incinerator were constructed for use as an electrical substation, a photo lab, electronics shop and a periscope reserve fleet. There were two known USTs.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
One area at the site had high concentrations of lead in the soil. Utility trenches could provide preferential pathways for contaminant migration to the Thames River.

Brief Description of Receptors (Human and Ecological):
Human receptors could possibly come in contact with contaminated soils and groundwater during excavation or construction of the site. Since the site is located with in 200 ft. of the Thames River and the maze of underground utilities and structure could offer preferential flow paths for contaminants.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Lead	117.0	4.0	29.250
Manganese and compounds	3,490.0	180.0	19.390
Calcium	96,900.0	11,000.0	8.810
Barium and compounds	398.0	2,600.0	0.150
Chloroform	2.0	16.0	0.130
Zinc	816.0	11,000.0	0.070
Acenaphthene	10.0	370.0	0.030
Cobalt	4.4	180.0	0.020
Copper and compounds	24.4	1,400.0	0.020
Methylnaphthalene, 2-	3.0	0.0	0.020
		Total:	**57.918**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Because of extensive underground utilities and structures there could be preferential flow - paths for contaminants to the Thames River.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: The site is located on the Thames River. GW could potentially be used for DW.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00021 **Groundwater Category:** Med
(High, Medium, Low)

Sediment Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Manganese and compounds	111.0	380.0	0.290
Lead	102.0	400.0	0.250
Calcium	1,910.0	23,000.0	0.080
Arsenic (cancer endpoint)	1.4	22.0	0.060
Aluminum	3,380.0	77,000.0	0.040
Copper and compounds	107.0	2,800.0	0.040
Vanadium	10.7	540.0	0.020
Nickel and compounds	21.5	1,500.0	0.010
Beryllium and compounds	0.2	14.0	0.010
Cadmium and compounds	0.46	38.0	0.010
		Total:	**0.868**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): X

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Utility trenches provide preferential flow paths. Data suggests that contamination could - move toward a point of exposure in the Thames River.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Human receptors in this area coming in contact with the sediments is unlikely.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00021 **Sediment Human Category:** Low
(High, Medium, Low)

Sediment Eco Marine

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Calcium	1,910.0	120.0	15.920
Copper and compounds	107.0	7.0	15.290
Phenanthrene	0.9	0.225	4.000
Lead	102.0	35.0	2.910
Chromium (total)	14.1	8.0	1.760
Pyrene	0.5	0.35	1.430
Silver and compounds	1.2	1.0	1.200
Zinc	101.0	120.0	0.840
Nickel and compounds	21.5	30.0	0.720
Mercury and compounds (inorganic)	0.08	0.15	0.530
		Total:	**44.781**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Data suggest contamination could move toward a point of exposure in the Thames River.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Ecological receptors in the Thames River have been identified.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00021 **Sediment Marine Category:** High
(High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Lead	189,000.0	400.0	472.500
Manganese and compounds	162.0	380.0	0.430
Arsenic (cancer endpoint)	7.8	22.0	0.350
Antimony and compounds	7.8	31.0	0.250
Calcium	5,480.0	23,000.0	0.240
Benzo[a]pyrene	0.72	6.1	0.120
Barium and compounds	364.0	5,300.0	0.070
Aluminum	4,510.0	77,000.0	0.060
Dibenz[ah]anthracene	0.19	6.1	0.030
Chrysene	0.69	24.0	0.030
		Total:	**474.215**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: There is potential for soil to get washed into the storm sewer and into the Thames River.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Human receptors could come in contact with contaminated soils during excavation or constru - ction projects. Ecological receptors would not normally have access since most of the sit - e is asphalt.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00021 **Soil Category:** High
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 11/27/96

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SEDH SEDEM SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00022

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: SURFACE DISPOSAL AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified as an UST site. In 1946 this area of Subase was extensively renovated to berth the reserve fleet. Building 175 is located at the site was constructed for battery electrolyte storage and was completely filled with large above ground storage tanks (ASTs) which were connected to piers by underground piping. There appeared to be some stained soils near fill pipes for UST heating oil storage.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Soils were found to contain moderate to high concentrations of petroleum hydrocarbons, and lead. Elevated levels of inorganics were detected in ground water. Utility trenches provide the possibility of preferential pathways for contaminant migration.

Brief Description of Receptors (Human and Ecological):
Human receptors could possibly come in contact with contaminated soils and groundwater during excavation of the site. Since the site is located so close to the river and the maze of underground utilities the possibility of preferential flow paths could exist to the Thames River.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Manganese and compounds	4,140.0	180.0	23.000
Arsenic (cancer endpoint)	34.3	4.5	7.620
Calcium	72,800.0	11,000.0	6.620
Lead	2.2	4.0	0.550
Methylnaphthalene, 2-	75.0	0.0	0.420
Naphthalene	73.0	240.0	0.300
Cobalt	11.5	180.0	0.060
Boron	206.0	3,300.0	0.060
Barium and compounds	72.8	2,600.0	0.030
Fluorene	4.0	240.0	0.020
		Total:	**38.709**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: There is not enough GW data available to support an MPF of evident or confined

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: GW could possible be used for drinking water.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00022 **Groundwater Category:** Med (High, Medium, Low)

Sediment Human

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Antimony and compounds	9,270.0	31.0	299.030
Lead	85,600.0	400.0	214.000
Benzo[a]pyrene	18.0	6.1	2.950
Chrysene	19.0	24.0	0.790
Anthracene	9.5	19.0	0.500
Benzo[b]fluoranthene	26.0	61.0	0.430
Cadmium and compounds	12.4	38.0	0.330
Benz[a]anthracene	17.0	61.0	0.280
Manganese and compounds	72.8	380.0	0.190
Indeno[1,2,3-cd]pyrene	9.9	61.0	0.160
		Total:	**519.221**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Migration of sediments is possible both up and down the river due to tidal influences.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Brief Rationale for Selection: It is unlikely that human receptors would come in contact with the sediments in this area.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00022 **Sediment Human Category:** Med
(High, Medium, Low)

Sediment Eco Marine

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Antimony and compounds	9,270.0	2.0	4635.000
Lead	85,600.0	35.0	2445.710
Chrysene	19.0	0.06	316.670
Fluorene	8.0	0.035	228.570
Phenanthrene	40.0	0.225	177.780
Anthracene	9.5	0.085	111.760
Pyrene	31.0	0.35	88.570
Benz[a]anthracene	17.0	0.23	73.910
Fluoranthene	44.0	0.6	73.330
Copper and compounds	342.0	7.0	48.860
		Total:	**8363.725**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): X

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, is moving toward, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contamination to a potential point of exposure (could be due to the presence of geological structures or or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Contaminants in the sediments could migrate in the Thames River due to Tidal influences an - d the utility trenches being a preferential pathway.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to sediment

Potential - Potential for receptors to have access to sediment

Limited - Little or no potential for receptors to have access to sediment

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Receptors in the Thames River have been identified.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00022 **Sediment Marine Category:** High (High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Manganese and compounds	150.0	380.0	0.390
Lead	48.4	400.0	0.120
Arsenic (cancer endpoint)	1.5	22.0	0.070
Aluminum	4,980.0	77,000.0	0.060
Calcium	881.0	23,000.0	0.040
Vanadium	15.6	540.0	0.030
Beryllium and compounds	0.27	14.0	0.020
Cobalt	4.7	380.0	0.010
Copper and compounds	19.7	2,800.0	0.010
Barium and compounds	35.4	5,300.0	0.010
		Total:	**0.783**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): X

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: There is a potential for soil to get washed into the storm sewer and into the Thames River -

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Human receptors could come in contact with contaminated soils during excavation projects. -

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00022 **Soil Category:** Low
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Location (State): CT

Site (Name/RMIS ID) / Project for FUDS: SITE 00023

RMIS Site Type: UNDERGROUND TANK FARM

Point of Contact (Name/Phone): Jeff Sullivan

Date Entered (Day, Month, Year): 2/25/99

Media Evaluated (GW, SW, Sediment, Soil): GW SOIL

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage): RI

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

National Priority List (Y/N): No **Site Rank:** High

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site has been identified as a fuel farm. There are a series of nine USTs under a ball field. The tanks were installed in the early 1940's in an area that once was the site of a shallow lake. All tanks have been taken out of service. Fuel oil has been discovered in storm drains in the tank farm area.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Through a extensive drilling program, ground water has been analyzed and have shown levels of petroleum hydrocarbons (fuel oil). Some free product has been seen floating in some wells.

Brief Description of Receptors (Human and Ecological):
Human receptors will come in contact with contaminated GW during excavation/construction projects. Ecological receptors could come in contact with storm water out fall discharge to Thames River.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req
A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati
(or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Benzene	1,700.0	39.0	43.590
Xylene (mixed)	1,180.0	1,400.0	0.840
Ethylbenzene	990.0	1,300.0	0.760
Toluene	115.0	720.0	0.160
		Total:	**45.354**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that *contamination in the media is moving away from the source.*

Confined - Information indicates that the potential for *contaminant migration from the source is limited* (due to geological structures or physical controls)

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

(Place an "X" next to one below)

Evident: X

Potential: _____

Confined: _____

Brief Rationale for Selection: Free product (fuel oil) has been observed leaving at the discharge points of storm drains - into the Thames River.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Ecological factors can come in contact with fuel oil leaving the storm drain system into T - hames River.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00023 **Groundwater Category:** High (High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Ethylbenzene	0.035	690.0	0.000
Xylene (mixed)	0.035	990.0	0.000
Benzene	0.003	140.0	0.000
Toluene	0.007	1,900.0	0.000
		Total:	**1.11E-04**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): _____

Minimal (If Total < 2): X

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: X

Brief Rationale for Selection: Analytical results indicate fuel oil in soil and groundwater.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: X

Potential: _____

Limited: _____

Brief Rationale for Selection: Human receptors would come in contact with contaminated soils during excavation or construction. Ecological receptors would not come in contact with the soils.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00023 **Soil Category:** Low
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 11/27/96

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00024

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: STORAGE AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** Low

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
This site was identified during the 1991 multimedia inspection as a potential area of contamination.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Limited data exists for this site.

Brief Description of Receptors (Human and Ecological):
Human receptors limited to workers in the paint facility.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req
A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati
(or RFA) phase that has not been entered into RMIS.

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Lead	1,540.0	400.0	3.850
		Total:	**3.850**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Limited data. Migration appears to be confined to the building if any as occurred at all.

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: _____

Potential: _____

Limited: X

Brief Rationale for Selection: Limited data. Little or no potential for human receptors.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00024 **Soil Category:** Low
(High, Medium, Low)

RELATIVE RISK EVALUATION WORKSHEET

SITE (1) BACKGROUND INFORMATION

Installation/Site Name for FUDS NEW LONDON CT NSB

Date Entered (Day, Month, Year): 2/25/99

Location (State): CT

Media Evaluated (GW, SW, Sediment, Soil): GW SOIL

Site (Name/RMIS ID) / Project for FUDS: SITE 00025

Phase of Exec. (SI, RI, FS, Remv, RD/RA, or equiv. RCRA Stage):

RMIS Site Type: SURFACE DISPOSAL AREA

Agr. Status (Y/N, If yes, type of agreement e.g., FFA, Permit, Order) Yes

Point of Contact (Name/Phone):

National Priority List (Y/N): No **Site Rank:** Med

SITE SUMMARY

(Include only key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (Include site type, materials disposed of, dates of operation, and other relevant information):
Bldg 97 was used from 1944 to 1963 to burn classified materials and other solid wastes.

Brief Description of Pathways (Groundwater, Surface Water, Sediment, Soil):
Located in lower base adjacent to Thames River.

Brief Description of Receptors (Human and Ecological):
Human-workers eco-Thames River.

(1) Use to record information on Sites and Areas of Concern (AOC) for Relative Risk Site Evaluation. The term Site is defined as a discrete area for which suspected contamination has been verified and req A Site by definition has been, or will be, entered into RMIS. For the FUDS Program, "projects" equates to sites for current installations. An AOC is a discrete area of contamination, or suspected contaminati (or RFA) phase that has not been entered into RMIS.

Ground Water

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. ug/L	Standard ug/L	Ratio (2)
Lead	117.0	4.0	29.250
Manganese and compounds	3,490.0	180.0	19.390
Calcium	96,900.0	11,000.0	8.810
Arsenic (cancer)	11.0	4.5	2.440
Barium and compounds	398.0	2,600.0	0.150
Chloroform	2.0	16.0	0.130
Zinc	816.0	11,000.0	0.070
Acenaphthene	10.0	370.0	0.030
Cobalt	4.4	180.0	0.020
Copper and compounds	24.4	1,400.0	0.020
		Total:	**60.364**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is moving away from the source.

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates that the potential for contaminant migration from the source is limited (due to geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: TPH observed in groundwater. Site is adjacent to the Thames River.

RECEPTOR FACTOR (RF)

Identified - There is a threatened or potentially threatened water supply downgradient of the source. The GW (cont. or not) is a current drinking water source or is equiv. to (Class I or IIA aquifer).

Potential - There is no potentially threatened water supply well downgradient of the source. The groundwater is potentially usable for DW, irrigation or agriculture, but not presently used (Class IIB aquifer).

Limited - There is no potentially threatened water supply well downgradient of the source. The groundwater is not considered a potential source of DW or is of limited benificial use (IIIA, IIIB or perched aquifer).

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Utility workers could come in contact with the GW.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00025 **Groundwater Category:** Med
(High, Medium, Low)

Soil

CONTAMINANT HAZARD FACTOR (1) (CHF)

Contaminant	Maximum Conc. mg/Kg	Standard mg/Kg	Ratio (2)
Lead	726.0	400.0	1.820
Manganese and compounds	162.0	380.0	0.430
Antimony and compounds	7.8	31.0	0.250
Calcium	5,480.0	23,000.0	0.240
Benzo[a]pyrene	0.72	6.1	0.120
Barium and compounds	364.0	5,300.0	0.070
Arsenic (cancer endpoint)	1.4	22.0	0.060
Aluminum	4,510.0	77,000.0	0.060
Dibenz[ah]anthracene	0.19	6.1	0.030
Chrysene	0.69	24.0	0.030
		Total:	**3.239**

(1) Evaluate for human contaminants only
(2) Ratio = Maximum Concentration/Standard
Note: Only top ten contaminants are displayed.

(Place an "X" next to one below)

Significant (If Total > 100): _____

Moderate (If Total 2 - 100): X

Minimal (If Total < 2): _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination is present at, is moving towards, or has moved to a point of exposure

Potential - Possibility for contamination to be present at or migrate to a point of exposure; or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: X

Confined: _____

Brief Rationale for Selection: Elevated levels of lead have been observed in soils. Data suggest that the contamination c - ould be moving toward the Thames River

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Identified: _____

Potential: X

Limited: _____

Brief Rationale for Selection: Workers in area could come in contact with the soils.

Activity Name NEW LONDON CT NSB **Site Name:** SITE 00025 **Soil Category:** Med
(High, Medium, Low)

APPENDIX C

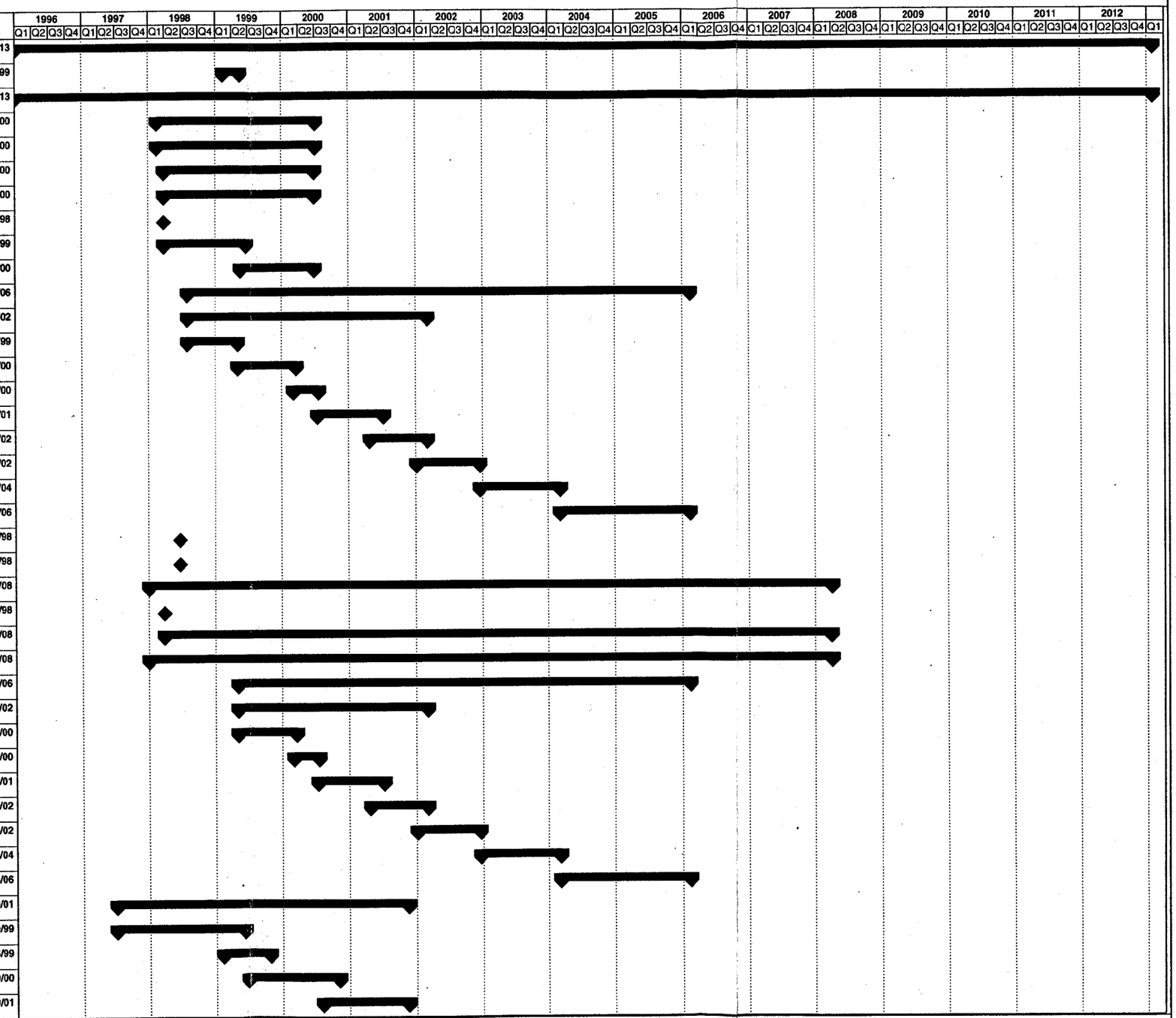
SUMMARY AND DETAILED SCHEDULES

Summary Schedule
Milestone Schedule
Site Management Plan
Site 2
Site 3
Basewide Groundwater OU
Site 6
Site 7
Site 8
Site 14
Site 16
Site 18
Site 20
Lower Subase Schedule

SUMMARY SCHEDULE
NSB-NLON

Rev. 3 March 1999

ID	Task Name	Duration	Start	Finish
1	NSB-NLON IRP	6242 days	1/1/96	2/1/13
2	ANNUAL SITE MANAGEMENT PLAN UPDATE	94 days	2/15/99	5/19/99
10	SUBASE SITES 2,3,4,6,7,8,14,16,18,20	6242 days	1/1/96	2/1/13
11	SITE 2 - AREA A LANDFILL POST CONSTRUCTION MONITORING	868 days	2/19/98	7/5/00
12	MONITORING PLANS	868 days	2/19/98	7/5/00
49	SITE 3 - AREA A DOWNSTREAM AND OBDA	823 days	3/31/98	6/30/00
50	SOILS AND SEDIMENTS OPERABLE UNIT	823 days	3/31/98	6/30/00
51	PRAP/ROD	0 days	3/31/98	3/31/98
53	RD	448 days	3/31/98	6/21/99
68	RA	407 days	5/21/99	6/30/00
74	BASEWIDE GROUNDWATER OPERABLE UNIT	2749 days	8/6/98	2/13/06
75	RI/FS	1311 days	8/6/98	3/8/02
76	EDSR	273 days	8/6/98	5/5/99
88	Work Plan	320 days	5/6/99	3/20/00
104	RI Field Work	140 days	3/6/00	7/23/00
108	RI Report	360 days	7/17/00	7/11/01
125	Feasibility Study	315 days	4/28/01	3/8/02
140	PRAP/ROD	347 days	1/8/02	12/20/02
166	RD	444 days	12/21/02	3/8/04
189	RA	707 days	3/9/04	2/13/06
195	SITE 4 - RUBBLE FILL AREA AT BUNKER A-86	0 days	6/26/98	6/26/98
196	PRAP/ROD	0 days	6/26/98	6/26/98
198	SITE 6 - DRMO	3741 days	1/4/98	4/1/08
199	PRAP/ROD	0 days	3/31/98	3/31/98
201	OPERATION AND MAINTENANCE	3652 days	3/31/98	3/29/08
203	LONG TERM MONITORING	3741 days	1/4/98	4/1/08
228	SITE 7 - TORPEDO SHOPS	2476 days	5/6/99	2/13/06
229	DATA GAP INVESTIGATION (DGI)/FS	1038 days	5/6/99	3/8/02
230	Work Plan	320 days	5/6/99	3/20/00
245	Field Work	140 days	3/6/00	7/23/00
249	Field Report	360 days	7/17/00	7/11/01
266	Feasibility Study	315 days	4/28/01	3/8/02
281	PRAP/ROD	347 days	1/8/02	12/20/02
307	RD (If Needed)	444 days	12/21/02	3/8/04
330	RA (If Needed)	707 days	3/9/04	2/13/06
336	SITE 8 - GOSS COVE LANDFILL	1599 days	7/6/97	11/20/01
337	FEASIBILITY STUDY	705 days	7/6/97	6/10/99
363	PRAP/ROD	258 days	2/11/99	10/26/99
389	RD	500 days	6/29/99	11/9/00
112	RA	466 days	8/12/00	11/20/01



Project: NLONPJ86
Date: 3/18/99

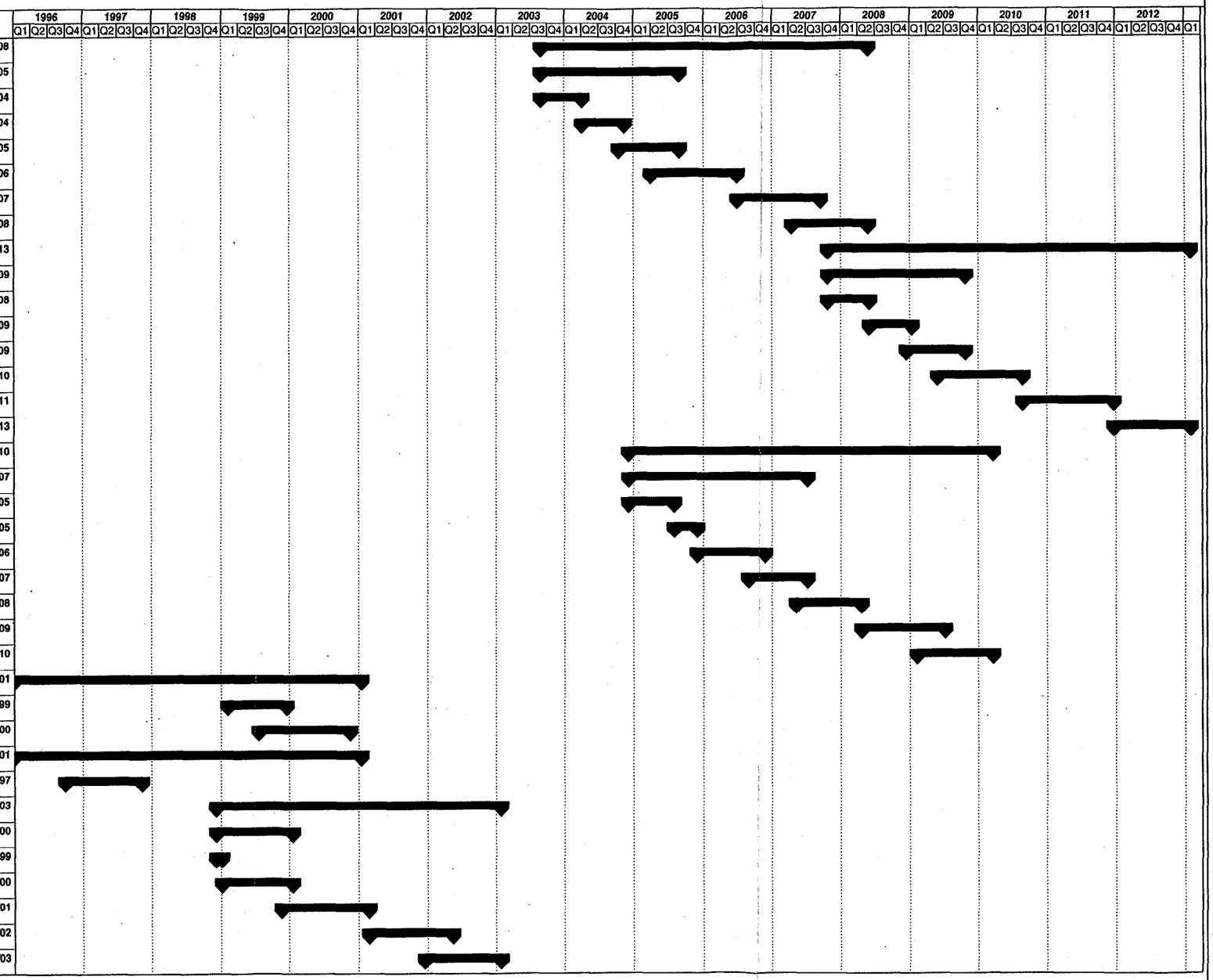
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

0161814Z

SUMMARY SCHEDULE
NSB-NLON

Rev. 3 March 1999

ID	Task Name	Duration	Start	Finish
418	SITE 14 - OBDANE	1733 days	8/30/03	5/27/08
419	DATA GAP INVESTIGATION (DGI)/FS	731 days	8/30/03	8/29/05
420	Work Plan	220 days	8/30/03	4/5/04
431	Field Work	225 days	4/6/04	11/16/04
442	Feasibility Study	316 days	10/18/04	8/29/05
457	PRAP/ROD	455 days	4/2/05	6/30/06
483	RD (if Needed)	444 days	7/1/06	9/17/07
506	RA (if Needed)	406 days	4/18/07	5/27/08
512	SITE 16 - HOSPITAL INCINERATORS	1926 days	10/26/07	2/1/13
513	DATA GAP INVESTIGATION (DGI)/FS	732 days	10/26/07	10/26/09
514	Work Plan	221 days	10/26/07	6/2/08
525	Field Work	225 days	6/3/08	1/13/09
536	Feasibility Study	316 days	12/15/08	10/26/09
551	PRAP/ROD	455 days	5/30/09	8/27/10
577	RD (if Needed)	482 days	8/28/10	12/22/11
600	RA (if Needed)	407 days	12/23/11	2/1/13
606	SITE 18 - SOLVENT STORAGE AREA (BLDG. 33)	1932 days	12/8/04	3/23/10
607	RI/FS	944 days	12/8/04	7/9/07
608	RI Work Plan	238 days	12/8/04	8/2/05
619	RI Field Work	120 days	8/3/05	11/30/05
623	RI Report	362 days	12/1/05	11/27/06
640	Feasibility Study	315 days	8/29/06	7/9/07
655	PRAP/ROD	347 days	5/11/07	4/21/08
681	RD (if Needed)	444 days	4/22/08	7/9/09
704	RA (if Needed)	407 days	2/10/09	3/23/10
710	SITE 20 - AREA A WEAPONS CENTER (SOURCE CONTROL)	1843 days	1/1/96	1/16/01
711	FEASIBILITY STUDY (SOURCE CONTROL)	315 days	2/9/99	12/20/99
726	PRAP/ROD	483 days	7/24/99	11/17/00
752	RD (if Needed)	1843 days	1/1/96	1/16/01
774	RA (if Needed)	407 days	10/1/96	11/11/97
780	LOWER SUBASE SITES 10,11,13,17,19,21,22,24,25	1512 days	12/9/98	1/28/03
781	RI/FS	409 days	12/9/98	1/21/00
782	Remedial Investigation Report	30 days	12/9/98	1/7/99
785	Feasibility Study	379 days	1/8/99	1/21/00
800	PRAP/ROD	462 days	11/23/99	2/26/01
826	RD	444 days	2/27/01	5/16/02
849	RA	407 days	12/18/01	1/28/03



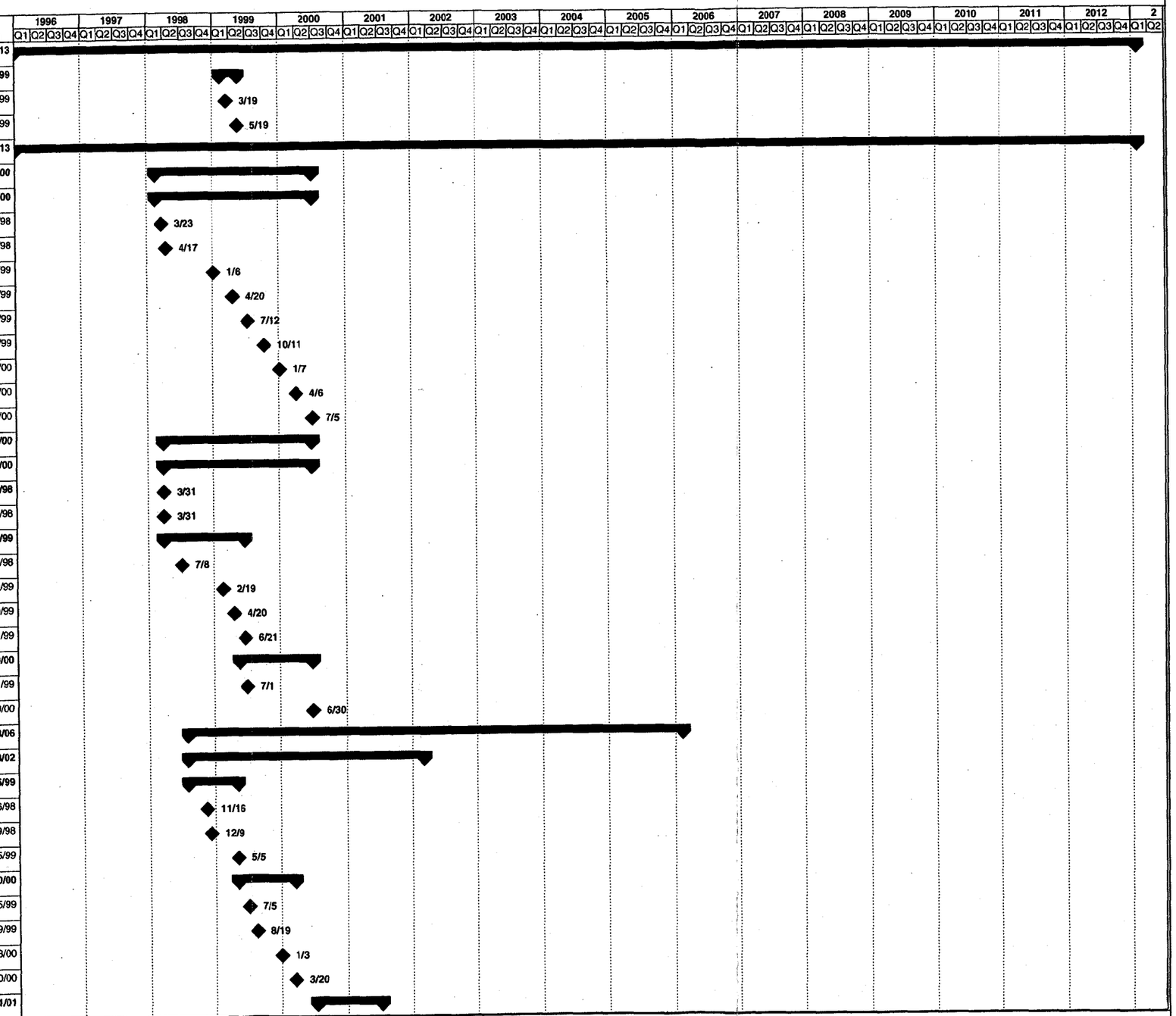
Project: NLONPJB6
Date: 3/18/99

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618152

MILESTONE SCHEDULE
NSB-NLON

ID	Task Name	Duration	Start	Finish
1	**NSB-NLON IRP**	**6242 days**	**1/1/96**	**2/1/13**
2	**ANNUAL SITE MANAGEMENT PLAN UPDATE**	**94 days**	**2/15/99**	**5/19/99**
4	DRAFT AMENDED SMP	0 days	3/19/99	3/19/99
9	RESPOND TO REGULATOR COMMENTS	0 days	5/19/99	5/19/99
10	**SUBASE SITES 2,3,4,6,7,8,14,16,18,20**	**6242 days**	**1/1/96**	**2/1/13**
11	**SITE 2 - AREA A LANDFILL POST CONSTRUCTION MONITORING**	**868 days**	**2/19/98**	**7/5/00**
12	**MONITORING PLANS**	**868 days**	**2/19/98**	**7/5/00**
14	ROUGH DRAFT MONITORING PLAN	0 days	3/23/98	3/23/98
17	DRAFT MONITORING PLAN	0 days	4/17/98	4/17/98
24	DRAFT FINAL MONITORING PLAN	0 days	1/6/99	1/6/99
28	FINAL MONITORING PLAN	0 days	4/20/99	4/20/99
31	1st QUARTER DRAFT REPORT	0 days	7/12/99	7/12/99
34	2nd QUARTER DRAFT REPORT	0 days	10/11/99	10/11/99
37	3rd QUARTER DRAFT REPORT	0 days	1/7/00	1/7/00
40	YEAR 1 DRAFT FINAL REPORT	0 days	4/6/00	4/6/00
48	YEAR 1 FINAL REPORT	0 days	7/5/00	7/5/00
49	**SITE 3 - AREA A DOWNSTREAM AND OBDA**	**823 days**	**3/31/98**	**6/30/00**
50	**SOILS AND SEDIMENTS OPERABLE UNIT**	**823 days**	**3/31/98**	**6/30/00**
51	**PRAP/ROD**	**0 days**	**3/31/98**	**3/31/98**
52	FINAL ROD & SIGNATURES	0 days	3/31/98	3/31/98
53	**RD**	**448 days**	**3/31/98**	**6/21/99**
55	SAMPLING AND ANALYSIS PLAN FOR RD DGI	0 days	7/8/98	7/8/98
58	DRAFT PRELIMINARY DESIGN REPORT	0 days	2/19/99	2/19/99
62	DRAFT RD WORK PLAN	0 days	4/20/99	4/20/99
67	FINAL RD WORK PLAN	0 days	6/21/99	6/21/99
68	**RA**	**407 days**	**5/21/99**	**6/30/00**
71	Start of Construction	0 days	7/1/99	7/1/99
73	End of Construction	0 days	6/30/00	6/30/00
74	**BASEWIDE GROUNDWATER OPERABLE UNIT**	**2749 days**	**8/6/98**	**2/13/06**
75	**RI/FS**	**1311 days**	**8/6/98**	**3/8/02**
76	**EDSR**	**273 days**	**8/6/98**	**5/5/99**
78	ROUGH DRAFT EDSR	0 days	11/16/98	11/16/98
81	DRAFT EDSR	0 days	12/9/98	12/9/98
87	FINAL EDSR	0 days	5/5/99	5/5/99
88	**Work Plan**	**320 days**	**5/6/99**	**3/20/00**
90	ROUGH DRAFT RI WORK PLAN	0 days	7/5/99	7/5/99
93	DRAFT RI WORK PLAN	0 days	8/19/99	8/19/99
99	DRAFT FINAL RI WORK PLAN	0 days	1/3/00	1/3/00
103	FINAL RI WORK PLAN	0 days	3/20/00	3/20/00
108	**RI Report**	**360 days**	**7/17/00**	**7/11/01**



