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 NORTHNAVFACENGCOM 4335/3 (Rev 6/80)

CONTRACT NO <b>N62472-94-D-0398</b>	DELIVERY ORDER # <b>0065</b>	ACTIVITY LOCATION <b>NAVAL STATION NEWPORT - Middletown, RI</b>
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PROJECT TITLE  
**FUEL LINE CLOSURE**

FROM <b>Foster Wheeler Environmental Corp. - Program QCM: Mark Miller</b>	DATE May 12, 2000
TO <b>D. Cooper (2 Copies)</b>	DATE May 12, 2000

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 FOR COMMANDING OFFICER, NORTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND DATE

ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS
1	SD-08, Statements; Work Plan for Fuel Line Closure (R1)	Carl Tippmann			
2	SD-08, Statements; Site Health and Safety Plan (R1)	Carl Tippmann			

**WORK PLAN  
FOR  
FUEL LINE CLOSURE  
NAVAL STATION NEWPORT  
MIDDLETOWN, RHODE ISLAND**

*Issued:*

**May 12, 2000**

*Prepared for:*

**NORTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
10 Industrial Highway  
Lester, PA 19113**

**Contract No. N62472-94-D-0398  
Delivery Order No. 0065**

*Prepared by:*

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<u>Revisions</u>	<u>Date Prepared</u>	<u>Prepared By</u>	<u>Approved By</u>	<u>Pages</u>
0	April 19, 2000	M. Block	C. Tippmann, P.E.	All
1	May 9, 2000	M. Block	C. Tippmann, P.E.	All

WORK PLAN FOR  
 REMEDIAL ACTION CONTRACT N62472-94-D-0398 - DO #0065  
 FUEL LINE CLOSURE - NAVAL STATION NEWPORT

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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 to perform the cleaning and closure of a 6 mile span of pipeline located at the Newport Naval Station in Newport, Rhode Island. The pipeline is an inactive fuel line once used to transfer No. 2 oil and No. 6 oil from local tank farms to various ship fueling stations at the nearby piers. The pipeline is located along Burma Road (Defense Highway) and extends from the Defense Energy Support Center to the Navy's Pier 1. The section of this pipeline to be cleaned and closed is the main line which reaches from the North Booster Pump House, Building No. 58, to the supply lines for Pier No. 1 and Pier No. 2.

## **2.0 SITE DESCRIPTION**

### **2.1 Project Location and Description**

The subject portion of the fuel pipeline addressed in this work plan is located at the Newport Naval Station, in Newport, Rhode Island (Figure 1). The pipeline extends from Melville through the towns of Portsmouth and Middletown, Rhode Island (Figure 2). The majority of the pipeline in this vicinity is buried at approximately 4 to 6 feet below the existing grade, however in the area of the Defense Support Center the pipeline spans through a concrete tunnel which extends from Building 58 at the North Wharf to Chamber C18.

The diameter of the fuel line changes throughout its span. It begins at Building No. 58 as a 12-inch diameter pipeline and increases to a 16-inch diameter pipe at Chamber C18. Just south of Tank Farm 5, the pipeline increases again to 24-inches and then reduces to 16-inches just prior to entering Building No. 73, where the pumping station exists, that distributed fuel to Piers 1 and 2.

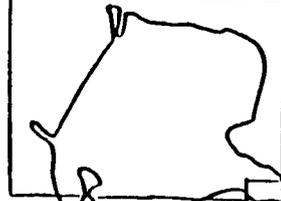
There are a total of 49 concrete chambers to be demolished during the closure process. The chambers to be demolished are all chambers between C18 and Pier 1. These chambers are partially buried and are equipped with ladder access built into the sidewalls. A typical chamber is approximately 12 feet wide by 12 feet long by 6 feet high. The purpose of these chambers is to provide access to valves, expansion joints, and reducers associated with the fuel pipeline (Figure 3). Some of the chambers have steam lines that pass through them. These steam lines are insulated with asbestos, which will be removed prior to demolition of the chambers.

## **3.0 SCOPE OF WORK**

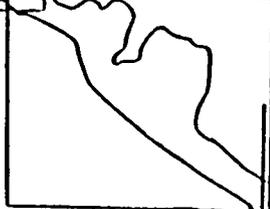
### **3.1 General Scope**

The general scope of work outlined in this plan is the cleaning and closure of the main fuel pipeline. The fuel line will be cleaned, pressure tested, and isolated from the Tank Farms, Piers, and any other distribution lines. The closure process will include an asbestos abatement of the steam line insulation systems within the 49 chambers to be demolished/removed. Upon completion of the cleaning process and asbestos abatement the soil below and adjacent to pipeline penetrations shall be sampled for the presence of TPH, VOCs, SVOCs, and TAL metals. Following sampling, the chambers will be demolished if the soils beneath them are clean. If samples show the presence of contaminants in excess of RIDEM standards, Foster Wheeler Environmental will contact the NAVSTA Environmental Division for direction on how to proceed. The chambers will not be demolished until the contamination has been addressed.

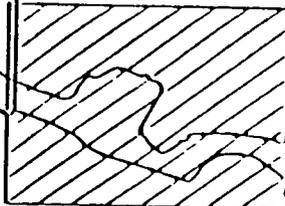
MELVILLE(NORTH)



MELVILLE(SOUTH)



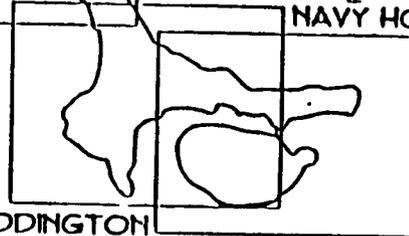
MIDWAY



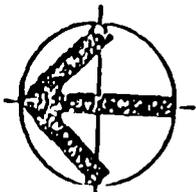
CODDINGTON COVE



COASTERS HBR ISL  
&  
NAVY HOSPITAL



CODDINGTON  
POINT



NORTH

NTS

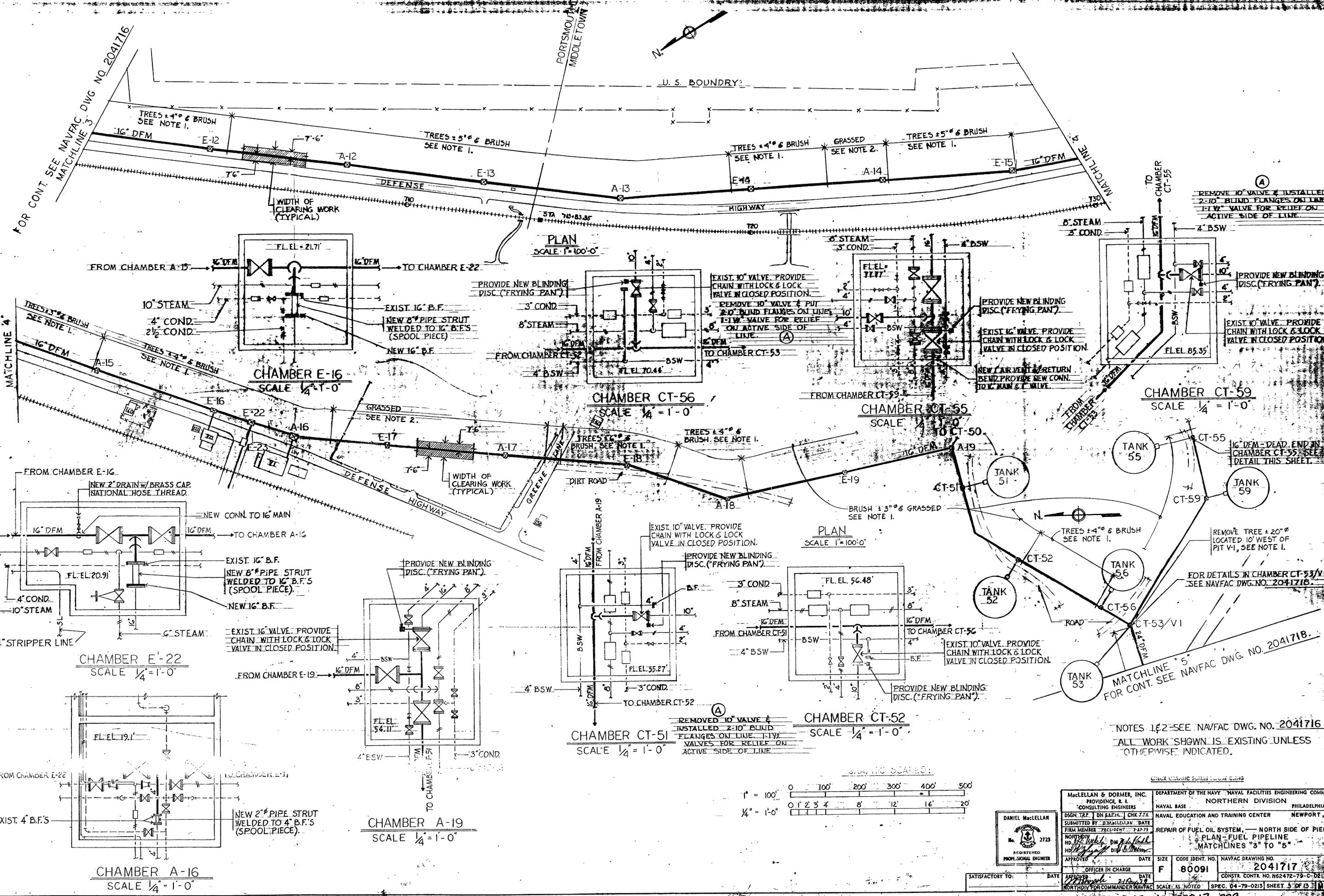
Ref: NAVFAC Drawing No. 2176803

U.S. Navy RAC  
Naval Station Newport  
Middletown, RI

Figur 1

Sit Map

 FOSTER WHEELER ENVIRONMENTAL CORPORATION



REMOVE 10" VALVE & INSTALLED 2-10" BLIND FLANGES ON LINE. 1-1/2" VALVE FOR RELIEF ON ACTIVE SIDE OF LINE.

