

**TETRA TECH**

PITT-08-9-015

August 17, 2009

Project Number 112G00904

Reference: Contract No. N62467-04-D-0055 (CLEAN)
Contract Task Order No. 443**MEMORANDUM****FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD (RAB), INSTALLATION RESTORATION PROGRAM, PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE**

On behalf of the U.S. Navy, Tetra Tech NUS, Inc. is pleased to provide the draft minutes from the June 2, 2009 Restoration Advisory Board meeting for your review and comment.

Comments are requested by September 7, 2009. You may provide your comments to Lisa Joy at (207) 438-6618.

Sincerely,

Deborah J. Cohen, P.E.
Project ManagerDJC/clm
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**RESTORATION ADVISORY BOARD MEETING
PORTSMOUTH NAVAL SHIPYARD
KITTERY TOWN HALL, KITTERY, MAINE
June 2, 2009**

Restoration Advisory Board (RAB) members at the meeting included the following:

- RAB community members – Doug Bogen, Peter Britz, Jon Carter, Diana McNabb, Mary Marshall, and Onil Roy.
- Navy RAB members – Linda Cole, Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic, and Ken Plaisted and Lisa Joy, Portsmouth Naval Shipyard (PNS).
- Regulatory representatives – Matt Audet, United States Environmental Protection Agency (USEPA), and Iver McLeod, Maine Department of Environmental Protection (MEDEP).
- Community members Alan Davis, Michele Dionne, Jack McKenna, and Roger Wells were absent.

Guests at the RAB included:

- Robert Burley, Danna Eddy, John Gildersleeve, Jeff Hoyt, Frank Salantri, Herb Ueda, John Weyth, and Debbie White from PNS.
- Debbie Cohen and Tim Smith from Tetra Tech NUS, Inc. (TtNUS).
- Carolyn Lepage, Technical Assistance Grant (TAG) technical advisor to Seacoast Anti-Pollution League (SAPL).
- Carl Baxter, New Hampshire Department of Environmental Services (NHDES).

INTRODUCTION

The meeting began with the announcement of the retirement of Ken Plaisted, Navy RAB Co-Chair. Mr. Plaisted retired after almost 40 years working at the Shipyard. On behalf of the Shipyard, Herb Ueda presented Mr. Plaisted with a plaque and thanked Mr. Plaisted for his commitment, dedication, perseverance, and patience for his work on the RAB. All present at the meeting thanked Mr. Plaisted for his support and leadership for the RAB.

Lisa Joy, the new Navy RAB Co-Chair, was then introduced. Ms. Joy grew up and went to college in Maine, and has a BS in Chemical Engineering. Ms. Joy began work at Loring Air Force Base until it closed in 1994 and then moved to the Compliance and Clean-Up Program at Naval Air Station Brunswick (NASB). Ms. Joy, the Environmental Director at NASB and Public Work Department (PWD)-Maine,, will be taking over as Navy RAB Co-Chair for PNS.

Doug Bogen, Community Co-Chair, introduced Carolyn Lepage of Lepage Consulting, who is returning as TAG technical advisor for SAPL. Mr. Bogen indicated that SAPL finally worked out funding and contractual issues, and Ms Lepage will continue as their TAG consultant.

STATUS OF WORK AND REGULATOR UPDATES

NAVY --- The Navy provided an update on the environmental activities related to Land Use Controls (LUCs) for Operable Unit (OU) 3 and activity relocation for Building 184 (Site 30).

Ms. Joy discussed some of the LUC issues that has come up at the landfill (OU3) and indicated that the Shipyard Commander is putting some operational controls into place. A policy letter will be provided that addresses the following items for OU3:

- Excavation controls
- Vehicle restrictions for grass areas (e.g., only maintenance vehicles will be allowed)
- Parking and vehicle restrictions for the asphalt area (e.g., rubber-tire vehicles only, except as approved by the Installation Restoration Program Manager)
- Equipment storage restrictions for asphalt and grass areas

Matt Audet indicated that USEPA was pleased to hear that the operational controls were being implemented. USEPA wanted these controls to ensure that the landfill is maintained in good condition, and USEPA appreciates the Navy's response to USEPA's concerns.

Ms. Cole provided an update on the progress of relocating the Welding School from Building 184 to a different location. As discussed at previous RAB meetings, the relocation of the school is a three-phase process. The first two phases were conducted in 2007 and 2008, and the third phase is expected to be completed by the end of March 2010.

USEPA --- Mr. Audet indicated that USEPA's biggest concern recently has been with the OU3 LUC issues. USEPA feels that LUCs are one of the primary tools to make remedies cost effective by allowing waste/contamination to remain in place with these controls. Therefore, it is very important to implement

and maintain LUCs to allow the continued protectiveness of a remedy. Mr. Audet said the operational controls the Shipyard is implementing will ensure that use of the capped area at OU3 will not affect the protectiveness of the remedy.

MEDEP --- Iver McLeod indicated that MEDEP was pleased with the operational controls that the Shipyard is implementing. Mr. McLeod also indicated that an important factor in getting LUCs in place is getting them documented, and MEDEP wants the Navy to complete the LUC Remedial Design (RD) to ensure that LUCs are documented for OU3. MEDEP and the Navy need to work out the details for the OU3 LUCRD. Mr. McLeod also mentioned the Navy's plans to construct an Emergency Command Control Center in an area adjacent to Site 32 (OU7) and mentioned that part of the construction work will extend into Site 32. MEDEP is reviewing the permit information for the construction work.

PROPOSED REMOVAL ACTION FOR OPERABLE UNIT 2 DRMO IMPACT AREA

Ms. Cole provided general information explaining the use of non-time-critical removal actions (NTCRAs) in the remedial action process. Ms. Cole indicated a NTCRA is appropriate when the Lead Agency (the Navy in this case) determines that a removal action is appropriate and when a planning period of at least 6 months is available before on-site activities must begin. A NTCRA is appropriate if the removal action can address priority risks and can move sites more quickly through the Superfund process. To support a NTCRA, an Engineering Evaluation/Cost Analysis (EE/CA) is prepared to identify the objectives of the removal action and to provide an analysis of effectiveness, implementability, and cost of possible removal action alternatives. The EE/CA is similar to the RI/FS for remedial actions. The EE/CA is provided for public comment and then an Action Memorandum is prepared based on the EE/CA to document the selection of a removal action alternative.

Debbie Cohen and Tim Smith, T1NUS, provided a presentation on the Navy's proposed removal action for the DRMO Impact Area within OU2. Ms. Cohen provided background on OU2 and soil contamination the DRMO Impact Area. The DRMO Impact Area includes Quarters S, N, and 68. Quarters S and N were vacated in 2008 when the residents moved to another housing unit at PNS and to another Naval facility, respectively. The Shipyard is waiting to complete the removal action before moving new residents into these houses. Quarters 68 remains occupied.

During environmental investigations in the 1990s, soil contamination in the DRMO was found to extend to the DRMO fence line, adjacent to and south of Quarters S and N, but was not found in the samples collected within the DRMO Impact Area. However, sampling had not been conducted immediately north of the DRMO fence line. Additional samples were collected from the backyards of Quarters S and N, north of the DRMO fence line, in 2007 and 2008 to further define the extent of contamination adjacent to

the DRMO. The extent of lead and copper contamination in the backyards of Quarters S and N was delineated, as shown in the presentation figures.

The Navy is proposing a removal action to address contaminated soil in the DRMO Impact Area to provide interim action for contamination in the residential area before a final remedy is implemented for OU2. The removal action objective (RAO) is to mitigate human health and environmental risks associated with contaminated soil in the DRMO Impact Area in a manner such that the property can be used for unrestricted use/unlimited exposure.

Mr. Smith explained that only two removal alternatives were developed in the EE/CA, Alternative 1 – No Action and Alternative 2 – Excavation and Off-Yard Disposal. No Action is required to provide a comparative baseline for other alternatives. Excavation of contaminated soil was considered the only technology available that would meet the RAO, which includes leaving the site with no site restrictions when removal action is complete. Capping and in-situ treatment technologies were screened out because these technologies would not result in no site restrictions.

