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DEPARTMENT OF THE NAVY
PORTSMOUTH NAVAL SHIPYARD
PORTSMOUTH, N. H. 03804-5000

IN REPLY REFER TO:

March 23, 2005

MEMORANDUM

**FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD (RAB) CERCLA
REMEDIAL ACTION PROGRAM, PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE**

The next RAB meeting will be held on Tuesday, April 12, 2005 beginning at 7 p.m. at the Kittery Outlet Inn (formerly Day's Inn) on the Route 1 Bypass in Kittery, ME. The presentation will be on the Additional Scrutiny Quality Assurance Project Plan (QAPP), the work plan for conducting additional scrutiny at select monitoring stations as a part of the Interim Offshore Monitoring Program.

Your participation is greatly appreciated. If you are unable to attend the meeting, please contact me at (207) 438-3830. I look forward to seeing you at the RAB meeting.

Sincerely,

Ken Plaisted
Navy Co-Chairman
Restoration Advisory Board

Distribution:

Doug Bogen
Michele Dionne
Alan Davis
Roger Wells

Jeff Clifford
Mary Marshall
Jack McKenna
Carolyn Lepage

Onil Roy
James Horrigan
Diana McNabb
Peter Britz

EPA Region I (M. Audet)
MEDEP (I. McLeod)
NOAA (K. Finkelstein)
MEDMR (D. Card)
NHFG (C. McBane)
USFWS (K. Munney)
EFANE (F. Evans)
COMSUBGRU TWO (A. Stackpole)



DEPARTMENT OF THE NAVY
PORTSMOUTH NAVAL SHIPYARD
PORTSMOUTH, N. H. 03804-5000

IN REPLY REFER TO:

June 3, 2005

MEMORANDUM

**FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD (RAB), INSTALLATION
RESTORATION PROGRAM, PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE**

Enclosed please find the draft minutes from the April 12, 2005 Restoration Advisory Board meeting for your review and comment.

Comments are requested by June 21, 2005. You may provide your comments to me at (207) 438-3830.

Sincerely,

A handwritten signature in cursive script that reads "Marty Raymond for".

Ken Plaisted
Navy Co-Chairman
Restoration Advisory Board

Distribution:

D. Bogen
P. Britz
J. Clifford
A. Davis
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NHF&G (C. McBane)
NOAA (K. Finkelstein)
EFANE (F. Evans)
COMSUBGRU TWO (A. Stackpole)
TTNUS (D. Cohen)

**RESTORATION ADVISORY BOARD MEETING
PORTSMOUTH NAVAL SHIPYARD
KITTERY OUTLET INN, KITTERY, MAINE
April 12, 2005**

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

- RAB community members – Doug Bogen, Peter Britz, Jeff Clifford, Alan Davis, Jim Horrigan, Mary Marshall, and Diana McNabb.
- Navy RAB members- Fred Evans and Ken Plaisted
- Regulatory representatives- Iver McLeod (MEDEP) and Matt Audet (USEPA)
- Community members Michele Dionne, Onil Roy, Jack McKenna, and Roger Wells were absent.

Guests at the RAB included:

- Marty Raymond and Dennis Dubois from Portsmouth Naval Shipyard
- David Peterson from USEPA
- Mike Sills from NHDES
- Aaron Bernhardt and Debbie Cohen from Tetra Tech NUS, Inc. (TtNUS)
- Ron Ledgett from Kittery, Maine

INTRODUCTION

Doug Bogen, Community RAB Co-chair, asked everyone to introduce him or herself. Dennis Dubois was introduced. He took over Gary Merrill's position as head of Occupational Safety, Health, and Environmental Office. The topic for the RAB is the Quality Assurance Project Plan (QAPP) for Additional Scrutiny for Operable Unit (OU) 4.

STATUS OF WORK

Fred Evans went over the status of the Installation Restoration Program (IRP) sites at PNS. The draft Additional Scrutiny QAPP was submitted on April 4, 2005. The Navy received regulatory and RAB comments on the draft OU2 Feasibility Study (FS) and the Navy is reviewing the comments and preparing responses to comments. The Navy is preparing the draft Land Use Control (LUC) Plan that is scheduled for submittal on May 2, 2005. The LUC plan will be an appendix of the OU3 Operations, Maintenance, and Monitoring (OM&M) plan. Round 8 of the Interim Offshore Monitoring Program is scheduled for August 2005. Technical meetings are scheduled for April 13, 2005 (on groundwater migration concerns) and for April 14, 2005 (on Site 10 QAPP revisions). [Post-meeting note: The discussion of the groundwater migration items for the April 13, 2005 meeting was completed in the morning and the meeting

participants decided to continue discussion in the afternoon on the Site 10 QAPP revisions so no meeting was necessary on April 14, 2005.]

REGULATOR UPDATES

USEPA --- Matt Audet indicated that the USEPA sent their comments on the draft OU2 FS. Review and comment on the OU2 FS is the major item that the USEPA has been working on. The USEPA will attend the scheduled technical meetings on groundwater concerns and Site 10.

MEDEP --- Iver McLeod mentioned that the MEDEP provided comments on the draft OU2 FS in January and risk-related comments in March. The MEDEP began review of the draft Additional Scrutiny QAPP. The MEDEP contracted with Larry Dearborn (retired MEDEP geologist/hydrogeologist involved with many PNS projects) to attend the technical meetings for the groundwater concerns and Site 10.

RAB PRESENTATION: QUALITY ASSURANCE PROJECT PLAN FOR ADDITIONAL SCRUTINY FOR OPERABLE UNIT 4

The evening's topic was on the draft QAPP which was submitted on April 4, 2005. The proposed additional scrutiny activities were identified based on the results of the interim offshore monitoring program. Aaron Bernhardt of TtNUS gave the presentation that provides a brief history of the interim offshore monitoring program, the potential sources of contamination and decision rules at each additional scrutiny monitoring station, and the proposed additional scrutiny sampling design.

