



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Remediation Management & Response
P.O. Box 413
Trenton, New Jersey 08625-0413

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

June 15, 2007

Mr. Joseph Fallon, CHMM
Directorate of Public Works
ATTN: IMNE-MON-PWE
167 Riverside Ave.
Fort Monmouth, NJ 07703-5101

RE: Draft Site Investigation Work Plan
Fort Monmouth, NJ

Dear Mr. Fallon:

The NJDEP Division of Remediation Management & Response (DRMR) has reviewed the Draft Site Investigation Work Plan dated April 23, 2007 by Shaw Environmental, Inc., which was prepared under Phase II of the Environmental Condition of Property (ECP) assessment of Fort Monmouth.

The NJDEP's comments are attached. Our representatives met with you and your staff and Shaw Environmental representatives on June 13, 2007 to discuss our comments. I believe that all comments were satisfactorily resolved at that time, and it was agreed that Shaw Environmental would prepare a written response to comments based upon discussions at the meeting.

You or your staff may contact me at 609-633-0766 with any questions on the enclosed comments, or any other site remediation matters at Fort Monmouth.

Sincerely,

A handwritten signature in cursive script that reads "Larry Quinn".

Larry Quinn, P.E., CHMM, Case Manager
Bureau of Case Management

Attachment

NJDEP COMMENTS on
Draft ECP Phase II Site Investigation Workplan, Fort Monmouth
Dated April 23, 2007

Soil Comments (Non-groundwater)

General Soil Comments

1. 2.2 Soil Sampling, page 2-5: The Work Plan states that samples for VOC analysis will be collected from a 6-inch interval between 6 to 24 inches below ground surface (bgs). The correct interval should be 18-24 inches bgs.
2. 2.4 Sediment Sampling, page 2-6: The NJDEP, "Guidance for Sediment Quality Evaluations" should be referenced for information and details on sediment screening guidelines.
3. Table 4-2 provides NJDEP soil cleanup criteria, however the table does not include Residential Direct Contact Soil Cleanup Criteria (RDCSCC). Since the future use of the site is undetermined and could include future residential use, all soil sampling data must be compared to the RDCSCC or in the case of groundwater concerns the IGWSCC, whichever is lower.

Parcel-Specific Soil Comments

- 3.1 Parcel 13 - Former Barracks (Bldgs. 2004-2016): Former documents (Plan No. 520) depicted numerous fuel oil USTs that existed within Parcel 13. Figures showing the historical barracks and associated USTs based on aerial photos are not provided. The Work Plan figure 3-1 shows a grid sampling approach, however if the location of historical USTs are known, targeted sampling must be conducted according to NJAC 7:26E-3.9(a)3.
- 3.2 Parcel 14 - Former Barracks in NW Portion of CWA: Former documents (Plan No. 520) depicted numerous fuel oil USTs that existed within Parcel 14. Figures showing the historical barracks and associated USTs based on aerial photos are not provided. The Work Plan figure 3-2 shows a grid sampling approach, however if the location of historical USTs are known, targeted sampling must be conducted according to NJAC 7:26E-3.9(a)3.
- 3.3 Parcel 15 – Bldg. 2700, page 3-8: The Work Plan states that a review of the documented UST locations determined that no UST removals have occurred at the location of numerous former barracks within Parcel 15. None of the known UST locations shown on figure 3-3 (UST 2700-36 through 65) are included in the grid sampling. The Work Plan must explain why these UST locations are not included as part of the investigation.
- 3.4 Parcel 27 – Southwestern Corner CWA: The Work Plan states that numerous former USTs were associated with buildings throughout Parcel 27. It is stated that the USTs have been removed under the FTMM UST Management Program and are summarized in the Phase I ECP Report. Documentation on the closure of all the former USTs within Parcel 27 must be verified.

3.5 Parcel 28 – Former Eatontown Laboratory: Former installation plans and figures show three separate septic tanks and leach fields and one underground transformer fault. These potential AOCs must be shown on figure 3-5 to coincide with the proposed sample locations. It is stated that former USTs have been removed under the FTMM UST Management Program and are summarized in the Phase I ECP Report. Documentation on the closure of all the former USTs within Parcel 28 must be verified.

