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MCAS EL TORO
SSIC # 5090.3

Chron No.: CTO-0161/0135

MEETING MINUTES

Meeting Subject: MCAS El Toro BRAC Office and Local Redevelopment Authority Coordination Meeting on Landfill Sites	**Meeting Date:** April 30, 1998 **Meeting Time:** 1330 **Meeting Place:** MCAS El Toro BRAC Office **Meeting Notes Prepared By:** Tim Latas
Attendees: See attached Attendance list	
Additional Distribution: Please See the Transmittal Sheet	

Colonel Ritchie began the meeting by stating the purpose of this meeting was to allow a discussion of questions on the draft final landfill proposed plan presented by the Orange County Local Redevelopment Authority (LRA) and responses to those questions provided by the Department of Navy (DoN) and Marine Corps (attached). This discussion is based on a 60-day extension granted by the Marine Corps to the LRA and the meeting is intended to continue the spirit of maintaining good relationships between the Marine Corps and LRA. Each person at the meeting introduced themselves and signed the attached attendance list.

Following introductions, Mr. Joseph Joyce reiterated that the purpose of the meeting is to discuss the questions and responses and that this meeting is not intended to negotiate land uses.

Ms. Candy Haggard agreed that the purpose of the meeting is discuss the questions and responses. The 60-day extension allowed the LRA an opportunity to develop a good understanding of the proposed plan. Most of the questions on the responses are concerned with the technical aspects of the proposed remedies. With this statement, Ms. Haggard introduced Ms. Sally Drach of MDBE as the LRA spokesperson.

Ms. Drach stated that the responses to the questions had made it to Ms. Haggard earlier in the morning of the meeting. Based on the LRA review of the responses, the LRA has prepared additional questions to clarify the responses and most are technical.

On Question 1, Ms. Drach asked if there is any other data available on surface water samples. Mr. Bernie Lindsey responded that the data shown in the RI summarizes all samples from the Remedial Investigation (RI). Mr. Tim Latas also added that the samples shown in the RI report represent two distinct sampling episodes: one set from the Phase I RI and the other set from the Phase II RI. These phases of the RI are separated by about 3 years. Some Phase II RI sample locations are nearly the same as Phase I RI samples while some Phase II RI locations were new. Ms. Drach also asked about whether the NPDES stormwater management data is available. Mr. Joyce said that the plan and data are available. Mr. Lindsey said that in the last 1-1/2 years, samples have been have added to the stormwater sampling which are downstream of sites 2, 3, and 17. Ms. Lynn Hornecker added that the downstream sample for Site 17 is in Agua Chinon Wash near the perimeter fence.

On Question 2, Ms. Drach requested clarification of the installation and sampling attempts of the lysimeters. Mr. Latas stated that a very fine grained sand was used to install the lysimeter cups and that water was used to place the sand. According to procedures, the amount of water used to install the sand had to be purged prior to sampling. For the most part, purging did not remove the volume of water used to install the sand and, in addition, the amount of water purged was not sufficient to fill all sample containers needed for the variety of chemical analyses which include metals, semivolatile organics compounds

(SVOCs), and PCBs. No attempts have been made since the Phase II RI to sample these lysimeters. If additional sampling is made, then the list of analytes is recommended to be reduced due to low quantity of water extracted from the lysimeter. Mr. Bert Palmer of GeoSyntec asked if volatile organics compounds (VOCs) would be collected from the lysimeter sample. Mr. Latas said that soil gas probes are attached about 5 feet above the lysimeter cup and soil gas samples were collected for VOCs. Ms. Drach asked whether the existing lysimeters would be used for the proposed remedy. Mr. Latas responded by saying some lysimeters would stay but new lysimeters would be installed because consolidation will change the footprint of the landfill wastes and the lysimeters will be installed beneath the wastes. Mr. Lindsey stated that the lysimeter placement is shown on the conceptual plans and will be refined in the detailed design. Ms. Drach asked what is meant by criteria that would trigger corrective action for leachate. Mr. Latas responded that increasing concentrations over time would trigger the corrective actions.

On Question 3, Ms. Drach asked if there was any more data on settlement. Mr. Palmer clarified this by asking if there was any additional topographic or survey data. Mr. Lindsey said that there have been few surveys of the sites. Mr. Latas said that most topographic maps of the station are large scale and detailed topography cannot be discerned. Ms. Hornecker also said that there are very few detailed surveys. In addition, Mr. Lindsey said that no apparent settlement is found at the structures at Site 3.

On Question 4, Ms. Drach asked if there were any detailed estimates of the amount of hazardous wastes in the portion of the sites to be considered for consolidation. Mr. Lindsey said that there are no estimates of hazardous wastes in the areas to be consolidated but there is a potential for hazardous wastes and that is a cost to be carried by the DoN. Ms. Drach asked if the hazardous wastes would be disposed offsite. Mr. Lindsey said that it would be disposed offsite. Ms. Drach asked if cross consolidation or moving soil and wastes between the landfills was considered. Mr. Lindsey stated that the DoN is considering this for soils from other Operable Units (OUs) which have non-landfill sites. Soils excavated from these sites would be placed as foundation soil in the landfills. Ms. Drach asked if there are any estimates for this work. Mr. Lindsey said no estimates have been prepared due to the uncertainty of the amount of hazardous soil. Ms. Drach asked if there was any estimate considered in the Feasibility Study (FS) reports. Mr. Latas said that he didn't believe that offsite hazardous soil disposal was considered in the consolidation of the landfills.

On Question 5a, Ms. Drach said that the responses indicated that additional soil samples have been collected at the proposed borrow sources for geotechnical analyses. She also asked if whether the data was available and if the LRA could get a copy of it. Mr. Lindsey said that 10 samples have been taken and geotechnical analyses have been performed, mostly for hydraulic conductivity which was in response to a U.S.EPA comment on the FS report. The DoN can provide this to the LRA. No questions on Question 5b.