PROVIDE NEW BLINDING DISC ("FRYING PAN").

EXIST. 10" VALVE. PROVIDE CHAIN WITH LOCK & LOCK VALVE IN CLOSED POSITION.

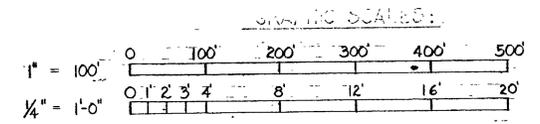
16" DFM - DEAD END IN CHAMBER CT-55. SEE DETAIL THIS SHEET.

REMOVE TREE ± 20' LOCATED 10' WEST OF PIT V-1, SEE NOTE 1.

FOR DETAILS IN CHAMBER CT-53/V1 SEE NAVFAC DWG. NO. 2041718.

MATCHLINE "5" FOR CONT. SEE NAVFAC DWG. NO. 2041718.

NOTES 1 & 2 - SEE NAVFAC DWG. NO. 2041716  
ALL WORK SHOWN IS EXISTING UNLESS OTHERWISE INDICATED.



MacLellan & DORMER, INC. PROVIDENCE, R. I. CONSULTING ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NORTHERN DIVISION PHILADELPHIA, PA. NAVAL EDUCATION AND TRAINING CENTER NEWPORT, R.I.
DSGN. TRF. DN. RAEZC. CHK. J.V.K. SUBMITTED BY: DAN MACLELLAN DATE: 7-27-77 FIRM MEMBER: PRESIDENT	REPAIR OF FUEL OIL SYSTEM - NORTH SIDE OF PIER 2 PLAN - FUEL PIPELINE MATCHLINES "3" TO "5"
APPROVED: [Signature] REGISTERED PROFESSIONAL ENGINEER	CODE IDENT. NO. NAVFAC DRAWING NO. F 80091 2041717
SATISFACTORY TO: [Signature] DATE: 2/10/78	CONSTR. CONTR. NO. N62472-79-C-0211 SCALE: AS NOTED SPEC. 04-79-0213 SHEET 3 OF 13



## **3.2 Mobilization and Site Preparation**

All required supervision, labor, equipment, and materials will be mobilized to the site. Administrative support will be located at the Gould Island Support Area

### **3.2.1 Utility Identification**

Prior to construction, all utility lines will be located and confirmed by Dig-Safe. All utilities, above-ground and below-ground, will be identified and marked out prior to the start of work.

### **3.2.2 Security**

A four foot high fence (High Visibility Fence) will be constructed around all work areas in order to assure site security. Barrier warning tape and signs will also be placed throughout the site as required to identify the outer perimeter of the overall work area as well as areas where potential hazards exist.

### **3.2.3 Erosion and Sediment Control**

Erosion and sediment controls will be installed prior to the commencement of any intrusive activities. Erosion and sediment controls will consist of the installation of silt fence barriers that will be augmented as needed with hay bales. Control measures will be placed at the existing drainage features and on the downgradient toe of the slope at the project limit line.

Erosion controls will be inspected weekly and after each significant precipitation event and maintained as required. Inspections will be documented in writing. Control measures will remain in place until sufficient vegetative growth has been established or other site restoration actions have been completed.

### **3.2.4 Clearing and Grubbing**

Clearing and grubbing work will include the removal and grubbing of any shrubs and small trees that may interfere with closure activities. A minimal amount of clearing and grubbing work is expected at this site, but will be performed where necessary. All vegetative waste and debris generated during clearing and grubbing will be managed as non-hazardous solid wastes.

### **3.2.5 Dust Control**

During structure demolition operations, proper engineering controls and best management practices will be provided to prevent off-site migration of airborne dust particulates. Clean water will be sprayed on areas where asbestos removal will be taking place and during all activities where asbestos is being removed or handled. Asbestos material will be kept adequately wet during any removal or handling activities.

### **3.2.6 Temporary Storage Area**

The temporary staging area will consist of one hundred feet of 20-foot wide poly sheeting that will be laid out in a designated area. A berm will be constructed along all four sides of the plastic sheeting. This area will be used for the temporary staging of waste/wash water storage tanks, recyclable metals, piping and valve storage containers.

### 3.3 SITE WORK

#### 3.3.1 *Asbestos Abatement*

Prior to work within the concrete chambers, entry will be made and the chamber will be inspected for the presence of asbestos insulation. It is assumed that any insulation present contains asbestos. If asbestos insulation exists, it will be abated prior to any other activity associated with the closure of the fuel pipeline. Refer to Attachment 2 for the Asbestos Abatement Plan.

Once the asbestos abatement has been completed, the Navy will perform clearance sampling to confirm that asbestos levels within the vault are at non-hazardous concentrations for entry. Inspection and sampling will be performed by RIDEM Certified /Licensed Asbestos Personnel. Asbestos testing will be performed by a RIDEM Certified Asbestos Laboratory.

#### 3.3.2 *Pipeline Cleaning and Testing*

Temporary tanks with a 21,000-gallon storage capacity will be used to store recovered petroleum product and water awaiting transportation and disposal. Spill Guard containment cells will be placed under the storage tanks and spill control materials (absorbent pads and speedy-dry) will be stationed adjacent to the tanks and all hose/fitting connections in the event of an accidental release. These tanks will be piped together in series to allow for one established loading and off-loading area. Evertight fittings will attach to the tanks for the connection of a vacuum hose for loading and off-loading.

An inspection of the pipeline will be performed prior to product removal to identify areas where product can be drained. Once these areas are located, authorized personnel will enter the vaults, through the manhole located on the vault covers, and place Evertight fittings onto the drain valves. These fittings will allow for the connection of a 2-inch and/or 3-inch 150-psi petroleum vacuum hose, which will be attached to 5,000 and 3,000-gallon vacuum trucks for product removal. Once the vacuum trucks are full the recovered product and water will be transferred to the storage tanks.

After the lines have been drained, vault covers will be removed, as necessary, to allow access to valve assemblies for removal and for the installation of pig launchers and receivers. Valve assemblies will be removed utilizing flange spreaders, chains, and a skid loader and/or backhoe. Spill pans will be placed under the valves to capture any residual products remaining within the pipeline. A vacuum truck will be on standby in the event there is more product remaining in the line than the pan can contain. Valve assemblies, which have been removed, will be cleaned by draining excess product into drip pans and hand wiping with oil absorbent pads. If necessary, a degreasing agent such as Simple Green will be used to remove excess materials. Once the valves have been removed, a pig will be placed into the pipeline and the launcher will be attached to the pipe. A compressor will be used to drive the pig through the pipeline using compressed air. Once the pig has reached the end of the line, a receiver will be installed to catch the pig along with the product being extracted, as they exit the pipeline. An Evertight fitting, with a 2-inch and/or 3-inch petroleum vacuum attached to a vacuum truck will be used to transport the product being forced out of the line to the receiver. Recovered product will then be transferred from the vacuum truck to the temporary storage tanks.

The sequence of events for product line cleaning will begin at the North Booster House and follow the 12" product line to Vault C18. From Vault C18 the 16" product line will be followed to where it terminates prior to Vault CT55. It is anticipated that the cleaning of this line will be completed in four

sections: Vault C18 to Vault A10; Vault A10 to Vault E22; Vault E22 to Vault A19; and Vault A19 to where the line terminates prior to Vault CT55. Once the 16" line has been completed, cleaning procedures for the 24" product line, from Vault V1 to Building 73, will commence. This line will also be managed in sections, spanning as follows: Vault V1 to Vault V2; Vault V2 to Vault V3; and Vault V3 to the excavation prior to Building 73. Next, the piping and associated pumps will be cleaned inside Building 73. Once Building 73 has been completed, the Piers will be handled. Pier II lines will be cleaned first in two sections; the "N" valve line and then the "S" valve line. After Pier II has been completed, Pier I will be cleaned. It is anticipated that the lines on Pier I will be cleaned in three sections; the 18" product line; the 8" product line and then all other associated lines.

At Building 73 it will be necessary to excavate a section of the pipeline in order to remove product from the pipeline. Bulk product will be removed from the pipeline prior to excavation by placing a vacuum onto the line at vault V3 and inside Building 73. Once the bulk product has been removed, approximately 10 feet of the pipeline will be uncovered so that a small pilot hole can be drilled into the line. A spill pan will be placed underneath the pipe to capture any potential material that may escape from the pilot hole as it is being drilled. Once the pilot hole has been drilled, vacuum will be placed onto the hole in order to remove any residual product. This pilot hole will then be expanded. A window will be opened on the top of the pipeline to allow access of inflatable plugs into the line. Prior to plug installation, a vacuum hose will be placed into the opening to again remove as much residual material as possible. Inflatable plugs will be installed approximately 3-feet into the pipeline in each direction to isolate the area where cutting and welding will take place. Once the plugs have been installed, absorbent pads will be used to wipe the isolated area of residual product. A 2-foot section of the pipe will then be removed utilizing a pneumatic reciprocating saw. Once the section has been removed, the ends of the pipes will be cleaned with a degreasing agent and allowed to dry. Flanges will then be welded onto each end of the exposed pipeline in order to attach the pig launchers and receivers. After welding is completed the inflatable plugs will be removed and the line will be cleaned utilizing the same procedures as outlined previously.