Project: NLONPJB6
Date: 3/18/99

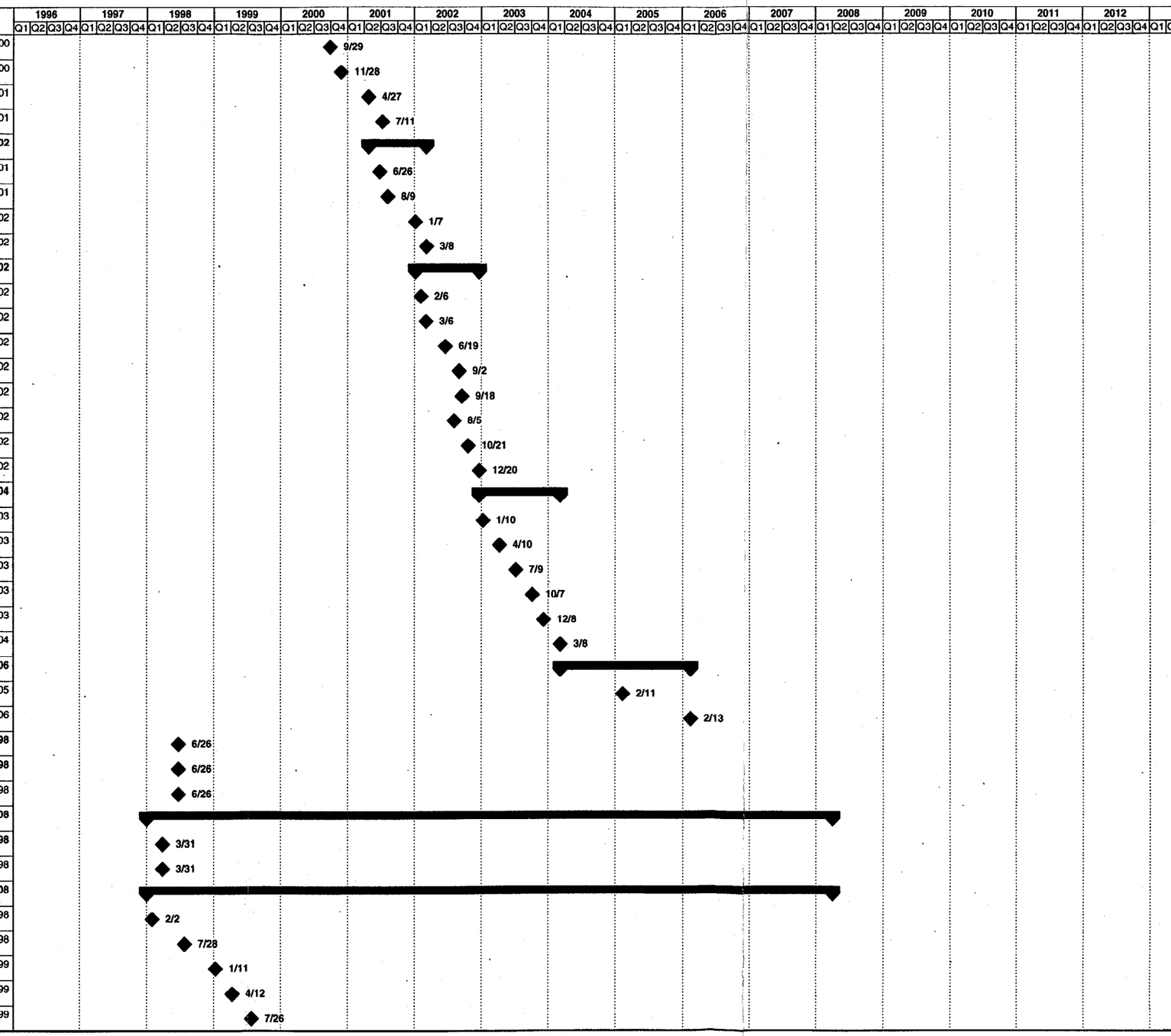
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618162

MILESTONE SCHEDULE
NSB-NLON

Rev.1 March 1999

ID	Task Name	Duration	Start	Finish
110	ROUGH DRAFT RI REPORT	0 days	9/29/00	9/29/00
114	DRAFT RI REPORT	0 days	11/28/00	11/28/00
120	DRAFT FINAL RI REPORT	0 days	4/27/01	4/27/01
124	FINAL RI REPORT	0 days	7/11/01	7/11/01
125	**Feasibility Study**	**315 days**	**4/28/01**	**3/8/02**
127	ROUGH DRAFT FS REPORT	0 days	6/26/01	6/26/01
130	DRAFT FS REPORT	0 days	8/9/01	8/9/01
136	DRAFT FINAL FS REPORT	0 days	1/7/02	1/7/02
139	FINAL FS REPORT	0 days	3/8/02	3/8/02
140	**PRAP/ROD**	**347 days**	**1/8/02**	**12/20/02**
142	ROUGH DRAFT PRAP	0 days	2/6/02	2/6/02
145	DRAFT PRAP	0 days	3/6/02	3/6/02
150	DRAFT FINAL PRAP	0 days	6/19/02	6/19/02
153	FINAL PRAP	0 days	9/2/02	9/2/02
155	PUBLIC MEETING ON FINAL PRAP	0 days	9/18/02	9/18/02
157	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	8/5/02	8/5/02
162	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	10/21/02	10/21/02
165	FINAL ROD & SIGNATURES	0 days	12/20/02	12/20/02
166	**RD**	**444 days**	**12/21/02**	**3/8/04**
168	SCOPE OF WORK FOR RD/RA	0 days	1/10/03	1/10/03
172	RD Work Plan (35%)	0 days	4/10/03	4/10/03
176	60% RD	0 days	7/9/03	7/9/03
180	85% RD	0 days	10/7/03	10/7/03
184	Final RD	0 days	12/8/03	12/8/03
188	RAWP(Secondary)	0 days	3/8/04	3/8/04
189	**RA**	**707 days**	**3/9/04**	**2/13/06**
192	Start of Construction	0 days	2/11/05	2/11/05
194	End of Construction	0 days	2/13/06	2/13/06
195	**SITE 4 - RUBBLE FILL AREA AT BUNKER A-86**	**0 days**	**6/26/98**	**6/26/98**
196	**PRAP/ROD**	**0 days**	**6/26/98**	**6/26/98**
197	FINAL ROD & SIGNATURES	0 days	6/26/98	6/26/98
198	**SITE 6 - DRMO**	**3741 days**	**1/4/98**	**4/1/08**
199	**PRAP/ROD**	**0 days**	**3/31/98**	**3/31/98**
200	FINAL ROD & SIGNATURES	0 days	3/31/98	3/31/98
203	**LONG TERM MONITORING**	**3741 days**	**1/4/98**	**4/1/08**
205	FINAL GROUNDWATER MONITORING PLAN	0 days	2/2/98	2/2/98
208	1st QUARTER DRAFT REPORT	0 days	7/28/98	7/28/98
211	2nd QUARTER DRAFT REPORT	0 days	1/11/99	1/11/99
214	3rd QUARTER DRAFT REPORT	0 days	4/12/99	4/12/99
217	YEAR 1 ROUGH DRAFT REPORT	0 days	7/26/99	7/26/99



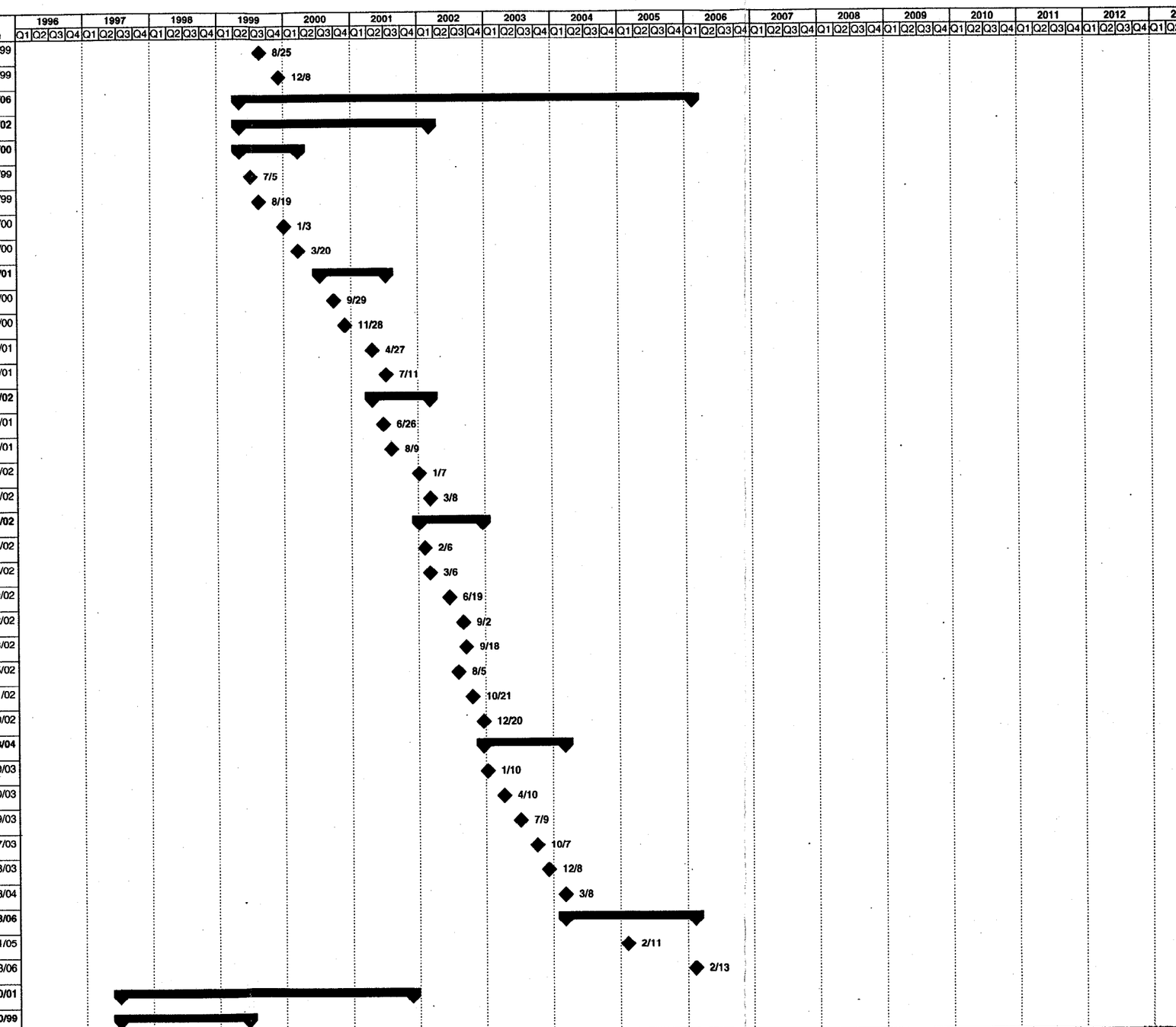
Project: NLONPJB6
Date: 3/18/99

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618172

MILESTONE SCHEDULE
NSB-NLON

ID	Task Name	Duration	Start	Finish
220	YEAR 1 DRAFT REPORT	0 days	8/25/99	8/25/99
226	YEAR 1 FINAL REPORT	0 days	12/8/99	12/8/99
228	**SITE 7 - TORPEDO SHOPS**	**2476 days**	**5/6/99**	**2/13/06**
229	**DATA GAP INVESTIGATION (DGI)/FS**	**1038 days**	**5/6/99**	**3/8/02**
230	**Work Plan**	**320 days**	**5/6/99**	**3/20/00**
232	ROUGH DRAFT DGI WORK PLAN	0 days	7/5/99	7/5/99
235	DRAFT DGI WORK PLAN	0 days	8/19/99	8/19/99
241	DRAFT FINAL DGI WORK PLAN	0 days	1/3/00	1/3/00
244	FINAL DGI WORK PLAN	0 days	3/20/00	3/20/00
249	**Field Report**	**360 days**	**7/17/00**	**7/11/01**
251	ROUGH DRAFT FIELD REPORT	0 days	9/29/00	9/29/00
255	DRAFT FIELD REPORT	0 days	11/28/00	11/28/00
261	DRAFT FINAL FIELD REPORT	0 days	4/27/01	4/27/01
265	FINAL FIELD REPORT	0 days	7/11/01	7/11/01
266	**Feasibility Study**	**315 days**	**4/28/01**	**3/8/02**
268	ROUGH DRAFT FS REPORT	0 days	6/26/01	6/26/01
271	DRAFT FS REPORT	0 days	8/9/01	8/9/01
277	DRAFT FINAL FS REPORT	0 days	1/7/02	1/7/02
280	FINAL FS REPORT	0 days	3/8/02	3/8/02
281	**PRAP/ROD**	**347 days**	**1/8/02**	**12/20/02**
283	ROUGH DRAFT PRAP	0 days	2/6/02	2/6/02
286	DRAFT PRAP	0 days	3/6/02	3/6/02
291	DRAFT FINAL PRAP	0 days	6/19/02	6/19/02
294	FINAL PRAP	0 days	9/2/02	9/2/02
296	PUBLIC MEETING ON FINAL PRAP	0 days	9/18/02	9/18/02
298	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	8/5/02	8/5/02
303	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	10/21/02	10/21/02
306	FINAL ROD & SIGNATURES	0 days	12/20/02	12/20/02
307	**RD (If Needed)**	**444 days**	**12/21/02**	**3/8/04**
309	SCOPE OF WORK FOR RD/RA	0 days	1/10/03	1/10/03
313	RD Work Plan (35%)	0 days	4/10/03	4/10/03
317	60% RD	0 days	7/9/03	7/9/03
321	85% RD	0 days	10/7/03	10/7/03
325	Final RD	0 days	12/8/03	12/8/03
329	RAWP(Secondary)	0 days	3/8/04	3/8/04
330	**RA (If Needed)**	**707 days**	**3/9/04**	**2/13/06**
333	Start of Construction	0 days	2/11/05	2/11/05
335	End of Construction	0 days	2/13/06	2/13/06
336	**SITE 8 - GOSS COVE LANDFILL**	**1599 days**	**7/6/97**	**11/20/01**
337	**FEASIBILITY STUDY**	**705 days**	**7/6/97**	**6/10/99**



Project: NLONPJB6
Date: 3/18/99

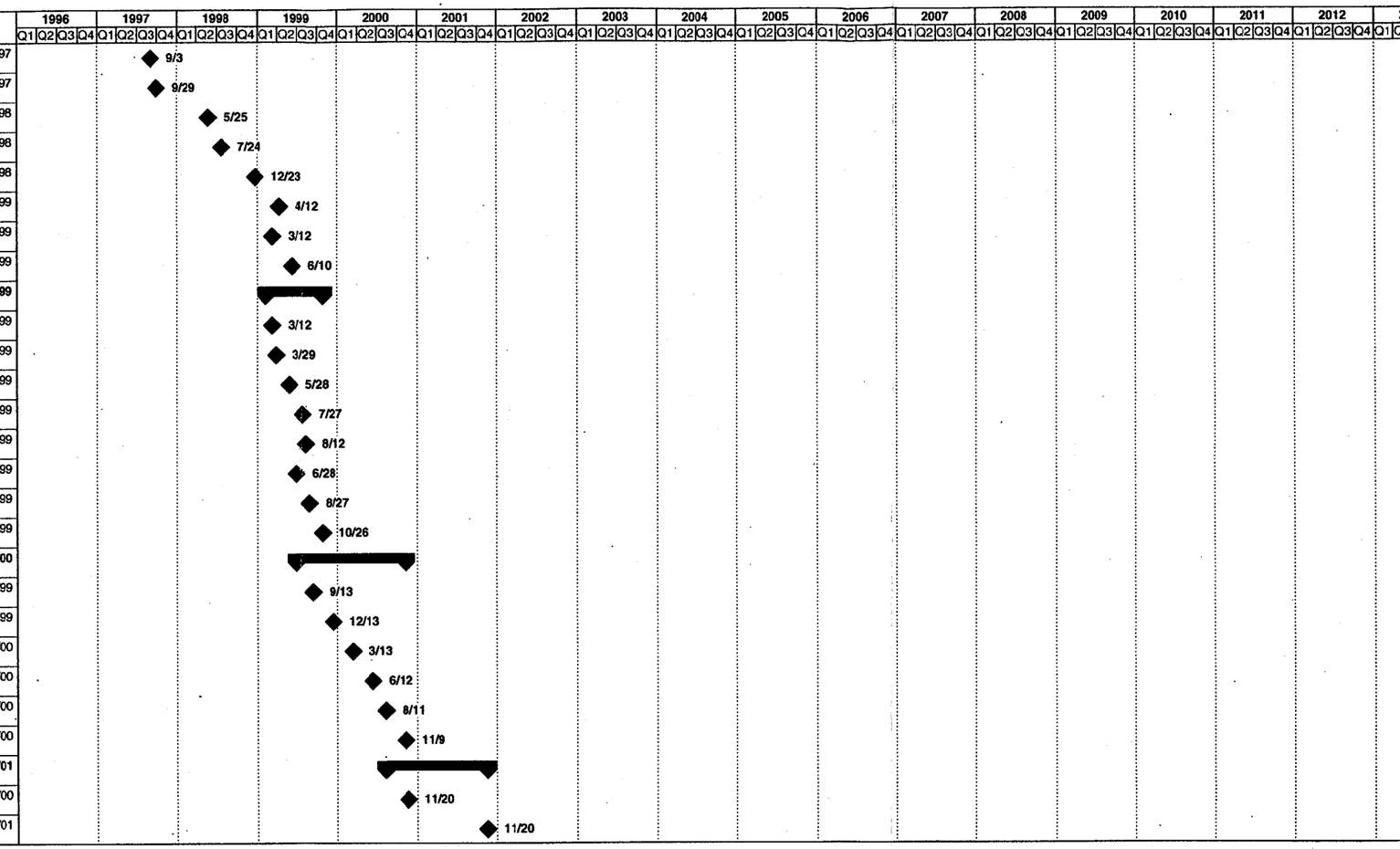
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618182

MILESTONE SCHEDULE
NSB-NLON

Rev.1 March 1999

ID	Task Name	Duration	Start	Finish
339	ROUGH DRAFT FS REPORT	0 days	9/3/97	9/3/97
342	DRAFT FS REPORT	0 days	9/29/97	9/29/97
347	DRAFT WORK PLAN FOR GOSS COVE ECOLOGICAL DGI	0 days	5/25/98	5/25/98
350	FINAL WORK PLAN FOR GOSS COVE ECOLOGICAL DGI	0 days	7/24/98	7/24/98
353	DRAFT GOSS COVE ECOLOGICAL DGI REPORT	0 days	12/23/98	12/23/98
357	FINAL GOSS COVE ECOLOGICAL DGI REPORT	0 days	4/12/99	4/12/99
359	DRAFT FINAL FS REPORT	0 days	3/12/99	3/12/99
362	FINAL FS REPORT	0 days	6/10/99	6/10/99
363	**PRAP/ROD**	**258 days**	**2/11/99**	**10/26/99**
365	ROUGH DRAFT PRAP	0 days	3/12/99	3/12/99
368	DRAFT PRAP	0 days	3/29/99	3/29/99
373	DRAFT FINAL PRAP	0 days	5/28/99	5/28/99
376	FINAL PRAP	0 days	7/27/99	7/27/99
378	PUBLIC MEETING ON FINAL PRAP	0 days	8/12/99	8/12/99
380	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	6/28/99	6/28/99
385	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	8/27/99	8/27/99
388	FINAL ROD & SIGNATURES	0 days	10/26/99	10/26/99
389	**RD**	**500 days**	**6/29/99**	**11/9/00**
391	SCOPE OF WORK FOR RD/RA	0 days	9/13/99	9/13/99
395	RD Work Plan (35%)	0 days	12/13/99	12/13/99
399	60% RD	0 days	3/13/00	3/13/00
403	85% RD	0 days	6/12/00	6/12/00
407	Final RD	0 days	8/11/00	8/11/00
411	RAWP(Secondary)	0 days	11/9/00	11/9/00
412	**RA**	**466 days**	**8/12/00**	**11/20/01**
415	Start of Construction	0 days	11/20/00	11/20/00
417	End of Construction	0 days	11/20/01	11/20/01



Project: NLONPJB6
Date: 3/18/99

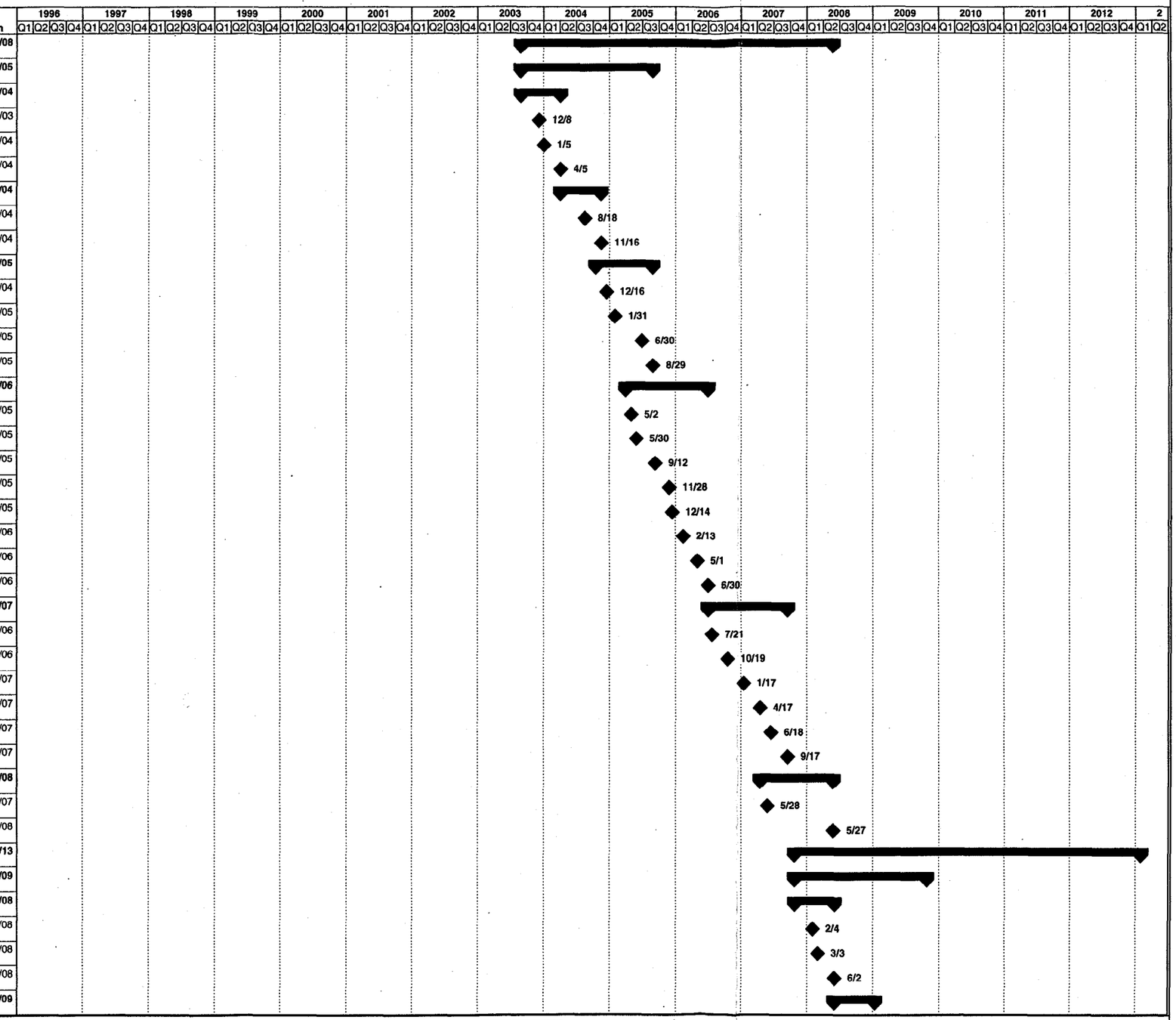
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618192

MILESTONE SCHEDULE
NSB-NLON

Rev.1 March 1999

ID	Task Name	Duration	Start	Finish
418	**SITE 14 - OBDANE**	**1733 days**	**8/30/03**	**5/27/08**
419	**DATA GAP INVESTIGATION (DGI)/FS**	**731 days**	**8/30/03**	**8/29/05**
420	**Work Plan**	**220 days**	**8/30/03**	**4/5/04**
422	ROUGH DRAFT DGI WORK PLAN	0 days	12/8/03	12/8/03
425	DRAFT DGI WORK PLAN	0 days	1/5/04	1/5/04
430	FINAL DGI WORK PLAN	0 days	4/5/04	4/5/04
431	**Field Work**	**225 days**	**4/6/04**	**11/16/04**
436	DRAFT FIELD REPORT	0 days	8/18/04	8/18/04
441	FINAL FIELD REPORT	0 days	11/16/04	11/16/04
442	**Feasibility Study**	**316 days**	**10/18/04**	**8/29/05**
444	ROUGH DRAFT FS REPORT	0 days	12/16/04	12/16/04
447	DRAFT FS REPORT	0 days	1/31/05	1/31/05
453	DRAFT FINAL FS REPORT	0 days	6/30/05	6/30/05
456	FINAL FS REPORT	0 days	8/29/05	8/29/05
457	**PRAP/ROD**	**455 days**	**4/2/05**	**6/30/06**
459	ROUGH DRAFT PRAP	0 days	5/2/05	5/2/05
462	DRAFT PRAP	0 days	5/30/05	5/30/05
467	DRAFT FINAL PRAP	0 days	9/12/05	9/12/05
470	FINAL PRAP	0 days	11/28/05	11/28/05
472	PUBLIC MEETING ON FINAL PRAP	0 days	12/14/05	12/14/05
474	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	2/13/06	2/13/06
479	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	5/1/06	5/1/06
482	FINAL ROD & SIGNATURES	0 days	6/30/06	6/30/06
483	**RD (if Needed)**	**444 days**	**7/1/06**	**9/17/07**
485	SCOPE OF WORK FOR RD/RA	0 days	7/21/06	7/21/06
489	RD Work Plan (35%)	0 days	10/19/06	10/19/06
493	60% RD	0 days	1/17/07	1/17/07
497	85% RD	0 days	4/17/07	4/17/07
501	Final RD	0 days	6/18/07	6/18/07
505	RAWP(Secondary)	0 days	9/17/07	9/17/07
506	**RA (if Needed)**	**406 days**	**4/18/07**	**5/27/08**
509	Start of Construction	0 days	5/28/07	5/28/07
511	End of Construction	0 days	5/27/08	5/27/08
512	**SITE 16 - HOSPITAL INCINERATORS**	**1926 days**	**10/26/07**	**2/1/13**
513	**DATA GAP INVESTIGATION (DGI)/FS**	**732 days**	**10/26/07**	**10/26/09**
514	**Work Plan**	**221 days**	**10/26/07**	**6/2/08**
516	ROUGH DRAFT DGI WORK PLAN	0 days	2/4/08	2/4/08
519	DRAFT DGI WORK PLAN	0 days	3/3/08	3/3/08
524	FINAL DGI WORK PLAN	0 days	6/2/08	6/2/08
525	**Field Work**	**225 days**	**6/3/08**	**1/13/09**



Project: NLONPJB6
Date: 3/18/99

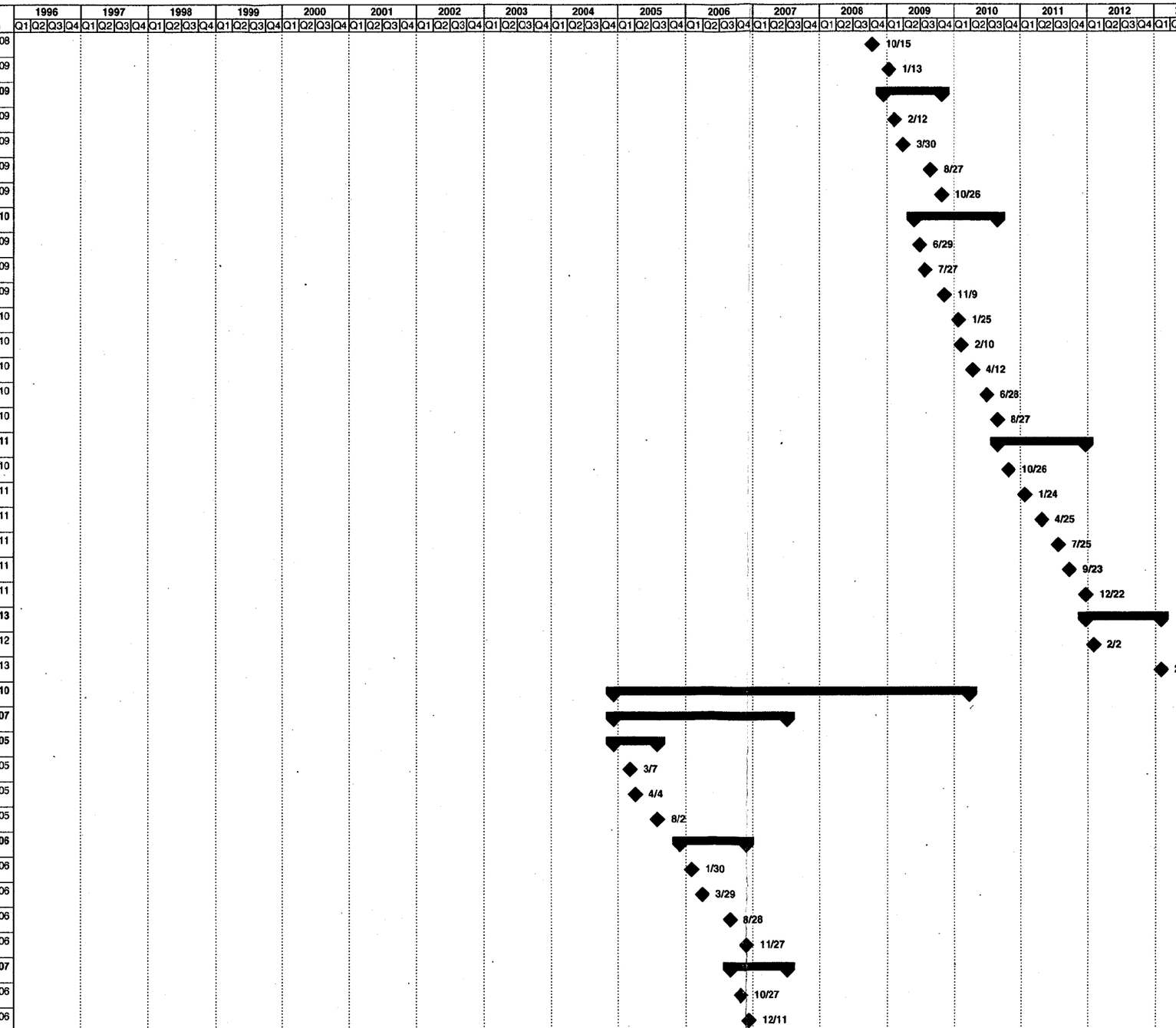
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618202

MILESTONE SCHEDULE
NSB-NLON

Rev.1 March 1999

ID	Task Name	Duration	Start	Finish
530	DRAFT FIELD REPORT	0 days	10/15/08	10/15/08
535	FINAL FIELD REPORT	0 days	1/13/09	1/13/09
536	**Feasibility Study**	**316 days**	**12/15/08**	**10/26/09**
538	ROUGH DRAFT FS REPORT	0 days	2/12/09	2/12/09
541	DRAFT FS REPORT	0 days	3/30/09	3/30/09
547	DRAFT FINAL FS REPORT	0 days	8/27/09	8/27/09
550	FINAL FS REPORT	0 days	10/26/09	10/26/09
551	**PRAP/ROD**	**455 days**	**5/30/09**	**8/27/10**
553	ROUGH DRAFT PRAP	0 days	6/29/09	6/29/09
556	DRAFT PRAP	0 days	7/27/09	7/27/09
561	DRAFT FINAL PRAP	0 days	11/9/09	11/9/09
564	FINAL PRAP	0 days	1/25/10	1/25/10
566	PUBLIC MEETING ON FINAL PRAP	0 days	2/10/10	2/10/10
568	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	4/12/10	4/12/10
573	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	6/28/10	6/28/10
576	FINAL ROD & SIGNATURES	0 days	8/27/10	8/27/10
577	**RD (if Needed)**	**482 days**	**8/28/10**	**12/22/11**
579	SCOPE OF WORK FOR RD/RA	0 days	10/26/10	10/26/10
583	RD Work Plan (35%)	0 days	1/24/11	1/24/11
587	60% RD	0 days	4/25/11	4/25/11
591	85% RD	0 days	7/25/11	7/25/11
595	Final RD	0 days	9/23/11	9/23/11
599	RAWP(Secondary)	0 days	12/22/11	12/22/11
600	**RA (if Needed)**	**407 days**	**12/23/11**	**2/1/13**
603	Start of Construction	0 days	2/2/12	2/2/12
605	End of Construction	0 days	2/1/13	2/1/13
606	**SITE 18 - SOLVENT STORAGE AREA (BLDG. 33)**	**1932 days**	**12/8/04**	**3/23/10**
607	**RI/FS**	**944 days**	**12/8/04**	**7/9/07**
608	**RI Work Plan**	**238 days**	**12/8/04**	**8/2/05**
610	ROUGH DRAFT RI WORK PLAN	0 days	3/7/05	3/7/05
613	DRAFT RI WORK PLAN	0 days	4/4/05	4/4/05
618	FINAL RI WORK PLAN	0 days	8/2/05	8/2/05
623	**RI Report**	**362 days**	**12/1/05**	**11/27/06**
625	ROUGH DRAFT RI REPORT	0 days	1/30/06	1/30/06
629	DRAFT RI REPORT	0 days	3/29/06	3/29/06
635	DRAFT FINAL RI REPORT	0 days	8/28/06	8/28/06
639	FINAL RI REPORT	0 days	11/27/06	11/27/06
640	**Feasibility Study**	**315 days**	**8/29/06**	**7/9/07**
642	ROUGH DRAFT FS REPORT	0 days	10/27/06	10/27/06
645	DRAFT FS REPORT	0 days	12/11/06	12/11/06