On Question 6, Ms. Drach asked what the landfill will look like once completed because the aesthetics is an important issue for the LRA. Mr. Joyce said that it will be covered with drought resistant grasses. Ms. Haggard asked if other types of ground cover could be considered. Mr. Joyce did not think that would be a problem. Mr. Latas indicated that the key of the vegetation is controlling erosion and this is a detail design issue. Ms. Drach asked about temporary irrigation. Mr. Lindsey said the grass would be hydroseeded. Mr. Latas said that the irrigation would depend on the time of year of hydroseeding: if the cap is completed in early summer then irrigation would be needed but if the cap is completed in late summer or early fall then annual rains would sufficient to establish the grass. Ms. Drach asked about the type of irrigation. Mr. Latas said it would be a temporary system laid on the surface.

On Question 7, Ms. Drach asked if there are any other data available on the air and soil gas samples. Mr. Latas said that there have been set of samples collected on the air and soil gas. The first set came from an Air SWAT and from the Phase II RI. Both sets of data are presented in the RI report.

No clarifications were needed on Questions 8 and 9.

On Question 10, Ms. Drach asked for clarification on what risk management decisions are. She said that the FS report says the preferred remedy is not chosen in the FS report. Mr. Rex Callaway mentioned that risk management is a buzzword for remedy selection decision made from all data. The Proposed Plan

presents the preferred remedy and the Record of Decision (ROD) presents those decisions. The remedy selection is the risk management decision. Mr. Joyce added that the remedy selection or risk management has to provide protection of human health and the environment. On Question 10c, Ms. Drach asked if there are other risk management decisions other than selection of the final remedy. Mr. Lindsey said that the risk management decisions need to consider public comments before any risk management decisions are made about the final remedy. Mr. Joyce added that these decisions are set forth in the ROD. Ms. Drach stated that risk management decisions are basically those needed to select the final remedy. Mr. Callaway and Mr. Joyce concurred.

On Question 11a, Ms. Drach indicated Mr. Palmer had some minor points to clarify. Mr. Palmer asked if the demolition of the asphalt pavement would occur. Mr. Latas said that the asphalt would be removed so that subgrade soils could be overexcavated and recompacted to grade. On Question 11b, Ms. Drach asked how big the concrete pad is at Site 3. Ms. Hornecker thought it was about 100 by 200 feet. Mr. Palmer asked if the DoN could furnish the detail design of the Environmental Restoration facility at Site 3. Mr. Latas said that there are detailed drawings in a design package for the Environmental Restoration facility which was prepared by the DoN CLEAN I contractor. Mr. Lindsey said that the drawings are available and the pad provides secondary containment to operations at the facility. Currently, it is being used for the bioremediation cell for petroleum contaminated soil. Ms. Drach asked if the bioremediation cell would continue past the time of capping. Ms. Hornecker said that bioremediation would be wrapped up soon and would not be occurring during cap construction. Ms. Drach asked if the pad would be fenced. Mr. Joyce said that no fence would be at either Sites 3 or 5 based on conversations with the regulatory agencies because station security would restrict access to the site until reuse redevelops the area when redevelop features would restrict access. Ms. Drach asked what the response statement that the concrete pad "would be compatible with the types of reuses listed" meant. Mr. Callaway said that the reuses meant those listed in the LRA question as parking and light load storage.

Ms. Drach asked if it would acceptable for her to eat lunch on the Alternative 3 cover at Site 3. Mr. Joyce replied that the DoN has not seen a level of detail for reuse. Ms. Drach said that the LRA would like to understand the limit of reuses and would like to explore this issue. Mr. Callaway said that Department of Toxic Substances Control (DTSC) has a 4 or 5 typically uses prevented on landfills, such as day care centers. In addition, the DoN will have institutional controls based on performance rather than provide a universal list of restricted uses. Ms. Haggard said that she needs to take some suggested land uses back to her management today. Mr. Joyce said that restricted uses would consist of these activities that would impact the remedy. Though there are restricted uses, landfills have been turned into recreational areas. Ms. Drach agreed that some landfills have structures and parks and some have fences restricting all reuse. She anticipates a broader range of uses for a concrete pad than the soil cap. Ms. Haggard said that she would like some suggestions on uses because she needs to make recommendations. Mr. Joyce said that the pad could be used for heavy equipment parking. Ms. Drach asked if the County could use it for a parking lot. Mr. Joyce said that its current use should not be prohibited. Ms. Drach asked if picnic tables could be placed on the soil cover. Mr. Joyce said that use would probably not be prohibited but that he is uncomfortable with suggesting specific uses.

Colonel Ritchie stated that it appears that one side of the table focuses on CERCLA protection and other side is more focused on reuse. At this point, timing is an issue between providing more specific details on reuse which will be compatible with CERCLA protection. Colonel Ritchie suggested that perhaps the DoN can provide examples of sites where reuse has been implemented. Mr. Callaway and Mr. Joyce said that they would look into DoN examples. Ms. Drach asked if there were DoD examples. Mr. Callaway replied that the Air Force is further along with base transfer and that March AFB or Norton AFB may provide examples of reuse.

Ms. Drach asked if Mr. Callaway has negotiated institutional controls. Mr. Callaway replied that he has for an active base. Ms. Drach asked about the process of modifying the cap and whether this will be in the institutional controls. Mr. Callaway responded by saying that it is a question of what point the ROD is amended and his latest experience indicates that this is dependent on whether the modification is a minor

or major impact on the remedy. These minor and major impacts are performance based and appear in the transfer documents and ROD. Mr. Joyce added that the ROD amendment process is commonly presented in the ROD. Ms. Drach added that the Bethlehem Steel site in the Bay Area was on e of the first sites in California to have institutional controls.

