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May 6, 2011

U.S. Environmental Protection Agency - Region II  
290 Broadway – 22<sup>nd</sup> Floor  
New York, New York 10007-1866

Attn: Mr. Adolph Everett, P.E.  
Chief, RCRA Programs Branch

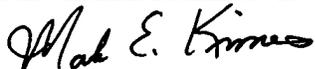
Re: Contract N62470-10-D-3000  
IQC for A/E Services for Multi-Media  
Environmental Compliance Engineering Support  
Delivery Order (DO) JM01  
U.S. Naval Activity Puerto Rico (NAPR)  
EPA I.D. No. PR2170027203  
Final Interim Corrective Measures Work Plan for SWMU 2

Dear Mr. Everett:

Michael Baker Jr., Inc. (Baker), on behalf of the Navy, is pleased to provide you with one hard copy of the replacement pages for the Draft Interim Corrective Measures Work Plan for SWMU 2, Naval Activity Puerto Rico for your review and approval. These replacement pages make up the Final Interim Corrective Measures Work Plan for SWMU 2. Directions for inserting the replacement pages into the Draft Interim Corrective Measures Work Plan for SWMU 2 are provided for your use. Also included with the copy of the replacement pages is one electronic copy provided on CD of the Final Interim Corrective Measures Work Plan for SWMU 2. This document is being submitted in accordance with EPA comments dated March 24, 2011. The Navy responses to these comments are attached for your review. Additional distribution has been made as indicated below.

If you have questions regarding this submittal, please contact Mr. Mark Davidson at (843) 743-2124.

Sincerely,  
**MICHAEL BAKER JR., INC.**



Mark E. Kimes, P.E.  
Activity Coordinator

MEK/vk  
Attachments

cc: Ms. Debra Evans-Ripley, BRAC PMO SE (letter only)  
Mr. David Criswell, BRAC PMO SE (letter only)  
Mr. Mark E. Davidson, BRAC PMO SE (1 hard copy and 1 CD)  
Mr. Pedro Ruiz, NAPR (1 CD)  
Mr. Tim Gordon, US EPA Region II (1 hard copy and 1 CD)  
Mr. Carl Soderberg, US EPA Caribbean Office (1 hard copy and 1 CD)  
Ms. Bonnie Capito, NAVFAC Atlantic – Code EV42 (1 hard copy)  
Ms. Gloria Toro, PR EQB (1 hard copy and 1 CD)  
Ms. Wilmarie Rivera, PR EQB (1 hard copy and 1 CD)  
Mr. Felix Lopez, US F&WS (1CD)  
Ms. Brenda Smith, TechLaw, Inc. (1 CD)

**NAVY RESPONSE TO EPA COMMENTS DATED  
OCTOBER 14, 2010 ON THE DRAFT INTERIM CORRECTIVE  
MEASURES WORK PLAN FOR SWMU 2  
DATED AUGUST 13, 2010**

*(EPA and PREQB comments dated October 14, 2010 are provided in italics)*

[The Navy Responses to EPA Comments as part of the Working Draft (submitted March 15, 2011) to the comments dated October 14, 2010 is provided in **Blue** for ease of your review.]

[PREQB Comments (submitted April 11, 2011) on the Navy Working Draft submitted March 15<sup>th</sup> 2011 and the corresponding Navy Responses (submitted April 14, 2011) to these additional comments is provided in **Brown** for the ease of your review.]

[PREQB Comments (submitted May 1, 2011) on the April 14, 2011 Navy Responses is provided in **Green** along with the Navy responses to these comments.]

## **EPA COMMENTS**

### **GENERAL COMMENTS**

*Evaluation of the Response to General Response Comment F: The response to comment states that Corrective Action Objectives (CAOs) for each solid waste management unit (SWMU) will be presented in a separate report, entitled SWMU 1 and 2 Corrective Action Objective Development and Pre-Interim Corrective Measures [ICM] Delineation Sampling Results. The responses to General Comments 1 and 4 state that more delineation sampling will occur “. . . once the corrective action objectives [CAOs] have been finalized.” However, Section 1.4 (Corrective Action Objectives) of the SWMU 2 ICM Work Plan (WP) has a table listing CAOs for SWMU 2. The status of these CAOs (e.g., draft, proposed, or final) is not identified. Revise the SWMU 2 ICM WP to clarify if or how the CAOs in the SWMU 2 ICM WP will be used in light of the RTC. In addition, provide a synopsis of how these CAOs were derived.*

**Navy Response to EPA Evaluation of the Response to General Response Comment F:** To clarify the status of the CAOs, a sentence was added in Section 1.4 of the ICM Work Plan explaining the CAOs have not been approved by regulatory stakeholders. Additionally, the embedded table within Section 1.4 of the ICM Work Plan was revised. Further explanation of CAO development was added to Section 1.4 referencing the [Draft Final Corrective Action Objectives Development for Terrestrial Avian Omnivores and Preliminary Delineation Investigation, Naval Activity Puerto Rico](#), dated December 16, 2010 (CAO Development Document).

*Evaluation of the Response to General Comment 1: The comment has been partially addressed. The RTC clarifies the rationale behind earlier delineation sampling, and indicates that more delineation will occur prior to soil remediation activities. The proposed soil sampling in Appendix A, Drawings C-2 (Surface Soil Sample Locations) and C-3 (Subsurface Soil Sample Locations), seems inadequate to fully delineate the contamination in the southern portion the SWMU. For example, Drawing C-1 (Existing Conditions Plan) shows four debris piles in the southern half of the SWMU. The drawings indicate that soil samples have not been collected in these areas and that one surface soil sample, but no subsurface soil samples, will be collected from each of the four areas (see Drawings C-2 and C-3). A single surface soil sample per debris pile cannot delineate the extent of contamination. Revise the SWMU 2 ICM WP to include data from all previous sampling events, in order to substantiate the delineation of soil contamination. Also, revise the proposed soil sampling to include more samples to delineate the soil*

contamination around the former debris piles in the southern half of the site.