Project: NLONPJB6
Date: 3/18/99

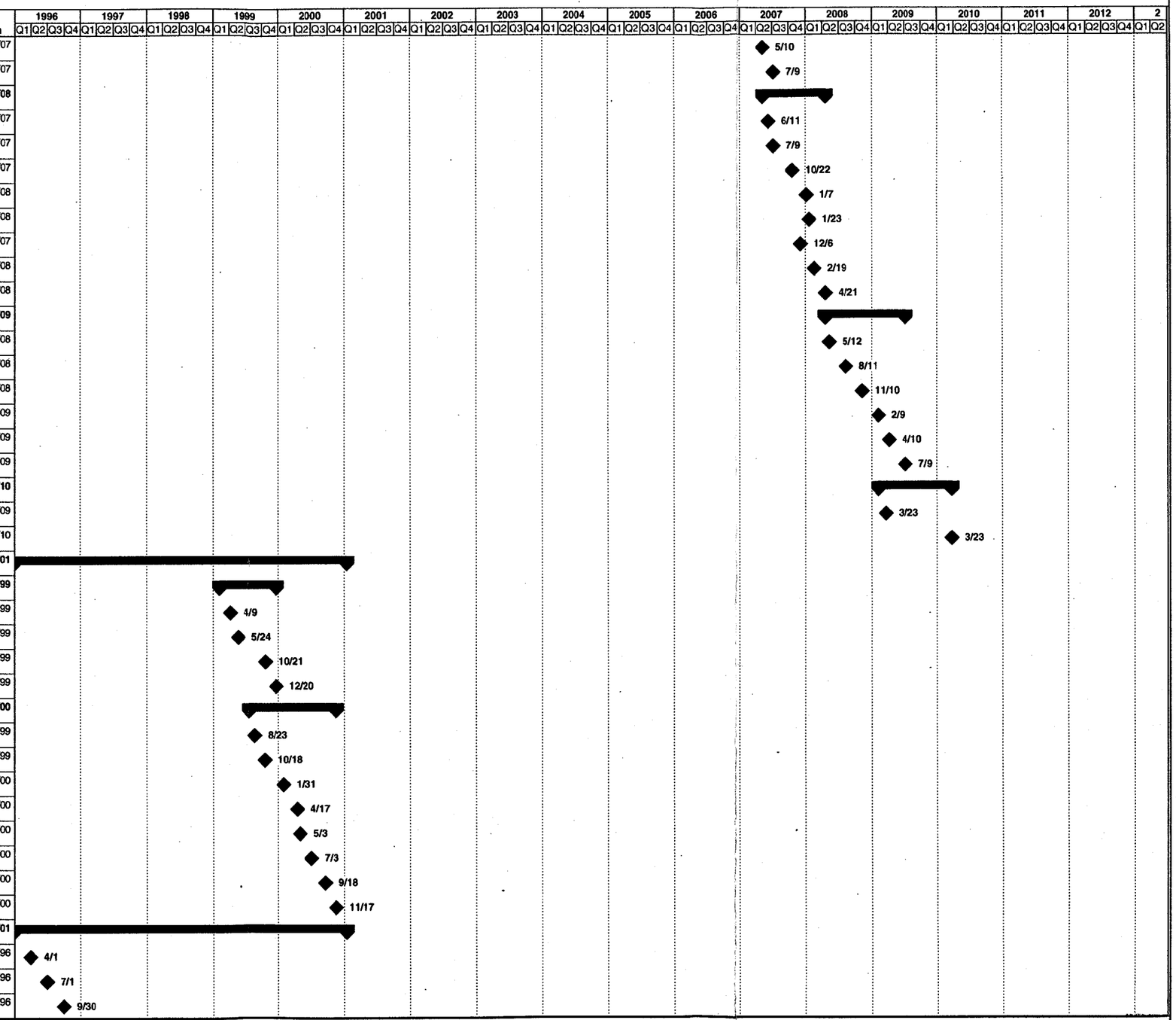
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

0161821Z

MILESTONE SCHEDULE
NSB-NLON

Rev.1 March 1999

ID	Task Name	Duration	Start	Finish
651	DRAFT FINAL FS REPORT	0 days	5/10/07	5/10/07
654	FINAL FS REPORT	0 days	7/9/07	7/9/07
655	**PRAP/ROD**	**347 days**	**5/11/07**	**4/21/08**
657	ROUGH DRAFT PRAP	0 days	6/11/07	6/11/07
660	DRAFT PRAP	0 days	7/9/07	7/9/07
665	DRAFT FINAL PRAP	0 days	10/22/07	10/22/07
668	FINAL PRAP	0 days	1/7/08	1/7/08
670	PUBLIC MEETING ON FINAL PRAP	0 days	1/23/08	1/23/08
672	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	12/6/07	12/6/07
677	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	2/19/08	2/19/08
680	FINAL ROD & SIGNATURES	0 days	4/21/08	4/21/08
681	**RD (if Needed)**	**444 days**	**4/22/08**	**7/9/09**
683	SCOPE OF WORK FOR RD/RA	0 days	5/12/08	5/12/08
687	RD WORK PLAN (35%)	0 days	8/11/08	8/11/08
691	60% RD	0 days	11/10/08	11/10/08
695	85% RD	0 days	2/9/09	2/9/09
699	Final RD	0 days	4/10/09	4/10/09
703	RAWP(Secondary)	0 days	7/9/09	7/9/09
704	**RA (if Needed)**	**407 days**	**2/10/09**	**3/23/10**
707	Start of Construction	0 days	3/23/09	3/23/09
709	End of Construction	0 days	3/23/10	3/23/10
710	**SITE 20 - AREA A WEAPONS CENTER (SOURCE CONTROL)**	**1843 days**	**1/1/96**	**1/16/01**
711	**FEASIBILITY STUDY (SOURCE CONTROL)**	**315 days**	**2/9/99**	**12/20/99**
713	ROUGH DRAFT FS REPORT	0 days	4/9/99	4/9/99
716	DRAFT FS REPORT	0 days	5/24/99	5/24/99
722	DRAFT FINAL FS REPORT	0 days	10/21/99	10/21/99
725	FINAL FS REPORT	0 days	12/20/99	12/20/99
726	**PRAP/ROD**	**483 days**	**7/24/99**	**11/17/00**
728	ROUGH DRAFT PRAP	0 days	8/23/99	8/23/99
731	DRAFT PRAP	0 days	10/18/99	10/18/99
736	DRAFT FINAL PRAP	0 days	1/31/00	1/31/00
739	FINAL PRAP	0 days	4/17/00	4/17/00
741	PUBLIC MEETING ON FINAL PRAP	0 days	5/3/00	5/3/00
743	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	7/3/00	7/3/00
748	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	9/18/00	9/18/00
751	FINAL ROD & SIGNATURES	0 days	11/17/00	11/17/00
752	**RD (if Needed)**	**1843 days**	**1/1/96**	**1/16/01**
757	RD Work Plan (35%)	0 days	4/1/96	4/1/96
761	60% RD	0 days	7/1/96	7/1/96
765	85% RD	0 days	9/30/96	9/30/96



Project: NLONPJB6
Date: 3/18/99

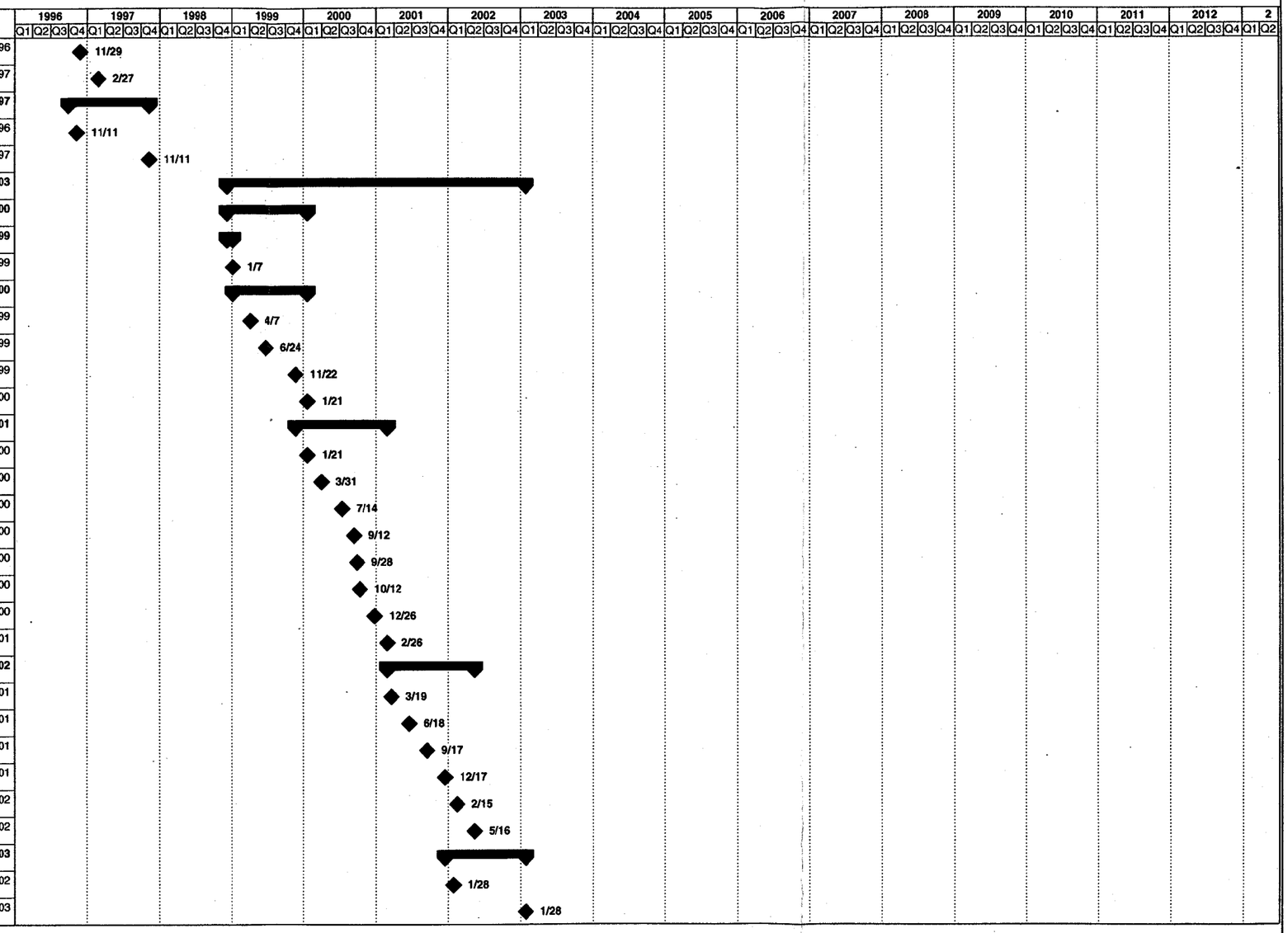
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618222

MILESTONE SCHEDULE
NSB-NLON

Rev.1 March 1999

ID	Task Name	Duration	Start	Finish
769	Final RD	0 days	11/29/96	11/29/96
773	RAWP(Secondary)	0 days	2/27/97	2/27/97
774	**RA (if Needed)**	**407 days**	**10/1/96**	**11/11/97**
777	Start of Construction	0 days	11/11/96	11/11/96
779	End of Construction	0 days	11/11/97	11/11/97
780	**LOWER SUBASE SITES 10,11,13,17,19,21,22,24,25**	**1512 days**	**12/9/98**	**1/28/03**
781	**RI/FS**	**409 days**	**12/9/98**	**1/21/00**
782	**Remedial Investigation Report**	**30 days**	**12/9/98**	**1/7/99**
784	FINAL RI REPORT	0 days	1/7/99	1/7/99
785	**Feasibility Study**	**379 days**	**1/8/99**	**1/21/00**
787	ROUGH DRAFT FS REPORT	0 days	4/7/99	4/7/99
790	DRAFT FS REPORT	0 days	6/24/99	6/24/99
796	DRAFT FINAL FS REPORT	0 days	11/22/99	11/22/99
799	FINAL FS REPORT	0 days	1/21/00	1/21/00
800	**PRAP/ROD**	**462 days**	**11/23/99**	**2/26/01**
802	ROUGH DRAFT PRAP	0 days	1/21/00	1/21/00
805	DRAFT PRAP	0 days	3/31/00	3/31/00
810	DRAFT FINAL PRAP	0 days	7/14/00	7/14/00
813	FINAL PRAP	0 days	9/12/00	9/12/00
815	PUBLIC MEETING ON FINAL PRAP	0 days	9/28/00	9/28/00
817	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	10/12/00	10/12/00
822	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	12/26/00	12/26/00
825	FINAL ROD & SIGNATURES	0 days	2/26/01	2/26/01
826	**RD**	**444 days**	**2/27/01**	**5/16/02**
828	SCOPE OF WORK FOR RD/RA	0 days	3/19/01	3/19/01
832	RD Work Plan (35%)	0 days	6/18/01	6/18/01
836	60% RD	0 days	9/17/01	9/17/01
840	85% RD	0 days	12/17/01	12/17/01
844	Final RD	0 days	2/15/02	2/15/02
848	RAWP(Secondary)	0 days	5/16/02	5/16/02
849	**RA**	**407 days**	**12/18/01**	**1/28/03**
852	Start of Construction	0 days	1/28/02	1/28/02
854	End of Construction	0 days	1/28/03	1/28/03



Project: NLONPJB6
Date: 3/18/99

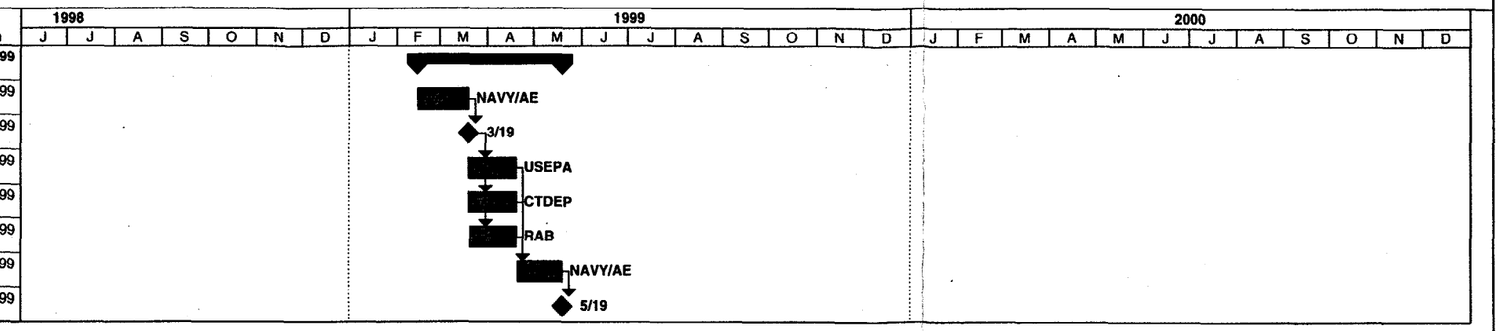
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618232

ANNUAL SITE MANAGEMENT SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
2	**ANNUAL SITE MANAGEMENT PLAN UPDATE**	**94 days**	**2/15/99**	**5/19/99**
3	Draft Amended SMP	33 days	2/15/99	3/19/99
4	DRAFT AMENDED SMP	0 days	3/19/99	3/19/99
5	USEPA Review Period	31 days	3/20/99	4/19/99
6	CTDEP Review Period	31 days	3/20/99	4/19/99
7	RAB Review Period	30 days	3/21/99	4/19/99
8	Respond to Regulator Comments	29 days	4/21/99	5/19/99
9	RESPOND TO REGULATOR COMMENTS	0 days	5/19/99	5/19/99



Project: NLONPJB6
Date: 3/18/99

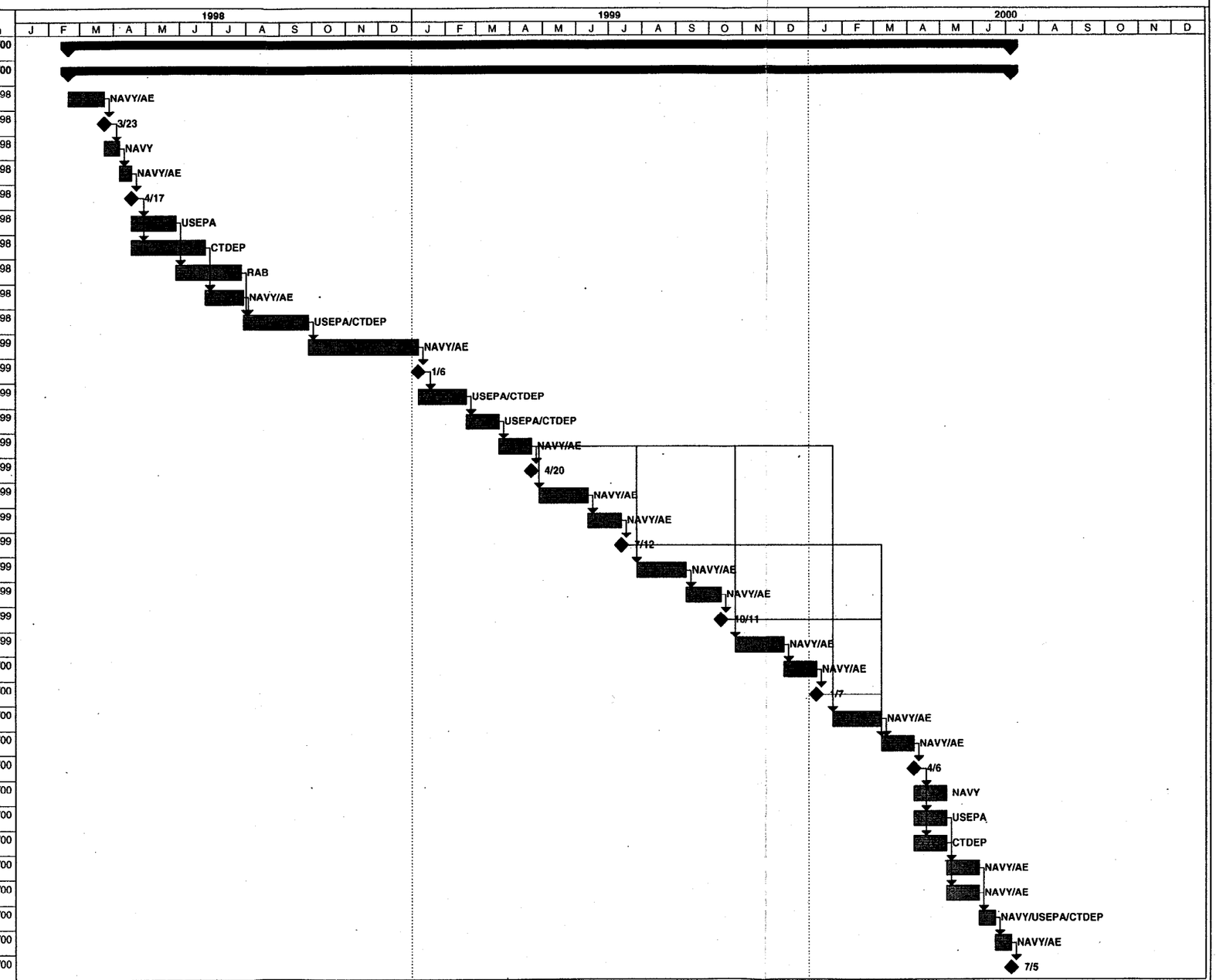
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618242

SITE 2 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
11	SITE 2 - AREA A LANDFILL POST CONSTRUCTION MONITORING	868 days	2/19/98	7/5/00
12	MONITORING PLANS	868 days	2/19/98	7/5/00
13	Rough Draft Monitoring Plan	33 days	2/19/98	3/23/98
14	ROUGH DRAFT MONITORING PLAN	0 days	3/23/98	3/23/98
15	Navy Review	14 days	3/24/98	4/6/98
16	Draft Monitoring Plan	11 days	4/7/98	4/17/98
17	DRAFT MONITORING PLAN	0 days	4/17/98	4/17/98
18	USEPA Review Period	41 days	4/18/98	5/28/98
19	CTDEP Review Period	68 days	4/18/98	6/24/98
20	Navy Respond to USEPA Comments	60 days	5/29/98	7/27/98
21	Navy Respond to CTDEP Comments	35 days	6/25/98	7/29/98
22	Regulator Concurrence	60 days	7/30/98	9/27/98
23	Draft Final Monitoring Plan	101 days	9/28/98	1/6/99
24	DRAFT FINAL MONITORING PLAN	0 days	1/6/99	1/6/99
25	Regulator Review	44 days	1/7/99	2/19/99
26	Regulator Concurrence	30 days	2/20/99	3/21/99
27	Final Monitoring Plan	30 days	3/22/99	4/20/99
28	FINAL MONITORING PLAN	0 days	4/20/99	4/20/99
29	1st Quarter Sampling/Analysis	45 days	4/28/99	6/11/99
30	1st Quarter Draft Report	31 days	6/12/99	7/12/99
31	1st QUARTER DRAFT REPORT	0 days	7/12/99	7/12/99
32	2nd Quarter Sampling/Analysis	45 days	7/27/99	9/9/99
33	2nd Quarter Draft Report	32 days	9/10/99	10/11/99
34	2nd QUARTER DRAFT REPORT	0 days	10/11/99	10/11/99
35	3rd Quarter Sampling/Analysis	45 days	10/25/99	12/8/99
36	3rd Quarter Draft Report	30 days	12/9/99	1/7/00
37	3rd QUARTER DRAFT REPORT	0 days	1/7/00	1/7/00
38	4th Quarter Sampling/Analysis	45 days	1/23/00	3/7/00
39	Year 1 Draft Final Report	30 days	3/8/00	4/6/00
40	YEAR 1 DRAFT FINAL REPORT	0 days	4/6/00	4/6/00
41	Navy Review Period	30 days	4/7/00	5/6/00
42	USEPA Review Period	30 days	4/7/00	5/6/00
43	CTDEP Review Period	30 days	4/7/00	5/6/00
44	Navy Respond to USEPA Comments	30 days	5/7/00	6/5/00
45	Navy Respond to CTDEP Comments	30 days	5/7/00	6/5/00
46	Regulator Concurrence	15 days	6/6/00	6/20/00
47	Year 1 Final Report	15 days	6/21/00	7/5/00
48	YEAR 1 FINAL REPORT	0 days	7/5/00	7/5/00



Project: NLONPJB6
Date: 3/17/99

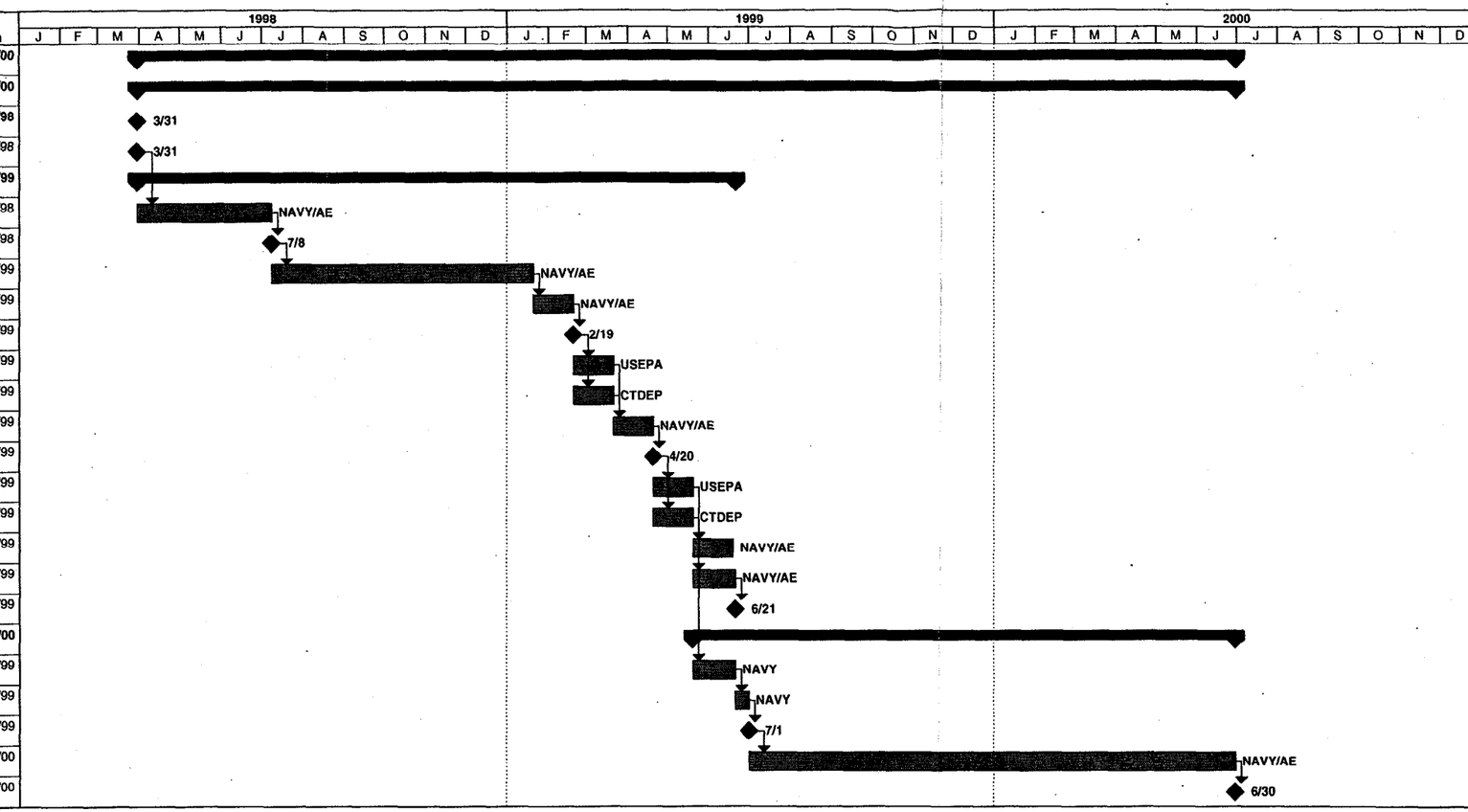
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618252

SITE 3 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
49	**SITE 3 - AREA A DOWNSTREAM AND OBDA**	**823 days**	**3/31/98**	**6/30/00**
50	**SOILS AND SEDIMENTS OPERABLE UNIT**	**823 days**	**3/31/98**	**6/30/00**
51	**PRAP/ROD**	**0 days**	**3/31/98**	**3/31/98**
52	FINAL ROD & SIGNATURES	0 days	3/31/98	3/31/98
53	**RD**	**448 days**	**3/31/98**	**6/21/99**
54	Sampling and Analysis Plan for RD DGI	100 days	3/31/98	7/8/98
55	SAMPLING AND ANALYSIS PLAN FOR RD DGI	0 days	7/8/98	7/8/98
56	DGI Field Work	196 days	7/9/98	1/20/99
57	Draft Preliminary Design Report	30 days	1/21/99	2/19/99
58	DRAFT PRELIMINARY DESIGN REPORT	0 days	2/19/99	2/19/99
59	USEPA Review Period	30 days	2/20/99	3/21/99
60	CTDEP Review Period	30 days	2/20/99	3/21/99
61	Draft RD Work Plan	30 days	3/22/99	4/20/99
62	DRAFT RD WORK PLAN	0 days	4/20/99	4/20/99
63	USEPA Review Period	30 days	4/21/99	5/20/99
64	CTDEP Review Period	30 days	4/21/99	5/20/99
65	Respond to Regulator Comments	30 days	5/21/99	6/19/99
66	Final RD Work Plan	32 days	5/21/99	6/21/99
67	FINAL RD WORK PLAN	0 days	6/21/99	6/21/99
68	**RA**	**407 days**	**5/21/99**	**6/30/00**
69	Contract Action	32 days	5/21/99	6/21/99
70	Award Construction	10 days	6/22/99	7/1/99
71	Start of Construction	0 days	7/1/99	7/1/99
72	Construction	365 days	7/2/99	6/30/00
73	End of Construction	0 days	6/30/00	6/30/00



Project: NLONPJB6
Date: 3/17/99

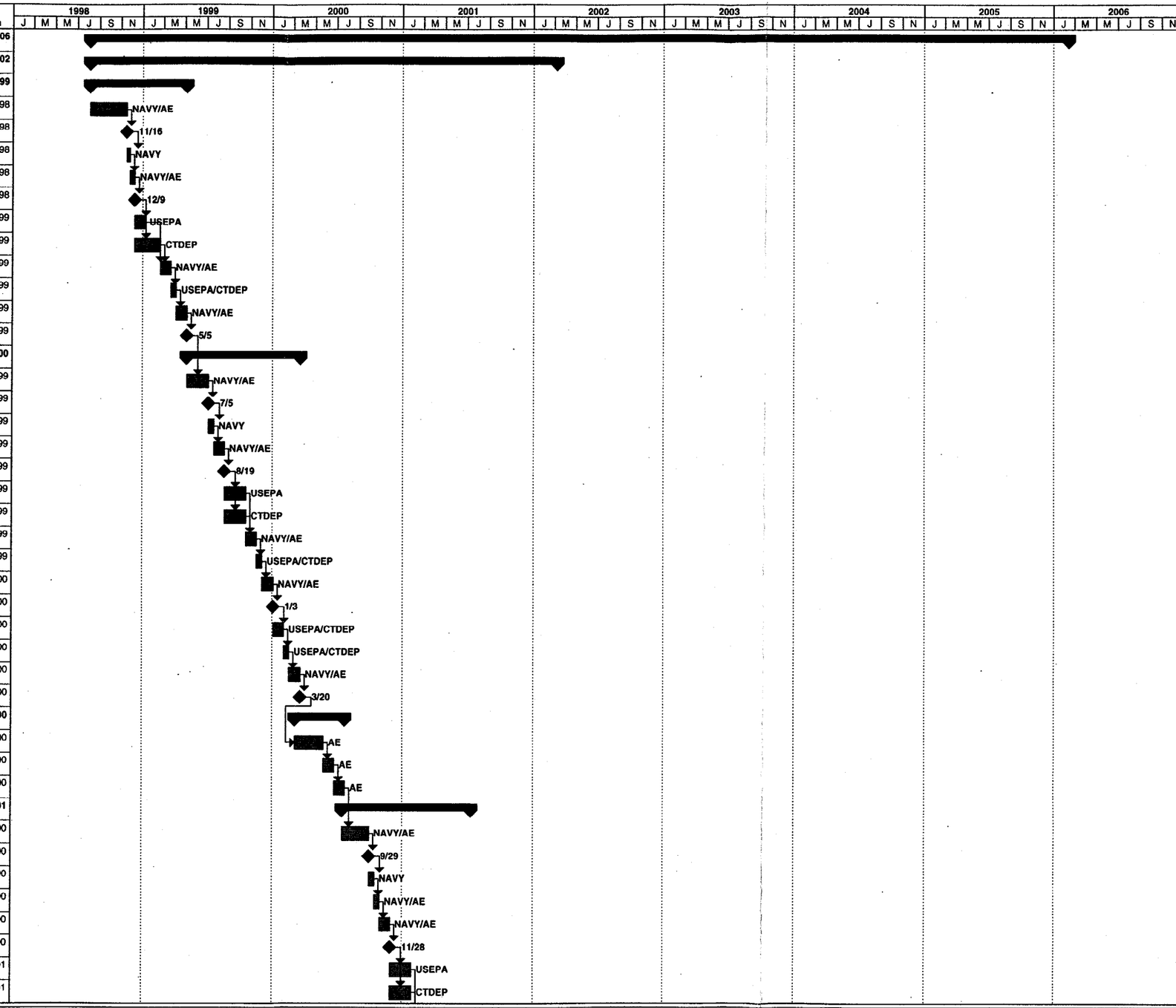
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618262

BASEWIDE GROUNDWATER OPERABLE UNIT SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
74	**BASEWIDE GROUNDWATER OPERABLE UNIT**	**2749 days**	**8/6/98**	**2/13/06**
75	**RI/FS**	**1311 days**	**8/6/98**	**3/8/02**
76	**EDSR**	**273 days**	**8/6/98**	**5/5/99**
77	Rough Draft EDSR	103 days	8/6/98	11/16/98
78	ROUGH DRAFT EDSR	0 days	11/16/98	11/16/98
79	Navy Review	9 days	11/17/98	11/25/98
80	Draft EDSR	14 days	11/26/98	12/9/98
81	DRAFT EDSR	0 days	12/9/98	12/9/98
82	USEPA Review Period	27 days	12/10/98	1/5/99
83	CTDEP Review Period	72 days	12/10/98	2/19/99
84	Respond to Regulator Comments	30 days	2/20/99	3/21/99
85	Regulator Concurrence	15 days	3/22/99	4/5/99
86	Final EDSR	30 days	4/6/99	5/5/99
87	FINAL EDSR	0 days	5/5/99	5/5/99
88	**Work Plan**	**320 days**	**5/6/99**	**3/20/00**
89	Rough Draft RI Work Plan	61 days	5/6/99	7/5/99
90	ROUGH DRAFT RI WORK PLAN	0 days	7/5/99	7/5/99
91	Navy Review	15 days	7/6/99	7/20/99
92	Draft RI Work Plan	30 days	7/21/99	8/19/99
93	DRAFT RI WORK PLAN	0 days	8/19/99	8/19/99
94	USEPA Review Period	60 days	8/20/99	10/18/99
95	CTDEP Review Period	60 days	8/20/99	10/18/99
96	Respond to Regulator Comments	30 days	10/19/99	11/17/99
97	Regulator Concurrence	15 days	11/18/99	12/2/99
98	Draft Final RI Work Plan	32 days	12/3/99	1/3/00
99	DRAFT FINAL RI WORK PLAN	0 days	1/3/00	1/3/00
100	Regulator Review	30 days	1/4/00	2/2/00
101	Regulator Concurrence	15 days	2/3/00	2/17/00
102	Final RI Work Plan	32 days	2/18/00	3/20/00
103	FINAL RI WORK PLAN	0 days	3/20/00	3/20/00
104	**RI Field Work**	**140 days**	**3/6/00**	**7/23/00**
105	Field Work	80 days	3/6/00	5/24/00
106	Lab Analysis	30 days	5/25/00	6/23/00
107	Data Validation	30 days	6/24/00	7/23/00
108	**RI Report**	**360 days**	**7/17/00**	**7/11/01**
109	Rough Draft RI Report	75 days	7/17/00	9/29/00
110	ROUGH DRAFT RI REPORT	0 days	9/29/00	9/29/00
111	Navy Review Period	15 days	9/30/00	10/14/00
112	Respond to Navy Comments	15 days	10/15/00	10/29/00
113	Draft RI Report	30 days	10/30/00	11/28/00
114	DRAFT RI REPORT	0 days	11/28/00	11/28/00
115	USEPA Review Period	60 days	11/29/00	1/27/01
116	CTDEP Review Period	60 days	11/29/00	1/27/01



Project: NLONPJB6
Date: 3/18/99

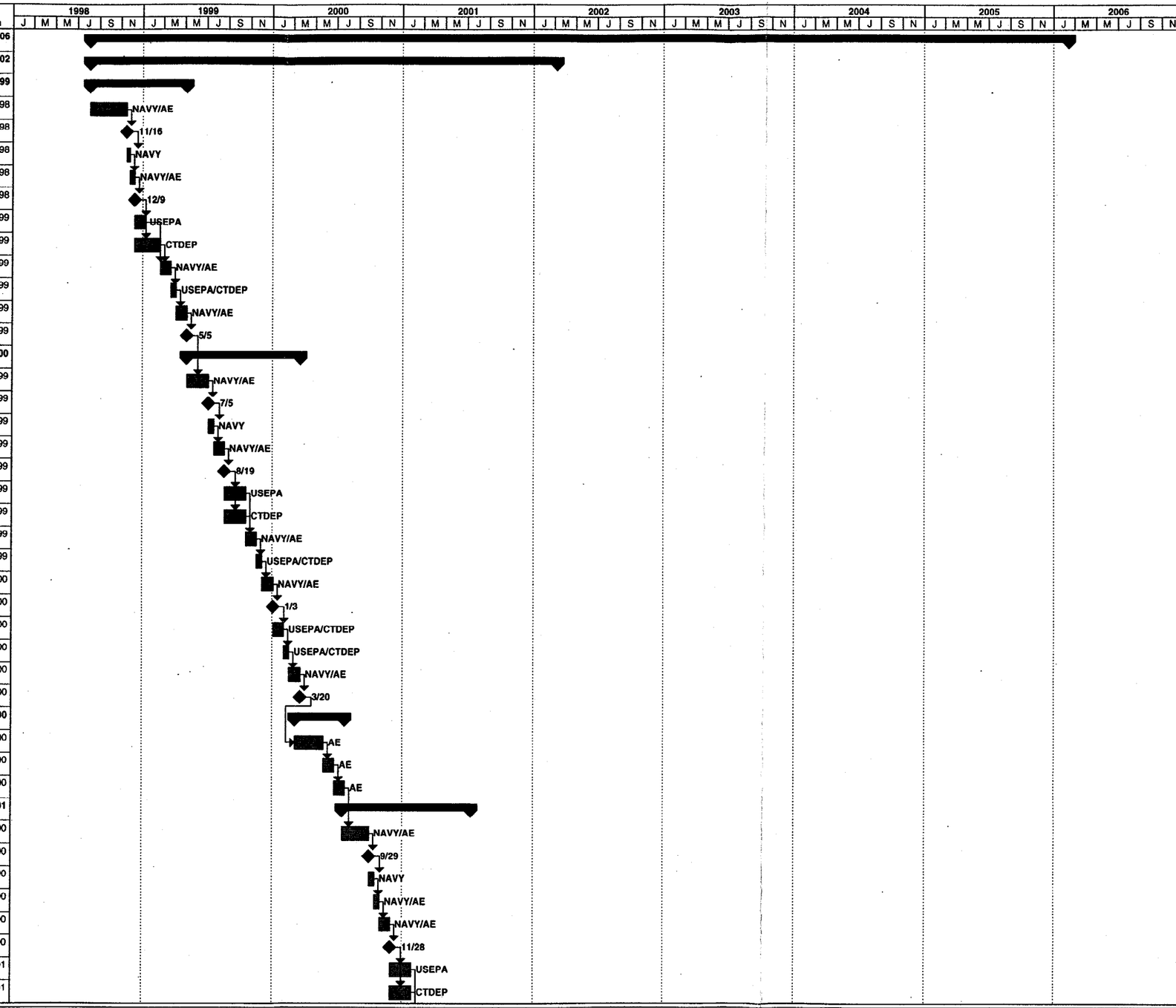
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618272