Mr. Smith showed the planned excavation areas and the areas where pre-excavation sampling will be conducted to better bound the extent of lead contamination and refine the excavation limits in several areas. Initially, surface soil from 0 to 1 or 0 to 2 feet below ground surface (bgs) will be excavated, except around the building perimeters. Verification samples will be collected to confirm that all contamination has been removed. Ms. Cole mentioned that if contamination is found below 2 feet bgs, the Navy will excavate deeper. Around building perimeters, soil will be excavated to 0 to 0.5 foot bgs, and the excavation lined with geotextile and backfilled with 0.5 foot of landscaping mulch. A small area west of Quarters S is included in the removal action to address a USEPA concern. Mr. Audet explained that USEPA was concerned that the extent of lead contamination west of the Quarters S backyard has not been bounded. The Navy will excavate soil in the identified area as part of the removal action.

Mr. Smith reviewed the next steps. The Navy anticipates submitting the draft Action Memorandum and EE/CA in June 2009. A 30-day public comment period to be held on the draft final EE/CA is scheduled for August/September. The Navy is anticipating conducting the removal action in fall 2009. Additional documents to support the removal action include the Removal Action Work Plan, which will include the pre-excavation sampling and analysis plan, verification sampling and analysis plan, and the Post-Construction Report.

Questions and discussions during the presentation included the following:

- Why is there a dense amount of sampling in some areas and sparse amount of sampling in other areas? Ms. Cohen explained that during the 2007 and 2008 sampling, additional soil samples

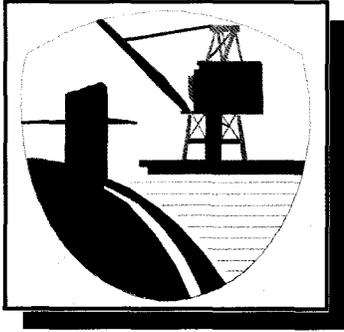
were collected to delineate the extent of lead and copper contamination; therefore, sampling density is greater in and around areas where contamination was found. Mr. Smith explained that pre-excavation sampling will be conducted around the areas, as shown on Figure 6, where additional data are needed to determine the extent of contamination to support excavation.

- Will verification sampling be field analysis or laboratory analysis? Laboratory analysis is planned. The excavation area will only be backfilled after receipt of laboratory results confirming that contamination has been removed.
- Will excavation and mulching around Quarters S and N affect drainage? The Navy is not anticipating any changes that would affect drainage around the buildings. The Navy will conduct pre-removal and post-removal topographic surveys and attempt to avoid changing the topography and drainage as part of the removal action.
- Will trees be removed as part of the removal action? Yes, some trees will need to be removed before excavation. Site restoration will be addressed in the Removal Action Work Plan and will include some replanting.
- What is the anticipated cost of the removal action? The estimated costs will be provided in the EE/CA; however, as a "ballpark" estimate, the Navy is anticipating the costs to be approximately \$1 million.
- Could lead-based paint also be a source of lead in soil around Quarters S and N, especially adjacent to the houses? Ms. Cole explained that there appears to be some impact from lead-based paint to soil. However, because there may be commingling between sources (DRMO and lead-based paint), the Navy believes that a comprehensive remedy for the area will be more effective than trying to determine which contamination came from which source so that contamination from different sources can be addressed separately. Lead in soil adjacent to the houses is more likely a lead-based paint issue, so as Mr. Smith explained, the removal action will treat this area differently than the rest of the removal action area.

FUTURE MEETINGS

The RAB discussed the date for the next meeting. The Navy proposed Tuesday, September 15, 2009, for the next RAB meeting. Ms. Joy asked RAB members to contact her if there is any concern with the next RAB meeting date.

Post-meeting note: The next RAB meeting will be held on Tuesday, September 15, 2009, and will be held in the meeting room at Kittery Town Hall, 200 Rogers Road, Kittery, Maine. Discussion topics will include presentations and updates on Installation Restoration Program activities at PNS.



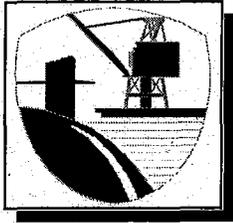
Portsmouth Naval Shipyard Installation Restoration Program Agenda

Date – June 2, 2009

Place – Town Hall, Kittery, ME

Time – 7 p.m. - 9 p.m.

- . Introductions**
- . Community Co-Chair**
- . Navy Updates**
- . Regulator Updates**
- . Information Presentation of DRMO
Impact Area Interim Removal Action**
- . Next Proposed RAB Meeting – Sep 15**



Portsmouth Naval Shipyard Installation Restoration Program RAB Update: June 2, 2009

A meeting of the Portsmouth Naval Shipyard's Installation Restoration Advisory Board (RAB) was held on Tuesday, June 2, 2009, at Kittery Town Hall, Kittery, Maine. The agenda included a presentation on the Navy's proposed removal action for the Operable Unit (OU) 2 DRMO Impact Area at PNS.

Plans for a removal action for the DRMO Impact Area within OU2 continue.

The Navy is proposing a removal action to address lead- and copper-contaminated soil in the DRMO Impact Area as an interim action for the residential area before a final remedy is implemented for OU2. The DRMO Impact Area includes Quarters S, N, and 68, which are used as military residences.

The objective of the removal action is to mitigate human health and environmental risks associated with lead- and copper-contaminated soil in the DRMO Impact Area in a manner to allow for unrestricted use of the property. To do this, the Navy is proposing to excavate the contaminated soil and dispose of the excavated soil off yard. The Navy will prepare an Engineering Evaluation/Cost Analysis (EE/CA) and Action Memorandum to document the Navy's proposed removal action. The removal action is anticipated to be conducted in fall 2009.

Public comment to begin in August on the planned DRMO Impact Area removal action.

A public comment period is scheduled for August 18, 2009 to September 16, 2009 on the draft final EE/CA for the plans for a removal action for the DRMO Impact Area within OU2. To provide public comment on the EE/CA, or for more information regarding the OU2 DRMO Impact Area, please contact Ms. Danna Eddy, Public Affairs Office, PNS.

Navy RAB Co-Chair retires and new Co-Chair introduced.

After 39 years at the Shipyard, Ken Plaisted announced his retirement in March 2009. At the RAB meeting, Mr. Plaisted was presented a plaque thanking him for his service and dedication as Navy Co-Chair of the RAB. Lisa Joy, the new Navy RAB Co-Chair, was then introduced. Ms. Joy is currently the Environmental Director at Naval Air Station Brunswick and PNS, and will be splitting her time between Brunswick and PNS.

Next meeting announced.

The next regular meeting of the RAB will be held on:

**Tuesday, September 15, 2009, beginning at 7:00 pm
at the Kittery Town Hall, 200 Rogers Road, Kittery, Maine**

Discussion topics will include presentations and updates on Installation Restoration Program activities at Portsmouth Naval Shipyard. As usual, interested members of the public are welcome.

Questions?

To be added to the mailing list, please contact the Shipyard Public Affairs Office at the address or telephone number listed.

If you would like more information on this or other matters relating to the Installation Restoration Program at Portsmouth Naval Shipyard, please contact:

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Conducting Non-Time-Critical Removal Actions Under CERCLA

Office of Emergency and Remedial Response
Hazardous Site Control Division, 5202 G

Quick Reference Fact Sheet

This fact sheet summarizes a document entitled "Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA" (OSWER Directive 9360.0-32). The guidance describes the essential components of the non-time-critical removal action process with particular emphasis placed on conducting the Engineering Evaluation/Cost Analysis (EE/CA). This document also provides general guidance on other activities carried out during a non-time-critical removal action, such as enforcement, public involvement, and Action Memorandum preparation. The guidance is to be used in conjunction with EPA's Emergency Response Division (ERD) Superfund Removal Procedures (SRP) manual which provides detailed guidance for carrying out various activities at all types of removal sites.

INTRODUCTION

Non-time-critical removal actions are conducted at Superfund sites when the lead Agency determines, based on the site evaluation, that a removal action is appropriate, and a planning period of at least six months is available before on-site activities must begin. Because non-time-critical removal actions can address priority risks, they provide an important method of moving sites more quickly through the Superfund process. Thus, conducting non-time-critical removal actions advances the goals of the Superfund Accelerated Cleanup Model (SACM) to include substantial, prioritized risk reduction in shorter time frames and to communicate program accomplishments to the public more effectively.

