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Ms. Mary Cooke
US EPA Region III
1650 Arch Street
Philadelphia, PA 19103

SUBJECT: Response to comments, *Draft Final Engineering Evaluation/Cost Analysis (EE/CA) for Site 8, Demolition Debris Landfill, NAB Little Creek, Virginia Beach, Virginia*

Dear Ms. Cooke:

On behalf of the Navy, CH2M HILL has prepared the following responses to your comments on the *Draft Final Engineering Evaluation/Cost Analysis (EE/CA) for Site 8 Demolition Debris Landfill, Naval Amphibious Base Little Creek, Virginia Beach, Virginia*:

SPECIFIC COMMENTS:

1. *The executive summary indicates that analytical results were compared to EPA Region III Risk Based Concentrations and Maximum Contamination Levels (MCLs) in order to evaluate constituents of potential concern at the site. These RBCs and MCLs are human health based benchmarks. According to this executive summary, the contaminants of potential concern (COPCs) were not based on ecologically sensitive benchmark values. The executive summary needs to more clearly indicate that the COPCs for Site 8 are both ecological risk and human health risk related.*

Response to Comment No. 1:

The constituents identified as COPCs in the Site 8 EE/CA were those constituents listed in the *Final Site Investigation Report for SWMU 3 and Site 8, NAB Little Creek, Virginia Beach, Virginia*, prepared by CH2M HILL in December 1999. Reference to these COPCs was included to provide background information on previous investigations conducted at the site at the time this EE/CA was drafted. The

ecological risk assessment will be conducted on a separate Contract Task Order (CTO) upon completion of this debris clearing. Additionally, the ecological risk criteria are addressed in more detail in the *Draft Remedial Investigation Work Plan for Site 8, Demolition Debris Landfill, NAB Little Creek, Virginia Beach, Virginia*, which was jointly scoped by the Little Creek Partnering Team during the May 2001 meeting and submitted on July 27, 2001 to the team for review.

- 2.* *The executive summary on page ES-1 lists contaminants of potential concern (COPC) by media. These contaminants were developed from the Final Site Investigation Report. This COPC list is based on limited sampling and may not include all potential contaminants of concern at the site. In addition, no samples were collected where the debris piles are located, which would be where contaminant concentrations would be expected to be the most elevated. Therefore, given these limitations, the scope of the upcoming remedial investigation (RI) should not be limited to only those COPCs identified in the earlier site investigation.*

Response to Comment No. 2

Please see the response to Comment No. 1.

3. *According to Table 2-3 (Relative Ranking System Investigation Detected Analytes), the subsurface soil samples were collected from a depth of 1 to 4 feet. This document needs to clearly state if these subsurface samples were a composite from this 3-foot interval. If this is the case, from an ecological perspective, the concentrations from these subsurface samples likely underestimate maximum concentrations. The sample distance for these subsurface soil samples should ideally be 6 inches, centered on 2 feet below ground surface, with multiple cores being take to provide sufficient sample volume.*

Response to Comment No. 3

These samples were taken during the initial site characterization and were provided in this document to summarize the results of previous investigations. The purpose of the Relative Risk Ranking System is to determine the likely extent of contamination present at a site. This data was only used to assign a priority level to Site 8 and aided in determining which additional investigations are to be performed at Site 8. Remedial investigation sampling activities related to human health and ecological risk assessments were jointly scoped by the Little Creek Partnering Team and presented in the *Draft RI Work Plan for Site 8* that was submitted to the team for review and comment on July 27, 2001.

- 4.* *Section 2.4 on page 2-4 describes the debris piles that were found at the site, and Figure 2-2 shows the locations of these piles. Based on the type of debris present at each of these piles, sampling in the upcoming RI under some of these piles is recommended. For example, sampling should be conducted for semivolatile organic compounds (SVOC) from piles containing creosote treated poles, and sampling for metals from piles containing metal debris. Other analysis may be warranted once full characterization of debris piles has been*

completed. Section 2.5 on page 2-5 discusses the additional sampling that will be performed in the upcoming RI to fill data gaps. The number of samples will be determined by the number of debris piles where potential releases could have occurred.

Response to Comment No. 4

The sampling from debris pile locations is addressed in the *Draft Remedial Investigation Work Plan for Site 8, Demolition Debris Landfill, NAB Little Creek, Virginia Beach, Virginia*, which has been submitted to the Little Creek Partnering Team for review and comment on July 27, 2001.