BASEWIDE GROUNDWATER OPERABLE UNIT SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
74	**BASEWIDE GROUNDWATER OPERABLE UNIT**	**2749 days**	**8/6/98**	**2/13/06**
75	**RI/FS**	**1311 days**	**8/6/98**	**3/8/02**
76	**EDSR**	**273 days**	**8/6/98**	**5/5/99**
77	Rough Draft EDSR	103 days	8/6/98	11/16/98
78	ROUGH DRAFT EDSR	0 days	11/16/98	11/16/98
79	Navy Review	9 days	11/17/98	11/25/98
80	Draft EDSR	14 days	11/26/98	12/9/98
81	DRAFT EDSR	0 days	12/9/98	12/9/98
82	USEPA Review Period	27 days	12/10/98	1/5/99
83	CTDEP Review Period	72 days	12/10/98	2/19/99
84	Respond to Regulator Comments	30 days	2/20/99	3/21/99
85	Regulator Concurrence	15 days	3/22/99	4/5/99
86	Final EDSR	30 days	4/6/99	5/5/99
87	FINAL EDSR	0 days	5/5/99	5/5/99
88	**Work Plan**	**320 days**	**5/6/99**	**3/20/00**
89	Rough Draft RI Work Plan	61 days	5/6/99	7/5/99
90	ROUGH DRAFT RI WORK PLAN	0 days	7/5/99	7/5/99
91	Navy Review	15 days	7/6/99	7/20/99
92	Draft RI Work Plan	30 days	7/21/99	8/19/99
93	DRAFT RI WORK PLAN	0 days	8/19/99	8/19/99
94	USEPA Review Period	60 days	8/20/99	10/18/99
95	CTDEP Review Period	60 days	8/20/99	10/18/99
96	Respond to Regulator Comments	30 days	10/19/99	11/17/99
97	Regulator Concurrence	15 days	11/18/99	12/2/99
98	Draft Final RI Work Plan	32 days	12/3/99	1/3/00
99	DRAFT FINAL RI WORK PLAN	0 days	1/3/00	1/3/00
100	Regulator Review	30 days	1/4/00	2/2/00
101	Regulator Concurrence	15 days	2/3/00	2/17/00
102	Final RI Work Plan	32 days	2/18/00	3/20/00
103	FINAL RI WORK PLAN	0 days	3/20/00	3/20/00
104	**RI Field Work**	**140 days**	**3/6/00**	**7/23/00**
105	Field Work	80 days	3/6/00	5/24/00
106	Lab Analysis	30 days	5/25/00	6/23/00
107	Data Validation	30 days	6/24/00	7/23/00
108	**RI Report**	**360 days**	**7/17/00**	**7/11/01**
109	Rough Draft RI Report	75 days	7/17/00	9/29/00
110	ROUGH DRAFT RI REPORT	0 days	9/29/00	9/29/00
111	Navy Review Period	15 days	9/30/00	10/14/00
112	Respond to Navy Comments	15 days	10/15/00	10/29/00
113	Draft RI Report	30 days	10/30/00	11/28/00
114	DRAFT RI REPORT	0 days	11/28/00	11/28/00
115	USEPA Review Period	60 days	11/29/00	1/27/01
116	CTDEP Review Period	60 days	11/29/00	1/27/01



Project: NLONPJB6
Date: 3/18/99

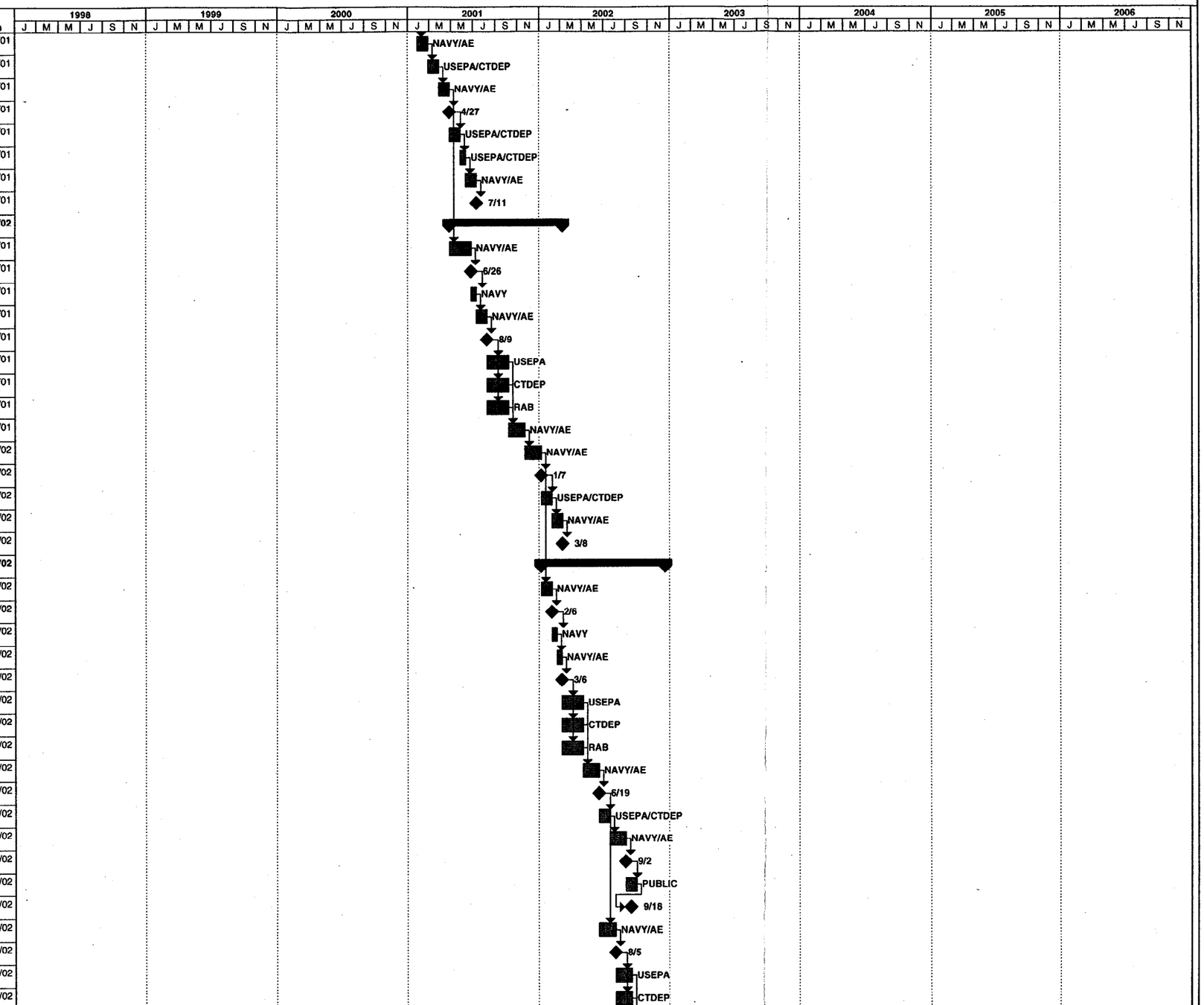
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618272

BASEWIDE GROUNDWATER OPERABLE UNIT SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
117	Respond to Regulator Comments	30 days	1/28/01	2/26/01
118	Regulator Concurrence	30 days	2/27/01	3/28/01
119	Draft Final RI Report	30 days	3/29/01	4/27/01
120	DRAFT FINAL RI REPORT	0 days	4/27/01	4/27/01
121	Regulator Review	30 days	4/28/01	5/27/01
122	Regulator Concurrence	15 days	5/28/01	6/11/01
123	Final RI Report	30 days	6/12/01	7/11/01
124	FINAL RI REPORT	0 days	7/11/01	7/11/01
125	**Feasibility Study**	**315 days**	**4/28/01**	**3/8/02**
126	Rough Draft FS Report	60 days	4/28/01	6/26/01
127	ROUGH DRAFT FS REPORT	0 days	6/26/01	6/26/01
128	Navy Review/Concurrence	14 days	6/27/01	7/10/01
129	Draft FS Report	30 days	7/11/01	8/9/01
130	DRAFT FS REPORT	0 days	8/9/01	8/9/01
131	USEPA Review Period	60 days	8/10/01	10/8/01
132	CTDEP Review Period	60 days	8/10/01	10/8/01
133	RAB Review Period	60 days	8/10/01	10/8/01
134	Respond to Regulator Comments	45 days	10/9/01	11/22/01
135	Draft Final FS Report	46 days	11/23/01	1/7/02
136	DRAFT FINAL FS REPORT	0 days	1/7/02	1/7/02
137	Regulator Concurrence	30 days	1/8/02	2/6/02
138	Final FS Report	30 days	2/7/02	3/8/02
139	FINAL FS REPORT	0 days	3/8/02	3/8/02
140	**PRAP/ROD**	**347 days**	**1/8/02**	**12/20/02**
141	Rough Draft PRAP	30 days	1/8/02	2/6/02
142	ROUGH DRAFT PRAP	0 days	2/6/02	2/6/02
143	Navy Review	14 days	2/7/02	2/20/02
144	Draft PRAP	14 days	2/21/02	3/6/02
145	DRAFT PRAP	0 days	3/6/02	3/6/02
146	USEPA Review Period	60 days	3/7/02	5/5/02
147	CTDEP Review Period	60 days	3/7/02	5/5/02
148	RAB Review Period	60 days	3/7/02	5/5/02
149	Draft Final PRAP	45 days	5/6/02	6/19/02
150	DRAFT FINAL PRAP	0 days	6/19/02	6/19/02
151	Regulator Concurrence	30 days	6/20/02	7/19/02
152	Final PRAP	45 days	7/20/02	9/2/02
153	FINAL PRAP	0 days	9/2/02	9/2/02
154	Public Comment on Final PRAP	30 days	9/3/02	10/2/02
155	PUBLIC MEETING ON FINAL PRAP	0 days	9/18/02	9/18/02
156	Draft ROD & Responsiveness Summary	47 days	6/20/02	8/5/02
157	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	8/5/02	8/5/02
158	USEPA Review Period	45 days	8/6/02	9/19/02
159	CTDEP Review Period	45 days	8/6/02	9/19/02



Project: NLONPJB6
Date: 3/18/99

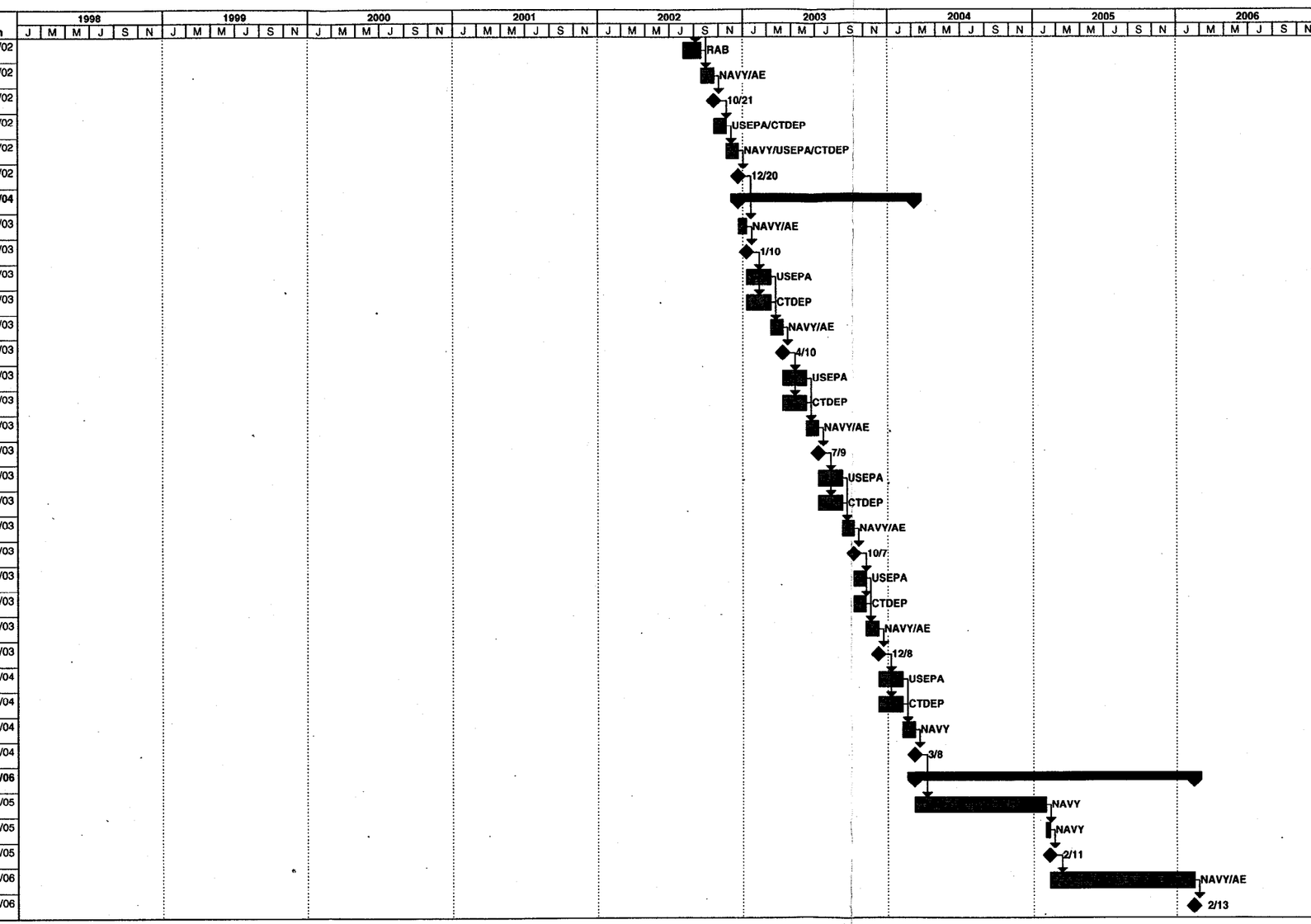
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618282

BASEWIDE GROUNDWATER OPERABLE UNIT SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
160	RAB Review Period	45 days	8/6/02	9/19/02
161	Response to Comments and Revised Draft ROD	32 days	9/20/02	10/21/02
162	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	10/21/02	10/21/02
163	Regulator Concurrence	30 days	10/22/02	11/20/02
164	Final ROD & Signatures	30 days	11/21/02	12/20/02
165	FINAL ROD & SIGNATURES	0 days	12/20/02	12/20/02
166	**RD**	**444 days**	**12/21/02**	**3/8/04**
167	Scope of Work for RD/RA	21 days	12/21/02	1/10/03
168	SCOPE OF WORK FOR RD/RA	0 days	1/10/03	1/10/03
169	USEPA Review Period	60 days	1/11/03	3/11/03
170	CTDEP Review Period	60 days	1/11/03	3/11/03
171	RD Work Plan (35%)	30 days	3/12/03	4/10/03
172	RD Work Plan (35%)	0 days	4/10/03	4/10/03
173	USEPA Review Period	60 days	4/11/03	6/9/03
174	CTDEP Review Period	60 days	4/11/03	6/9/03
175	60% RD	30 days	6/10/03	7/9/03
176	60% RD	0 days	7/9/03	7/9/03
177	USEPA Review Period	60 days	7/10/03	9/7/03
178	CTDEP Review Period	60 days	7/10/03	9/7/03
179	85% RD	30 days	9/8/03	10/7/03
180	85% RD	0 days	10/7/03	10/7/03
181	USEPA Review Period	30 days	10/8/03	11/6/03
182	CTDEP Review Period	30 days	10/8/03	11/6/03
183	Final RD	32 days	11/7/03	12/8/03
184	Final RD	0 days	12/8/03	12/8/03
185	USEPA Review Period	60 days	12/9/03	2/6/04
186	CTDEP Review Period	60 days	12/9/03	2/6/04
187	RAWP(Secondary)	31 days	2/7/04	3/8/04
188	RAWP(Secondary)	0 days	3/8/04	3/8/04
189	**RA**	**707 days**	**3/9/04**	**2/13/06**
190	Contract Action	330 days	3/9/04	2/1/05
191	Award Construction	10 days	2/2/05	2/11/05
192	Start of Construction	0 days	2/11/05	2/11/05
193	Construction	367 days	2/12/05	2/13/06
194	End of Construction	0 days	2/13/06	2/13/06



Project: NLONPJB6
Date: 3/18/99

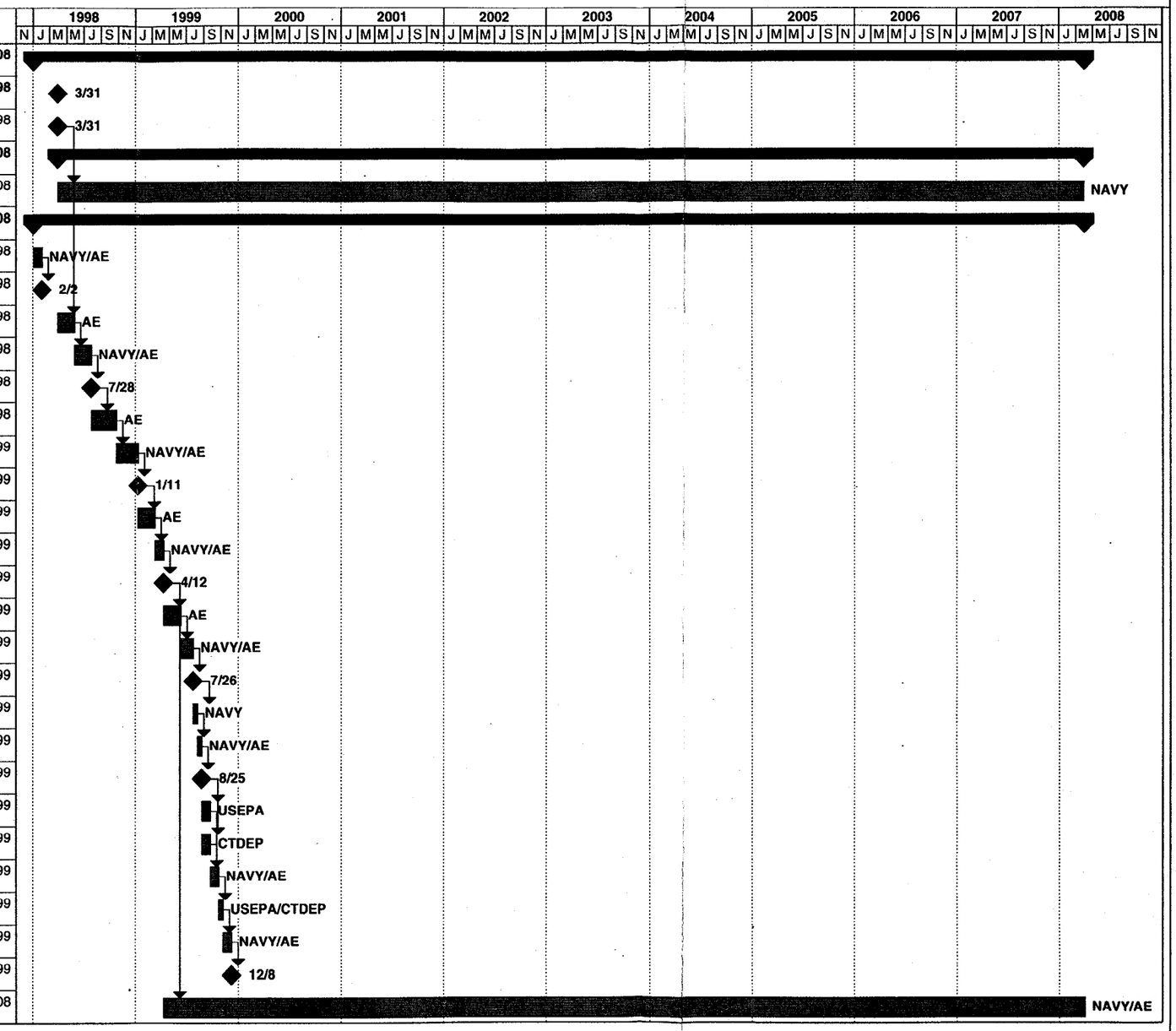
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618292

SITE 6 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
198	**SITE 6 - DRMO**	**3741 days**	**1/4/98**	**4/1/08**
199	**PRAP/ROD**	**0 days**	**3/31/98**	**3/31/98**
200	FINAL ROD & SIGNATURES	0 days	3/31/98	3/31/98
201	**OPERATION AND MAINTENANCE**	**3652 days**	**3/31/98**	**3/29/08**
202	Operation and Maintenance	3652 days	3/31/98	3/29/08
203	**LONG TERM MONITORING**	**3741 days**	**1/4/98**	**4/1/08**
204	Final Groundwater Monitoring Plan	30 days	1/4/98	2/2/98
205	FINAL GROUNDWATER MONITORING PLAN	0 days	2/2/98	2/2/98
206	1st Quarter Sampling/Analysis	60 days	3/31/98	5/29/98
207	1st Quarter Draft Report	60 days	5/30/98	7/28/98
208	1st QUARTER DRAFT REPORT	0 days	7/28/98	7/28/98
209	2nd Quarter Sampling/Analysis	90 days	7/29/98	10/26/98
210	2nd Quarter Draft Report	77 days	10/27/98	1/11/99
211	2nd QUARTER DRAFT REPORT	0 days	1/11/99	1/11/99
212	3rd Quarter Sampling/Analysis	60 days	1/12/99	3/12/99
213	3rd Quarter Draft Report	31 days	3/13/99	4/12/99
214	3rd QUARTER DRAFT REPORT	0 days	4/12/99	4/12/99
215	4th Quarter Sampling/Analysis	60 days	4/13/99	6/11/99
216	Year 1 Rough Draft Report	45 days	6/12/99	7/26/99
217	YEAR 1 ROUGH DRAFT REPORT	0 days	7/26/99	7/26/99
218	Navy Review/Concurrence	15 days	7/27/99	8/10/99
219	Year 1 Draft Report	15 days	8/11/99	8/25/99
220	YEAR 1 DRAFT REPORT	0 days	8/25/99	8/25/99
221	USEPA Review Period	30 days	8/26/99	9/24/99
222	CTDEP Review Period	30 days	8/26/99	9/24/99
223	Respond to Regulator Comments	30 days	9/25/99	10/24/99
224	Regulator Concurrence	15 days	10/25/99	11/8/99
225	Year 1 Final Report	30 days	11/9/99	12/8/99
226	YEAR 1 FINAL REPORT	0 days	12/8/99	12/8/99
227	Long Term Monitoring	3277 days	4/13/99	4/1/08



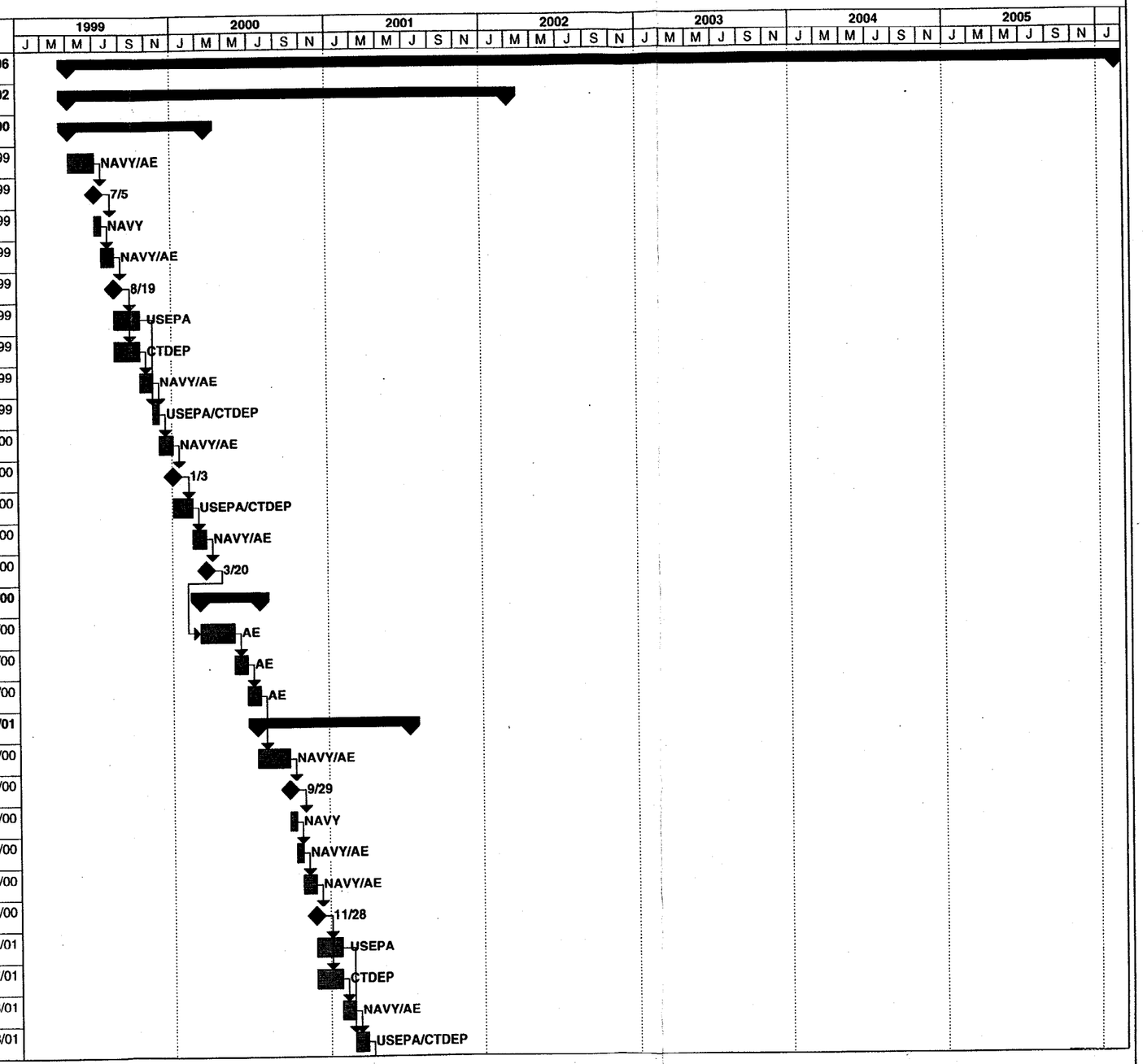
Project: NLONPJB6
Date: 3/17/99

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618302

SITE 7 SCHEDULE
NSB-NLON

ID	Task Name	Duration	Start	Finish
228	**SITE 7 - TORPEDO SHOPS**	**2476 days**	**5/6/99**	**2/13/06**
229	**DATA GAP INVESTIGATION (DGI)/FS**	**1038 days**	**5/6/99**	**3/8/02**
230	**Work Plan**	**320 days**	**5/6/99**	**3/20/00**
231	Rough Draft DGI Work Plan	61 days	5/6/99	7/5/99
232	ROUGH DRAFT DGI WORK PLAN	0 days	7/5/99	7/5/99
233	Navy Review	15 days	7/6/99	7/20/99
234	Draft DGI Work Plan	30 days	7/21/99	8/19/99
235	DRAFT DGI WORK PLAN	0 days	8/19/99	8/19/99
236	USEPA Review Period	60 days	8/20/99	10/18/99
237	CTDEP Review Period	60 days	8/20/99	10/18/99
238	Respond to Regulator Comments	30 days	10/19/99	11/17/99
239	Regulator Concurrence	15 days	11/18/99	12/2/99
240	Draft Final DGI Work Plan	32 days	12/3/99	1/3/00
241	DRAFT FINAL DGI WORK PLAN	0 days	1/3/00	1/3/00
242	Regulator Review/Concurrence	45 days	1/4/00	2/17/00
243	Final DGI Work Plan	32 days	2/18/00	3/20/00
244	FINAL DGI WORK PLAN	0 days	3/20/00	3/20/00
245	**Field Work**	**140 days**	**3/6/00**	**7/23/00**
246	Field Work	80 days	3/6/00	5/24/00
247	Lab Analysis	30 days	5/25/00	6/23/00
248	Data Validation	30 days	6/24/00	7/23/00
249	**Field Report**	**360 days**	**7/17/00**	**7/11/01**
250	Rough Draft Field Report	75 days	7/17/00	9/29/00
251	ROUGH DRAFT FIELD REPORT	0 days	9/29/00	9/29/00
252	Navy Review	15 days	9/30/00	10/14/00
253	Respond to Navy Comments	15 days	10/15/00	10/29/00
254	Draft Field Report	30 days	10/30/00	11/28/00
255	DRAFT FIELD REPORT	0 days	11/28/00	11/28/00
256	USEPA Review Period	60 days	11/29/00	1/27/01
257	CTDEP Review Period	60 days	11/29/00	1/27/01
258	Respond to Regulator Comments	30 days	1/28/01	2/26/01
259	Regulator Concurrence	30 days	2/27/01	3/28/01



Project: NLONPJB6
Date: 3/18/99

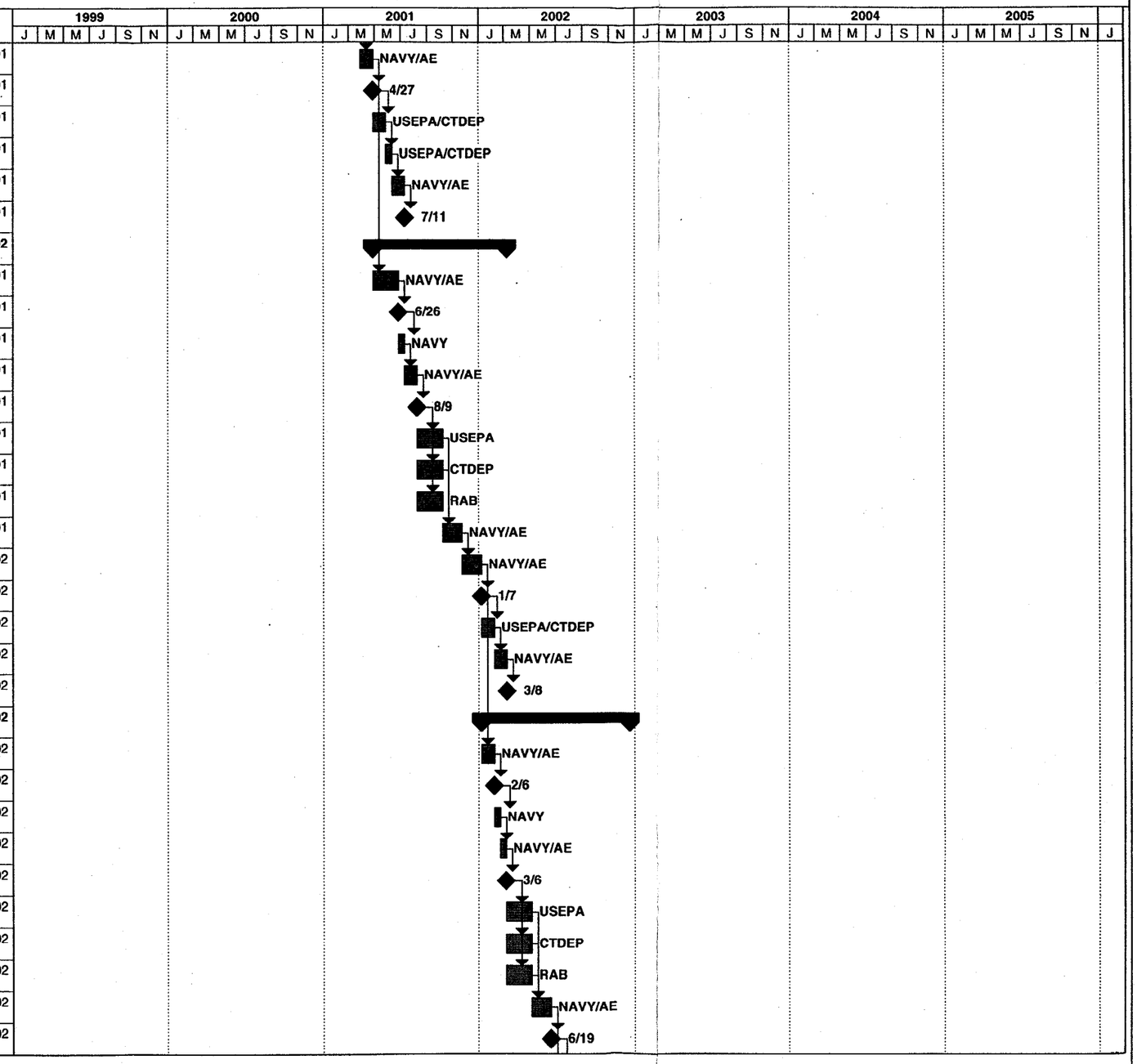
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618312

SITE 7 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
260	Draft Final Field Report	30 days	3/29/01	4/27/01
261	DRAFT FINAL FIELD REPORT	0 days	4/27/01	4/27/01
262	Regulator Review	30 days	4/28/01	5/27/01
263	Regulator Concurrence	15 days	5/28/01	6/11/01
264	Final Field Report	30 days	6/12/01	7/11/01
265	FINAL FIELD REPORT	0 days	7/11/01	7/11/01
266	**Feasibility Study**	**315 days**	**4/28/01**	**3/8/02**
267	Rough Draft FS Report	60 days	4/28/01	6/26/01
268	ROUGH DRAFT FS REPORT	0 days	6/26/01	6/26/01
269	Navy Review	14 days	6/27/01	7/10/01
270	Draft FS Report	30 days	7/11/01	8/9/01
271	DRAFT FS REPORT	0 days	8/9/01	8/9/01
272	USEPA Review Period	60 days	8/10/01	10/8/01
273	CTDEP Review Period	60 days	8/10/01	10/8/01
274	RAB Review Period	60 days	8/10/01	10/8/01
275	Navy Respond to Comments	45 days	10/9/01	11/22/01
276	Draft Final FS Report	46 days	11/23/01	1/7/02
277	DRAFT FINAL FS REPORT	0 days	1/7/02	1/7/02
278	Regulator Concurrence	30 days	1/8/02	2/6/02
279	Final FS Report	30 days	2/7/02	3/8/02
280	FINAL FS REPORT	0 days	3/8/02	3/8/02
281	**PRAP/ROD**	**347 days**	**1/8/02**	**12/20/02**
282	Rough Draft PRAP	30 days	1/8/02	2/6/02
283	ROUGH DRAFT PRAP	0 days	2/6/02	2/6/02
284	Navy Review	14 days	2/7/02	2/20/02
285	Draft PRAP	14 days	2/21/02	3/6/02
286	DRAFT PRAP	0 days	3/6/02	3/6/02
287	USEPA Review Period	60 days	3/7/02	5/5/02
288	CTDEP Review Period	60 days	3/7/02	5/5/02
289	RAB Review Period	60 days	3/7/02	5/5/02
290	Draft Final PRAP	45 days	5/6/02	6/19/02
291	DRAFT FINAL PRAP	0 days	6/19/02	6/19/02



