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ENVIRONMENTAL PROTECTION PLAN FOR SOIL REMEDIATION AND FREE PRODUCT
RECOVERY AT CHICORA TANK FARM CNC CHARLESTON SC
10/01/2002
SOLUTIONS TO ENVIRONMENTAL PROBLEMS, INC.

**Environmental Protection Plan
for
Soil Remediation and Free Product Recovery
at Chicora Tank Farm,
Charleston Naval Shipyard,
Charleston, South Carolina**

October 2002

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

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**Environmental Protection Plan
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**Soil Remediation and Free Product Recovery
at Chicora Tank Farm,
Charleston Naval Shipyard,
Charleston, South Carolina**

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ABBREVIATIONS AND ACRONYMS

CTF	Chicora Tank Farm
SCDHEC	South Carolina Department of Health and Environmental Control
STEP	Solutions To Environmental Problems, Inc.

1. INTRODUCTION

This environmental protection plan outlines the methods and responsibilities for protection of natural resources and the environment during soil remediation and free product recovery at Chicora Tank Farm (CTF), Charleston, South Carolina. Solutions To Environmental Problems, Inc., (STEP) will comply with all applicable federal, state, local, and base environmental laws; properly manage and dispose of all waste generated; document and report on pollution prevention measures; and prepare all reports required by outside agencies.

The objective of this project is to remove and properly dispose of petroleum-contaminated soil and free phase petroleum product from three areas of concern at CTF. Additionally, activities associated with well abandonment, well installation, and groundwater and soil sampling will be conducted. Disposition of the debris and contaminated soil and water will be performed in a manner to prevent spills on streets and adjacent areas. Installation and development of the groundwater monitoring well will be completed in accordance with South Carolina Department of Health and Environmental Control (SCDHEC) Well Standards and Regulations R.61-71. All project activities will be performed in accordance with applicable federal, state, and local regulations.

2. SITE DESCRIPTION

CTF is a 23-acre site located approximately 500 yards west of the Charleston Naval Shipyard. The tank farm is in the city of North Charleston near the west bank of the Cooper River in Charleston County, South Carolina. Figure 2-1 shows the facility location map.

CTF was formerly used to store Bunker "C" fuel, Navy special fuel, and diesel marine fuel for the Naval Shipyard. CTF consisted of six cut-and-cover storage tanks. Five of the tanks had a capacity of 50,000 barrels, and one tank had a capacity of 27,000 barrels. Each tank interior was approximately 25 ft high and was constructed of 24-in. reinforced concrete walls and a domed roof. Each tank was connected to a pump room and had an exterior coating of Gunitite to minimize infiltration of groundwater into the tanks. All tanks at this location were removed in 1999, and the facility is no longer in use.

