



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
DIVISION OF SITE REMEDIATION
291 Promenade Street
Providence, R.I. 02908-5767

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James Shaffer, Remedial Project Manager
U.S. Department of the Navy
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway
Code 1823-Mail Stop 82
Lester, PA 19113-2090

RE: Draft Work Plan for Source Removal Old Fire Fighter Training Area, Naval Education
and Training Center, Newport, Rhode Island

The Office has received the Draft Source Removal Plan for the Old Fire Fighter Training Area. Attached are comments generated as a result of this review. The attached comments contain concerns with respect to the timing and scope of the investigation. The Office recommends that the Navy meet with the State to discuss these issues as it will have a direct bearing on the schedule for the project. If the Navy has any questions concerning the above, please contact this Office at (401) 277-2797.

Sincerely,

Paul Kulpa, Project Manager
Office of Waste Management

cc: Warren S. Angell, DEM DSR
Richard Gottlieb, DEM DSR
Kymberlee Keckler, USEPA
Brad Wheeler, NETC

ofsremwp.com

**Comments on the
Draft Work Plan for Old Fire Fighting Training Area**

1. General Comment

The State has indicated that employees of NETC should be canvass in an effort to obtain information concerning operations at the site. Pertinent employees were identified to the Navy's consultant. There is no indication in the Plan that information from these employees were used in the generation of the Plan or that said employees were contacted. Based upon problems associated with lack of available employee interview at other sites at the base, the State will require that the aforementioned employees be interviewed prior to the commencement of field investigation activities.

2. General Comment

The State has repeatedly indicated that the records search performed at NETC was limited and should be expanded prior to the commencement of field activities. The plans submitted to date are utility plans for Coasters Island and therefore are of limited value. This is evident in the fact that the plans do not show pipes which were unearthed during previous test pitting activities. The State reiterates its request that the Navy obtain site specific plans for the training facility from either NETC or from other similar trainers at other bases. This information is necessary as it will optimize the investigation and reduce the number of test pits required at the site. Please be advised that the State will require a copy of said plans in order to determine the effectiveness of the remedial investigation. Should said plans indicate that certain areas were not properly investigated the State will require the Navy to perform additional investigations.

3. General Comment

The Work Plan is limited to activities associated with the investigation of potential source areas. It was not designed to address procedures to be employed during a removal action. The Office is aware that, should such an action become necessary, the Navy will submit an appropriate Work Plan. In an effort to expedite this process the following are procedures which have been performed at other Navy sites:

During the removal process confirmatory samples will be taken from the side walls and base of the excavation. In order to minimize laboratory cost and down time for the excavator and associated personnel it is recommend that field

instruments be used for this process. Initial screening will entail visual/olfactory observations and jar head space FID readings. Samples obtained for initial screening will be collected from contaminated areas, including areas below the water table. The removal process will continue until the initial screening criteria has been met, for example no visual/olfactory evidence of contamination, FID readings below 10 ppm. Once the initial field screening criteria have been met samples may then be collected for more intensive field analysis, such as amino assay, field IR, field GC, etc. The type of analysis employed will be based upon the type of petroleum encounter. As a wide variety of oils may have been disposed of at the site more than one technique may be employed. Once the second criteria for the field analysis has been meet confirmatory laboratory samples may be collected.

During test pitting/removal activities soils should be segregated into distinct piles in order to reduce disposal cost and analytical cost (the frequency of testing will be less for the cleaner soils). Depending upon the nature of the contamination, soils may be segregated using the following FID jar head space readings:

- > 1000 PPM
- > 500 PPM
- > 100 PPM
- > 10 PPM

Please be advise that the above is useful for lighter petroleum products. Heavy petroleum products, will require the use visual and olfactory observations, field IR, or appropriate amino assay procedures to segregate the soils. Since a wide variety of oils may have been disposed of at the site a combination of methods, such as, visual/olfactory FID and amino assay may have to be employed.

Soil excavated from the site should be placed on poly and appropriate measures should be taken to avoid migration of said soils, poly covering, hay bails etc.

Please be advised that if the Navy determines that the volumes of soil encountered at the site are excessive, the Navy may petition the State to store the soils onsite or at a off site location, such as the Tanks Farms, while alternative disposal options, land farming, soil washing etc, are evaluated.