Additional spill control measures will be necessary on Pier I and II to protect against an accidental release of petroleum product. A curtain boom will be installed around the Piers and a spill trailer with additional curtain booms, 8-inch absorbent booms, bales of oil absorbent pads, a boat, and a motor will be staged at the Piers to provide additional protective equipment in the event of an accidental release. In addition, activity along the Piers will be ceased during adverse weather conditions. To minimize the potential for a release, as much material as possible will be removed by applying vacuum onto the lines at Building 73 to draw the petroleum product away from the Piers. In the event of a release of any quantity of petroleum products into the surface water, Foster Wheeler Environmental will immediately notify the NAVSTA Fire Department. The NAVSTA will immediately notify Rhode Island Department of Environmental Management, Oil Pollution Response Office.

The bulk product will be removed from the main pipelines on Piers I and II by affixing Evertight fittings onto the 8, 10, 12, and 18-inch product lines from inside Building 73. A 2-inch and/or 3-inch 150 psi vacuum hose will be attached onto the fittings and with 3000 and 5000 gallon vacuum trucks; product will be removed from the line. After the lines have been drained, valves within Vaults P1 and P2 and those found along the 16-inch and 8-inch product lines on Pier I will be removed utilizing flange spreaders, chains, and a skid steer loader and/or backhoe. On both Piers it will be necessary to cold cut and weld lines at several locations where there is a reduction in pipe size. At these junctions, the lines will be cut, welded and cleaned by following the procedures as outlined for the pipeline outside Building 73. It is anticipated that approximately six locations on Pier I and nine locations on Pier II may require cold cutting and welding to properly clean the lines. In addition, the Evertight fittings extending from

the Piers towards the water will be opened to properly remove product from the lines. These lines will be accessed with an 18-foot boat with a small outboard motor. The boat will be tied off to the pier at two locations to maintain positioning when opening the lines. Spill pans will be placed under the valves to capture any residual product remaining within the pipeline. As the fittings are removed from the pipe, a vacuum hose will be placed against the fitting to capture any residual product and to empty the spill pan as it collects product. Once breaks in the lines have been completed, a pig launcher and receivers will be installed and the pipelines will be cleaned and tested, following the same procedures as previously outlined.

Upon completion of the cleaning, the pig, launchers and receiver will be removed from the pipeline and blind flanges with pressure gauges will be installed. The pipeline section shall then be pressurized with air to 25 psi. All flanged fittings and valves along the section of pipe to be tested will be soap tested for leaks. Flanges will be tightened as required. Following check out, the line must stand for 24 hours. Pressure gauges will be monitored for changes or pressure drops during the initial 2-hour period. Following completion, the line will be visually inspected at the end to determine if an additional clearing is needed. Pressure readings will be recorded for the initial 2-hour period and at the completion of the 24-hour period. Records shall include the initial pressure readings, any pressure drops, and any leaks and corrective action taken. Once pressure testing has been completed, the blind flanges with pressure gauges will be removed and permanent blind flanges will be installed onto the open ends of the pipelines.

### ***3.3.3 Soil Sampling***

Soil samples will be collected from the areas outside of the chambers where the pipelines penetrate chambers' walls. The number and location of pipe penetrations will be determined by inspecting the interiors. A John Deere 710 rubber tire backhoe will be used to excavate and expose the pipelines for sampling purposes. All soils removed will be placed in a stockpile adjacent to the work area. Samples will then be collected from under the pipeline and adjacent to the chamber wall. One sample will also be collected from directly beneath the chamber floor slab where the concrete is broken to allow for future drainage of water. All soil samples shall be tested for TPH (both low density 418 and high density 8015), VOCs (EPA Method 8260), SVOCs (EPA Method 8270), and TAL Metals (EPA Method 6000s).

### ***3.3.4 Chamber Demolition***

There are a total of 49 chambers to be demolished throughout the length of the fuel pipeline. These chambers include: A1 – A19, AE6 (20), E1 – E19 (19), V2 – V3 (2), S1 – S2 (2), AV1 – AV2 (3), CT52, CT56, CT53. The complete demolition of the chambers will not begin until the portion of pipeline to be affected has been isolated, cleaned and pressure tested. The interiors of the chambers will be inspected for signs of contamination such as staining or the presence of free product. If contamination is found in a chamber, the Navy shall be notified of the condition and a decision, as to the corrective action to be taken, will be reached.

### ***3.3.5 Site Restoration***

A John Deere 710 rubber tire backhoe with a hydraulic hammer attachment will be used to break chamber covers and walls to one foot below the ground surface. The concrete floor will be broken to allow drainage of water. All broken concrete will be placed within the chamber and mixed with clean backfill material to minimize void. The remainder of the chamber will be backfilled with 6-inch minus imported clean soil. The backfill will be compacted with the backhoe bucket during placement. As a final restoration measure, 4-inches of topsoil will be placed on the surface, and the area will be seeded and mulched.

### **3.4 DEMOBILIZATION**

Upon completion and approval of the remedial portion of the project, all potentially contaminated equipment and vehicles will be decontaminated as described in section 3.4.1 and removed from the site.

#### ***3.4.1 Equipment Decontamination***

High-pressure water spray, brushes and shovels will be located at the decontamination pad to rid trucks of possibly hazardous soils and debris. Personnel will use a shovel and brushes to remove any gross material from the equipment. A final rinse will then be performed with a steam pressure washer to remove any additional debris. The Site Health and Safety Officer or the Project Superintendent will perform a final inspection before releasing the truck or equipment. All decontamination work will be performed in accordance with safety requirements dictated by the site-specific Health and Safety Plan.

### **4.0 WASTE REMOVAL PLAN**

This section addresses the handling of the various wastes that will be generated from on-site demolition activities. These materials include asbestos, recyclable metals, as well as non-hazardous water contaminated with oil generated from the cleaning of the pipeline.

#### **4.1 Waste Handling**

##### ***4.1.1 Asbestos Disposal***

All asbestos insulation and asbestos contaminated materials will be wetted and double bagged and placed in a poly lined rolloff container for off-site disposal. Waste containers will be labeled and securely closed in accordance with EPA NESHAPS and RIDEM Rules and Regulation for Asbestos Control. Asbestos waste will be transported by a licensed hauler to a landfill permitted to accept asbestos wastes in accordance EPA NESHAPS and state regulations. All haulers and landfills must be FWENC and Navy approved prior to use. See Attachment 2 for the Asbestos Hazard Abatement Plan.

##### ***4.1.2 Handling of Recyclable Metals***

Metals, except concrete reinforcing bars, will be segregated from the construction debris during the demolition of the building and concrete chambers. Metals in contact with asbestos insulation will be abated and decontaminated in accordance with the asbestos abatement plan prior to building demolition. Metals will be placed in the designated recycling containers. Pipes and valves will be inspected for cleanliness and then placed directly into the designated containers. Recyclable metals and pipe and valve storage containers will be stored at the temporary storage area discussed in Section 3.2.6.

##### ***4.1.3 Handling of Pipeline Residuals and Wash Waters***

The pipeline residuals and wash waters will be collected and containerized by a vacuum truck. The vacuum truck will transfer the residuals and wash waters to 20,000-gallon Frac tanks for temporary storage prior to shipment. The waste will be transported daily, to the disposal facility by the vacuum truck. Wash waters are

expected to contain petroleum oils and non-hazardous surfactants, such as Simple Green, and are expected to be non-RCRA hazardous. Wash waters will be treated/disposed at a facility permitted to accept waste oils or oily waters. FWENC and the Navy will approve all haulers and disposal facilities prior to use.

#### 4.1.4 *Handling of Contaminated Soils*

If contaminated soil is encountered at the site, cleanup will be based on Rhode Island Department of Environmental Management (RIDEM) Remedial Action Guidelines for Contaminated Soils. The procedural guidelines specific for the state of Rhode Island shall be applied for establishing standards of remediation for soil containing the contaminants listed on Table 5-1. Soils with concentration exceeding the specified limits shall be promptly excavated and transported to the appropriate treatment and disposal facilities. Petroleum contaminated soils are expected to be non-hazardous and will either be recycled at a permitted soil recycling facility; reused as landfill daily cover material or disposed as non-hazardous solid waste at a Subtitle D landfill.

## 5.0 FIELD SAMPLING AND ANALYSIS PLAN

### 5.1 Introduction

The closure of the fuel pipeline at Naval Station in Newport requires field sampling and analysis data for the decision making process.

### 5.2 Sampling Procedures

#### 5.2.1 *Sample Tracking System*

Each sample will be designated by an alphanumeric code, which will identify the site, matrix sampled, and contain a sequential sample number. The site code will be the initials for the site name, in this case Naval Station Newport (NAVSTA). Sample types will be identified by a two-letter code, sample locations will be identified by a four letter / digit code, while each matrix sampling location will be identified by a two-digit number.

FIRST SEGMENT	SECOND SEGMENT
NAVSTA	AA-AANN-NN
Site	Type-Location-Number
Symbol Definition:	A= Alphabetic N= Numeric

#### Location Type:

CS= Confirmatory Sample  
WC= Waste Characterization  
FB= Field Blank

For example, the first confirmatory sample to be taken at Vault C18 would be labeled NAVSTA-CS-VC18-01, for the Naval Station Newport Confirmatory Sample 01.

### **5.2.2 Sampling Objectives**

Data generated by implementation of the field sampling and analysis plan is expected to be used for the following purposes:

- To characterize waste streams for off-site disposal;
- To confirm that a release has not occurred outside of the chambers

*Table 5-1* presents the analytical testing requirements. *Table 5-2* provides the analytical methodology and bottleware. The actual locations of the samples will be marked on a drawing and a description of the sample material and locations will be submitted to the Navy with the analytical results. Air sampling, equipment decontamination confirmatory and other health and safety related sampling is discussed in the HASP.

#### ***Pre-Chamber Demolition Sample Strategy***

The objective of this sampling is to confirm that a release has not occurred outside of the concrete chambers. It is anticipated that potentially a total of 156 soil samples will be sent for Laboratory analysis.