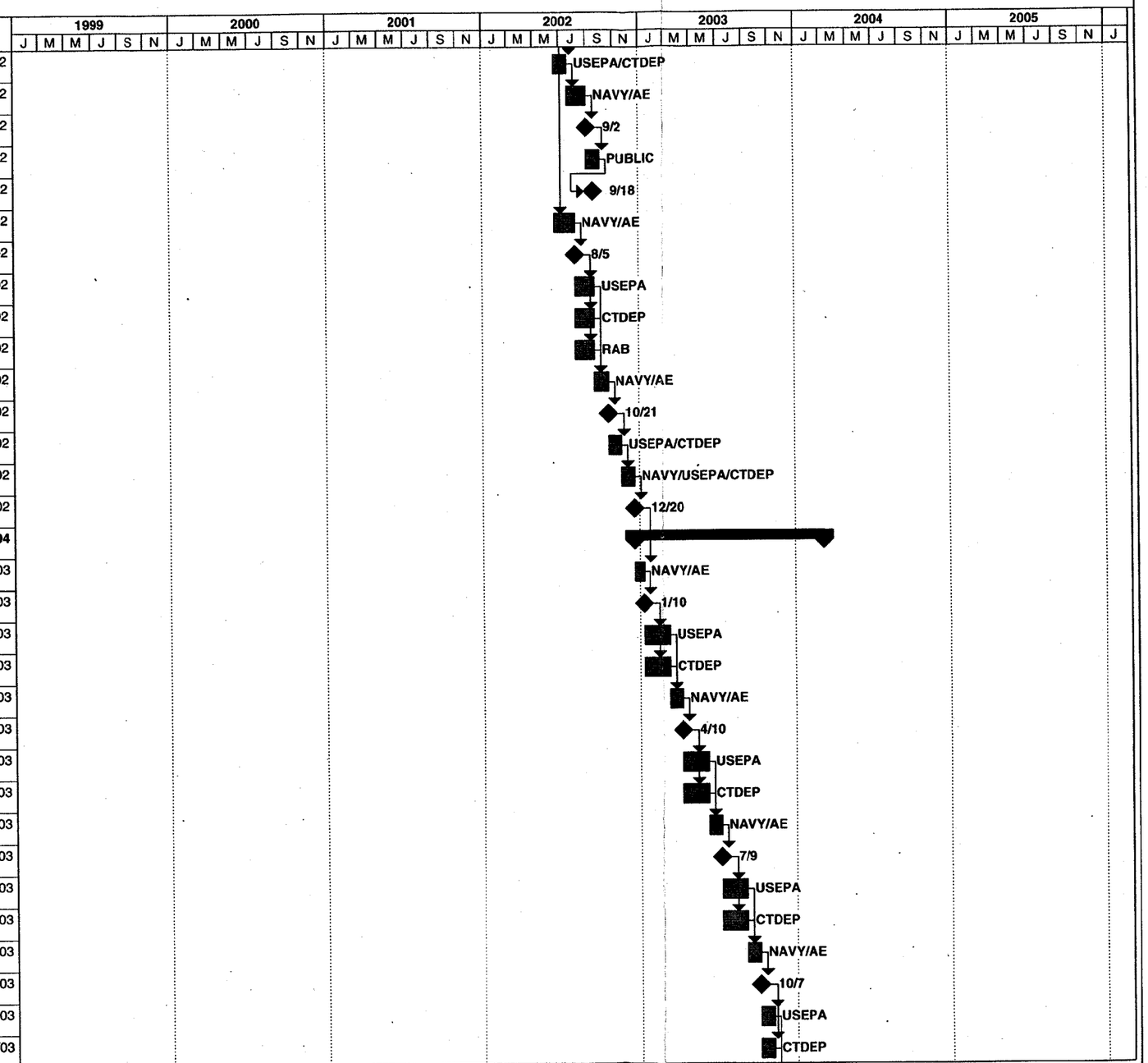
Project: NLONPJB6
Date: 3/18/99

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618322

SITE 7 SCHEDULE
NSB-NLON

ID	Task Name	Duration	Start	Finish
292	Regulator Concurrence	30 days	6/20/02	7/19/02
293	Final PRAP	45 days	7/20/02	9/2/02
294	FINAL PRAP	0 days	9/2/02	9/2/02
295	Public Comment on Final PRAP	30 days	9/3/02	10/2/02
296	PUBLIC MEETING ON FINAL PRAP	0 days	9/18/02	9/18/02
297	Draft ROD & Responsiveness Summary	47 days	6/20/02	8/5/02
298	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	8/5/02	8/5/02
299	USEPA Review Period	45 days	8/6/02	9/19/02
300	CTDEP Review Period	45 days	8/6/02	9/19/02
301	RAB Review Period	45 days	8/6/02	9/19/02
302	Response to Comments and Revised Draft ROD	32 days	9/20/02	10/21/02
303	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	10/21/02	10/21/02
304	Regulator Concurrence	30 days	10/22/02	11/20/02
305	Final ROD & Signatures	30 days	11/21/02	12/20/02
306	FINAL ROD & SIGNATURES	0 days	12/20/02	12/20/02
307	**RD (If Needed)**	**444 days**	**12/21/02**	**3/8/04**
308	Scope of Work for RD/RA	21 days	12/21/02	1/10/03
309	SCOPE OF WORK FOR RD/RA	0 days	1/10/03	1/10/03
310	USEPA Review Period	60 days	1/11/03	3/11/03
311	CTDEP Review Period	60 days	1/11/03	3/11/03
312	RD Work Plan (35%)	30 days	3/12/03	4/10/03
313	RD Work Plan (35%)	0 days	4/10/03	4/10/03
314	USEPA Review Period	60 days	4/11/03	6/9/03
315	CTDEP Review Period	60 days	4/11/03	6/9/03
316	60% RD	30 days	6/10/03	7/9/03
317	60% RD	0 days	7/9/03	7/9/03
318	USEPA Review Period	60 days	7/10/03	9/7/03
319	CTDEP Review Period	60 days	7/10/03	9/7/03
320	85% RD	30 days	9/8/03	10/7/03
321	85% RD	0 days	10/7/03	10/7/03
322	USEPA Review Period	30 days	10/8/03	11/6/03
323	CTDEP Review Period	30 days	10/8/03	11/6/03



Project: NLONPJB6
Date: 3/18/99

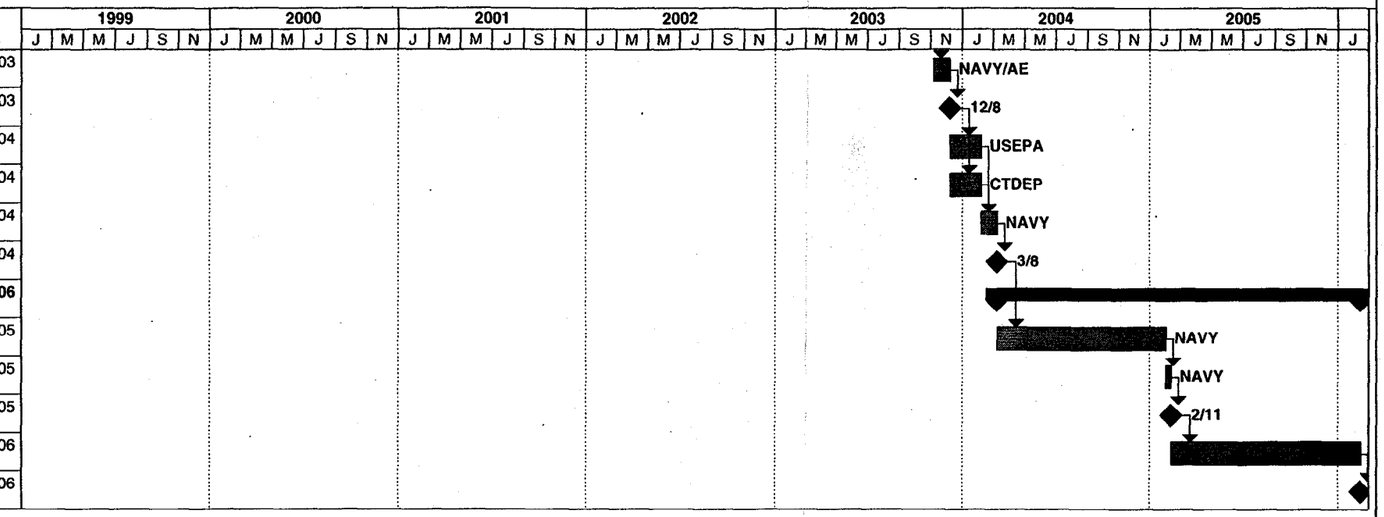
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618332

SITE 7 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
324	Final RD	32 days	11/7/03	12/8/03
325	Final RD	0 days	12/8/03	12/8/03
326	USEPA Review Period	60 days	12/9/03	2/6/04
327	CTDEP Review Period	60 days	12/9/03	2/6/04
328	RAWP(Secondary)	31 days	2/7/04	3/8/04
329	RAWP(Secondary)	0 days	3/8/04	3/8/04
330	**RA (If Needed)**	**707 days**	**3/9/04**	**2/13/06**
331	Contract Action	330 days	3/9/04	2/1/05
332	Award Construction	10 days	2/2/05	2/11/05
333	Start of Construction	0 days	2/11/05	2/11/05
334	Construction	367 days	2/12/05	2/13/06
335	End of Construction	0 days	2/13/06	2/13/06



Project: NLONPJB6
Date: 3/18/99

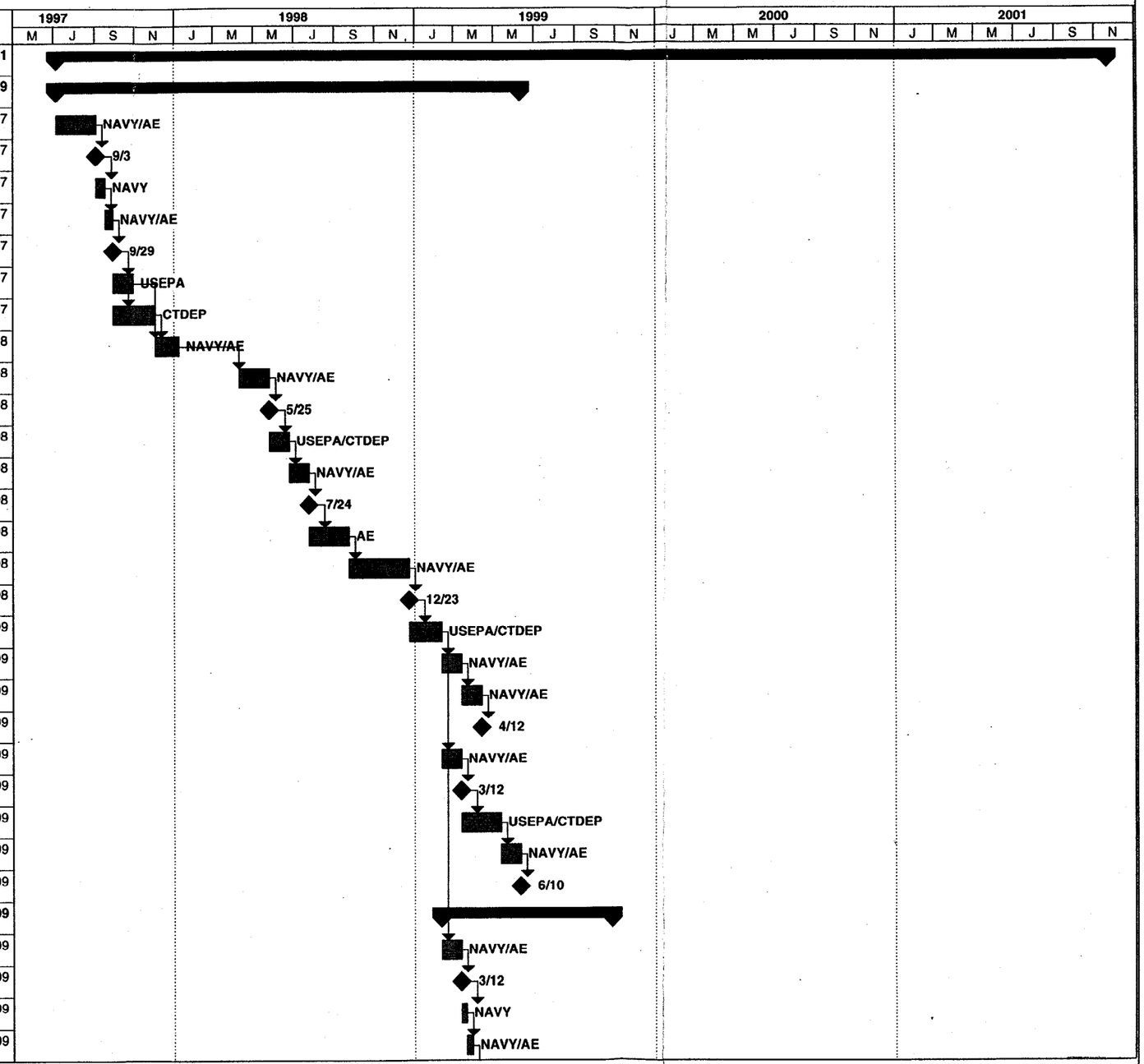
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618342

SITE 8 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
336	**SITE 8 - GOSS COVE LANDFILL**	**1599 days**	**7/6/97**	**11/20/01**
337	**FEASIBILITY STUDY**	**705 days**	**7/6/97**	**6/10/99**
338	Rough Draft FS Report	60 days	7/6/97	9/3/97
339	ROUGH DRAFT FS REPORT	0 days	9/3/97	9/3/97
340	Navy Review	14 days	9/4/97	9/17/97
341	Draft FS Report	12 days	9/18/97	9/29/97
342	DRAFT FS REPORT	0 days	9/29/97	9/29/97
343	USEPA Review Period	31 days	9/30/97	10/30/97
344	CTDEP Review Period	65 days	9/30/97	12/3/97
345	Respond to Regulator Comments	36 days	12/4/97	1/8/98
346	Draft Work Plan for Goss Cove Ecological DGI	46 days	4/10/98	5/25/98
347	DRAFT WORK PLAN FOR GOSS COVE ECOLOGICAL DGI	0 days	5/25/98	5/25/98
348	Regulator Review	30 days	5/26/98	6/24/98
349	Final Work Plan for Goss Cove Ecological DGI	30 days	6/25/98	7/24/98
350	FINAL WORK PLAN FOR GOSS COVE ECOLOGICAL DGI	0 days	7/24/98	7/24/98
351	Goss Cove Ecological DGI	60 days	7/25/98	9/22/98
352	Draft Goss Cove Ecological DGI Report	92 days	9/23/98	12/23/98
353	DRAFT GOSS COVE ECOLOGICAL DGI REPORT	0 days	12/23/98	12/23/98
354	Regulator Review	49 days	12/24/98	2/10/99
355	Respond to Regulator Comments	30 days	2/11/99	3/12/99
356	Final Goss Cove Ecological DGI Report	31 days	3/13/99	4/12/99
357	FINAL GOSS COVE ECOLOGICAL DGI REPORT	0 days	4/12/99	4/12/99
358	Draft Final FS Report	30 days	2/11/99	3/12/99
359	DRAFT FINAL FS REPORT	0 days	3/12/99	3/12/99
360	Regulator Review/Concurrence	60 days	3/13/99	5/11/99
361	Final FS Report	30 days	5/12/99	6/10/99
362	FINAL FS REPORT	0 days	6/10/99	6/10/99
363	**PRAP/ROD**	**258 days**	**2/11/99**	**10/26/99**
364	Rough Draft PRAP	30 days	2/11/99	3/12/99
365	ROUGH DRAFT PRAP	0 days	3/12/99	3/12/99
366	Navy Review	8 days	3/13/99	3/20/99
367	Draft PRAP	9 days	3/21/99	3/29/99



Project: NLONPJB6
Date: 3/18/99

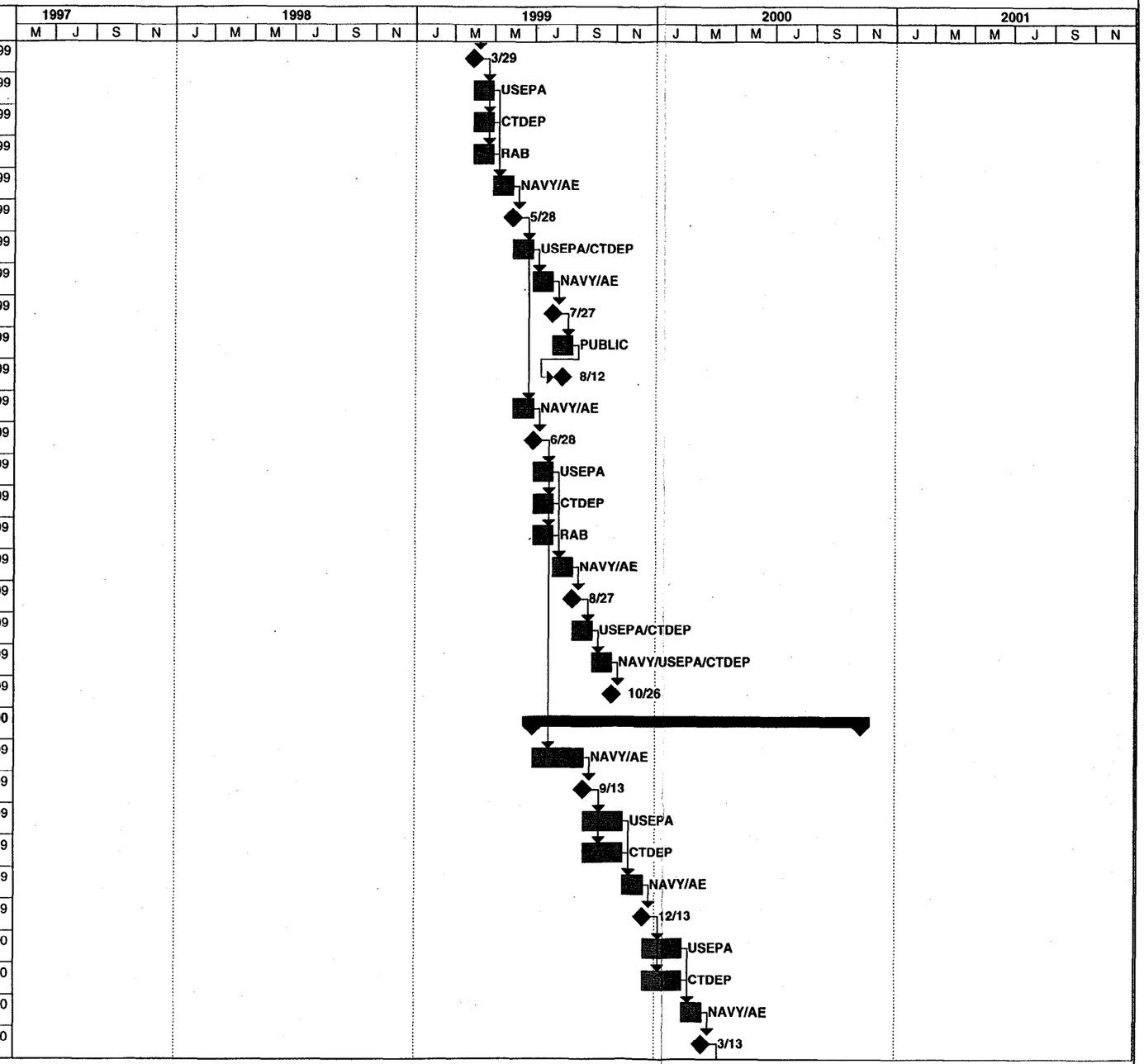
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618352

SITE 8 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
368	DRAFT PRAP	0 days	3/29/99	3/29/99
369	USEPA Review Period	30 days	3/30/99	4/28/99
370	CTDEP Review Period	30 days	3/30/99	4/28/99
371	RAB Review Period	30 days	3/30/99	4/28/99
372	Draft Final PRAP	30 days	4/29/99	5/28/99
373	DRAFT FINAL PRAP	0 days	5/28/99	5/28/99
374	Regulator Concurrence	30 days	5/29/99	6/27/99
375	Final PRAP	30 days	6/28/99	7/27/99
376	FINAL PRAP	0 days	7/27/99	7/27/99
377	Public Comment on Final PRAP	30 days	7/28/99	8/26/99
378	PUBLIC MEETING ON FINAL PRAP	0 days	8/12/99	8/12/99
379	Draft ROD & Responsiveness Summary	31 days	5/29/99	6/28/99
380	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	6/28/99	6/28/99
381	USEPA Review Period	30 days	6/29/99	7/28/99
382	CTDEP Review Period	30 days	6/29/99	7/28/99
383	RAB Review Period	30 days	6/29/99	7/28/99
384	Response to Comments and Revised Draft ROD	30 days	7/29/99	8/27/99
385	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	8/27/99	8/27/99
386	Regulator Concurrence	30 days	8/28/99	9/26/99
387	Final ROD & Signatures	30 days	9/27/99	10/26/99
388	FINAL ROD & SIGNATURES	0 days	10/26/99	10/26/99
389	**RD**	**500 days**	**6/29/99**	**11/9/00**
390	Scope of Work for RD/RA	77 days	6/29/99	9/13/99
391	SCOPE OF WORK FOR RD/RA	0 days	9/13/99	9/13/99
392	USEPA Review Period	60 days	9/14/99	11/12/99
393	CTDEP Review Period	60 days	9/14/99	11/12/99
394	RD Work Plan (35%)	31 days	11/13/99	12/13/99
395	RD Work Plan (35%)	0 days	12/13/99	12/13/99
396	USEPA Review Period	60 days	12/14/99	2/11/00
397	CTDEP Review Period	60 days	12/14/99	2/11/00
398	60% RD	31 days	2/12/00	3/13/00
399	60% RD	0 days	3/13/00	3/13/00



Project: NLONPJB6
Date: 3/18/99

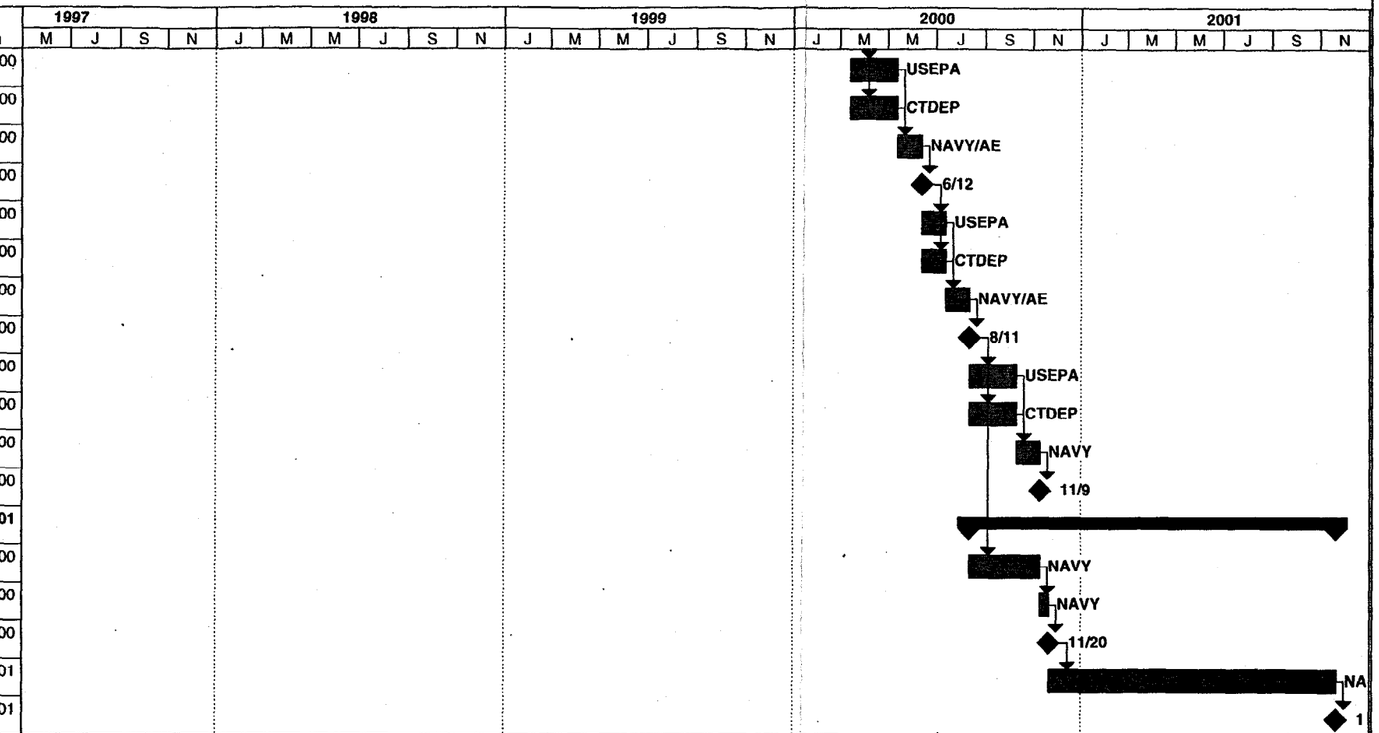
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618362

SITE 8 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
400	USEPA Review Period	60 days	3/14/00	5/12/00
401	CTDEP Review Period	60 days	3/14/00	5/12/00
402	85% RD	31 days	5/13/00	6/12/00
403	85% RD	0 days	6/12/00	6/12/00
404	USEPA Review Period	30 days	6/13/00	7/12/00
405	CTDEP Review Period	30 days	6/13/00	7/12/00
406	Final RD	30 days	7/13/00	8/11/00
407	Final RD	0 days	8/11/00	8/11/00
408	USEPA Review Period	60 days	8/12/00	10/10/00
409	CTDEP Review Period	60 days	8/12/00	10/10/00
410	RAWP(Secondary)	30 days	10/11/00	11/9/00
411	RAWP(Secondary)	0 days	11/9/00	11/9/00
412	**RA**	**466 days**	**8/12/00**	**11/20/01**
413	Contract Action	90 days	8/12/00	11/9/00
414	Award Construction	11 days	11/10/00	11/20/00
415	Start of Construction	0 days	11/20/00	11/20/00
416	Construction	365 days	11/21/00	11/20/01
417	End of Construction	0 days	11/20/01	11/20/01



Project: NLONPJB6
Date: 3/18/99

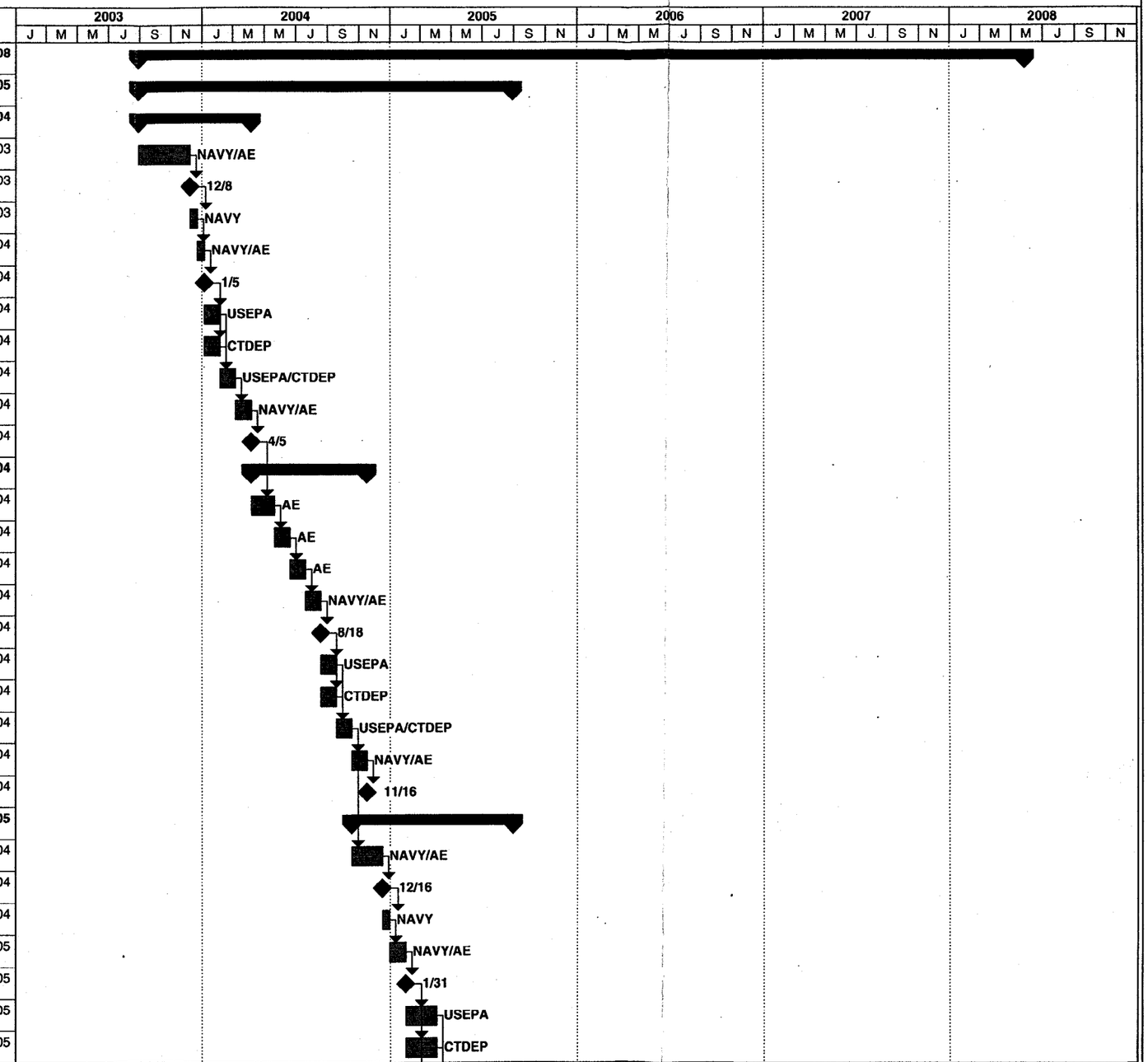
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618372

SITE 14 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
418	**SITE 14 - OBDANE**	**1733 days**	**8/30/03**	**5/27/08**
419	**DATA GAP INVESTIGATION (DGI)/FS**	**731 days**	**8/30/03**	**8/29/05**
420	**Work Plan**	**220 days**	**8/30/03**	**4/5/04**
421	Rough Draft DGI Work Plan	101 days	8/30/03	12/8/03
422	ROUGH DRAFT DGI WORK PLAN	0 days	12/8/03	12/8/03
423	Navy Review	14 days	12/9/03	12/22/03
424	Draft DGI Work Plan	14 days	12/23/03	1/5/04
425	DRAFT DGI WORK PLAN	0 days	1/5/04	1/5/04
426	USEPA Review Period	30 days	1/6/04	2/4/04
427	CTDEP Review Period	30 days	1/6/04	2/4/04
428	Regulator Concurrence	30 days	2/5/04	3/5/04
429	Final DGI Work Plan	31 days	3/6/04	4/5/04
430	FINAL DGI WORK PLAN	0 days	4/5/04	4/5/04
431	**Field Work**	**225 days**	**4/6/04**	**11/16/04**
432	Field Work	45 days	4/6/04	5/20/04
433	Lab Analysis	30 days	5/21/04	6/19/04
434	Data Validation	30 days	6/20/04	7/19/04
435	Draft Field Report	30 days	7/20/04	8/18/04
436	DRAFT FIELD REPORT	0 days	8/18/04	8/18/04
437	USEPA Review Period	30 days	8/19/04	9/17/04
438	CTDEP Review Period	30 days	8/19/04	9/17/04
439	Regulator Concurrence	30 days	9/18/04	10/17/04
440	Final Field Report	30 days	10/18/04	11/16/04
441	FINAL FIELD REPORT	0 days	11/16/04	11/16/04
442	**Feasibility Study**	**316 days**	**10/18/04**	**8/29/05**
443	Rough Draft FS Report	60 days	10/18/04	12/16/04
444	ROUGH DRAFT FS REPORT	0 days	12/16/04	12/16/04
445	Navy Review/Concurrence	14 days	12/17/04	12/30/04
446	Draft FS Report	32 days	12/31/04	1/31/05
447	DRAFT FS REPORT	0 days	1/31/05	1/31/05
448	USEPA Review Period	60 days	2/1/05	4/1/05
449	CTDEP Review Period	60 days	2/1/05	4/1/05



Project: NLONPJB6
Date: 3/18/99

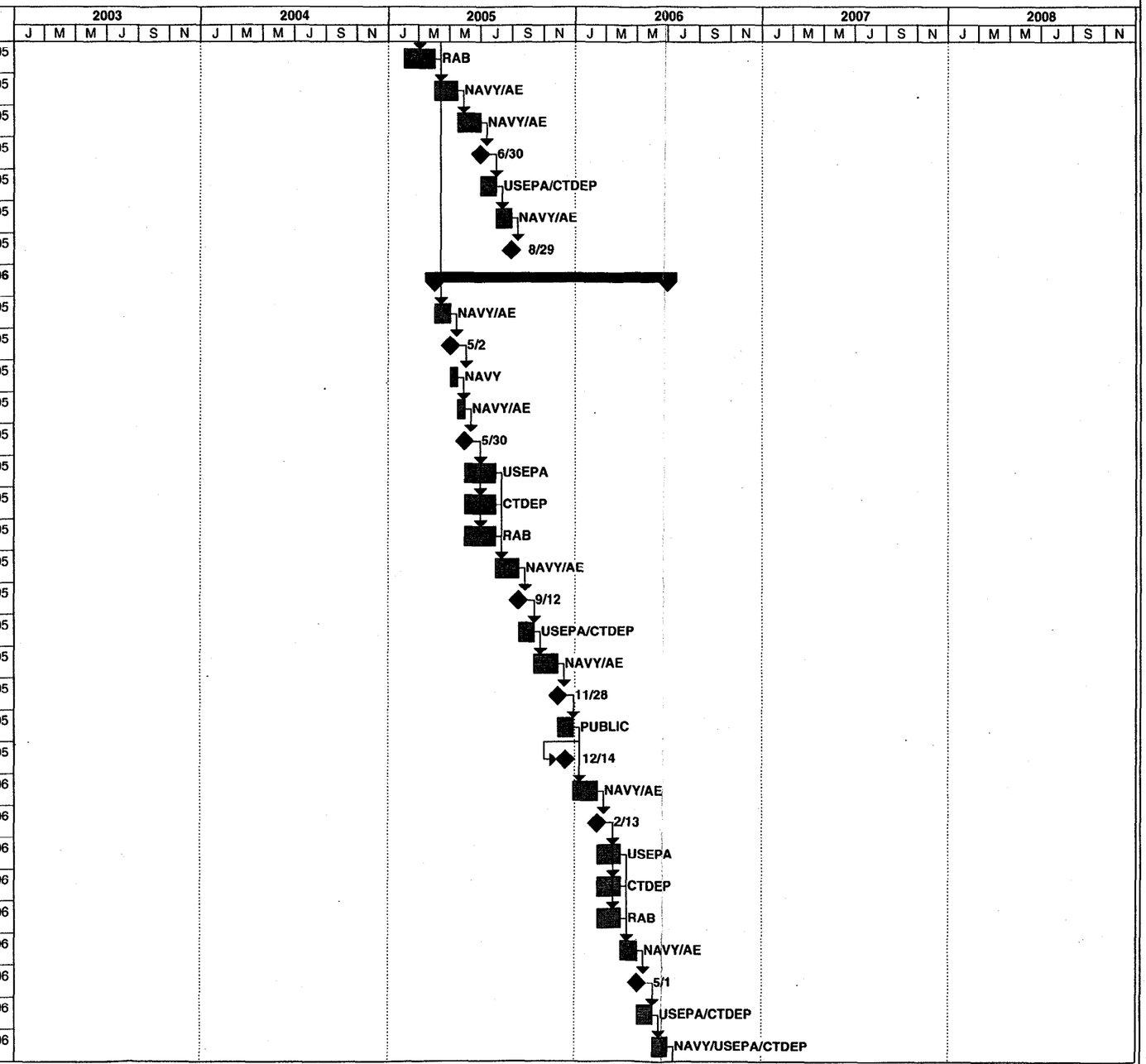
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618382

