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PITT-06-9-070

MEMORANDUM

DISTRIBUTION: Ms. Kimberlee Keckler, USEPA (2 copies)
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Mr. Mark Lewis, CTDEP (1 copy)
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FROM: Matthew D. Bartman, Project Manager

DATE: June 8, 1999

REFERENCE: CLEAN Contract Number N62472-90-D-1298
Contract Task Order Number 0275

SUBJECT: Final Proposed Plan
Site 8 – Goss Cove Landfill
Naval Submarine Base - New London, Groton, Connecticut

Tetra Tech NUS, Inc. is pleased to submit this final Proposed Plan for Site 8 – Goss Cove Landfill, Naval Submarine Base – New London (NSB-NLON), Groton, Connecticut on behalf of the United States Navy, Northern Division Naval Facilities Engineering Command and NSB-NLON. This final version addresses comments received on the draft final version from by USEPA Region I via electronic mail on June 3, 1999.

The information presented in this Proposed Plan will be discussed at a Public Meeting scheduled for June 23, 1999. The meeting will be held at the Best Western Olympic Inn in Groton, Connecticut.

If you have any questions regarding the enclosed Proposed Plan, please contact Mr. Mark Evans at (610) 595-0567 (ext. 162) or me at (412) 921-8984.

Sincerely,

A handwritten signature in black ink that reads "Matthew D. Bartman".

Matthew D. Bartman
Project Manager

Enclosure

c: Mr. Roger Boucher, NORTHDIV (letter only)
Mr. Mark Evans, NORTHDIV (2 copies)
Ms. Darlene Ward, NSB-NLON (80 copies)
Mr. John Trepanowski, TtNUS KOP (1 copy)
Mr. Corey Rich, TtNUS PGH (1 copy)
Mr. Gary Dutka, TtNUS PGH (1 copy)
File: CTO 0275/7428(1 copy)



Naval Submarine Base New London Goss Cove Landfill (Site 8) Proposed Plan

Introduction

In accordance with Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the law more commonly known as Superfund, this Proposed Plan summarizes the Navy's preferred option for Goss Cove Landfill (Site 8) at Naval Submarine Base-New London (NSB-NLON). This site (Figure 1), located adjacent to Goss Cove and the Thames River in the southwestern section of NSB-NLON, is one of 25 sites being addressed by the base's Installation Restoration Program (IRP). The goal of the IRP is to identify, assess, characterize, and cleanup or control contamination from past hazardous waste disposal operations.

This Proposed Plan recommends remedial action for Site 8. Detailed descriptions of Site 8 are provided in the March 1997 **Remedial Investigation (RI)** and June 1999 **Feasibility Study (FS)** reports which are available in the information repository at the locations identified on pages 3 and 4. The RI report concludes that there are potential human health risks; therefore, remedial action is proposed.

The Cleanup Proposal

After careful study of Site 8, the Navy proposes the following plan:

- No Further Action for Goss Cove surface water and sediment.
- Containment: Engineered Control Cap for the landfill area.
- Institutional controls that would limit future land use and insure that the site is not used in a manner that would disturb the cap or soil.

- Long-term monitoring of **groundwater** to evaluate the effectiveness of the cap.
- Routine maintenance and inspection of the cap.
- **Five-year site reviews.**

What Do you Think?

The Navy is accepting public comments on this Proposed Plan from June 9, 1999 to July 9, 1999. You do not have to be a technical expert to comment. If you have a comment or concern, the Navy wants to hear it before making a final decision.

There are two ways to formally register a comment:

1. Offer oral comments during the June public meeting; or
2. Send written comments post-marked no later than July 9, 1999 to:

Mr. Mark Evans
Naval Facilities Engineering Command
Northern Division
Code 1823/ME
10 Industrial Highway
Mail Stop 82
Lester, PA 19113-2090
email: mdevans@efdnorth.navfac.navy.mil

To the extent possible, the Navy will respond to your oral comments during the June 23 public meeting. In addition, regulations require the Navy to respond to all formal comments in writing. The Navy will

review the transcript of the comments received at the meeting, and all written comments received during the formal comment period, before making a final decision and providing a written response to the comments in a document called a **Responsiveness Summary**.

Learn More About the Proposed Plan

The Navy will describe the Proposed Plan and hear your questions at an informational public meeting:

June 23	Public Meeting and Informational Session
Meeting: 6:30 pm	
Date: Wednesday June 23, 1999	
Location: Olympic Inn/ Best Western, Route 12, Groton, Connecticut	

Technical terms shown in bold print are defined in the glossary on page 4.

