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LETTER REGARDING U S FISH AND WILDLIFE SERVICE COMMENTS ON SITE MANAGEMENT PLAN AND DRAFT FINAL MASTER WORK PLAN VOLUMES 1, 2 AND 3 OF 3 MCRD PARRIS ISLAND SC
2/26/1998
U S FISH AND WILDLIFE SERVICE

16.01.00.0007

United States Department of the Interior

FISH AND WILDLIFE SERVICE
P.O. Box 12559
217 Fort Johnson Road
Charleston, South Carolina 29422-2559

February 26, 1998

Mr. Kenneth Lapierre
Remedial Project Manager
U.S. Environmental Protection Agency, Region IV
Atlanta Federal Center
61 Forsythe Street, SW
Atlanta, Georgia 30303

Re: 1. *Site Management Plan Marine Corps Recruit Depot Parris Island, South Carolina November 1997*
2. Volumes I, II, and III, *Draft Final Master Work Plan Marine Corps Recruit Depot Parris Island, South Carolina November 1997*

Dear Mr. Lapierre:

The U. S. Fish and Wildlife Service (Service) has reviewed the above-referenced documents and offers the following comments for your consideration.

Site Management Plan

In general, the Service is in agreement with the prioritized listing of sites which require further investigation, although we have not yet reviewed all initial assessment study data or verification step data. Upon completion of that review, we may have additional comments regarding this, as is illustrated in our comments regarding Site 4 - Dredge Spoils Area Fire Training Pit. Specific comments that we have at this time are as follows.

Appendix A, page 6: A baseline risk assessment is specifically mentioned only for Site 3, the Causeway Landfill. An Ecological Risk Assessment (ERA) should be performed for each of the sites listed on this page (Site 1- Incinerator Landfill; Site 2 - Borrow Pit Landfill; and Site 3 - Causeway Landfill) as part of the Remedial Investigation (RI).

Appendix A, page 7, Site 4 - Dredge Spoils Area Fire Training Pit: While this site was recommended for no further action by the verification step, sampling consisted of five, 20-foot depth soil borings at locations adjacent to (outside) or on the spoils area berm. Laboratory

analysis was conducted only for cadmium, chromium, and lead; organic constituent sampling consisted of headspace screening in the field for volatile organics. This data did not address concerns stated in the Initial Assessment Study regarding contaminant migration within the surficial aquifer; contaminated soils within the spoils area, or potential contaminant receptors within Ballast Creek, including fish and shellfish, and was certainly an inadequate basis for the recommendation of no further action. This lack of adequate data has been somewhat mitigated by the current recommendation for "limited site investigation" relative to groundwater. However, the Service suggests that more than "limited" groundwater sampling is needed; additional soil sampling and possibly sediment and surface water sampling in Ballast Creek (which is less that 200 feet to the east) are also necessary to adequately characterize the nature and extent of contamination at this site as well as potential contaminant migration within the surficial aquifer to Ballast Creek and adjacent wetlands.

Appendix A, page 7, Site 5 - Former Paint Shop Disposal Area: According to Table 1, this site is of medium priority and requires confirmatory sampling/site investigation. How will this sampling be conducted considering that the "exact location of this site is unknown since tidal action and periodic storms have eroded the remains"? Some explanation/clarification is needed.

Appendix A, page 8, Site 12 - Jerico Island Disposal Area: The Service believes it is appropriate to collect screening samples, at a minimum, at this site. "Domestic trash", particularly from the 1950s and 1960s, was likely to have contained a number of hazardous substances, from household cleaning products to waste oils to pesticides.

Appendix A, page 8, Site 13 - Inert Disposal Areas A and B: Why were these landfills "closed by the state"? Were the sites monitored or disposal logs kept to ensure that only "inert" construction debris and yard wastes were disposed of at these landfills? Is there any sampling data from these sites?

Appendix A, page 8, Site 13 - Inert Disposal Area C: Dredged spoils from marina basins have been found to contain a number of environmental contaminants, including petroleum hydrocarbons, polycyclic aromatic hydrocarbons, heavy metals, and tributyltin. Unless there is evidence that there are no hazardous substances in the spoils, the site should be sampled. As the Dredge Spoils Area Fire Training Pit (Site 4) underlies the site, the sampling and analysis plan for Site 4 should include sampling of site 13.

Appendix A, page 8, Site 14 - Storm Sewer Outfalls: Screening should also include outfalls that may receive surface water runoff from areas of identified or potential surface soil contamination.

Appendix A, page 9, Site 15 - Dirt Roads: The Service agrees that the remaining dirt roads should be addressed as part of the RI/FS for Site 2. Depending upon results of that and perhaps other investigations, it may be necessary to revisit the issue of paved-over dirt roads that received waste oils for over 20 years

Appendix A, page 10, RFA Site 39 - Electrolyte Basin: It should be noted here that a preliminary assessment is proposed for this site.