**Navy Response to EPA Evaluation of the Response to General Comment 1:** Appendix A, Drawings C-2 and C-3 were revised to reflect a more comprehensive sampling and analysis effort in the southern and northern half of SWMU 2. Data from previous sampling events has been annotated by referencing each historical report within this document. The purpose of the interim corrective action is to remove impacted soils that pose risk to the environment. The purpose of the soil delineation is to quantify the soils prior to removal. Either way, the confirmation sampling will verify that impacted soil has been removed.

**Evaluation of the Response to General Comment 2:** *The RTC partially addresses the comment. The SWMU 2 ICM WP includes ICM design drawings, a Sampling and Analysis Plan, and Technical Specifications as appendices. However, more information is needed on soil removal activities in wetland areas, and on protecting the wetlands at SWMU 2. Section 4.3 (Wetland Delineation) of the SWMU 2 ICM WP states that wetlands will be identified and their boundaries flagged before intrusive work starts, and that “Under no circumstances shall soil removal work be performed within the wetland boundary without notification of the NTR.” Drawings C-1, C-2, and C-3 show that much of the contamination at SWMU 2, including Areas A, B, C, and D, is located in the designated E2SS3 wetlands. However, the report provides no information on alternate, protective procedures to be used during soil removal in the wetlands. Revise the SWMU 2 ICM WP to include information about protective measures which will be implemented during soil removal in the wetlands.*

**Navy Response to EPA Evaluation of the Response to General Comment 2:** The intent of the ICM is to remove soils in non-wetland areas. The wetlands will be delineated before ICM activities. Section 4.3 of the SWMU 2 ICM Work Plan states; “Under no circumstances shall soil removal work be performed within the wetland boundary.” This statement clearly identifies no work and/or disturbance of wetlands will be conducted during this ICM. Therefore, no further discussion of the soil removal activities in the wetland boundary is necessary. In addition, a clarification sentence was added to Section 4.3 stating; “The current wetlands demarcation boundaries on all the figures have not been verified.”

**Evaluation of the Response to General Comment 3:** *The response partially addresses the comment. See Evaluation of the Response to General Response Comment F.*

**Navy Response to EPA Evaluation of the Response to General Comment 3:** Comment noted. See Navy Response to EPA Evaluation of the Response to General Response Comment F.

## **SPECIFIC COMMENTS**

**Evaluation of the Response to Specific Comment 1:** *The comment applies to SWMU 1, which will be addressed in the Draft Interim Corrective Measures Work Plan – SWMU 1.*

**Navy Response to EPA Evaluation of the Response to Specific Comment 1:** Comment noted.

**Evaluation of the Response to Specific Comment 3:** *The RTC addresses the comment. Site activities at SWMU 2 started before the January 8, 2010 comments were received. Thus, mobilization and site preparation activities are completed at SWMU 2.*

**Navy Response to EPA Evaluation of the Response to Specific Comment 3:** Comment noted. A second mobilization and site preparation will be required for implementation of the soil excavation phase of the interim corrective action.

**Evaluation of the Response to Specific Comment 4:** *The RTC addresses the comment with regard to SWMU 2, in Appendix C (Sampling and Analysis Plan), Table 3-1 (Confirmation and Characterization Sampling Summary) of the SWMU 2 ICM WP. The portion of the comment about SWMU 1 will be addressed in the Draft Interim Corrective Measures Work Plan – SWMU 1.*

**Navy Response to EPA Evaluation of the Response to Specific Comment 4:** Comment noted.

**Evaluation of the Response to Specific Comment 8:** *The RTC partially addresses the comment. However, the SWMU 2 ICM WP is inconsistent on the measures to be taken to protect streams, waterways, and storm drainage systems from damage and sedimentation. The text in Section 5.3 (Erosion and Sedimentation Control Plan) states that silt fencing has been chosen as the best management practice for temporary control of off-site erosion and sedimentation from rainfall. Section 5.3 seems to indicate that silt fencing will be the only erosion control method used during site activities. However, the text in Appendix H (Technical Specifications), Section 3.2.1.3 (Temporary Protection of Erodible Soils), lists multiple methods to “retard and control the rate of runoff from the construction site:” diversion ditches, benches, berms, silt fences, and straw bales. It is unclear if silt fences will be the only method used, or if other methods will be used, and what criteria will be applied to make the decision. Revise the SWMU 2 ICM Work Plan to clarify this point.*

**Navy Response to EPA Evaluation of the Response to Specific Comment 8:** Section 5.3 was revised to include alternate erosion and sedimentation control methods which are presented in Technical Specification Section 01 57 19.00 20 Subpart 3.2.1.3. Contractor’s discretion and field conditions will determine the type of soil erosion and sedimentation control methods employed.

## **PREQB COMMENTS**

### **General Comments:**

1. *Prior to conducting any soil removal actions at the site, the Draft Corrective Action Objectives Development for Terrestrial Avian Omnivores and Preliminary Delineation Investigation report for SWMUs 1 and 2 (Baker 2010) should be finalized. This will ensure that the proposed soil excavation activities and additional sampling are sufficient to achieve the final CAOs.*

**Navy Response to PREQB General Comment 1:** Comment noted.

2. *Please clarify if it is anticipated that debris will remain below the groundwater table. If so, please discuss whether this debris will be a continuing source of contamination to groundwater and surface water.*

**Navy Response to PREQB General Comment 2:** It is not anticipated that debris will remain below the groundwater table. The debris has been removed during the previous field activities in January 2010.

*Evaluation of Navy’s Response to PREQB General Comment 2:* *Please clarify what documentation will be provided on the debris removal. Please include a discussion of whether debris was observed below the water table.*

**Navy Response:** The Navy will supply contractor field logbooks and manifests from January 2010 activities on debris removal in the project closeout report. In the January 2010 field effort, no debris was observed below the groundwater table. A discussion of the observations will be provided in the project closeout report.

