

# Non Time-Critical Removal Action For Study Area 4 At CBC Davisville, Rhode Island

DRAFT

*Prepared for:*

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Northern Division  
Naval Facilities Engineering Command  
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*Under contract with:*

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Sparks, Maryland

17 August 1995  
Contract No. N62472-92-D-1296  
Contract Task Order No. 0040

**DRAFT**  
**NON TIME-CRITICAL REMOVAL ACTION**  
**FOR**  
**STUDY AREA 4**  
**AT**  
**CBC DAVISVILLE, RI**

CLEAN Contract No. N62472-92-D-1296; CTO 0041  
RAC Contract No. N62472-94-C-0398

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17 August 1995  
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EA Project No. 296.0040  
S&W Project No. 04291.09

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## SUMMARY OF WORK

### 1.1 INTRODUCTION

#### 1.1.1 Preconstruction Submittals

Submit the following in accordance with the Basic Contract.

##### 1.1.1.1 Safety, Health and Emergency Response Plan (SHERP)

###### 1.1.1.1.1 Draft SHERP

Within 30 calendar days of issuance of the start-up delivery order, submit to the reviewers specified herein a draft version of the Contractor's site specific Safety, Health and Emergency Response Plan (SHERP) and copies of all field personnel health and safety training and medical monitoring certificates including copies of:

- 40 hour comprehensive training course which complies with OSHA 29 CFR 1910.120.
- Annual refresher training, with availability during entire duration of projected field work.
- CPR and First Aid training by at least one Contractor on-site employee. One person from the Contractor with this training must be present at all times during operations. All training certificates shall be current.
- Evidence of medical monitoring and ability to perform expected field activities.
- Emergency response training.

All field activities shall be performed in accordance with 29 CFR 1910.120. The Contracting Officer will provide a cover letter to accompany all submissions to non-Navy reviewers.

#### **1.1.1.1.2 Review of Draft SHERP**

Allow 30 days for review of the draft SHERP. At the end of the review period, the Contracting Officer will provide a consolidated set of all reviewer's written comments and approval to proceed with site characterization sampling and analysis as covered by the SHERP 'as amended' by the comments.

#### **1.1.1.1.3 Response to Comments on Draft SHERP**

Provide a written response to the Contracting Officer for all comments included in the consolidated set of all reviewer's written comments within 15 calendar days of receipt of the comment set.

#### **1.1.1.1.4 Final SHERP**

Within 30 calendar days of receipt of the written comment set, submit to the reviewers specified herein a final version of the Contractor's site specific SHERP. The Contracting Officer will provide a cover letter to accompany submissions to non-Navy reviewers.

### **1.1.1.2 Work Plan**

#### **1.1.1.2.1 Draft Work Plan**

Within 15 calendar days of issuance of the construction modification to the start-up delivery order, submit to the reviewers specified herein a draft Work Plan consisting of the following elements plus any items indicated elsewhere in this specification to be included with the Work Plan. The Contracting Officer will provide a cover letter to accompany submissions to non-Navy reviewers.

a. Narrative

Provide a brief description of the project objectives, construction schedule, and construction procedures.

b. Environmental Protection Plan

Prepare and submit an environmental protection plan in accordance with the Basic Contract. Meet with the Contracting Officer to discuss environmental protection requirements for the project prior to preparing this plan.

c. QC Plan

Provide a QC Plan in accordance with the Basic Contract.

(1) Submittal Register

As part of the QC Plan, submit a complete Submittal Register to document quality control for materials, inspection, and testing in accordance with the Basic Contract.

(2) Testing Laboratory Qualifications

As part of the QC Plan, submit qualifications for each laboratory that will be used in accordance with the Basic Contract.

d. Transportation and Disposal Plan

Submit to the Contracting Officer a Transportation and Disposal Plan which includes the following information:

1. Copies of all permits and contaminant level limitations for the receiving facilities. Note that facility information shall be for the final disposal/treatment facility. If interim facilities are expected to be used, such as transfer stations, then permits for these facilities shall also be provided to the Contracting Officer.
2. Written confirmation shall be submitted to the Contracting Officer, from each of the disposal or treatment facilities indicating that they will accept the materials generated during the remediation operations.

3. Name and address of any transporter.
4. Name and address of any transporter for out-of-state transport.
5. United States Environmental Protection Agency (EPA) identification number and expiration date for transport of hazardous waste.
6. Proof of permit, license, or authorization to transport oil and hazardous materials in all affected states.

If any of the listed information for the Transportation and Disposal Plan can not be submitted on-time due to outstanding procurement issues, the outstanding information can be submitted in an addenda form at a later date but no later than 60 days after the award of the construction modification to the start-up delivery order.