SITE 14 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
450	RAB Review Period	60 days	2/1/05	4/1/05
451	Respond to Regulator Comments	45 days	4/2/05	5/16/05
452	Draft Final FS Report	45 days	5/17/05	6/30/05
453	DRAFT FINAL FS REPORT	0 days	6/30/05	6/30/05
454	Regulator Concurrence	30 days	7/1/05	7/30/05
455	Final FS Report	30 days	7/31/05	8/29/05
456	FINAL FS REPORT	0 days	8/29/05	8/29/05
457	**PRAP/ROD**	**455 days**	**4/2/05**	**6/30/06**
458	Rough Draft PRAP	31 days	4/2/05	5/2/05
459	ROUGH DRAFT PRAP	0 days	5/2/05	5/2/05
460	Navy Review	14 days	5/3/05	5/16/05
461	Draft PRAP	14 days	5/17/05	5/30/05
462	DRAFT PRAP	0 days	5/30/05	5/30/05
463	USEPA Review Period	60 days	5/31/05	7/29/05
464	CTDEP Review Period	60 days	5/31/05	7/29/05
465	RAB Review Period	60 days	5/31/05	7/29/05
466	Draft Final PRAP	45 days	7/30/05	9/12/05
467	DRAFT FINAL PRAP	0 days	9/12/05	9/12/05
468	Regulator Concurrence	30 days	9/13/05	10/12/05
469	Final PRAP	47 days	10/13/05	11/28/05
470	FINAL PRAP	0 days	11/28/05	11/28/05
471	Public Comment on Final PRAP	30 days	11/29/05	12/28/05
472	PUBLIC MEETING ON FINAL PRAP	0 days	12/14/05	12/14/05
473	Draft ROD & Responsiveness Summary	47 days	12/29/05	2/13/06
474	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	2/13/06	2/13/06
475	USEPA Review Period	45 days	2/14/06	3/30/06
476	CTDEP Review Period	45 days	2/14/06	3/30/06
477	RAB Review Period	45 days	2/14/06	3/30/06
478	Response to Comments and Revised Draft ROD	32 days	3/31/06	5/1/06
479	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	5/1/06	5/1/06
480	Regulator Concurrence	30 days	5/2/06	5/31/06
481	Final ROD & Signatures	30 days	6/1/06	6/30/06



Project: NLONPJB6
Date: 3/18/99

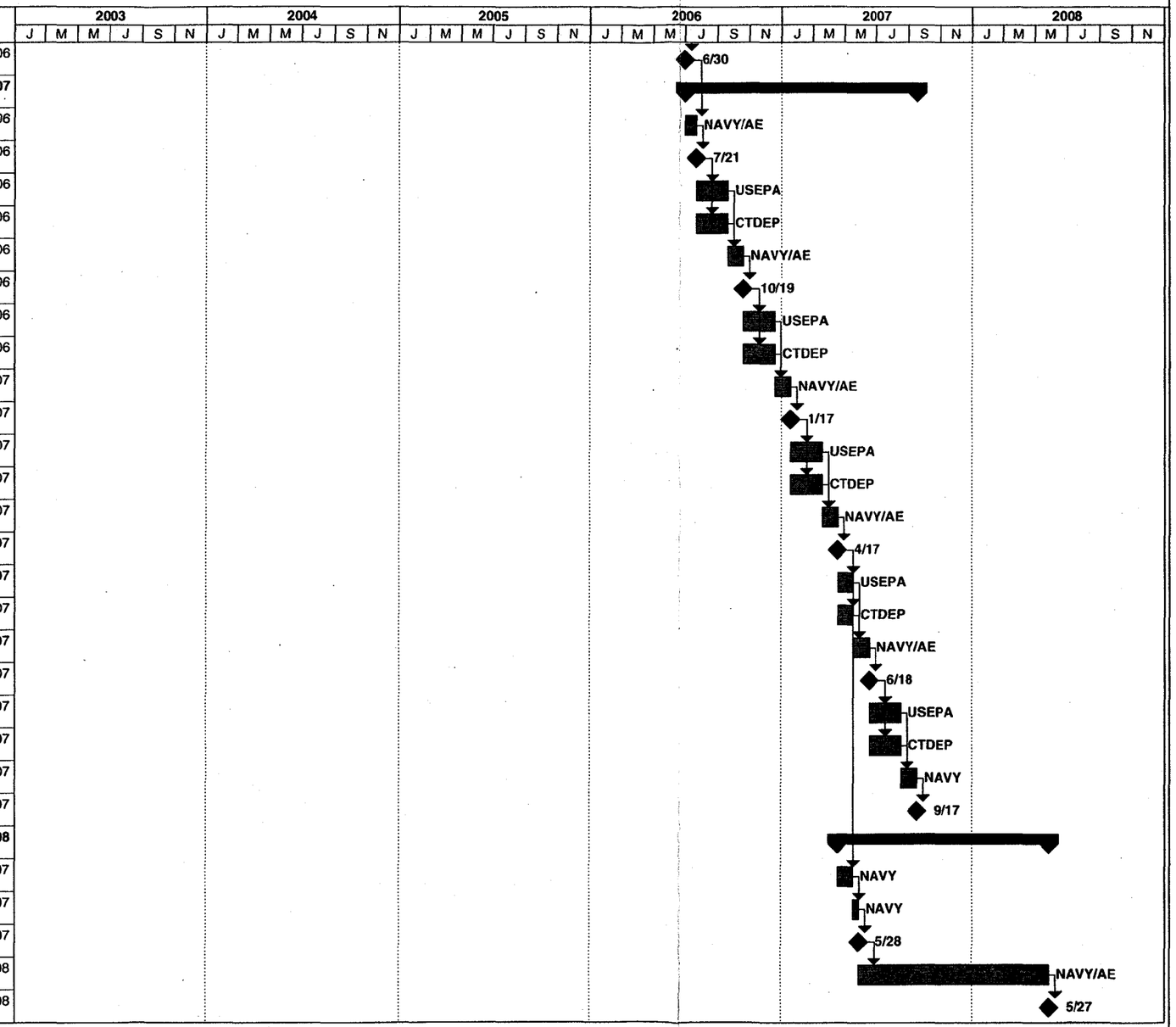
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618392

SITE 14 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
482	FINAL ROD & SIGNATURES	0 days	6/30/06	6/30/06
483	**RD (If Needed)**	**444 days**	**7/1/06**	**9/17/07**
484	Scope of Work for RD/RA	21 days	7/1/06	7/21/06
485	SCOPE OF WORK FOR RD/RA	0 days	7/21/06	7/21/06
486	USEPA Review Period	60 days	7/22/06	9/19/06
487	CTDEP Review Period	60 days	7/22/06	9/19/06
488	RD Work Plan (35%)	30 days	9/20/06	10/19/06
489	RD Work Plan (35%)	0 days	10/19/06	10/19/06
490	USEPA Review Period	60 days	10/20/06	12/18/06
491	CTDEP Review Period	60 days	10/20/06	12/18/06
492	60% RD	30 days	12/19/06	1/17/07
493	60% RD	0 days	1/17/07	1/17/07
494	USEPA Review Period	60 days	1/18/07	3/18/07
495	CTDEP Review Period	60 days	1/18/07	3/18/07
496	85% RD	30 days	3/19/07	4/17/07
497	85% RD	0 days	4/17/07	4/17/07
498	USEPA Review Period	30 days	4/18/07	5/17/07
499	CTDEP Review Period	30 days	4/18/07	5/17/07
500	Final RD	32 days	5/18/07	6/18/07
501	Final RD	0 days	6/18/07	6/18/07
502	USEPA Review Period	60 days	6/19/07	8/17/07
503	CTDEP Review Period	60 days	6/19/07	8/17/07
504	RAWP(Secondary)	31 days	8/18/07	9/17/07
505	RAWP(Secondary)	0 days	9/17/07	9/17/07
506	**RA (if Needed)**	**406 days**	**4/18/07**	**5/27/08**
507	Contract Action	30 days	4/18/07	5/17/07
508	Award Construction	11 days	5/18/07	5/28/07
509	Start of Construction	0 days	5/28/07	5/28/07
510	Construction	365 days	5/29/07	5/27/08
511	End of Construction	0 days	5/27/08	5/27/08



Project: NLONPJB6
Date: 3/18/99

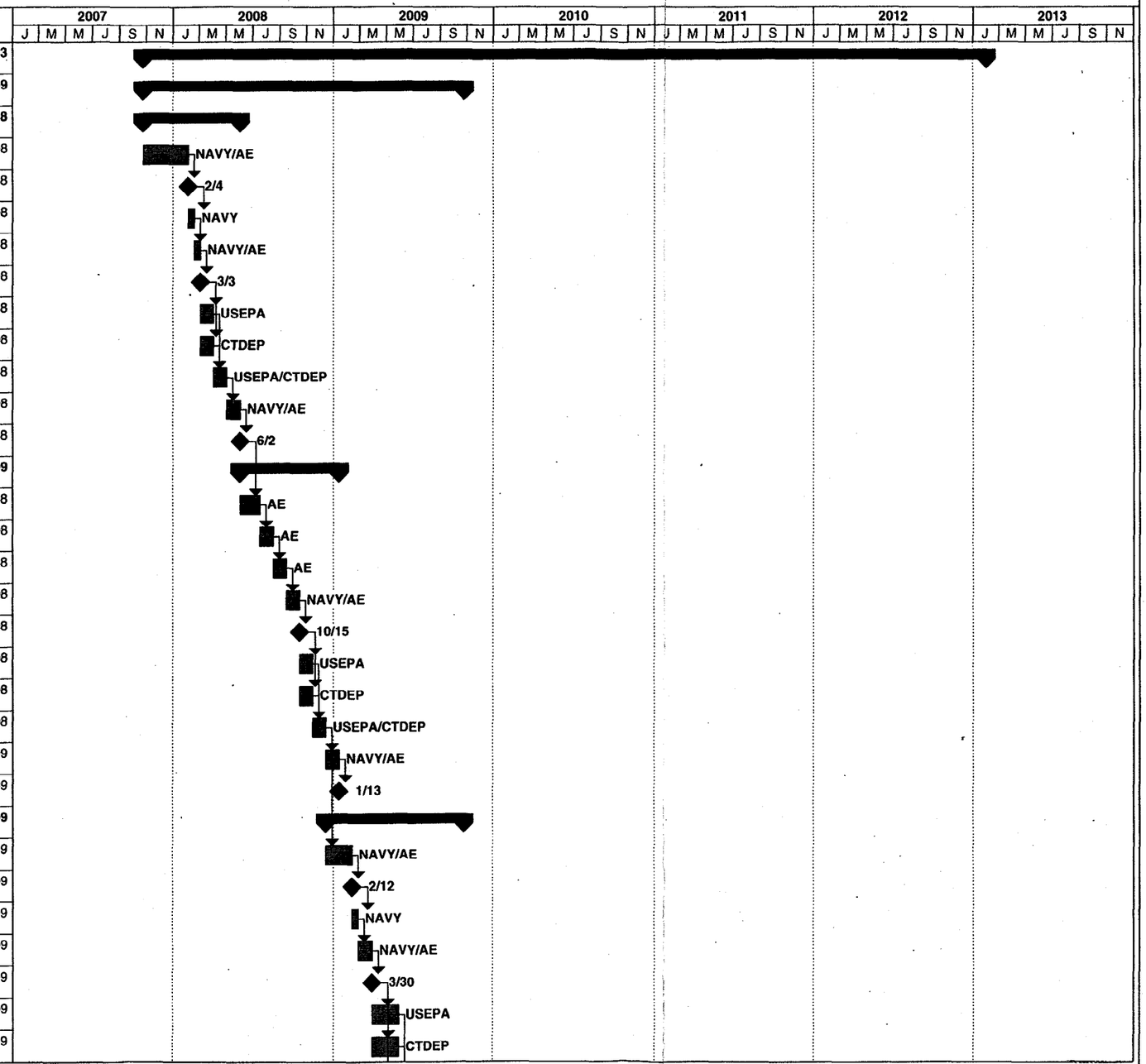
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618402

SITE 16 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
512	**SITE 16 - HOSPITAL INCINERATORS**	**1926 days**	**10/26/07**	**2/1/13**
513	**DATA GAP INVESTIGATION (DGI)/FS**	**732 days**	**10/26/07**	**10/26/09**
514	**Work Plan**	**221 days**	**10/26/07**	**6/2/08**
515	Rough Draft DGI Work Plan	102 days	10/26/07	2/4/08
516	ROUGH DRAFT DGI WORK PLAN	0 days	2/4/08	2/4/08
517	Navy Review	14 days	2/5/08	2/18/08
518	Draft DGI Work Plan	14 days	2/19/08	3/3/08
519	DRAFT DGI WORK PLAN	0 days	3/3/08	3/3/08
520	USEPA Review Period	30 days	3/4/08	4/2/08
521	CTDEP Review Period	30 days	3/4/08	4/2/08
522	Regulator Concurrence	30 days	4/3/08	5/2/08
523	Final DGI Work Plan	31 days	5/3/08	6/2/08
524	FINAL DGI WORK PLAN	0 days	6/2/08	6/2/08
525	**Field Work**	**225 days**	**6/3/08**	**1/13/09**
526	Field Work	45 days	6/3/08	7/17/08
527	Lab Analysis	30 days	7/18/08	8/16/08
528	Data Validation	30 days	8/17/08	9/15/08
529	Draft Field Report	30 days	9/16/08	10/15/08
530	DRAFT FIELD REPORT	0 days	10/15/08	10/15/08
531	USEPA Review Period	30 days	10/16/08	11/14/08
532	CTDEP Review Period	30 days	10/16/08	11/14/08
533	Regulator Concurrence	30 days	11/15/08	12/14/08
534	Final Field Report	30 days	12/15/08	1/13/09
535	FINAL FIELD REPORT	0 days	1/13/09	1/13/09
536	**Feasibility Study**	**316 days**	**12/15/08**	**10/26/09**
537	Rough Draft FS Report	60 days	12/15/08	2/12/09
538	ROUGH DRAFT FS REPORT	0 days	2/12/09	2/12/09
539	Navy Review/Concurrence	14 days	2/13/09	2/26/09
540	Draft FS Report	32 days	2/27/09	3/30/09
541	DRAFT FS REPORT	0 days	3/30/09	3/30/09
542	USEPA Review Period	60 days	3/31/09	5/29/09
543	CTDEP Review Period	60 days	3/31/09	5/29/09



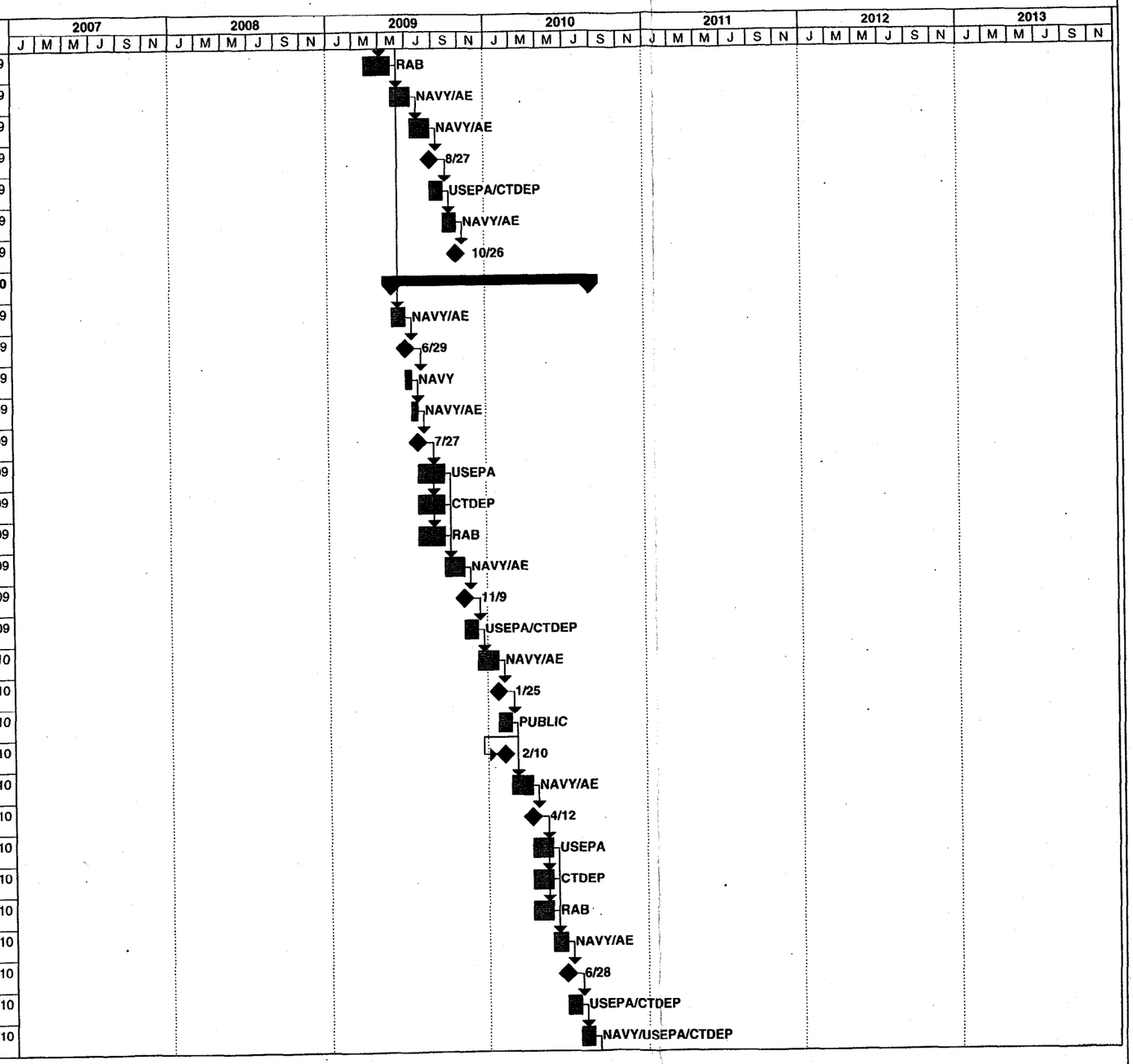
Project: NLONPJB6
Date: 3/18/99

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618412

SITE 16 SCHEDULE
NSB-NLON

ID	Task Name	Duration	Start	Finish
544	RAB Review Period	60 days	3/31/09	5/29/09
545	Respond to Regulator Comments	45 days	5/30/09	7/13/09
546	Draft Final FS Report	45 days	7/14/09	8/27/09
547	DRAFT FINAL FS REPORT	0 days	8/27/09	8/27/09
548	Regulator Concurrence	30 days	8/28/09	9/26/09
549	Final FS Report	30 days	9/27/09	10/26/09
550	FINAL FS REPORT	0 days	10/26/09	10/26/09
551	**PRAP/ROD**	**455 days**	**5/30/09**	**8/27/10**
552	Rough Draft PRAP	31 days	5/30/09	6/29/09
553	ROUGH DRAFT PRAP	0 days	6/29/09	6/29/09
554	Navy Review	14 days	6/30/09	7/13/09
555	Draft PRAP	14 days	7/14/09	7/27/09
556	DRAFT PRAP	0 days	7/27/09	7/27/09
557	USEPA Review Period	60 days	7/28/09	9/25/09
558	CTDEP Review Period	60 days	7/28/09	9/25/09
559	RAB Review Period	60 days	7/28/09	9/25/09
560	Draft Final PRAP	45 days	9/26/09	11/9/09
561	DRAFT FINAL PRAP	0 days	11/9/09	11/9/09
562	Regulator Concurrence	30 days	11/10/09	12/9/09
563	Final PRAP	47 days	12/10/09	1/25/10
564	FINAL PRAP	0 days	1/25/10	1/25/10
565	Public Comment on Final PRAP	30 days	1/26/10	2/24/10
566	PUBLIC MEETING ON FINAL PRAP	0 days	2/10/10	2/10/10
567	Draft ROD & Responsiveness Summary	47 days	2/25/10	4/12/10
568	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	4/12/10	4/12/10
569	USEPA Review Period	45 days	4/13/10	5/27/10
570	CTDEP Review Period	45 days	4/13/10	5/27/10
571	RAB Review Period	45 days	4/13/10	5/27/10
572	Response to Comments and Revised Draft ROD	32 days	5/28/10	6/28/10
573	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	6/28/10	6/28/10
574	Regulator Concurrence	30 days	6/29/10	7/28/10
575	Final ROD & Signatures	30 days	7/29/10	8/27/10



Project: NLONPJB6
Date: 3/18/99

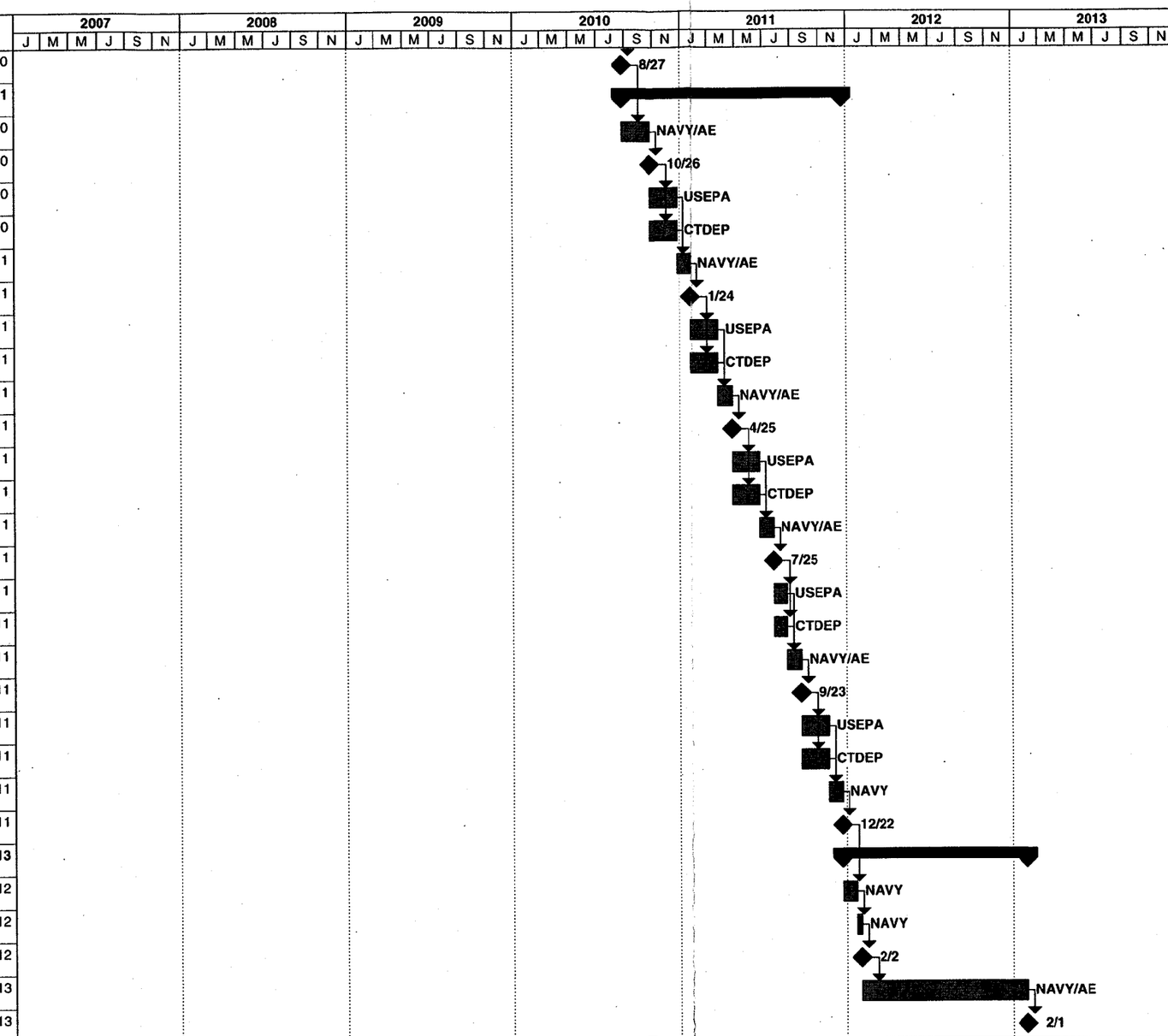
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618422

SITE 16 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
576	FINAL ROD & SIGNATURES	0 days	8/27/10	8/27/10
577	**RD (If Needed)**	**482 days**	**8/28/10**	**12/22/11**
578	Scope of Work for RD/RA	60 days	8/28/10	10/26/10
579	SCOPE OF WORK FOR RD/RA	0 days	10/26/10	10/26/10
580	USEPA Review Period	60 days	10/27/10	12/25/10
581	CTDEP Review Period	60 days	10/27/10	12/25/10
582	RD Work Plan (35%)	30 days	12/26/10	1/24/11
583	RD Work Plan (35%)	0 days	1/24/11	1/24/11
584	USEPA Review Period	60 days	1/25/11	3/25/11
585	CTDEP Review Period	60 days	1/25/11	3/25/11
586	60% RD	31 days	3/26/11	4/25/11
587	60% RD	0 days	4/25/11	4/25/11
588	USEPA Review Period	60 days	4/26/11	6/24/11
589	CTDEP Review Period	60 days	4/26/11	6/24/11
590	85% RD	31 days	6/25/11	7/25/11
591	85% RD	0 days	7/25/11	7/25/11
592	USEPA Review Period	30 days	7/26/11	8/24/11
593	CTDEP Review Period	30 days	7/26/11	8/24/11
594	Final RD	30 days	8/25/11	9/23/11
595	Final RD	0 days	9/23/11	9/23/11
596	USEPA Review Period	60 days	9/24/11	11/22/11
597	CTDEP Review Period	60 days	9/24/11	11/22/11
598	RAWP(Secondary)	30 days	11/23/11	12/22/11
599	RAWP(Secondary)	0 days	12/22/11	12/22/11
600	**RA (if Needed)**	**407 days**	**12/23/11**	**2/1/13**
601	Contract Action	32 days	12/23/11	1/23/12
602	Award Construction	10 days	1/24/12	2/2/12
603	Start of Construction	0 days	2/2/12	2/2/12
604	Construction	365 days	2/3/12	2/1/13
605	End of Construction	0 days	2/1/13	2/1/13



Project: NLONPJB6
Date: 3/18/99

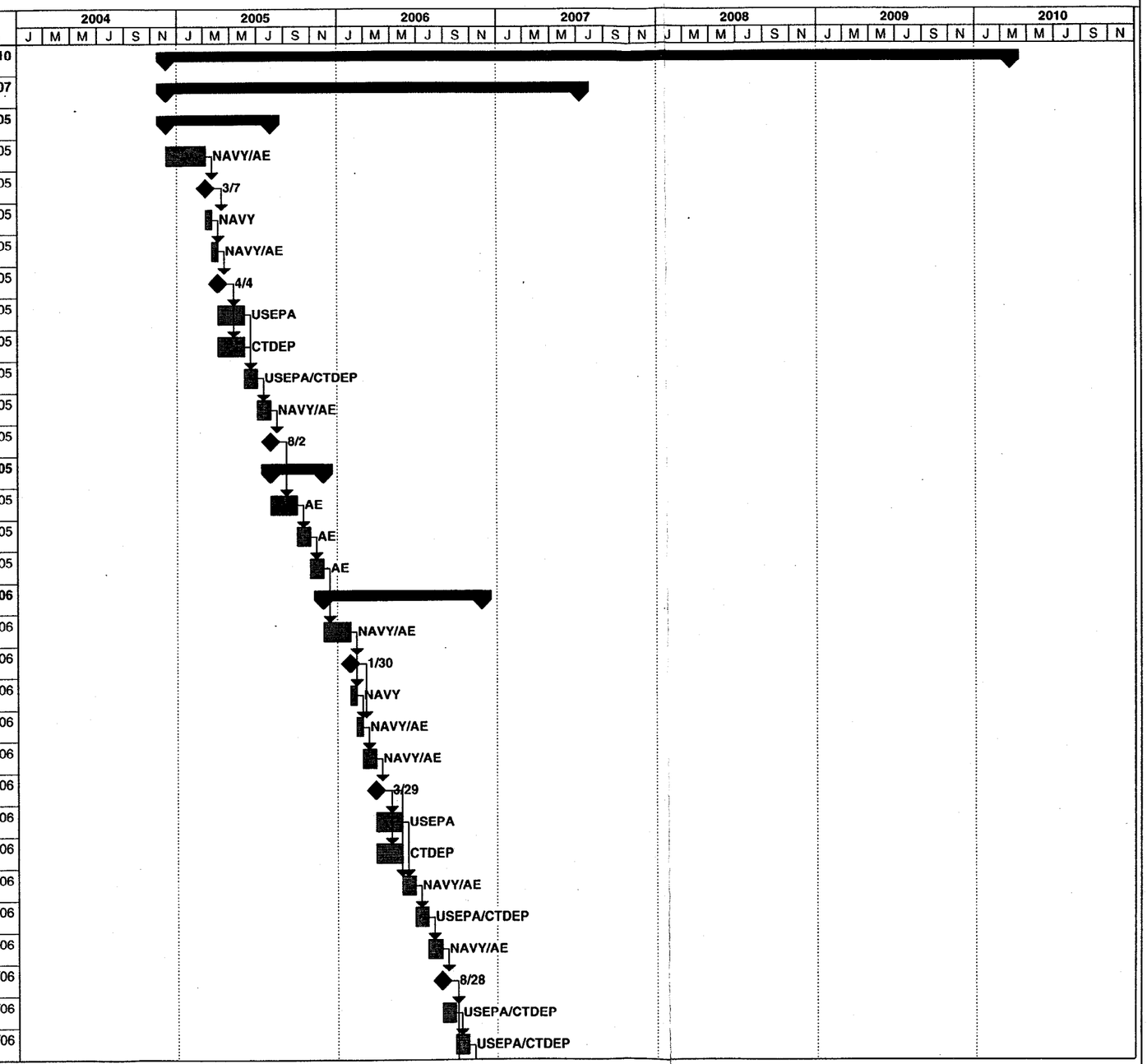
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618432

SITE 18 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
606	**SITE 18 - SOLVENT STORAGE AREA (BLDG. 33)**	**1932 days**	**12/8/04**	**3/23/10**
607	**RI/FS**	**944 days**	**12/8/04**	**7/9/07**
608	**RI Work Plan**	**238 days**	**12/8/04**	**8/2/05**
609	Rough Draft RI Work Plan	90 days	12/8/04	3/7/05
610	ROUGH DRAFT RI WORK PLAN	0 days	3/7/05	3/7/05
611	Navy Review	14 days	3/8/05	3/21/05
612	Draft RI Work Plan	14 days	3/22/05	4/4/05
613	DRAFT RI WORK PLAN	0 days	4/4/05	4/4/05
614	USEPA Review Period	60 days	4/5/05	6/3/05
615	CTDEP Review Period	60 days	4/5/05	6/3/05
616	Regulator Concurrence	30 days	6/4/05	7/3/05
617	Final RI Work Plan	30 days	7/4/05	8/2/05
618	FINAL RI WORK PLAN	0 days	8/2/05	8/2/05
619	**RI Field Work**	**120 days**	**8/3/05**	**11/30/05**
620	Field Work	60 days	8/3/05	10/1/05
621	Lab Analysis	30 days	10/2/05	10/31/05
622	Data Validation	30 days	11/1/05	11/30/05
623	**RI Report**	**362 days**	**12/1/05**	**11/27/06**
624	Rough Draft RI Report	61 days	12/1/05	1/30/06
625	ROUGH DRAFT RI REPORT	0 days	1/30/06	1/30/06
626	Navy Review Period	14 days	1/31/06	2/13/06
627	Respond to Navy Comments	14 days	2/14/06	2/27/06
628	Draft RI Report	30 days	2/28/06	3/29/06
629	DRAFT RI REPORT	0 days	3/29/06	3/29/06
630	USEPA Review Period	60 days	3/30/06	5/28/06
631	CTDEP Review Period	60 days	3/30/06	5/28/06
632	Respond to Regulator Comments	30 days	5/29/06	6/27/06
633	Regulator Concurrence	30 days	6/28/06	7/27/06
634	Draft Final RI Report	32 days	7/28/06	8/28/06
635	DRAFT FINAL RI REPORT	0 days	8/28/06	8/28/06
636	Regulator Review	30 days	8/29/06	9/27/06
637	Regulator Concurrence	30 days	9/28/06	10/27/06



Project: NLONPJB6
Date: 3/18/99

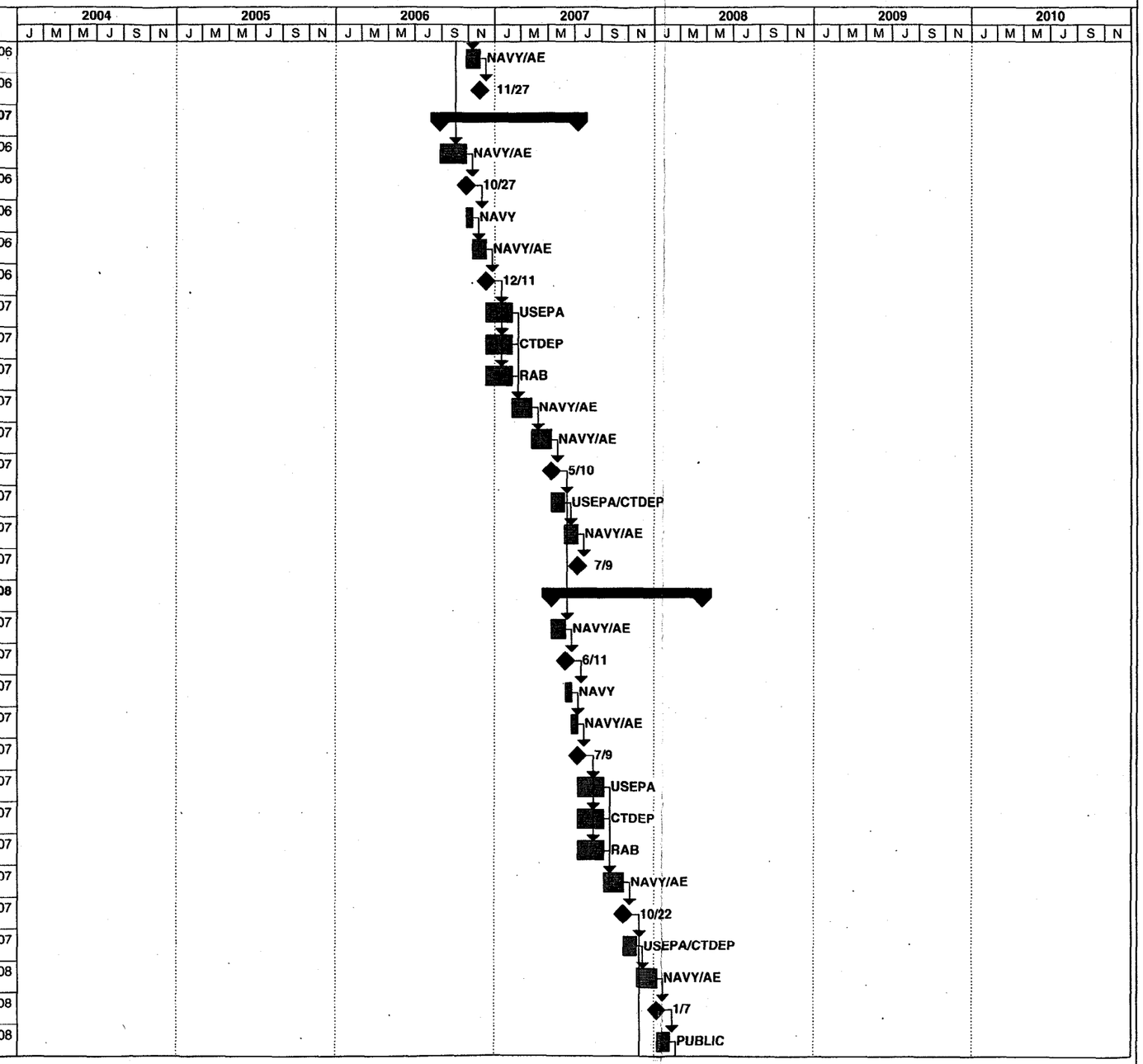
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618442