3. *The results of the baseline ecological risk assessment (BERA) are being used to establish CAOs for this site. Please clarify whether the potential for contaminants to leach to groundwater was evaluated, and include a discussion of how the proposed corrective measure will address this transport pathway. Groundwater is considered potable in Puerto Rico, and the CAOs and interim corrective measure should ensure that residual contamination and debris remaining in soils are not a continuing source of contamination to groundwater.*

**Navy Response to PREQB General Comment 3:** This Interim Corrective Measure work plan is for the removal of soils to address risks to terrestrial avian omnivore dietary exposures to ecological chemicals of concern. Please note that the CAOs presented within this document do not address unacceptable risks to terrestrial invertebrates from direct contact exposures to ecological COCs in SWMU 2 soils (Baker, 2010) *Draft Final Steps 5, 6, and 7 of the Baseline Ecological Risk Assessment, SWMU 2, Naval activity Puerto Rico, Ceiba, Puerto Rico*. Coraopolis, Pennsylvania. April 7, 2010, nor do they address unacceptable risks to aquatic avian invertivores from dietary exposures and aquatic invertebrates from direct contact exposures to ecological COCs in SWMU 2 estuarine wetland sediment (Baker, 2010). CAOs for these chemical-receptor-pathway combinations will be developed as part of a Corrective Measures Study (CMS) conducted at the SWMU following completion of the ICM addressing unacceptable risks to terrestrial avian omnivores (Baker, 2010). The CMS report for SWMU 2 also will include revisions to the human health risk assessments (HHRAs) originally presented within the *Revised Draft RCRA Facility Investigation Report for Operable Unit 3/5* (Baker, 1999) and, as necessary, CAO development for human receptors. Revisions to the HHRAs are deemed necessary based on the significant amount of new data generated at each SWMU since their completion in 1999.

*Evaluation of Navy Response to PREQB General Comment 3: Please respond to the original comment, "Please clarify whether the potential for contaminants to leach to groundwater was evaluated, and include a discussion of how the proposed corrective measure will address this transport pathway. Groundwater is considered potable in Puerto Rico, and the CAOs and interim corrective measure should ensure that residual contamination and debris remaining in soils are not a continuing source of contamination to groundwater."*

*Please clarify the path forward for ensuring that groundwater quality meets current Puerto Rico Water Quality Standards (PRWQS; March 2010). PREQB suggests that a corrective action objective (CAO) of the removal action is to remove soil in excess of levels that pose a leaching hazard to groundwater.*

**Navy Response:** Please note that this is an interim corrective measures action, not a final corrective measures action. The interim corrective measures action addresses soil only with the CAO developed for terrestrial avian omnivore dietary exposures chemical of concern, therefore no potential for contaminants to leach to groundwater will be addressed in the interim corrective measures action. Groundwater and all the potential HHRA scenarios will be addressed in the Corrective Measures Study which will be developed and submitted to PREQB for comment at a later date.

4. *Please clarify why a project-specific Sampling and Analysis Plan (SAP) was not prepared in accordance with the Uniform Federal Policy for Quality Assurance Project Plans (March 2005). Submittal of a SAP in this format will allow the reviewers to ensure that all laboratory and field requirements necessary to achieve data quality objectives for this site will be met.*

**General Navy Response to PREQB General Comment 4:** The current project specific SAP in Appendix C was developed to supplement the EPA and PREQB reviewed and approved Master Project Management Plan (PMP), Master Data Collection Quality Assurance Plan (DCQAP), Data Management Plan (DMP), and Master Health and Safety Plan (HASP) for NAPR (Baker, 1995). Final RCRA Facility Investigation Management Plans, Naval Station Roosevelt Roads, Ceiba, Puerto Rico. September 14, 1995. Coraopolis, Pennsylvania. The USEPA approved the work plan on September 25, 1995. These Master Plans define acceptable data requirements and error levels associated with the field and analytical

portions of this investigation. Therefore, to maintain consistency with past Navy work under the Consent Agreement, this work plan has been revised using the Navy’s EPA approved Master Plans for this facility.

In response to previous comments by the EPA on Phase I RFI Work Plans for SWMUs 62 and 71 (see the April 17, 2008 letter from Baker on behalf of the Navy to the EPA); the Navy provided an evaluation of the Master Project Plans (Baker, September 14, 1995) in relation to the QA/R-5 requirements (“EPA Requirements for Quality Assurance Project Plans.” EPA/240/B-01/003. [EPA, March 2001]). Table 1 of the April 17, 2008 letter provides a map between the DCQAP sections, the work plan content and the sections required by QA/R-5 and illustrates that although there are format and minor content differences, the DCQAP is generally consistent with and includes all of the main elements required by QA/R-5.

For example, data validation is discussed in Section 10 of the DCQAP; PARCCS measures are discussed in Section 4 of the DCQAP; and forms and checklists are provided in the tables and appendices of the DCQAPP. Some additional examples of forms and checklists that may be found in the DCQAP are shown in the following table:

<b>Item</b>	<b>Location in the DCQAP</b>
System Audit Checklist	Table 12-1
Test Boring Record	Appendix B – SOP F101 – Borehole and Sample Logging
Typical Monitoring Well Construction Details and Test Boring and Well Construction Records	Appendix B – SOP F103 – Monitoring Well Installation
Chain of Custody Form	Appendix B – SOP F302 – Chain of Custody
Sample Label	Appendix B – SOP F302 – Chain of Custody
Data Validation Checklists	Appendix D – Data Validation Methodologies

The analytical methods, analyte lists, detection limits, etc. may have changed to some degree since publication of the DCQAP. Consequently, the Full RFI Work Plans contain the following tables specifying the sampling and analytical program requirements so that data of sufficient quality for future risk management decisions is collected:

- Table 3-1 Confirmatory and Characteristic Sampling Summary
- Table 3-2 Method Performance Limits and Contract Required Quantitation Limits

The information provided in these tables has been reviewed against screening levels and have been determined to generally meet these levels. Table 3-3 has been revised to include preparation methods and Quantitation Limits. These quantitation limits have also been reviewed by the analytical laboratory to ensure that they can be met. In all cases, the quantitation limits are the lowest achievable by the laboratory for the specified analytical method. These tables are then provided to the analytical laboratory subcontractor as part of their scope of work so that the laboratory is clearly aware of the analytical requirements of the project. Additionally, only laboratories capable of providing an acceptable Laboratory Quality Manual (LQM) will be selected for this project. The LQM will be provided to USEPA after selection of the analytical laboratory.