No clarification was needed on Question 12.

On Question 13, Ms. Drach asked about flooding and infiltration in Agua Chinon Wash. Mr. Latas responded by saying that flooding rarely goes above 1 to 2 feet above the streambed and the flow rapidly decreases during flooding events.

On Question 14, Ms. Drach asked about the modeling of heavy irrigation on Site 5. Mr. Lindsey said that the model was used as comparison of the base case versus irrigation which irrigation rates were from rates on a golf course in San Diego. Ms. Drach asked why irrigation was considered only for Alternative 3 and 4 at Site 3. Mr. Lindsey replied that Alternative 2 is an alternative of existing conditions and Alternatives 5 and 6 are pavement caps. Ms. Drach asked if all alternatives will not have irrigation. Mr. Lindsey said that all alternatives will have use restrictions on irrigation. Ms. Drach asked if that was an accurate statement. Mr. Joyce said that it is accurate. Ms. Drach said that Mr. Palmer had some questions on the model for infiltration. Mr. Palmer said that the HELP model was used in the FS reports and asked if any other models such as UNSAT-H or LEACHM would be used. Mr. Latas said that the HELP model was the standard model used for the comparisons in FS report for all sites and all alternatives. The DoN is currently looking into other models for the detailed design.

On Question 15, Ms. Drach asked about examples of uses that would be non-compliant with institutional controls. Mr. Callaway said that the DoN could not provide an exhaustive list of restricted uses. Mr. Joyce said that a golf course with nonirrigated rough located on Site 5 would be acceptable. Mr. Lindsey mentioned that another potential reuse listed in the Community Reuse Plan was a habitat corridor for Site 5. Ms. Drach asked about examples for Site 3. Mr. Joyce said that the group has already discussed uses for the concrete pad and that the County is asking about uses for the soil cover. Mr. Lindsey said that the soil cover area could be used for a parking lot with modification of the cap. Ms. Drach asked if a picnic area is acceptable for the soil cover. Mr. Lindsey said the DoN would entertain proposals. Ms. Drach asked if there are any standards for prohibiting uses. Mr. Joyce stated that the remedy must be protective of human health and environment. Mr. Callaway added that the institutional controls will be performance standards and an exhaustive list of restricted uses would not be provided in the institutional controls. Ms. Haggard asked if there was an appropriate time to submit ideas on uses. Mr. Joyce replied that a good time is when the appropriate language is being considered for the ROD. Ms. Drach asked if there will be detailed institutional controls in the ROD. Mr. Callaway said that institutional controls will be more general in outline and the details will be presented in the restrictive covenant in the transfer documents.

Ms. Drach asked about restrictions on adjacent properties. Mr. Lindsey said that runoff of adjacent properties is a primary concern and that runoff is not to collect at the landfills. Mr. Callaway again stated that the restrict uses on adjacent properties would be performance based. Ms. Haggard asked who would work with the DoN on the institutional controls. Mr. Joyce said that agencies on the FFA and non-FFA agencies (Integrated Waste Management Board) would be involved. Ms. Haggard asked if engineered applications of irrigation on surrounding properties are acceptable. Mr. Joyce said that irrigation of surrounding properties is accessible with appropriate runoff control. Ms. Drach asked about a fence around the landfill. Mr. Joyce stated that access is restricted today by the station security. In the future, access will be restricted by the golf course operator. Sites 2 and 17 have fences as part of an interim action and will probably remain.

No clarifications were required for Questions 16 through 21.

On Question 22, Ms. Drach asked if the response from DTSC in February on land use would be addressed in the Proposed Plan. Mr. Joyce indicated that two state agencies are FFA signatories. The Regional Water Quality Control Board supports Alternative 3. The DTSC has concerns about land uses but also has

supported Alternative 3 on a technological basis. Ms. Drach asked if the language suggested by the DTSC will be added to the Proposed Plan. Mr. Joyce said that not all of the DTSC language will be used. Mr. Callaway asked if the LRA has any position on the DTSC recommended language. Ms. Haggard stated that the LRA does not have a formal position on the DTSC recommendation.

Ms. Drach asked if the LRA can get a copy of the Regional Water Quality Control Board letter supporting Alternative 3. Mr. Joyce said that he can and asked if they would like a copy of the U.S. EPA letter supporting Alternative 3. Ms. Haggard said she had the U.S. EPA letter from the Restoration Advisory Board meeting.

No clarifications were discussed on Question 23.

Ms. Drach summarized that the DoN will provide a copies of the design specification of the concrete pad to the LRA, the report on geotechnical soil sample results, and examples of institutional controls. Mr. Joyce asked Ms. Haggard to formally request these documents in a letter because the DoN needs to record such information requests. Ms. Haggard indicated that all communication needs to be transmitted through Mr. Joyce and Ms. Haggard.

Colonel Ritchie summarized the meeting by stating that the DoN, Marine Corps, and LRA are dealing with a difficult situation. The DoN, Marine Corps, and LRA have a sound working relationship and many issues have been addressed in this meeting. He adjourned the meeting.

Following the meeting, DoN and Marine Corps representatives meet and summarized the meeting and assigned action items to individuals.