#### **1.1.1.2.2 Review of Draft Work Plan**

Allow 15 days for review of the Draft Work Plan. At the end of the review period, the Contracting Officer will provide a consolidated set of all reviewer's written comments.

#### **1.1.1.2.3 Response to Comments on Draft Work Plan**

Provide a written response to the Contracting Officer for all comments included in the consolidated set of all reviewer's written comments within 15 calendar days of receipt of the comment set.

#### **1.1.1.2.4 Final Work Plan**

Within 30 calendar days of receipt of the written comment set, submit to the reviewers specified herein a final version of the Contractor's Work Plan. The Contracting Officer will provide a cover letter to accompany submissions to non-Navy reviewers.

**1.1.1.3 Reviewers for SHERP**

SHERP submittals shall be forwarded for review as noted in the following distribution list:

Distribution List

Northern Division NAVFACENCOM 10 Industrial Highway, MSC 82 Lester, PA 19113-2090 Code 4023/CD	5 copies
Caretaker Site Office Davisville Road North Kingstown, RI 02852 Louis F. Fayan, Environmental Engineer	2 copies
Resident Officer in Charge of Construction (ROICC) Naval Education Training Center Building No. 1, Simonpietre Drive Newport, RI 02842-1712	2 copies
Christine Williams, Remedial Project Manager U.S. Environmental Protection Agency Region 1 JFK Federal Building (HAN-CAN1) Boston, MA 02203	2 copies
Lisa Brandon, CTO Manager Stone & Webster Environmental Technology & Services 245 Summer Street Boston, MA 02210	3 copies
Scot Gnewuch A.D. Little, Inc. Acorn Park, Office 15W/207 Cambridge, MA 02140-2390	1 copies

#### 1.1.1.4 Reviewers for Work Plan

Work Plan submittals shall be forwarded for review to the reviewers listed above for the SHERP as well as to the reviewers noted in the following distribution list:

##### Distribution List

Judith Graham, Engineer Rhode Island Department of Environmental Management Division of Air and Hazardous Materials 291 Promenade Street Providence, RI 02908-5767	2 copies
Tim Prior U.S. Fish and Wildlife Service Route 1A, Shoreline Plaza P.O. Box 307 Charlestown, RI 02813	1 copy
Dr. Ken Finklestein U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA) National Material and Response Branch c/o U.S. EPA Region 1 - Waste Mgmt. Div. HEE-6 JFK Federal Building Boston, MA 02203	1 copy

#### 1.1.2 Submittals

Submit the following in accordance with the Basic Contract.

##### 1.1.2.1 Records

- a. Status Reports
- b. QC Meeting Minutes
- c. Test Results Summary Report

- d. Permits
- e. Contractor's Production Report
- f. Contractor's Closeout Report
- g. Miscellaneous Documentation

#### **1.1.2.1.1 Status Reports**

The Contractor shall provide daily reports of project status to the Contracting Officer.

#### **1.1.2.1.2 QC Meeting Minutes**

The QC Representative shall document all QC meetings by delivering copies of the minutes to the Contracting Officer within 3 calendar days after each QC meeting. The submittals shall comply with the Basic Contract.

#### **1.1.2.1.3 Test Results Summary Report**

A summary report of all field tests containing both "required" and "actual" results including "passed" or "failed" for conforming, non-conforming, and repeated test results shall be submitted to the Contracting Officer within 3 working days of receipt of results.

#### **1.1.2.1.4 Permits**

Fifteen days prior to beginning excavation work, submit draft copies of the permits required for on-site activities to the State of Rhode Island Department of Environmental Management (RIDEM).

#### **1.1.2.1.5 Contractor's Closeout Report**

Submit the Contractor's Closeout Report 30 days after the final demobilization. This report shall include: Introduction, Summary of Action, Summary of Record Documents, Field Changes and Contract Modifications, Final Documents, and QC Summary Report.

#### **1.1.2.1.6 Miscellaneous Documentation**

Submit to the Contracting Officer, as soon as available, copies of all Chain-of-Custody Forms, Manifests, Bills of Lading, and Tare and Gross Weight Slips for every load weighed and disposed of at the approved disposal facility(ies).

#### **1.1.3 General Description**

The removal action at Study Area 4, Construction Equipment Division (CED) Asphalt Disposal Area is focused on soils. The action at Study Area 4 includes excavation and removal of asphaltic material and contaminated soil, off-site disposal, backfilling and reseeded of the disturbed area.