3.6 Parcel 34 – Bldg. 2567: The proposed VI sampling at building 2567 is acceptable.

3.7 Parcel 38 – Former Pistol Range: The proposed surface soil sampling for metals is acceptable.

3.8 Parcel 39 - Bldg. 1150 (Vail Hall): The proposed sediment sampling in Mill Creek is acceptable.

3.9 Parcel 43 – Bldg. 1122 (Do-it-yourself Auto Repair): The proposed sediment sampling in Mill Creek and VI sampling at Bldg. 1122 is acceptable.

3.10 Parcel 49, Former Squier Laboratory Complex: It is reported that former USTs have been removed under the FTMM UST Management Program and are summarized in the Phase I ECP Report. Documentation on the closure of all the former USTs within Parcel 28 should be verified. Former structures, buildings and other areas of concern are discussed in the text and in the tables but are not indicated on the figures (e.g. concrete slab for former Bldg. 293). All areas of concern, whether existing or former structures, must be depicted on the site figures.

3.11 Parcel 50, IRP Sites FTMM-54, FTMM-55 and FTMM-61: The remedial activities at Bldg. 296 site, Bldg. 290 site and the M-18 Landfill were reported and documented in a October 2003 report to NJDEP. A review of soil conditions at this site is not provided in the summary. Since an NFA for soils was not issued for these AOCs, the need for additional investigation is contingent on information demonstrating that NJDEP Soil Cleanup Criteria have been achieved for soils. The proposed VI sampling is acceptable.

3.12 Parcel 51 – 750 Area, 500 Area, 600 Area, 1100 Area – Former Barracks: It is stated that USTs associated with the former barracks and current buildings within the 500, 600, and 1100 Area have been removed under the FTMM UST program and were summarized in the Phase I ECP Report. Documentation on the closure of all the former USTs within Parcel 51 must be verified. The Work Plan figure 3-12 shows a grid sampling approach, however if the location of historical USTs are known, targeted sampling must be conducted in accordance with NJAC 7:26E-3.9(a)3.

3.13 Parcel 52 – Bldg. 699 – Army Exchange Services Gas Station: The proposed VI sampling is acceptable.

3.14 Parcel 57 – Former Coal Storage and Railroad Unloading – 800 Area: Proposed grid sampling is acceptable. Since historical coal storage and fuel unloading were reported to have taken place at this AOC, the analytical parameters for soil sampling should include PCBs.

3.15 Parcel 61 – Bldg. 1075 Patterson Health Clinic: Due to the unknown nature of the chemical handling and potential discharge to sanitary and stormwater discharges, the analytical parameters must include PCB analysis.

3.16 Parcel 69 – Bldg. 900 Former Vehicle Repair/ Motor Pool: The building formerly contained a waste oil tank immediately outside the building. The sampling at this AOC must include analysis for PCBs. The removal and closure of two former USTs associated with Bldg. 900 have been removed under the FTMM UST Management Program and are summarized in the Phase I ECP Report. Documentation on the closure of all the former USTs within Parcel 69 must be verified.

3.17 Parcel 70 – Bldg. 551 – Former Photoprocessing: The proposed sediment samples must be collected from a 6-inch interval from either the surface or the proposed 1-2 foot depth. Documentation on the closure of all the former USTs within Parcel 70 must be verified.

3.18 Parcel 76 – 200 Area, 300 Area – Former Barracks: USTs associated with the former barracks and current buildings within the 200 Area have been removed under the FTMM UST program and were reportedly summarized in the Phase I ECP Report. Documentation on the closure of all the former USTs within Parcel 76 must be verified.

3.19 Parcel 79 – 400 Area Former Barracks: It is reported that numerous USTs associated with former barracks, current buildings, and former bulk petroleum storage within Parcel 79 have been removed under the FTMM UST program and are summarized within the FTMM Phase I ECP Report. Documentation must be provided in a future RAR that confirms the remediation and closure of all USTs associated with the 400 Area.

