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ACTION MEMORANDUM FOR MUNITIONS RESPONSE PROGRAM (MRP) SITE 1 FORMER  
CARR POINT SHOOTING RANGE NS NEWPORT RI

5/15/2012  
TETRA TECH

## **ACTION MEMORANDUM**

**DATE:** May 15, 2012

**FROM:** CAPT J. P. Voboril, Commanding Officer, Naval Station Newport

**SUBJECT:** Non-Time Critical Removal Action  
MRP Site 1, Former Carr Point Shooting Range  
Naval Station Newport, Rhode Island

### **1. PURPOSE**

The purpose of this Action Memorandum is to document the decision by the United States Navy (Navy) to conduct a non-time critical removal action (NTCRA) to excavate and remove contaminated soil from Munitions Response Program (MRP) Site 1, Former Carr Point Shooting Range located adjacent to Defense Highway, in Portsmouth, Rhode Island. This property is a part of the Naval Station (NAVSTA) Newport, in Newport Rhode Island.

The objective of this NTCRA is to reduce potential risks associated with contaminated soil, resulting from shooting activities that occurred between 1967 and 1989 at the former skeet range. Soil that is contaminated primarily with polycyclic aromatic hydrocarbons (PAHs) will be removed from the western portion of the site during this action. This NTCRA is an interim measure that will be implemented before a more permanent solution can be put in place.

This Action Memorandum was completed in accordance with the remedial program requirements defined by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended, the Superfund Amendments and Reauthorization Act of 1986 (SARA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and United States Environmental Protection Agency's (EPA) *Superfund Removal Guidance for Preparing Action Memoranda* (EPA, 2009). The Department of Defense (DoD) has the authority to undertake CERCLA response actions, including removal actions, under Title 42 of the United States Code (U.S.C.) Section (§) 9604, 10 U.S.C. § 2705, and federal Executive Orders 12580 and 13016. There are no nationally significant or precedent-setting issues for this Site.

### **2. SITE CONDITIONS AND BACKGROUND**

The NAVSTA Newport facility has been in use by the Navy since the era of the Civil War. During World Wars I and II, military activities at the facility increased significantly and the base provided housing and support for many servicemen. In subsequent peacetime years, use of on-site facilities was slowly phased out until Newport became the headquarters of the Commander Cruiser-Destroyer Force Atlantic in 1962. In April 1973, the Shore Establishment Realignment Program (SER) resulted in the reorganization of naval forces, and activity again declined. From 1974 to the present, research and development and training have been the primary activities at Newport. The base was renamed from the Naval Education and Training Center (NETC) to Naval Station Newport in 1998. The major commands currently located at NAVSTA Newport include the Naval Education and Training Center, Surface Warfare Officers School Command, Naval Undersea Warfare Center, and the Naval War College.

NAVSTA Newport occupies approximately 1,063 acres and is located along a 6-mile stretch of the western shoreline of Aquidneck Island, facing the east passage of Narragansett Bay. Portions of the facility are located in the City of Newport and the Towns of Middletown, Portsmouth, and Jamestown, Rhode Island. MRP Site 1, at NAVSTA Newport, is located at Carr Point in Portsmouth (Attachment A, Figure 1).

### 3. SITE DESCRIPTION

This section presents an assessment of the environmental conditions at the site. The site conditions have been evaluated through performance of a Water Area Munitions Study by Malcolm Pirnie (2005), a Site Investigation conducted by Tetra Tech, Inc. (2010a), and a Recreational Risk Evaluation (2010b).

- a. Background. The MRP Site 1 Former Carr Point Shooting Range, located at NAVSTA Newport, is approximately 110 yards west of Defense Highway in Portsmouth, Rhode Island and approximately four miles north of the main NAVSTA Newport installation. This site was formerly used as a recreational skeet range from 1967 to 1989. During its use as a skeet range, clay pigeons were launched toward Narragansett Bay, and small arms (i.e., shotguns) were fired at the targets as they flew over the water. Three firing points were located at this site.

Currently, the Site is managed by NAVSTA Newport's Morale, Welfare, and Recreation (MWR) Department and is used as a Recreational Vehicle Camping Park (RVCP) for Navy and Department of Defense (DoD) personnel and is open each year from Memorial Day to October 30. The RVCP is a grass-covered area with six water and electricity hook-up areas for RVs (Attachment A, Figure 2).