MEETING AGENDA

MCAS EL TORO MASTER DEVELOPMENT PROGRAM STAFF/BRAC STAFF
LANDFILL ISSUES

APRIL 30, 1998
1:30 p.m.
BRAC OFFICE, MCAS EL TORO

I. WELCOME, INTRODUCTIONS

II. MEETING OBJECTIVES

III. CLARIFICATION OF DON RESPONSES TO COUNTY'S QUESTIONS

IV. MEETING SUMMARY

RESPONSE TO QUESTIONS
EL TORO LOCAL REDEVELOPMENT AUTHORITY
DRAFT FINAL PROPOSED PLAN FOR OU-2B AND -C LANDFILL SITES
MCAS EL TORO, CALIFORNIA

1. Available data indicates that Sites 2 and 3 have impacted surface water. (There does not appear to be data regarding surface water impact, if any, at Sites 5 and 17.) Site 2 Remedial Investigation, p. 4-148; Site 3 Remedial Investigation, p. 4-153. What is the rationale for not monitoring surface water quality as a part of the final remedy?	**RESPONSE 1:** The results of surface water sampling at Sites 2 and 3 are illustrated on Figure 4-24 (p. 4-159) of the Site 2 Remedial Investigation (RI) report and Figure 4-15 (p. 4-151) of the Site 3 RI report. All chemicals detected were at very low concentrations The organic chemicals detected at Site 2 and Site 3 appear to be derived from runoff upstream of the site. The metals detected in surface water samples appear to be naturally occurring metals because the concentrations upstream of the site are similar to downstream concentrations. Site 5 does not have any surface waters. Site 17 previously contained a drainage channel which impacted wastes. A CERCLA Removal Action was conducted during 1996-1997, which resulted in diversion of drainage around Site 17. Surface deposited wastes and wastes previously exposed were collected and recycled. The most significant impact to surface water observed was landfill wastes that had been eroded by Borrego Canyon Wash at Site 2. This situation was corrected by removal actions undertaken by the DoN/USMC in 1996/1997 which included removal of wastes from the stream bed and placement of riprap on stream banks. In addition, the DoN/USMC is currently performing stormwater monitoring at selected locations on the Station which include surface water monitoring downstream of Sites 2 and 3. Therefore, no surface water monitoring was included in the Proposed Monitoring Plan presented in the Feasibility Study (FS) reports because the source of chemicals was likely from upstream runoff or natural occurrences, the principal impacts were from erosion which were corrected.
2. Lysimeters have been installed in inclined boreholes, on the perimeter of the landfill sites. How effective will they be in monitoring leachate? What corrective action (besides additional sampling) would DoN/USMC propose to undertake if leachate is detected at any of the landfill sites following implementation of the final remedy?	**RESPONSE 2:** Lysimeters are a proven technology for monitoring leachate from landfills. For MCAS El Toro, the lysimeters were installed during the Phase II RI and water was purged from the lysimeter. However, purging of the lysimeters did not recover the same quantity of water used to install the lysimeter which was required by the Phase II RI Work Plan so no leachate samples were submitted for analysis. Based on this experience which indicates that water can be recovered from the lysimeters, sampling of the lysimeters was recommended in the Proposed Monitoring Plan in the FS

	reports. New lysimeters installed in inclined borings were proposed in the FS reports which would be placed near the perimeter of the landfill covers. This will allow the lysimeters to placed beneath the landfill mass. The Proposed Monitoring Plan in the landfill FS reports includes a section describing the corrective action procedures if leachate is detected in the lysimeters (Appendix E, Section E3.4 of the Site 2 FS report and Appendix C, Section C3.4 of the Sites 3, 5, and 17 FS reports). The presence of moisture within the lysimeter is not necessarily evidence of leachate generation. Chemical analysis of the samples is necessary to ascertain the composition of the fluids. Corrective actions may include resampling, increased frequency of monitoring, or installation of additional lysimeters. The specific corrective action will need to be evaluated at the time of monitoring.
3. Is landfill settlement data available for each of the landfill sites? Was it used in the remedy evaluation and selection process?	**RESPONSE** 3: No settlement data are available for the landfill sites. Due to age of the landfills, the majority of settlement of wastes is expected to have occurred under existing conditions (Site 2 became inactive in 1980; Site 3 became inactive in 1955; Site 5 became inactive in the late 1960's; Site 17 became inactive in 1983). Settlement was considered a significant geotechnical concern following capping because the capping materials will exert additional loads on wastes. Because of this concern, the Proposed Monitoring Plan presents the methods that would be used to monitor settlement (Appendix E, Section E5.1 of the Site 2 FS report and Appendix C, Section C5.1 of the Sites 3, 5, and 17 FS reports). These methods will include visual inspection and permanent settlement monuments that will be periodically surveyed.
4. Alternative 3 in the Draft Final Proposed Plan involves onsite waste consolidation. Does DoN/USMC contemplates that any waste will be disposed of offsite in connection with the its proposed implementation of Alternative 3?	**RESPONSE** 4: Onsite waste consolidation is considered part of the capping effort to minimize the footprint of the cap and to remediate areas of wastes scattered around the operational area of the landfills. All capping alternatives include a consolidation component. Off-site disposal of wastes encountered during consolidation work is considered appropriate for wastes characterized as hazardous wastes. The amount of wastes for off-site disposal as hazardous wastes is assumed to be a small portion of the total wastes to be consolidated.