3.20 Parcel 80 – Former Bldgs 105 and 106 – Photoprocessing: The footprint of the former building 105 and 106 should be shown on the figure 3-20.

3.21 Parcel 83 - Northeast MP: Former structures, buildings and other areas of concern are discussed in the text and in the tables but are not indicated on the figure 3-21. All areas of concern, whether existing or former structures, must be depicted on the site figures. Do to the nature of the historical operations, the sampling at this AOC must include analysis for PCBs.

3.22 Sanitary Sewer System: No figure is presented to indicate location of proposed sampling.

3.23 Electrical Substations: No figure is presented for Bldg. 288. All areas of concern, whether existing or former structures, must be depicted on the site figures. The sampling proposed for Bldgs. 978, 1231, 2716 is acceptable.

Groundwater Comments

General Groundwater Comments

1. Injections to ground water require written approval from NJDEP. A pilot scale work plan pursuant to N.J.A.C. 7:26E-4.1(a)4 and a permit-by-rule application are required for all subsurface injections. Monitoring well(s) located downgradient of a proposed injection pilot test area are required as part of the work plan to monitor groundwater quality as well as the effectiveness of the remedy at and down gradient of the treated area.
 - a) The Army shall provide documentation that demonstrates that the RI is complete for each area where in situ injections have been proposed.
 - b) The Army shall re-evaluate potential source material remaining that may be impacting groundwater in the areas where they are proposing in situ treatments. Due to the abridged timeline for property transfer, it is imperative that all possible sources be removed.
 - c) N.J.A.C.7:26E-6.3(c) contains all pertinent requirements for a permit-by-rule. A permit-by-rule is issued to cover a period of 180 days. If the proposed injections will be ongoing for more than 180 days, additional requirements apply, such as public notice, etc.
2. N.J.A.C. 7:26E-3.7(e)3.iv – Groundwater flow conditions shall be evaluated and depicted on each parcel map where there are at least three monitor wells.
3. Based on the NJDEP NFA letters attached as Appendix N of the Phase I ECP, which documents former USTs, there are a significant number of former USTs without NFA determinations that are not addressed in the Phase II ECP by sampling or geophysical surveys. All former USTs shall be addressed to determine potential impacts.
4. For all gasoline area groundwater samples, analysis for the parameter Tertiary-Butyl Alcohol (TBA) must be added.
5. A revised schedule of site-wide activities should be prepared for the final report. NJDEP also requests periodic updates on the status of field activities to allow site visits to be scheduled.
6. The location of geothermal wells should be shown on maps and typical well construction details should be provided for NJDEP review.
7. The Army shall conduct well searches pursuant to N.J.A.C. 7:26E-3.7(e)3 whenever ground water contamination is confirmed.
8. SAM-0205 (Monitor Well Sampling for IRP sites at Fort Monmouth), SAM-0204 (Geoprobe Sampling Methods – for groundwater), and SAM-0223 (Low Flow Monitor Well Sampling for IRP Sites at Fort Monmouth) SOPs list the NJDEP Field Sampling Procedures Manual (FSPM 1992). All groundwater sampling shall be conducted in accordance with the NJDEP FSPM 2005. All purge water shall be disposed of in accordance with the NJDEP FSPM 2005.

Parcel-Specific Groundwater Comments

(3.1) Parcel 13: Former Barracks (Buildings 2004 – 2016):

This plan is acceptable as presented. However, based on the geophysical data and soil sampling results additional groundwater sampling maybe required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirement 3 above with regard to former USTs.

(3.2) Parcel 14: Former Barracks in Northwest Portion of CWA:

The Army's proposal to address any possible existence of historic fuel oil USTs within this parcel is acceptable as presented. However, please see requirement 3 above with regard to former USTs. Based on the results of the site investigation (SI) data (geophysical, soil, and proposed groundwater sampling data further groundwater investigation of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c).

(3.3) Parcel 15: Building 2700:

The Army's proposal to address any possible existence of historic fuel oil USTs within this parcel is acceptable as presented. However, please see requirement 3 above with regard to former USTs.