SITE 18 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
638	Final RI Report	31 days	10/28/06	11/27/06
639	FINAL RI REPORT	0 days	11/27/06	11/27/06
640	**Feasibility Study**	**315 days**	**8/29/06**	**7/9/07**
641	Rough Draft FS Report	60 days	8/29/06	10/27/06
642	ROUGH DRAFT FS REPORT	0 days	10/27/06	10/27/06
643	Navy Review/Concurrence	14 days	10/28/06	11/10/06
644	Draft FS Report	31 days	11/11/06	12/11/06
645	DRAFT FS REPORT	0 days	12/11/06	12/11/06
646	USEPA Review Period	60 days	12/12/06	2/9/07
647	CTDEP Review Period	60 days	12/12/06	2/9/07
648	RAB Review Period	60 days	12/12/06	2/9/07
649	Respond to Regulator Comments	45 days	2/10/07	3/26/07
650	Draft Final FS Report	45 days	3/27/07	5/10/07
651	DRAFT FINAL FS REPORT	0 days	5/10/07	5/10/07
652	Regulator Concurrence	30 days	5/11/07	6/9/07
653	Final FS Report	30 days	6/10/07	7/9/07
654	FINAL FS REPORT	0 days	7/9/07	7/9/07
655	**PRAP/ROD**	**347 days**	**5/11/07**	**4/21/08**
656	Rough Draft PRAP	32 days	5/11/07	6/11/07
657	ROUGH DRAFT PRAP	0 days	6/11/07	6/11/07
658	Navy Review	14 days	6/12/07	6/25/07
659	Draft PRAP	14 days	6/26/07	7/9/07
660	DRAFT PRAP	0 days	7/9/07	7/9/07
661	USEPA Review Period	60 days	7/10/07	9/7/07
662	CTDEP Review Period	60 days	7/10/07	9/7/07
663	RAB Review Period	60 days	7/10/07	9/7/07
664	Draft Final PRAP	45 days	9/8/07	10/22/07
665	DRAFT FINAL PRAP	0 days	10/22/07	10/22/07
666	Regulator Concurrence	30 days	10/23/07	11/21/07
667	Final PRAP	47 days	11/22/07	1/7/08
668	FINAL PRAP	0 days	1/7/08	1/7/08
669	Public Comment on Final PRAP	30 days	1/8/08	2/6/08



Project: NLONPJB6
Date: 3/18/99

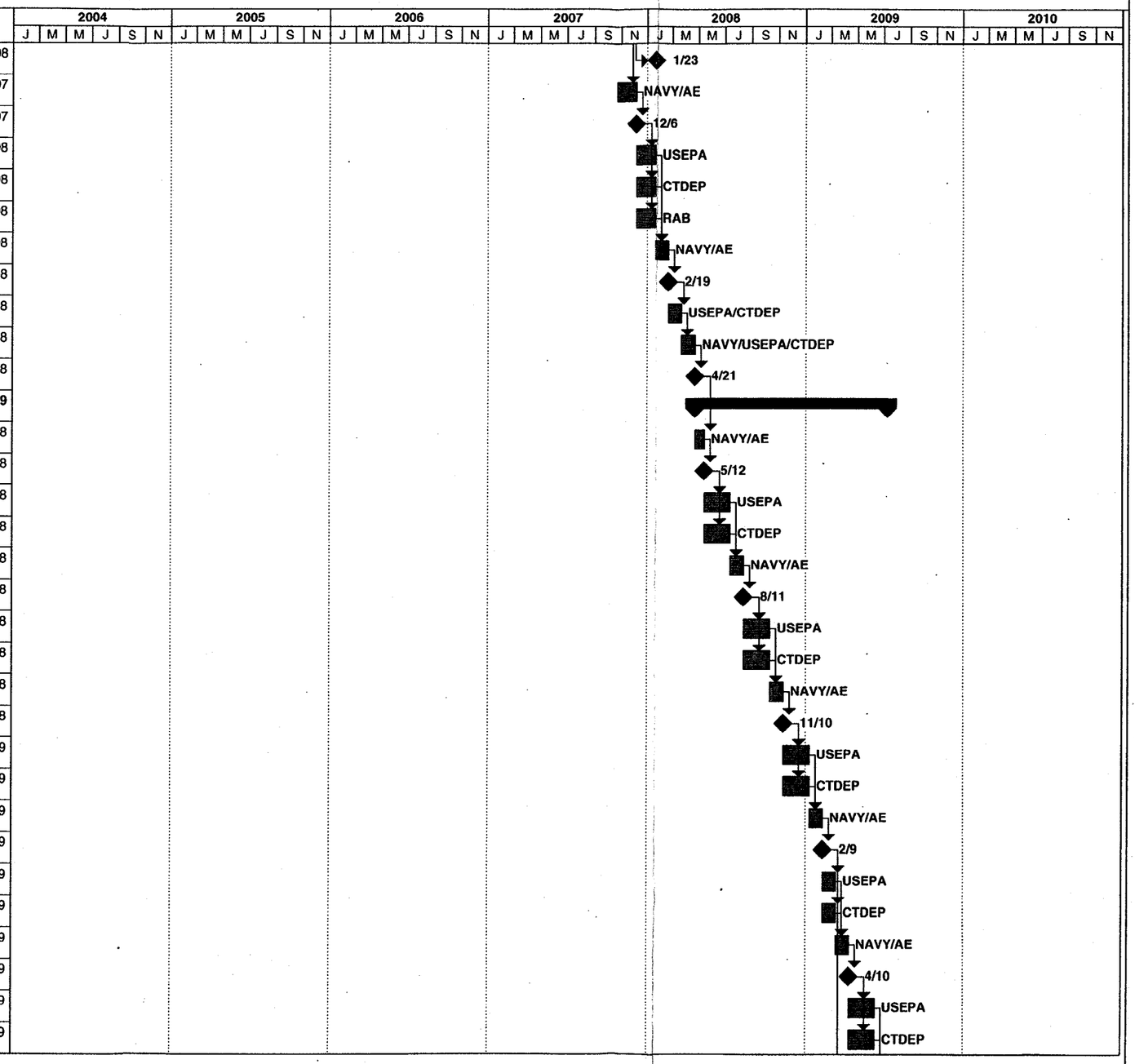
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618452

SITE 18 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
670	PUBLIC MEETING ON FINAL PRAP	0 days	1/23/08	1/23/08
671	Draft ROD & Responsiveness Summary	45 days	10/23/07	12/6/07
672	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	12/6/07	12/6/07
673	USEPA Review Period	45 days	12/7/07	1/20/08
674	CTDEP Review Period	45 days	12/7/07	1/20/08
675	RAB Review Period	45 days	12/7/07	1/20/08
676	Response to Comments and Revised Draft ROD	30 days	1/21/08	2/19/08
677	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	2/19/08	2/19/08
678	Regulator Concurrence	30 days	2/20/08	3/20/08
679	Final ROD & Signatures	32 days	3/21/08	4/21/08
680	FINAL ROD & SIGNATURES	0 days	4/21/08	4/21/08
681	**RD (If Needed)**	**444 days**	**4/22/08**	**7/9/09**
682	Scope of Work for RD/RA	21 days	4/22/08	5/12/08
683	SCOPE OF WORK FOR RD/RA	0 days	5/12/08	5/12/08
684	USEPA Review Period	60 days	5/13/08	7/11/08
685	CTDEP Review Period	60 days	5/13/08	7/11/08
686	RD Work Plan (35%)	31 days	7/12/08	8/11/08
687	RD WORK PLAN (35%)	0 days	8/11/08	8/11/08
688	USEPA Review Period	60 days	8/12/08	10/10/08
689	CTDEP Review Period	60 days	8/12/08	10/10/08
690	60% RD	31 days	10/11/08	11/10/08
691	60% RD	0 days	11/10/08	11/10/08
692	USEPA Review Period	60 days	11/11/08	1/9/09
693	CTDEP Review Period	60 days	11/11/08	1/9/09
694	85% RD	31 days	1/10/09	2/9/09
695	85% RD	0 days	2/9/09	2/9/09
696	USEPA Review Period	30 days	2/10/09	3/11/09
697	CTDEP Review Period	30 days	2/10/09	3/11/09
698	Final RD	30 days	3/12/09	4/10/09
699	Final RD	0 days	4/10/09	4/10/09
700	USEPA Review Period	60 days	4/11/09	6/9/09
701	CTDEP Review Period	60 days	4/11/09	6/9/09



Project: NLONPJB6
Date: 3/18/99

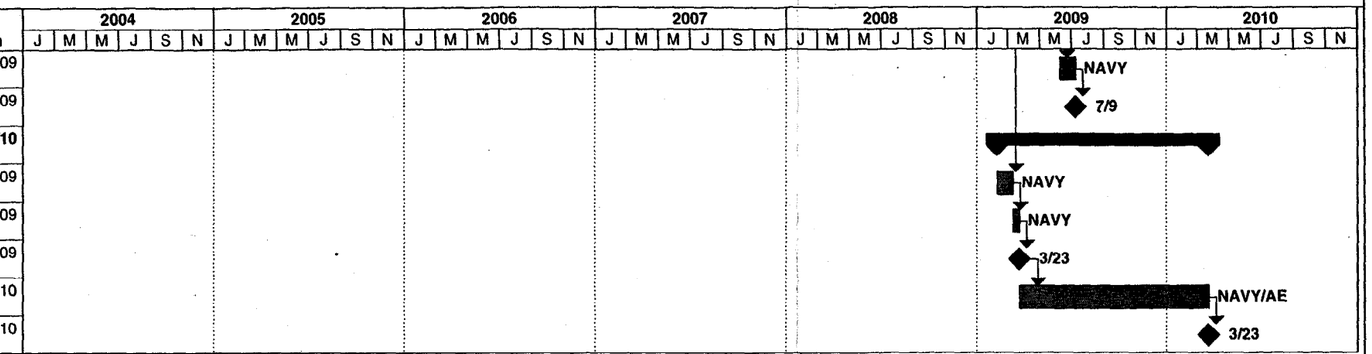
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618462

SITE 18 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
702	RAWP(Secondary)	30 days	6/10/09	7/9/09
703	RAWP(Secondary)	0 days	7/9/09	7/9/09
704	**RA (If Needed)**	**407 days**	**2/10/09**	**3/23/10**
705	Contract Action	30 days	2/10/09	3/11/09
706	Award Construction	12 days	3/12/09	3/23/09
707	Start of Construction	0 days	3/23/09	3/23/09
708	Construction	365 days	3/24/09	3/23/10
709	End of Construction	0 days	3/23/10	3/23/10



Project: NLONPJB6
Date: 3/18/99

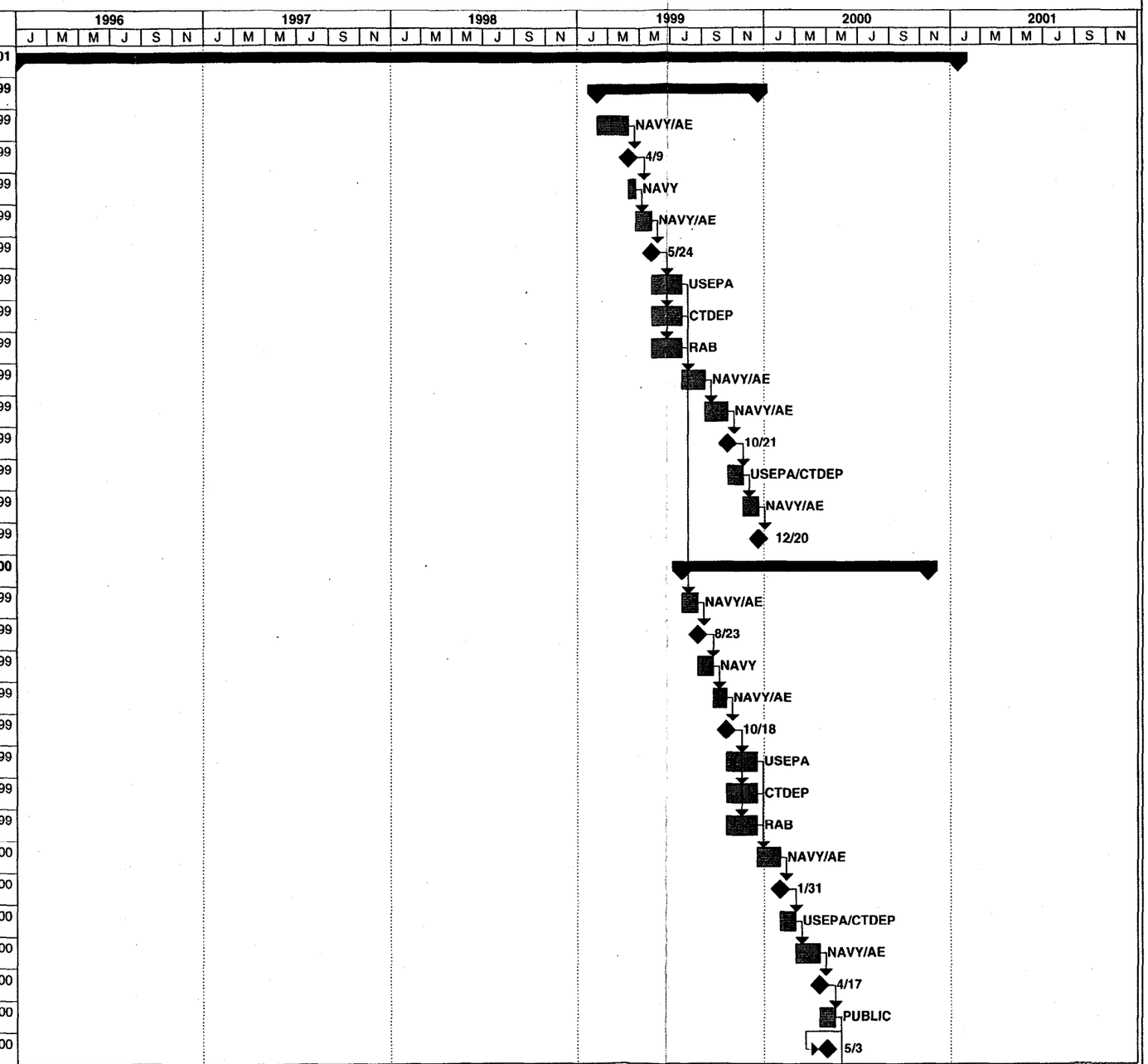
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618472

SITE 20 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
710	**SITE 20 - AREA A WEAPONS CENTER (SOURCE CONTROL)**	**1843 days**	**1/1/96**	**1/16/01**
711	**FEASIBILITY STUDY (SOURCE CONTROL)**	**315 days**	**2/9/99**	**12/20/99**
712	Rough Draft FS Report	60 days	2/9/99	4/9/99
713	ROUGH DRAFT FS REPORT	0 days	4/9/99	4/9/99
714	Navy Review/Concurrence	14 days	4/10/99	4/23/99
715	Draft FS Report	31 days	4/24/99	5/24/99
716	DRAFT FS REPORT	0 days	5/24/99	5/24/99
717	USEPA Review Period	60 days	5/25/99	7/23/99
718	CTDEP Review Period	60 days	5/25/99	7/23/99
719	RAB Review Period	60 days	5/25/99	7/23/99
720	Respond to Regulator Comments	45 days	7/24/99	9/6/99
721	Draft Final FS Report	45 days	9/7/99	10/21/99
722	DRAFT FINAL FS REPORT	0 days	10/21/99	10/21/99
723	Regulator Concurrence	30 days	10/22/99	11/20/99
724	Final FS Report	30 days	11/21/99	12/20/99
725	FINAL FS REPORT	0 days	12/20/99	12/20/99
726	**PRAP/ROD**	**483 days**	**7/24/99**	**11/17/00**
727	Rough Draft PRAP	31 days	7/24/99	8/23/99
728	ROUGH DRAFT PRAP	0 days	8/23/99	8/23/99
729	Navy Review	30 days	8/24/99	9/22/99
730	Draft PRAP	26 days	9/23/99	10/18/99
731	DRAFT PRAP	0 days	10/18/99	10/18/99
732	USEPA Review Period	60 days	10/19/99	12/17/99
733	CTDEP Review Period	60 days	10/19/99	12/17/99
734	RAB Review Period	60 days	10/19/99	12/17/99
735	Draft Final PRAP	45 days	12/18/99	1/31/00
736	DRAFT FINAL PRAP	0 days	1/31/00	1/31/00
737	Regulator Concurrence	30 days	2/1/00	3/1/00
738	Final PRAP	47 days	3/2/00	4/17/00
739	FINAL PRAP	0 days	4/17/00	4/17/00
740	Public Comment on Final PRAP	30 days	4/18/00	5/17/00
741	PUBLIC MEETING ON FINAL PRAP	0 days	5/3/00	5/3/00



Project: NLONPJB6
Date: 3/18/99

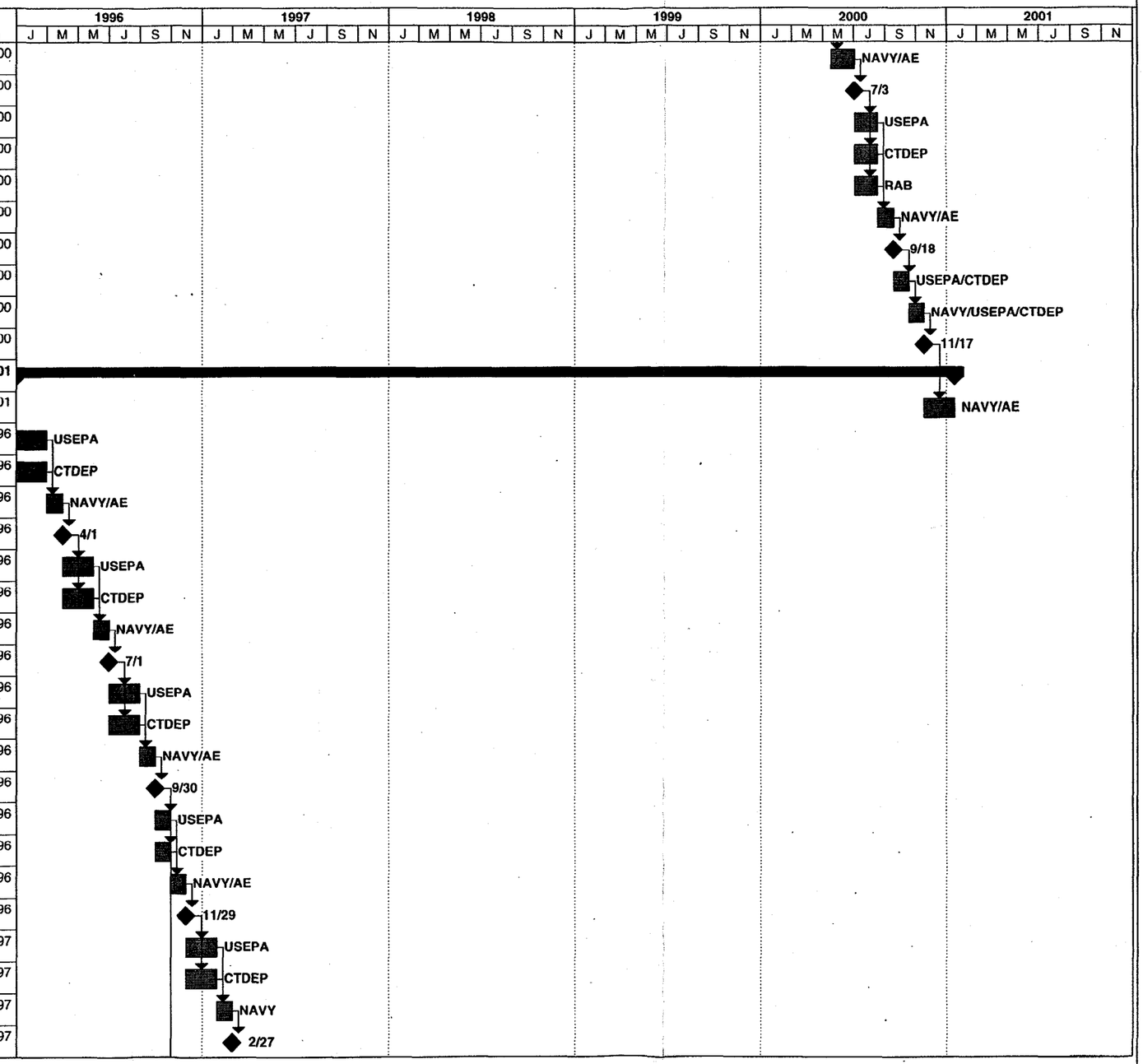
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618482

SITE 20 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
742	Draft ROD & Responsiveness Summary	47 days	5/18/00	7/3/00
743	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	7/3/00	7/3/00
744	USEPA Review Period	45 days	7/4/00	8/17/00
745	CTDEP Review Period	45 days	7/4/00	8/17/00
746	RAB Review Period	45 days	7/4/00	8/17/00
747	Response to Comments and Revised Draft ROD	32 days	8/18/00	9/18/00
748	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	9/18/00	9/18/00
749	Regulator Concurrence	30 days	9/19/00	10/18/00
750	Final ROD & Signatures	30 days	10/19/00	11/17/00
751	FINAL ROD & SIGNATURES	0 days	11/17/00	11/17/00
752	**RD (if Needed)**	**1843 days**	**1/1/96**	**1/16/01**
753	Scope of Work for RD/RA	60 days	11/18/00	1/16/01
754	USEPA Review Period	60 days	1/1/96	2/29/96
755	CTDEP Review Period	60 days	1/1/96	2/29/96
756	RD Work Plan (35%)	32 days	3/1/96	4/1/96
757	RD Work Plan (35%)	0 days	4/1/96	4/1/96
758	USEPA Review Period	60 days	4/2/96	5/31/96
759	CTDEP Review Period	60 days	4/2/96	5/31/96
760	60% RD	31 days	6/1/96	7/1/96
761	60% RD	0 days	7/1/96	7/1/96
762	USEPA Review Period	60 days	7/2/96	8/30/96
763	CTDEP Review Period	60 days	7/2/96	8/30/96
764	85% RD	31 days	8/31/96	9/30/96
765	85% RD	0 days	9/30/96	9/30/96
766	USEPA Review Period	30 days	10/1/96	10/30/96
767	CTDEP Review Period	30 days	10/1/96	10/30/96
768	Final RD	30 days	10/31/96	11/29/96
769	Final RD	0 days	11/29/96	11/29/96
770	USEPA Review Period	60 days	11/30/96	1/28/97
771	CTDEP Review Period	60 days	11/30/96	1/28/97
772	RAWP(Secondary)	30 days	1/29/97	2/27/97
773	RAWP(Secondary)	0 days	2/27/97	2/27/97



Project: NLONPJB6
Date: 3/18/99

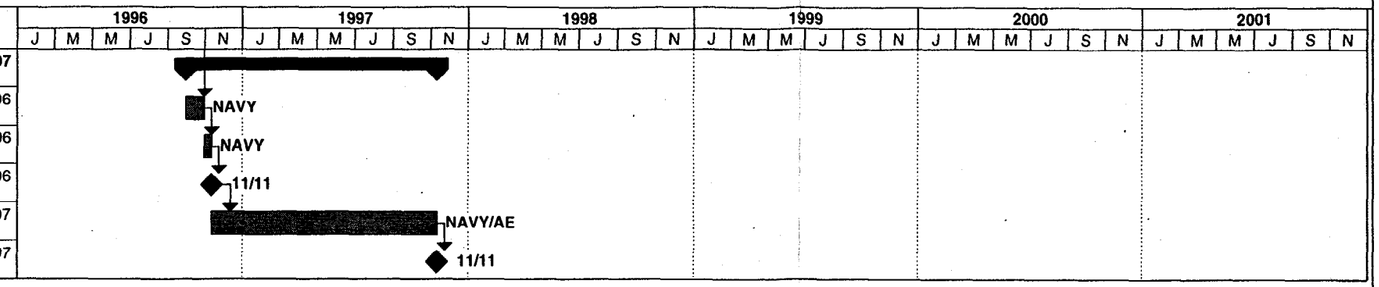
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618492

SITE 20 SCHEDULE
NSB-NLON

Rev. 2 March 1999

ID	Task Name	Duration	Start	Finish
774	**RA (If Needed)**	**407 days**	**10/1/96**	**11/11/97**
775	Contract Action	30 days	10/1/96	10/30/96
776	Award Construction	12 days	10/31/96	11/11/96
777	Start of Construction	0 days	11/11/96	11/11/96
778	Construction	365 days	11/12/96	11/11/97
779	End of Construction	0 days	11/11/97	11/11/97



Project: NLONPJB6
Date: 3/18/99

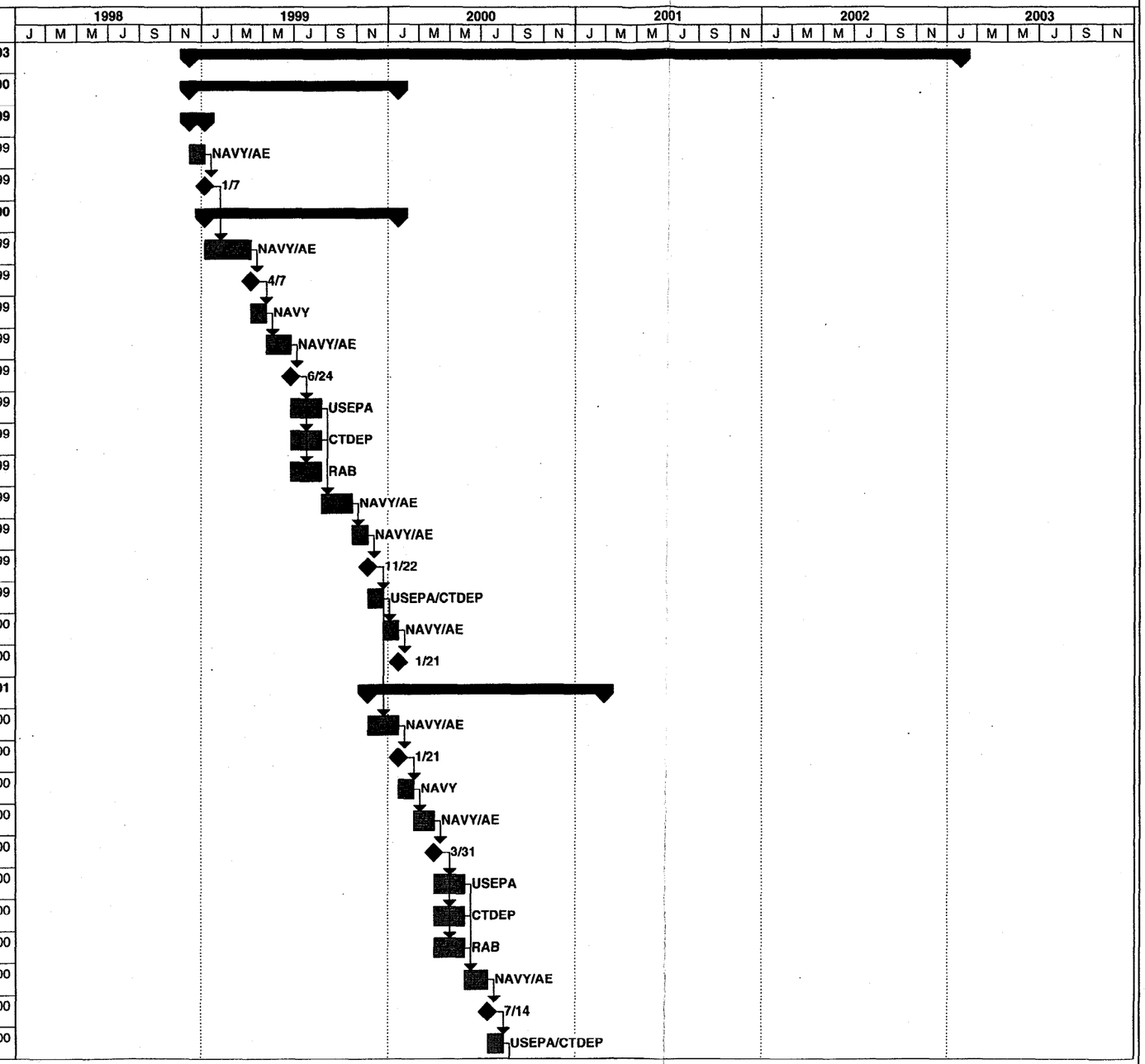
Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618502

LOWER SUBASE SCHEDULE
NSB-NLON

Rev. 3 March 1999

ID	Task Name	Duration	Start	Finish
780	**LOWER SUBASE SITES 10,11,13,17,19,21,22,24,25**	**1512 days**	**12/9/98**	**1/28/03**
781	**RI/FS**	**409 days**	**12/9/98**	**1/21/00**
782	**Remedial Investigation Report**	**30 days**	**12/9/98**	**1/7/99**
783	Final RI Report	30 days	12/9/98	1/7/99
784	FINAL RI REPORT	0 days	1/7/99	1/7/99
785	**Feasibility Study**	**379 days**	**1/8/99**	**1/21/00**
786	Rough Draft FS Report	90 days	1/8/99	4/7/99
787	ROUGH DRAFT FS REPORT	0 days	4/7/99	4/7/99
788	Navy Review/Concurrence	30 days	4/8/99	5/7/99
789	Draft FS Report	48 days	5/8/99	6/24/99
790	DRAFT FS REPORT	0 days	6/24/99	6/24/99
791	USEPA Review Period	60 days	6/25/99	8/23/99
792	CTDEP Review Period	60 days	6/25/99	8/23/99
793	RAB Review Period	60 days	6/25/99	8/23/99
794	Respond to Regulator Comments	60 days	8/24/99	10/22/99
795	Draft Final FS Report	31 days	10/23/99	11/22/99
796	DRAFT FINAL FS REPORT	0 days	11/22/99	11/22/99
797	Regulator Concurrence	30 days	11/23/99	12/22/99
798	Final FS Report	30 days	12/23/99	1/21/00
799	FINAL FS REPORT	0 days	1/21/00	1/21/00
800	**PRAP/ROD**	**462 days**	**11/23/99**	**2/26/01**
801	Rough Draft PRAP	60 days	11/23/99	1/21/00
802	ROUGH DRAFT PRAP	0 days	1/21/00	1/21/00
803	Navy Review	30 days	1/22/00	2/20/00
804	Draft PRAP	40 days	2/21/00	3/31/00
805	DRAFT PRAP	0 days	3/31/00	3/31/00
806	USEPA Review Period	60 days	4/1/00	5/30/00
807	CTDEP Review Period	60 days	4/1/00	5/30/00
808	RAB Review Period	60 days	4/1/00	5/30/00
809	Draft Final PRAP	45 days	5/31/00	7/14/00
810	DRAFT FINAL PRAP	0 days	7/14/00	7/14/00
811	Regulator Concurrence	30 days	7/15/00	8/13/00



Project: NLONPJB6
Date: 3/18/99

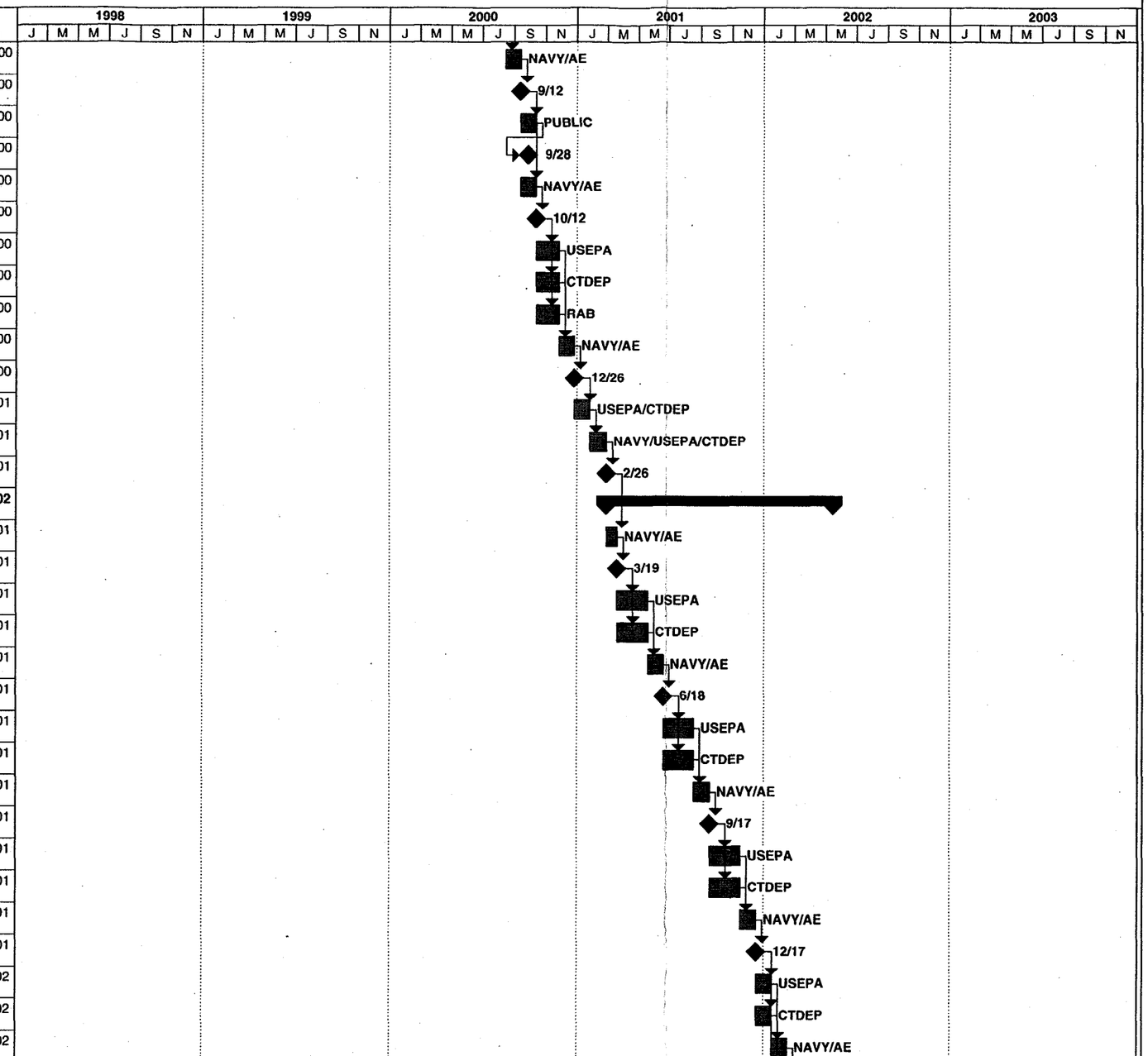
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618512