Finally, throughout the process, any contaminated groundwater should be sampled.

4. General Comment

The Office request that all test pits and borings be photo documented and the test pits video taped. Copies will be provided to the Office along with photocopies of the field investigation notebooks.

**5. Section 1.1 Project Objectives:
Page 1-1, Paragraph 3.**

The Work Plan notes that the source removal action will meet one or more of the eight conditions noted in 40 CFR. The Work Plan is a public document, therefore, the eight conditions should be listed in the plan.

**6. Section 1.1 Project Objectives:
Page 1-1, Paragraph 4.**

The potential source areas may include defunct underground oil and fuel storage tanks, piping, subsurface drains, asphaltic material eroding along the shoreline that may enter Narragansett Bay, and free product (petroleum hydrocarbons).

The above should be modified as follows:

The potential source areas may include defunct underground oil and fuel storage tanks, piping, subsurface drains, asphaltic material eroding along the shoreline that may enter Narragansett Bay, free product (petroleum Hydrocarbons) and saturated soils.

**7. Section 1.1 Project Objectives:
Page 1-1, Paragraph 6.**

The report notes that a TCRA may be implemented at the site. Please be advised that State regulations require full regulatory involvement in TCRA.

**8. Section 1.6, Schedule;
Page 1-5.**

This section of the report indicates that the regulatory agencies agreed to a two week turnaround for review and that no formal review was anticipated. This section requires clarification. There is no information presented at this time that an emergency condition exist at the site. This Office's agreement was designed to expedite the process so that field work may be conducted during the summer season. The Office clearly indicated that the time required for its review would be based upon the quality of the document, (the two week turn around was a goal). In addition, the agreement to forgo a formal response, was as stated, to expedite the process. This agreement did not relinquish the Navy of any obligation to respond to regulatory comment.

**9. Section 1.6, Schedule;
Page 1-5.**

The Plan notes that the schedule may be modified to accommodate recreational activities at the site. The Office does not consider this schedule modification to be a problem as long as it does not delay the project beyond the optimum investigation time, that is beyond the dry season. As the Navy is aware the primary goal of this investigation is to identify potential source areas and associated contaminated soils, such as the highly saturated soils previously found immediately above the water table. The proposed schedule indicates that field activities will be implemented in early June. The optimal time to perform such activities would be in August or possibly late July, (water table is normally low allowing for identification of smear zones and other petroleum related contamination). Conducting field work during these months has proven to be highly beneficial at other petroleum contaminated sites. Therefore, the Work Plan should be adjusted accordingly.

**10. Section 2.2, Site History;
Page 2-2.**

This section of the Plan discusses the use of the carrier compartments for fire fighting exercises. Please be advised that the tanks, Christmas trees and buildings 134-136 were also used for these purposes. The Work Plan should note the use of these structures as it has a direct bearing on the work to be undertaken.

**11. Section 2.4, Underground Storage Tanks and Associated Piping;
Page 2-8.**

The Work Plan indicates that, based upon their proximity to the site, Buildings # 134, 135, 136 may have been used for training purposes. Plans obtained from NETC archives clearly show that these structures were used for training. Therefore, these structures should be included in the investigation. Please be advised that plans for these structures include a flushing trench. The Coaster Island general plans submitted in the Work Plan do not show sanitary or fuel connections to these structures. Therefore, additional plans should be obtained to address this discrepancy.

**12. Section 2.4, Underground Storage Tanks and Associated Piping;
Page 2-9.**

The report notes that an underground pipe was unearthed during historic excavations. The location of this pipe does not correspond to the drawings included in the plan. This is indicative of the aforementioned limitations of the submitted drawings and

the need to perform a more extensive review prior to the implementation of field activities.

**13. Section 2.4. On shore Asphalt Debris,
Page 2-10.**

The Work Plan indicates that the asphalt on the shore may be a continual source of PAHs and may require removal. The State will support the removal of this asphalt for esthetics purposes. However, as previously discussed in meetings and correspondence the pyrogenic PAHs and other petroleum related compounds found in the adjacent sediments may be due to the activities conducted at the training center. Therefore, it would be inappropriate for the Work Plan to imply that this is the only source for PAHs entering the environment.