Figure 3-3 documents all proposed sampling locations, geophysical grid, soil gas and the locations of current and former USTs and ASTs. Based on the results of the site investigation (SI) data (geophysical, soil, and proposed groundwater sampling data) further groundwater investigation of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirement 1 above. The Army cannot inject HRC without a detailed work plan and application for a permit-by-rule. A re-evaluation of potential source material and documentation of RI completeness is required for review. All groundwater data for this parcel is required to be submitted for review.

(3.4) Parcel 27: Southwestern Corner CWA:

There was no proposal to investigate groundwater impacts in this parcel. Based on the results of the site investigation (SI) data (geophysical, soil, and sediment sampling data a groundwater investigation of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). This bureau has not reviewed any groundwater data for AOCs located within this parcel. Please see requirement 3 above with regard to former USTs. Therefore, the Army shall submit all groundwater data associated with this parcel for review.

(3.5) Parcel 28: Former Eatontown Laboratory:

Figure 3-5 documents the proposed sampling locations, geophysical survey areas, all former and current UST/AST locations as well as monitor wells in this parcel. The groundwater sampling parameters are acceptable with the addition of ammonia, nitrate, and nitrite. Based on the results of the site investigation (SI) data (geophysical, soil, and sediment sampling data further groundwater investigation of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirements 2 and 3 above with regard to former USTs and groundwater flow maps. Also please see requirement 6 for additional requirements related to the geothermal well fields on site.

(3.6) Parcel 34: Building 2567:

NOTE: The NJDEP has not yet reviewed the 10-28-05 RAR & RAW on Site 2567.

Depending upon the groundwater data to date, monitored natural attenuation (MNA) may not be applicable and ORC may not be the most suitable active remedial technology. Please see requirement 1 above. The Army cannot implement an injection program without a detailed work plan and permit-by-rule. A re-evaluation of potential source material and documentation of RI completeness is required for review. If ground water data other than that included in the RAR & RAW exists, it must be submitted for review.

(3.7) Parcel 38: Former Pistol Range (1940-1955):

Based on soil sampling results the Army shall evaluate whether groundwater sampling may be necessary.

(3.8) Parcel 39: Building 1150 (Vail Hall):

No comments.

(3.9) Parcel 43: Building 1122 (Do-It-Yourself Auto Repair):

NOTE: The NJDEP has not yet reviewed a Remedial Action Report or any other documentation on the Building 1122 site.

The Army proposed no new groundwater sampling with respect to Parcel 43. All previous groundwater sampling was in place based on FTMM-59. Based on figure 3-9, UST-1122-171 may not be adequately addressed with respect to groundwater quality monitoring. All site monitoring wells are located within the vicinity of former UST-1122-199 in the north of the northeastern portion of building 1122. Please see requirement 3 above with regard to former USTs. Based on the results of the site investigation (SI) data (sediment sampling and VI data) a further groundwater investigation of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c).

The Army cannot implement an injection program without a detailed work plan and permit-by-rule. A re-evaluation of potential source material and documentation of RI completeness is required for review. All groundwater data for this parcel is required to be submitted for review.

(3.10) Parcel 49: Former Squier Laboratory Complex, Museum, and MP Battery Test Facility:

The groundwater sampling locations and analytical parameters are acceptable as presented. All buildings associated with this parcel are not shown on figure 3-10 and must be documented. Investigation of the numerous former USTs within this parcel requires confirmation. A number of former USTs that do not appear based on figure 3-10 to be properly addressed. Please see requirement 3 above with regard to former USTs. Please see requirement 2 above with regard to groundwater flow. Based on the results of the site investigation (SI) data (sediment, soil, and groundwater sampling and VI data) a further groundwater investigation of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c).

(3.11) Parcel 50: IRP Sites FTMM-54, FTMM-55, and FTMM-61:

NOTE: There may be additional NJDEP requirements for this parcel based on the M18 Landfill RIR. NJDEP will provide specific comments on M18 in the near future.