RESPONSIBILITIES AND RESOURCES

Most non-time-critical removal actions are led by EPA, unless the State, potentially responsible party (PRP), Federal agency, political subdivision, or Indian Tribe has the financial and technical ability to lead the response. Regardless of who takes the lead, the EPA On-Scene Coordinator (OSC) or Remedial Project Manager (RPM) is responsible for arranging for technical assistance from other agencies, if the OSC/RPM determines such assistance is needed. For non-time-critical removal actions, the OSC/RPM directs or reviews the work of other agencies, PRPs, and contractors to ensure compliance with

CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The OSC/RPM also reviews all decision documents, enforcement orders, and work plans; oversees all expenditures of EPA funds; and ensures all staff working on the site know operating and safety procedures.

EPA should not conduct Fund-financed removal actions when the response is within the independent financial and technical capabilities of a State, PRP, Federal agency, political subdivision, or Indian Tribe. To lead a non-time-critical removal action, a State, political subdivision, or Indian Tribe must first apply for a removal Cooperative Agreement (CA) pursuant to 40 CFR Subpart O, section 35.6200. When EPA retains the lead for non-time-critical removal actions without financial participation from a State, political subdivision, or Indian Tribe, the Regional Decision Team (RDT) should assess the urgency of the situation and determine whether the removal action should proceed without such participation.

The RDT ensures effective coordination, communication, and integration of Superfund program authority, expertise, resources, and tools. Although RDT involvement in removal assessments and decision-making may vary from Region to Region, for non-time-critical removal actions the RDT should help assess the opportunity for response and help initiate the preparation of the EE/CA Approval Memorandum, the EE/CA, and the Action Memorandum.

Because at least a 6-month planning period is available for non-time-critical removal actions, there is time to obtain commitment from a State or local government or PRP to perform and fund necessary post-removal site control (PRSC) activities prior to initiating the response. If the OSC/RPM is unable to secure such an agreement, removal options that involve continuing PRSC should be avoided where other options are feasible.

Technical assistance resources available to the lead Agency in carrying out a non-time-critical removal action include: national, Regional, and specialized response teams; contractors; other Federal agencies; and State and local governments. The Long-Term Contracting Strategy (OSWER Publication 9242.6-07) provides a road map to Superfund contract support and gives Regions full responsibility for contracts management.

ENFORCEMENT ACTIVITIES

A PRP search should begin as soon as a removal action appears likely. If enforcement will be pursued for a non-time-critical removal site, a CERCLA section 122(e) special notice letter should be used to solicit a written good faith offer from the PRP, which demonstrates the PRP's qualifications and willingness to conduct or finance the removal action. Issuance of a special notice triggers a 60- to 120-day moratorium on EPA conducting the removal action (although additional studies or investigations authorized under CERCLA section 104(b), including the EE/CA, may be initiated).

During the moratorium, the OSC/RPM should consult with Regional staff in developing an Administrative Order on Consent (AOC), which is a legally enforceable agreement signed by EPA and the PRP whereby the PRP agrees to perform or pay the cost of site cleanup, and may forfeit the right to make a claim against the Fund. An AOC outlines the activities the PRP must undertake and the completion dates for those activities. The State should always be notified prior to negotiating or issuing an AOC.

If the OSC/RPM wishes to pursue informal negotiations without using a CERCLA section 122(e) special notice letter, CERCLA section 122(a) requires EPA to issue a notice letter to the PRP explaining why special notice procedures will not be used. In cases where no negotiation is desirable, the OSC/RPM can use the notice letter supply to inform the PRP of their potential liability and provide notice that the Agency has taken or plans to take a response action.

The statute of limitations for cost recovery for removal actions is 3 years from the completion of the removal action, unless a consistency exemption to the statutory limits under CERCLA section 104(c)(1)(C) has been approved (in which case the statute of limitations is 6 years from the date of the last exemption). A decision not to pursue cost recovery must be documented in a Removal Action Cost Recovery Close-Out Memorandum prepared in consultation with the Office of Regional Counsel.

PUBLIC INVOLVEMENT

Sections 300.415(m) and 300.820 of the NCP specify community relations and administrative record activities as two forms of public participation necessary for all removal actions. The OSC/RPM is responsible for ensuring that these requirements are met.

Community relations requirements during removal actions are intended to promote active communication between communities affected by a release or a threat of release (including the PRP) and the lead agency. The following community relations activities are required for non-time-critical removal actions:

- Designate a community relations spokesperson
- Establish the information repository
- Conduct community interviews
- Prepare Community Relations Plan (CRP)
- Issue public notice of availability of the EE/CA.

The administrative record file, a subset of the site file, is the body of documents used by the Agency during a removal action to select a response. It includes site specific data and documents that reflect the views of the public, including PRPs, concerning this selection. For non-time-critical removal actions, the EE/CA Approval Memorandum and EE/CA are the critical components of the administrative record file. The required administrative record requirements for non-time-critical removal actions are as follows:

- Establish the administrative record file
- Publish public notice of the availability of the administrative record file
- Hold a public comment period
- Develop written responses to significant public comments
- Complete the administrative record file after selecting the response.

CONDUCTING THE EE/CA

Section 300.415(b)(4)(i) of the NCP requires an EE/CA for all non-time-critical removal actions. It is intended to: (1) satisfy environmental review requirements for removal actions; (2) satisfy administrative record requirements for unproved documentation of removal action selection; and (3) provide a framework for evaluating and selecting alternative technologies. In doing so, the EE/CA identifies the objectives of the removal action and analyzes the effectiveness, implementability, and cost of various alternatives that may satisfy these objectives. Thus, an EE/CA serves an analogous function to, but is more streamlined than, the remedial investigation/feasibility study (RI/FS) conducted for remedial actions. The results of the EE/CA and EPA's response decision are summarized in the Action Memorandum.

The EE/CA Approval Memorandum, which is prepared once the need for a non-time-critical removal action has been determined, serves three important functions. First, it secures management and funding approval to conduct the EE/CA. If the action is PRP-lead, provision for oversight funding will be contained in an Administrative Order and should be included in the EE/CA Approval Memorandum. Second, it documents that the situation meets the NCP criteria for initiating a non-time-critical removal action. Third, it provides a finding of an actual or threatened release from the site and, if present, a finding of an imminent and substantial endangerment, or refers to a document establishing such a determination. The EE/CA Approval Memorandum also provides general information pertaining to the site background; threats to public health, welfare, or the environment posed by the site (including expected changes in the site situation if no action is taken or if the action is delayed); enforcement activities related to the site; and estimated EE/CA costs.

The Regional Administrator (or authorized designee) evaluates the EE/CA Approval Memorandum and provides authorization. Funds expended in preparing the EE/CA Approval Memorandum are considered CERCLA section 104(b)(1) monies and are not counted toward the \$2 million statutory limit for removal actions. The EE/CA Approval Memorandum contains the following sections:

- Subject
- Background
- Threat to public health, welfare, or the environment (including expected change if no action is taken or if action is delayed)
- Imminent and substantial endangerment, if present

- Enforcement actions
- Proposed project/over sight and cost
- Approval/disapproval.

Once the EE/CA Approval Memorandum is authorized, preparation of the EE/CA can begin. The EE/CA includes the following sections:

- Executive summary
- Site characterization
 - § Site description and background
 - § Previous removal actions
 - § Source, nature, and extent of contamination
 - § Analytical data
 - § Streamlined risk evaluation
- Identification of removal action objectives
 - § Statutory limits on removal actions
 - § Determination of removal scope
 - § Determination of removal schedule
 - § Planned remedial activities
- Identification and analysis of removal action alternatives
 - § Effectiveness
 - § Implementability
 - § Cost
- Comparative analysis of removal action alternatives
- Recommended removal action alternative.

The EE/CA executive summary provides a general overview of the contents of the EE/CA. The executive summary is intended to make the EE/CA simpler for the public to review. It can be used in the Action Memorandum to describe the EE/CA.

The site characterization section should summarize available data on the physical, demographic, and other characteristics of the site and surrounding areas to provide background engineering information for analyzing removal alternatives. Data on the site may be available from a removal site evaluation or from other EPA documents regarding the site. Source documents should be placed in the administrative record for the site. EPA should coordinate activities of the OSC/RPM with those of the site assessment manager, risk assessor, and enforcement/legal staff to ensure appropriate data are collected to characterize the site.