- b. Removal Site Evaluation. A Site Investigation (SI) was completed for the Carr Point Site in 2009 (Tetra Tech, 2010a). SI sampling analytical data collected in the RVCP (two soil borings SB-01 and SB-09) indicated the presence of elevated concentrations of polycyclic aromatic hydrocarbons (PAHs) and lead in the surface soil at the RVCP. It is suspected that the source of the PAHs is clay targets which were historically manufactured with petroleum pitch, and were blended with clay. Fragments of broken targets were observed at several of the SI soil sample locations at the RVCP.

As part of the SI report, a Human Health Screening Evaluation (Tetra Tech, 2010a) was conducted for the entire Carr Point Site using the SI data set. PAHs including benzo(a)anthracene, benzo(a)pyrene (BAP), benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were identified as carcinogenic risk drivers in surface soil with individual cancer risk estimates exceeding 1E-6. Lead was also retained as a contaminant of potential concern (COPC).

A focused human health risk assessment was subsequently conducted for the RVCP portion of the site (Tetra Tech, 2010b). This risk assessment utilized new data collected from 20 locations across the RVCP, and concluded that locations demonstrating PAH-related cancer risk estimates exceeding 1E-04 were situated in the western portion of the RVCP site and were limited to locations where clay target fragments were found. Although lead was selected as a COPC, only PAHs exceeded the EPA target cancer risk range of 1E-04 to 1E-06.

- c. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant. The western portion of the site (an approximate 33,414 square foot area) contains soils contaminated with PAHs at concentrations that exceed regulatory risk criteria.
- d. National Priorities List (NPL) Status. On November 21, 1989, NETC Newport was added to the National Priorities List (NPL) (54 FR 48184). On January 11, 2007 MRP Site 1, Former Carr Point Shooting Range was determined to be a site by the signing parties to the Federal Facilities Agreement (FFA) for NETC Newport. Therefore, the Navy is required to take response actions pursuant to CERCLA and the terms of the FFA. Although NETC Newport has undergone a name change to become NAVSTA Newport, the NPL status is not affected.

### 4. OTHER ACTIONS TO DATE

- a. Previous Actions. A Time Critical Removal Action (TCRA) was conducted in 2010 to construct a 6-foot chain link fence around the area of the site where the highest PAH concentrations were detected and elevated risk levels were identified, thereby limiting access to that area.

- b. Investigations and Assessments: Three investigations have been conducted at the site as noted in 3b, above. These are described in the following reports:

October 17, 2005 – Final Water Area Munitions Study Report, Naval Station Newport, Carr Point Shooting Range, Newport, RI. (Malcolm Pirnie, Inc.)

May 12, 2010 – Final Site Investigation for MRP Site 1, Carr Point, NAVSTA Newport, Rhode Island. (Tetra Tech, Inc.)

May 14, 2010 – Technical Memorandum, Recreational Risk Evaluation, MRP Site 1, Carr Point, NAVSTA Newport, Rhode Island. (Tetra Tech, NUS, Inc.)

- c. Current Actions. The Navy has initiated contracting actions to implement a removal action to excavate and remove soil at the RVCP area that contains COCs at concentrations above the proposed target remedial goal. The removal action as described in this Action Memorandum is anticipated to be conducted in the summer of 2012.

## 5. STATE AND LOCAL AUTHORITIES ROLE

- a. State and Local Actions to Date. The site is located on property held by the Navy, and as such the Navy holds responsibility for removal actions, risk reduction and remediation of the site as needed. The site was incorporated into the Installation Restoration (IR) Program for NAVSTA Newport on January 11, 2007. State and local authorities have not undertaken any removal actions at the site; however they provide oversight of studies and actions conducted by the Navy. The Rhode Island Department of Environmental Management (RIDEM) provides oversight of actions and review of documents for sites under the IR Program. The local community provides input on the Navy's action through participation in the Restoration Advisory Board (RAB), a group of community members who meet with Navy representatives periodically to discuss progress and provide input on IR Program sites.
- b. Potential for Continued State and Local Response. The ownership of the land at this site and at NAVSTA Newport is not anticipated to change in the foreseeable future. There is no need for state or local response or funding for removal or remedial actions at this site, since the Navy will retain responsibility for the site. The State of Rhode Island will continue to oversee the investigations and removal actions and the local community will continue to provide input on actions conducted at the site through the Restoration Advisory Board.

