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FINAL WORK PLAN FOR TANK CLOSURE OF ABOVEGROUND STORAGE TANK 2505 (AST  
2505) AND OIL AND WATER SEPARATOR REMOVAL CNC CHARLESTON SC  
02/01/2002  
SOLUTIONS TO ENVIRONMENTAL PROBLEMS, INC.

**FINAL**  
**WORK PLAN**

**TANK CLOSURE OF ABOVEGROUND STORAGE TANK 2505  
AND OIL/WATER SEPARATOR REMOVAL  
CHARLESTON NAVAL COMPLEX ANNEX  
CHARLESTON, SOUTH CAROLINA**

February 2002

Submitted to:  
Department of the Navy  
Southern Division  
Naval Facilities Engineering Command

Under Contract No. N62467-01-M-0366

Prepared by:  
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and Oil/Water Separator Removal  
Charleston, South Carolina**

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## Abbreviations and Acronyms

AST	aboveground storage tank
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
GAL	gallon
HASP	Health and Safety Plan
POC	Point of Contact
OSHA	Occupational Safety and Health Administration
OWS	oil/water separator
RCRA	Resource Conservation and Recovery Act
SCDHEC	South Carolina Department of Health and Environmental Control
SOW	statement of work
STEP	Solutions To Environmental Problems
TCLP	Toxicity Characteristic Leaching Procedure

## **1.0 INTRODUCTION**

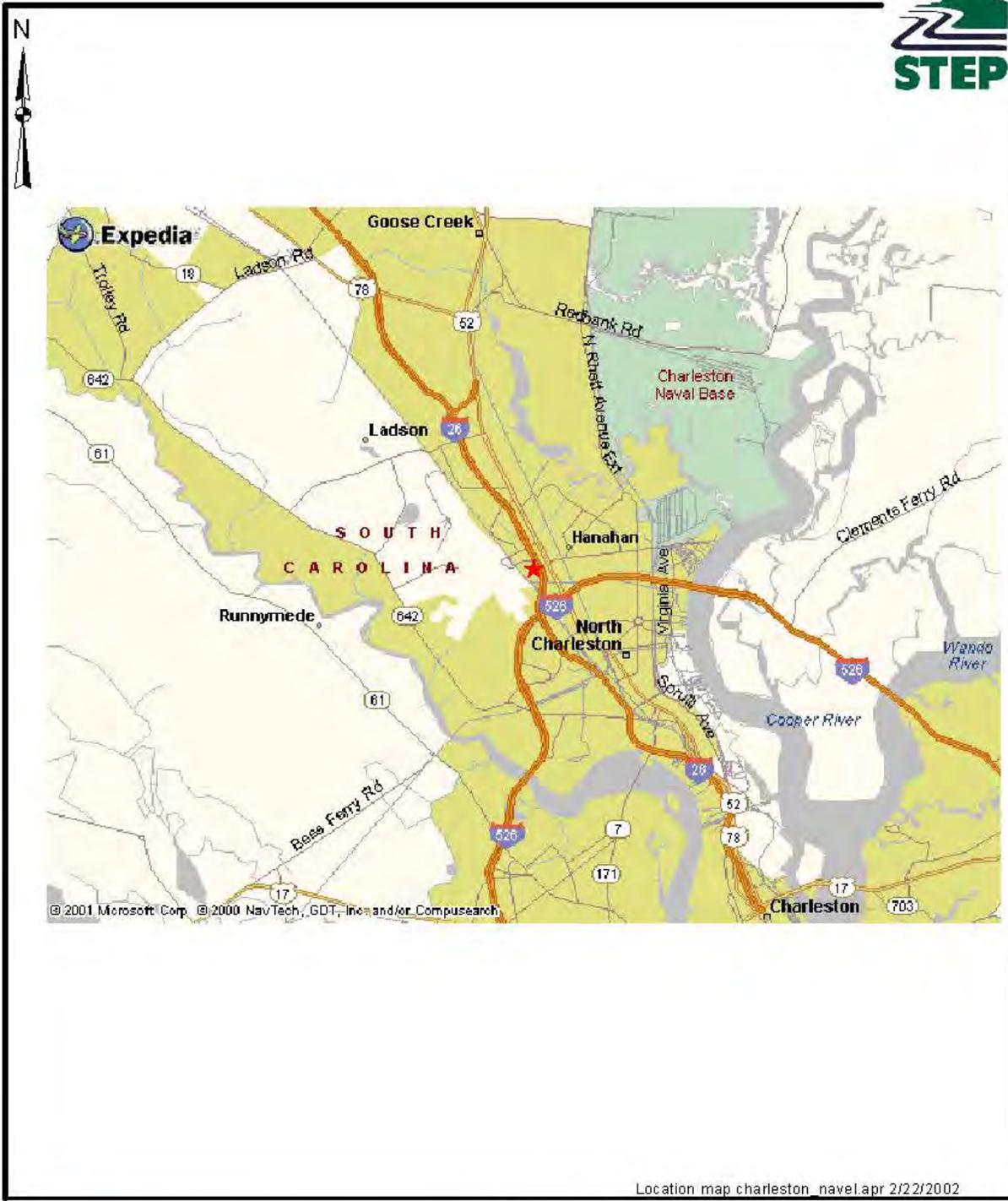
Solutions To Environmental Problems, Inc. (STEP) has been contracted to remove, clean, and dispose of aboveground storage tank (AST) 2505, the connecting oil/water separator (OWS) and associated piping and equipment at the Charleston Naval Complex Annex, Marine Corps Reserve Center, Charleston, South Carolina. In addition, the area will be secured to prevent product discharging into the sanitary sewer or storm drain, and the oil change pit, oil drain sump pump and oil sump pit will also be permanently secured. The closure of the AST, OWS, and associated piping will be done in accordance with Environmental Protection Agency (EPA) Underground Storage Tank Regulations Title 40 Code of Federal Regulations (CFR) Part 280.71 and South Carolina Department of Health and Environmental Control (SCDHEC) Underground and Aboveground Storage Tank Regulations, R.61-92.