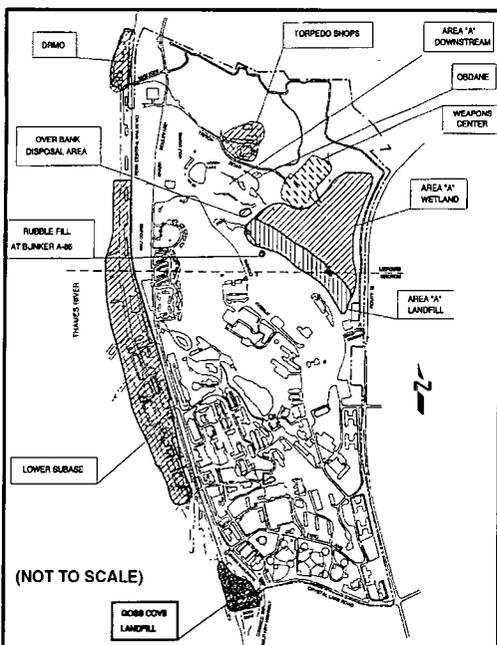
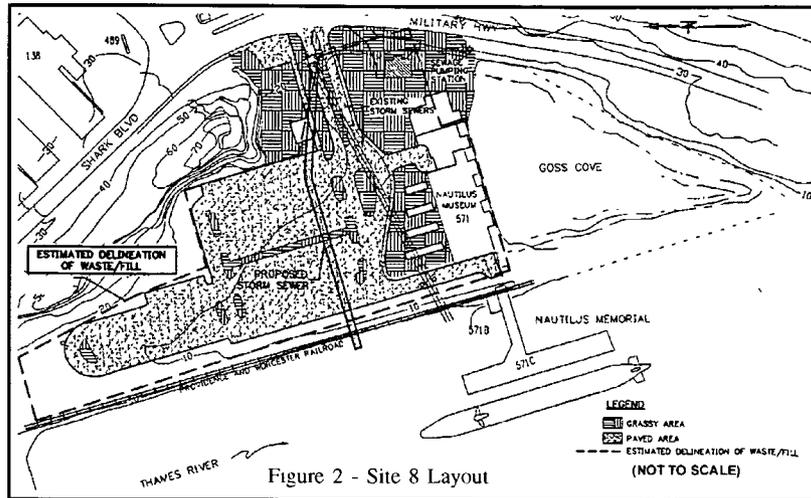


Figure 1 - Site Location Map

Naval Submarine Base New London



History

As shown on Figure 2, Site 8, Goss Cove Landfill, is located west of Shark Boulevard and the intersection of Crystal Lake Road and Military Highway, east of the Thames River and north of Goss Cove. The Nautilus Museum and parking lot are constructed directly over the site formerly used for landfill activities.

The landfill was operated from 1946 through 1957. Incinerator ash and inert rubble were the major materials disposed at the site, in what was then the northern portion of Goss Cove. The disposal of other materials was not documented. During excavation of a utility trench in support of the Nautilus Museum construction, several large gas cylinders were uncovered. All but two of them were empty.

Findings of the Field Investigations/ Risk Assessments

The Navy conducted several investigations from 1992 through 1998 to assess the type and distribution of **contaminants** at Site 8. The investigations included sampling and laboratory analysis of soil, **groundwater**, surface water, and sediment samples. Analytical findings indicated that fuel-related contaminants were present in the soil and **groundwater**. Contamination detected in the soil was found mainly at a depth between 10 to 12 feet. Contaminant levels in the surface water and sediment were minimal and indicate that no substantial impact to these media has occurred. A human health **risk assessment** was performed to evaluate the potential effects of the contamination on human receptors. It was determined that noncarcinogenic risks to construction workers and future residents based on maximum exposure exceed regulatory guidelines. Carcinogenic risks to full-time employees, older child trespassers, construction workers, and future residents, based on maximum exposures, exceed the State of Connecticut target risk range.

