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WORK PLAN TOTAL PETROLEUM HYDROCARBON CONTAMINATED SOIL REMOVAL C-50
SPILL RESPONSE NWS EARLE NJ
11/29/2000
FOSTER WHEELER ENVIRONMENTAL CORPORATION

**WORK PLAN
TPH CONTAMINATED SOIL REMOVAL
C-50 SPILL RESPONSE
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY**

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**WORK PLAN
FOR
BUILDING C-50 SOIL REMEDIATION**

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1.0 INTRODUCTION

Foster Wheeler Environmental Corporation (Foster Wheeler Environmental) has been contracted by the Northern Division, Naval Facilities Engineering Command (Northern Division) to conduct site remediation and clean up activities regarding TPH contaminated soil adjacent to Building C-50 at Naval Weapons Station (NWS) Earle located in Colts Neck, New Jersey. This Work Plan is being submitted to satisfy the pre-construction submittal requirements included in paragraph 3.1.1, Pre-and Post Construction Documentation of the Statement of Services for Task Order No. 0034, under Remedial Action Contract No. N62472-99-D-0032.

2.0 PROJECT LOCATION AND DESCRIPTION

NWS-Earle is located in east-central Monmouth County in the town of Colts Neck, New Jersey. Figure 2-1 depicts the Regional Site Map. Building C-50 is located in the Mainside portion of NWS-Earle. The site is located on the southern side of the building bordering an access drive way just off of Coral Road. The excavation area is bordered by the building wall, a small concrete retaining wall and a street curb. Figure 2-2 depicts Building C-50 and the work site location.