## 6. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Potential threats to public health, welfare or the environment posed by site contaminants, and statutory and regulatory authorities that apply to the site are discussed in this section.

- a. Threats to Public Health or Welfare. PAHs exceeded the U.S. Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for a hypothetical future residence. In addition, PAH concentrations also exceeded the RIDEM Direct Exposure Criteria (DECs) for soil at residential and unrestricted recreational properties. A focused human health risk assessment for the RVCP area of the site concluded that cancer risk estimates for soils located in the western portion of the site exceeded the EPA cancer risk range of 1E-04 to 1E-06 and the RIDEM cumulative cancer risk benchmark of 1E-05 (Figure 2) due to the elevated PAH concentrations (Tetra Tech 2010b).
- b. Threats to the Environment. Concentrations of PAHs present in the surface soil may contribute risk to ecological receptors through transfer of PAHs through direct exposure or direct contact of terrestrial ecological receptors present on the site. A formal ecological risk assessment has not been conducted, but it is presumed that removal of the affected soil to attain the proposed remedial goal (see

Attachment A, Table 1) would simultaneously reduce any possible risk to ecological receptors to acceptable levels.

- c. Regulatory Authorities. PAHs exceed the EPA residential RSL and the RIDEM DEC's for soil at residential and unrestricted recreational properties. The EPA enforces cleanup of CERCLA sites where exposure is found to result in elevated risk to human or environmental receptors. Both the RIDEM Division of Site Remediation and the EPA Federal Facilities group are in agreement with the proposed action at the RVCP Area, until a Remedial Investigation/Feasibility Study (RI/FS) can be completed for the site.

## 7. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, would present an elevated risk of endangerment to public health, or welfare, or the environment. The Navy has determined that this threat can be temporarily reduced to an acceptable level by undertaking the removal action posed in this Action Memorandum.

## 8. PROPOSED ACTIONS AND ESTIMATED COSTS

This section describes the proposed removal action to mitigate the conditions cited in Section 6, above. This section also describes alternative technologies considered, discusses ARARs, and presents the estimated costs for the NTCRA.

- a. Proposed Action. The proposed soil removal action as described in the Engineering Evaluation/Cost Analysis (EE/CA) for MRP Site 01, Carr Point Recreational Vehicle Camping Park Area consists of excavation, transportation, and off-site disposal of contaminated soil to achieve the cleanup goal of 0.8 mg/kg of PAHs, measured as benzo(a)pyrene equivalents (Attachment A, Table 1). The anticipated excavation area is approximately 33,414 square feet to a minimum depth of 1 foot and a maximum of 2 feet. Following excavation, the removal area will be backfilled, graded to the pre-existing base grade elevation present across the site, and the backfilled area will be reseeded (Attachment A, Figure 3).

The major components of the proposed removal action and the basis for the proposal are provided below. Details of the actions and methods to perform the soil removal action will be described in a Removal Action Work Plan. This document will be placed in the local Information Repositories and will be available to the public and to the regulators for review and comment. The following paragraphs describe the major components of this proposed action.

RA Work Plan – A Removal Action (RA) Work Plan will be prepared and submitted to the regulatory agencies for review to solicit and address their comments on the execution of the removal action. A final RA Work Plan will also be prepared and distributed to provide a plan for execution of the project. The RA Work Plan will describe the details of the removals, the schedule, the remedial goals, sampling to be conducted, and the proposed excavation limits.

Staging Area Setup – Prior to the start of excavation, staging areas, decontamination areas and site access controls will be set up and any buried utilities will be located and marked accordingly. Fences will be opened as necessary for bringing equipment to the Site, then re-secured. A staging area will be sized to accommodate the excavated soil.

Erosion Control – Erosion control measures will be set up to prevent runoff or erosion of soil from the Site and staging area. This will be done before any clearing activities begin.

Clearing – Vegetation will be cleared from the work area as necessary to make it accessible to personnel and equipment for the removal activities. Portions of the existing fence will be removed as necessary to access the proposed excavation area.