5. *According to Table 2-4 (Sample Summary and Associated Quality Control), soil samples were collected from 0 to 6 inches and from 3 to 5 feet. It is not clear why these sampling depths differ from those in Table 2-3 and why the subsurface soil between 6 inches and 3 feet was not sampled. Again, subsurface soil samples should be from a 6-inch zone centered on 2 feet bgs. This information needs to be added to this report.*

Response to Comment No. 5

Please see the response to Comment No. 3.

6. *According to Table 2-5 (Summary of COPCs), PAHs were not identified as COPCs because they were within background. Considering the highly likely anthropogenic source of these PAHs, discounting them as within background or upgradient is not acceptable. They need to be evaluated for ecological risk and included in the list of COPCs, if necessary.*

Response to Comment No. 6

Please see the response to Comment No. 1.

7. *Surface debris pile locations are supposedly shown on Figure 2-2, but this figure was not included in the document for review.*

Response to Comment No. 7

The omission of Figure 2-2 was an oversight during document production. Figure 2-2 will be included in the *Final EE/CA*.

8. *Table 2-7 is a summary of debris pile type and quantity. This table needs to include a measurement of the size of the debris pile. For example, debris pile "x" is "y" square feet.*

Response to Comment No. 8

Table 2-7 was compiled based upon estimated field measurements taken during a December 2000 site reconnaissance. The field team was asked to estimate the approximate number and size of debris present in each pile. Aerial extent (square footage) was not specifically calculated for the purpose of the *Draft Final EE/CA*; however the debris piles were surveyed using GPS. The largest debris piles were surveyed around the perimeter. The areas shown on figures for the largest debris piles are a close approximation of size. The smaller debris piles would have only been referenced by a single GPS point, and the size depicted on the *Draft Final EE/CA* figures is larger than actual debris pile size. The use of the information presented in the table was to calculate the volume of material to be removed during the surface debris clearing. The estimate of cost to remove the material from the site was based on volume (cubic yards), not square footage. The close-out report that will be prepared by the subcontractor responsible for the surface debris clearing (upon completion) will accurately reflect the square footage of debris at Site 8.

- 9.* *Section 2.5 is more than a generalized discussion of the upcoming remedial investigation and feasibility study at Site 8. The CTO is identified as well as seven items that define the scope and objectives of the CTO. None of these items identifies preparing a baseline ecological risk assessment (ERA). The ecological risk assessment that has been completed for this site was based on SI data and as such is not considered more than a screening level ERA, even though the title of the document suggested it was a baseline ERA (included step 3A). This section is too restrictive of what needs to be included in the RI/FS and needs to be more general and thereby allow the work plan to fully develop the framework of the overall RI/FS documents including problem formulation for the ERA. In addition, there have been two conference calls and at least one meeting regarding proposed sampling for the RI/FS as well as this interim removal action that have resulted in significant changes from the information presented in this section. Therefore, BTAG recommends this section be updated per this comment or eliminated. The fact that an RI/FS, including an ERA, will be performed at Site 8 should be stated.*

Response to Comment No. 9

Reference to completing an ERA has been added as a bulleted item in Section 2.5 of the *Final Site 8 EE/CA*.

- 10.* *Section 3.2.1 describes the removal action objective ("...to remove visible surface debris at Site 8 in efforts to restore the site to a more natural setting and improving its use as a wildlife habitat and bird viewing area...") and that this will be accomplished by establishing temporary access, removing surface debris piles while limiting damage, staging debris types for disposal, and restoration of the site. Interestingly, accomplishing the removal action objective does not include actual disposal of the debris. Regarding wetlands, limiting damage will need to address and integrate information on soil/sediment compaction, bank stabilization, and chemical concentrations supportive of debris removal and the removal methods selected. Details on site restoration should be provided. At a minimum, monitoring of disturbed areas should be performed. If marsh vegetation does not recover because of*

compaction and creation of open water habitat, or if Phragmites invades disturbed areas, wetland mitigation or restoration will be needed.

Response to Comment No. 10

Removal and subsequent disposal of the surface debris at Site 8 is the basis for completing the surface debris clearing at Site 8. Damage to the wetlands will be limited by the temporary placement of wooden logging mats, which are expected to provide a suitable surface for the heavy equipment to remove the surface debris. The location where logging mats will be placed is expected to remain largely within the *Phragmites* portion of the wetlands at Site 8. Specific wetland areas were identified during the wetlands delineation that was performed during April 2001, which was included as Attachment D to the *Draft Final EE/CA*.