#### ***Waste Characterization Strategy***

The objective of this sampling is to characterize the wastes generated for disposal purposes. It is anticipated that a total of fifteen (15) samples, five (5) soil and ten (10) wastewater, will be analyzed.

TABLE 5-1  
 NAVAL STATION NEWPORT  
 FUEL LINE CLOSURE  
ANALYTICAL TESTING REQUIREMENTS

<i>Sample Type</i>	<i>Location Objective</i>	<i>Constituents</i>	<i>Estimated Sample Quantity</i>
Vacuum Truck Contents	Waste Characterization of Pipeline Residuals and Wash Water	TPH Contaminated Water	5 Soil 10 Liquid
Chamber Confirmatory	Confirmation sampling of soils from the exterior of the chamber where the lower portion of the pipe penetrations are located and from the soils beneath the Chamber floor	TPH VOCs SVOCs TAL Metals	156

TABLE 5-2  
 NAVAL STATION NEWPORT  
 FUEL LINE CLOSURE  
SUMMARY OF ANALYTICAL PROCEDURES

<i>Sampling Locations</i>	<i>Analytical Method</i>	<i>Sample Matrix (Number)</i>	<i>Sample Container</i>	<i>Sample Preservative</i>
Vacuum Truck Contents		Soils (5) Liquid (10)		
Chamber Confirmatory	TPH 418.1, 8015  VOCs 8260  SVOCs 8270  TAL Metals 6000s	Solids (156)	VOCs 4oz jar  All other parameters combined into one 32 oz jar	Ice, 4 degrees C

## 6.0 HEALTH AND SAFETY REQUIREMENTS

The site-specific HASP is provided as a separate submittal.

## 7.0 ENVIRONMENTAL PROTECTION AND REGULATORY COMPLIANCE

This section summarizes the regulatory requirements applicable to the work.

### 7.1 Regulatory Compliance

No environmental permits will be required for the conduct of these closure activities. Compliance with all applicable state and federal environmental regulations is required.

#### 7.1.1 Waste Management

##### *Oily Liquid Wastes*

The petroleum oil/water mixture generated during pipeline pigging and cleaning is expected to be non-RCRA hazardous and will be managed in accordance with EPA and RIDEM waste oil regulations. This waste is not regulated as a Rhode Island Hazardous waste and can be transported in Rhode Island by a non-hazardous waste transporter and treated/disposed at a facility permitted by RIDEM to accept waste oils and oily water mixtures. If this waste is transported out of state for disposal, it will be necessary to comply with the receiving state's requirements for waste oil transportation and disposal.

##### *Oily Solid Wastes*

Oil contaminated PPE, cleaning materials, spill pads and other debris are regulated as non-hazardous wastes in Rhode Island and can be transported by a non-hazardous waste transporter to a RIDEM permitted RCRA Subtitle D solid waste landfill or treatment facility. If oil contaminated solid wastes are transported out of state for disposal, it will be necessary to comply with the receiving state's requirements for oily waste transportation and disposal.

##### *Petroleum Contaminated Soils*

Soils determined to contain petroleum constituents above RIDEM soil clean up criteria will be excavated and disposed off-site as non-RCRA hazardous solid wastes. Petroleum contaminated soils will be placed in poly lined rolloff containers or dump trailers for transportation off-site. Soils will be either be recycled in a thermal treatment facility, recycled for use as landfill daily cover material or disposed in a Subtitle D solid waste landfill.

##### *Asbestos Containing Wastes*

Asbestos insulation and asbestos containing solid wastes (PPE, poly, and debris) must be managed in accordance with EPA NESHAPS and Rhode Island Regulations for Asbestos Control. All asbestos insulation and asbestos contaminated materials will be wetted and double bagged and placed in a poly lined rolloff container for off-site disposal. Waste containers will be labeled and securely closed in accordance with EPA NESHAPS and RIDEM Rules and Regulation for Asbestos Control. Asbestos waste will be transported by a licensed hauler to a landfill permitted to accept asbestos wastes in accordance with EPA NESHAPS and state regulations. All haulers and landfills must be FWENC and Navy approved prior to use.

### *Asbestos Contaminated Decon Water*

Asbestos contaminated decon water from equipment and personnel decon will be treated by a (5) micro filter to remove asbestos fibers prior to discharge to the on-site POTW. Decon water is expected to consist of water, surfactants and asbestos fibers and will be RCRA non-hazardous. Authorization shall be obtained from the Navy to discharge the treated wastewater to the on-site wastewater treatment plant. Asbestos contaminated filters from water treatment will be disposed off-site as asbestos contaminated wastes.

### *7.1.2 Air Pollution Control*

Fugitive dust emissions may result from project operations. Consequently, engineering controls will be used to control dust emissions. This will include keeping surfaces adequately wet during demolition/removal activities and covering materials being transported to prevent fugitive dust emissions.

### *7.1.3 Wastewater and Stormwater Management*

All residuals and wash water generated during demolition will be temporarily stored at the staging area and disposed off-site. Stormwater will be controlled using existing stormwater management systems.

### *7.1.4 Transport*

To ensure safe transport of the waste, only transporters who have demonstrated competence and possess the required license and permits for transporting waste shall be used. Foster Wheeler Environmental policies and procedures for environmental compliance and subcontracting shall be followed. Transporter EPA/State identification numbers and permits, where applicable shall be kept in project and compliance files. RIDEM does not require transporter permits for non-hazardous waste transporters for in-state disposal, however for out of state disposal, it is necessary to comply with the receiving state requirements for waste transporter permitting. FWENC will evaluate all transporters for compliance with US DOT and state transporter regulations prior to use. All hazardous waste transportation units (tractors and trailers) will have current RIDEM Hazardous Waste Vehicle Permit Stickers. Prior to loading, FWENC will inspect all transportation units to ensure that they have valid RIDEM Hazardous Waste Permit stickers.

FWENC will weigh all Hazardous Waste and Asbestos waste shipments prior to removal off-site. FWENC will enter the net weight (in pounds) on the Hazardous Waste Manifest or Bill of Lading, except for PCB shipments where the weight will be measured in kilograms or bulk liquid shipments, which will be measured in gallons.

FWENC will prepare all Hazardous Waste Manifests or Bills of Lading required for hazardous or non-hazardous waste transportation. FWENC will enter the NAVSTA's US EPA Generator Identification Number on all manifests. Completed Hazardous Waste Manifests and accompanying paperwork will be submitted by FWENC to Building 1, Room 207 for review and signature by an authorized Navy representative prior to shipment off-site. FWENC personnel will not sign any manifests, bills of lading or other waste documentation. FWENC will provide to the Navy's Environmental Personnel a minimum of 48-hour advance notice on hazardous waste shipments being removed off-site.

### 7.1.5 DOT Requirements

Hazardous material (including hazardous wastes) must be properly classed, described, packaged, marked, labeled and in condition for shipment as required by 49 CFR 171. Wastes generated from project activities are expected to be contaminated with either petroleum oils or asbestos, no other hazardous materials are expected to be present. The following DOT shipping descriptions are expected to be used for waste materials generated on-site:

Waste type	Proper Shipping Name	Hazard Class	ID Number	Packing Group	Hazard Class Label
Asbestos wastes	Asbestos	9	NA 2212	III	Class 9
Fuel Oil /water mixture	Fuel Oil	3	NA 1270	III	Class 3
Oily solids	N/A – Not DOT regulated	N/A	N/A	N/A	N/A

For wastes other than those listed above, DOT Proper Shipping Names will be determined as follows:

Waste that does not exhibit one of the nine DOT hazard class characteristics (e.g., explosive, flammable, poison, combustible, etc.) is not regulated under DOT rules for the transportation of hazardous material. If waste is suspected to be hazardous, then it must be shipped under the suspected hazard class. If a particular hazard class is unable to be determined, then the soil or water may be shipped under either of the following:

Shipping Name	Hazard Class	ID Number	Packing Group	Label
Environmentally hazardous substances, liquid, n.o.s.	9	UN3082	III	CLASS 9
Environmentally hazardous substances, solid, n.o.s.	9	UN3077	III	CLASS 9

When using either one of these "n.o.s." (not otherwise specified) shipping names, at least two technical names must follow (i.g., "Environmentally hazardous substances, liquid, n.o.s. [Benzene and Acetone]").

The shipping name, identification number, packing group, instructions, cautions, weights, EPA waste code numbers and consignee/consignor designations must be marked on packages for shipment. Labeling provides information regarding the DOT hazard class. The label to be placed on material will depend upon the results of sampling. Once the waste is characterized, reference should be made to the Hazardous Materials Table in 49 CFR 172.101 to determine the appropriate label. The package (or drum) must be marked and labeled as specified in 49 CFR 172.301.

The person offering hazardous material for shipment must offer placards, if the amount of hazardous material meets placarding threshold requirements (49 CFR 172.506). Any quantity of material listed in Table 1 of the regulations must be placarded. If there is less than 1,000 lbs. of a Table 2 material, no placard is required. Also, a Class 9 placard is not required for domestic shipments. If a placard is required, the it must be affixed on each side and each end of the vehicle(s).

Hazardous material shipping papers must have the following description of the hazardous material, in the following order:

1. Proper shipping name;
2. Hazard class or division;
3. Identification number;
4. Packaging group;
5. Total quantity (must appear either before or after the above information); and,
6. Technical and chemical group names may be entered in parentheses between the proper shipping name and hazard class or following the basic description (e.g., "Flammable liquids, n.o.s. [contains xylene and benzene], 3 UN1993, PG II").

Other required information includes:

- EPA identification number (on manifests);
- Emergency Response Guidebook numbers;
- 24-hour emergency response number, supplied by the generator and answered by a knowledgeable person,
- Signatures;
- Shipper's certification; and
- RIDEM Haz-waste vehicle permit stickers must be applied to transportation units (both tractor and trailer) if applicable to all hazardous waste haulers.