Identifying the removal action scope, goals, and objectives involves considering the \$2 million and 12-month statutory limits for Fund-financed removal actions. If there is a need for an exemption from these limits, the details should be described in the EE/CA as well as in the Action Memorandum requesting the exemption. This

section should also identify specific objectives that clearly define the scope of the removal action (e.g., total site cleanup, site stabilization, or surface cleanup of hazardous substances). EE/CAs for removal actions at non-NPL sites should consider the potential for future NPL listing to ensure the goals of the removal action are consistent with any potential long-term remediation. When a non-time-critical removal action will be the only or last action taken to clean up a potential NPL site, the EE/CA should provide adequate documentation that activities performed at the site are sufficient to meet completion requirements. In addition, this section should provide a general schedule of removal activities, including both the start and completion time for the non-time-critical removal action. This schedule can be an important factor in evaluating removal action alternatives based on their implementation times.

Once the removal action scope, goals, and objectives have been identified, a few relevant and viable removal alternatives should be chosen for evaluation and comparison. Removal alternatives should be analyzed for their effectiveness, implementability, and cost. Effectiveness can be evaluated in terms of protectiveness and ability to achieve removal objectives. The protectiveness of the alternatives can be assessed in terms of how well they protect public health and the community, protect workers during implementation, protect the environment, and comply

with applicable or relevant and appropriate requirements (ARARs). The implementability of the alternatives depends on their technical feasibility, the availability of necessary resources to support the alternatives, and their administrative feasibility. The cost of the alternatives is determined by looking at capital costs, costs for PRSC, and present worth cost.

Once the alternatives have been described and individually assessed against the criteria, a comparative analysis should be conducted to evaluate the relative performance of each alternative in relation to each of the criteria. This process should identify key trade-offs that would affect the remedy selection. Based on this analysis, the EE/CA should determine the recommended action and describe the reasons for the recommendation. This determination can be summarized in fact sheet form and placed in the administrative record file.

NOTICE: The policies set out in this fact sheet are not final agency action, but are intended solely as guidance. They are not intended, nor can they be relied upon, to create any rights enforceable by any party in litigation with the United States. EPA officials may decide to follow the guidance provided in this fact sheet, or to act at variance with the guidance, based on an analysis of site-specific circumstances. The Agency also reserves the right to change this guidance at any time without public notice.



United States
Environmental Protection
Agency (5202 G)
Washington, DC 20460

Official Business
Penalty for Private Use
\$300

Operable Unit 2 DRMO Impact Area

Proposed Non-Time-Critical Removal Action – Draft Action Memorandum and EE/CA

Portsmouth Naval Shipyard
Restoration Advisory Board Meeting
June 2, 2009

Presenter:
Timothy Smith, Tetra Tech NUS, Inc.

Presentation Objectives

- Explain the purpose of the Action Memorandum and the EE/CA
- Describe the OU2 DRMO Impact Area
- Present previous investigations
- Describe the process used to develop the proposed removal area
- Present the proposed removal area
- Describe pre-excavation sampling
- Describe restoration activities

Site Discovery

Preliminary
Assessment/Site
Investigation

*Remedial
Investigation*

Feasibility Study

Operation and
Maintenance/
Site Closeout

The CERCLA Process...

Proposed Plan/
Record of Decision

Remedial
Action

Remedial
Design

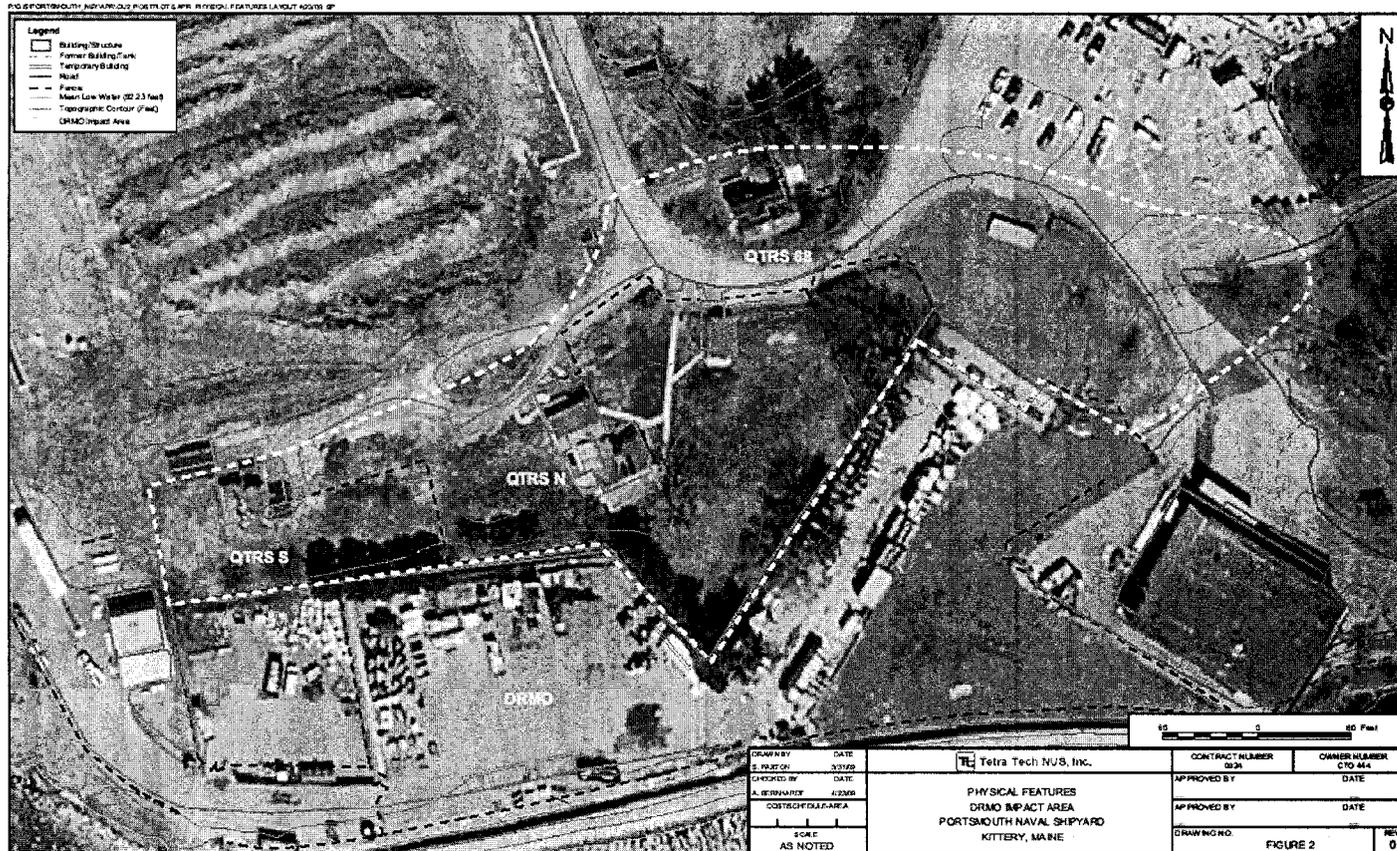
EE/CA and Action Memorandum

- Purpose of Action Memorandum is to document the Navy's plans to conduct a non-time-critical removal action for the DRMO Impact Area within OU2
- The EE/CA will be an appendix to the Action Memorandum and:
 - Provides the evaluation of alternatives
 - Provides opportunity for public comment before signing the final Action Memorandum

What is OU2 and the DRMO Impact Area?

- OU2 includes:
 - Site 6 – Defense Reutilization and Marketing Office (DRMO) Storage Yard
 - Site 29 - Former Teepee Incinerator Area
 - DRMO Impact Area (Quarters S, N, and 68)
- DRMO Impact Area
 - Located north of the DRMO and used as military residences
 - A fence separates the yards of Quarters S and N from the DRMO
 - The area consists of grass yards with mature trees
 - Quarters 68 is located across Sloat Avenue from Quarters S and N
 - Currently Quarters S & N are vacant and Quarters 68 is occupied.

Site Layout



Summary of Investigations

- Several investigations have been conducted that included the DRMO Impact Area
- Additional samples were collected from the backyards of Quarters S and N in 2007 and 2008 to further define the extent of contamination adjacent to the DRMO
 - Samples were collected from the 0 to 0.5 foot below ground surface and 0.5 to 2 foot below ground surface intervals.
- Results of the additional samples are presented in the OU2 Supplemental RI Report
 - Lead and copper were identified as the only COCs for the DRMO Impact Area

Selection of Removal Action Alternative

- The Navy is proposing a removal action to address contaminated soil at the DRMO Impact Area to provide interim action to address contamination in the residential area before a final remedy for OU2.
- The EE/CA (Attachment 2 of the Action Memorandum) summarizes historic investigations, identifies the Removal Action Objective, screens removal action technologies, develops potential removal action alternatives, and evaluates those alternatives.
- Removal Action Objective
 - “Mitigate human health and environmental risks associated with contaminated soil in the DRMO Impact Area in a manner such that the property can be used for unrestricted use/unlimited exposure.”