This evaluation (presented in the April 17, 2008 letter), which was approved by EPA on May 13, 2008, indicated that the Phase I RFI Work Plan structure, with reference to the 1995 Master Project Plans and inclusion of project-specific tables summarizing the sampling and analysis program (SAP) for environmental and QA/QC samples and method performance limits, and other factors as discussed in the April 17, 2008 letter, when taken together provide the information and guidance necessary for the project team to generate good quality data and to use that data for developing risk management based recommendations and decisions.

*Evaluation of Navy Response to PREQB General Comment 4: Typical VOC collection procedures in solid matrices have been updated since 1995, the date of the Investigation Management Plans (SW-846 method 5035 was introduced in December 1996 and the newer version of this method, 5035A, was introduced in July 2002). Therefore, please update the VOC collection procedures in solid matrices to meet current collection procedures and document the method that will be used in this SAP for the collection of backfill and topsoil samples for VOCs.*

**Navy Response:** The second paragraph of Section 3.1.3 of the SAP has been added to clarify soil sample collection procedures for VOC and BTEX in backfill and topsoil:

The soil samples intended for VOC and BTEX analysis will be collected as grab samples to minimize volatilization. Three 5-gram subsamples will be collected per sample location using a Terra Core™ sampler and placed into separate pre-weighed 40-mL VOA vials (one pre-preserved with methanol and the remaining two with deionized water) containing a magnetic stir bar. The sealed vials will be packed in coolers and placed on ice to maintain a temperature of 4° Celsius.

**Page-Specific Comments:**

1. Page 1-5, Section 1.4:
  - a. Please review the first sentence, as it appears information is missing.

**Navy Response to PREQB Page-Specific Comment 1a:** Section 1.4 was revised.

- b. Please provide a reference in the text for the document that presented the CAOs and indicate whether the document received agency approval.

**Navy Response to PREQB Page-Specific Comment 1b:** Section 1.4 was revised.

2. Page 3-1, Section 3.5, Paragraph 1: Please specify that the soap to be used for decontamination will be a non-phosphate soap (e.g., Alconox or equivalent).

**Navy Response to PREQB Page-Specific Comment 2:** Section 3.5 was revised.

3. Page 3-2, Section 3.5.2, Bullet 2: Please clarify that wet decontamination measures may be used for larger equipment (not just reusable hand tools as stated in the second bullet). In addition, wet decontamination measures using a pressure washer (coupled with an Alconox and water wash, as necessary) are appropriate for large equipment, however, decontamination of the smaller tools should be conducted in accordance with the steps outlined in Section 3.5.3.

**Navy Response to PREQB Page-Specific Comment 3:** Section 3.5.2 was revised.

4. Page 3-3, Section 3.5.3: As metals are constituents of concern at this SMWU, please consider adding a nitric acid rinse followed by an additional ASTM Type II water rinse into the decontamination procedure outlined in this section.

**Navy Response to PREQB Page-Specific Comment 4:** Section 3.5.3 was revised.

5. Page 4-1, Section 4.1, Paragraph 2: As it was noted earlier in the text that there were debris removal activities that were conducted at SWMU 2 and that vegetation has not been re-established in the areas due to the anticipation of conducting additional work, please clarify if the site will be restored to pre-debris removal conditions.

**Navy Response to PREQB Page-Specific Comment 5:** Section 4.8 was revised. However, it should be noted that debris removal equipment was selected to minimize impact to existing vegetation.

6. Page 4-2, Section 4.5:

- a. *Please consider including contingency procedures for sampling, handling and disposal of unexpected items of concern should they be encountered during debris removal (e.g., staining or odors associated with contamination not previously identified, containers of unknown substances, etc).*

**Navy Response to PREQB Page-Specific Comment 6a:** Debris removal activities were completed in January 2010. No additional debris removal is anticipated.

*PREQB Evaluation of Response:* Please clarify if unexpected items of concern were observed during debris removal that may be sources of contamination that require additional delineation sampling. Also, please include contingency sampling procedures in this work plan to address unexpected items of concern should they be encountered during soil removal (e.g., staining or odors associated with contamination not previously identified, containers of unknown substances, etc).

**Navy Response:** No other potential sources of contamination were observed during debris removal that would require additional delineation sampling. Contingency sampling procedures were added to the work plan to address unexpected items of concern that may be encountered during soil removal (e.g., staining or odors associated with contamination not previously identified, containers of unknown substances, etc.).

- b. *Although munitions were not identified as being disposed of at SWMU 2, please consider include a contingency plan for handling munitions and explosives of concern (MEC) should it be encountered during the removal.*

**Navy Response to PREQB Page-Specific Comment 6b:** A paragraph was added to Section 4.5 giving direction to the contractor should MEC be encountered.

- c. *Groundwater may be present at the depth of excavation; therefore, please consider including procedures for handling saturated soils and water incidentally collected along with debris/contaminated soil.*

**Navy Response to PREQB Page-Specific Comment 6c:** Section 4.5 was revised. Excavation will stop at the groundwater table and no saturated soils will be removed from the excavation.

- d. *Please consider conducting screening using a photo-ionization detector during debris removal as it is not known what was disposed of at SWMU 2 with certainty.*

**Navy Response to PREQB Page-Specific Comment 6d:** Debris removal activities were completed in January 2010. No additional debris removal is anticipated.

*PREQB Evaluation of Response:* Please clarify if PID screening was conducted during debris removal. Also, please consider conducting screening with a PID during soil removal activities as this will aid in identifying if areas of contamination are present that were not identified during delineation sampling conducted in 2009.

**Navy Response:** PID was not used in previous debris removal. PID screening of soils during soil excavation activities has been added to the work plan to aid in identifying if areas of contamination are present that were not identified during delineation sampling conducted in 2009.