#### **7.1.6 Release/Spill Reporting**

NAVSTA has established specific spill reporting requirements for spills of petroleum oil into surface waters, groundwater or soils from facilities or operations engaged in oil transfer in order to meet RIDEM and EPA spill reporting requirements. If an oil spill or release occurs and **any** quantity of oil enters surface water, groundwater or subsurface soils, immediate telephone notification must be made to NAVSTA Fire Department.

An Emergency Response Plan is included in the HASP. The information contained in these sections details how Foster Wheeler Environmental will address spill control and prevention activities on-site.

In the event of a release, the FWENC Senior Project Engineer/Manager, or Site Superintendent must notify the project Regulatory Specialist as soon as possible to determine federal and state release reporting requirements.

#### **7.1.7 NAVSTA NEWPORT HAZARDOUS WASTE MANAGEMENT REQUIREMENTS**

FWENC will manage all hazardous waste / materials in accordance with NAVSTA Newport requirements:

FWENC shall permit Navy or Navy authorized personnel to conduct Hazardous Waste/ Materials / Safety Inspections on contractor controlled areas of Navy property at any time. A FWENC representative shall accompany the Navy representative during the inspection.

FWENC will store/ manage all hazardous wastes in accordance with federal, state, local and NAVSTA Newport regulations and SOPs. All potential hazardous or asbestos waste storage locations to be used by

FWENC shall be approved or assigned by the NAVSTA Newport Environmental Director or his designated representative prior to the on-site storage of hazardous or asbestos wastes by FWENC. FWENC shall permit the sampling of all Hazardous Waste/ Hazardous Material waste streams by government or government – contracted personnel.

FWENC shall comply with all corrective recommendation solutions of Hazardous Waste Deficiencies.

FWENC shall not communicate to the public, the press or any other non- NAVSTA personnel regarding hazardous waste / asbestos management or related issues at NAVSTA Newport. The PAO and the Environmental Director shall clear all communication.

## **8.0 PROJECT MANAGEMENT**

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

### **8.1 Project Schedule**

The project schedule is provided in Attachment 3.

### **8.2 Project Staffing Plan**

The field staff will consist of a Project Superintendent (PS), the Site Health and Safety Officer (SHSO) and subcontractor personnel.

#### **8.2.1 *Project Superintendent***

This individual will be Joshua Holden. The PS will coordinate all daily site operations, enforce HASP implementation, complete on-site QC/QA responsibilities and will communicate with the Quality Control Manager.

#### **8.2.2 *Site Health and Safety Officer***

This individual will be Joshua Holden. The SHSO will assist the PS in the enforcement of the HASP, air monitoring, sampling, training, and coordination of medical surveillance for all site personnel. The SHSO has a direct reporting line to the PS and a communication line to the program Health and Safety Manager. The SHSO also has "stop work" authority if unsafe conditions arise.

#### **8.2.3 *Senior Project Engineer / Manager (SPEM)***

This individual will be Carl Tippmann, P.E. The responsibility of the SPEM is to provide general oversight of all facets of the project. He will be responsible for the oversight, resource allocation, scheduling and quality control of the Project. He reports to the Program Manager and is first point of contact for the Contracting Officer's Technical Representative (COTR) and the Design Navy Technical Representative (NTR).

## **9.0 QUALITY CONTROL/QUALITY ASSURANCE**

### **9.1 Organization and Responsibilities**

Foster Wheeler Environmental on-site QC/QA duties will be undertaken by the PS / SHSO. The PS / SHSO will utilize physical inspections, direct air monitoring, and confirmatory laboratory testing to verify that work is being performed in accordance with the project plans. All subcontractors will conform to, and participate in, the program described herein as part of a single unified team. Foster Wheeler Environmental will direct and maintain responsibility for the overall program, and will manage subcontractors in a manner to maintain project QC/QA requirements. It is anticipated that subcontractors will be used for: 1) trucking and disposal; and 2) laboratory testing.

### **9.2 Tests and Inspections**

#### **9.2.1 Backfill Soil Specifications**

The following is the general specification for all backfilled soil in accordance with NFGS 02220: 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.

The following is the specification for topsoil: approved, unclassified soil material with sufficient organic content and other characteristics to sustain vegetative growth.

#### **9.2.2 Inspections**

The three phases of Quality Control will be implemented for this project. The PS / SHSO will conduct a completion inspection at the completion of all work or any increment of work as established by the work plans. Any punch list items will be reviewed to ascertain that all items have been completed and corrected. The Navy may elect to accompany the inspector or perform supplemental QA inspections. Any observations of nonconformance noted will be processed by the PS and resolved in a timely manner, and as needed, identified in a final punch list. Final inspection items may include compaction testing, material conformance and installation, final grades achieved, receipt of disposal manifests, weight slips and others.

### **9.3 Documentation**

The following documentation will be provided to the Navy in the Final Report.

#### **9.3.1 Operations Recordkeeping**

All inspections and testing activities performed will be documented with the appropriate forms that address each work activity inspected by the PS according to established acceptance criteria. The PS will maintain current records of QC operations, activities and tests performed, including the work of subcontractors and suppliers. These records will include factual evidence of required QC activities and/or tests that have been performed such as:

- Daily Production Report - Work performed daily, giving location, description and by whom.
- Test and/or quality control activities performed with results and references to specifications/plan requirements. The control phases involved per definable feature of work will be identified (e.g., preparatory, completion). Any deficiencies, along with corrective action, will be noted.
- Material received with statement as to its acceptability and storage.
- Submittals reviewed, with contract reference, by whom and action taken.
- Job safety evaluations, stating what was checked, results and instructions or corrective actions (conducted by PM).
- Instructions given/received and conflicts in plans and/or specifications and status of resolution.
- Subcontractor's verification statements and certifications.
- FCRs and NCRs.
- QC Daily Log.
- Photographic Log.

Operations records will include a description of the types of trade personnel working on the project, the number of personnel working, weather conditions encountered, and any delays encountered. These records will also cover both conforming and deficient features.

### **9.3.2 Photographic Documentation**

Still photographs will be taken periodically to record pre-construction, post-construction and construction progress conditions. The photograph medium will be 35mm color prints. Pre-construction photographs will depict the entire site and those off-site facilities that are susceptible to damage from construction activities (e.g., egress roads). Progress photographs will be taken from these same locations, if possible, so that each sequence of photographs will be taken from the same perspective. Progress photographs will be taken periodically to show significant milestone events, unique operations, or nonconformance events.

Each set of photographs taken will be recorded in a photograph log with the following information:

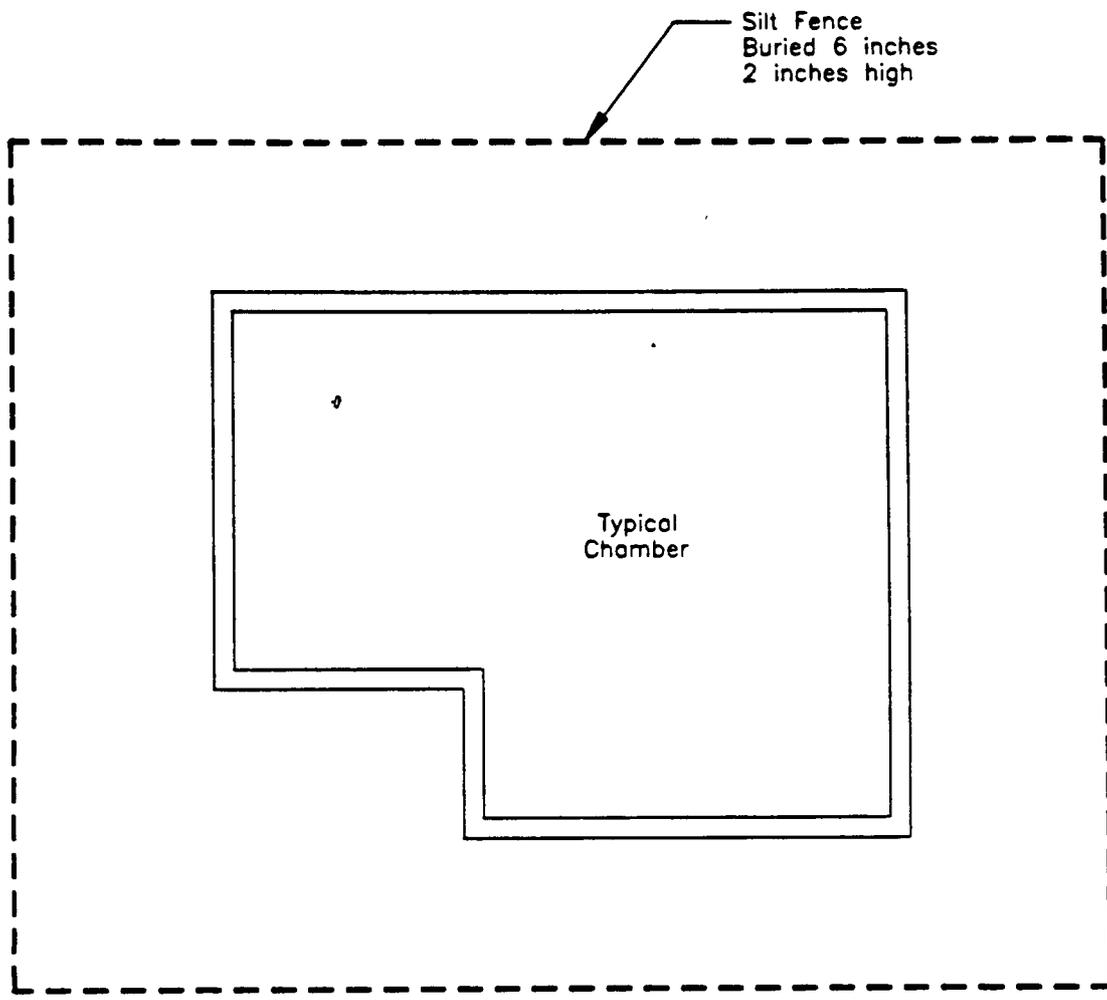
- Date photograph was taken;
- Initials of photographer; and
- Description of view shown on photograph.