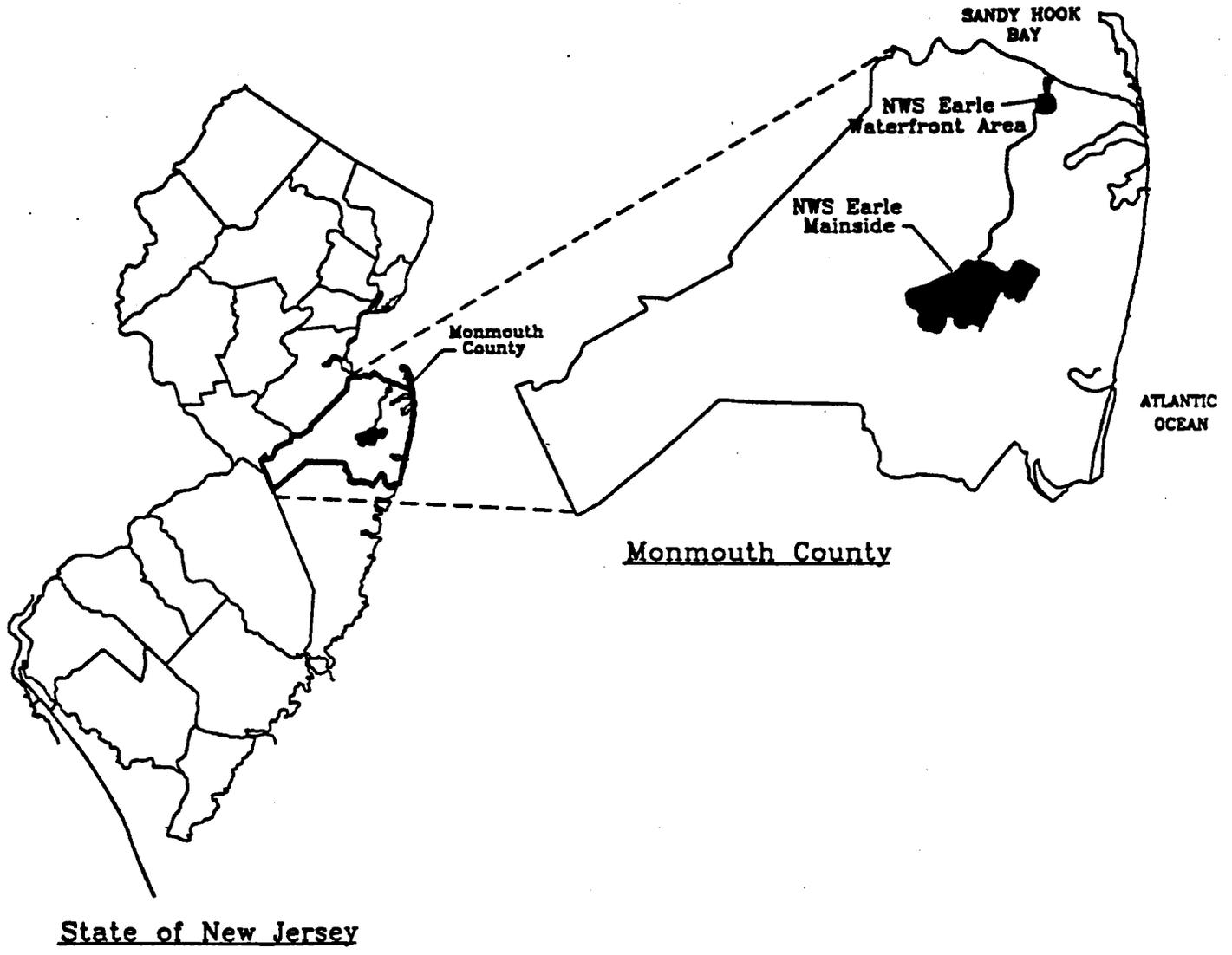
2.1 SITE CONDITIONS

The Area of Concern (AOC) is at a lubricating oil delivery pipe outside building C-50. The pipe extends from outside the southern wall of Building C-50, into a below-grade concrete containment sump, and then above grade in area of concrete and grass. The pipe fittings within the sump are loose and leaking. The soil surrounding the concrete area appears to be effected by the lubricating oil. The oil was released into the soil as a result of a below grade leaky pipe fittings contained in the sump. The sump apparently does not have the ability to contain any liquid since evidence of contaminated soil is present on the opposite side of a common retainer wall.

The spill area is encumbered of several underground utilities. Electric, communication and gas lines are present within the excavation area, making it necessary to perform the majority of the excavation by hand. A Dig permit will be obtained and mark out of the underground utilities performed by base services prior to any excavation work.

3.0 SCOPE OF WORK

The project objective is to remediate the oil-contaminated soil to below the NJDEP residential cleanup criteria. This will require the completion of several main tasks. The initial task includes the demolition and removal of surface structures. The source of the leak, a suspected leaky pipe, will be removed in addition to the surrounding concrete pad and pipe sump. This will expose the contaminated soil under the concrete. The second task includes the excavation of the soil and sampling of the soil for compliance with New Jersey Department of