**14. Section 2.4. Storm Sewer Outfall,
Page 2-10.**

The Plan indicates that the PAHs at the outfall were from entrained bits of asphalt. As discussed above activities at the training area are the most probable source of PAHs in the area. Therefore, the Work Plan should consider the possibility that backfill from the storm sewer pipe is acting as a preferential pathway elevating the concentration of PAHs around the outfall area. Accordingly, the storm sewer backfill should be identified as an additional potential source of contamination.

**15. Section 3.3, Task 2: Location of Potential Buried Piping and Structures.
Page 3-3.**

The Plan indicates that a metal detector will be used to locate buried piping and structures. As clay pipe was used at the site the report should note that the lack of detection via the metal detector will not eliminate an area from investigation.

**16. Section 3.4.1, Subtask 0311; Test Pit Excavation Program,
Page 3-4.**

This section of the report indicates that the primary function of the investigation is to locate potential source of contamination, such as USTs, oil water separators, etc. Primary sources include highly saturated soil or pools of petroleum which may not be associated with an underground structure. This should be clearly noted in the Work Plan.

**17. Section 3.4.1, Subtask 0311; Test Pit Excavation Program,
Page 3-4.**

The Work Plan indicates that one test pit will be used to locate the identified structures. The location of these structures has been approximated by general plans for the entire island. In addition, due to the large amount of buried debris in the area it is likely the metal survey will be of limited utility. Therefore, due to the fact that the position of these structures are rough approximations it may not be possible to locate these structures with one test pit. The Work Plan should stipulate that a series of test trenches will be excavated until the structures are found or are unquestionable no longer there.

**18. Section 3.4.1, Subtask 0311; Test Pit Excavation Program,
Page 3-4.**

The Work Plan indicates that test pits will be excavated in the area. Although not stated it is assumed that the text is referring to test trenches as opposed to pits. In addition, the size of the backhoe to be used at the site has not been specified. Please be advised that during previous test trenching activities a large track mounted backhoe was found to be necessary.

**19. Section 3.4.1, Subtask 0311; Test Pit Excavation Program,
Page 3-4.**

This section of the Plan discusses the test trenches to be performed in the area. Although not stated it is assumed that all four sides of the structure will be investigated with test trenches. In order to avoid possible confusion in the field, the plan should note this.

**20. Section 3.4.1, Subtask 0311; Test Pit Excavation Program,
Page 3-4.**

This section of the report list the areas to be investigated with the test trenches. The following areas should also be investigated:

- Western mound
- separator pit (is this the o/w separator)
- Smothering pit
- Christmas tress
- Above ground oil tank locations
- Buildings 130, 131.

21. Section 3.4.1, Subtask 0311; Test Pit Excavation Program, Page 3-4.

The Plan notes that underground piping associated with the USTs may be investigated. The report should note that all underground piping will be investigated. Once encountered all piping will be followed in both directions. Please be advised that, it has been found that, a series of test trenches are normally required to locate pipes.

22. Section 3.4.1, Subtask 0311; Test Pit Excavation Sequence, Page 3-5.

The Plan stipulates that the top one foot of topsoil is considered to be uncontaminated and will be stockpiled separately. RIDEM concurs with the proposal to stockpile the soils separately. However the concentrations in the soil appear to exceed RI standards. In addition, TPH analysis was not performed on said soils. Therefore, this soil should not be considered clean fill. Finally, these soils as well as any other soil, must be stockpiled on poly and appropriate measures must be taken to minimize any migration of these soils.

23. Section 3.4.1, Subtask 0311; Test Pit Excavation Sequence, Page 3-5.

This section of the report indicates that test trenches will be excavated to the depth of the suspected structure or when natural soils are encountered. Site specific plans have not been obtained for this project. In addition, at previous test pitting activities debris was found beneath material classified as natural soils. In order to avoid these problems all test pits should be excavated to the groundwater table. This stipulation will also allow for the determination of whether a potential source, such as, saturated soil or free product exist at the water table. Please note that during previous test pitting activities at the site highly saturated soils found at the water table were over layed with relatively clean soils.