The interim offshore monitoring program was developed in accordance with the Interim Record of Decision (ROD) for OU4 to provide data before the offshore feasibility study. To date seven rounds of sampling have been conducted. Round 8 is scheduled for August 2005. The most recent report under the interim offshore monitoring program is the Rounds 1 through 7 Report (TtNUS, November 2004). In accordance with the Interim Offshore Monitoring Plan (TtNUS, October 1999), concentration trend lines for the seven rounds were evaluated and decisions regarding frequency of sampling (before the next 5-year sampling event) and the need for additional scrutiny at select monitoring stations were made and documented in this report.

Additional scrutiny includes:

- Additional evaluation of existing monitoring station data
- Evaluation of other data such as soil data, historic sediment data, visual signs of erosion, etc.
- Collection of additional data such as offshore sediment samples, catch basin sediment samples, and surface soil samples.

The draft Additional Scrutiny QAPP addresses the activities for additional data collection. In general, additional scrutiny was recommended when the concentration trend line was greater than the Interim Remediation Goal (IRG) and predicted to remain greater than the IRG. The purpose of the additional scrutiny is to evaluate existing data and collect and evaluate additional data to understand the nature and/or extent of contamination in the identified monitoring stations. In particular, the Navy may need to determine whether IRP sites are the primary source of contamination at the monitoring stations. Based on the additional scrutiny evaluations, the Navy could recommend removal actions, risk evaluations, and/or modifications to the offshore program (changes in sampling frequency, locations, parameters).

As provided in the conclusions of the Rounds 1 through 7 report (TtNUS, November 2004), several monitoring stations were recommended for sampling (Rounds 8 and 9) before the next 5-year review sampling (Round 10). The sampling during Rounds 8 and 9 for the identified monitoring stations will provide additional confidence in the trend line. This additional confidence is not needed for stations that have concentrations clearly above or below the IRG. Aaron Bernhardt explained that the interim offshore monitoring activities (i.e., Rounds 8, 9, and 10) are not discussed in the Additional Scrutiny QAPP; however, the Navy would like to conduct the additional scrutiny sediment sampling activities at the same time as the Round 8 sampling activities. Also, monitoring stations 3 and 4 (MS-03 and MS-04) are not included in the Additional Scrutiny QAPP because any additional data needs for these two monitoring stations will be conducted as part of the Site 32 remedial investigation (RI). For monitoring station 8 (MS-08), the only additional scrutiny activity identified is to reestablish the concentration trend line. This activity will be conducted as part of the interim offshore monitoring activities (Rounds 8, 9, and 10); therefore, MS-08 is not discussed in the Additional Scrutiny QAPP.

Monitoring Station 1 (MS-01):

- Based on the Rounds 1 through 7 report, elevated concentrations of polycyclic aromatic hydrocarbons (PAHs) and 4,4'-DDT were observed in the offshore sediment.
- Potential sources include IRP (ash from Site 34 and potential pesticide rinsing operations at Site 34) and non-IRP (historical application of pesticides in the area, urban runoff, and/or boat traffic) sources. The ash at Site 34 is from burning of coal to run processes at the former oil gasification plant and the former blacksmith. Also, ash may be from a building fire.
- Decisions based on Site 34 as a primary source of the offshore chemicals include evaluating source control (at Site 34) for offshore migration, refining ecological offshore risks, and possible removal action (at OU4). Aaron Bernhardt mentioned that it might be difficult to link DDT in the offshore sediment to past rinsing activities at Site 34 because a source is no longer present. A source for PAHs (ash) is present at Site 34; therefore, a link to an IRP source may be more obvious. It was noted that source control for Site 34 ash could be conducted as a removal action or other remedial action. There is no current IRP source for the DDT; therefore, source control is not needed; however, a removal action could be considered for offshore sediment.
- The planned additional scrutiny activities include catch basin sediment, offshore sediment, and soil (ash) sampling for analysis of pesticides (catch basin and offshore sediment), total petroleum hydrocarbons (TPH) (offshore sediment and soil), PAH forensics (select sediment and soil), and microscopic analysis (select offshore sediment and soil). Aaron Bernhardt explained that the forensics analysis is similar to fingerprinting, where sample results are compared with standards and reference locations to try to determine whether there is a source signature. [As part of forensics analysis, the patterns in the chromatograms are reviewed for similarity between samples and/or standards for fuels, creosote, etc.]
- One catch basin is located at Site 34 and the other is located in an area that receives runoff from PNS (but not from Site 34). One offshore sediment sample will be collected as a reference sample from sediment near an outfall that receives storm water run off from PNS paved areas. Six offshore sediment samples will be collected at and in the vicinity of MS-01. Ash in exposed surface soil will be sampled to provide Site 34 source information for the forensics analysis.

Monitoring Stations 5 and 9 (MS-05 and MS-09):

- Based on the Rounds 1 through 7 Report, an increase in chemical concentrations after the start of OU3 construction activities was observed (metals at one location at MS-05 and metals and organics at MS-09). The extent of the impact needs to be understood.
- Potential sources include IRP (erosion of soil/waste from OU3 before completion of cap and migration of groundwater from OU3) and non-IRP (urban runoff, and/or boat traffic) sources.
- For MS-05 the Navy wants to determine the extent of elevated metals concentrations. Aaron Bernhardt explained that after the start of construction activities near Jamaica Cove, an increase in concentrations of metals was observed (in Rounds 6 and 7) at the sampling location closest to the construction activities. The other two sampling locations at MS-05 did not show this trend. The sampling location with the increase in concentration (intertidal location) was located within the turbidity curtain. Samples around this intertidal location will be collected and analyzed for copper, nickel, and lead.
- For MS-09 the Navy wants to determine the extent of elevated metals and organic concentrations at this monitoring station. Six samples will be collected and analyzed for representative metal and organic parameters; copper, nickel, and PAHs. Aaron Bernhardt explained that originally the Navy was planning to collect three sediment samples and analyze the samples for the full suite of offshore monitoring parameters. However, the Navy determined that by reducing the parameters to representative chemicals (ones that have IRGs), the Navy could collect additional samples to provide a better understanding of extent. The planned additional scrutiny sampling is in addition to the sampling that will be conducted at MS-09 in Round 8. The Round 8 samples will be analyzed for the full suite of offshore monitoring parameters.