Selection of Removal Action Alternative

- Technology Screening
 - Bulk Excavation
 - Landfilling/Recycling
- Removal Action Alternatives
 - Alternative 1 – No Action: Retained to provide a comparative baseline against other alternatives.
 - Alternative 2 – Excavation and Off-yard Disposal: Developed to meet RAOs .
- Alternative Evaluation
 - Alternative 2 recommended as the alternative of choice.

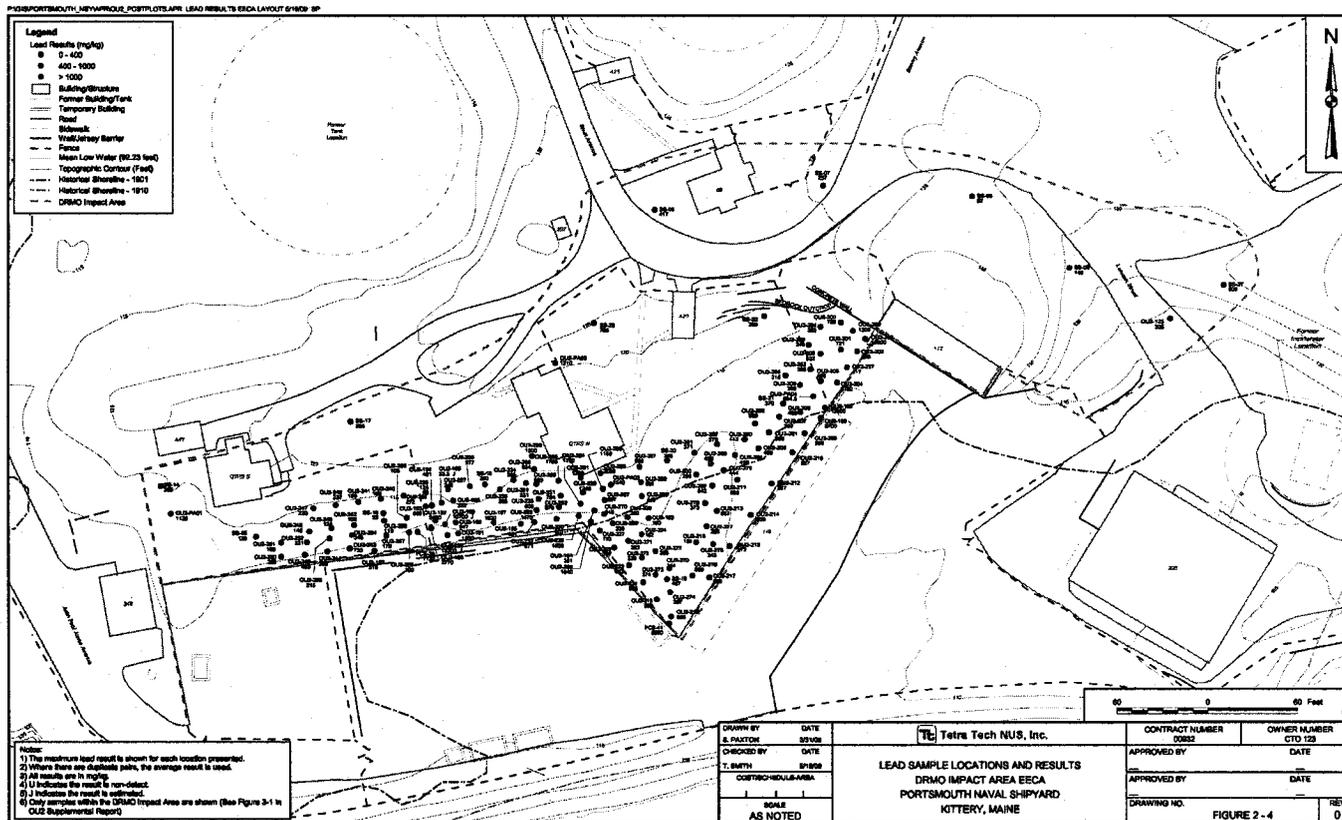
Selection of Removal Action Alternative

- Excavation and disposal were the only available technologies to develop into remedial alternatives because:
 - RAO states that the "...property can be used for unrestricted use/unlimited exposure" so a capping technology would not allow this
 - Contaminants of concern are lead and copper so a treatment technology would not be feasible.
- The removal action for the DRMO Impact Area needs to be consistent with a final remedy for OU2.
 - Excavation and disposal of contaminated soil from the DRMO Impact Area would be consistent with any remedial action for the rest of OU2.

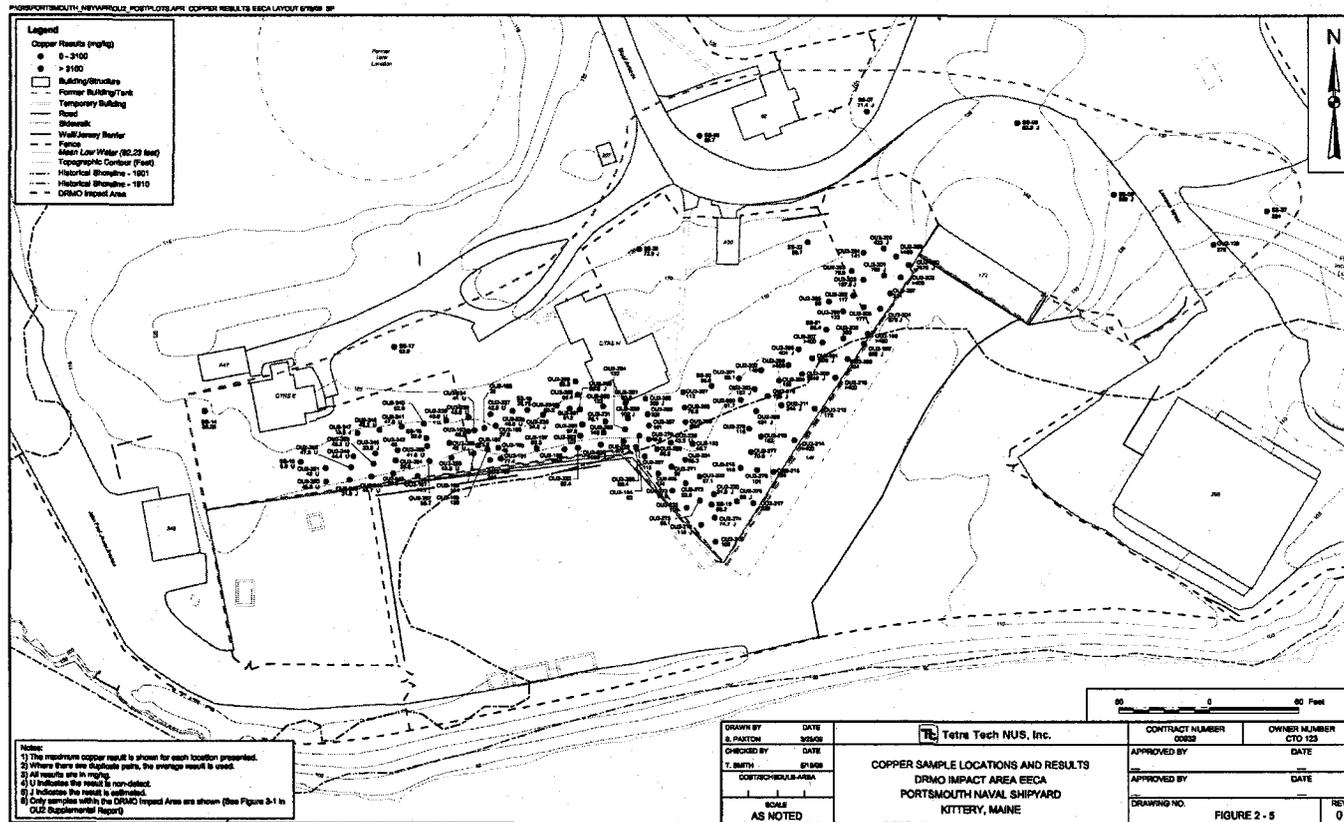
Establishing Excavation Limits

- Targeted removal of areas where lead and copper concentrations were greater than 400 mg/kg and 3,100 mg/kg, respectively
- Initial excavation extends to a depth of 1 foot below ground surface across limits of excavation. Where sample results in the 0.5 to 2.0 foot below ground surface sampling interval are greater than the cleanup goals, excavation extends to a depth of 2 feet below ground surface.
- Excavate to a depth of 6 inches around Quarters S and N (within 3 feet of buildings)