Soil Removal – The removal action will consist of the components described below. Figure 3 in Attachment A shows the target excavation area. Soil with PAH concentrations that exceed the selected PRG will be removed from the impacted areas where unacceptable risk was identified. The extent of the excavation will be determined by the confirmatory sampling analytical results. The excavated soils will be placed within the soil stockpile area and will be covered at all times to prevent intrusion of rain and to prevent erosion by precipitation and wind. Following waste characterization sampling, the stockpiled soil will be transported for off-site disposal at an appropriate licensed disposal facility

Confirmation Sampling – Confirmation samples will be collected from the bottom and sides of the excavation(s) and will be analyzed for PAHs and the analytical results will be compared to the proposed remedial goals to determine if the excavation is complete or if further excavation is necessary. A select number of the soil samples would also be analyzed for metals and those results would be compared to the RIDEM I/C DEC's and background data for metals. The RA Work Plan will specify the frequency of sampling.

Waste Disposal – Stockpiled materials will be sampled and analyzed for characterization purposes and to facilitate disposal. After profiling and manifesting, the material will be transported to the appropriate licensed disposal facility.

Site Restoration – Excavated areas will be backfilled with clean fill and organic-rich topsoil as described in the RA Work Plan. The excavated areas and other areas disturbed during the removal action will be restored to the original elevation and vegetation will be reestablished to prevent surface erosion. The fence that currently prevents access to the western portion of the site will be removed if it is still in place at the completion of excavation and restoration activities.

- b. Contribution to Remedial Performance. This removal is expected to be an interim action for the site. By removing the soil with PAH concentrations that contribute to potential unacceptable risks, the risk posed to recreational users will be reduced and the RVCP area can be reopened for restricted recreational use (limited to 14 days/month camping) during the summer months. It is anticipated that the final remedy for this site will be determined following the completion of an RI/FS under the MRP. The schedule for the final remedy is contingent on availability of Navy funding.
- c. Alternative Actions Considered. In addition to this proposed action, one other alternative (LUCs and maintenance of the existing fencing) was evaluated in the EE/CA. It was eliminated after detailed analysis, because elevated COPC concentrations would remain in the soil, rendering the site unusable as a RVCP area.
- d. Applicable or Relevant and Appropriate Requirements (ARARs). The removal action complies with the following federal and state ARARs:
  - Resource Conservation and Recovery Act (RCRA), Subtitle C - Standards for Hazardous Waste Facilities (42 USC 6291 et seq.) - Soils and debris must be tested, and if hazardous, handled and disposed according to standards.
  - Clean Water Act (CWA), Section 402, National Pollutant Discharge Elimination System (NPDES) (33 USC 1342; 40 CFR Parts 122.26(a)(5) - Erosion and storm water associated with the excavation and backfill will be managed through best management practices. Applicable only if over 1 acre is disturbed.
  - Coastal Zone Management Act, 16 USC 1451 et. seq. – Applicable coastal zone management requirements will be addressed consistent with the state-approved management program.
  - Endangered Species Act, 50 CFR 200 and 402 - If a federal endangered or threatened species is identified in the removal area, appropriate agencies will be consulted to find ways to minimize adverse effects to the listed species and its habitat.

- Rhode Island Remediation Regulations (CRIR 12-180-001, Section 8; DEM-DSR-01-93, as amended August 1996 and August 2004) – Removal will be directed by presence of soil exceeding direct exposure criteria for residential use soil (lead >150 mg/kg).
- Rhode Island Rules and Regulations For Hazardous Waste Management, Section 5.0 Generators, (RIGL 23-19.1 et seq.; CRIR 12-030-003) – Soils and debris must be tested, and if hazardous, handled and disposed according to these standards.
- Rhode Island Air Pollution Control Regulations, Air Toxics (CRIR 12-31-22), Fugitive Dust Control (CRIR 12-31-05), Air Pollution Control (CRIR 12-31-09) – Requirements for monitoring of air emissions must be met; activities will be carried out in a manner which will minimize potential air releases and fugitive dust emissions.
- Regulations for the RI Pollutant Discharge Elimination System, CRIR 12 190 003, Rule 31 – Discharge of any contaminated storm water during excavation and backfilling must meet these standards if 1 acre or more is disturbed during excavation activities. **Note:** Applicable only if more than one acre is disturbed.
- Coastal Resources Management RIGL 46-23-6 and Coastal Resources Management Program (CRMP) – Excavation activities conducted within 200 feet of the shoreline will be protective of coastal resources and will be managed to meet the requirements of these standards.
- Endangered Species Act, RIGL 20-37-1 et seq. - If a state-listed endangered or threatened species is identified in the removal area, appropriate agencies will be consulted to find ways to minimize adverse effects to the listed species and its habitat.