#### **1.1.4 Location**

The work shall be located at Study Area 4 at CBC Davisville, Rhode Island. The exact location for the removal action will be as directed by the Contracting Officer.

#### **1.1.5 Project Schedule and Time Constraints**

##### **1.1.5.1 Commencement, Prosecution, and Completion of Work**

The Contractor shall be required to:

- a. Commence site characterization sampling and analysis work under this contract within 7 calendar days after the date the Contractor receives the construction modification to the start-up delivery order.
- b. Commence removal site work under this contract within 7 calendar days after the date the Contractor receives the notice to proceed.
- c. Prosecute the work diligently.
- d. Complete the entire removal work and restoration or stabilization ready for use not later than 60 calendar days after the required commencement of removal site work. The time stated for completion shall include final

cleanup of the premises. If stabilization is required, final restoration including paving and seeding shall be completed no less than 30 days after the onset of the next available paving and seeding season.

### **1.1.6 Safety Program**

In addition to safety requirements in the Basic Contract, the Contractor shall implement a safety program conforming to the requirements of Federal, State, and local laws and rules. The Contractor shall submit and receive Contracting Officer approval of a site specific SHERP prior to the commencement of any field activities.

## **1.2 EXECUTION**

### **1.2.1 Facilities and Services**

#### **1.2.1.1 Availability of Utilities**

Water to fill a water buffalo or similar tank is available from the Rhode Island Port Authority. The Contractor will be responsible for making connections and disconnections, and providing generators. No electrical or sanitary services are available on site.

#### **1.2.1.2 Open Site Storage Site and Location**

The open site available for storage shall be indicated by the Contracting Officer. Storage in existing buildings will not be allowed.

Locate trailers, storage, and temporary buildings where directed by the Contracting Officer. Trailers or storage buildings will be permitted, where space is available subject to the approval of the Contracting Officer. The trailers or buildings shall be in good condition, free from visible damage, rust and deterioration, and meet all applicable safety requirements. Trailers shall comply with all appropriate state and local vehicle requirements. A sign not smaller than 24 inches by 24 inches shall be conspicuously placed on the trailer depicting the company name, business telephone number, and emergency telephone number. Trailers shall be anchored to resist high winds and must meet applicable state and local standards for anchoring mobile trailers.

### **1.2.1.2.1 Storage and Office Trailers**

Provide sufficient space in the office trailer for the exclusive use of the Quality Control Representative. Also provide room in the same trailer for the Quality Control Records. All trailers must be in good condition, lockable, and have a sign as described above.

## **1.2.2 Restrictions of Operations**

### **1.2.2.1 Scheduling**

#### **1.2.2.1.1 General Scheduling Requirements**

Permission to interrupt base roads shall be requested in writing a minimum of 15 calendar days prior to the desired date of interruption. Notify the Contracting Officer 48 hours prior to starting work.

#### **1.2.2.1.2 Regular Work Hours**

The regular work hours for CBC Davisville are 0730 to 1600, Monday through Friday.

#### **1.2.2.1.3 Work Outside Regular Hours**

If the Contractor desires to carry on work outside regular hours or on Saturdays, Sundays, or holidays, the Contractor shall notify the Contracting Officer. The Contractor shall allow 3 days notice to enable satisfactory arrangements to be made by the Government for inspecting the work in progress. At night, the Contractor shall light the different parts of the work as approved by the Contracting Officer.

### **1.2.2.2 Security Requirements**

The Contractor shall comply with general security requirements in accordance with the Basic Contract. No employee or representative of the Contractor will be admitted to the work site without satisfactory proof of United States citizenship unless he or she is specifically authorized admittance to the work site by the Contracting Officer.

### **1.2.3 Actions Required of the Contractor**

Contractor shall comply with all requirements stated in the Basic Contract.

### **1.2.4 Public Release of Information**

Contractor shall comply with all requirements stipulated in the Basic Contract.

### **1.2.5 Environmental Protection Requirements**

Provide and maintain, during the life of the contract, environmental protection as defined in the Basic Contract with additional requirements as contained herein.

### **1.2.6 Required Insurance**

Insurance requirements from the Basic Contract are enforced in their entirety.

## SITE WORK

### 2.1 GENERAL

#### 2.1.1 Description of Work

The work includes the removal and disposal of asphaltic material and PCB and beryllium contaminated soil at Study Area 4. Perform all work in accordance with all applicable local, State and Federal regulations and the requirements specified herein. A Site Locus map is included as Figure 1-1.