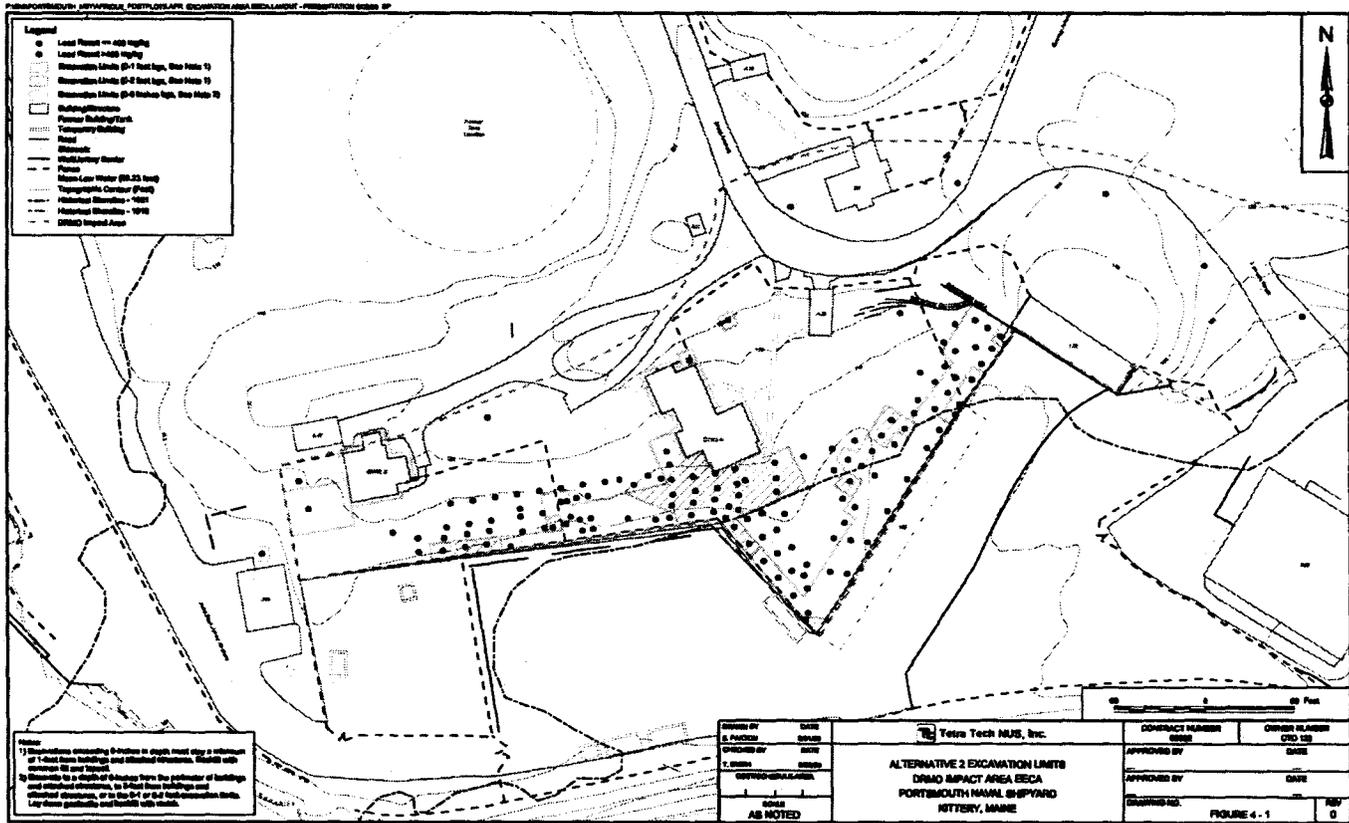
Lead Concentration Figure



Copper Concentration Figure



Proposed Removal Area



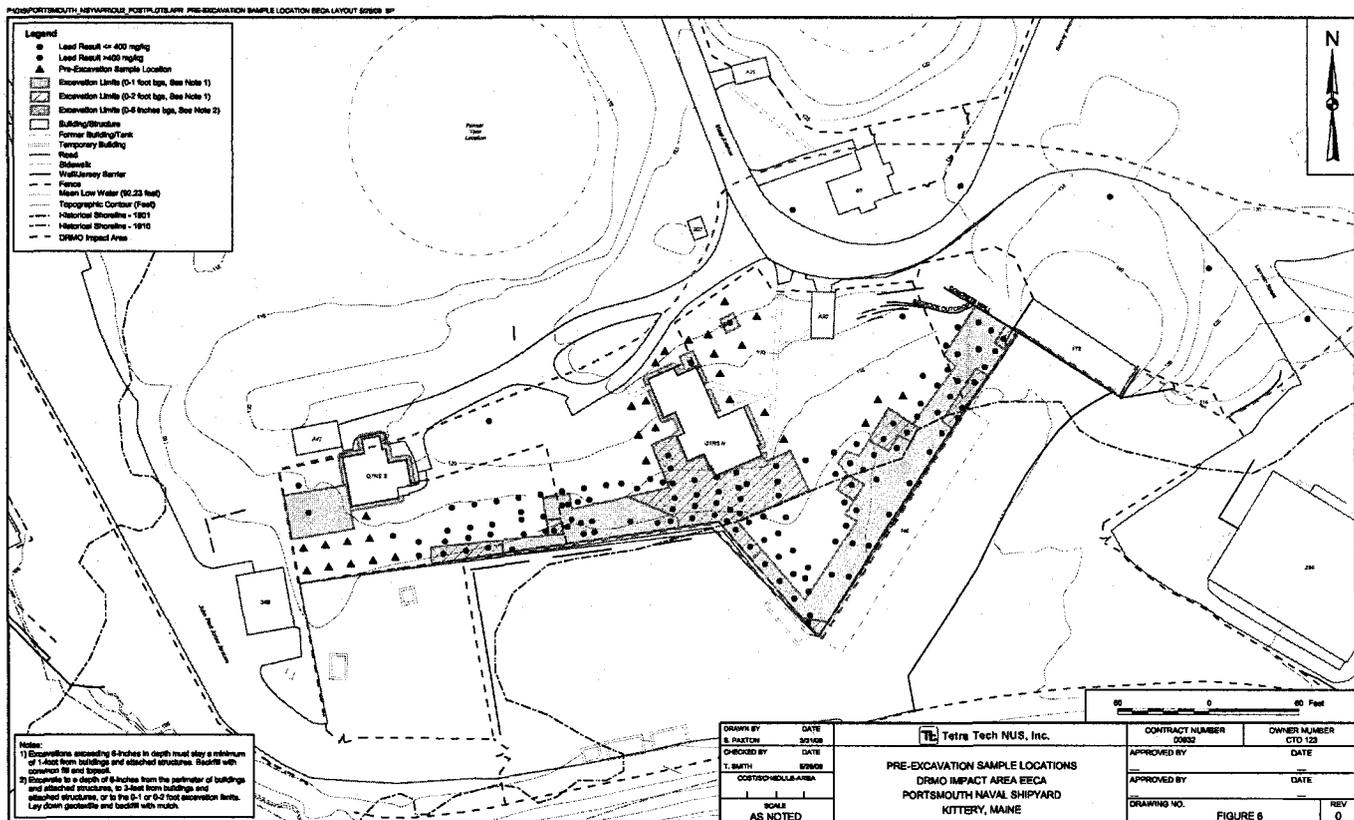
Proposed Removal Area

- Area of excavation (sf – square feet)
 - 0 to 1 foot depth = 16,200 sf
 - 1 to 2 foot depth = 5,800 sf
 - Building Perimeter (0 to 0.5 foot depth) = 1040 sf
- Volume of Soil Removed (cy – cubic yards)
 - 0 to 1 foot depth = 600 cy
 - 1 to 2 foot depth = 220 cy
 - Building Perimeter (0 to 0.5 foot depth) = 20 cy
 - **Total excavation Volume = 840 cy**

Pre-Excavation Sampling

- Pre-excavation sampling will be collected to better bound the lead contamination and refine the excavation limits.
- Verification samples will be collected on the excavation floors where the excavation extends to 2 feet below ground surface.
- Sampling will occur as part of removal action activities

Pre-Excavation Sampling



Restoration

- Following contaminated soil removal and verification of the removal, the excavation areas will be backfilled to pre-construction elevations/grades.
 - 6-inch depth excavation areas around buildings will be lined with geotextile and backfilled with 6 inches of landscaping mulch.
 - 1 and 2 foot depth excavation areas will be backfilled to 6-inches below final elevations/grades
 - Final elevations/grades will be established with 6 inches of topsoil.
 - All disturbed areas (excluding mulched areas) will be vegetated using a permanent seed mixture.