### **9.3.3 As-Built Drawings**

During the course of work, the PS will complete as-built markups on site layout drawings. As-built drawings will contain the locations of demolished chambers and the location of confirmatory samples.

**ATTACHMENT 1**

**EROSION AND SEDIMENT CONTROL MEASURES**



NOT TO SCALE

U.S. Navy RAC  
NETC Newport, Rhode Island

Main Fuel Line Closure  
Soil and Sediment Control Measures



FOSTER WHEELER ENVIRONMENTAL CORPORATION

**ATTACHMENT 2**

**ASBESTOS REMOVAL WORK PLAN**

# ***Asbestos Hazard Abatement Plan***

Conducted for:  
***Charter Environmental Inc.***  
Attention: Mr. John Palmer  
85 Crescent Avenue  
Chelsea, MA 02150

***“Buried Chambers”  
Burma Road  
Middletown, RI***

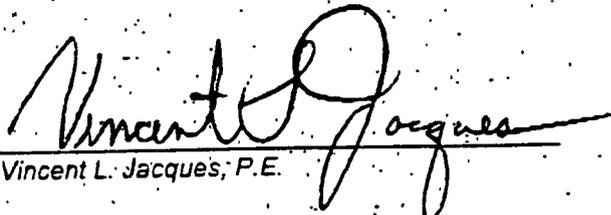
Completed by:  
***Kenyon Environmental Inc.***  
1124 Eddie Dowling Highway  
North Smithfield, RI 02896

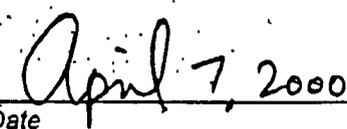


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April 7, 2000  
KEI Job No. PA990198

  
\_\_\_\_\_  
Vincent L. Jacques, P.E.

  
\_\_\_\_\_  
Date

**KEI** Kenyon Environmental Inc.Voice: (401) 769-4545  
Fax: (401) 769-8842

1124 Eddie Dowling Highway, North Smithfield, RI 02896

April 6, 2000

Mr. John Palmer  
Charter Environmental, Inc.  
Chelsea, MA

RE: Asbestos Hazard Abatement Plan for 39 chambers containing asbestos thermal insulation and debris, located along Burma Road from Defense Energy Support Center to the Navy's Pier No. 1., Middletown, RI.

Mr. Palmer,

Kenyon Environmental Inc. (KEI), is pleased to provide you with the enclosed Asbestos Hazard Abatement Plan, which outlines procedures and engineering controls to be implemented for the proposed abatement of thermal insulation containing asbestos from various diameter piping and associated fittings, all of which is located within 39 buried chambers located along Burma Road.

In summary, critical barriers constructed shall be adequate to contain asbestos fibers released within each chamber work area. Each containment/chamber will include a three-chamber decontamination unit, an area large enough above entry to house confined space entry equipment, and be equipped with an adequate number of HEPA negative air machines to achieve and maintain appropriate negative pressure and adequate air-changes within containment. In addition to appropriate confined space entry equipment, asbestos works shall be equipped with all required personal protective equipment, as outlined in the plan. Wet removal methods, HEPA vacuum equipment and wet cleaning techniques shall be used to clean up the work area following the abatement, until an independent hygienist indicates that there is no visible asbestos debris or residue within containment. Upon satisfactory visual inspection, Charter will then apply a lock-down encapsulant to the pipes and interior concrete walls and flooring. The independent hygienist will then conduct final clearance air sampling/analysis to ensure that the abatement has been appropriately completed.

If you have any questions or comments regarding the enclosed plan, please give me call at the number above.

Sincerely,  
KENYON ENVIRONMENTAL INC.Vincent L. Jacques, P.E.  
Senior Project Manager  
RI Asbestos Project Designer License No. AAC-409PD

encl.: Asbestos Hazard Abatement Plan

*Asbestos Hazard Abatement Plan  
39 Buried Chambers  
Burma Road, Middletown, RI*

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## 1.0 Introduction

This asbestos work plan is being submitted on behalf of:

**Charter Environmental, Inc.**

to address the requirements of Part B.10 of the Rhode Island Department of Health's *Rules and Regulations for Asbestos Control (R23-24.5-ASB)*, as amended February, 1992.

The proposed *Scope of Work* shall be performed in accordance with all applicable local, state and federal regulations concerning asbestos removal, and shall be conducted by an asbestos contractor licensed in the State of Rhode Island. This work plan documents the proposed project.

## 2.0 Description of Abatement Area

The proposed *Scope of Work* for this project is to remove asbestos containing thermal pipe and fitting insulation and debris from 39 buried concrete chambers, which are located along Burma Road from Defense Energy Support Center to the Navy's Pier No. 1. Each chamber has dimensions of approximately 12' wide by 12' long by 12' tall. Each chamber is buried with a ladder access. The steam lines within the chambers contain asbestos thermal insulation on piping between 4-inches and 10-inches in diameter. In addition, asbestos debris is reportedly located on the floors within the chambers. The floors and walls within the chambers are constructed of concrete.

## 3.0 Specific Abatement Proposal

### 3.1 *Asbestos Abatement Contractor Requirements*

All asbestos abatement workers must be provided with a comprehensive *medical examination*, according to requirements of 29 CFR 1926.1101. Records of employee's medical examinations, medical records, and exposure data shall be maintained by the contractor for a period of fifty (50) years after termination of employment.

All personnel involved with the asbestos abatement project are trained in accordance with United States Environmental Protection Agency (USEPA) Asbestos Hazard Emergency Response Act (AHERA) training criteria. In addition, each employee shall be appropriately trained for confined space entry, in accordance with applicable OSHA regulations. Records regarding dates of training, course outlines, instructors, etc., must be maintained on-Site by the contractor for all of its employees.

*Asbestos Hazard Abatement Plan  
39 Buried Chambers  
Burma Road, Middletown, RI*

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The contractor will be responsible to obtain all the necessary permits regarding the removal, hauling, and disposition of the asbestos containing materials.

Contractor is required to have an established Respiratory Program as required by ANSI Z88.2, 29 CFR 1926.1101, and 29 CFR 1910.134. As a requirement of the plan, all employees involved in the asbestos abatement project shall have been properly fit tested for their individual respirator. An initial exposure assessment (IEA) shall be conducted at the beginning of the project in the first chamber to be abated, in order to determine the appropriate respirators to be utilized for the remainder of the project. The data gathered during this IEA may be utilized to develop a negative exposure assessment for the remaining chambers, which would dictate the type of respirator to be utilized for the project. Personal monitoring for the project will also be conducted in accordance with OSHA 29 CFR 1926.1101.

### *3.2 Equipment*

The following is a brief list of equipment to be used on the asbestos abatement project. The contractor does reserve the right to omit and/or substitute equipment types, based on the abatement required, provided that substitution or omission in no way substantially affects the safety and wellbeing of the workers performing the project.

1. Polyethylene sheeting (6 mil)
2. Properly labeled Asbestos Waste Disposal bags (6 mil)
3. Duct tape, at least 3 inch width
4. Caution tape and Asbestos Warning Signs
5. Personal protective equipment
6. HEPA vacuums
7. Amended water
8. Lighting
9. Sump-pumps
10. HEPA 5-micron filters
11. Confined space entry equipment/permit
11. Other equipment necessary for completion of the work

### *3.3 Protective Clothing*

Coveralls (whole body protective coverings): Disposable full-body coverall and disposable head covers shall be worn by all workers in the work area. Sleeves shall be secured at the wrist with duct tape and at the ankles to prevent potential migration.

Boots: Work boots with nonskid soles and steel toes shall be worn by all workers at the site.

*Asbestos Hazard Abatement Plan  
39 Buried Chambers  
Burma Road, Middletown, RI*

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**Gloves:** Disposal rubber gloves shall be provided to all workers and shall be worn at all times in the work area.

**Hard Hats:** Hard hats, as required by OSHA shall be worn by all workers at the site. Protective plastic strap suspension hats approved by ANSI Z89.1 shall be used.

**Eye Protection:** Fog-proof goggles and/or protective eye glasses shall be worn by all workers at the site. All protective eye gear shall meet OSHA and ANSI requirements.

**Respiratory Protection:** At a minimum, half-face, negative pressure respirators equipped with high efficiency particulate air filters (HEPA) shall be provided to all workers (initial exposure assessments may result in a requirement for additional respiratory protection)

**Other Items:** Any protective items required for protection of the workers engaged in the work shall be provided by the contractor, as needed (i.e. confined space entry harness).

### 3.2 *Work Procedures*

This asbestos work plan has been developed for the removal of asbestos thermal insulation on piping between 4-inches and 10-inches in diameter, as well as asbestos debris, which is reportedly scattered around the concrete floors.

All asbestos abatement work will be performed by Charter Environmental, Inc, an asbestos contractor licensed in the State of Rhode Island, and all work will be performed in accordance with all applicable local, state and federal regulations.

The proposed project is scheduled to be conducted in late April and after appropriate approval of this plan. It is anticipated that the removal project will take approximately twenty (20) work days to complete.

The following engineering controls and procedures are to be utilized to prevent emissions of asbestos at the work site:

- Barriers constructed shall be adequate to contain asbestos fibers released within the work area. Two (2) layers of 6-mil polyethylene sheeting shall be utilized to construct the containment and decontamination area above the access way to the chamber, and two layers of 6-mil polyethylene sheeting shall be utilized as critical barriers for any immovable objects, doors, windows, holes, or openings within the chambers and access ways.
- A three-chamber decontamination unit, consisting of a dirty room, shower, and clean room shall be connected to the containment area.