The area of concern at Study Area 4 is the eastern 150 feet of the trench where the asphaltic material was disposed of in two distinct areas as shown in Figure 2-1. Upon removal, testing shall be performed on the asphaltic material and contaminated soil to determine proper treatment and disposal facilities. Perform field screening with a field technique such as immunoassay technology or a field gas chromatograph (GC). Confirmatory laboratory sampling shall be performed by an EPA and State Certified Laboratory. Testing shall be performed in accordance with all applicable Federal, State and local regulations. It is assumed that beryllium and PCB-contaminated soils shall be excavated to a depth of one foot. Excavated soils shall be stockpiled and disposed of at a licensed off-site facility approved by the Contracting Officer. The estimated quantity of asphaltic material is 63 tons and that of contaminated soil is approximately 63 tons.

#### 2.1.2 Definitions

##### 2.1.2.1 PCB and Beryllium

PCB as used in this specification shall mean the same as PCB, PCB Article, PCB Article Container, PCB Container, PCB Equipment, PCB Item, PCB Transformer, PCB-Contaminated Electrical Equipment, as defined in 40 CFR 761, Section 3, Definitions.

Beryllium shall be interpreted similar to above, including any beryllium contaminated materials.

## **2.1.3 Quality Assurance**

### **2.1.3.1 Training**

Instruct employees on the dangers of PCB and beryllium exposure, on respirator use, decontamination, and applicable OSHA and EPA regulations. Training must be in accordance with OSHA Hazard Communication 29 CFR 1910.1200, at a minimum.

### **2.1.3.2 Certified Industrial Hygienist (CIH)**

Obtain the services of an industrial hygienist certified by the American Board of Industrial Hygiene to certify training, review and approve the removal plan, including determination of the need for personnel protective equipment (PPE) in performing PCB and beryllium removal work. The CIH will be responsible for evaluating PCB, beryllium and other hazards.

### **2.1.3.3 Regulation Documents**

Maintain at all times one copy each at the office and one copy each in view at the job site 29 CFR 1910.1000, and Contractor work practices for removal, storage and disposal of contaminated materials.

### **2.1.3.4 Surveillance Personnel**

Surveillance personnel may enter control areas for brief periods of time as defined by the site Safety, Health and Emergency Response Plan, provided they wear disposable polyethylene gloves and disposable polyethylene foot covers, as a minimum. Additional protective equipment may be required if respiratory hazard is involved or if skin contact with PCB is involved.

## **2.1.4 Personnel Protective Equipment**

Workers shall wear and use PPE, as recommended by the CIH and required by OSHA regulations, upon entering a control area. Provide PPE to the Contracting Officer as required for inspection of the work. If PPE is not required per the CIH, specify in the removal work plan.

### 2.1.5 Description of Contaminants Present

PCB (Aroclor 1260) and beryllium were identified in surface soil at Study Area 4. PCB was detected at 2500 ug/kg, and beryllium was detected at 0.78 ug/kg in soil samples in the area of the asphaltic material.

### 2.1.6 Criteria for Bidding

The following disposal quantities are provided for bidding purposes only. Actual quantities shall be based on results of Contractor site characterization and confirmation sampling analysis results.

Contaminated asphaltic material:	63 Tons
PCB and beryllium contaminated soil (<50 ppm):	63 Tons

## 2.2 REMOVAL AND DISPOSAL OF ASPHALTIC MATERIAL

### 2.2.1 Permissible Exposure Limits (PEL)

PEL for PCB is 0.5 mg/m<sup>3</sup> (3.1 E - 08 lb/cubic foot) on an 8-hour time weighted average basis.

### 2.2.2 Work Procedure

Furnish labor, materials, services, and equipment necessary for the complete removal action at the site as indicated or specified in accordance with local, State, or Federal regulations. Package and mark PCB and other contaminants as required by EPA and DOT regulations and dispose of off Government property in accordance with EPA, DOT, and local regulations at a permitted site.

#### 2.2.2.1 No Smoking

Smoking is not permitted within 50 feet of the control area. Provide "No Smoking" signs as directed by the Contracting Officer.

### **2.2.2.2 Work Operations**

Ensure that work operations are conducted in accordance the applicable requirements of this section, including but not limited to:

- a. Obtaining advance approval of any PCB storage sites.
- b. Notifying Contracting Officer prior to commencing the operation.
- c. Reporting leaks and spills to the Contracting Officer.
- d. Cleaning up spills.
- e. Maintaining an access log of employees working in a control area and providing a copy to the Contracting Officer upon completion of the operation.
- f. Inspecting PCB and PCB-contaminated items and waste containers for leaks and forwarding copies of inspection reports to the Contracting Officer.
- g. Maintaining inspection, inventory and spill records.