	Exact quantities could not be known until characterization after the material has been collected for consolidation. Consolidation and off-site disposal is discussed in Section 3.5.1.7 of the Sites 2, 3, 5, and 17 FS reports.
5. Alternative 3 involves the use of onsite soils to create the monolithic soil cover. The proposed onsite borrow location for these soils is a hill located between Sites 2 and 17. Site 3 Feasibility Study, p. 4-8.	**RESPONSE** 5: The proposed borrow source between Sites 2 and 17 consists of marine siltstones and sandstones of the Topanga Formation. These fine-grained materials are a very good local source of soils that can be used as clean cover soils, saving time and costs for transporting the large quantities of clean soil needed for the covers.
a) The County understands that one sample was collected and tested from this borrow site. Site 3 Feasibility Study, p. 4-8. Has DoN/USMC collected and tested other samples from the proposed borrow location?	**RESPONSE** 5a: One soil sample collected from geologic formations near the proposed borrow source was used to assess geotechnical characteristics of the proposed soil cover. The FS reports in the description of Alternative 3 in Section 4 state that additional soil samples will be collected from the borrow source and assessed for geotechnical characteristics prior to the detail design of the covers. Since the FS report was issued, additional geotechnical soil samples were collected from the proposed borrow source and are currently being evaluated.
b) The area in which the proposed borrow site is located provides habitat for a protected species (the gnatcatcher). Site 2 Remedial Investigation, p. 1-14; Site 17 Remedial Investigation, p. 1-14. Does the existing use of the area impact the proposed excavation and transfer of soils to the landfill sites?	**RESPONSE** 5b: The Marine Corps/ Navy submitted to the United States Fish and Wildlife Service (USFWS) a biological assessment describing anticipated impacts to sensitive coastal sage scrub vegetation habitat for the federally-threatened California gnatcatcher at Sites 2 & 17 during implementation of the CERCLA time-critical removal actions in early 1997. The USFWS responded with a biological opinion dated June 12, 1997 that addressed conditions for conducting the time-critical removal actions and requirements for mitigation of impacts to protected habitat. The Navy's letter to the USFWS dated 7 October 1997 indicates that disturbances to habitat areas at and near Sites 2 & 17 will continue until the construction of the final remedy is completed.. Impacts to habitat will include complete destruction directly above the landfills to allow construction of the covers, disturbance of the borrow source area and noise. Grading and revegetation of the proposed borrow sources area with coastal sage scrub are proposed after borrow operations are completed. The landfill closure projects will include mitigation measures for all impacts, as discussed with the USFWS, and are the responsibility of the DoN.

	The area at the proposed borrow source provides a marginal habitat for the California gnatcatcher. The vegetation of the area is primarily annual grasses and other non-native plants which is not the primary habitat (coastal sage scrub) for the California gnatcatcher. Aerial photographs from the early 1980s show that the proposed borrow area was heavily disturbed by grading which was used to reduce the height of the hill in this area. The DoN will continue to work with the USFWS during the development and implementation of the mitigation and revegetation plans, and these plans will be developed concurrently with the development of the design for the final remedy.
6. Alternative 3 includes planting of vegetation (grass) on the landfill cap. Will the vegetation remain green during the summertime on the landfill? Does DoN/USMC contemplate that irrigation will be needed to establish the vegetation? If yes, what amount of irrigation does DoN/USMC contemplate will be needed?	**RESPONSE** 6: No irrigation is proposed to maintain green grass during the summer. A temporary irrigation system may be used to establish the grasses by applying minimal water which is likely to be 15 minutes of irrigation per day for 2 to 3 weeks.
7. Alternative 3 does not include the installation of a gas extraction system. This proposal apparently is supported by at least two sampling events. Site 3 Remedial Investigation, p. 4-20. Is there other gas sampling data available for the landfill sites? Was gas monitoring conducted in the vadose zone? Was gas sampling conducted on top of the existing cover?	**RESPONSE** 7: Based on the soil gas data previously collected at the landfill sites, which is summarized below, all members of the BRAC Cleanup Team (BCT) concurred that gas extraction was not a required component of any of the alternatives presented in the Feasibility Study for each landfill and the Proposed Plan. Sections 4.2 of the four landfill RI reports discuss the results of air emission and soil gas sampling conducted at the four landfills. This sampling included instantaneous air samples, integrated air samples, ambient air samples, isolation flux chamber samples, shallow soil gas samples, perimeter soil gas samples, and deep soil gas samples. The instantaneous, integrated and ambient air samples documented the emissions from the landfill in the atmosphere and the isolation flux chamber samples documented the emissions from the surface of the landfills sites. The shallow soil gas samples documented the existing soil gas conditions in the landfill mass. The perimeter soil gas samples documented the soil gas conditions in the vadose zone outside of the landfill mass at three different depths. The deep soil gas samples were collected from soil gas probes attached to the lysimeters

	approximately 90 feet below the surface to document soil gas conditions in the deeper vadose zone beneath the landfill mass. Most of these air and soil gas samples and analyses performed are stipulated in landfill regulations. In addition to these stipulated samples and analyses, isolation flux chambers and deep soil gas samples were collected. Based on the results of this sampling effort, no landfill gas controls were recommended for the final remedy. In addition, the Proposed Monitoring Plan in the four FS reports recommends continued soil gas monitoring as part of the final remedy and presents corrective actions for conditions when soil gas results increase over the monitoring period. Soil gas monitoring will be performed at the perimeter soil gas probe network that will be installed during final remedy construction.
8. Alternative 3 does not include monitoring of gas emissions through the proposed cover of the landfill. What is the rationale for this proposal?	**RESPONSE** 8: Alternative 3 does not include monitoring of soil gas through the cover for two reasons. First, no or very low concentrations of soil gas were detected in the landfill mass and in the surface isolation flux chamber samples. Any low concentrations of soil gas that would be emitted through the cover would quickly diffuse in the atmosphere. Second, soil gas diffusion will also occur laterally with a cover which will be monitored by perimeter soil gas probes.
9. What EPA or DTSC guidance documents or policies did DoN/USMC use to develop its estimate of costs associated with Alternative 3? What monitoring frequency was used to develop cost estimate for post-closure monitoring associated with Alternative 3?	**RESPONSE** 9: The methods used to develop cost estimates for the alternatives presented in the FS reports are discussed in Appendix H in the Site 2 FS report, Appendix F in the Site 3 FS report, and Appendix E in the Sites 5 and 17 FS reports. As indicated in these appendices, the U.S. EPA procedures for cost estimating were used. These appendices also present the procedures used to determine indirect costs. The costs for monitoring were developed from the requirements presented in the Proposed Monitoring Plans which are attached as Appendices in the FS reports.
10. In the Feasibility Studies for Site 3 and Site 5, DoN/USMC states that "[a] preferred alternative is not presented because that selection will be based on risk-management decisions, which will occur following review of this document by regulatory agencies and the public." Site 3 Feasibility Study, p. 7-1; Site 5 Feasibility Study, p. 7-1.	