Any associated reduction of elevation of wetland soils may have the long term benefit of creating additional higher quality wetlands, as these areas are likely to experience longer periods of inundation during tidal cycles. Upon completion of the debris clearing and remedial investigation at Site 8, wetland mitigation or restoration will be performed during the site remedial action phase if it is determined that the debris clearing has adversely affected the wetlands. The scope of this debris clearing includes immediate site restoration (re-grading, re-seeding in upland areas, etc.); however, longer term wetland mitigation activities will be addressed on a separate CTO, if necessary.

Chemical concentrations in debris pile areas will be assessed upon completion of the surface debris clearing during the remedial investigation phase. Chemical concentrations within the debris will be assessed by the removal subcontractor and the Navy-approved permitted disposal facility, with direction from the Navy as part of the disposal process.

Bank stabilization measures will be assessed upon completion of the surface debris clearing. Only debris pile #13 is located along the bank of the channel located at Site 8. Based upon visual observations during site visits, and as depicted on Page 8 of Appendix A in the *Draft Final EE/CA*, the "bank" is virtually non-existent. Any problems encountered with the bank during the surface debris clearing will be assessed and counteractive measures will be taken to remedy the situation.

11. *Section 3.2.2 (Removal Action Scope) indicates that debris items to be removed will be considered inert materials that will not contain hazardous materials. Some of the identified debris includes railroad ties and telephone poles. This EE/CA does not document that these two items have not been treated with preservatives. Information from the May 2001 partnering meeting indicated that some of these wood items had been treated with creosote and that the telephone poles were more likely pilings (potentially treated with the preservative CCA). The statement about these items being inert will need to be changed.*

Response to Comment No. 11

For cost estimating purposes, the debris was assumed to not contain hazardous materials as they may relate to disposal characteristics. Determining the extent of contamination that may be present in wood treatments will be required by the removal subcontractor as a prerequisite for disposal. This issue will be addressed as part of the contract with the subcontractor performing the disposal. This issue is further explained in Section 3.5 (General Disposal Requirements).

The second sentence of Section 3.2.2 (Removal Action Scope) has been modified to include analytical analyses of treatments applied to wood prior to disposal. The third sentence of this paragraph "...may contain materials that would be classified as hazardous " also reflects the scenario discussed during the May 2001 partnering session. Due to the nature of wood treatments (CCA), significant leaching of contaminants into site soils is not expected to have occurred. The sampling and analyses to be conducted during the remedial investigation will include the former locations of debris piles to ensure any associated contamination is properly characterized. Any contamination that remains at the site following the surface debris clearing will be evaluated in the RI/HHRA/ERA/FS.

12. *Section 3.2.2 refers to Figure 2-2 as showing the location of each debris pile. However, this figure is not included in the EE/CA.*

Response to Comment No. 12

The omission of Figure 2-2 was an oversight during document production. Figure 2-2 will be included in the *Final* EE/CA.

13. *Section 3.2.2 indicates the removal action will require the disturbance of approximately 0.5 acres, not including the areas currently containing surface debris. Information needs to be provided indicating the total area that will be disturbed, including the areas currently containing surface debris.*

Response to Comment No. 13

Disturbance of those areas of the site already containing surface debris was not considered detrimental to the site. It was estimated that approximately 0.5 acres of current wetlands may be required to access the surface debris locations. This estimate includes establishing temporary access to remove debris piles #9 and #13. The utilization of existing roadways (Figure 3-1 in the *Draft Final* EE/CA) was not considered to be disturbing to the site. The exact area that will be disturbed will not be known until equipment has mobilized to the debris piles. Based upon observations made during the site reconnaissance, the smaller debris piles located in upland areas may be accessed with a backhoe (or similar equipment) without logging mats. However, some clearing of small trees is anticipated. Since the upland portion of the site (southern extent) is heavily wooded with large trees, any

clearing/grubbing of site trees is expected to be limited to trees 2-inches or less in diameter, and not detrimentally affect the wooded area that has been established at Site 8. The text in the last paragraph of Section 3.2.2 has been modified to more clearly reflect what areas will be disturbed during the surface debris clearing.