### **2.2.3 Work Effort**

#### **2.2.3.1 Site Characterization**

Perform sampling and analysis of asphaltic material and contaminated soil as required by the licensed, off-site treatment or disposal facility. Analytical requirements for disposal purposes are anticipated to be TCLP, TPH, PCB, and Priority Pollutant Metals for both the asphaltic material and the excavated soil.

The proposed number and type of analyses shall be described in the Work Plan and the Transportation and Disposal Plan.

### 2.2.3.2 Contaminated Soil Removal and Disposal

Initial area to be removed shall be as indicated on Figure 2-1 as amended by results of site characterization sampling and analysis. The asphaltic material shall be removed from the trench and the excavation bottom and sides shall be field screened for a determination of the need for additional excavation. The need for additional excavation shall be approved by the Contracting Officer. The excavation shall be considered complete when confirmation sample analysis results indicate no levels above the clean-up criteria specified herein. Store and dispose of excavated soil as specified herein.

### 2.2.3.3 Confirmation Sampling

The excavation shall be considered complete if the following levels in remaining soil are below the given concentrations:

PCB	less than 10 ppm
TPH	less than 500 ppm
Beryllium	less than 0.67 ppm

Confirmatory laboratory analysis shall be performed by an EPA and State Certified Laboratory. Provide all analytical results to the Contracting Officer within 24 hours of their receipt. Do not remove boundaries of the control area until the site is determined to be satisfactorily clean by the Contracting Officer.

## 2.2.4 Spill Cleanup Requirements

### 2.2.4.1 Spills

Immediately report to the Contracting Officer any spills on the ground or floor or in the water, spills from drip pans, or leaks.

#### **2.2.4.2 Spill Control Area**

Rope off an area around the edges of a leak or spill and post a "Spill Authorized Personnel Only" caution sign. Immediately transfer leaking items to a drip pan or other container.

#### **2.2.4.3 Spill Cleanup**

Initiate cleanup of spills as soon as possible, but no later than 48 hours after discovery. To clean up spills, personnel shall wear the PPE prescribed in paragraph entitled "Special Clothing" of this section. If misting, elevated temperatures or open flames are present, or if the spill is situated in a confined space, notify the Contracting Officer. Mop up the liquid with rags or other conventional absorbent.

#### **2.2.4.4 Records and Certification**

Document the cleanup with records of decontamination. Provide certification of decontamination.

#### **2.2.5 Disposal**

Do not accept hazardous waste unless it is accompanied by a manifest signed by the Government. Before transporting the waste, sign and date the manifest acknowledging acceptance of the waste from the Government. Return a signed copy to the Government before leaving the job site. Ensure that the manifest accompanies the waste at all times. Submit transporter certification of notification to EPA of their waste activities. Dispose of contaminated soils in accordance with RIDEM and other applicable regulations.

##### **2.2.5.1 Certificate of Disposal**

Submit to the Government within 30 days of the date that the disposal of the hazardous waste identified on the manifest was completed. Certificate for the items disposed shall include:

- a. The identity of the disposal facility, by name, address, and EPA identification number.
- b. The identity of the waste affected by the Certificate of Disposal including reference to the manifest number for the shipment.
- c. A statement certifying the disposal of the identified waste, including the date(s) of disposal, and identifying the disposal process used.

#### **2.2.5.1.1 Payment Upon Furnishing Certificate of Disposal of Waste**

Payment will not be made until the certificate of disposal has been furnished to the Contracting Officer.

### **2.3 SUMMARY OF EXCAVATION**

#### **2.3.1 Description of Work**

Excavate, remove, backfill, and reseed the area containing asphaltic material and PCB and beryllium-contaminated soil on Study Area 4 (Figure 2-1).

#### **2.3.2 Criteria for Bidding**

Base bids on the following criteria:

- a. The Contractor shall verify depth, size, and location of all underground utilities prior to excavation work. Assume pipes or other artificial obstructions, except those indicated, will not be encountered.
- b. The ground water elevation at Study Area 4 is approximately 15 feet below surface grade. Ground water elevations indicated are those existing at the time subsurface investigations were made and do not necessarily represent ground water elevation at the time of construction.
- c. The character of the material to be excavated or found in the trench is as indicated in the referenced reports.

- d. Water that collects in the excavations and is removed by the Contractor shall be considered contaminated unless testing indicates it is not contaminated.
- e. Blasting will not be required.
- f. If contaminated soil is encountered, the contractor shall place this contaminated soil in a stockpile located on-site as directed by the Contracting Officer.
- g. The contractor shall provide 500 SF of nylon reinforced plastic (10 mil minimum) to cover stockpile. The contractor shall use sandbag weights (45 lbs minimum) at every 50 SF to hold cover on stockpile.