a) What does DoN/USMC mean by "risk management decisions"?	**RESPONSE** 10a: Risk management decisions are the decisions made by DoN decisionmakers based upon CERCLA, the NCP and the administrative record (including but not limited to the FS reports, Proposed Plan and public comments) as documented in a Record of Decision (ROD).
b) Who does DoN/USMC expect to make such risk management decisions?	**RESPONSE** 10b: The DoN/USMC with input from the BCT will make the risk management decisions during the selection of the final remedy to be presented in the Record of Decision.
c) What risk management decisions, if any, have been made by DoN/USMC for sites 2, 3, 5 and 17?	**RESPONSE** 10c: No final risk management decisions or selection of final remedies have been made and will not be made until the Record of Decision is signed by the DoN/USMC and BCT members.
11. Portions of Site 3 presently are capped with asphalt and/or concrete. Site 3 Feasibility Study, p. 4-7. What does DoN/USMC contemplate doing with these capped areas?	**RESPONSE** 11: The asphalt and concrete material at Site 3 has resulted from development of that area of the base since operational closure of the landfill. This material is not considered capping, with the exception of the concrete pad discussed below, and were considered in the FS reports.
a) Does DoN/USMC propose to remove the asphalt and/or concrete? If so, how would the materials be managed following removal? If so, does DoN/USMC intend to install the monolithic soil cover over the previously capped portions of Site 3? If so, does the cost estimate for Alternative 3 include the removal and management of the asphalt and/or concrete?	**RESPONSE** 11a: The portions of Site 3 which are currently covered by asphalt will be removed so that an engineered backfill can placed in the area as part of the landfill cover. The concrete pad on the east side of Agua Chinon Wash will be left in place because this structure was engineered as part of the environmental restoration staging facility at the site in the early 1990s. Any removed pavement would likely be disposed off-site or recycled on-site. Demolition of the environmental restoration facility to the west of Agua Chinon Wash and the asphalt pavement were included in the cost estimate for all capping alternatives at Site 3.
b) If DoN/USMC does not propose to remove the asphalt and/or concrete, will the existing cap be retained as part of the final cover for Site 3? If so, are design specifications available for the existing capped areas? If so, does DoN/USMC contemplate that such areas could be used for parking, light load storage or other uses?	**RESPONSE** 11b: The FS report assumed removal of all asphalt and concrete material, with the exception of the concrete pad currently being utilized as a biological treatment cell for hydrocarbon impacted soil (east side of Agua Chinon wash). This pad was constructed for the Installation Restoration program, and was designed to prevent any infiltration, and contains a drainage system. Design details for this structure are available. This concrete structure will be incorporated into the cover, and would be compatible with the types of reuses listed.

	The DoN does contemplate that the Site 3 area could be utilized for parking and light load storage; however, no details exist regarding reuse specifics, and for this reason, all alternatives do not allow for this type of development. As stated in the FS report for Site 3 (p. 3-33), the land use restrictions outlined in the FS report are required to maintain the integrity of the remedial action. Implementation of restricted land uses is possible, and is contingent upon approval of the DoN and FFA signatories. Future landowners or users will have to submit a written request to the DoN and regulatory agencies to undertake restricted uses, and shall be liable for the cost of any additional remedial action required to facilitate such restricted uses (Enclosure – DoD come back policy?). Modification to the final remedy is predicated here on the assumption it would be approved by the DoN and regulatory agencies because it would remain protective of human health and the environment.
12. What is the design rationale for the 2% grade of the monolithic soil cover proposed as part of Alternative 3? Site 3 Feasibility Study, p. 4-7.	**RESPONSE** 12: The 2% grade for the final grade of the landfill cover at Site 3 was considered the minimal grade to provide surface drainage and minimize elevation changes across the site due to its relatively flat configuration.
13. DoN/USMC indicates that the Agua Chinon wash will not be lined. Site 3 Feasibility Study, p. 4-11. Does DoN/USMC believe that infiltration of water from the Aqua Chinon wash to the landfilled waste will occur? If so, what impacts, if any, does DoN/USMC anticipate from such infiltration?	**RESPONSE** 13: Infiltration of water from Agua Chinon wash into the landfill is not expected at Site 3 because the landfill wastes are higher in elevation then the streambed or typical flood levels in Agua Chinon Wash. Also, any water in the wash usually runs off quickly leaving a relatively dry streambed which minimizes any stream bank infiltration.
14. DoN/USMC indicates in the Feasibility Study for Site 5 that "[s]everal alternatives will accommodate heavy irrigation associated with irrigated portions of a typical golf course and still allow minimal infiltration into landfill materials." Site 5 Feasibility Study, p. ES-10.	**RESPONSE** 14: The FS report for Site 5 presents an analysis of the infiltration of Alternative 3 and the four options for Alternative 4 in Appendix D. A mean annual precipitation of 13.5 inches/year and a combined annual rainfall and irrigation rate of 44 inches/year were used in the computer model of infiltration for these alternatives. Table D-12 presents the findings of this analyses. The discussion in the Executive Summary is based on the analysis in Appendix D, and refers to a comparison of infiltration rates of various alternatives against the base case of no action. The assumption is that the DoN will not irrigate after implementation of any alternative, and that a future request to irrigate may be proposed, if the future landowner decides, based on a business decision, that reuse could not be planned to exclude such restricted use.