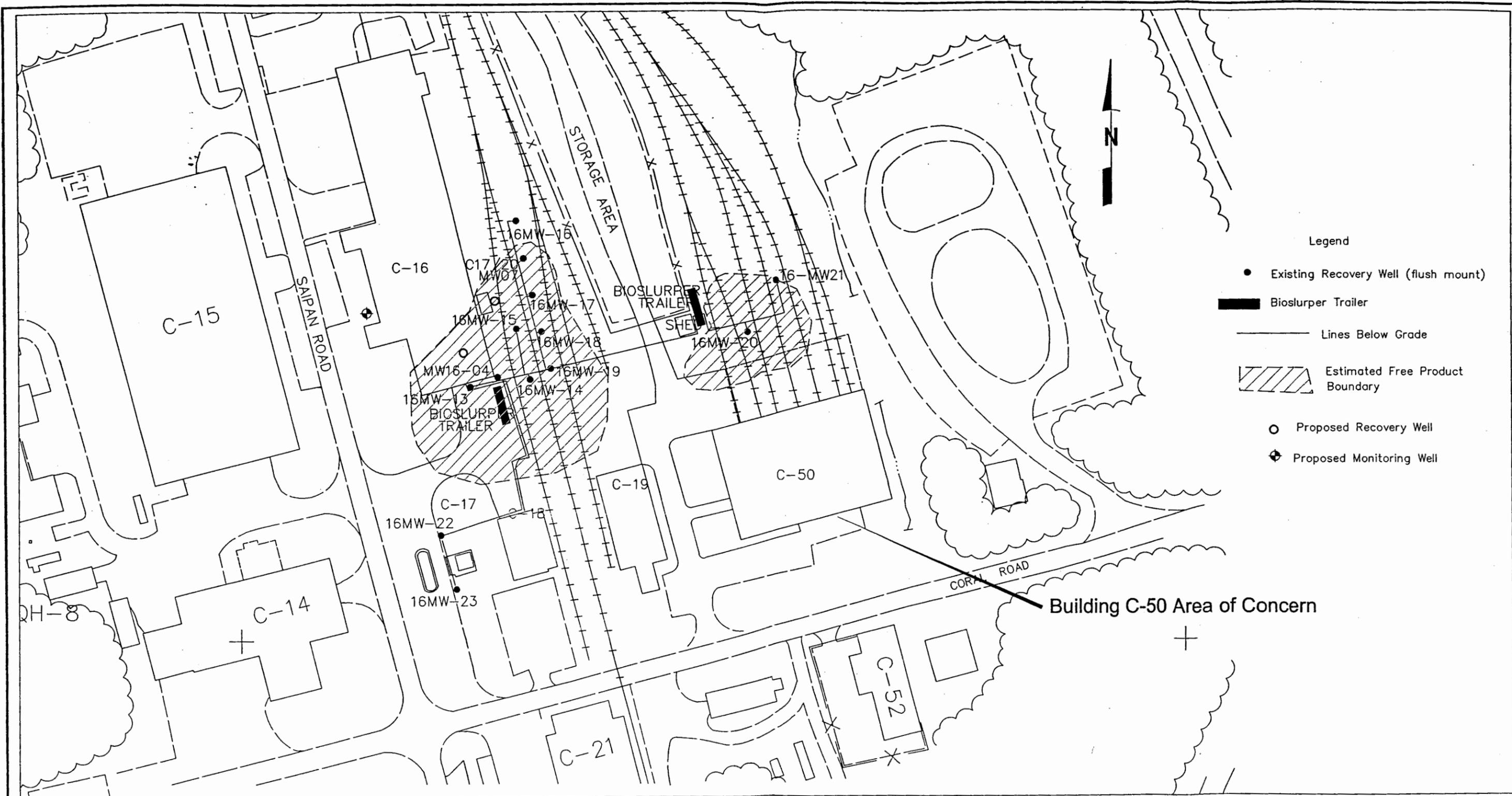


State of New Jersey

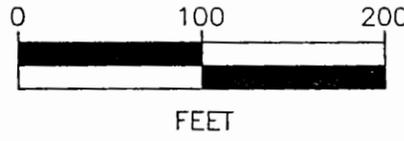
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**U.S. Navy RAC
NWS-Earle, Colts Neck, N.J.**

FIGURE 2-1
Regional Site Map



- Legend
- Existing Recovery Well (flush mount)
 - Bioslurper Trailer
 - Lines Below Grade
 - ▨ Estimated Free Product Boundary
 - Proposed Recovery Well
 - ◆ Proposed Monitoring Well



U.S. Navy RAC
 Naval Weapons Station - Earle

Figure 2-2
 Building C-50 Area

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Environmental Protection (NJDEP) residential cleanup criteria, waste characterization and disposal. The third task will include site restoration activities with clean fill and topsoil and concrete restorations. The fourth task will be replacing the excavated pipe with a new above-grade pipe. All work will be completed in accordance with all applicable federal, state, and local regulations.

3.1 TASK 1 - PROJECT PLANNING/MANAGEMENT

Project Planning/Management activities included the preparation of pre-construction submittals, Work Plan, coordinating disposal services, utility requirements, and sub-contractor services, mobilization to the site, record documentation and providing home office support functions during the period of performance. The sub-tasks involved in Project Planning /Management are described as follows.

3.1.1 Sub-Task 1A - Pre-Construction Submittals

Foster Wheeler Environmental prepared and submitted the following pre-construction documents to the Navy:

Work Plan

The Plan presented Foster Wheeler Environmental's approach to executing the project, including the site description, statement of work, Health and Safety issues, procurement approach, field procedures, materials and equipment, transportation and disposal data, and sampling and analytical requirements.