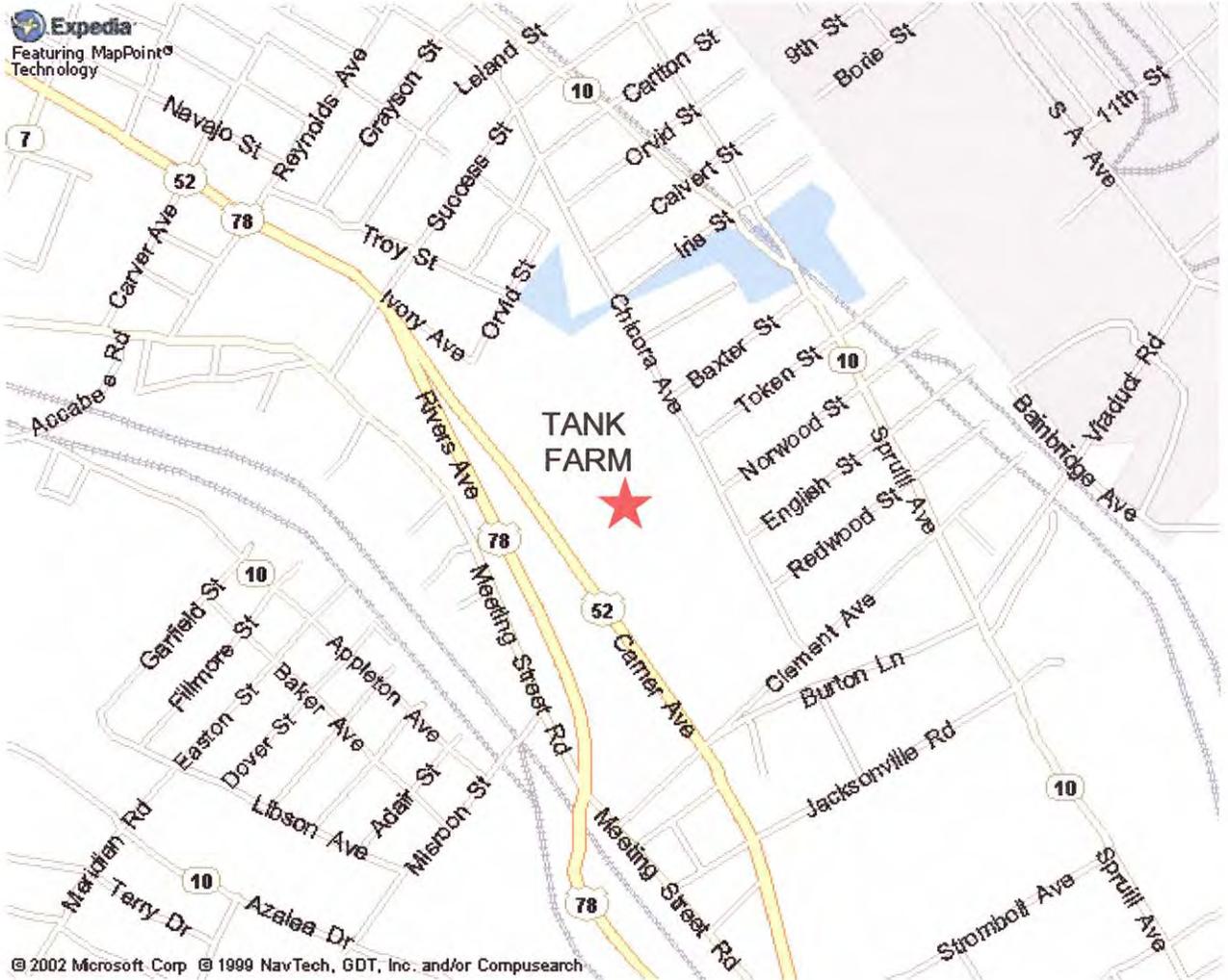


Figure 2-1 chicora tank.apr 10/03/2002

LEGEND

★ Site Location

Source: Expedia
 Prepared By: STEP, Inc. Oak Ridge, TN
 Job Title: Environmental Protection Plan
 for Soil Remediation and Free Product
 Recovery at Chicora Tank Farm
 Charleston Naval Shipyard
 Charleston, South Carolina

Figure 2-1 Facility Location Map

3. PROTECTION OF NATURAL RESOURCES

STEP will preserve natural resources within the project boundaries. This will be achieved by use of project procedures designed to minimize environmental impacts and restore areas that must be disturbed during remedial activities.

3.1 Land Resources

Except in areas to be cleared, STEP will not remove or deface trees or shrubs without approval. STEP will protect trees that will remain after completion of work.

3.2 Replacement

STEP will restore landscape features damaged by equipment operations.

3.3 Temporary Construction

STEP will remove traces of temporary construction facilities such as haul roads, work areas, structures, foundations, and stockpiles of excess or waste materials.

4. PROTECTION OF HISTORICAL AND ARCHAEOLOGICAL RESOURCES

STEP will preserve and report to the contracting officer any historical or archaeological items or human skeletal remains discovered during construction activities. STEP will provide guidance and training to field operations management on the importance and requirements related to historical resource protection.

5. PROTECTION OF SURFACE SOIL, VEGETATION, AND SURFACE WATERS

5.1 Erodible Soils

All earthwork will be brought to a final grade as specified in the work plan. Side slopes and back slopes will be protected immediately upon completion of rough grading. Protection against erosion will prevent any sedimentation of nearby creeks or streams.

5.2 Mechanical Retardation and Control of Runoff

STEP will mechanically retard and control the rate of runoff from the site. This method includes building diversion ditches, benches, and berms as required to retard and divert runoff and protect drainage courses. Straw bales will be placed around drainage grates in grassy areas, and silt fabric will be placed in the grates of all storm drains in the project area.

5.3 Vegetation and Mulch

If sufficient amounts of soil are exposed and require erosion control, STEP will provide temporary protection on side and back slopes as soon as rough grading is completed. Slopes will be protected by accelerating the growth of permanent vegetation, mulching, or applying netting material.

6. PROTECTION OF THE ENVIRONMENT FROM POLLUTION DERIVED FROM OPERATIONS

Solid wastes will be collected, placed in containers, and regularly emptied at intervals to prevent the attraction of rodents or disease vectors. Suspected contaminated and suspected uncontaminated soil will be properly segregated upon excavation by field screenings (visual observation of petroleum staining, petroleum odor, and a photo ionization detector). During excavation, soil that is suspected to be contaminated will be placed in covered rolloff containers. The uncontaminated soil will be placed in a lined containment area, which will be bermed and lined with at least 10-mil plastic sheeting with taped seams. Materials temporarily stored in the containment area will be covered with additional 6-mil plastic sheeting and will be secured to prevent soil saturation during rain events. Debris and garbage will be disposed of according to procedures and requirements specified by a designated Caretaker Site Office point of contact and in compliance with applicable state, federal, and local laws and regulations. The work plan addresses procedures for collecting and properly disposing of solid wastes. A spill kit at the site will be used to contain any fuel spills that might occur during equipment refueling or excavation.

7. NOTIFICATION OF ENVIRONMENTAL OCCURRENCES

Environmental occurrences will be recorded and reported to Gabriel Magwood, remedial project manager for South Division Naval Facilities Engineering Command, Charleston, South Carolina [(803) 820-7307]. Any emergency or occurrence involving a Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act reportable event (e.g., spill) will be reported to the National Response Center [(800) 424-8802] and to the contracting office or designee.

8. REFERENCES

South Carolina Department of Health and Environmental Control (SCDHEC) *Well Standards and Regulations R.61-71*