- 14.* *Section 3.2.2 indicates the temporary access roads are shown on Figure 2-3. Based on this figure, which does not show all of the debris piles, concern is raised as to whether or not all of the debris piles will be accessible by these temporary roads. The creation of access roads should be done in a way that minimizes impacts to the surrounding marsh, including the use of marsh mats where possible, and creating roads through Phragmites areas where feasible, to minimize impacts to marsh areas containing Spartina species. This information needs to be included.*

Response to Comment No. 14

Section 3.2.2 of the *Draft Final EE/CA* indicates that the temporary access roads are shown on Figure 3-1, which does include the location of all the debris piles. These formerly used roads will allow equipment to gain access to the largest, contiguous debris piles. Other smaller debris piles (concrete pipe, concrete blocks, etc.) in the upland areas of the site are expected to be removed by creating small "spurs" off of the access roads. The upland soils in the area are expected to be capable of supporting the equipment (backhoe with rubber tires or equivalent) necessary to remove the debris with minimal disturbance to the site.

Information regarding the location of access roads through *Phragmites*, rather than *Spartina*, is discussed at the end of Section 3.2.2. Also, please refer to the response to Comment No. 13 for additional explanation.

- 15.* *Section 3.4, on page 3-3, indicates "[t]his removal action is intended to remove the portion of surface debris at the site that were placed within the wetlands." This intention does not appear to be the same as the removal action objective in section 3.2.1 and quoted in comment 8 above. This confusion needs to be clarified. Also, on page 2-6, the statement is made that the RI report will focus on impacts of the debris within the landfill. Considering the fact that the nature and extent of the contamination associated with any of these debris piles is unknown and that some of the debris piles may be outside the limits of the landfill cover, limiting the focus of the RI at this time is premature.*

Response to Comment No. 15

This statement indicates that considerations need to be taken under the Location Specific ARARs for wetlands, since some of the debris present at this site is located within wetlands. This statement was not included as an objective of the removal action.

The approach to conducting the post-surface debris clearing sampling as part of the RI investigation has been discussed in several recent meetings, and includes obtaining samples from agreed upon locations. The results of these samples will be

used to determine the extent of contamination existing at Site 8, including any identifiable relationship with the formerly used landfill. This information is presented in the *Draft RI Work Plan for Site 8*, which was submitted to the Little Creek Partnering Team for review and comment on July 27, 2001.

16. *Section 4.0 notes COPCs in surface soils and subsurface soils. In the case of surface soils, the four COPCs are reduced to one by comparing to upgradient and background concentrations. Previous comments on other sites at NAB Little Creek have raised concern over the use of the background data set and whether or not it is complete enough to use to limit the list of contaminants of concern. This same concern applies to this site. The final list of COCs needs to be documented in the RI and should not be limited by pre-RI decisions.*

Response to Comment No. 16

Please see the response to Comment No. 1.

- 17.* *Based on the fact that the interim removal action is to take place before the RI/FS is completed, and may actually be completed before RI sampling data is available; there is concern as to whether or not the interim removal action will mobilize chemicals or increase the exposure route to environmental receptors. Depending upon scheduling, either the EE/CA or the RI will need to monitor contaminant concentrations remaining after the debris piles are removed. This will allow for the assessment of remaining risk subsequent to the IRA.*

Response to Comment No. 17

The purpose of the EE/CA was to evaluate options for removing visible surface debris at Site 8. The objective of the RI is to monitor contaminant concentrations existing at the site after the surface debris clearing is complete. Environmental monitoring is not a specific objective of the EE/CA; however RI sampling after completion of the debris clearing allows for an assessment of the site without the presence of surface debris.

18. *Section 4.1 describes alternative 1 as no action and incorporating surface debris removal with the remedial investigation. The reasons for not selecting this alternative are not clearly documented. This alternative seems to minimize scheduling conflicts and would make the ecological risk assessment problem formulation easier. Also, sampling soils and sediments before debris pile removal would likely clarify, from a contaminant-risk perspective, if all debris piles needed to be removed. This information could help in making decisions about removing debris piles from wetland areas and along the stream bank where the majority of the telephone poles or pilings appear to be located.*