*Asbestos Hazard Abatement Plan  
39 Buried Chambers  
Burma Road, Middletown, RI*

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The contained area located above the entrance way shall be large enough to accommodate confined space entry.

- An appropriate number of HEPA negative air machines shall be utilized for each chamber to provide an appropriate negative pressure and an adequate number of air changer per hour from within the containment throughout the abatement project.
- HEPA vacuum equipment and wet cleaning techniques shall be used to remove the thermal pipe insulation and asbestos debris located on the flooring, until there is no visible residue. Charter will then pressure wash the walls and floors within the chambers. A sump-pump will collect and pump the water from the floor of the chamber through two 5-micron filters. After final visual inspection by the independent project hygienist, Charter will then apply a lock-down encapsulant to the piping, walls, floors, and poly sheeting within the containment. Upon collection of final clearance air samples, negative air machines will be removed, and the chamber will be completely sealed until satisfactory results are received.
- Asbestos waste (i.e. vacuum bags) shall be packaged in impermeable containers such as polyethylene sheeting, bags and/or fiber or metal drums and shall be labeled so that labels have the appearance of or are constructed in accordance with USDOT 49 CFR 172, Subpart E and OSHA 29 CFR 1926.1101 (formally OSHA 29 CFR 1926.58). Each container, bag, drum or wrapped component shall also be labeled or tagged with the name and license number of the asbestos abatement contractor generating the waste, as well as the asbestos abatement project number and location at which the waste was generated.
- Transport and disposal of asbestos waste shall be in accordance with the provisions of 40 CFR 763, Subpart E and USDOT 49 CFR 173.1300.
- Personnel air monitoring of Asbestos Abatement Workers, which demonstrates compliance with the provisions of OSHA 29 CFR 1926.1101 (formally OSHA 29 CFR 1926.58(f)) shall be conducted.
- Daily air samples shall be collected from outside of the chamber containment to ensue that migration of asbestos fibers outside of the containment area is not taking place.

#### **4.0 Selection of Contractor**

Charter Environmental, Inc., an Asbestos Abatement Contractor licensed by the State of Rhode Island (R.I. License No. LAC-176000), shall conduct this project in accordance with all applicable local, state, and federal regulations.

*Asbestos Hazard Abatement Plan  
39 Buried Chambers  
Burma Road, Middletown, RI*

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## **5.0 Authorized Disposal Facility**

The authorized asbestos waste facility will be selected by the contractor. The name of the approved disposal site will be forwarded as soon as it has been determined. The contractor must also maintain written evidence that the landfill proposed for waste disposal is approved for asbestos disposal by the USEPA and state and local regulatory agencies.

## **6.0 Monitoring Requirements**

### **6.1 In-Process Air Sampling During Abatement**

Personnel air monitoring of Asbestos Abatement Workers in accordance with OSHA 29 CFR 1926.1101 (formally OSHA 29 CFR 1926.58(f)) shall be conducted throughout the entirety of the asbestos abatement project. In addition, air samples shall be collected on a daily basis from various areas outside of the chamber containment area (i.e. outside of decon entrance, at the negative air machine exhaust, etc., perimeter of containment, etc.). The collected samples shall be submitted to licensed laboratory accredited through the National Voluntary Laboratory Accreditation Program, the American Industrial Hygiene Association and with the Rhode Island Department of Health, Division of Occupational and Radiological Health. All samples shall be analyzed in accordance with NIOSH Method 7400.

### **6.3 Clearance Inspection and Air Sampling**

Final visual inspections and air sampling shall be conducted for each of the chambers subject to abatement. Visual inspections will be conducted by an independent hygienist after notification that Charter has completed the abatement and final clean-up. The visual inspection shall be conducted to ensure that no visible asbestos debris or residue is present within the containment. After satisfactory visual inspection, Charter will be notified to proceed with the application of lock-down encapsulant to all pipes, walls, floors, polyethylene sheeting, and any other surfaces within the containment area.

After the applied encapsulant has dried, the independent hygienist shall proceed to collect two air samples from the interior of the chamber containment area. The collected samples shall be submitted to a licensed laboratory accredited through the National Voluntary Laboratory Accreditation Program, the American Industrial Hygiene Association and with the Rhode Island Department of Health, Division of Occupational and Radiological

*Asbestos Hazard Abatement Plan  
39 Buried Chambers  
Burma Road, Middletown, RI*

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Health. All samples shall be analyzed in accordance with NIOSH Method 7400.

Results found to reveal concentrations of less than 0.01 fibers per cubic centimeter (f/cc) will be considered satisfactory. Upon receipt of such results, Charter will be informed to disassemble containment barriers and conduct post-project clean-up. If results are found to reveal concentrations of greater than 0.01 f/cc, Charter will be informed to re-clean the area, re-encapsulate, and air sampling will be repeated.

**7.0 Confirmation of Proper Asbestos Disposal**

The contractor shall obtain confirmation of proper asbestos disposal and provide copies to the appropriate parties in accordance with Section C.1.3 (b) of the *RI Rules and Regulations for Asbestos Control*. These manifests will be sent to the Navy Asbestos Coordinator.

# **CONFINED SPACE ENTRY PROCEDURE**

**Prepared for  
Foster Wheeler Environmental Corporation**

**Project Location  
Burma Road  
Middletown, RI**

**Prepared by  
Charter Environmental, Inc.  
85 Crescent Avenue  
Chelsea, MA 02150**

## 1.0 CONFINED SPACE ENTRY

A confined space provides the potential for unusually high concentrations of contaminants, explosive atmospheres, limited visibility, and restricted movement. This section will establish requirements for safe entry into, continued work in, and safe exit from confined spaces. Additional information regarding confined space entry can be found in 29 CFR 1926.21, 29 CFR 1910 and NIOSH 80-106.

### 1.1 Definitions

Confined Space: A space or work area not designed or intended for normal human occupancy, having limited means of egress and poor natural ventilation; and/or any structure, including buildings or rooms, which have limited means of egress.

Confined Space Entry Permit (CSEP): A document to be initiated by the supervisor of personnel who are to enter into or work in a confined space. The Confined Space Entry Permit (CSEP) will be completed by the personnel involved in the entry and approved by the HSO before personnel will be permitted to enter the confined space. The CSEP shall be valid only for the performance of the work identified and for the location and time specified. The beginning of a new shift with change of personnel will require the issuance of a new CSEP.

Confined Space Attendant: An individual assigned to monitor the activities of personnel working within a confined space. The confined space attendant monitors and provides external assistance to those inside the confined space. The confined space attendant summons rescue personnel in the event of emergency and assists the rescue team.

### 1.2 General Provisions

- When possible, confined spaces should be identified with a posted sign which reads: **Caution - Confined Space**.
- Only personnel trained and knowledgeable of the requirements of these Confined Space Entry Procedures will be authorized to enter a confined space or be a confined space observer.
- A Confined Space Entry Permit (CSEP) must be issued prior to the performance of any work within a confined space. The CSEP will become a part of the permanent and official record of the site.
- Natural and or mechanical ventilation shall be provided for the confined space prior to initial entry and for the duration of the CSEP. Positive/forced mechanical ventilation may be required. However, care should be taken to not spread contamination outside of the enclosed area.  
If flammable liquids may be contained within the confined space, explosion proof equipment will be used. All equipment shall be positively grounded.

- The contents of any confined space shall, where necessary, be removed prior to entry. All sources of ignition must be removed prior to entry.
- Hand tools used in confined spaces shall be in good repair explosion proof and spark proof, and selected according to intended use. Where possible, pneumatic power tools are to be used.
- Hand-held lights and other illumination utilized in confined spaces shall be equipped with guards to prevent contact with the bulb and must be explosion proof.
- Compressed gas cylinders, except cylinders used for self-contained breathing apparatus, shall not be taken into confined spaces. Gas hoses shall be removed from the space and the supply turned off at the cylinder valve when personnel exit from the confined space.
- If a confined space requires respiratory equipment or where rescue may be difficult, safety belts, body harnesses, and lifelines will be used. The outside observer shall be provided with the same equipment as those working within the confined space.
- A ladder is required in all confined spaces deeper than the employee's shoulders. The ladder shall be secured and not removed until all employees have exited the space.
- Only self-contained breathing apparatus or NIOSH approved airline respirators equipped with a 5-minute emergency air supply (egress bottle) shall be used in untested confined spaces or in any confined space with conditions determined immediately dangerous to life and health.
- Where air-moving equipment is used to provide ventilation, chemicals shall be removed from the vicinity to prevent introduction into the confined space.
- Vehicles shall not be left running near confined space work or near air-moving equipment being used for confined space ventilation.
- Smoking in confined spaces will be prohibited at all times.
- Any deviation from these Confined Space Entry Procedures requires the prior permission of the On-Scene Coordinator.

### 1.3 Procedure for Confined Space Entry

The HSO and Entry Team shall:

- Evaluate the job to be done and identify the potential hazards before a job in a confined space is scheduled.
- Ensure that all process piping, mechanical and electrical equipment, etc., have been disconnected, purged, blanked-off or locked and tagged as necessary.
- If possible, ensure removal of any standing fluids that may produce toxic or air displacing gases, vapors, or dust.