Activity Hazard Analysis (AHA)

The AHA includes Foster Wheeler Environmental's approach to providing for the health and safety of its employees and site attendees, protection of the environment and property, during the project. An AHA previously submitted for the excavation of petroleum contaminated soils at Quarters D and H (D.O. #43) shall be used to complete this work.

3.1.2 Sub-Task 1B – Mobilization

Mobilization consisted of contacting appropriate Navy personnel at NWS Earle to arrange for contractor passes and to coordinate support services for site activities.

3.1.3 Sub-task 1C - Home Office Support

Foster Wheeler Environmental's Langhorne, Pennsylvania office will provide home office support for the project duration. Home office support includes the preparation and completion of the financial and technical reports.

3.2 TASK 2 - PERMIT PREPARATION

3.2.1 Sub-task 2A - Dig Permit

Foster Wheeler Environmental will, prior to performing any excavation, obtain a dig permit from the base and verify the location of underground utilities via mark out of the area of concern. Identification of the underground lines will be maintained throughout the project duration.

3.3 TASK 3 - SITE ACTIVITIES

3.3.1 Sub-task 3A – Demolition

Foster Wheeler Environmental will secure the work site with necessary barricades, safety fence, and caution tape as needed to insure the safety of the general public. The concrete area will be saw cut with a slab saw using a diamond blade and water. The concrete will be broken up with a jackhammer/ air compressor and removed by hand. The concrete will be loaded onto a dump truck and transported to a recycling facility. A Bill-of-Lading for disposal will be obtained to verify proper disposal.

3.3.2 Sub-Task 3B - Soil Excavation/Piping Removal

The existing pipe shall be cut and drained of any residual lubricating oil. The residual oil shall be contained and placed back into the on-site tank. The pipe shall be removed from below grade, up and into the floor level of Building C-50.

The soil below the concrete surface will be excavated by hand, placed into a front-end loader bucket and then placed into a lined roll-off container. The roll-off container will be staged in the parking lot adjacent to building. Soils in the grassy area will be excavated by hand and follow the same procedure. Soil will continue to be excavated based on field screening results and visual observation.

The excavated soil shall be sampled and analyzed for waste characterization. Confirmatory soil samples shall be obtained from the sidewalls and bottom of the excavation. Section 4.0 describes the sampling and analysis of the soil samples.

3.3.3 Sub-Task 3C - Site Restoration

Upon review of laboratory results and approval by the Navy, the site shall be restored. The soil shall be remediated to the NJDEP residential cleanup criteria. Restoration of the concrete area will consist of backfilling the excavation with select clean fill. The fill will be returned to a grade and compacted to a level to allow adequate concrete pad thickness. 3500 psi concrete will be placed in the excavated area and finished to match the existing concrete. The adjacent grass area will be restored by backfilling the excavation with select clean fill and covered with a final layer of topsoil. The area will be seeded and layered with hay.

A new 3-inch diameter steel pipe shall be installed above grade on the southern side of Building C-50. A concrete core-boring device shall be used to core through the wall to place the pipe. The 3-inch diameter pipe shall be equipped with a valve and a check valve, as well as male cam and groove fitting and cap.

4.0 SAMPLING AND ANALYSIS PLAN

Table 4-1 describes the analytical samples that shall be obtained as part of this removal action at Building C-50

The confirmatory soil samples shall be analyzed for total petroleum hydrocarbons (TPH), and polyaromatic hydrocarbons (PAHs). In accordance with N.J.A.C. 7:26E 2.1, confirmatory soil samples for lubricating oil shall be analyzed for TPH, and if TPH exceeds 100 ppm, the soil sample shall also be analyzed for PAHs. In accordance with the regulations, at least one of the soil samples (with the highest TPH) shall be analyzed for PAHs. In addition to the soil samples for TPH, a soil sample for PAHs shall be submitted to the laboratory. Based upon the results of the TPH analysis, the laboratory will be directed to analyze one or more of the samples based upon the above discussion.