Monitoring Station 11 (MS-11):

- Based on the Rounds 1 through 7 Report, elevated metals concentrations were observed in the small intertidal area located at MS-11. This area is a depositional area located southeast of OU2.
- Potential sources include IRP (soil erosion from OU2) and non-IRP (urban runoff, and/or boat traffic) sources. Based on observations of erosion at OU2, it is likely that the primary source of metals at MS-11 is OU2.
- The Navy will collect composite samples of surface soil in areas of erosion and sediment in a catch basin at OU2 to determine whether OU2 soil is the primary source of metals to MS-11. The samples will be analyzed for copper, nickel, and lead. The Navy will consider source control for offshore migration. Also, the Navy is currently planning to conduct an emergency removal action to repair existing or construct new shoreline erosion controls at OU2. Samples from soil that may be eroding directly to the offshore, which would be addressed by the shoreline erosion controls, will be collected before these controls are put in place. A sediment sample from a catch basin at OU2 that is near an area of soil erosion will also be collected.

Monitoring Station 12 (MS-12):

- Based on the Rounds 1 through 7 Report, elevated lead and PAH concentrations were observed in the sediment samples at this station.
- Potential sources include IRP (lead from Site 10) and non-IRP (past activities within Building 178, urban runoff, and/or boat traffic) sources. The Navy indicated that past activities within Building 178 is not considered an IRP source because the Navy IRP does not cover activities inside buildings. It was noted that Building 184 (Site 30)

was identified before the Navy IRP policy clarified handling of buildings. The Navy may need to look at the handling of buildings on a case-by-case basis.

- The Navy will evaluate whether there is a current IRP source for the PAH or lead contamination at MS-12. If a current source is identified, evaluate source control for offshore migration, conduct a removal action in the offshore area, and/or refine ecological risk estimates for the offshore area. If the Navy determines there is a historical IRP source, the Navy will evaluate the need for a removal action in the offshore area and/or refine ecological risk estimates for the offshore area.
- The planned additional scrutiny activities include catch basin sediment and offshore sediment sampling. The samples will be analyzed for lead, TPH, PAH forensics, and/or microscopic analysis. Aaron Bernhardt explained that there are no soil erosion concerns for Site 10 because asphalt or a building covers the contaminated soil. The catch basin sediment samples are to see whether soil surrounding the drainage pipelines may be getting into the system which discharges to the offshore. The offshore sediment samples will be evaluated to identify any patterns in the data to help understand potential sources. Sediment sample by Building 178 include locations in the boat launch area that is inside and outside of the building..

There were several questions particularly regarding MS-12 because a current IRP source for the PAHs detected in the interim offshore monitoring station has not been identified. The questions and answers are summarized as follows:

- How will the specific non-IRP sources be determined? The potential for urban runoff and/or boat traffic (Navy and general traffic in Piscataqua River) to be a source of the PAH will be evaluated through the PAH forensics analysis. This analysis looks at PAH patterns in various samples to see whether the pattern suggests a specific source(s).
- Why does the Navy think the lead is not from Site 10? The sediment sample with the highest lead concentration is the location furthest from Site 10 (MS-12, location 1). This location is also where the higher PAHs were detected (which is not associated with Site 10). Collecting additional sediment samples offshore will assist in determining whether there is a pattern that suggests a source.
- How will the results of the additional scrutiny investigation be related to the Site 10 investigation? Based on the high lead concentrations in soil at Site 10, the Navy will likely need to at least do some type of source removal for the high lead contaminated soil (because of potential human health risks). The offshore data would help to support whether any other action is necessary to address potential Site 10 risks.
- How high were the lead concentrations in the offshore? The maximum lead concentration was about two times greater than the sediment screening level. The lead concentrations are not likely a significant concern. The Navy explained that in terms of risk, the PAH concentrations in the offshore are the bigger concern. It was noted that any action to address the PAHs in the offshore sediment would likely address any lead concerns. Any action to address lead in the offshore sediment may also address PAH concerns in the offshore sediment too.

Reference Stations:

- The Navy will sample sediment at reference stations RS-02 and RS-03 and sediment near outfalls that represent potential impacts from run off from urban area (school parking lot and downtown Portsmouth). These locations are not expected to be impacted from PNS IRP sites. The forensics analysis should be able to determine whether a pattern observed in the reference samples and site samples are likely from similar or different sources.

- The Navy will pick one of the two proposed reference outfall samples for forensics analysis. One location from each of the reference samples (RS-02 and RS-03) will also be selected for forensics analysis. Aaron Bernhardt reviewed the proposed locations and noted that the aerial photography in the figures is before the OU3 construction activities began, so that the configuration of OU3 (particularly in Jamaica Cove where the wetlands were constructed) is not current.

Comments on the draft Additional Scrutiny QAPP are due May 19, 2005. To expedite the schedule for finalization of the report, the Navy would like to schedule a conference call before comments are due to answer any regulatory questions. Also, the Navy would like to have a technical meeting after comments are received to resolve any comments.

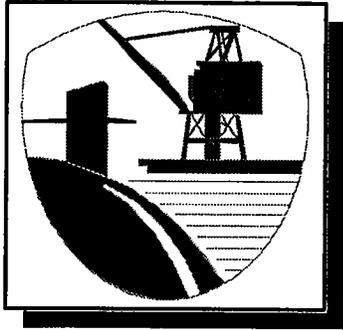
Several questions that were asked regarding the program:

- Why is the Navy skipping Rounds 8 and 9 sampling for some stations? Based on the results of the Rounds 1 through 7 Report (TtNUS, November 2004), the additional sampling in Rounds 8 and 9 is to give more confidence in the trend line where the concentrations are not clearly above or below the IRG.
- What is the Navy going to do in the Clark Cove and Jamaica Cove areas based on the extent data? The source is likely construction activities and not an ongoing source. The Navy needs to see how large an area was impacted to determine what is needed to address the contaminated sediment. A RAB member suggested that the contaminated sediment inside the turbidity curtains is because the turbidity curtains were doing what they were intended to do; trap sediment that is stirred up during construction. The RAB member further suggested the Navy consider removing trapped sediment before removing turbidity curtains as a final step in the construction activities in the future.