- Initiate a Confined Space Entry Permit (CSEP) in concurrence with the project manager or designated alternative.
- Ensure that any hot work (welding, burning, open flames, or spark producing operation) that is to be performed in the confined space has been approved by the project manager and is indicated on the CSEP.
- Ensure that the space is ventilated before starting work in the confined space and for the duration of the time that the work is to be performed in the space.
- Ensure that the personnel who enter the confined space and the confined space observer helper are familiar with the contents and requirements of this instruction.
- Ensure remote atmospheric testing of the confined space prior to employee entry and before validation/revalidation of a CSEP to ensure the following:
  1. Oxygen content between 19.5% - 23.0%.
  2. No concentration of combustible gas in the space. Sampling will be done throughout the confined space and specifically at the lowest point in the space.
  3. The absence of other atmospheric contaminants space has contained toxic, corrosive, or irritant material.
  4. If remote testing is not possible, Level B PPE is required.
- Designate whether hot or cold work will be allowed. If all tests in a. through c. are satisfactory, complete the CSEP listing any safety precautions, protective equipment, or other requirements.
- Ensure that a copy of the CSEP is posted at the work site a copy is filed with the project supervisor, and a copy is furnished to the project manager.
- Erect personnel retrieval equipment adjacent to entry point. Equipment includes tripod, winch and tether, as well as body harness for occupants to wear during work in the confined space.

The CSEP shall be considered void if work in the confined space does not start within one hour after the tests are performed or if significant changes within the confined space atmosphere or job scope occur.

The CSEP posted at the work site shall be removed at the completion of the job or the end of the shift, whichever is first.

#### 1.4 Confined Space Attendant

- While personnel are inside the confined space, a confined space attendant will monitor the activities and provide external assistance to those in the space. The attendant will have no other duties, which may take his attention away from the work or require him to leave the vicinity of the confined space at any time while personnel are in the space.
- The confined space attendant shall maintain at least voice contact with all personnel in the confined space. Visual contact is preferred, if possible.
- The attendant shall be instructed by his supervisor in the method for contacting rescue personnel in the event of an emergency.
- If irregularities within the space are detected by the attendant, personnel within the space will be ordered to exit.
- In the event of an emergency, the observer must NEVER enter the confined space prior to contacting and receiving assistance from a helper. Prior to this time, he should attempt to remove personnel with the lifeline and to perform all other rescue functions from outside the space.
- A helper shall be designated to provide assistance to the confined space attendant in case the observer must enter the confined space to retrieve personnel.

## CONFINED SPACE ENTRY PERMIT

PERMIT VALID FOR 8 HOURS ONLY. ALL PERMIT COPIES REMAIN AT SITE UNTIL JOB COMPLETED.

DATE: \_\_\_\_\_ SITE LOCATION: \_\_\_\_\_ START TIME: \_\_\_\_\_ ENDING TIME: \_\_\_\_\_

PURPOSE OF ENTRY: \_\_\_\_\_

SUPERVISOR(S) IN CHARGE OF CREW(S): \_\_\_\_\_

PERSONNEL COMMUNICATIONS (CIRCLE ONE): \_\_\_\_\_ (2 WAY RADIO / WORD OF MOUTH)

RESCUE PROCEDURES (CIRCLE ONE): \_\_\_\_\_ (NON-ENTRY RESCUE / ENTRY RESCUE / OUTSIDE SERVICE)

**BOLD DENOTES MINIMUM REQUIREMENTS TO BE COMPLETED AND REVIEWED PRIOR TO ENTRY.**

<b>REQUIREMENTS COMPLETED</b>	<b>YES</b>	<b>NO</b>	<b>REQUIREMENTS COMPLETED</b>	<b>YES</b>	<b>NO</b>
LOCKOUT/DE-ENERGIZE/TAGOUT	___	___	FULL BODY HARNESS W/"D" RING	___	___
LINE(S) BROKEN-CAPPED-BLANK	___	___	EMERGENCY RETRIEVAL TRIPOD	___	___
PURGE-FLUSH AND VENT	___	___	LIFELINES	___	___
VENTILATION	___	___	FIRE EXTINGUISHERS	___	___
SECURE AREA	___	___	LIGHTING (EXPLOSION PROOF)	___	___
S.C.B.A.	___	___	PROTECTIVE CLOTHING	___	___
RESCUE PERSONNEL	___	___	RESPIRATOR(S) (AIR PURIFYING)	___	___
BURNING AND WELDING PERMIT	___	___			

RESCUE # \_\_\_\_\_  
 FIRE DEPT # \_\_\_\_\_  
 AMBULANCE # \_\_\_\_\_  
 OTHER: \_\_\_\_\_

\*\* RECORD CONTINUOUS MONITORING RESULTS EVERY 30 MINUTES \*\*

<u>CONTINUOUS MONITORING</u>	<u>P.E.L.(PERMISSIBLE ENTRY LIMIT)</u>	<u>TIMES</u>
		<u>READINGS</u>
OXYGEN	19.5% TO 23.5%	-----
LOWER FLAMMABLE LIMIT	UNDER 8%	-----
CARBON MONOXIDE	35 PPM (8 HR. TWA)	-----
AROMATIC HYDROCARBON	1 PPM (8 HR. TWA)	-----
HYDROGEN CYANIDE	SKIN	-----
HYDROGEN SULFIDE	10 PPM (8 HR. TWA)	-----
SULFUR DIOXIDE	2 PPM (8 HR. TWA)	-----
AMMONIA	35 PPM (15 MIN. EXPOS.)	-----

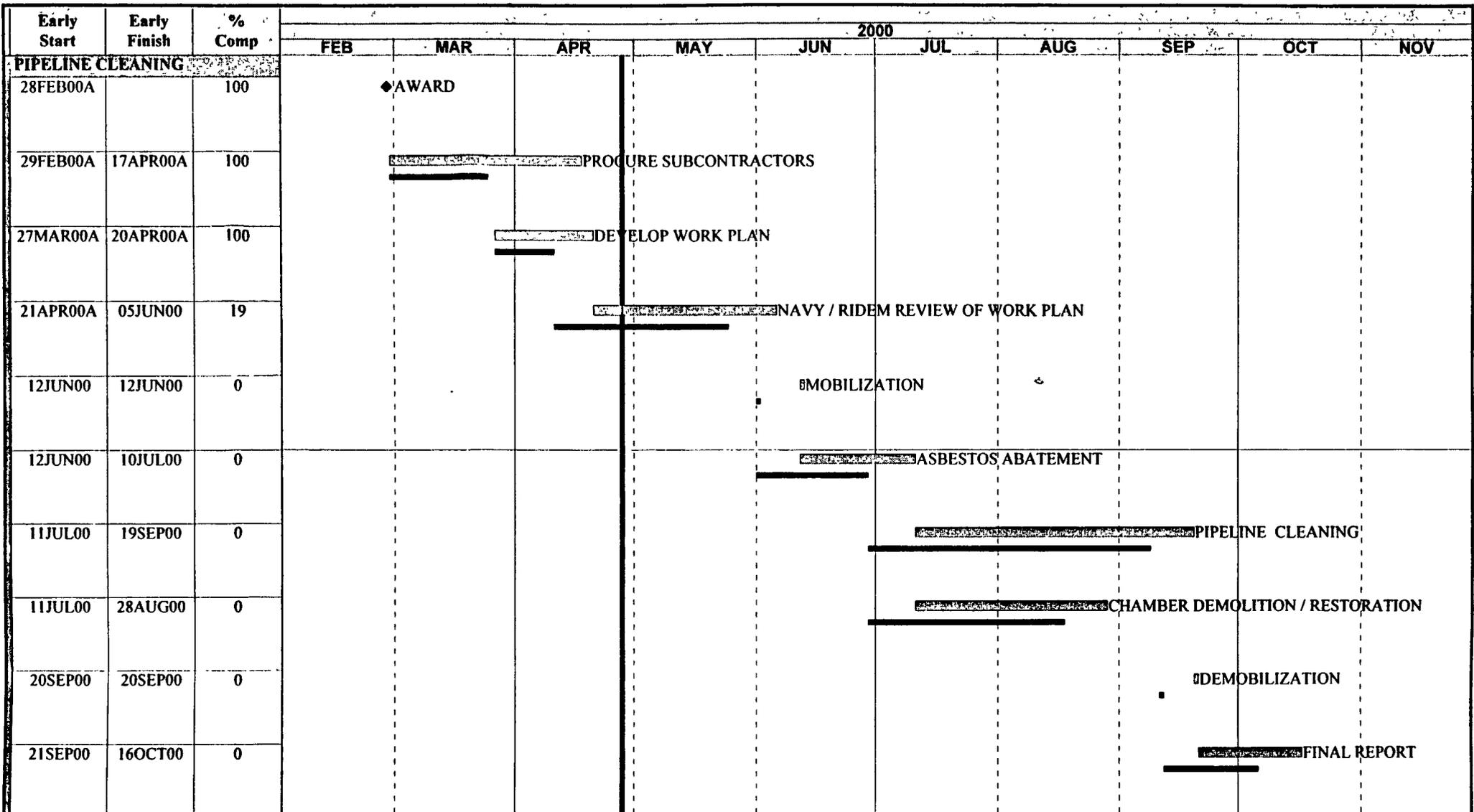
REMARKS: \_\_\_\_\_

GAS TESTER NAME	INSTRUMENT USED	MODEL & SERIAL #
_____	_____	_____
_____	_____	_____

ENTRY SUPERVISOR	CONFINED SPACE ENTRANTS	CONFINED SPACE ATTENDANT
_____	_____	_____
_____	_____	_____

SUPERVISOR AUTHORIZATION THAT ALL CONDITIONS ARE SATISFIED \_\_\_\_\_

**ATTACHMENT 3**  
**PROJECT SCHEDULE**



Start Date 01FEB00  
 Finish Date 16OCT00  
 Data Date 28APR00  
 Run Date 11MAY00 15 53

▬ Early Bar  
 ▬ Target Bar  
 ▬ Progress Bar

6500 Sheet 1 of 1  
 DELIVERY ORDER 65  
 NETC - CLOSE FUEL LINE  
 NEWPORT, RI