- e. *Please clarify the apparent discrepancy between the statement, “The presence of wetlands or wetland related vegetation (e.g., mangrove trees) will limit excavation of potentially contaminated soils” and a statement in Section 4.3 which states, “Under no circumstances shall soil removal work be performed within the wetland boundary without notification of the NTR.” Will excavation be allowed in the wetland area with prior notification? If excavation of contaminated soils will not be allowed in the wetland areas, this would appear, based on the contract drawings, to preclude a significant area of impacted soil.*

**Navy Response to PREQB Page-Specific Comment 6e:** Section 4.3 and 4.5 were revised. No soil excavation will be performed within the delineated wetland boundary.

- f. *In paragraph 2, please expand on what is meant by the statement, “During excavation, good engineering practices and appropriate construction methods will be implemented to control both contaminant releases and general exposure to workers.” Please provide a reference to the engineering practices and appropriate construction methods that will be implemented.*

**Navy Response to PREQB Page-Specific Comment 6f:** Section 4.5 was revised to include reference to technical specifications in Appendix H.

7. Page 4-2, Section 4.6:

- a. *Please consider adding a contingency plan for collecting samples beneath the staging area liner if the liner is breached.*

**Navy Response to PREQB Page-Specific Comment 7a:** Section 4.6 was revised.

- b. *In addition to noting that soil stockpiles will be covered following each day’s activities, please note that the polyethylene sheeting will be sufficiently anchored to prevent it from being blown off of the stockpiles by the wind.*

**Navy Response to EQB Page-Specific Comment 7b:** Section 4.6 was revised.

8. Page 4-3, Section 4.8: *Please clarify how pre-removal and post-removal elevations will be documented to ensure that post-excavation site conditions are consistent with these pre-removal elevations. Restoring site elevations will ensure that clean soil will be placed to a depth of 1 foot or 2 feet, depending on excavation depth, consistent with the CAOs. Note that the CAOs assume that ecological receptors are only exposed to the top 1 or 2 feet of soil and the intent of the removal action is to replace the top 1 or 2 feet with clean backfill.*

**Navy Response to PREQB Page-Specific Comment 8:** Section 4.8 was revised.

9. Page 6-5, Section 6.5.8, Paragraph 1: *Please specify that the soap to be used for decontamination will be a non-phosphate soap (e.g., Alconox or equivalent).*

**Navy Response to PREQB Page-Specific Comment 9:** Section 6.5.8 was revised.

10. Page 6-6, Section 6.5.8, Paragraph 2: *Please make reference in this section to the multi-step decontamination process (as outlined in Section 3.5.3) for use in cleaning non-disposable sampling tools.*

**Navy Response to PREQB Page-Specific Comment 10:** Section 6.5.8 was revised.

*Minor Points:*

1. *Page 4-1, Section 4.4: Please change the title of this section from “Pre-Excavation Surface Soil Sampling” to “Pre- Excavation Soil Sampling” as soil samples will be collected from 1 to 2-feet in addition to the surface interval of 0 to 1-foot.*

**Navy Response to PREQB Minor Points Comment 1:** The title was revised.

**Appendix A: Phase I Interim Corrective Measures Design Drawings**

1. Drawing C-1:
  - a. *The limit of vegetation clearing and grubbing shown needs to be expanded to encompass the areas where excavation is planned, as a minimum.*

**Navy Response to PREQB Appendix A: Phase I Interim Corrective Measures Design Drawings Comment 1a:** Drawing C-1 shows the limits of previous ICM debris removal activity. Drawing C-1 was revised to provide clarification.

*PREQB Evaluation of Response: Drawing C-1 has been revised to clarify the extent of vegetation removal shown is that pertaining to the previously completed effort. However, the current drawings do not depict any limit of clearing and/or grubbing to be performed in support of the proposed effort. This should either be included on Sheet C-4 or a Site Preparation Plan should be added to the set of drawings.*

**Navy Response:** The site must be fully delineated as described in the ICM work plan before the limits of vegetation removal can be identified. Therefore, identifying clearing and/or grubbing limits without delineating the excavation limits would be premature.

- b. *Topographic contour lines shown should be labeled, indicating associated elevation.*

**Navy Response to PREQB Appendix A: Phase I Interim Corrective Measures Design Drawings Comment 1b:** Topographic contour lines were labeled.

- c. *It is not clear why grubbing is proposed for areas to be excavated. In fact, care must be taken to ensure soil materials bound within the roots are not discarded with the vegetation material as non-contaminated materials.*

**Navy Response to PREQB Appendix A: Phase I Interim Corrective Measures Design Drawings Comment 1c:** Drawing C-1 shows the limits of previous ICM debris removal activity. Drawing C-1 was revised to provide clarification.

*PREQB Evaluation of Response: See evaluation of response to comment 1a.*

**Navy Response:** Grubbing will not be performed. The excavated material at or below the surface will be handled as contaminated.

2. Drawing C-2: *It is not clear how the locations for the delineation samples were selected. Please present the rationale used in selecting these locations.*

**Navy Response to PREQB Appendix A: Phase I Interim Corrective Measures Design Drawings Comment 2:** Section 4.5 in the SWMU 2 Work Plan has been revised. Drawings C-2 and C-3 have also been revised to show previous sampling locations where COCs exceeded their respective CAO.

3. Drawing D-1: Please alter the safety fence detail to conform to that which is stated in Section 3.2 of the work plan text. The text states that, "Fences will be constructed of orange construction safety fence fabric hung on steel posts set at 10-foot intervals" whereas the detail shows that either metal or wooden posts will be used.

**Navy Response to PREQB Appendix A: Phase I Interim Corrective Measures Design Drawings Comment 3:** The Safety Fence detail was revised. Additionally, Section 3.2 in the SWMU Work Plan was revised to reflect "metal" posts.

4. Drawing D-6: Please ensure consistency between the details presented on this sheet and the corresponding plan review sheets.

**Navy Response to PREQB Appendix A: Phase I Interim Corrective Measures Design Drawings Comment 4:** Comment noted.

### **Appendix C: Sampling and Analysis Plan**

1. Page 3-1, Section 3.1, Paragraph 1: Please alter the language in the third sentence to reflect that not only will sampling equipment be decontaminated prior to, but also between the collection of samples.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 1:** Section 3.1 was revised.