## **2.0 PROJECT ORGANIZATION**

The Project Manager will use qualified personnel and subcontractors to execute the activities defined in the scope of work.

## **3.0 SITE DESCRIPTION**

The Charleston Naval Complex Annex is located in North Charleston, South Carolina, on the Cooper River. This is approximately five miles north of the historical city of Charleston. A location map can be seen in Figure 3-1. The site of AST 2505 and OWS is located next to Building 2505 in Naval Annex-Zone K. The project site map is shown in Figure 3-2.



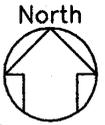
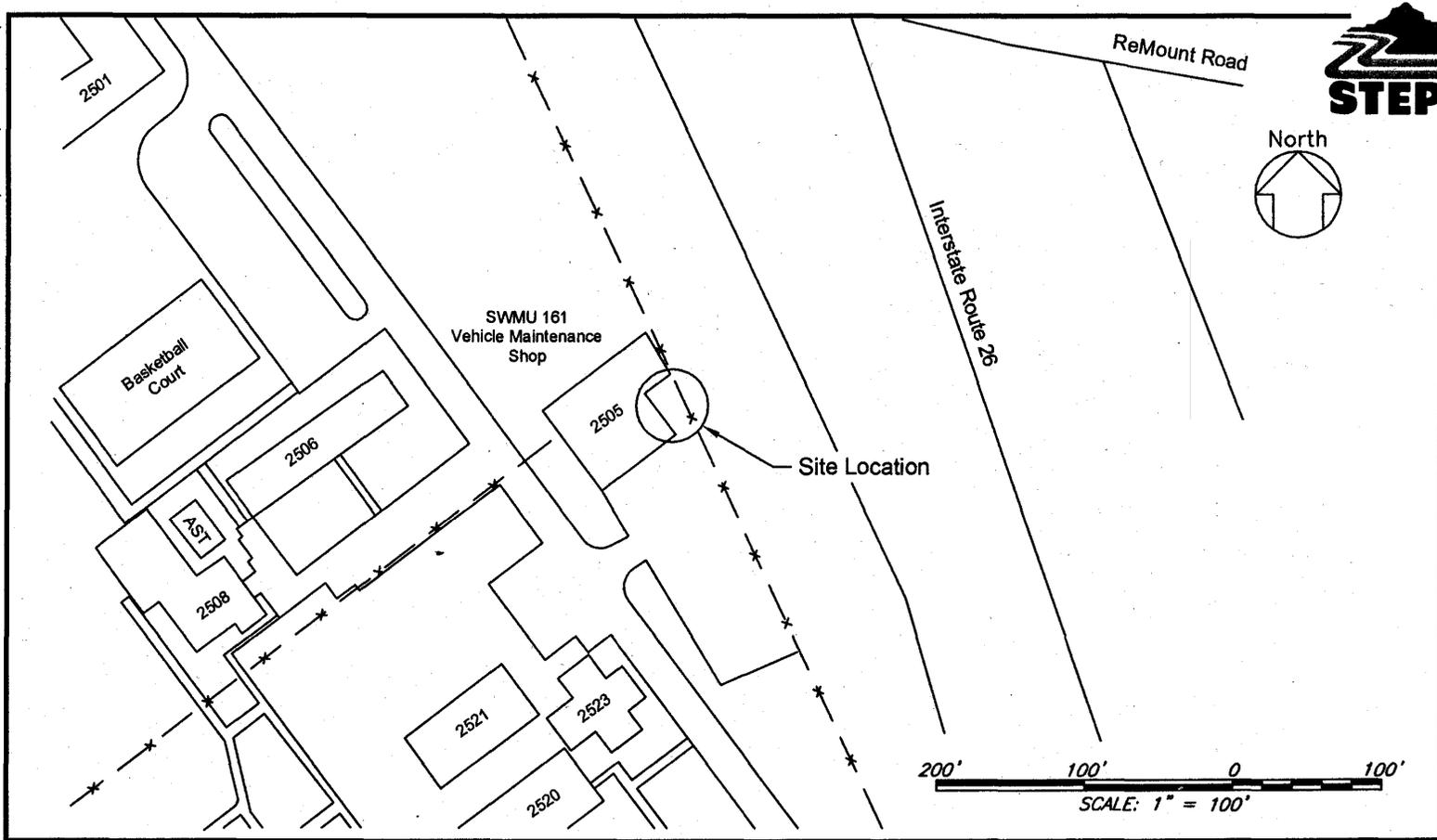
LEGEND