5.0 WASTE REMOVAL / REGULATORY COMPLIANCE

Foster Wheeler Environmental shall subcontract for waste transport and disposal (T&D) services. The T&D subcontractor shall be competitively procured from firms with which Foster Wheeler Environmental has pre-placed basic ordering agreements. This assures the Navy that solid and/or hazardous wastes will be sent to an EPA NJDEP-approved facility. All disposal facility transporters for both hazardous and solid waste, to be used for disposal of the Navy's wastes, will be evaluated for regulatory compliance and approved for use in accordance with Foster Wheeler Corporation Regulatory Compliance Procedures. Approved facilities and transporters will be submitted to the Navy for final approval. Mr. Dennis Swalwell at Ext. 2339 will be notified of the number of drums generated during the field activities as well as the location of the drum staging area.

Foster Wheeler Environmental shall provide completed Waste Manifests and/or Bills of Lading and transport documentation to the Navy for review and signature.

**Table 4-1
NWS-EARLE: Building C-50 Soil Cleanup
SAMPLE COLLECTION AND ANALYTICAL INFORMATION**

Laboratory Analyses	No. of Samples	Sample Media	Sampling Method	Sample Containers	Sample Preservation	Rationale
Ignitability: SW846 Method 1020, Corrosivity: SW846 Method 1110, Reactivity: SW846, Chapter 7	1	Soil	Composite	One 8-oz jar	Ice	Soil classification for off-site transportation and disposal soils
Total Petroleum Hydrocarbons: SW846 Method 418.1	1	Soil	Composite	One 8-oz jar	Ice	Soil classification for off-site transportation and disposal
Full TCLP SW846 1311 with applicable. Methods following.	1	Soil	Composite	Two 8-oz jars	Ice	Soil classification for off-site transportation and disposal
TOX: SW846 Method 3540A/9020A	1	Soil	Composite	One 4-oz jar	Ice	Soil classification for off-site transportation and disposal
TAL metals-EPA SW846	1	Soil	Composite	One 8-oz jar	Ice	Soil classification for off-site transportation and disposal
Total Petroleum Hydrocarbons: SW846 Method 418.1	6	Soil	Grab	One 8-oz jar	Ice	Confirmatory soil samples from excavation (including duplicate)
Polyaromatic Hydrocarbons: SW846 Method 8270	1-4	Soil	Grab	One 8-oz jar	Ice	Confirmatory soil sample

Notes: The number in parentheses in the "No. of Samples" column denotes the number of samples from the total that are duplicates (D) and Trip (T).

6.0 PROJECT MANAGEMENT

The project management team shall be responsible for all technical and administrative aspects of the remediation and upgrade project.

The organizational chart for this project is provided in Figure.6-1.

Prior to starting work, a daily safety meeting will be conducted by Foster Wheeler Environmental Health and Safety Officer. All of the day's planned activities will be reviewed, with particular attention focused on PPE and risk management. All personnel are required to attend the meeting.

6.1 PROCEDURES FOR FIELD CHANGES AND CORRECTIVE ACTION

The Senior Project Engineer/ Manager (SPEM) or his/her designee is responsible for all site activities. In this role, the SPEM is required to adjust, if needed, the field program to accommodate site-specific needs. When it became necessary to modify a program, the responsible field personnel shall notify the SPEM of the anticipated changes prior to implementation. Changes will be acted upon with the SPEM's concurrence. The SPEM shall consult the Navy Technical Representative (NTR) in advance for the changes and received technical direction. The changes in the project shall be documented on a Change Request Form (CRF), which will be signed by the Project Superintendent and the SPEM.

