

EL TORO

Reuse Planning Authority

July 13, 1998

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Mr. Joseph Joyce
BRAC Environmental Coordinator
U.S. Marine Corps Air Station-El Toro
P.O. Box 95001
Santa Ana, CA 92709-5001

Dear Mr. Joyce:

Thank you for the opportunity to review and comment upon the remedial actions proposed by the Department of the Navy for landfill sites 3 & 5 at MCAS El Toro. The El Toro Reuse Planning Authority (ETRPA) retained the services of Ninyo & Moore to provide a technical review of the remediation proposed. The firm's report is enclosed for your information.

After considering the remediation proposal by the Navy along with Ninyo & Moore's review; and other comments prepared by state and federal regulatory agencies, the County of Orange and the Restoration Advisory Board, ETRPA believes that both sites 3 & 5 should be excavated with the contaminated dirt removed and hauled away from the base property. ETRPA appreciates the Navy's clean up effort at MCAS El Toro which will deliver the property for any intended reuse, without restrictions, except for these landfills. However, the remediation proposed by the Navy for the landfill sites would make it extremely difficult, if not impossible, to implement either ETRPA's or the Local Redevelopment Authority's (LRA) land uses proposed for this portion of the base.

The Marine Corps' Base Realignment and Closure Office has indicated that it will turn over the base for local redevelopment without any constraints, except for the landfill sites, which represent only a small portion of the land to be developed. However, it should be noted that redevelopment of the base will entail significant demolition and infrastructure expenses throughout in order to ready the property for civilian development and to bring infrastructure systems up to current codes. Therefore, ETRPA is concerned that the loss of development flexibility over any portion of the base may jeopardize the ability to

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implement either ETRPA's Millennium Plan or the LRA's proposed aviation master plan. Even if the on-site remediation, either as proposed by the Navy or with the additional protections proposed by the LRA, was effective in protecting the public health and safety, the landfill sites and adjacent properties would be subject to deed restrictions, thereby making any future use of these sites problematic.

ETRPA believes that the only way to ensure the public health and safety is by the removal of the landfill material and its replacement with native soil. Monitoring actions proposed by the Navy for the future cannot guarantee that the landfill contaminants will not spread either into the groundwater or in some way come into physical contact with individuals either working or living within the proximity of the sites. If any such problems should occur in the future, local governments and the federal government would be faced with further remediation costs, litigation bills and potential healthcare expenses. The situation could become analogous with the cleanup of the McColl superfund site in Fullerton, which took years to resolve in allocating responsibility and in developing and implementing a cleanup plan. The only way this type of situation can be avoided is by the complete removal of the two landfills.

Once again, thank you for the opportunity to comment on the remediation proposal for landfill sites 3 & 5.

Sincerely,



Paul D. Eckles
Executive Director

(by J.F.)

Enclosure

cc: ETRPA Board
Reuse Executive Management Team

July 10, 1998
Project No. 201464-01

Mr. Peter Hersh
El Toro Reuse Planning Authority
One Civic Center Plaza
Irvine, California 92623-9575

Subject: Review of Draft Feasibility Study Reports and Evaluation of Remedial Alternatives
Operable Unit 2C - Sites 3 and 5
Marine Corps Air Station
El Toro, California

Dear Mr. Hersh:

In accordance with terms of the June 8, 1998, Agreement for Contract Services between the El Toro Reuse Planning Authority (ETRPA) and Ninyo & Moore, we have reviewed the subject Feasibility Study (FS) Reports, prepared by Bechtel National, Inc. (Bechtel) for the Southwest Division Naval Facilities Engineering Command (Navy) and dated September 8, 1997. We have also reviewed other available relevant documents provided by ETRPA and other sources.

The FS reports were reviewed for technical completeness, accuracy, and conformance with generally accepted standards of practice for this type of work. Our scope of services included a substantial review intended to identify any major shortcomings, major inconsistencies, and significant information gaps in those areas considered most likely to influence the conclusions and recommendations presented in the documents. Particular attention was paid to the identification and screening of remedial technologies, development of remedial alternatives, and detailed analysis of remedial alternatives as discussed in the reports.

The documents reviewed by Ninyo & Moore were limited to the subject FS reports and the documents listed below. Our scope of services did not include an evaluation of the geotechnical (i.e., slope stability, compaction, differential settlement) aspects of the proposed landfill cap designs and/or removal actions.

This letter report contains our opinions and conclusions regarding the reviewed FS reports.

BACKGROUND

Operable Unit 2C - Site 3 was the original landfill for the Marine Corps Air Station El Toro (MCAS) and was active from approximately 1943 until 1955. Reportedly, the landfill accepted all wastes generated at MCAS including metals, incinerator ash, solvents, paint residues, hydraulic fluids, engine coolants, construction debris, oily wastes, municipal solid wastes and inert solid wastes. Bechtel (1997) estimated that between 163,500 and 243,000 cubic yards of waste may be buried in this landfill.