In addition to the ARARs provided above, the following guidance documents are cited as guidance “to be considered” during conduct of the proposed removal action:

- USEPA Regional Screening Levels (RSLs) for Human Health
  - Rhode Island Soil Erosion and Sediment Control (SESC) handbook
- e. Project Schedule. The removal action at the RVCP area is expected to begin in the summer of 2012 and will be completed within one month. The RVCP will not be re-opened until the removal action is completed.
- f. Estimated Costs. The estimated cost for the proposed removal action is approximately \$924,000. The estimated cost includes long-term operation and maintenance costs for LUCs Inspections and Reports associated with this removal action, and for five-year site reviews.

**9. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

If the removal action is not conducted, the contaminant concentrations in the soil will remain, posing a risk of exposure to RV campers and maintenance workers on the property. Contaminant concentrations will not decrease over time. Delay or no action at the site may also result in increased future cleanup costs.

**10. OUTSTANDING POLICY ISSUES**

None identified at this time.

**11. ENFORCEMENT**

The removal action is being undertaken voluntarily by the Navy in accordance with CERCLA and the Federal Facilities Agreement for the NAVSTA Newport IR Program. The regulatory agencies are anticipated to remain in an oversight role for the duration of the removal action, reviewing design documents, work plans and completion reports to assure compliance with regulations under the IR Program.

**12. RECOMMENDATION**

The removal of contaminated soil will reduce the risk of exposure to PAHs present in the soil at the RVCP Area of Carr Point, MRP Site 1. The Navy therefore recommends the implementation of the proposed removal action.

Approvals:

NAVSTA Newport

\_\_\_\_\_  
CAPT J. P. Voboril  
Commanding Officer

Date: \_\_\_\_\_

## REFERENCES

EPA, 2009 Superfund Removal Guidance for Preparing Action Memoranda. Office of Solid Waste and Emergency Response. September

Malcolm Pirnie, 2005. "Final Water Area Munitions Study, NAVSTA Newport Carr Point Shooting Range, Newport, Rhode Island." Prepared for Naval Facilities Engineering Command Engineering Field Activity, Northeast, Lester, Pennsylvania. October 2005.

Tetra Tech, Inc. 2010a. Site Investigation for MRP Site 1 – Carr Point, NAVSTA Newport, Rhode Island. May 2010.