FUTURE MEETINGS

Marty Raymond indicated that technical meeting were scheduled to discuss general site wide groundwater concerns and Site 10 QAPP revisions. The Navy is proposing to have the next RAB on either Thursday May 26, 2005 or Thursday June 2, 2005.

Post meeting note: The next RAB will be held at the Kittery Outlet Inn on June 15, 2005 starting at 7 pm. The presentation will be on the fact sheet outlining the planned revision to the Record of Decision for OU3 to include management of migration.



Portsmouth Naval Shipyard Installation Restoration Program Agenda

Date – April 12, 2005

Place – Kittery Outlet Inn, Kittery, ME

Time – 7 p.m.- 9 p.m.

- **Introductions**
- **Status of Work**
- **Regulator Updates**
- **Quality Assurance Project Plan for
Additional Scrutiny for the Interim
Offshore Monitoring Program**
- **Other Issues as Required**

PORTSMOUTH NAVAL SHIPYARD
 INSTALLATION RESTORATION PROGRAM
 STATUS OF WORK
 April 12, 2005

SITE STATUS

OU 1 (Sites 10, Battery Acid Tank, & 21, Acid/Alkaline Tank #28)

Additional Remedial Investigation	2006
Remedial Investigation Report (including risk assessment)	2006/2007
Feasibility Study	2007/2008
Proposed Plan and Record of Decision	2008/2009

OU 2 (Sites 6, DRMO, & 29, Incinerator Site)

Feasibility Study	2004/2005
Proposed Plan	2005/2006
Record of Decision	2006

OU 3 (Sites 8, Jamaica Island Landfill, 9, Mercury Burial Vaults, & 11, Waste Oil Tanks)

Draft Final Operations/Maintenance and Monitoring Plan	March 2005
Construction Completion Report	2005

OU 4 (Areas off-shore that were potentially impacted by on-shore IRP sites and Site 5)

Feasibility Study	2012
Proposed Plan/Record of Decision	2013

OU 6 (Site 8, Management of Migration)

Explanation of Significance Difference to OU3 ROD	TBD
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OU 7 (Site 32) Topeka Pier

Remedial Investigation Phase II Recommendations	June 2004
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OU 8 (Site 31) West Timber Basin

Remedial Investigation Work Plan	2010/2011
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OU 9 (Site 34) Oil Gasification Plant (Building 62)

Engineering Evaluation/Cost Analysis	2005
Public Comment Period	October/November 2005
Action Memorandum	2005/2006

Site Screening Area:

Site 30, Galvanizing Plant (Building 184)

Final EE/CA	August 2005
Public Comment Period	September/October 2005
Action Memorandum	2005/2006

DOCUMENT SCHEDULE

Amended Site Management Plan

Submitted final FY05 SMP April 12, 2004

Operable Unit 1 (Site 10, Building 238)

Submitted draft QAPP for additional investigation April 30, 2004
Technical meeting April 14, 2005
Receive follow up comments April 28, 2005

Operable Unit 2 (Sites 6, DRMO, and 29, Teepee Incinerator)

Treatability Study
Field work completed December 2004
Submit draft Treatability Study Report May 2005

Feasibility Study
Submitted draft FS November 15, 2004
Comments received March 30, 2005
Respond to comments May 16, 2005

Operable Unit 3 (Sites 8, 9 and 11)

Former CDC Investigation Report
Submit No Further Action Decision Document TBD

Post Remedial Operations, Maintenance and Monitoring Plan
Submitted draft final OM&M plan March 3, 2005
Comments due on draft final report April 4, 2005

Land Use Control Plan
Submit draft LUC plan May 2, 2005
Receive comments on draft plan June 2005

OU3 Construction Completion Report
Submit draft report May 11, 2005
Comments due on draft report June 24, 2005

Operable Unit 4 Interim Monitoring

Submitted draft Additional Scrutiny QAPP April 4, 2005
Comments due on draft QAPP May 19, 2005

Operable Unit 6 (management of migration OU for Site 8)

Submit an Explanation of Significant Difference to the OU3 ROD TBD

Operable Unit 9 (Site 34) Oil Gasification Plant (Building 62)

Draft Engineering Evaluation/Cost Analysis July 29, 2005

Site 30, Building 184, former Galvanizing Plant

Final Engineering Evaluation/Cost Analysis

August 30, 2005

MRP site

Submitted Preliminary Assessment

Received comments on PA

Submit final PA

October 16, 2004

December 2004

TBD

Additional Scrutiny Quality Assurance Project Plan for Operable Unit 4 (OU4)

Portsmouth Naval Shipyard
Restoration Advisory Board Meeting
April 12, 2005

Presented by:
Aaron Bernhardt, Tetra Tech NUS, Inc.

Presentation Objectives

- Present brief history of interim offshore monitoring program
- Summarize potential sources of contamination and decision rules at each additional scrutiny monitoring station
- Present the proposed additional scrutiny sampling design

Interim Offshore Monitoring Program

- The program was developed, in accordance with the Interim Record of Decision (ROD) for OU4 to:
 - Provide monitoring before completion of the offshore Feasibility Study.
 - Provide the basis for any monitoring program that may be required as part of the final action.
 - Provide data to determine whether the interim remedial action objectives for OU4 are being met
 - Develop preliminary remediation goals (PRGs) for OU4

Rounds 1 through 7 Report

- Objectives of the Round 1 through 7 report
 - Frequency of sampling before next 5-year sampling event
 - Need for additional scrutiny at select monitoring stations
- Focused evaluations on the following chemicals:
 - Two metals and four polycyclic aromatic hydrocarbons (PAHs) with Interim Remediation Goals (IRGs):
 - Copper and nickel
 - Acenaphthylene, anthracene, fluorene, and high molecular weight (HMW) PAHs
 - Lead and 4,4'-DDT at stations which had potential on-shore sources of these chemicals
 - Used Effects-Range Median (ER-M) to evaluate lead
 - Used PRG to evaluate 4,4'-DDT