a) Is Alternative 3 one which would allow for heavy irrigation of Site 5 in the future?	**RESPONSE** 14a: No. Irrigation on the surface of the landfill is prohibited under all alternatives.
b) Is Alternative 4D one which would allow for heavy irrigation of Site 5 in the future?	**RESPONSE** 14b: No. Irrigation on the surface of the landfill is prohibited under all alternatives; however, if this restricted use were proposed in the future, those issues discussed in **RESPONSE** 15a would be applicable.
c) Would the analysis of the impact of irrigation on remedial alternatives be similar for Site 3?	**RESPONSE** 14c: No analyses of irrigation infiltration was completed for Site 3. However, non-irrigated and irrigated scenarios at Site 3 would likely be similar in magnitude to the findings at Site 5.
15. DoN/USMC indicates that: A key consideration in identifying and evaluating potential institutional controls of a remedial action is planned or anticipated future use of the property. According to the Community Reuse Plan for MCAS El Toro ["CRP"], the preferred redevelopment option for the Station is a major commercial airport. This option includes potential future uses for various zones of Station Property. Sites 2 and 17 are located in an area designated as a habitat reserve. Site 3 is located in a zone designed for commercial and light industrial uses. Site 5 is located in zone designated for recreation (golf).	
Draft Final Proposed Plan, p. 13. a) What types of uses does DoN/USMC contemplate can occur at each of Sites 3 and 5 if Alternative 3 (including proposed institutional controls) is implemented?	**RESPONSE** 15a: Any uses at the site can occur that do not conflict with the land use restrictions that are included in the CERCLA ROD and implementing documents (e.g., transfer documents). The proposed land use restrictions for Alternative 3 are intended to protect human health and the environment and protect the remedy (included in the Site 3 FS, p.3-29 to 3-34 , and the Site 5 FS, p. 3-30 to 3-32). The land use restrictions for all alternatives are essentially the same. The proposed use restrictions are a combination of general risk-based use prohibitions (e.g., no use of sites for "residential purposes or day care centers for children") and more general prohibited conduct intended to preserve the integrity of the remedy (e.g., no excavation, vegetation, irrigation without prior approval of DoN and the FFA signatories). The DoN did not develop a comprehensive list of all possible uses that my occur for any of the sites in the

	IR program. After issuance of the ROD, it is possible to propose a restricted use, although it might be necessary to conduct additional remedial actions. As stated in the feasibility study reports for Sites 3 & 5, future landowners or users will have to submit a written request to the DoN and regulatory agencies to undertake restricted uses, and shall be liable for the cost of any additional remedial action required to facilitate such restricted uses (Enclosure – DoD Policy Memorandum "Responsibility for Additional Environmental Cleanup after Transfer of Real Property", dated July 25, 1997). The FFA provides for continued oversight of implementation and enforcement of remedial action by the FFA signatories. The specific procedures that will be required for notification and approval of future land use changes that conflict with the use restrictions have not yet been developed. DoN, USEPA and the State of California are currently developing policy and procedures for addressing requests for land use changes. However, it is likely that major changes will require ROD amendments and minor land use changes might be addressed in less formal procedures. These issues will be addressed as the remedy selection process for the landfills moves forward.
b) What types of uses does DoN/USMC contemplate can occur in the immediate vicinity of each of Sites 3 and 5 if Alternative 3 (including proposed institutional controls) is implemented?	**RESPONSE** 15b: Uses that do not compromise the use restrictions can occur in the vicinity of the landfill. More specifically, uses that do not involve potential adverse effect on the remedy or interfere with DoN access for monitoring and maintenance. See **RESPONSE** 16a. In addition, see **RESPONSE** 15a for discussion of procedural issues.
c) Does DoN/USMC believe that Alternative 3 would need to be modified in order to accommodate any of these contemplated uses? If so, which uses would require modification of proposed Alternative 3? At whose expense would such modifications be undertaken?	**RESPONSE** 15c: Uses that do not conflict with Alternative 3 institutional controls (as explained in **RESPONSE** 15a and 15b above) are by definition consistent with Alternative 3. For cost modifications see **RESPONSE** 15a.
16. DoN/USMC indicates that Future landowners or users of Sites 2, 3, 5 and 17 shall be prohibited	

from conducting the following activities without the prior approval of DoN and the Federal Facility Agreement signatories... Performing any activity (such as excavation or construction) on the landfills or on adjacent parcels or properties that will adversely impact the cap and monitoring systems or affect the drainage and erosion controls developed for the cap;	
Draft Final Proposed Plan, p. 13 a) What "adjacent parcels" does DoN/USMC intend to encumber with this and any other proposed institutional control(s)? Can DoN/USMC identify the serial scope of the contemplated institutional control(s) on plot plans of each of Sites 3 and 5? How will the imposition of such prohibitions affect the ability of the County or other person/entity from developing property adjacent to Sites 3 and 5?	**RESPONSE** 16a: All adjacent parcels will be encumbered to the extent necessary to protect the remedy and provide access for DoN and its representatives for purposes of monitoring and maintenance. We have not developed maps delineating the boundaries of the restrictions as this detail will be addressed after issuance of the ROD. The general aerial coverage of the restrictions is likely to be somewhat broad to ensure coverage of larger projects which could impact the remedy from a distance. A primary adverse impact of concern from adjacent parcel development would be the introduction of surface water runoff onto the landfill sites. This would conflict with the use restriction prohibiting activities that could adversely affect the cap. A large development project could affect the remedy from a distance if drainage water is routed directly at the landfill creating potential for erosion of the cap. However, careful design of development projects should avoid problems in complying with the restriction. If use restrictions are complied with, development may proceed. All adjacent parcels that include monitoring components of the remedy such as groundwater wells landfill gas monitoring wells or lysimeters will require access to the DoN or its representatives to perform periodic monitoring and inspections throughout the life of the remedy. In addition, there will be procedures for proposing restricted uses subject to approval as noted in **RESPONSE** 15a.
b) What is the practical impact of not allowing disturbances of monitoring systems on land uses around the landfills? Can wells or probe heads be modified to accommodate various land uses around the landfill?	**RESPONSE** 16b: The practical impact can be minimal because future development projects are expected to be designed around the constraints to avoid impacting remedial components or blocking necessary access (Enclosure – DoD Policy Memorandum "Responsibility for Additional Environmental Cleanup after Transfer of Real Property", dated July 25, 1997). The integrity of DoN's remedy will be maintained along with the development