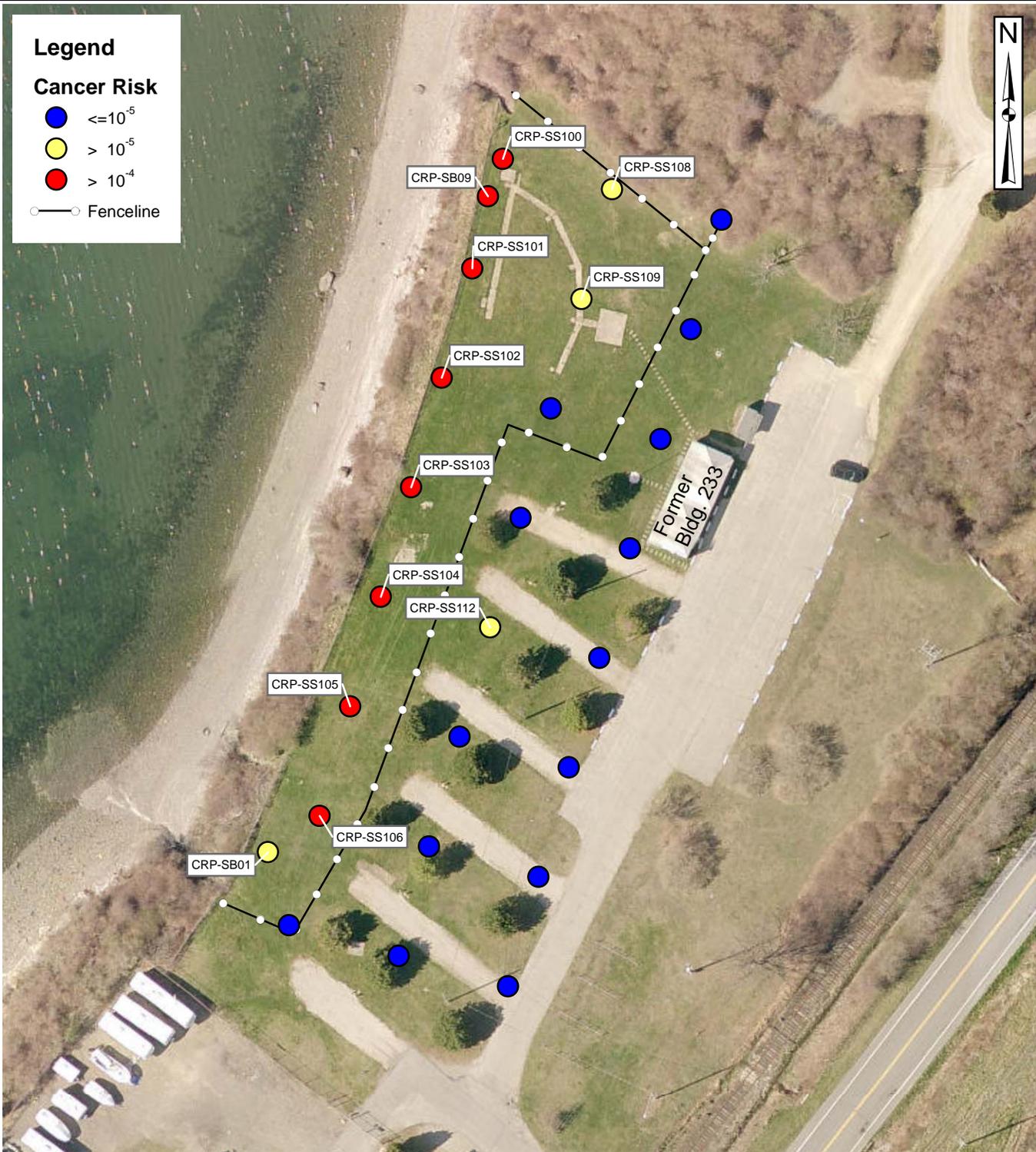
Tetra Tech, Inc. 2010b. Technical Memorandum, Recreational Risk Evaluation, MRP Site 1, Carr Point, NAVSTA Newport, Rhode Island. May 2010.