Additional Scrutiny

- Additional scrutiny means
 - Additional evaluation of monitoring station data
 - Evaluation of other data
 - Collection of additional data
- In general, additional scrutiny was recommended when the trend line was greater than the IRG and predicted to remain greater than the IRG

Additional Scrutiny

- Evaluate existing data and collect/evaluate additional data to determine whether:
 - An IRP source is the primary source of contamination at the monitoring stations
 - The extent of contamination is bounded

- Recommend:
 - Removal actions
 - Risk evaluations
 - Modifications to offshore monitoring program

Summary of Rounds 1-7 Report

Monitoring Station	Sampling Frequency			Recommended for Additional Scrutiny
	Round 8 (Aug 2005)	Round 9 (Aug 2007)	Round 10 (Aug 2008)	
MS-01			X	Yes
MS-02			X	No
MS-03			X	Yes ⁽¹⁾
MS-04			X	Yes ⁽¹⁾
MS-05	X	X	X	Yes
MS-06			X	No
MS-07			X	No
MS-08	X	X	X	Yes ⁽²⁾
MS-09	X	X	X	Yes
MS-10	X	X	X	No
MS-11			X	Yes
MS-12			X	Yes
MS-13	X	X	X	No
MS-14	X	X	X	No
Reference Stations	X	X	X	Not applicable

1 - Additional scrutiny was conducted for copper and nickel at these stations as part of the Site 32 RI. PAHs will be evaluated in the planning for the Phase 2 RI for Site 32 to determine any additional scrutiny required for these chemicals.

2 - The additional scrutiny for MS-08 will be conducted as part of the interim offshore monitoring program; therefore MS-08 is not included in this QAPP.

MS-01 Overview

- Reason for Additional Scrutiny
 - Elevated concentrations of PAHs and 4,4'-DDT
- Potential IRP Sources
 - Ash from Site 34
 - Potential pesticide rinsing operations at Site 34
- Potential Non-IRP Sources
 - Historical application of pesticides
 - Urban runoff
 - Boat Traffic

MS-01 Decisions

- Is Site 34 a primary source of PAHs at MS-01? If so:
 - Evaluate source control for offshore migration
 - Further refine ecological risks in the offshore
- Are past rinsing activities at Site 34 a primary source of pesticides at MS-01? If so:
 - Consider a removal action for OU4
 - Consider further refining ecological risks in the offshore

MS-01 Sampling

- Two catch basin sediment samples
 - Both for analysis of pesticides
 - One for PAH forensics analysis
- Seven offshore sediment samples
 - One as “reference”
 - Six for better spatial coverage
 - All samples will be analyzed for pesticides and Total Petroleum Hydrocarbons (TPH)
 - 4 samples will be selected for PAH forensics analysis
 - 1 sample will be selected for microscopic analysis
- Two soil samples for analysis of TPH
 - 1 sample will be selected for PAH forensics analysis
 - 1 sample will be selected for microscopic analysis

MS-05 and MS-09 Overview

- Reason for Additional Scrutiny
 - OU3 construction activities caused increased concentrations of:
 - Metals at MS-05 (at one location)
 - Metals and organic chemicals at MS-09
- Potential IRP Source
 - Past erosion of soil/waste material from OU3
 - Migration of groundwater from OU3
- Potential Non-IRP Source
 - Urban runoff
 - Boat Traffic

MS-05 Decisions/Sampling

- Is the extent of elevated metal concentrations bounded? If so:
 - Stop data collection for this purpose
- Collect 14 sediment samples in Jamaica Cove (in addition to MS-05 samples that will be collected during Round 8)
 - Samples will be analyzed for copper, nickel, and lead
 - Analysis will be conducted in phases to bound contamination

MS-09 Decisions/Sampling

- Is the extent of elevated PAH and metal concentrations bounded? If so:
 - Stop data collection for this purpose
- Collect 6 sediment samples in Clark Cove (in addition to MS-09 samples that will be collected during Round 8)
 - Analyze samples for PAHs, copper, and nickel

MS-11 Overview

- Reason for Additional Scrutiny
 - Elevated concentrations of metals
- Potential IRP Source
 - Soil erosion from OU2
- Potential Non-IRP Sources
 - Urban runoff
 - Boat Traffic

MS-11 Decision/Sampling

- Is OU2 a primary source of metals at MS-11? If so:
 - Evaluate source control for offshore migration as part of the FS for OU2 (soil) or OU4 (sediment).
- One catch basin sediment sample
- Two composite surface soil samples from erosional areas
 - Analysis for copper, nickel, lead

MS-12 Overview

- Reasons for Additional Scrutiny
 - Elevated levels of PAHs and lead in sediment
- Potential IRP Source
 - Lead from Site 10
 - Currently, there is no known IRP source for PAHs
- Potential Non-IRP Source
 - Past activities within Building 178
 - Urban runoff
 - Boat Traffic

MS-12 Decisions

- Is a current IRP source the source of PAH or lead contamination
- If so:
 - Evaluate source controls for offshore migration
 - Evaluate the need for a removal action in the offshore area
 - Further refine ecological risk estimates in the offshore area as part of OU4 for that parameter

MS-12 Decisions

- Is a historic IRP source the source of PAH or lead contamination
- If so:
 - Evaluate the need for a removal action in the offshore area
 - Further refine ecological risk estimates in the offshore area as part of OU4 for that parameter.