Appendix B: The proposed schedules of budgeted work as shown in Appendix B do not specifically include conducting Ecological Risk Assessments. While these should be conducted as part of the RI and results presented as part of the RI Report (as we assume is intended, although not specified in the schedules), we are concerned that the schedules as presented may not allow sufficient time to collect site-specific biological data needed to complete the ERAs. The Service believes it would behoove the team to specifically develop a timetable for the ERAs for Sites 1, 2, and 3, and to identify as soon as possible the site-specific data necessary to conduct these such that these data may be collected within the scheduled RI field work timeframe.
Draft Final Master Work Plan Volume I

Pages RTC-13 and RTC-14: The Service concurs with Khafra Engineering Consultants, Inc.'s comments regarding listing of detected contaminants and explanation of values used for comparisons and recommendation of no further action. We agree that comparison of surface water and sediment sample results to drinking water standards is inappropriate. We also found that in the Verification Step sampling, laboratory analyses were often limited to only a few metals and the only organic compound analyses performed were field headspace sampling for volatiles. Conclusions were drawn regarding "EP toxicity" which was not defined. In general, we believe much of the verification sampling was inadequate in that there was no laboratory analysis for constituents that could be reasonably expected at a given site, all appropriate media were not sampled, and inappropriate values were used for comparisons to determine whether further investigation should be conduced. We are aware that the Verification Step investigations were conducted some time ago--the report is dated May 1990--and that it may be infeasible for the Marine Corps' consultants to explain either the rationale for data collection and laboratory analyses or the recommendations in current documents. However, we believe it is important to include in current documents as much as possible of the information upon which decisions were and continue to be made.

Pages 1-15 and 1-16, Site 4/SWMU 4: Dredge Spoils Area Fire Training Pit (FTP): Please refer to our earlier comments regarding Site 4. Also, according to the Verification Step report, lab samples were analyzed only for Cd, Cr, and Pb; VOCs received only field screening, not laboratory analysis.

Pages 1-20 and 1-21, Site 13/SWMU 11: Inert Disposal Area A; Site 13/SWMU 12: Inert Disposal Area B; and Site 13/SWMU 13: Inert Disposal Area C: Please refer to our earlier comments regarding these sites. The fact that areas A and B were "state-controlled domestic landfills" does not mean that disposal of hazardous substances did not occur. We concur with the recommendation for sampling within Disposal Area C and suggest that sampling of Disposal Areas A and B would be appropriate if these areas have not been sampled. A number of

"domestic landfills" have been listed on the National Priorities List (Superfund List) nationwide and within South Carolina, have been shown to contain numerous hazardous substances, and have required some type of remedial action.

Page 1-21, Site 14/SWMU 12: Storm Sewer Outfalls: As noted earlier, screening should also focus on outfalls that do or may receive surface water runoff from areas of contaminated surface soils.

Page 1-21, Site 15/SWMU 15: Dirt Roads: See earlier comments and those provided by the SCDNR.

Page 2-25: To our knowledge, the SCDNR has no regulatory authority over dredge and fill operations in jurisdictional wetlands and deepwater habitats. Please consult with the SCDNR regarding this statement.

Page 2-28: The U. S. Fish and Wildlife Service has the responsibility for Section 7 consultations under the Endangered Species Act. A list of federally-listed species known to occur in Beaufort County will be provided. The discovery of a nesting pair of bald eagles at the MCRD in January 1998 should be noted.

Draft Final Master Work Plan Volume II

Page 3-1, Groundwater Sampling: Whenever nonaqueous-phase liquids (NAPLs, dense or light) are suspected and/or detected in any groundwater monitoring well, samples should be collected and analyzed for both NAPLs and dissolved phase constituents.

Page 3-2, Surface Water Sampling: As discussed in Appendix B, Standard Operating Procedures, grab samples are only indicative of conditions near the surface and may not be a true representation of the total concentration that is distributed throughout the water column and in the cross-section. Also, sample depth is important as is tidal stage for many surface waterbodies at the Parris Island MCRD. Actual surface water sampling procedures, in accordance with the SOPs in Appendix B, must be determined on a case-by-case basis. The appropriateness of sample compositing should also be made on a case-by-case basis.

Page 3-3, Sediment Sampling: As with surface water sampling, a sediment grab sample may not be appropriate at all sediment sampling locations, such as the Incinerator Landfill site. Core sampling would be more appropriate at some locations, with laboratory analyses of constituents at various identified depths. Appendix B indicates only scoop samplers and dredge samplers would be utilized. This should be modified to include vertical core sampling as well. Sampling methodology as well as the appropriateness of sample compositing must be made on a case-by-case basis.

Draft Final Master Work Plan Volume III

Page 2-10, Table 2-2: Fish and Wildlife Conservation Act should be changed to Fish and Wildlife Coordination Act.