The Department states that ORC may not be the best remedial activities for this parcel/sites. An evaluation of different remedial technologies is required pursuant to the NJDEP Technical Requirement for Site Remediation (TRSR) section 6.2. Please see requirement 1 above with regard to pilot test work plan requirements for in situ active groundwater proposals.

Based on this document that clearly states that there were pump islands, the Army must collect a groundwater sample pursuant to N.J.A.C. 7:26E-4.4(f)3 and prepare a figure pursuant to N.J.A.C. 7:26E-4.8(d)2i to show their former location. Additionally, the Army shall evaluate and justify monitor well placement with respect to the USTs. The Army shall also demonstrate that contamination was delineated by the existing monitor wells.

(3.12) Parcel 51: 750 Area, 500 Area, 600 Area, 1100 Area—Former Barracks:

NOTE: The NJDEP has recently reviewed reports the October 2005 RA Report on the 400, 700 and 800 Areas and comments will soon be provided to the Army.

The proposal for groundwater sampling is acceptable as proposed. Based on the results of the site investigation (SI) data (soil, and groundwater sampling data) a further groundwater investigation of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirement 3 above with regard to former USTs.

(3.13) Parcel 52: Building 699 – Army/Air Force Exchange Service Gas Station:

NOTE: NJDEP has received 4 Remedial Action Progress Reports on Building 699 but has not yet reviewed them. The Army shall submit any additional groundwater data for this parcel to demonstrate that all RI groundwater investigations have been completed. Additionally, the Army shall submit a CEA application if all RI groundwater investigations have been completed. A schematic of all groundwater remedial system components is required for review. Additionally, the Army shall re-evaluate any possible source material that may be impacting groundwater at this site.

(3.14) Parcel 57: Former Coal Storage and Railroad Unloading –800 Area:

The Army's proposal to investigate the former coal and fuel loading and unloading area (parcel 57) is acceptable as presented. Please see requirement 3 above with regard to former USTs. Please see requirement 7 above and previous geothermal well field comments.

(3.15) Parcel 61: Building 1075– Patterson Army Health Clinic:

No comments.

(3.16) Parcel 69: Building 900 – Former Vehicle Repair/Motor Pool:

The proposal for groundwater is acceptable as presented. However, based on the geophysical data and soil, sediment and groundwater sampling results, additional groundwater sampling maybe required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirements 2 and 3 above with regard to groundwater flow and former USTs.

(3.17) Parcel 70: Building 551 – Former Photoprocessing:

Please see requirements 2 and 3 above with regard to groundwater flow and former USTs.

(3.18) Parcel 76: 200 Area, 300 Area – Former Barracks:

The groundwater proposal is acceptable as presented. Based on the results of the site investigation (SI) data (geophysical, and soil sampling data), a groundwater investigation of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirements 2 and 3 above with regard to groundwater flow and former USTs. Based on soil sampling results the Army shall evaluate whether additional groundwater sampling may be necessary.

(3.19) Parcel 79: 400 Area Former Barracks:

The groundwater proposal is acceptable as present with the stipulation that groundwater samples are for VO+10 and BN+15. Based on the results of the site investigation (SI) data (geophysical, soil and groundwater sampling data), additional groundwater investigations of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirements 2 and 3 above with regard to groundwater flow and former USTs.

(3.20) Parcel 80: Former Buildings 105 and 106 – Former Photoprocessing:

The Army's proposal is acceptable. Based on the results of the site investigation (SI) data (soil and groundwater sampling data), further groundwater investigations may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirements 2 and 3 above with regard to groundwater flow and former USTs.

(3.21) Parcel 83: NE MP – Former Photoprocessing, Former Vehicle Maintenance, Former Coal Storage and Railroad Unloading, Maintenance Shops:

The proposal is acceptable as presented. Based on the results of the site investigation (SI) data (soil and groundwater sampling data), further groundwater investigations of the parcel may be required pursuant to N.J.A.C. 7:26E-3.9(a)3 and N.J.A.C. 7:26E-3.7(c). Please see requirements 2 and 3 above with regard to groundwater flow and former USTs.

(3.22) Sanitary Sewer System:

No comments.

(3.23) Electrical Substations:

No comments.