24. Section 3.4.1, Subtask 0311; Test Pit Excavation Sequence, Page 3-5.

The report indicates that all test pits will be immediately backfilled. Test pits should be left open twenty four hours to see if a free product forms on the water table and to allow for regulatory inspection. These conditions were agreed to during previous test pitting activities at this site and at other less secure sites.

**25. Section 3.4.1, Subtask 0311; Test Pit Excavation Sequence,
Page 3-7.**

This section of the report notes that groundwater will not be sampled at the site. The Work Plan should be modified to note that groundwater samples may be collected from the test pits at the site.

**26. Section 3.4.2,Subtask 0320: Shoreline Sediment Sampling,
Page 3-7.**

This section of the plan discusses shoreline sediment sampling. The Plan should note the following; Proposed time of tidal cycle for samples to be collected, location of samples including location with respect to high and low tide mark, depth of samples, and whether shallow pits will be dug to determine if the sediments are saturated (shallow test pits were found to be useful at a separate Navy site, DEM strongly recommends that Navy make use of onsite excavation equipment to dig shallow test pits as this operation will probably be required for any the ecological risk assessment).

**27. Section 3.4.2,Subtask 0320: Shoreline Sediment Sampling,
Page 3-7.**

This section of the report indicates that sediment samples will be analyzed for SVOC. Total Petroleum Hydrocarbon analysis should also be performed.

**28. Section 3.4.3,Subtask 0330;Soil Boring and Monitoring Well installation
Page 3-8.**

This subtask will include advance one soil boring and installing one monitoring well and developing the well for subsequent groundwater sample collection.

The above indicates that one boring and one monitoring well will be installed at the site. The same section and subsequent sections of the report indicate that monitoring wells and borings will be installed at the site. Please clarify.

**29. Section 3.4.3,Subtask 0330; Soil Boring and Monitoring Well installation
Page 3-8.**

This and subsequent sections of the report discusses the installation of multiple monitoring wells and borings. Although not stated, the report should note that there will be full regulatory involvement in this process. The Navy will contact the regulators prior to the installation of the wells and provide justification for the proposed locations. This will reduce the probability that additional monitoring

wells will be installed at a later date.

**30. Section 3.4.3, Subtask 0330; Soil Boring and Monitoring Well installation
Page 3-9.**

The Work Plan indicates that borings will be advanced to bedrock refusal and then backfilled to the appropriate depth. Although not stated it is assumed that the backfill material will be a bentonite slurry.

**31. Section 3.4.3, Soil Sampling;
Page 3-10.**

This section notes that field screening will include visual and FID readings. The report should note that field screening will include visual, olfactory and field instruments techniques, such as amino assay, FID field IR, etc.

**32. Section 3.4.3, Soil Sampling;
Page 3-10.**

This section of the report indicates that one soil sample will be collected from each boring. The report should note that two samples will be collected, one from the most contaminated zone and one above the water table in the smear zone.

**33. Section 3.4.4, Subtask 0340: Groundwater Sampling
Page 3-14.**

This section of the plan notes that LNAPLs will be measured. The report should also note that if encountered samples will be collected for full laboratory analysis.

**34. Section 3.4.5, Subtask 0350, Storm Sewer Outfall sampling;
Page 3-18.**

This section of the report indicates that a water sample will be collected from this sewer. Should the analysis be conducted when there is no flow into the pipe, the water that would be collected will be representative of inflow seawater and not contaminated water from the site. Therefore, the report should specify that collection will only occur so as to avoid collection of inflow seawater. Accordingly, the collection should be conducted at low tide after the seawater has been allowed to drain from the pipe. In addition, the Navy should collect sediment samples from this area as contaminated water discharges may be periodic.

**35. Section 3.4.5, Subtask 0350, Storm Sewer Outfall sampling;
Page 3-18.**

This section of the report discusses the storm sewer. Storm sewer frequently provide a preferential pathway for groundwater. Therefore, the storm sewer lines and their backfill should be investigated. This should include pipe inverts and the depth of backfill to determine if the pipes or backfill are above or below the water table during any time of the year. If it is determined that the lines and/or backfill are below the water table, the pipes should be thoroughly inspected to identify areas of groundwater infiltration, and groundwater samples from within the backfill should be obtained to determine if the backfill is acting as a conduit.