Page 2-18, Human Health Risk Assessment: A human health risk assessment should be performed at ***each*** site ***to determine the potential for adverse effects***, not "for those sites where contamination levels indicate that the site may pose a risk to human health." Determining whether a site may pose a risk part of the risk assessment process.

Pages 2-19 and 2-20, Ecological Risk Assessment: Again, an ecological risk assessment is performed ***at each site to determine the potential for adverse effects to ecological receptors***, not "for those sites where contamination levels indicate that the site may pose a risk to ecological receptors." As with human health risk assessment, the determination that constituents of concern may pose a risk to fish and wildlife resources is part of the risk assessment process.

Ecological risk assessment at the Parris Island MCRD should follow the guidelines set forth by EPA's Environmental Response Team in the June 5, 1997 Interim Final report. Please revise this section to reflect this 1997 guidance.

An adequate ecological risk assessment cannot be conducted prior to an adequate characterization of the nature and extent of site contamination, i.e., prior to the initiation of the RI field effort. Conducting an assessment of ecological risk on preliminary screening data for a site that requires further characterization of the nature and extent of contamination via a Remedial Investigation is not consistent with EPA's guidance and could incorrectly indicate the site poses no ecological risk or could significantly underestimate the risk. The final paragraph of this section should be eliminated.

Pages 3-5 through 3-8, Site Inspection/RCRA Facility Assessment: The ecological risk assessment process as described in this section is not consistent with EPA guidance. Background sampling data cannot be used to eliminate constituents of potential ecological concern from the ecological risk assessment process (e.g., the criterion, as listed on page 3-8, that requires naturally occurring inorganics to be present at a concentration of two times the average, site-specific background concentration). Please revise this section to comply with EPA's 1997 guidance.

It is unclear as to what ecological screening values are proposed to be used at the Parris Island MCRD, since it is noted that EPA Region 4 has not accepted the Region 3 BTAG screening values. Also, the statement that "The magnitude, frequency, and pattern of exceedance of these values should be considered using a best professional judgment approach" is unclear. When, where, and how would this "approach" be utilized?

The issue of analytical detection limits is crucial, as is noted on page 3-7. When detection limits exceed ecological effects values, they are of little to no value in an ecological risk assessment depending upon the magnitude of the exceedance. This is a particular problem with the EPA Region 4 sediment screening values, in that the Region's screening values are the Contract Laboratory Program's (CLP) practical quantification limits (PQL) when the CLP PQL is above the ecological effect value. Screening values for pesticides and PAHs exceed effects values by as much as two orders of magnitude. In the past several years, many analytical laboratories have provided data with detection limits for these constituents much lower than EPA's CLP PQLs and below or at a minimum within the same order of magnitude as ecological effects values without addition analytical costs. We encourage the responsible party and their consultants to strive to obtain the most useful analytical data possible and to exceed, where reasonably feasible, those CLP PQL screening values that exceed ecological effects values. Also, this section should note that the generally accepted manner for dealing with high detection limits is to use one-half of the detection limit as the concentration of the constituent; this is the approach that should be utilized during the ecological risk assessment.

Groundwater that discharges to surface waters should also be screened against surface water screening values protective of the aquatic environment. Contaminated groundwater discharging to surface waters or to adjacent wetlands has been shown to the be a continuing source of contamination of these media at a number of CERCLA/RCRA sites and groundwater remediation has been determined necessary to protect ecological receptors. The State of South Carolina requires that groundwater discharging to surface waters meet State water quality standards for the protection of aquatic life. Therefore, this section should be revised to include screening of groundwater against surface water screening values for the protection of ecological receptors as well as for humans. Analytical detection limits for groundwater samples should be such that groundwater concentrations can be compared to surface water quality standards/screening values.

Appendix B Ecological Risk Assessment Methodology: See comments above regarding use of EPA's 1997 ERA guidance and also comments regarding Region 4's sediment screening values versus ecological effects values. Also, Step 1 of EPA's ERA guidance does not include screening of contaminant concentrations against ecological effects values. Step 1 involves identifying the environmental setting and contaminants known or suspected to exist at the site and the maximum concentrations present; contaminant fate and transport mechanisms; mechanisms of ecotoxicity associated with contaminants and likely categories of receptors that could be affected; exposure pathways; and screening ecotoxicity values. The ecotoxicity values are then used with estimated exposure levels to screen for ecological risks in Step 2 of the ERA process. Appendix B, including Figure B-1, should be revised to conform with current EPA guidance for conduction ecological risk assessments.

The Service appreciates the opportunity to provide these comments and looks forward to assisting in the investigation of contamination at the Parris Island MCRD, the ecological risks posed by site contaminants, and remedial actions to restore and compensate for any natural resource injuries that may have occurred. If you have any questions regarding these comments, please contact Ms. Diane Duncan of my staff at (803) 559-7909.

Sincerely yours,

Edwin M. EuDaly

Edwin M. EuDaly
Acting Field Supervisor

EME/DD/km

cc: Tim Harrington, Parris Island MCRD
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