★ Site Location

Source: Mapquest  
 Prepared By: STEP, Inc. Oak Ridge, TN  
 Job Title: Tank Closure of Aboveground  
 Storage Tank 2505 and Oil/Water  
 Separator Removal  
 Charleston Naval Complex Annex  
 Charleston, South Carolina

Figure 3-1 Site Location Map

114\114-108-001\Graphics\charleston Annex.dwg(1:100)(2/22/02)



**Legend**

Prepared By: STEP, Inc., Oak Ridge, TN  
Job Title: Tank Closure of Aboveground Storage  
Tank 2505 and Oil/Water Separator  
Removal, Charleston Naval Complex Annex  
Charleston, South Carolina

**Figure 3-2 Project Site Map**

## **4.0 FIELD ACTIVITIES**

Upon approval of the project plans, STEP personnel will begin field activities to remove, clean, and dispose of AST 2505, the connecting OWS, and the associated piping.

### **4.1 Mobilization**

Mobilization will include delivering all construction equipment, tools, materials, and supplies to the job site and establishing a work area. A temporary laydown area for equipment and materials will be coordinated with the Charleston Naval Complex Annex Point of Contact (POC). In addition, a waste staging area will be identified for the temporary storage of waste until final disposal. The laydown and waste staging areas will be marked with flags to maintain control and access to the areas.

### **4.2 Utility Identification**

Prior to the start of fieldwork, STEP will coordinate with the Charleston Naval Complex Annex POC to identify existing utilities. Identified and suspected utilities will be marked with flagging or paint.

### **4.3 Waste Oil Removal**

Waste oil from the sump, OWS, and AST will be removed and recycled by Water Recovery Systems, LLC.

### **4.4 Equipment Cleaning**

After the waste oil and debris have been removed, the AST, OWS, berm, sump, and maintenance rack will be cleaned using a pressure washer. Water Recovery Systems, LLC will perform the pressure washing and disposal of the wash water.

#### **4.5 Equipment Removal**

The AST, OWS, and associated equipment will be removed and placed in roll-off boxes. The sump and berm will be demolished and will also be placed in roll-off boxes. Associated piping will be isolated and capped. Until final disposal, the equipment and debris will be placed in the waste staging area. Each maintenance rack sump will be filled with gravel to the original grade and capped with concrete.

#### **4.6 Demobilization**

When field activities are complete, the site will be restored by backfilling, reseeding, and grading to its original conditions.

### **5.0 WASTE MANAGEMENT**

Generated waste will be placed in appropriate containers and characterized for disposal in accordance with federal, state, and local regulations. Waste will be handled and managed in such a manner as to prevent spills and contamination.

If hazardous waste as defined by 40 CFR 261 is generated from construction activities, the waste will be removed from the work area and disposed in compliance with federal, state, and local regulations. Any hazardous waste generated will be segregated from non-hazardous materials. Waste will be manifested to an approved treatment or disposal facility.

The following waste streams will be generated:

- waste oil,
- oily debris and personal protective equipment,
- construction debris, and
- wastewater.

## **6.0 SAMPLING AND ANALYSIS PLAN**

The SOW does not require collection of soil samples for this tank closure because this tank is within an area that is part of a Resource Conservation and Recovery Act (RCRA) Facility Investigation. If necessary, residual tank sludge will be sampled in accordance with the Toxicity Characteristic Leaching Procedure 40 CFR 261 to determine whether the residue is a hazardous waste.