Response to Comment No. 18

A Remedial Action at Site 8 would be conducted following the RI/FS process. This surface debris clearing is intended to remove only the surficial debris present at Site 8. Based upon previous site investigations and due to the nature of the majority of the surface debris, removal of this debris prior to the RI/FS process at Site 8 provides

a more appropriate means to investigate the site during the RI sampling. With the exception of possible contaminants present in the treatment that has been applied to the surface of the wood, the debris piles are not considered to be sources of contamination. The prior placement of surface debris at Site 8 is defined in Chapter IV in the Virginia Solid Waste Management Regulations (VSWMR) 9 VAC 20 80 under "Management of Open Dumps and Unpermitted Facilities". Conducting this surface debris clearing, followed by the samples to be obtained from each media (surface and subsurface soil, groundwater, surface water, and sediment) as part of the RI is consistent with the requirements of the VSWMR.

19. *The third paragraph of section 4.1 contains the statement "...those debris piles located outside of the limits of the former landfill are not anticipated to have any associated relation to the landfill cap." The meaning of this statement is not clear.*

Response to Comment No. 19

The third paragraph in Section 4.1 of the *Draft Final EE/CA* does not seem to contain this statement. The last sentence of the second paragraph addresses a similar issue regarding the existing landfill cap (soil cover over areas of the landfill where subsurface debris was disposed). Debris piles could be compromising the effectiveness of the required 2-foot thick soil cover that is required over areas where subsurface debris has formerly been placed. Hence, the statement "...those debris piles located outside of the limits of the former landfill are not anticipated to have any associated relation to the landfill cap" is intended to mean that any debris piles not located on top of the former area of the site that was used for subsurface debris disposal are not expected to have compromised the effectiveness of the existing cap. Also, removing these debris piles is not expected to cause additional damage to the landfill cap. The extent of the landfill cap will be determined as part of the RI/FS to be conducted at the site.

- 20.* *Section 4.3 describes alternative 3 (the conclusion recommends this alternative) as including reinforced subgrades for access roads to the wetlands. There appear to be other methods of gaining access to wetlands that would further minimize impacts to these habitats. Yet, there is no indication that all methods of working in wetlands to minimize adverse impacts have been considered in this EE/CA. Documentation of these "wetland friendly" construction methods needs to be included, such that the most appropriate is selected. Also, discussions (conference calls and meetings) have dealt with the need to eliminate/minimize construction impacts to the Spartina marsh and these need to be included in this section.*

Response to Comment No. 20

The *Draft EE/CA* (February 2001) for the surface debris clearing at Site 8 that was provided for review included the construction (and removal of) temporary access roads to provide equipment a means of accessing the debris for removal. Further discussion with the Navy revealed there were "logging mats" that could be utilized to complete this surface debris clearing. Part of the changes incorporated into this

Draft Final EE/CA included the use of these mats rather than constructing traditional access roads.

The use of these logging mats will only be used in those areas identified as "wetlands" to access the largest surface debris pile (#13). Other options, such as access from the water, were not feasible due to channel depth, tidal cycles, and the lack of a location that could be used to load and unload equipment to a barge or similar. Impacts to the *Spartina* marsh will be avoided as much as possible while accessing debris pile #13 (please see Section 3.2.2). Debris pile #9, which is also located in the *Spartina* marsh, may be removed from the logging mats placed to access debris pile 13. The debris present within debris pile #9 (several wooden pilings laying flat in the marsh) is expected to be removed by winching the debris across the surface of the marsh in a manner that will not require mobilizing equipment into the marsh.

21. *A number of decisions or consensus on issues have been reached as a result of the conference calls and meetings pertaining to this site. These items need to be accurately represented in this EE/CA.*

Response to Comment No. 21

Every attempt was made to include the decisions and consensus items from the joint scoping sessions (May 2001) during the drafting of this *Draft Final EE/CA*. Many of the decisions or consensus items regarding Site 8 were related to the recently completed RI Work Plan, as stated in the response to comment No. 1. Specific changes made to this document between *Draft* and *Draft Final* were provided as a "red-line" version when the *Draft Final* was submitted for review.

If you have any questions concerning any of these comments, please call me at (757) 460-3734, ext. 12.

Sincerely,

CH2M HILL



Paul Landin, P.E.
Project Manager

cc: Ms. Dawn Hayes, LANTDIV
Mr. Robert Weld, VDEQ
File

Mr. Matt Louth, CH2M HILL
Mr. Randy Sawyer, IR Coordinator