## 2.4 PRODUCTS

### 2.4.1 Soil Materials

Soil shall be free of debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, and deleterious, or objectionable materials. Unless specified otherwise, the maximum particle diameter shall be one-half the lift thickness at the intended location.

#### 2.4.1.1 Backfill and Fill Material

Backfill and fill material include materials classified in ASTM D 2487 as GW, GP, GM, GC, SW, SP, SM, SC with a maximum ASTM D 4318 liquid limit of 35, maximum ASTM D 4318 plasticity index of 12, and a maximum of 25 percent by weight passing ASTM D 1140, 75 micrometers (No. 200) sieve.

#### 2.4.1.2 Topsoil

Topsoil shall be natural, friable soil representative of productive, well-drained soils in the area, free of subsoil, stumps, rocks larger than 25 mm (one inch) diameter, brush, weeds, toxic substances, and other material detrimental to plant growth. Amend topsoil pH range to obtain a pH of 5.5 to 7.

## **2.5 EXCAVATION, FILLING AND BACKFILLING**

### **2.5.1 Surface Preparation**

#### **2.5.1.1 Unsuitable Material**

Remove and dispose of vegetation, debris, decayed vegetable matter, sod, mulch, and rubbish.

### **2.5.2 Protection**

#### **2.5.2.1 Protection Systems**

If required to execute the work, provide shoring, bracing, cribbing, underpinning, and sheeting in accordance with COE EM-385-1-1, except that banks may be sloped when approved by the Contracting Officer.

#### **2.5.2.2 Drainage**

Provide for the collection and disposal of surface water encountered during construction. Completely drain construction site during periods of construction to keep soil materials sufficiently dry so that operations progress successfully. Provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide new soil material as specified herein.

#### **2.5.2.3 Underground Utilities**

The Contractor shall physically verify the location and elevation of the existing utilities indicated prior to starting construction. The Contractor shall contact the Contracting Officer for assistance in locating existing utilities. The Contractor shall scan the construction site with electromagnetic and sonic equipment and mark the surface of the ground where existing underground utilities are discovered.

### **2.5.2.4 Machinery and Equipment**

Movement of construction machinery and equipment over pipes during construction shall be at the Contractor's risk. Repair, or remove and provide new pipe for existing pipe that has been displaced or damaged.

### **2.5.3 Excavation**

Excavate as needed to remove asphaltic material and contaminated soil to 1 foot depth (assumed). Reuse excavated materials that meet the specified requirements for the material type required at the intended location. Keep excavations free from water. Unless specified otherwise, refill excavations with backfill and fill material and compact to 95 percent of ASTM D 698 and ASTM D 1557 maximum density.

### **2.5.4 Compaction**

Compaction requirements are expressed as a percentage of maximum density. Determine in-place density of existing subgrade; if required density exists, no compaction of existing subgrade will be required. Density requirements specified herein are for cohesionless materials. When cohesive materials are encountered or used, density requirements may be reduced by 5 percent. Compact underneath areas designated for vegetation to 85 percent of ASTM D 698.

### **2.5.5 Finish Operations**

#### **2.5.5.1 Grading**

Finish grades shall be similar to existing grade and shall blend with surrounding area. For existing grades that will remain but which were disturbed by Contractor's operations, grade as directed by Contracting Officer.

#### **2.5.5.2 Seed**

Seed area consistent with existing vegetation. Provide seed at 5 pounds per 1000 square feet. Provide CID A-A-1909, Type I, Class 2, 10-10-10 analysis fertilizer at 25 pounds per 1000 square feet. Provide commercial agricultural limestone of 94-80-14 analysis at 70 pounds per 1000 square feet. Provide

mulch and water to establish an acceptable stand of grass. If stabilization is required, final restoration including seeding shall be completed no less than 30 days after the onset of the next available seeding season.

#### **2.5.5.3 Protection of Surfaces**

Protect newly graded areas from traffic, erosion, and settlements that may occur. Repair or reestablish damaged grades, elevations, or slopes.

#### **2.5.6 Disposition of Surplus Material**

Remove from Government property surplus or other soil material not required or suitable for filling or backfilling, and brush, refuse, stumps, roots, and timber.

#### **2.5.7 Field Quality Control**

##### **2.5.7.1 Sampling**

Assume five (total) samples from Study Area 4 to perform the following tests: TCLP, TPH, PCB and metals for each material used. Provide additional tests for each source change.