Operable Unit 2C - Site 5 was an active landfill from approximately 1955 until the late 1960s. Wastes placed in Site 5 reportedly were likely similar to those placed in Site 3. Bechtel estimated that 30,000 to 40,000 cubic yards of waste may have been placed into this landfill.

The Navy has chosen a CERCLA presumptive remedy to close the landfills at Sites 3 and 5. In both cases, Alternative 3, the monolithic soil cap, is the preferred Navy alternative.

DOCUMENTS REVIEWED

In addition to the FS reports, Ninyo & Moore reviewed the following documents:

- CALEPA DTSC, 1998, Response To Your [Mr. Joseph Joyce, BRAC Environmental Coordinator] Letter Regarding Draft Final Proposed Plan for Landfill Sites At Marine Corps Air Station (MCAS) El Toro: dated May 5.
- California Code of Regulations (CCR), Combined SWRCB/CIWMB Regulations, Division 2, Title 27.

- County of Orange Local Redevelopment Authority (LRA), 1998, Comment Letter on the Proposed Plan for Closure of Inactive Landfills at Marine Corps Air Station El Toro [draft – includes portions of LRA land use plans]: dated June 23.
- Department of the Navy, 1998, Proposed Plan for Closure of Inactive Landfills at Marine Corps Air Station El Toro [Final]: dated May.
- ETRPA, 1998, Millennium Plan, MCAS El Toro Reuse Plan: dated March 30.
- USEPA, 1996, Application of the CERCLA Municipal Landfill Presumptive Remedy to Military Landfills, Directive No. 9355.0-67FS: dated December.
- USEPA, 1993 Presumptive Remedy for CERCLA Municipal Landfill Sites, Directive No. 9355.0-49FS: Dated September.

THE CERCLA MUNICIPAL LANDFILL PRESUMPTIVE REMEDY

As stated by the EPA (EPA, 1993), presumptive remedies are preferred technologies for common categories of sites, based on historical patterns of remedy selection and EPA's scientific and engineering evaluation of performance data on technology information. Characteristics for applicability of a presumptive remedy include:

- Risks are low-level, except for hot spots;
- Treatment of waste is usually impractical due to the volume and heterogeneity of waste;
- Waste types include household, commercial, nonhazardous sludge, and industrial solid wastes;
- Lesser quantities of hazardous waste are present as compared to municipal wastes (EPA, 1996).

Based on our review of the FS reports, Bechtel reported no evidence of the placement of "Military-Specific Wastes" such as chemical warfare agents, munitions hardware, or smoke grenades which would preclude application of a presumptive remedy.

Inherent with adoption of a presumptive remedy is the reduction or elimination of characterization of landfill contents (EPA, 1996): "Relying on existing data to the extent possible rather than characterizing landfill contents (limited or no landfill source investigation unless there is information

indicating a need to investigate hot spots)". The FS documents did not report the presence of soil hot spots.

GENERAL COMMENTS

Based on our review of the listed documents, the monolithic cap remedy (Alternative 3) was determined by the Navy to be the least costly presumptive remedy capable of adequately protecting human health and the environment. It is our opinion that the Navy did not place as high a degree of emphasis on likely future land uses, as proposed by the Local Redevelopment Authority (LRA) or ETRPA (ETRPA, 1998), as is the intent of applicable regulations. As indicated by the EPA, "...at military bases undergoing base closure procedure, where expeditiously converting property to civilian use is one of the primary goals, land use may receive heightened attention." (EPA, 1996). Specifically, the EPA emphasizes the importance of the Base Realignment and Closure Team working closely with local reuse groups to integrate reuse planning into the cleanup process. The Department of Toxic Substances Control (DTSC) has indicated (DTSC, 1998) that it "...remains concerned that the Marines' proposed remedy (native soil caps) may not be compatible with the Reuse Plan for future land use as proposed by the Local Redevelopment Authority (LRA) for landfill Sites 3 and 5." Of the alternatives evaluated under the presumptive remedy, the monolithic soil cap is the most restrictive alternative with regard to future land use.