2. Page 3-1, Section 3.1.1, paragraph 2: Please clarify this sentence, "If any delineation sample result exceeds the CAOs additional delineation samples will be located 25 feet from the exceedence in the cardinal direction opposite the proposed excavation and the proposed limits of excavation will be revised." It is unclear where the sample will be located if it is in a direction opposite the proposed excavation. Is this sentence intended to mean that an additional delineation sample will be located at a step-out location 25 feet from the exceedence? If so, please consider rewording for clarity.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 2:** Section 3.1.1 was revised.

3. Page 3-2, Section 3.1.1, confirmation samples:
  - a. Please clarify if a composite sample will be collected every 25 feet along the face of the excavation.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 3a:** Section 3.1.1 was revised.

- b. Please clarify why confirmation samples are not proposed for the bottom of the excavations.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 3b:** No confirmation samples will be collected from the bottom of the excavations. The purpose of the confirmation sampling is to confirm that the level of a COC is below the respective CAO. The associated risk in this case is to the ecological terrestrial avian omnivore receptors within the top two feet of soil. By removing the top one or two feet of soil as determined in the BERA, the ecological pathway is removed and the CAO is satisfied. Therefore, any additional confirmation sampling from bottom of excavation below required excavation depth would not result in any further soil removal.

*Evaluation of Navy Response to PREQB Comment 3b: Please see General Comment on addressing contaminant leaching to groundwater as a CAO.*

**Navy Response:** Please note that this is an interim corrective measures action, not a final corrective measures action. The interim corrective measures action addresses soil only with the CAO developed for terrestrial avian omnivore dietary exposures chemical of concern, therefore no potential for contaminants to leach to groundwater will be addressed in the interim corrective measures action. Groundwater and all the potential HHRA scenarios will be addressed in the Corrective Measures Study which will be developed and submitted to PREQB for comment at a later date.

*PREQB Evaluation of Response: In order to reduce investigation costs, PREQB suggests that the confirmatory samples be collected while the excavations are open. Confirmatory samples at the base of the excavations will be needed for future evaluations and for site closure decisions to document what is left in place. Note that these samples will need to include all potential chemicals of concern, not just those COPCs identified for this specific removal to address ecological concerns. The collection of confirmatory samples at the base of these excavations is consistent with the level of effort requested at other sites in Puerto Rico.*

**Navy Response:** Sampling and analysis data has been gathered from previous sampling events to support human health scenarios including groundwater leaching scenarios. Collection of additional data points from excavation floors would not add any value to the existing data set. However, additional data will be gathered during delineation sampling and analysis. This data will be added to the previous data set to support future human health risk assessment scenarios.

4. *Page 3-3, Section 3.1.3, Paragraph 1: Please consider changing the sampling frequency for borrow material from “one sample per borrow source or one sample per 500 cubic yards” to “one sample per 500 cubic yards per borrow source”.*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 4:** Section 3.1.3 was revised to one sample per 5,000 cubic yards per borrow source.

*Evaluation of Navy Response to PREQB Comment 4: Please clarify why the sample frequency was increased by an order of magnitude. PREQB’s comment requested revision to the text to ensure that soil proposed to be placed at the site was sampled at a frequency of 1 per 500 cubic yards, rather than just one sample per borrow source. The Navy’s response was to increase the sample frequency from 1 sample per 500 cubic yards to 1 sample per 5,000 cubic yards. This proposed sample frequency is inconsistent with sampling conducted of fill material for other projects at NAPR such as SWMU 46 and does not provide adequate data to demonstrate that the material being placed at the site is clean (i.e., not a source of contamination). Please revise the text as requested in PREQB’s comment.*

**Navy Response:** Upon review of the Final Work Plan The Navy contends that continuing to use the same borrow sources for SWMU 2 backfill, which have been thoroughly vetted with no soil impacts, would not require as extensive sampling frequency as previously identified. Therefore, a frequency of one sample every 5,000 cubic yards (cy) is reasonable. Table 1 of the SAP for the Final Project Closeout Report – Remedial Action for Soil Remediation at Various Sites dated August 6, 2010 identifies sample frequency for backfill was performed one sample every 1000 cy. The ICM work plan for SWMU 2 has only identified the need for 2110 cy of backfill.

*PREQB Evaluation of Response: PREQB requests that borrow sources be sampled at a frequency of 1 sample per 500 cy due to the fact that conditions may change with varying locations within the same overall borrow source. However, PREQB defers to EPA on this issue. For the borrow sources being used for this ICM, please clarify whether these sources accept fill from other locations and resell the fill as*

*borrow material. Please clarify what information forms the basis for the material being “thoroughly vetted” (i.e., what sampling has been done in the past at these borrow sources, what analysis was conducted and does it comply with Technical Specification 02 61 13 Part 2.2 for the required analytical suite).*

**Navy Response:** The Navy will sample and analyze borrow source soil at a frequency of one sample per 1,000 cubic yards (cy) which is consistent with previous sampling and analysis done at NAPR. Frequency of one sample every 1,000 cy applies to borrow sources that have a sampling/analysis history that can be verified by the Navy. If the borrow source does not have any sampling/analysis history, then the volatile analysis sampling frequency will increase to one every 500 cy with the non-volatile analysis remaining at a frequency of one sample every 1,000 cy. The work plan has been changed to reflect this change.

5. *Page 3-3, Section 3.3, Paragraph 1: Please collect QA samples in association with the delineation and confirmation soil sampling rather than collecting them in association with confirmation and waste characterization sampling.*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 5:** Section 3.3 was revised.

*Evaluation of Navy Response to PREQB Page-Specific Comment 5: As part of the revisions to Section 3.3, the Navy stated that MS/MSD samples would not be collected for the sidewall confirmation samples. As the results of these samples are critical to the investigation and the achievement of project objectives, it is especially critical that MS/MSD samples be collected for these samples at the specified frequency of one per twenty samples. Without the MS/MSD information, there is no process to evaluate the accuracy of the method with this particular matrix. Please revise Section 3.3 and Table 3-1 to include MS/MSD samples for sidewall confirmation samples.*

**Navy Response:** MS/MSDs will be collected for sidewall confirmation samples. The ICM work plan has been revised to reflect the additional QA sampling for every 20 sidewall confirmation samples.