##### **2.5.7.1.1 Fill and Backfill Material Testing**

Test fill and backfill material in accordance with ASTM C 136 for conformance to ASTM D 2487 gradation limits; ASTM D 1140 for material finer than the 75 micrometers (No. 200) sieve; ASTM D 4318 for liquid limit and for plastic limit; ASTM D 698 or ASTM D 1557 for moisture density relations, as applicable.

## REFERENCES

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- American Society for Testing and Materials, *Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft (2,700 kN-m/m))*, ASTM D 1557, 1991.
- American Society for Testing and Materials, *Classification of Soils for Engineering Purposes*, ASTM D 2487, 1993.
- American Society for Testing and Materials, *Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)*, ASTM D 2922, 1991.
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- American Society for Testing and Materials, *Liquid Limit, Plastic Limit, and Plasticity Index of Soils*, ASTM D 4318, 1993.
- Code of Federal Regulations, *Accident Prevention Signs and Tags*, 29 CFR 1910.145.
- Code of Federal Regulations, *Air Contaminants*, 29 CFR 1910.1000.
- Code of Federal Regulations, *Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*, 40 CFR 761.

Code of Federal Regulations, *General Information, Regulations, and Definitions*, 49 CFR 171.

Code of Federal Regulations, *Hazardous Materials Tables and Hazardous Materials Communications Regulations*, 49 CFR 172.

Code of Federal Regulations, *Shipments and Packagings*, 49 CFR 173.

Code of Federal Regulations, *Carriage by Rail*, 49 CFR 174.

Code of Federal Regulations, *Carriage by Aircraft*, 49 CFR 175.

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Code of Federal Regulations, *Carriage by Public Highway*, 49 CFR 177.

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Commercial Item Descriptions, *Fertilizer*, CID A-A-1909.

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EA Engineering, Science and Technology, *Base Realignment and Closure Cleanup Plan, Naval Construction Battalion Center*, February 1994.

EA Engineering, Science, and Technology, *Draft Base Wide Terrestrial Ecological Risk Assessment, Naval Construction Battalion Center, Davisville, RI*, May 1995.

Ecology & Environment, Inc., *Final Archeological Sensitivity Assessment and Archeological Survey for Base Closure and Realignment, Redevelopment and Reuse at the Naval Construction Battalion Center Davisville, Rhode Island*, October 1994.

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Stone & Webster Environmental Technology & Services

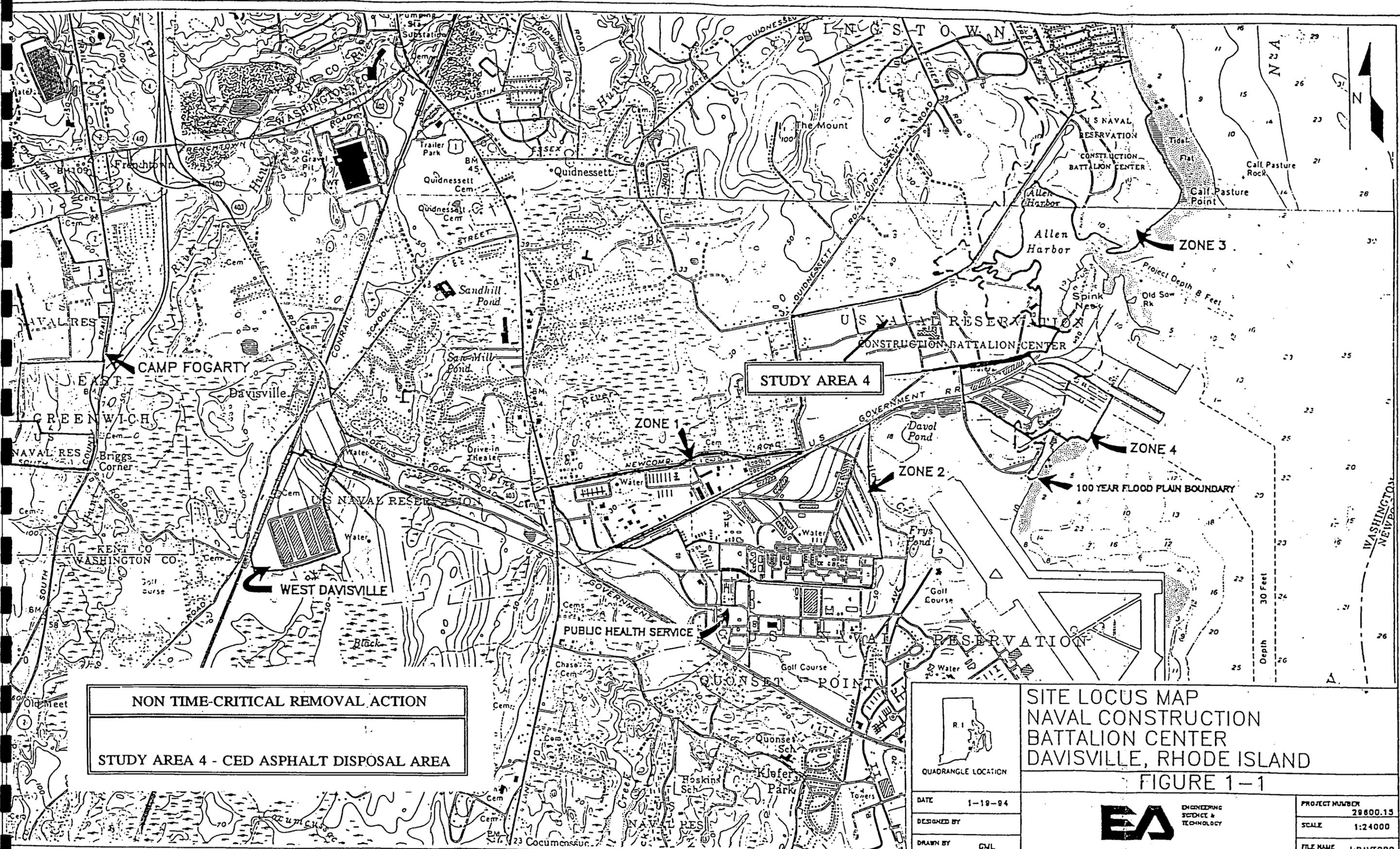
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Stone & Webster Environmental Technology & Services, *Draft Action Memorandum for Study Area 4 at CBC Davisville, RI*, prepared for Department of the Navy, Northern Division, Naval Facilities Engineering Command, August 7, 1995.