Summary of Alternatives Considered for Site 8

The Navy prepared a **FS** to evaluate alternatives for Site 8. The total excavation technology/process option was evaluated in the **FS** for soil and landfill debris, but screened out due to prohibitively high costs. The remedial alternatives considered in the **FS** are summarized in the following table:

Remedial Alternatives	Components	Comment
1. No Action	<ul style="list-style-type: none"> None, except existing museum parking lot pavement would be left in place, but not formally maintained Five-year site reviews 	<ul style="list-style-type: none"> Potential for exposure would remain. Does not comply with regulatory requirements. Cost \$46,400
2A. Solid waste Mgmt Cap with Institutional Controls and Monitoring	<ul style="list-style-type: none"> Excavate grass areas around Museum Excavated area to be backfilled Spread and compact excavated material over parking lot surface area. Characterize excess soil for offsite disposal if required Construct multi-layered soil-type cap over excavated area. Construct multi-layered asphalt-type cap over existing paved parking lot area. Land use restrictions. Groundwater monitoring. Five-year site reviews 	<ul style="list-style-type: none"> Partially protective of human health. Does not comply with all State and Federal statutes and regulatory requirements Reduce infiltration and limited reduction of potential contaminant migration Verify contaminant migration is not occurring Cost \$2,232,000
2B Engineered Control Cap with Institutional Controls and Monitoring	<ul style="list-style-type: none"> Excavate grass areas around Museum Excavated area to be backfilled. Spread and compact excavated material over parking lot surface area Characterize excess soil for offsite disposal if required. Construct impermeable soil-type cap over excavated area Construct multi-layered impermeable asphalt-type cap over paved area. Land use restrictions Groundwater monitoring Five-year site reviews 	<ul style="list-style-type: none"> Protective of human health and the environment. Compliant with State and Federal statutes and regulatory requirements Reduce potential contaminant migration. Verify contaminant migration is not occurring Cost \$2,657,000

Alternatives Evaluation Criteria

The following is a summary of the nine Superfund-mandated criteria used to balance the pros and cons of the remedial alternatives. The **FS** alternatives have already been evaluated using the first seven criteria. Once comments from the State and public are received, the alternatives will be compared using the last two criteria to select the remedy for Site 8.

- 1. Overall protection of human health and the environment:** The alternative should protect human health as well as plant and animal life on and near the site.
- 2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs):** The alternative should meet applicable and relevant and appropriate federal and state environmental and facility siting statutes, regulations, and requirements.
- 3. Long-term effectiveness and permanence:** The alternative should maintain reliable protection of human health and the environment over time.
- 4. Reduction of toxicity, mobility, or volume through treatment:** CERCLA contains the statutory preference that the selected alternative should use treatment to permanently reduce the level of toxicity of contaminants at the site, the spread of contaminants away from the **source** of contamination, or the amount of contamination at the site.
- 5. Short-term effectiveness:** The alternative should minimize short-term hazards to workers, residents, or the environment during implementation of the remedy.
- 6. Implementability:** The alternative should be technically feasible, and the materials and services needed to implement the remedy should be readily available.
- 7. Cost:** The alternative should provide the necessary protection for a reasonable cost.
- 8. State acceptance:** The State environmental agencies should agree with the proposed remedy.
- 9. Community acceptance:** The community should agree with the proposed remedy. Community acceptance is based on the comments received during the public meeting and public comment period.

The Navy's Proposed Remedy

The Navy's proposed remedy for Site 8 is Remedial Alternative 2B. This remedial alternative consists of three major components: (1) Engineered Control Cap (**impermeable**), (2) Institutional Controls, and (3) Monitoring.

Construction of the cap (Figure 3) would include the excavation of the grass-covered areas around the Nautilus Museum. The excavated material would be spread over the existing parking lot area and compacted. Excess soil that cannot be compacted will be characterized for offsite disposal, if required. The excavated area would be backfilled. A soil-type

impermeable cap would be placed over the excavated area and an asphalt-type **impermeable** cap would be placed over compacted waste on the paved areas. The multi-layered **impermeable** cap, including a geonet gas layer, geomembrane layer, drainage layer, and lower geotextile layer, would overlay the entire landfill and tie into existing buildings.