Restoration

- Area to receive geotextile = 1,040 sf
- Area to receive landscaping mulch = 1,040 sf
- Volume of landscaping mulch needed = 20 cy

- Volume of select fill material needed = 520 cy
- Volume of topsoil needed = 300 cy

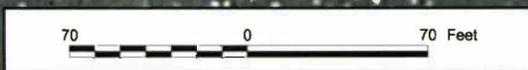
- Area to be vegetated = 16,200 sf

Next Steps

- Navy anticipates submitting Draft Action Memo and EE/CA in June 2009.
 - A 30-day public comment period would be held on the draft final EE/CA and is anticipated for August/September
- Navy anticipates implementing the Action Memo in fall 2009.
- The following additional documents are planned in support of the removal action:
 - Removal Action Work Plan
 - Sampling and Analysis Plan
 - Verification Sampling and Analysis Plan
 - Post-Construction Report



Legend	
[Solid Line]	Building/Structure
[Dashed Line]	Former Building/Tank
[Dotted Line]	Temporary Building
[Double Line]	Road
[Dash-dot Line]	Fence
[Blue Line]	Mean Low Water (92.23 feet)
[Brown Line]	Topographic Contour (Feet)

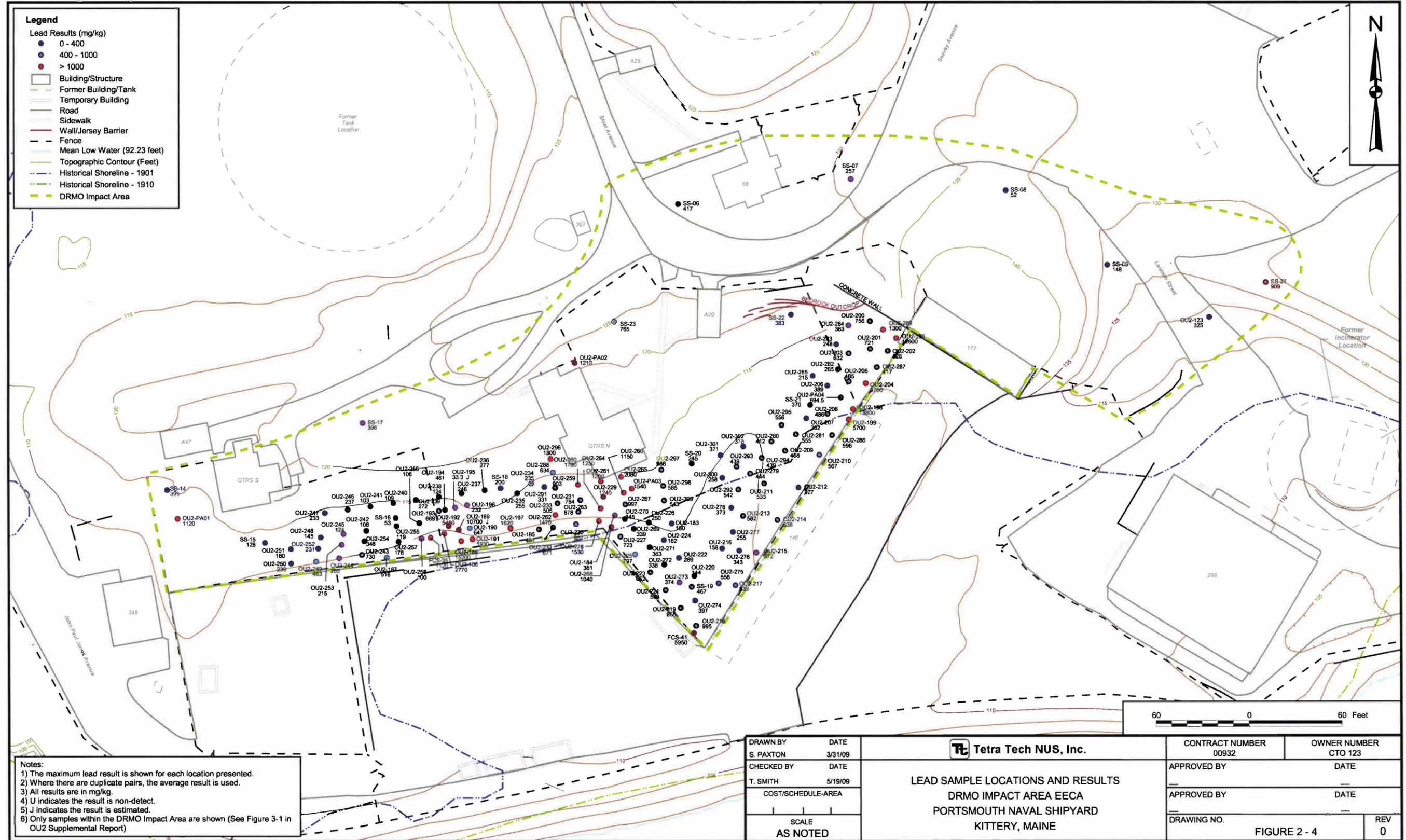


DRAWN BY	DATE
S. PAXTON	5/19/09
CHECKED BY	DATE
T. SMITH	5/19/09
COST/SCHEDULE-AREA	
SCALE AS NOTED	

Tetra Tech NUS, Inc.

PHYSICAL FEATURES
 DRMO IMPACT AREA EECA
 PORTSMOUTH NAVAL SHIPYARD
 KITTERY, MAINE

CONTRACT NUMBER	OWNER NUMBER
00932	CTO 123
APPROVED BY	DATE
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APPROVED BY	DATE
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DRAWING NO.	REV
FIGURE 2 - 2	0