## **7.0 HEALTH AND SAFETY PLAN**

A site-specific Health and Safety Plan (HASP) has been prepared for this project to address the hazards anticipated. The HASP has been developed to incorporate appropriate sections of the *STEP Corporate Safety and Health Program Manual* (STEP, August 2001). All work activities performed in association with this project shall be conducted in strict compliance with applicable provisions within the project plans, and Occupational Safety and Health Administration (OSHA, 29 CFR 1910 and 1926) Standards.

## **8.0 QUALITY CONTROL PLAN**

A Quality Control Plan (QCP) has been prepared for this project to address the quality control measures that will be implemented.

## **9.0 PROJECT DOCUMENTATION**

Upon completion of the field work, a closure assessment report (Appendix A) will be prepared at the tank site in accordance with SCDHEC Underground Storage Tank (UST) Regulations and SCDHEC UST Assessment Guidelines for Permanent Closure and Change-in-Service, latest edition. Project closeout will consist of submitting final site drawings, waste manifests, photo documentation, disposal certificates, and other documentation as appropriate. Project documentation will be completed within 60 days of tank closure.

## 10.0 REFERENCES

EPA. *Criteria for Identifying the Characteristics of Hazardous Waste and Listing Hazardous Wastes, 40 CFR Part 261.*

EPA. *Underground Storage Tank Regulations Title 40 CFR Part 280.71.*

SCDHEC. *Underground Storage Tank Control Regulations, R.61-92.*

SCDHEC. *UST Assessment Guidelines for Permanent Closure and Change-in-Service, latest edition.*

STEP, Inc., 2001. *Corporate Safety and Health Program Manual, August.*

US Army Corps of Engineers. *Safety and Health Requirements Manual, EM 385-1-1, latest edition.*

**APPENDIX A**

**UST ASSESSMENT REPORT**

South Carolina Department of Health and Environmental Control (SCDHEC)  
**Underground Storage Tank (UST) Assessment Report**



Submit Completed Form To:  
Bureau of UST Management  
SCDHEC  
2600 Bull Street  
Columbia, South Carolina 29201  
Telephone (803) 898-4350

**I. OWNERSHIP OF UST(S)**

Owner Name (Corporation, Individual, Public Agency, Other)		
Mailing Address		
City	State	Zip Code
Area Code	Telephone Number	Contact Person

**II. SITE IDENTIFICATION AND LOCATION**

Permit I.D. #	
Facility Name or Company Site Identifier	
Street Address or State Road (as applicable)	
City	County

**III. CLOSURE INFORMATION**

Closure Started	Closure Completed	Number of USTs Closed
Consultant	UST Removal Contractor	

**IV. CERTIFICATION (To be signed by the UST owner/operator.)**

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Name (Type or print.)
Signature





## VIII. SITE CONDITIONS

	Yes	No	Unk
<p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate depth and location on the site map.</p>			
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate location on site map and describe the odor (strong, mild, etc.)</p>			
<p>C. Was water present in the UST excavation, soil borings, or trenches?</p> <p>If yes, how far below land surface (indicate location and depth)?</p> <p>_____</p>			
<p>D. Did contaminated soils remain stockpiled on site after closure?</p> <p>If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p> <p>_____</p>			
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?</p> <p>If yes, indicate location and thickness.</p>			

## IX. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number \_\_\_\_\_

B.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected by	OVA #
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

\* = Depth Below the Surrounding Land Surface



## XI. RECEPTORS

	Yes	No
<p>A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?</p> <p>If yes, indicate type of receptor, distance, and direction on site map.</p>		
<p>B. Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?</p> <p>If yes, indicate type of well, distance, and direction on site map.</p>		
<p>C. Are there any underground structures (e.g., basements) located within 100 feet of the UST system?</p> <p>If yes, indicate type of structure, distance, and direction on site map.</p>		
<p>D. Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination?</p> <p>If yes, indicate the type of utility, distance, and direction on the site map.</p>		
<p>E. Has contaminated soil been identified at a depth less than 3 feet below land surface in an area that is not capped by asphalt or concrete?</p> <p>If yes, indicate the area of contaminated soil on the site map.</p>		

## **SITE MAP**

**You must supply a scaled site map. It should include all buildings, road names, utilities, tank and dispenser island locations, labeled sample locations, extent of excavation, and any other pertinent information.**

**(Attach Site Map Here)**

## **ANALYTICAL RESULTS**

**You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.**

**(Attach Certified Analytical Results and Chain-of-Custody Here)**

## **Did You Remember to Include the Following?**

- **Site ID Number**
- **Sample Collection and Storage Methods**
- **Scaled Site Map with ALL Requested Information**
- **Laboratory Chain-of-Custody Form**
- **Certified Analytical Results**
- **Completed and Notarized Insurance Statement  
(see attached form)**
- **A Copy of Your Environmental Insurance Policy  
(if applicable)**
- **Samples from all Dispenser Islands and Piping Runs**
- **Photographs (if available)**