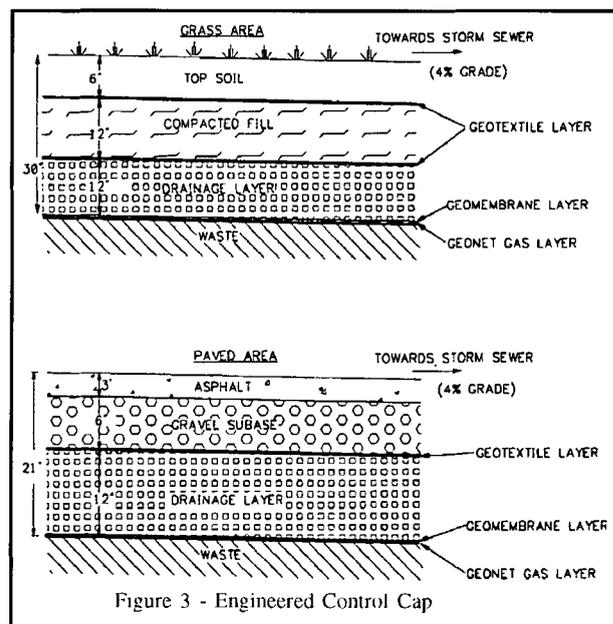


Figure 3 - Engineered Control Cap

Institutional controls will be adopted to ensure that the cap is not disturbed and future development would be limited with land use restrictions.

Monitoring would consist of **groundwater** sampling and analysis to evaluate the effectiveness of the cap. If the results of the groundwater monitoring indicate that the cap is not effective in limiting the migration of pollutants to the groundwater, the scope of the monitoring will be expanded to include the sampling and analysis of surface water and sediment in the Thames River and Goss Cove. Other remedial options may also be considered. Monitoring would also include site reviews every five years until no further risk to human health or environment exists. The review will evaluate the site status and determine whether further remedial action is warranted by a change in this status.

The Public's Role in Alternative Selection

Community input is integral to the selection process. The Navy and regulatory agencies will consider all comments in selecting the remedial action prior to signing the **Record of Decision (ROD)**. The public is encouraged to participate in the decision-making process.

This Proposed Plan for Site 8 is available for review, along with supplemental documentation, at the:

Groton Public Library
52 Route 117
Groton, CT 06340
(860) 441-6750

Hours:
Mon.-Thurs: 9:00 am-9:00 pm
Fri.: 9:00 am-5:30 pm
Sat.: 9:00 am-5:00 pm
Sun.: noon-6:00 pm

Naval Submarine Base New London

☞ Bill Library
718 Colonel Ledyard Highway
Ledyard, CT 06339
(860) 464-9912

Hours:
Mon.-Thurs: 9:00 am-9:00 pm
Fri. & Sat.: 9:00 am-5:00 pm
Sun.: 1:00 pm-5:00 pm

For further information, please contact:

- ☞ Ms. Darlene Ward
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Naval Submarine Base New London
Environmental Department, Bldg. 166
Groton, CT 06349-5100
(860) 694-5176
email: wardda@smtphost.subasenlon.navy.mil
- ☞ Ms. Kimberlee Keckler
Remedial Project Manager
U.S. Environmental Protection Agency
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Boston, MA 02114-2023
(617) 918-1385
email: keckler.kimberlee@epa.gov
- ☞ Mr. Mark Lewis
Environmental Analyst 2
Connecticut Department of Environmental Protection
Water Management Bureau
Permitting, Enforcement, and Remediation Division
Federal Remediation Program
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3768
email: mark.lewis@po.state.ct.us

Glossary of Technical Terms

Applicable or Relevant and Appropriate Requirements (ARARs): The Federal and State environmental and facility

siting rules, regulations, and criteria which must be met by the selected remedy under Superfund.

Contaminants: Any physical, biological, chemical, or radiological substance or matter that, at a certain concentration, could have an adverse effect on human health and the environment.

Feasibility Study (FS): A report that presents the development, analysis, and comparison of remedial alternatives.

Five-year site review: Review of any remedial action that results in any hazardous substance, pollutants, or contaminants remaining at the site. The review is conducted no less often than each five years after the initiation of the remedial action.

Groundwater: Water found beneath the earth's surface. Groundwater may transport substances that have percolated downward from the ground surface as it flows towards its point of discharge.

Impermeable: Not easily penetrated. The property of a material or soil that does not allow, or allows only with great difficulty, the movement or passage of water.

Record of Decision (ROD): An official document that describes the selected Superfund remedy for a site. The ROD documents the remedy selection process and is issued by the Navy and U.S. EPA following the public comment period.

Remedial Investigation (RI): A report which describes the site, documents the type and distribution of contaminants detected at the site, and presents the results of the risk assessment.

Responsiveness Summary: A summary of written and oral comments received during the public comment period, together with the Navy's and U.S. EPA's responses to these comments.

Risk Assessment: Evaluation and estimation of the current and future potential for adverse human health or environmental effects from exposure to contaminants.

Source: Area(s) of a site where contamination originates.



Naval Submarine Base New London

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