MS-12 Sampling

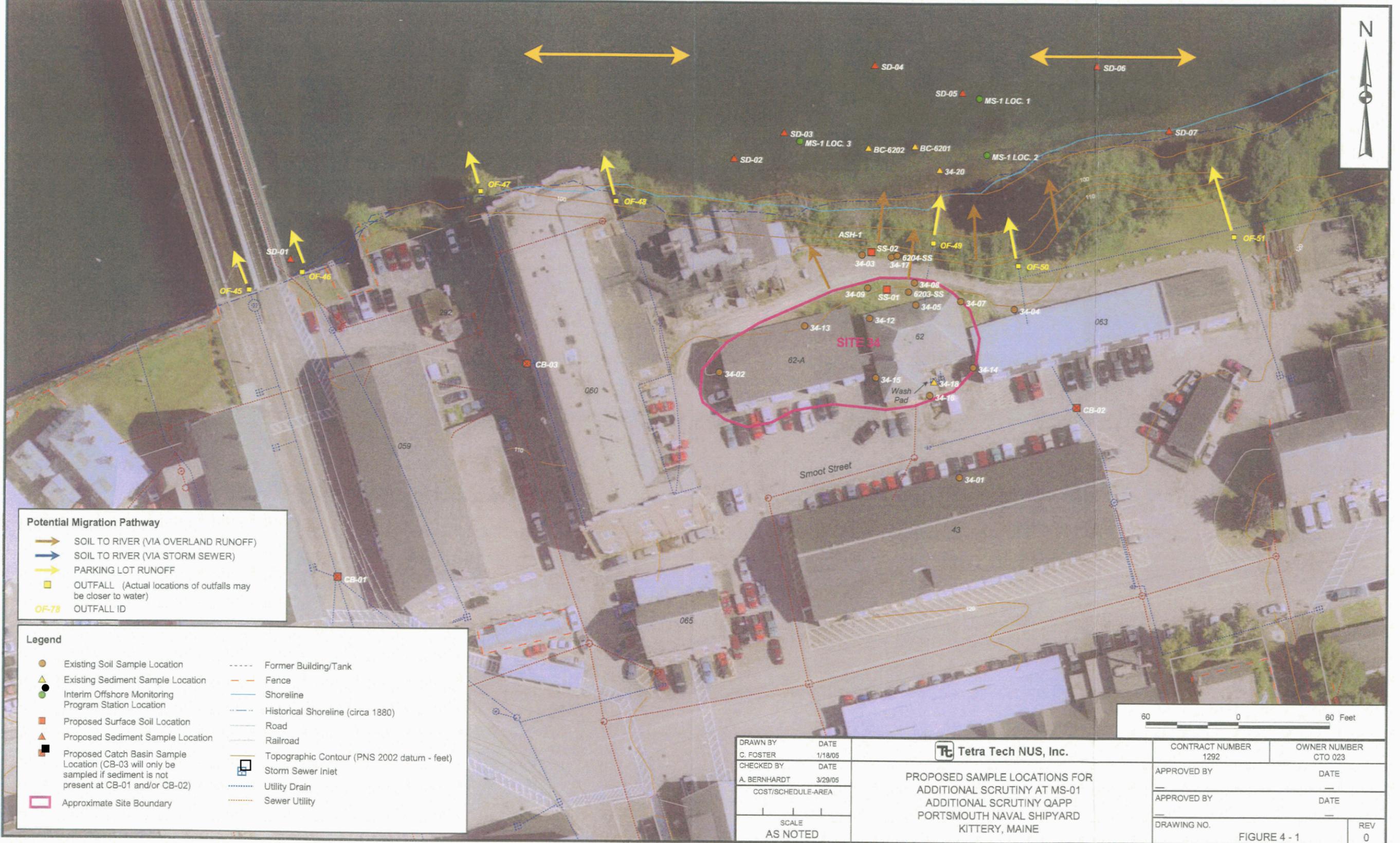
- Two catch basin sediment samples
 - Both for analysis of lead
 - One for analysis of PAHs (not forensics analysis)
- Fourteen offshore sediment samples
 - Two samples as “reference” samples
 - Both samples for lead and TPH
 - 1 sample selected for PAH forensics
 - Twelve samples for lead for better spatial coverage
 - Six samples for TPH analysis for better spatial coverage
 - 3 samples selected for PAH forensics analysis
 - 1 sample will be selected for microscopic analysis
- Two sediment samples within Building 178
 - Both samples for lead and PAH forensics

Reference Stations

- Two Reference Stations from Interim Offshore Monitoring Program (RS-02 and RS-03)
 - Closest to PNS and most likely to be potentially impacted by urban runoff
 - One location from each station will be selected for PAH forensics analysis
- Two sediment samples adjacent to Non-PNS outfalls; Both samples will be analyzed for TPH and one sample will be selected for PAH forensics analysis
 - One in Kittery adjacent to an outfall draining a school parking lot
 - One adjacent to an outfall in downtown Portsmouth

What's Next?

- Comments on the draft QAPP due by May 19, 2005
- Schedule a meeting to expedite resolution of the comments
- Sampling planned for August 2005 in conjunction with the Round 8 sampling



Potential Migration Pathway

- SOIL TO RIVER (VIA OVERLAND RUNOFF)
- SOIL TO RIVER (VIA STORM SEWER)
- PARKING LOT RUNOFF
- OUTFALL (Actual locations of outfalls may be closer to water)
- OF-78 OUTFALL ID

Legend

● Existing Soil Sample Location	 Former Building/Tank
▲ Existing Sediment Sample Location	 Fence
● Interim Offshore Monitoring Program Station Location	 Shoreline
■ Proposed Surface Soil Location	 Historical Shoreline (circa 1880)
▲ Proposed Sediment Sample Location	 Road
■ Proposed Catch Basin Sample Location (CB-03 will only be sampled if sediment is not present at CB-01 and/or CB-02)	 Railroad
 Approximate Site Boundary	 Topographic Contour (PNS 2002 datum - feet)
	 Storm Sewer Inlet
	 Utility Drain
	 Sewer Utility

DRAWN BY C. FOSTER	DATE 1/18/05	Tetra Tech NUS, Inc.	CONTRACT NUMBER 1292	OWNER NUMBER CTO 023
CHECKED BY A. BERNHARDT	DATE 3/29/05		APPROVED BY _____	DATE ____
COST/SCHEDULE-AREA		PROPOSED SAMPLE LOCATIONS FOR ADDITIONAL SCRUTINY AT MS-01 ADDITIONAL SCRUTINY QAPP PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE		
SCALE AS NOTED		DRAWING NO. FIGURE 4 - 1		REV 0



Legend

- ▲ Proposed Sediment Sample Location
- Interim Offshore Monitoring Station Location
- Approximate Former Location of Turbidity Curtain During OU3 Construction Activities



DRAWN BY	DATE
C. FOSTER	1/11/05
CHECKED BY	DATE
A. BERNHARDT	3/24/05
COST/SCHEDULE-AREA	
SCALE	
AS NOTED	

Tetra Tech NUS, Inc.