LOWER SUBASE SCHEDULE
NSB-NLON

Rev. 3 March 1999

ID	Task Name	Duration	Start	Finish
812	Final PRAP	30 days	8/14/00	9/12/00
813	FINAL PRAP	0 days	9/12/00	9/12/00
814	Public Comment on Final PRAP	30 days	9/13/00	10/12/00
815	PUBLIC MEETING ON FINAL PRAP	0 days	9/28/00	9/28/00
816	Draft ROD & Responsiveness Summary	30 days	9/13/00	10/12/00
817	DRAFT ROD & RESPONSIVENESS SUMMARY	0 days	10/12/00	10/12/00
818	USEPA Review Period	45 days	10/13/00	11/26/00
819	CTDEP Review Period	45 days	10/13/00	11/26/00
820	RAB Review Period	45 days	10/13/00	11/26/00
821	Response to Comments and Revised Draft ROD	30 days	11/27/00	12/26/00
822	RESPONSE TO COMMENTS AND REVISED DRAFT ROD	0 days	12/26/00	12/26/00
823	Regulator Concurrence	30 days	12/27/00	1/25/01
824	Final ROD & Signatures	32 days	1/26/01	2/26/01
825	FINAL ROD & SIGNATURES	0 days	2/26/01	2/26/01
826	**RD**	**444 days**	**2/27/01**	**5/16/02**
827	Scope of Work for RD/RA	21 days	2/27/01	3/19/01
828	SCOPE OF WORK FOR RD/RA	0 days	3/19/01	3/19/01
829	USEPA Review Period	60 days	3/20/01	5/18/01
830	CTDEP Review Period	60 days	3/20/01	5/18/01
831	RD Work Plan (35%)	31 days	5/19/01	6/18/01
832	RD Work Plan (35%)	0 days	6/18/01	6/18/01
833	USEPA Review Period	60 days	6/19/01	8/17/01
834	CTDEP Review Period	60 days	6/19/01	8/17/01
835	60% RD	31 days	8/18/01	9/17/01
836	60% RD	0 days	9/17/01	9/17/01
837	USEPA Review Period	60 days	9/18/01	11/16/01
838	CTDEP Review Period	60 days	9/18/01	11/16/01
839	85% RD	31 days	11/17/01	12/17/01
840	85% RD	0 days	12/17/01	12/17/01
841	USEPA Review Period	30 days	12/18/01	1/16/02
842	CTDEP Review Period	30 days	12/18/01	1/16/02
843	Final RD	30 days	1/17/02	2/15/02



Project: NLONPJB6
Date: 3/18/99

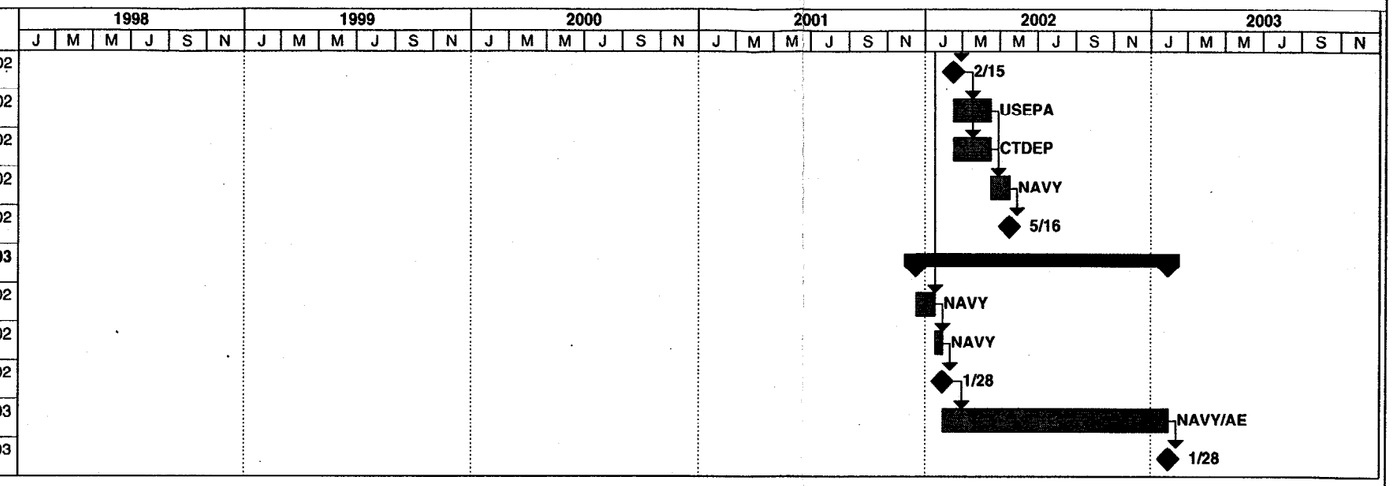
Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Split | Rolled Up Split

01618527

LOWER SUBASE SCHEDULE
NSB-NLON

Rev. 3 March 1999

ID	Task Name	Duration	Start	Finish
844	Final RD	0 days	2/15/02	2/15/02
845	USEPA Review Period	60 days	2/16/02	4/16/02
846	CTDEP Review Period	60 days	2/16/02	4/16/02
847	RAWP(Secondary)	30 days	4/17/02	5/16/02
848	RAWP(Secondary)	0 days	5/16/02	5/16/02
849	**RA**	**407 days**	**12/18/01**	**1/28/03**
850	Contract Action	30 days	12/18/01	1/16/02
851	Award Construction	12 days	1/17/02	1/28/02
852	Start of Construction	0 days	1/28/02	1/28/02
853	Construction	365 days	1/29/02	1/28/03
854	End of Construction	0 days	1/28/03	1/28/03



Project: NLONPJB6
Date: 3/18/99

Task | Milestone | Rolled Up Task | Rolled Up Progress | Project Summary | Rolled Up Split
Progress | Summary | Rolled Up Milestone | External Tasks | Split

01618532

APPENDIX D

RESPONSES TO U.S. EPA's COMMENTS

RESPONSES TO USEPA's MARCH 16, 1998 LETTER OF COMMENTS REGARDING THE FEBRUARY 1998 SITE MANAGEMENT PLAN FOR NAVAL SUBMARINE BASE – NEW LONDON, GROTON, CONNECTICUT

March 19, 1999

GENERAL COMMENTS (Cover Letter)

General Comment No. 1

The assignment of media ratings appears to follow the decision flowchart (Figure 3) within the Primer. The overall site category rating has been selected in accordance with the 1996 Primer and represents the highest media rating. However, human and ecological endpoints are not evaluated consistent with the 1996 Primer. Sediment and surface water data should be evaluated for both human and ecological endpoints. The relative risk evaluation worksheet for Site 02, only evaluates sediment data for ecological endpoints. The worksheets for Sites 07, 20, 21, 22, and 25 only evaluate sediment for humans. The worksheets for Sites 02, 21, 22, and 25 only evaluate surface water for ecological receptors. Please include sediment and surface water relative risk evaluation worksheets for both human and ecological endpoints.

Response to General Comment No. 1

Surface water and sediment relative risk evaluation worksheets for human endpoints will be added for Site 02.

For the Phase II Remedial Investigation (RI) it was agreed that ecological receptors would be exposed to surface soils, but not surface water or sediment at Site 07. Therefore, surface water and sediment relative risk evaluation worksheets for ecological endpoints will not be added for Site 07. In addition, the surface water medium was evaluated during the Phase II RI human health risk assessment and it was determined that there were no surface water Contaminants of Concern for human receptors. Therefore, surface water risk evaluation worksheets for human endpoints will not be added for Site 07.

Sites 21, 22, and 25 are located along the Thames River. The Thames River is a tidally influenced river, and surface water in the river flushes both upstream and downstream with each tidal cycle. Numerous private industrial facilities are located upstream and downstream of Naval Submarine Base – New London and these facilities could be contributing contamination to the Thames River. Therefore, it is difficult to attribute chemical concentrations detected in surface water samples collected adjacent to the Lower Subase with IRP sites (i.e., Sites 21, 22, and 25) located in the Lower Subase. This logic was used during the Lower Subase RI and only sediment was evaluated in the ecological risk assessment in the RI. Therefore, surface water risk evaluation worksheets for ecological endpoints will not be added for Sites 21, 22, or 25.

Sediment relative risk evaluation worksheets for human and ecological endpoints will be included for Sites 21 and 22.

Site 21 and Site 25 were investigated during the Lower Subase RI. For the investigation, these sites were included in an area designated as Zone 7 of the Lower Subase. Site 21 is located adjacent to the Thames River and Site 25 is located approximately 200 feet away from the Thames River. Because Site 21 and Site 25 are within the same zone of the Lower Subase (i.e., Zone 7) it would be inappropriate to evaluate the sediment adjacent to the zone twice (i.e., for both Sites 21 and 25). Therefore, sediment relative risk evaluation worksheets for ecological and human endpoints will be maintained for Site 21 (i.e., the site directly adjacent to the Thames River), but will be removed for Site 25.

The soil and groundwater data included in the relative risk evaluation worksheets for Site 25 will be updated with the analytical data included in the Lower Subase RI report.

General Comment No. 2

Sites 7 and 22, Soil and Groundwater Sheets: The standard for cobalt is reported as 380.0 mg/kg for soil and 180.0 ug/L for groundwater while in the primer they are listed as 4600.0 mg/kg for soil and 2200.0 ug/L for groundwater. Please correct.

Response to General Comment No. 2

The Navy agrees that the wrong soil and groundwater standards for cobalt are provided in the worksheets for Sites 7 and 22. These worksheets query a database for the appropriate standards. The standards database is not developed or updated by NORTHDIV. Therefore, the incorrect standards can not be updated to the values provided in the Relative Risk Site Evaluation Primer (i.e., 4,600 mg/kg for soil and 2,200 ug/L for groundwater). It should be noted that by maintaining the current standards, the ranking of the soil and groundwater media at these sites will be more conservative than if the standards were updated.

The Navy anticipates that the Relative Risk Site Evaluation Primer will be updated in 2000. The standards database associated with the worksheets will be updated during preparation of the new primer. Relative risk evaluation worksheets that account for the new standards will be prepared and included in the SMP for 2000.

General Comment No. 3

The media titles on some of the worksheets appear to be inaccurate. The standards used in the Surface Water Eco-Marine Sheets for Sites 21, 22, and 25 are eco-marine sediment standards, not eco-marine surface water standards. Either the title on the table is incorrect or the wrong standards were used. Please correct.

Also, the background information sheets for Sites 21, 22, and 25 state that the media evaluated are GW, SEDH, *SEDEM*, and SOIL. However, the tables that follow are for GW, SEDH, *SWEM*, and SOIL. Either the background information sheet is incorrect or one of the table titles is incorrect. Please correct.

Response to General Comment No. 3

The titles on the tables for Sites 21 and 22 will be corrected to read Sediment Eco Marine. The correction of the table titles should eliminate the discrepancy between the background information sheets and the worksheets.

The sediment risk evaluation worksheets for human and ecological endpoints will eliminated for Site 25. The background information sheet for Site 25 will be modified to reflect the change. Please refer to the response provided for General Comment No. 1. This response provides the rationale for eliminating the Site 25 sediment risk evaluation worksheets for human and ecological endpoints.

General Comment No. 4

The rationales presented for the migration potential factor on the worksheets should be enhanced to be more consistent with the 1996 primer. For example, the soil worksheets for Sites 13, 17, and do not mention the presence of contaminant migration in relation to a point of exposure. The potential for exposure should be addressed in the rationale for MPF selection. Please revise the MPF rationales on the relative risk ranking worksheets.

Response to General Comment No. 4

The MPF rationales provided on the relative risk evaluation worksheets for Sites 13 and 17 will be reviewed and revised, as appropriate, so that they are more consistent with the 1996 primer.

SPECIFIC COMMENTS (Attachment A)

Specific Comment No. 1, Table 2-2

This table should indicate that the Area A Landfill already has a remedy in place.

Response to Specific Comment No. 1

Agreed. A sentence will be added to Table 2-2 that indicates that the Area A Landfill has a remedy in place (RIP).

Specific Comment No. 2, Table 2-10

The description of the nature and extent of groundwater contamination presented in Table 2-10 for Site 09 does not correspond with the groundwater contaminant concentrations presented in the Site 09 relative risk ranking worksheet. Please reconfirm that the groundwater data presented in Table 2-10 and in the Site 09 relative risk ranking worksheet are recent and representative. Revise so that they are consistent.

Response to Specific Comment No. 2

The status of Site 9 is considered to be Response Complete (RC). Table 2-10 will revised to indicate this change. Because the status of Site 9 is RC, the relative risk evaluation worksheet for this site will be removed and there will be no longer be any inconsistencies. This site will have no risk associated with it in subsequent versions of the Site Management Plan (SMP).

Specific Comment No. 3, Table 2-14

The description of the nature and extent of groundwater contamination presented in Table 2-14 for Site 14 does not correspond with the groundwater contaminant concentrations presented in the Site 14 relative risk ranking worksheet. The groundwater CHF table does not present a carbon disulfide concentration but Table 2-14 of the SMP presents a carbon disulfide concentration. Please reconfirm that the groundwater data presented in Table 2-14 and in the relative risk ranking worksheet are recent and representative. Revise so that they are consistent.

Response to Specific Comment No. 3

Agreed. The carbon disulfide concentration provided in Table 2-14 (i.e., 1 μg/L) will be included in the relative risk evaluation worksheet for Site 14. The revision will eliminate the inconsistency between the table and worksheet.

Specific Comment No. 4, Site 02, Appendix B, Relative Risk Ranking Worksheets

The Area A Landfill (Site 02) relative risk ranking worksheets have not been revised. They are the same worksheets, dated 2/18/97, that were submitted last year in the Site Management Plan. The worksheets need to be revised to reflect that the cap construction is complete. The site summary on the site background sheet should indicate that the final cover system was constructed during March 1997 to September 1997 and that the status of the site is considered remedies in place (RIP). The groundwater and soil worksheet migration pathway and receptor factors need to be revised to reflect the RIP status. Also, it is not clear whether the surface water and sediment sheets are for the Area A Landfill or the Area A Wetland. The surface water and sediment sheets should be for Area A Wetland, but the contaminant concentrations do not correlate with Area A Wetland data. Please correct. Site 02 Area A Landfill should no longer have a high ranking since the exposure pathway has been eliminated. If the Site 02 relative risk ranking worksheets are meant to only represent Area A Wetland, then the site summary background sheet and media rating sheets need to be revised to reflect only Area A Wetland.

Response to Specific Comment No. 4

Agreed. The status of the Area A Landfill is considered to be RIP. The soil and groundwater worksheet migration pathway and receptor factors will be revised to reflect the RIP status.

The surface water and sediment data included in the worksheet should be for the Area A Wetland. The data included in the worksheet will be reviewed and updated accordingly. In

addition, the site summary section on the site background sheet will be updated to indicate that the cover system was constructed over the Area A Landfill and the status of the site is RIP. The media associated with the Area A Wetland will also be discussed in the site summary section of the site background sheet.

The Navy responded on May 14, 1998 to the Connecticut Department of Environmental Protection's (CTDEP's) Specific Comment No. 2 of their March 25, 1998 comment letter by saying that the Area A Wetland and Area A Landfill would be separated and tracked independently under the Installation Restoration Program (IRP) for the 1999 SMP. However, the Navy is unable to separate the sites at this time. The Navy proposes to continue to track the sites together as Site 2 under the IRP. The Record of Decision (ROD) signed for the Area A Landfill is an interim ROD. Further investigation of the Area A Wetland will be completed during the Groundwater Monitoring Program for the Area A Landfill. In addition, it is likely that a Groundwater Monitoring Plan will be part of the remedial strategy for the Area A Wetland. If these investigations show remedial actions are necessary at the Area A Wetland, the actions can be incorporated into the final ROD for Site 2 (i.e., Area A Landfill and Wetland).

Specific Comment No. 5, Site 03, Appendix B, Relative Risk Ranking Worksheets

Groundwater Sheet for Site 3: Insufficient information is provided for the MPF rationale. This rational is not consistent with the 1996 Primer. The provided rationale is that contaminants are present in groundwater. The primer states that the "potential" rank can be chosen for the MPF if there is insufficient information to make a determination of Evident or Confined. If there is insufficient information in this case, it should be stated in the rationale.

Response to Specific Comment No. 5

Agreed. The rationale will be revised so that it supports the "potential" ranking.

Specific Comment No. 6, Site 07, Appendix B, Relative Risk Ranking Worksheets

EPA recommends that the site description on the site background relative risk ranking worksheet be enhanced. In particular, please describe the Torpedo shop drains that historically discharged to the former septic system.

The sediment worksheet contaminant hazard factor (CHF) table does not include the maximum sediment concentrations for analytes detected, which are methylene chloride at 18 ug/kg, pyrene at 240 ug/kg, and DDD at 93 ug/kg. Please use these detected concentrations in calculating the CHF and revise as appropriate.

Torpedo shop groundwater: The maximum detected concentration of 1,1,1-trichloroethane is 42 ug/l. The groundwater worksheet lists the 1,1,1-trichloroethane concentration as 12 ug/l. Please correct.

Response to Specific Comment No. 6

Agreed. The description of the Torpedo Shops will be enhanced on the site background section of the relative risk evaluation worksheet. Additional text will be added that describes the drains that formerly discharged into the septic system

Maximum detected concentrations of methylene chloride (18 μg/kg), pyrene (240 μg/kg), and DDD (93 μg/kg) will be added to the sediment relative risk evaluation worksheet.

The maximum detected concentration of 1,1,1-trichloroethane (i.e., 42 μg/L) will be included in the groundwater relative risk evaluation worksheet.

Specific Comment No. 7, Site 08, Appendix B, Relative Risk Ranking Worksheets

Surface water Eco-Marine Sheet for Site 8: There are two surface water eco-marine worksheets for this site, one of the surface water eco-marine worksheets is mislabeled and is actually a sediment eco-marine worksheet. Please correct the label. There should be sediment and surface water worksheets for both human and ecological exposure. Please correct, as appropriate.

Groundwater Sheet for Site 8: Tetrachloroethylene is not presented on the worksheet and appears not to have been entered into the contaminant hazard factor (CHF) calculation. Tetrachloroethylene was detected in MW 8GW8S at a concentration of 100 ug/L. The ratio with the standard is 0.9 which is among the top ten ratios and therefore should appear on the worksheet. Please correct.

Soil Sheet for Site 8: Phenol and xylene are not presented on the worksheet in the CHF table. Please confirm that xylene and phenol concentrations were used in the calculation of the soil CHF.

Response to Specific Comment No. 7

Agreed. The second sheet labeled Surface Water Eco Marine should be labeled as Sediment Eco Marine. The title on the worksheet will be revised.

The Navy disagrees that a sediment worksheet should be added for human exposure. The depth of the Thames River would preclude humans from coming into contact with the sediments, except during extremely rare situations. Therefore, this type of exposure scenario is unrealistic.

A tetrachloroethene concentration of 100 μg/L will be included in the groundwater relative risk evaluation worksheet. Inclusion of this additional chemical will not impact the overall ranking for the site which is high. It should also be noted that recent investigations have shown that the tetrachloroethene detected in the groundwater beneath the Goss Cove Landfill site is from an upgradient, offsite source.

Detected concentrations of phenol and xylenes will be added to the soil relative risk evaluation worksheet.

Specific Comment No. 8, Site 09, Appendix B, Relative Risk Ranking Worksheets

A soil worksheet has not been provided for site 9, the oily wastewater tank. Soil data exist. The post removal action sampling data should be used to complete a soil worksheet and to revise the groundwater worksheet, as appropriate.

Response to Specific Comment No. 8

Please refer to the response provided for Specific Comment No. 2.

Specific Comment No. 9, Sites 10 and 11, Appendix B, Relative Risk Ranking Worksheets

There are no relative risk ranking worksheets for sites 10 and 11. Since the other lower subase sites have worksheets, individual worksheets should be completed for sites 10 and 11.

Response to Specific Comment No. 9

Relative risk evaluation worksheets will be developed for Sites 10 and 11. Because of their proximity to each other, the analytical data included for both sites will be similar. The new worksheets will be included in the SMP for 1999.

Specific Comment No. 10, Site 13, Appendix B, Relative Risk Ranking Worksheets

The groundwater CHF table presents a lead concentration of 39 ug/L but Table 2-13 of the SMP presents a lead concentration of 2,760 ug/L. Please confirm that the lead concentration used to calculate the CHF is the maximum dissolved lead concentration and correct as needed.

Response to Specific Comment No. 10

The total lead concentration of 2,760 μg/L that was shown in Table 2-13 will be added to the groundwater relative risk evaluation worksheet. This concentration is conservative when compared to the maximum dissolved lead concentration (14.1 μg/L) detected at Site 13. The ranking of Site 13 is already "high"; therefore, the change in concentration will have no impact on the site's ranking.

Specific Comment No. 11, Site 14, Appendix B, Relative Risk Ranking Worksheets

The soil CHF table does not present an arsenic concentration but Table 2-14 of the SMP presents an arsenic concentration of 16.3 mg/kg. Please confirm that the arsenic concentration was used to calculate the CHF and correct if needed.

The groundwater CHF table does not present a carbon disulfide concentration but Table 2-14 of the SMP presents a carbon disulfide concentration. Carbon disulfide should appear in the CHF table because it is among the top ten contaminants. Please include in the CHF calculation.

Response to Specific Comment No. 11

An arsenic concentration of 16.3 mg/kg will be added to the soil relative risk evaluation worksheet.

A carbon disulfide concentration of 1 μg/L will be added to the groundwater relative risk evaluation worksheet.

Specific Comment No. 12, Site 16, Appendix B, Relative Risk Ranking Worksheets

The site summary sheet states that no data exist for the former hospital incinerator. The site summary sheet should specify where the soil data used to calculate the CHF on the Site 16 soil worksheet was collected. If the data are not representative of current Site 16 conditions, then no media worksheets should be presented and the site should not be ranked.

Response to Specific Comment No. 12

The analytical data included in the relative risk evaluation worksheet for Site 16 is not site-specific. Therefore, it was inappropriate to include the relative risk evaluation worksheets and a rank for the site in the SMP. The worksheets and ranking will be removed.

This site will be investigated during the upcoming Basewide Groundwater OU RI. The analytical data from this investigation will be used to create relative risk evaluation worksheets for the site and to determine the appropriate risk ranking for the site. This information should be available in the SMP for 2000.

Specific Comment No. 13, Site 17, Appendix B, Relative Risk Ranking Worksheets

The site summary sheet does not include a description of the time-critical removal action. The site summary should describe remedial actions that have occurred, please revise.

The relative risk ranking should reflect current conditions. The soil worksheet appears to use data collected prior to the time-critical removal action and solidification/stabilization. Please confirm that the lead concentration used to calculate the soil CHF is representative of current conditions.

Response to Specific Comment No. 13

Agreed. A description of the time-critical removal action taken at Site 17 will be included in the site summary sheet.

The maximum concentration of lead detected in the soil after the time-critical removal action was 6,060 mg/kg (Lower Subase RI, 1999). This concentration will be input into the relative risk evaluation worksheet.

Specific Comment No. 14, Site 18, Appendix B, Relative Risk Ranking Worksheets

Table 2-18 of the SMP states that no data exist for Site 18. The site summary sheet should specify where the soil data used to calculate the CHF on the Site 18 soil worksheet was collected. If the data are not representative of current Site 18 conditions, then no media worksheets should be presented and the site should not be ranked.

Response to Specific Comment No. 14

Please refer to the response provided for Specific Comment No. 12.

Specific Comment No. 15, Site 19, Appendix B, Relative Risk Ranking Worksheets

Table 2-19 of the SMP states that no data exist for Site 19, that the sample results are pending. The site summary sheet should specify where the soil data used to calculate the CHF on the Site 19 soil worksheet was collected. If the data are not representative of current Site 19 conditions, then no media worksheets should be presented and the site should not be ranked.

Response to Specific Comment No. 15

Site 19 was investigated during the Lower Subase RI. The analytical results that are available from this investigation will be incorporated into the relative risk evaluation worksheets for this site. Table 2-19 will also be revised to incorporate the information provided in the Lower Subase RI report.

Specific Comment No. 16, Site 20, Appendix B, Relative Risk Ranking Worksheets

Surface Water Human Sheet for Site 20: The CHF table presents no contaminants, concentrations, standards, or ratios but provides a total ratio of 3.56E-03. The top ten contaminants should be presented in the table. Please correct.

The sediment Eco-fresh worksheet is missing. Sediment data exist for the drainage areas. Please provide an ecological sediment worksheet.

The sediment CHF rating is significant when freshwater sediment ecological criteria are used. A high media rating would result if the migration pathway and receptor factors remained potential. A high media rating would yield a high ranking for the Area A Weapons Center, instead of the current medium ranking. The soil worksheet CHF table does not present fluoranthene that was detected at 5700 ug/kg. Please confirm that this fluoranthene concentration was used in the CHF calculation and revise.

Response to Specific Comment No. 16

Surface water and sediment analytical data for Site 20, summarized in the Phase II RI report, will be input into the relative risk evaluation worksheets. The surface water data will be used to create a worksheet for human exposure and the sediment data will be used to create a worksheet for freshwater ecological exposure.

Fluoranthene was detected at a maximum concentration of 5,700 µg/kg in the soil at Site 20. This concentration will be included in the soil relative risk evaluation worksheet.

Specific Comment No. 17, Site 21, Appendix B, Relative Risk Ranking Worksheets

The concentration of lead presented in the soil CHF table is not consistent with the maximum lead concentration presented in Table 2-21. Please confirm that the maximum lead concentration is used in the CHF calculation for Site 21. Revise either Table 2-21 or the soil worksheet as appropriate.

Response to Specific Comment No. 17

Lead was detected at a maximum concentration of 189,000 mg/kg in the soil at Site 21. This lead concentration will be included in Table 2-21 and the soil relative risk evaluation worksheet.

Specific Comment No. 18, Site 23, Appendix B, Relative Risk Ranking Worksheets

Sediment and surface water data exist for Site 23 but worksheets are not presented for these media. The 1996 Primer states that media worksheets should be completed for all media with representative data.

Response to Specific Comment No. 18

Sediment and surface water samples were collected and analyzed as part of the Site Investigation of the Tank Farm (i.e., Site 23). The samples were collected from a stream upgradient of the site. This stream is routed into a culvert upgradient of the site and eventually discharges to the Thames River at the Goss Cove site. Because the samples were collected from a stream upgradient of Site 23, the data is not representative of Site 23. Therefore, the analytical results will not be added to the relative risk evaluation worksheets for Site 23.

Specific Comment No. 19, Site 25, Appendix B, Relative Risk Ranking Worksheets

It is not clear why a sediment human worksheet is completed without a surface water human worksheet. In accordance with the 1996 Primer both sediment and surface water sheets should be completed.

The surface water ecological worksheet completed is actually a sediment ecological worksheet. Please correct and include both surface water and sediment worksheets. In accordance with the 1996 Primer both sediment and surface water ecological sheets should be completed.

Response to Specific Comment No. 19

Please refer to the response provided for General Comment No. 1.

The sediment human worksheet will be eliminated from the Site 25 relative risk evaluation worksheets.

The soil and groundwater analytical data included in the Site 25 worksheets will be updated with the most recent Lower Subase RI results.

Specific Comment No. 20, Site 23, Appendix C, Site Schedules

Please explain why there is no schedule provided for Site 23 the fuel farm. The relative risk ranking worksheets provide Site 23 with a High ranking; therefore, a schedule should be provided for this site. Although some of the pipeline activities will be combined with Lower Subase, free product removal and potential soil excavation may occur for OT-8.

Response to Specific Comment No. 20

Site 23 is currently being addressed under both RCRA and CERCLA. The soil operable unit (OU) is currently being investigated under the RCRA UST program. Historically, the groundwater OU was also investigated under the RCRA UST program; however, in the future it will be investigated under CERCLA as part of the Basewide Groundwater OU Remedial Investigation (RI). The SMP only addresses CERCLA sites. Therefore, since Site 23 is included in the Basewide Groundwater OU RI, the schedule for the RI will be used to track the groundwater OU at Site 23. A revised schedule for the Groundwater OU RI will be prepared and included in the 1999 SMP.

APPENDIX E

RESPONSES TO CTDEP's COMMENTS

DEPARTMENT OF THE NAVY
NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
MAIL STOP, #82
LESTER, PA 19113-2090

IN REPLY REFER TO
5090
Code 1823/ME

14 MAY 1998

Mr. Mark Lewis
Connecticut Department of Environmental Protection
Bureau of Water Management
Permitting, Enforcement & Remediation Division
79 Elm Street
Hartford, CT 06106-5127

SUBJ: RESPONSES TO CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION COMMENTS DATED MARCH 25, 1998 ON THE DRAFT SITE MANAGEMENT PLAN FOR NAVAL SUBMARINE BASE NEW LONDON, GROTON, CT

Dear Mr. Lewis:

Please find enclosed in Attachment A the Navy's responses to your comments of March 25, 1998 on the Draft Site Management Plan (SMP) of February 1998 for the Naval Submarine Base - New London. I hope that any concerns you may have had on the SMP are satisfied by these responses.

Please call me at (610) 595-0567 ext. 162 if you have any questions or wish to discuss further.

Sincerely,

MARK EVANS
Remedial Project Manager
By direction of the
Commanding Officer

Copy to:
Ms. Kymberlee Keckler, USEPA Region I
Mr. Jeff Sullivan, SUBASE NLON
Mr. Corey Rich, B&R Pittsburgh, PA

ATTACHMENT A
RESPONSES TO CTDEP'S COMMENTS OF MARCH 25, 1998
ON THE DRAFT SITE MANAGEMENT PLAN DATED FEBRUARY 1998
NAVAL SUBMARINE BASE - NEW LONDON, GROTON, CONNECTICUT
May 13, 1998

General Comment No. 1:

The State agrees that the schedules proposed in this document are reasonable. The review periods for State review of various deliverables listed in Appendix C comply with the time periods specified in Section 7.6 of the Federal Facilities Agreement.

Response:

Comment noted.

Specific Comment No. 1: **Page 2-1, Section 2.1 Site Descriptions**

The description for several sites where remedial action has been conducted includes a discussion of whether the site is considered "response complete" (RC), or "remedies in place" (RIP). However, the meaning of these terms is not explained until Section 4.1 on page 4-1. It would be helpful to define these terms briefly in the beginning of Section 2.

Response:

A brief explanation of RC and RIP and the sites considered to be in one of these categories will be inserted at the end of Section 1.2. The text will also refer the reader to Section 4.1 for a detailed explanation of these terms.

Specific Comment No. 2: **Page 2-3, Section 2.1.3 Site 2- Area A Wetland**

The report notes that limited action is recommended for this site, but does not specify what type of action the Navy would consider, nor does the report include a schedule for further work. The report should include more information regarding future plans for this site. Table 4-1 distinguishes between Site 2A (the Area A Landfill) , and Site 2B (the Area A Wetlands). However, this distinction is not made in the text in Section 2.1.3, or in the Relative Risk Evaluation Worksheets.

Response:

Currently, the limited action proposed for the Area A Wetland includes groundwater monitoring. The monitoring of the groundwater beneath the Area A Wetland will be conducted as part of the Area A Landfill Groundwater Monitoring Plan. Groundwater monitoring is scheduled to begin in August of 1998. A description of this action will be included in Section 2.1.3 and Table 2-3. In the future, additional actions may be necessary for the Area A Wetland, but the details of those actions are currently unknown.

The Area A Landfill and the Area A Wetland were originally grouped together as one site (Site 2) for the Installation Restoration Program (IRP). Because they were considered as one site, funding, scheduling, Relative Risk Ranking, and other issues were grouped together. The recent remedial action at the Area A Landfill has made it apparent that these sites should be tracked independently. Creation of a new site under the IRP requires a substantial amount of time and effort. Therefore, the Navy proposes to have the Area A Wetland separated from the Area A Landfill for the Site Management Plan (SMP) for 1999.

For the final SMP for 1998, Table 4-1 will be modified to indicate that both the Area A Landfill and the Area A Wetland are Site 2 (i.e., the A and B designations will be removed). In addition, a Relative Risk Ranking Worksheet will be created that accurately depicts the current conditions at the Area A Landfill and the Area A Wetland. An updated ranking will be provided for the Area A Wetland.

Specific Comment No. 3: Page 2-5, Section 2.1.5 Site 4 - Rubble Rill Area at Bunker A-86 ¶4

The Navy proposes a No Further Action Proposed Plan and Record of Decision at this site, since all soil has been removed to bedrock. The State agrees that this is appropriate. The State also agrees that this decision should be documented through a Proposed Plan and Record of Decision, rather than through a No Further Action Decision Document.

Response:

Comment noted.

Specific Comment No. 4: Page 2-8, Section 2.1.7 Site 7 - Torpedo Shops

The text notes that in 1995 the Navy removed soil contaminated with Total Petroleum Hydrocarbons exceeding the residential direct exposure criteria specified in the Remediation Standard Regulations. The State agrees that further characterization is required at this site. The Navy will be required to demonstrate compliance with all portions of the Remediation Standard Regulations, including the pollutant mobility criteria, and the direct exposure criteria.

Response:

Comment noted.

Specific Comment No. 5: Page 2-9, Section 2.1.9 Oily Wastewater Tank (OT-5)

Please revise this section to clarify that the tanks were closed in place by filling them with inert material after the contents of the tanks were removed and the tanks were cleaned.

Response:

Text will be added to Section 2.1.9 which indicates that OT-5 was closed in place by filling it with inert material after the contents of the tank was removed, the tank was cleaned, and the top of the tank was crushed.

Specific Comment No. 6: Page 2-23, Table 2-29 Summary of Findings - Goss Cove Landfill

In the third sentence of the Recommended Remedial Alternative Section, "Goss Cover" should be "Goss Cove".

Response:

The CTDEP's comment incorrectly references Table 2-29 on page 2-23. The correct reference should be to Table 2-9 on Page 2-32.

The typographical error "Goss Cover" will be corrected to "Goss Cove" in Table 2-9.

Specific Comment No. 7: Page 2-56, Table 2-24 Summary of Findings, Site 24 - Lower Subase - Central Paint Accumulation Area

In the "Potential Souce of Contamination" section, "Accumulated Point" should be "Accumulated Paint".

Response:

The typographical error "Accumulated Point" will be corrected to "Accumulated Paint" in Table 2-24.

Specific Comment No. 8: Page 3-3, Section 3.1.3 Removal Action

This section discusses the use of removal actions prior to or during the RI/FS to reduce an immediate threat to human health or the environment. The last paragraph notes that no further action may be required following completion of a removal action. The State does not object to the use of removal actions for this purpose. Conducting a removal action may lower the risk posed by a site to the point where the risk is below the level where EPA would consider taking action. The Department wishes to reemphasize that in such cases, compliance with the Remediation Standard Regulations is required. It is not appropriate to conclude that since "actionable risk" no longer exists, ARARs do not apply and compliance with the Remediation Standard Regulations is not required.

Response:

Comment noted.

Specific Comment No. 9: Table 4-4, Table 4-1 Relative Risk Ranking Results

The table lists the rank of the Area A Landfill as "NA" and the rank of the Area A Wetland as "High". It notes that separate rankings were not conducted for the landfill and the wetlands. Separate rankings should be conducted for each of the two sites.

Response:

Please refer to the Response to Specific Comment No. 2.

Specific Comment No. 10: Appendix C

No schedule is provided for the Area A Wetlands, although this site is scored "High" in the Relative Risk Evaluation. Please provide a schedule for this site.

Response:

Please refer to the Response to Specific Comment No. 2.