Our specific comments follow:

- Estimates of the extent and volume of waste which are developed with minimal characterization, as is the case with the presumptive remedy method guidelines, and was the case with Sites 3 and 5, carry with them a large degree of uncertainty. The actual extent and volume of wastes may vary significantly. A subsurface evaluation may better define the actual volume and extent of the buried wastes.
- In our opinion, extensive characterization of the source material for the proposed monolithic soil caps should have been performed by a qualified geotechnical engineer. In the case of Site 3, only one soil sample from a potential material source was characterized for hydraulic conductivity. This sample was collected from a depth of approximately 80 feet below the surface. The hydraulic conductivity of a sample collected at this depth would likely be less, due to compaction, than a sample collected from a surface or shallower near surface source. We would assume that a surface exposure and/or a shallow near surface source would serve as the cap material. Additional testing and data must be presented to support the conclusion that the monolithic soil cap will be equivalent to the Title 27 prescriptive cap. The cost estimate to implement the monolithic soil cap remedy (Alternative 3) may vary significantly depending on the location of the source material.
- The actual source material of the monolithic cap should be tested for concentrations of metals and other possible contaminants.
- The FS reports indicate that annual grasses will be used for erosion control on the monolithic caps but the figures do not show a vegetative layer. The FS reports should be more specific with regard to the grasses to be used and should document past successful use of the selected grasses in expected arid situations as well as in non-arid conditions, such as those experienced during an "El Niño." We are concerned that the erosion control measures described may not be as effective as the vegetative layers shown for alternatives 4 and 5.
- The performance of the monolithic cap with regard to reducing leachate production appears to be based on an assumption of limited precipitation, approximately 12 inches per year or less. It may be worthwhile to reevaluate these assumptions in light of much greater annual precipitation, such as that experienced during the recent El Niño.
- On page 5-10 of the Site 5 FS, it is stated that the LRA's proposed reuse of the site is "...as an irrigated [emphasis added] golf course." ETRPA has proposed a similar use. It is indicated on the same page that "...Alternative 3 reduces the amount of infiltration by 49 percent and is not as effective [emphasis added] as the Title 23 [27] prescriptive cap which reduces infiltration by 85 percent." The FS goes on to indicate that institutional controls will be necessary to prevent irrigation. The necessity to prevent irrigation clearly contradicts the proposed use as an irrigated golf course.

- In the FS documents, institutional controls are described in general terms. The discussions of institutional controls should be expanded and more specific.
- The Site 3 FS appears to preclude the LRA's and ETRPA's planned use of Site 3. As indicated in the Site 3 FS, the LRA's planned use of the site is "...light industrial/commercial." ETRPA's planned use for the site is residential. A native soil cap, access to which is controlled by fences and other institutional controls, appears to preclude the proposed uses. As indicated in the referenced LRA document, the Navy believes the "...capped landfill areas can be integrated as an open space in a commercial development." In our opinion, this logic avoids the land use question entirely. By use of this logic, the capped landfills could, from the standpoint of protection of human health and environment, be integrated into any kind of development where open space is acceptable, including residential.
- The FS documents should provide more thorough documentation and detail regarding the cost estimates for removal of landfill wastes ("clean closure"). The FS documents should also state clearly that valid cost estimates for clean closure can only be developed with more extensive site characterization than is consistent with the presumptive remedy.

CONCLUSIONS

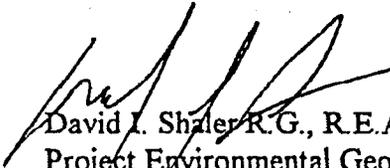
Based on our review of the referenced documents we present the following conclusions regarding the draft FS reports for Sites 3 and 5:

- The monolithic soil cap (Alternative 3) may be protective of human health and the environment provided the hydraulic characteristics of the yet to be specified source material are such that the cap will provide performance equivalent to the Title 27 Prescriptive Cap. Equivalence with the Title 27 Prescriptive CAP has not yet been shown for Sites 3 and 5.
- The monolithic soil cap, as described in the FS reports, is incompatible with the respective land uses proposed for Sites 3 and 5 by the LRA and ETRPA. Presumptive remedy alternatives 4, 5 and 6 are protective of human health and the environment and are compatible with proposed land uses.
- The DTSC, the lead regulatory agency for base closure, appears to favor Alternative 4D, a single-barrier cap with institutional controls and monitoring using a synthetic flexible membrane liner for Site 5, and alternative 5B or 6B (both asphalt caps) for Site 3. These alternatives are protective of human health and the environment and provide more flexibility with regard to future land use.
- Depending on the actual extent of landfill wastes at the two sites, clean closure (i.e., removal) may be an appropriate and cost effective closure method. In order to evaluate the appropriateness and cost effectiveness of clean closure, the extent of landfill wastes must be more clearly delineated. In order to more accurately delineate the extent of landfill wastes, addi-

tional characterization, including a comprehensive subsurface evaluation within the suspected landfill boundaries, would be necessary. If such additional evaluations of landfill waste were to result in redefinition of waste area and volume, cost estimates for the various presumptive remedies would need to be redetermined and compared with the "clean closure" removal option.

We at Ninyo & Moore appreciate the opportunity to provide this information to ETRPA. If you have any questions regarding this letter, please contact the undersigned.

Sincerely,
NINYO & MOORE



David I. Shaler, R.G., R.E.A.
Project Environmental Geologist



Peter R. Supko, Ph.D., R.G., R.E.A.
Principal Environmental Geologist

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Distribution: (2) Addressee