PROPOSED SAMPLE LOCATIONS
FOR ADDITIONAL SCRUTINY AT MS-05
PORTSMOUTH NAVAL SHIPYARD
KITTERY, MAINE

CONTRACT NUMBER	OWNER NUMBER
1292	CTO 023
APPROVED BY	DATE
—	—
APPROVED BY	DATE
—	—
DRAWING NO.	REV
FIGURE 4 - 2	0



Legend

- ▲ Proposed Sediment Sample Location
- Interim Offshore Monitoring Program Station Location
- Limit of OU3 Landfill Cover



DRAWN BY C. FOSTER		DATE 01/27/05		Tetra Tech NUS, Inc.		CONTRACT NUMBER 1292		OWNER NUMBER CTO 023	
CHECKED BY A. BERNHARDT		DATE 3/29/05		PROPOSED SAMPLE LOCATIONS FOR ADDITIONAL SCRUTINY AT MS-09 ADDITIONAL SCRUTINY QAPP PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE				APPROVED BY DATE	
COST/SCHEDULE-AREA		SCALE AS NOTED		APPROVED BY		DATE		DRAWING NO. FIGURE 4 - 3	
								REV 0	



Potential Migration Pathway

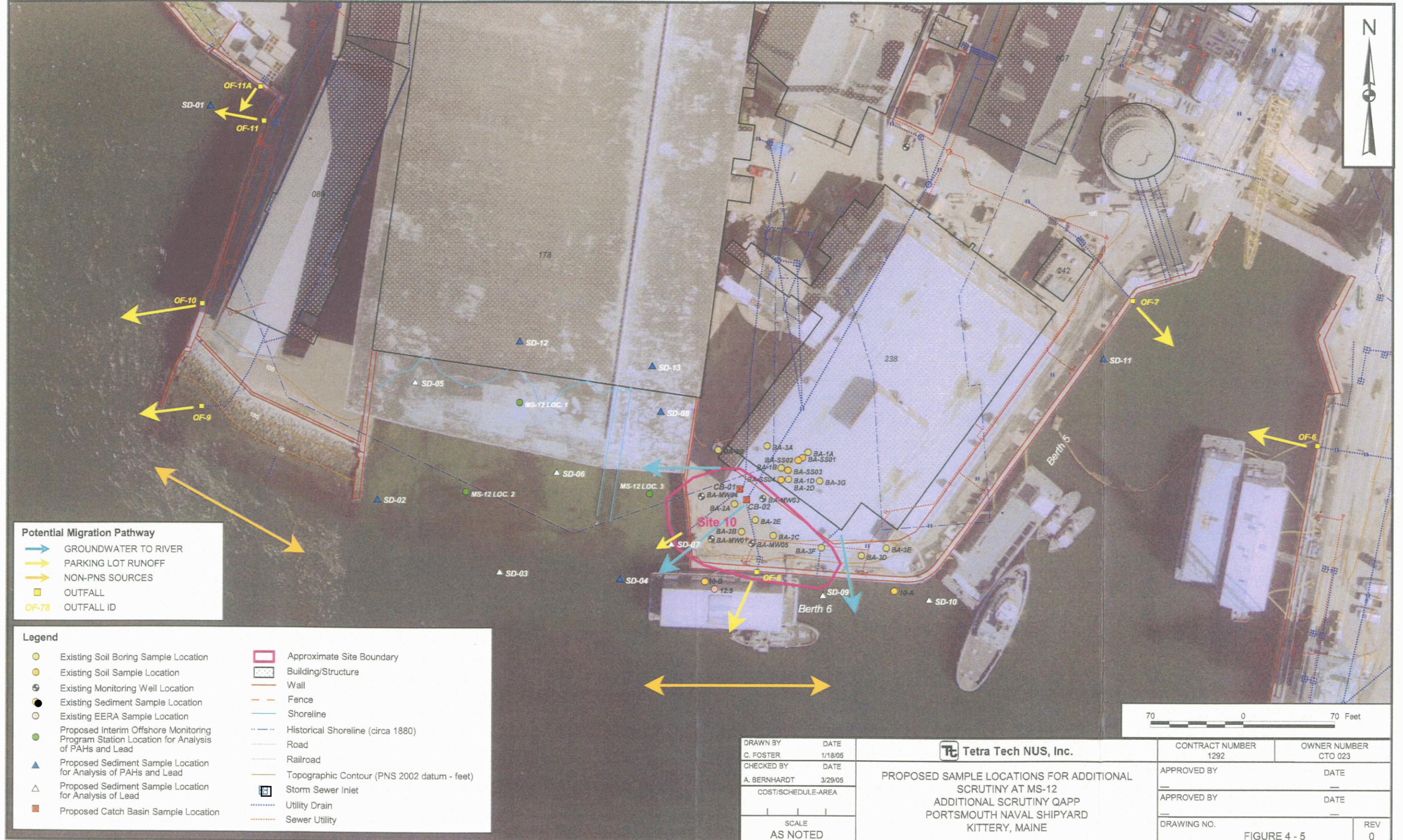
- NON-PNS SOURCES
- SOIL TO RIVER (VIA OVERLAND RUNOFF)
- SOIL TO RIVER (VIA STORM SEWER)
- OUTFALL (Actual locations of outfalls may be closer to water)
- OF-78** OUTFALL ID