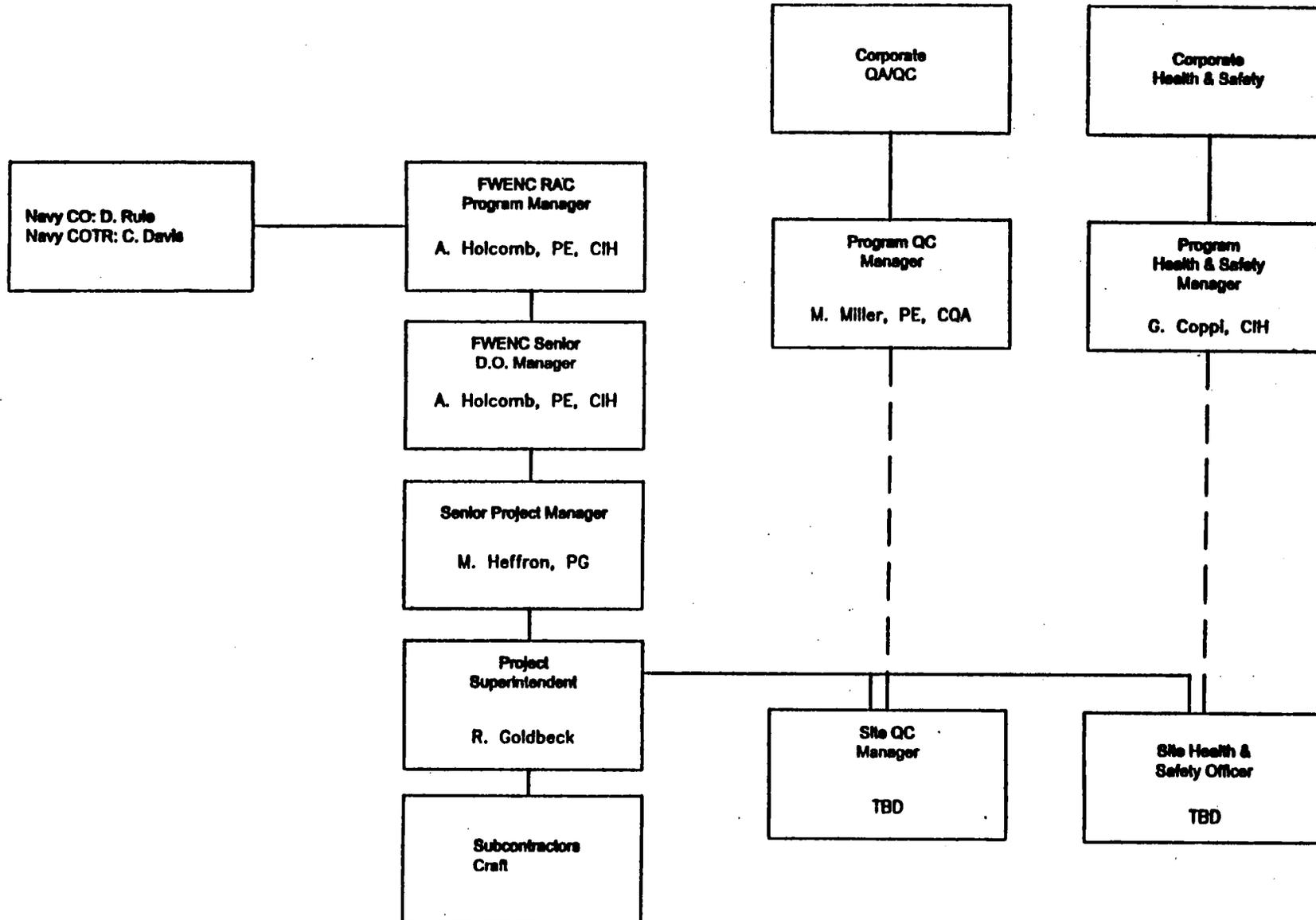
6.2 QUALITY ASSURANCE/QUALITY CONTROL

This Quality Assurance/Quality Control (QA/QC) section describes the organization, inspections, test, procedures, and documentation necessary to produce a completed project that complies with the governing regulations and technical statement of work. QA/QC duties are the responsibility of the Site Superintendent. He will verify that all work is being performed in accordance with the project plans. Subcontractors will conform to and participate in the program described herein as part of a unified team. Foster Wheeler Environmental will direct and maintain responsibility for the overall QA/QC program and will manage subcontractors in a manner to maintain project requirements.

7.0 DOCUMENTATION

Documentation of operations, record keeping, photographic evidence of services provided and analytical results will be provided in this Final Report.

Figure 6-1 Navy / FWENC Organization Chart



7.1 OPERATIONS RECORD KEEPING

All field inspection and remediation activities will be documented in a project log book and daily production reports.

7.2 PHOTOGRAPHIC DOCUMENTATION

Still 35mm color photographs will be taken to record work activities. Photographs of the site will illustrate pre-work conditions, progressive activities and completed site conditions. The Photographic Log will be included in the Closure/Final report.