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April 21, 1999
Project 4850.01

Mr. Ernesto M. Galang
Remedial Project Manager
Department of the Navy
Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

Subject: Review of *Draft Final Site 12 Construction Oversight Work Plan for Time Critical Removal of Lead-Contaminated Soil* and *Work Plan, Removal Action of Lead Contaminated Soil, Building Units 1207 and 1209*
Naval Station Treasure Island
San Francisco, California

Dear Mr. Galang:

This letter presents the results of a review of the *Draft Final Site 12 Construction Oversight Work Plan for Time Critical Removal of Lead-Contaminated Soil* (Draft Final COWP), prepared by Tetra Tech EM Inc. (TtEMI) and the *Work Plan, Removal Action of Lead Contaminated Soil, Building Units 1207 and 1209* (Work Plan), prepared by IT Corporation (IT). This review was performed by Geomatrix Consultants, Inc. (Geomatrix), on behalf of the City and County of San Francisco, Mayor's Office, Treasure Island Project (the City). The scope of the Draft Final CWOP was discussed in a meeting of the Remedial Project Managers/BRAC Cleanup Team (RPM/BCT) on April 5, 1998. Representatives from TtEMI presented the results of recent sampling conducted by IT as a basis for identifying the initial boundaries of the excavation as well as an overview of the confirmation sampling to be conducted.

Our comments are summarized below.

- Both documents refer to 400 milligrams per kilogram (mg/kg) as the cleanup goal for lead, but neither document consistently describes how the cleanup goal will be applied. Some sections of the Draft Final COWP are clear that the cleanup goal refers to an average concentration (i.e., the mean of the confirmation samples will be compared to the cleanup goal), while other sections refer to the cleanup goal as a maximum concentration (i.e., all soil containing lead at concentrations greater than 400 mg/kg should be removed). We agree that it is appropriate to use the mean concentration to determine the need for further excavation because it more accurately represents what an individual could be exposed to over time. However, it is critical that both documents consistently describe the cleanup goal as representing an average concentration because there are other locations at Site 12

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where individual samples contain lead greater than 400 mg/kg, but no excavation is being proposed.

- The aerial extent of the proposed excavation is not consistent between Figure 3 of the Draft Final COWP and Figure 2 of the IT Work Plan, and neither figure is consistent with the proposed extent discussed at the April 5, 1999 RPM/BCT meeting. These figures must be consistent, and further information must be provided to justify deviating from the plan presented on April 5, 1999. Specifically, TtEMI indicated on April 5, 1999 that the existing and newly collected data justified limiting the extent of the excavation to the foot print of the burn pit area pending the results of the confirmation samples. However, both figures suggest that a significant portion of the burn pit will not be excavated because it is beneath the road and carports. We believe that the road and carports are easily reconstructed and should not represent a barrier to excavation. In addition, the currently proposed excavation extends significantly north of the burn bit area, presumably to encompass sampling location 12-HP036, at which lead was detected at a concentration greater than 400 mg/kg. If so, this would be contrary to the concept that the cleanup goal for lead is based on an average concentration rather than a maximum concentration. Other data collected in the vicinity of 12-HP036 by IT in 1999 suggest that the average lead concentration in this area would be well below 400 mg/kg.

- The Draft Final COWP does not provide sufficient information regarding how the specific confirmation sample locations will be identified (e.g., vertically or laterally across a side wall, random or systematic) or which samples will be composited (e.g., adjacent samples or randomly). Similarly, additional information regarding how the composite sampling design (as opposed to the random sampling design) satisfies Step 6 of the data quality objectives (DQOs) process should also be provided.

- Based on discussions at the RPM/BCT meeting on April 5, 1999, the COWP should include a contingency for analyzing the confirmation samples for dioxins.

- IT proposes to place and compact backfill in 12-inch-thick lifts in the upper 2 feet of the excavation. This lift thickness is too thick for adequate compaction to be achieved throughout the fill layer. If the fill is not adequately compacted, it may settle. We recommend that backfill (with the exception of the top 4 inches of topsoil) be placed and compacted in 8-inch-thick lifts. The proposed 90% relative compaction will be adequate except under pavement.

- The sanitary sewer and storm drain lines will be exposed during the excavation then covered during backfilling. The storm drain line is concrete and IT can take precautions during excavation and backfilling to protect this line. However, the sanitary sewer is probably vitrified clay pipe with bell and spigot joints; this line could easily be damaged

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during construction activities. We recommend that the sanitary sewer line within the excavation footprint be video inspected before and after the work is completed to document any resulting damage.

- The sidewalk will be destroyed within the footprint of the excavation. Plans, specifications, or other details should be provided that describe the sidewalk restoration, including backfilling and compaction requirements beneath the sidewalk that differ from those used for the rest of the excavation

- If the street is to be repaved after the excavation is completed, the paving section details should be described, including the additional backfilling and compaction requirements for pavement subgrade and base rock.

Please feel free to call the undersigned at (415) 434-9400 (until April 23, 1999) or (510) 663-4100 (beginning April 26, 1999) if you have any questions.

Sincerely yours,

GEOMATRIX CONSULTANTS, INC.

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