	of adjacent parcels. Yes. The surface completions of monitoring devices can be modified if consistent with the CERCLA ROD and remedy. See discussion of proposed changes in land use in **RESPONSE** 15a above.
17. What is the precise language of the proposed institutional controls that have been or are being contemplated by DoN/USMC? If such language has not been prepared by DoN/USMC for Sites 2, 3, 5 and 17, can DoN/USMC provide to the County an example(s) of specific language used for landfill sites at other closing military installations?	**RESPONSE** 17: The precise institutional controls language has not been developed. We will consult with other Military Installations and forward any language developed at a future date. It is important to note language is typically developed on a site specific basis in transfer documents (deeds and leases) after issuance of a CERCLA ROD.
18. DoN/USMC indicates in the Draft Final Proposed Plan that institutional controls similar to Alternative 3 would be imposed if other remedial options (e.g., Alternatives 4, 5, or 6) were selected for Sites 2, 3, 5, and/or 17. Draft Final Proposed Plan, pp. 8-9. Does DoN/USMC contemplates any specific change in institutional controls should a remedial option other than Alternative 3 be selected for any of the landfill sites?	**RESPONSE** 18: No. The institutional controls identified in the Final Proposed Plan for Alternative 3 are consistently applied across all alternatives. The institutional controls are essentially the same for all alternatives. We do not anticipate any specific changes in the institutional controls should a remedial option other than Alternative 3 be selected. For changes in institutional controls after the ROD see **RESPONSE** 15a.
19. Under what conditions, if any, would DoN/USMC contemplate allowing activities to occur at Sites 3 and 5 that would otherwise be prohibited by the proposed institutional controls?	**RESPONSE** 19: Please see **RESPONSE** 15a.
a) What administrative procedures, if any, does DoN/USMC believe would be necessary to document the review and approval of such activities by DoN/USMC and other signatories to the relevant Federal Facilities Agreement?	**RESPONSE** 19a: Please see **RESPONSE** 15a.
b) What information, if any, does DoN/USMC contemplate would be required in order to obtain permission to conduct such activities?	**RESPONSE** 19b: Please see **RESPONSE** 15a.
20. If DoN/USMC approved an activity otherwise prohibited by one or more of the institutional controls, would it continue to conduct remediation activities at the sites (e.g., ongoing operations and maintenance; monitoring activities; etc.)? Would it continue to ensure the adequacy of the implemented remedy to address the identified adverse environmental conditions at the sites?	**RESPONSE** 20: The answer to this question depends upon specific facts of specific situations. The Department of Defense general policy for the issue raised is set forth in the July 25, 1997 policy memorandum titled "Responsibility for Additional Environmental Cleanup after Transfer of Real Property". That policy provides that where additional remedial action is required only to facilitate a use prohibited by a deed restriction or other appropriate institutional control, DoD will neither perform nor pay for such

	additional remedial action. This policy does not specifically address the scenario where only a portion of a remedy is changed to accommodate a new use. Such scenarios will be addressed on a case by case basis considering such issues as the significance in the change in use and the extent of change in the remedy.
21. Can DoN/USMC provide to the County any examples of landfill sites at closing military installation at which (a) institutional controls have been developed and implemented, and (b) subsequent owners, operations or other users have been given permission to conduct activities otherwise prohibited by such institutional controls?	**RESPONSE** 21: We continue to research this issue and have not found any examples yet. We will advise the LRA of the results of our research.
22. DoN/USMC indicates that State of California representative on the MCAS El Toro Base Realignment and Closure Team concur with the Marine Corps's preferred remedy. Final Draft Proposed Plan at 17. Does this remain DoN/USMC's position? If not, how would DoN/USMC modify its comparative assessment of remedial alternatives set forth in the Final Draft Proposed Plan?	**RESPONSE** 22: The DoN plans to state in the Final Proposed Plan that the Department of Toxic Substances Control has concerns about the selection of an alternative that may impact reuse, and that the DoN is continuing to work with the Department of Toxic Substances Control to resolve their concerns. The Regional Water Quality Control Board supports Alternative 3 as the preferred alternative.
23. Prior to publication, does DoN/USMC intend to assign values to the "community acceptance" component of the comparative analysis of remedial alternatives presented in the final Draft Proposed Plan? If yes, what values does DoN/USMC intend to assign to the various remedial alternatives?	**RESPONSE** 23: No. EPA guidance indicates that under the Community Acceptance criterion, an alternative is evaluated in terms of the issues and concerns the public may have. As with state acceptance, this is a criterion that is addressed in the ROD once comments have been formally received. It also states that to the extent they are known, community concerns are considered early in the process. Community concerns regarding landfill issues have been addressed extensively during the past several years of MCAS El Toro Restoration Advisory Board meetings.

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TO: Contracting Officer
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Southwest Division
Mr. Richard Selby, Code 57CS1.RS
Building 127, Room 112
1220 Pacific Highway
San Diego, CA 92132-5190

DATE: August 11, 1998
CTO #: 161
LOCATION: MCAS El Toro

FROM: D. J. Tedaldi, Ph.D., P.E., Project Manager

DESCRIPTION: Meeting Minutes re: MCAS El Toro BRAC Office and Local Redevelopment Authority Coordination Meeting on Landfill Sites - Dated April 30, 1998

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