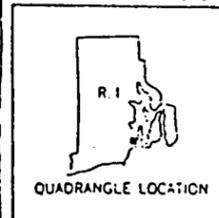
TRC Environmental Corporation, *Draft Final Remedial Investigation Report: Ecological Risk Assessment, Naval Construction Battalion Center, Davisville, RI, Volume III*, June 1994.

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**FIGURES**



NON TIME-CRITICAL REMOVAL ACTION  
 STUDY AREA 4 - CED ASPHALT DISPOSAL AREA



SITE LOCUS MAP  
 NAVAL CONSTRUCTION  
 BATTALION CENTER  
 DAVISVILLE, RHODE ISLAND  
 FIGURE 1-1

DATE	1-19-84
DESIGNED BY	
DRAWN BY	CJL
CHECKED BY	CJL
PROJECT MANAGER	HAL

**EA** ENGINEERING  
 SCIENCE &  
 TECHNOLOGY  
 SHARON COMMERCE CENTER  
 2 COLLEGE STREET, SUITE 108  
 SHARON, MASSACHUSETTS 02087  
 (617) 784-1787

PROJECT NUMBER	29800.15
SCALE	1:24000
FILE NAME	A:DAVTOPO
DRAWING NUMBER	
SHEET NUMBER	

BASE MAP: U.S.G.S. EAST GREENWICH AND WICKFORD QUADRANGLE - RHODE ISLAND  
 7.5 MINUTE SERIES (TOPOGRAPHIC) 1942, PHOTOREVISED 1970 & 1975.



APPROXIMATE LOCATION OF ASPHALTIC MATERIAL  
(TO BE REMOVED)

AIRPLANE PRACTICE LOADING RAMP

APPROXIMATE AREA  
COVERED BY  
GPR SURVEY  
IN DAA

800' TO BUILDING 224

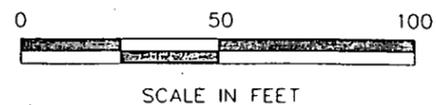
BATTALION BLVD

TRENCH LOCATION

NOTES:

1. 1' excavation depth assumed for PCB and beryllium contaminated soil below asphaltic material.
2. Contractor shall verify location of all existing utilities.

SOURCE: Final Study Area Screening Evaluation Report For CED Asphalt Disposal Area, Naval Construction Battalion Center, Halliburton NUS Corp., September 1994



STONE & WEBSTER ENVIRONMENTAL  
TECHNOLOGY & SERVICES

NAVAL CONSTRUCTION  
BATTALION CENTER

DAVISVILLE  
RHODE ISLAND

FIGURE 2-1  
STUDY AREA 4 - SITE PLAN

DATE: 5/95

PROJECT NO.: 04291.08