6. *Page 3-4, Section 3.3, Paragraph 1: Please clarify the subsurface soil sampling interval. Previous references to subsurface soil sampling in the text have noted a depth interval of 1 to 2 feet bgs, whereas the interval noted in the second sentence of this paragraph is 0 to 2 feet bgs.*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 6:** Section 3.3 was revised. Reference to subsurface soil sampling depths has been removed for clarity.

7. *Page 3-4, Section 3.3, Bullet 4: Please clarify what is meant in the fourth bullet with respect to the collection of an equipment blank only if a “field instrument” is used. An equipment blank should be collected on any day during which a non-disposable sampling tool is used that requires decontamination.*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 7:** Section 3.3 was revised.

8. *Page 3-5, Section 3.4.3: Please include a final deionized water rinse following the nitric acid/deionized water spray over the sampling equipment.*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 8:** Section 3.5.3 was revised.

9. Page 3-6, Section 3.5, Paragraph 1: Please specify in the second sentence that the decontamination fluids, in addition to containing detergent and soils, may also contain dilute solvents and acid.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 9:** Section 3.6 was revised.

10. Page 3-6, Section 3.7.1, Paragraph 1: Please also reference that if wastes are determined to be hazardous and require storage in an appropriately constructed and outfitted area, the storage area(s) will be subject to daily inspection and that the waste will not be stored for longer than 90-days.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 10:** Section 3.8.1 was revised.

11. Page 4-1, Section 4.1, Paragraph 1: In addition to the other details provided with respect to the maintenance of a field notebook, please indicate that an erroneous entry will be handled by striking the entry with a single line and acknowledgement of the change with the author's initials and the date.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 11:** Section 4.1 was revised.

12. Page 6 of 7, Table 3-1:

- a. This table distinguishes between "off-site borrow material" and "backfill" and indicates different testing parameters for each. Please provide an explanation either in the text or as a note in the table between these two types of "common fill". Also, please consider that the analytical suite to which all backfill samples are subjected should include metals to ensure that soils with concentrations of COCs in excess of the CAOs are not being placed back in the excavation(s). In addition, please consider subjecting all backfill soil samples to the same analyses and include a full suite of analytes on a mass basis (VOCs, SVOCs, etc.) as opposed to just the TCLP to ensure that the fill material is "clean."

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 12a:** Table 3-1 was revised.

- b. Please clarify why the sample identifications listed for the sidewall confirmation soil samples do not agree with the sample identifications listed for the sidewall confirmation soil samples on Figure C-4 in the Work Plan.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 12b:** Figure C-4 and Table 3-1 have been revised. Prior to soil excavation activities, delineation soil samples will be collected and analyzed for the contaminants of concern. The results of these samples will be used to further delineate the excavation limits of contaminated soil. The exact number and location of sidewall confirmation samples is dependent upon the limits of excavation and will be known once the limits of contamination have been defined. Confirmation samples will be collected and analyzed in accordance with Technical Specification 01 35 45.00 10 and samples will use the naming convention presented in Section 4.2 of the SAP.

- c. The waste characterization soil samples and the borrow fill soil samples are collected as composites, as per this table. Please revise to replace "composite" with "grab" for BTEX and TCLP VOCs, as compositing cannot be performed on samples for these parameters.

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 12c:** Table 3-1 was revised.

*PREQB Evaluation of Navy response to PREQB Comment 12c: Grab samples are proposed for common fill and topsoil samples for Full TCLP, BTEX and total TPH. However, the original comment requested grab samples only for BTEX and TCLP VOCs. The revised table shows all samples for all analytes are grab samples (the prior version shows all samples to be composite samples). Please clarify why the remaining TCLP parameters and TPH-DRO are now grab samples, which conflicts Technical Specification 01 35 45.00 10, Section 3.1.3.*

**Navy Response:** For clarification, Table 3-1 has been revised. TPH column has been split into TPH-DRO and TPH-GRO. TCLP column was also split into TCLP VOC and TCLP Non-VOC. Grab samples will be collected for VOC, BTEX, TCLP VOC, and TPH-GRO. All other samples will be collected as composite samples. The Technical Specifications 01 35 45.00 10, Section 3.1.3 was changed to reflect changes to Table 3-1.

13. Table 3-2:

- a. *Please ensure consistency between the title of the table and the title indicates in the table of contents*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 13a:** Table 3-2 was revised.

- b. *Please replace “Low Level PAHs” in the header of the table with “Analytical Parameter.”*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 12b:** Table 3-2 was revised.

- c. *Please add quantitation limits for antimony, copper, and zinc in soil.*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 13c:** Table 3-2 was revised.

- d. *According to Table 4-3 of Draft Corrective Action Objectives for Terrestrial Avian Omnivores and Preliminary Delineation Investigation for SWMUs 1 and 2, Naval Activity Puerto Rico (August 13, 2010), metals analyses from the 2009 soil samples at this site were performed using SW-846 method 6020 (ICP-mass spectrometry). Please explain why a different analytical approach (6010B-ICP-atomic emission spectroscopy) is proposed here.*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 13d:** Proposed analytical method 6010B-ICP-atomic emission spectroscopy is required to achieve a lower detection limit not achievable with SW-846 method 6020 ICP-mass spectrometry.

*Evaluation of Navy Response to PREQB Page-Specific Comment 13d: It appears that the Navy revised Table 3-2 to now include method 6020 instead of 6010. This revision is acceptable. For clarity, please revise the response to reflect the change made to Table 3-2.*

**Navy Response:** Upon further review of Table 3-2, low level detection required for AVS/SEM metals (6010B-ICP-atomic emissions spectroscopy) is not being proposed for the interim corrective action. Therefore, method performance limits for AVS/SEM on Table 3-2 were removed.

- e. *Please revise the method number for mercury from 6010B to 7471A (cold vapor atomic absorption).*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 13e:** Table 3-2 was revised.