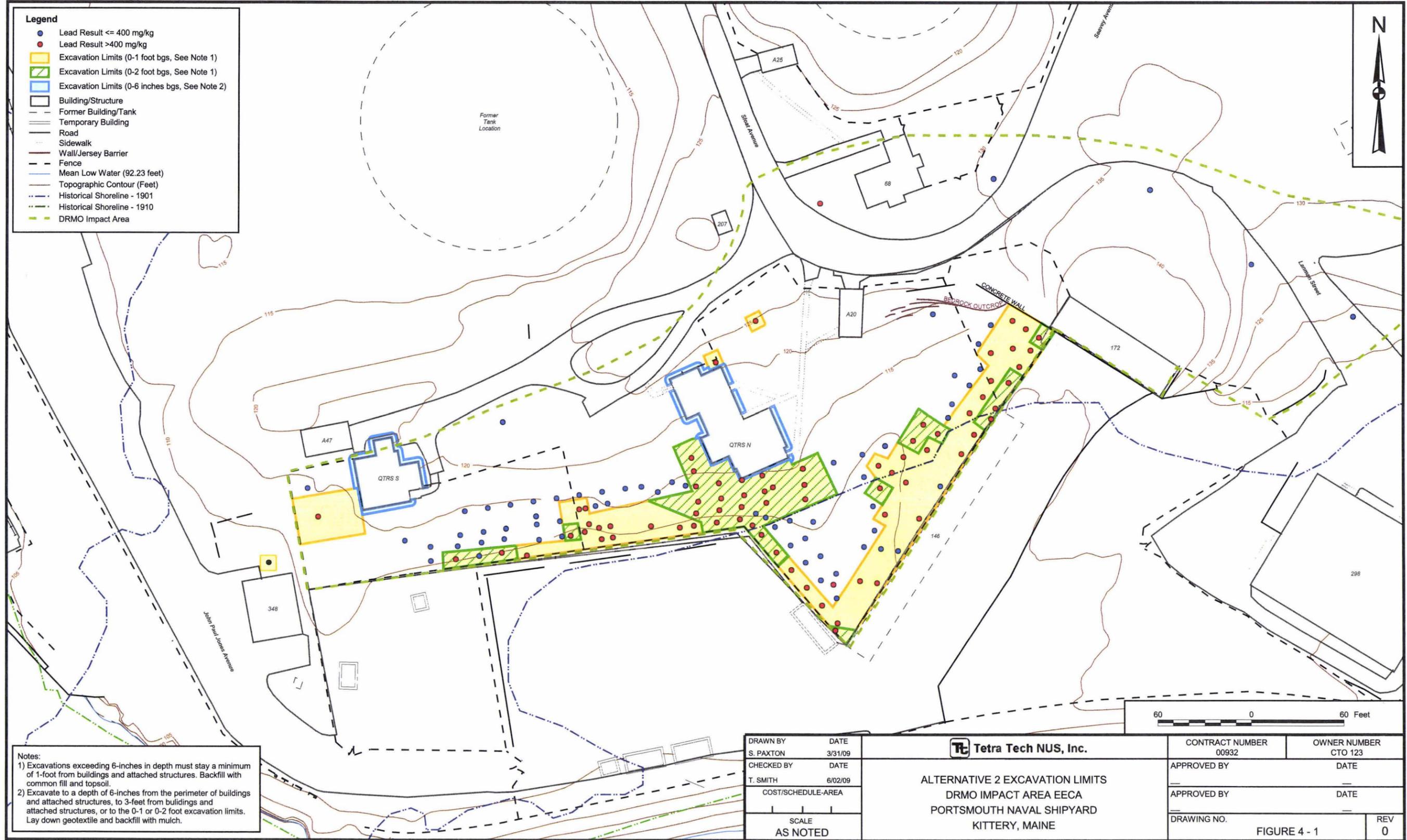
Notes:
 1) The maximum lead result is shown for each location presented.
 2) Where there are duplicate pairs, the average result is used.
 3) All results are in mg/kg.
 4) U indicates the result is non-detect.
 5) J indicates the result is estimated.
 6) Only samples within the DRMO Impact Area are shown (See Figure 3-1 in OU2 Supplemental Report)

DRAWN BY S. PAXTON	DATE 3/31/09
CHECKED BY T. SMITH	DATE 5/19/09
COST/SCHEDULE-AREA	
SCALE AS NOTED	

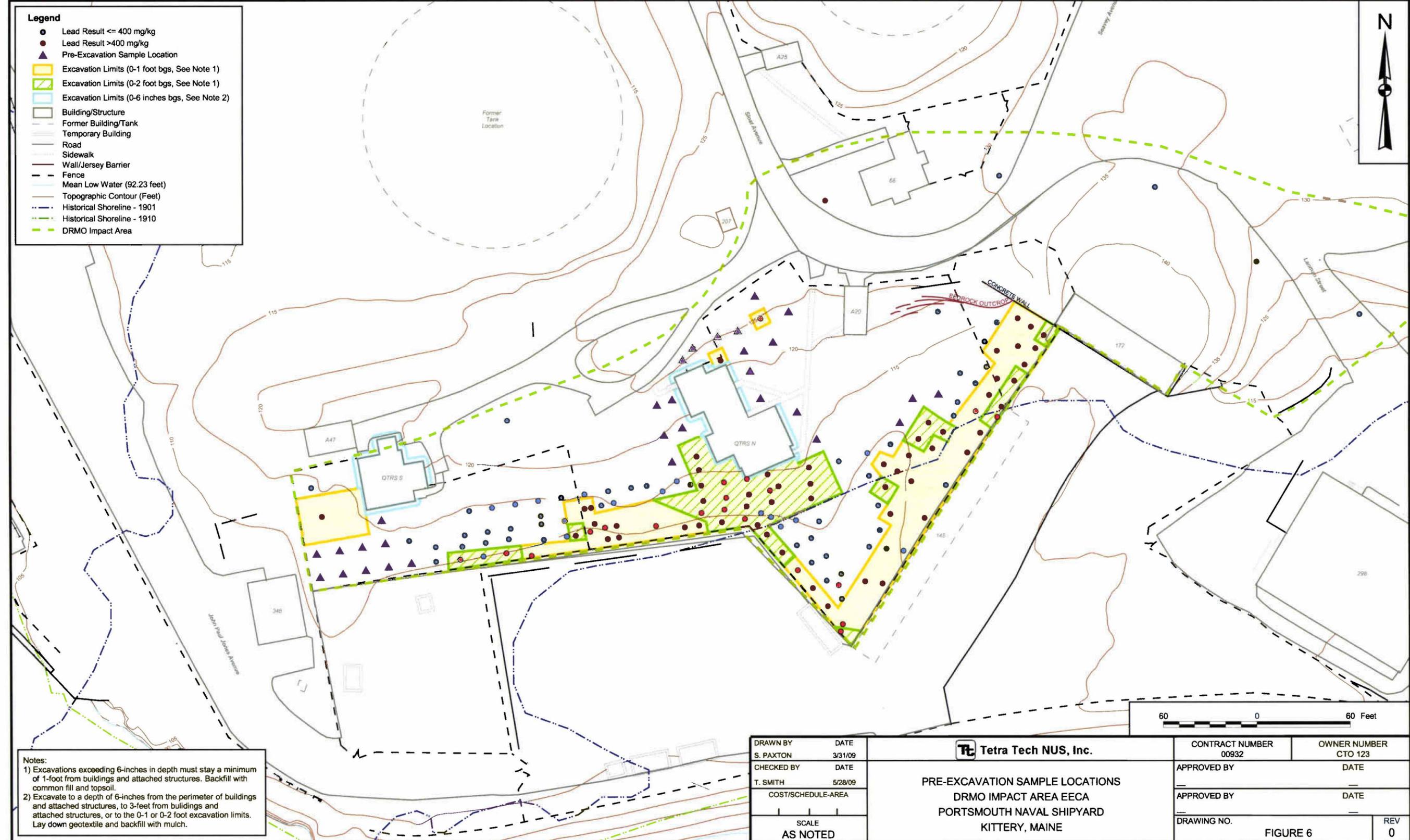
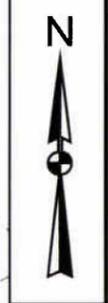
Tetra Tech NUS, Inc.

**LEAD SAMPLE LOCATIONS AND RESULTS
 DRMO IMPACT AREA EECA
 PORTSMOUTH NAVAL SHIPYARD
 KITTERY, MAINE**

CONTRACT NUMBER 00932	OWNER NUMBER CTO 123
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 2 - 4	REV 0



Legend	
●	Lead Result <= 400 mg/kg
●	Lead Result >400 mg/kg
▲	Pre-Excavation Sample Location
[Yellow Box]	Excavation Limits (0-1 foot bgs, See Note 1)
[Green Box]	Excavation Limits (0-2 foot bgs, See Note 1)
[Blue Box]	Excavation Limits (0-6 inches bgs, See Note 2)
[Solid Line]	Building/Structure
[Dashed Line]	Former Building/Tank
[Dotted Line]	Temporary Building
[Double Line]	Road
[Single Line]	Sidewalk
[Dash-dot Line]	Wall/Jersey Barrier
[Dashed Line]	Fence
[Blue Line]	Mean Low Water (92.23 feet)
[Brown Line]	Topographic Contour (Feet)
[Blue Dotted Line]	Historical Shoreline - 1901
[Green Dotted Line]	Historical Shoreline - 1910
[Green Dashed Line]	DRMO Impact Area



Notes:
 1) Excavations exceeding 6-inches in depth must stay a minimum of 1-foot from buildings and attached structures. Backfill with common fill and topsoil.
 2) Excavate to a depth of 6-inches from the perimeter of buildings and attached structures, to 3-feet from buildings and attached structures, or to the 0-1 or 0-2 foot excavation limits. Lay down geotextile and backfill with mulch.

DRAWN BY S. PAXTON	DATE 3/31/09	Tetra Tech NUS, Inc.	CONTRACT NUMBER 00932	OWNER NUMBER CTO 123
CHECKED BY T. SMITH	DATE 5/28/09		APPROVED BY _____	DATE ____
COST/SCHEDULE-AREA		PRE-EXCAVATION SAMPLE LOCATIONS DRMO IMPACT AREA EECA PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	APPROVED BY _____	DATE ____
SCALE AS NOTED			DRAWING NO. FIGURE 6	REV 0