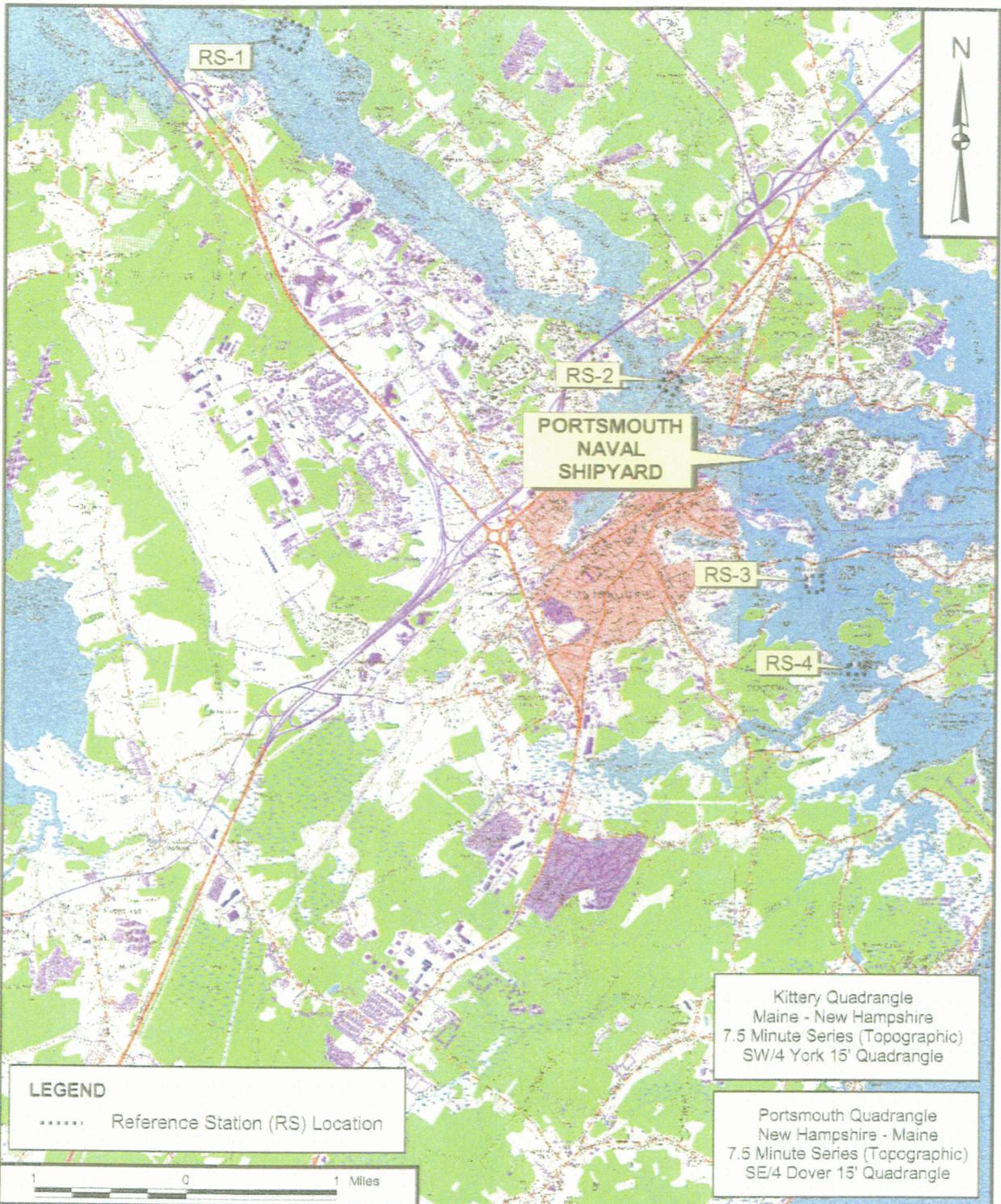
Legend

- Existing Soil Sample Location
- Interim Offshore Monitoring Program Station Location
- Proposed Surface Soil Locations
- Proposed Catch Basin Sample Location
- Approximate Site Boundary
- Approximate Cap Boundary
- Former Building/Tank
- Fence
- Shoreline
- Historical Shoreline (circa 1880)
- Road
- Railroad
- Topographic Contour (PNS 2002 datum - feet)
- Storm Sewer Inlet
- Utility Drain
- Sewer Utility



DRAWN BY C.FOSTER	DATE 2/14/05	Tetra Tech NUS, Inc. PROPOSED SAMPLE LOCATIONS FOR ADDITIONAL SCRUTINY AT MS-11 ADDITIONAL SCRUTINY QAPP PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	CONTRACT NUMBER 1292	OWNER NUMBER CTO 023
CHECKED BY A. BERNHARDT	DATE 3/29/05		APPROVED BY —	DATE —
COST/SCHEDULE-AREA			APPROVED BY —	DATE —
SCALE AS NOTED			DRAWING NO. FIGURE 4 - 4	REV 0



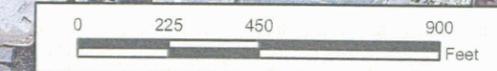


DRAWN BY J. LAMEY CHECKED BY A. BERNHARDT COST/SCHEDULE-AREA SCALE AS NOTED	DATE 4/27/04 DATE 3/24/05	Tetra Tech NUS, Inc. OVERVIEW OF REFERENCE STATION LOCATIONS FOR THE INTERIM OFFSHORE MONITORING PROGRAM ADDITIONAL SCRUTINY QAPP PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	CONTRACT NUMBER 1292 APPROVED BY APPROVED BY DRAWING NO FIGURE 1 - 3	OWNER NO. CTO 023 DATE DATE REV 0
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Legend

- ▲ Proposed Sediment Sample Location
- Existing Outfall Location



DRAWN BY C. FOSTER	DATE 3/24/05
CHECKED BY A. BERNHARDT	DATE 3/29/05
REVISED BY	DATE
SCALE AS NOTED	

Tetra Tech NUS, Inc.
 PROPOSED LOCATIONS OF NON-PNS
 SEDIMENT SAMPLES
 ADDITIONAL SCRUTINY QAPP
 PORTSMOUTH NAVAL SHIPYARD
 KITTERY, MAINE

CONTRACT NUMBER 1292	OWNER NUMBER CTO 023
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. FIGURE 4 - 6	REV 0