**ATTACHMENT A**  
**FIGURES AND TABLES**



**SITE LOCUS**  
 MRP SITE 1, CARR POINT  
 NAVAL STATION NEWPORT  
 PORTSMOUTH, RHODE ISLAND

SCALE AS NOTED	
FILE	
I:\_CARR_PT_LOCUS.MXD	
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FIGURE NUMBER	
1	



**Legend**

**Cancer Risk**

●  $\leq 10^{-5}$

●  $> 10^{-5}$

●  $> 10^{-4}$

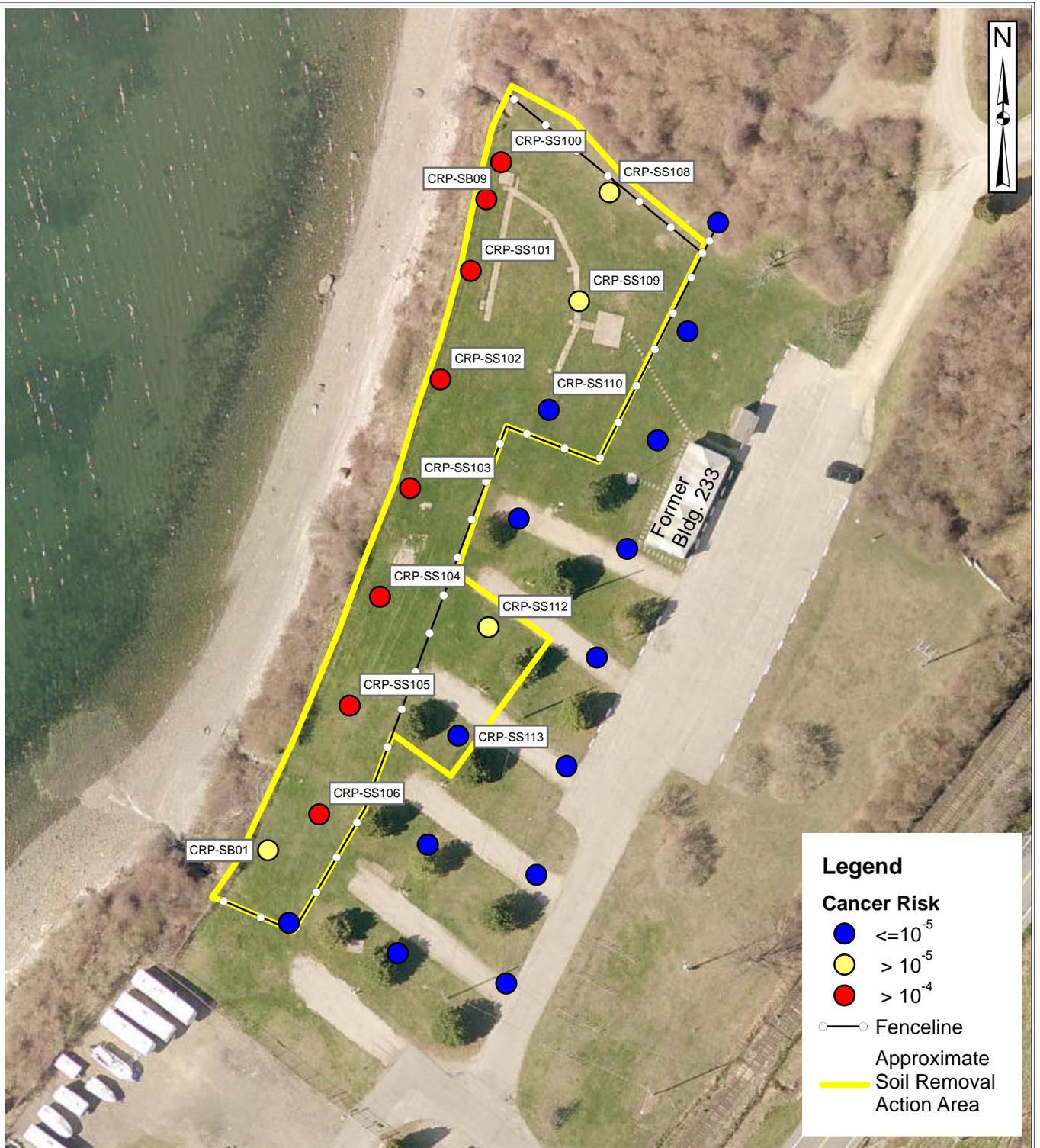
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Aerial photograph from Rhode Island Geographic Information System  
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**SAMPLE LOCATIONS WITH CANCER RISK ESTIMATES  $> 10^{-5}$**   
 RECREATIONAL VEHICLE CAMPING PARK  
 MRP SITE 1, CARR POINT  
 NAVAL STATION NEWPORT  
 PORTSMOUTH, RHODE ISLAND

SCALE As Shown	
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Aerial photograph from Rhode Island Geographic Information System  
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**PROPOSED REMOVAL ACTION AREA  
 RECREATIONAL VEHICLE CAMPING PARK  
 MRP SITE 1, CARR POINT  
 NAVAL STATION NEWPORT  
 PORTSMOUTH, RHODE ISLAND**

SCALE As Shown	
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FIGURE NUMBER 3	

**TABLE 1  
SOIL REMOVAL ACTION GOALS  
RECREATIONAL VEHICLE CAMPING AREA  
MRP SITE 1, CARR POINT,  
NAVSTA NEWPORT, RHODE ISLAND**

Parameter	Maximum Detected Concentration	Site-specific PRG for recreational users <sup>1</sup>	Applied Remedial Goal <sup>2</sup>
<b>PAHs(mg/kg)</b>			
BAP EQUIVALENT	425.4	3.8	0.8

Notes:

1 - PRG represents the 1E-05 cancer risk level for a recreational user (anticipated 14 day exposure assumption)

2 - Cleanup Goal represents the 1E-05 cancer risk level for a recreational user (conservative 56-day exposure assumption)