- f. *Although the method numbers listed for BTEX and TPH come from the Technical Specification in Appendix H, these methods are obsolete and are no longer utilized by laboratories. Please revise with current analytical approaches (SW-846 5035A/8260B for BTEX in soil, SW-846 5030A/8260B for BTEX in water, and SW-846 8015B for TPH in soil).*

**Navy Response to PREQB Appendix C: Sampling and Analysis Plan Comment 13f:** Table 3-2 was revised.

*Minor Points:*

1. *Page 3-2, Section 3.1.1, Paragraph 2: Please insert the word “of” between the words “excavation” and “encounter” in the first sentence.*

**Navy Response to PREQB Minor Point 1:** Section 3.1.1 was revised.

2. *Page 3-2, Section 3.1.1, Paragraph 2: Please change “COAs” to “CAOs” in the fifth sentence.*

**Navy Response to PREQB Minor Point 2:** Section 3.1.1 was revised.

3. *Page 3-2, Section 3.1.1, Paragraph 4: Please insert the word “occurs” between the words “obstructions” and “RWEC” in the first sentence of this paragraph.*

**Navy Response to PREQB Minor Point 3:** Section 3.1.1 was revised.

4. *Page 3-3, Section 3.2, Paragraph 1: Please alter the wording of the fourth sentence to read, “This will minimize any mobilization costs associated with potential re-sampling.” Or otherwise revise the meaning of the sentence.*

**Navy Response to PREQB Minor Point 4:** Section 3.2 was revised.

5. *Page 3-4, Section 3.3, Paragraph 1: Please change “COC” in the third sentence to “CAO”.*

**Navy Response to PREQB Minor Point 5:** Section 3.3 was revised.

6. *Page 3-5, Section 3.4.3, Paragraph 1: Please indicate that the dry decontamination procedures are outlined above, as opposed to within the stated section.*

**Navy Response to PREQB Minor Point 6:** Section 3.5.3 was revised.

**Appendix H, Technical Specifications:**

1. *Specification Section 01 33 00, Subsection 1.3: Please complete this section, as no information is presented on submittal classification.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 1:** The technical specifications were revised.

2. *Section 01 35 45.00 10, Page 2, Section 1.4.1: This section of the specification states that the chemical data be acquired, documented, verified, and reported to ensure that the specified precision, accuracy, representativeness, comparability, and completeness requirements are. The requirements for these parameters were not specified in the SAP. Please update the SAP to provide details for these parameters for each method being used in the SAP.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 2:** The Navy's site specific Data Quality Objectives (DQOs) are presented in the EPA and PREQB reviewed and approved Master Project Management Plan (PMP), Master Data Collection Quality Assurance Plan (DCQAP), Data Management Plan (DMP), and Master Health and Safety Plan (HASP) for NAPR (Baker, 1995). Final RCRA Facility Investigation Management Plans, Naval Station Roosevelt Roads, Ceiba, Puerto Rico. September 14, 1995. Coraopolis, Pennsylvania. The USEPA approved the work plan on September 25, 1995. These Master Plans define acceptable data requirements and error levels associated with the field and analytical portions of this investigation. Therefore, to maintain consistency with past Navy work under the Consent Agreement, this work plan has been revised using the Navy's EPA approved Master Plans for this facility.

No revision is necessary to the SAP or Technical Specification 01 35 45.00 10, Section 1.4.1.

3. *Section 01 35 45.00 10, Page 3, Section 1.6.2: This section of the specification states that split samples will be collected. Please include details in the SAP about the collection of the split samples and how the results will be evaluated.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 3:** Section 01 35 45.00 10, Section 1.6.2 was revised to clarify the samples as splits of homogenized samples not "split samples". Section 01 35 45.00 10, Section 1.6.2 is a specification for QA sample collection and analysis only and it does not describe splitting samples for analysis with other governmental entities.

4. *Section 01 35 45.00 10, Page 5, Section 3: Please consider adding a sub-section to address the sampling that is associated with determining that the materials used to backfill the excavation areas are clean.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 4:** Technical Specification 02 61 13, Section 2.2 and Technical Specification 31 23 00.00 20, Section 1.6 were revised.

5. *Section 01 35 45.00 10, Page 6, Section 3.1.2:*
  - a. *Please consider moving the delineation sampling section prior to the confirmation sampling section, as this will occur first (also, please note that there are two sections identified as 3.1.2).*

**Navy Response PREQB Appendix H, Technical Specifications Comment 5a:** Technical Specification 01 35 45.00 10 sections were revised and renumbered as follows:

- Section 3.1.1 Delineation Samples
- Section 3.1.2 Confirmation Samples
- Section 3.1.3 Waste Characterization Sampling
- Section 3.1.4 Incidental Waste Samples
- Section 3.1.5 Sampling Handling
- Section 3.1.6 Sampling Documentation

- b. *According to this section, the waste characterization soil samples are collected as “thoroughly mixed composite.” Please revise to ensure that compositing of samples is not conducted for BTEX and TCLP VOC analyses of these samples.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 5b:** The specification and Table 3-1 waste characterization were revised.

- c. *Cadmium is listed as a required metal. However, cadmium was not included on Table 3-2 of the SAP. Please clarify.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 5c:** Specification 01 35 45.00 10, Section 3.1.2 and Section 3.1.3 were revised.

- d. *Please clarify why the analyte list for the waste characterization samples includes cadmium, but does not include antimony.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 5d:** Specification 01 35 45.00 10, Section 3.1.2 parameter list was revised.

6. *Specification 01 57 19.00 20, Page 12, Section 3.2.2: Please clarify what factors dictate whether a Storm Water Pollution Prevention Plan is required for this project, as this work product is not mentioned in the Basis of Design document or the Draft ICM WP.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 6:** Upon further evaluation, a Storm Water Pollution Prevention Plan is not required. The Technical Specifications were revised.

7. *Technical Specification 02 61 13, Page 4, Section 2.2: Please analyze the backfill samples for a full suite of analyses on a mass basis to ensure the planned objectives of providing clean fill in place of contaminated soils is achieved. Also, please ensure consistency between this section and Section 31 23 00.00, Subsection 1.6.*

**Navy Response PREQB Appendix H, Technical Specifications Comment 7:** Analytical parameters for off-site backfill material in Technical Specification 02 61 13, Section 2.2, Technical Specification 31 23 00.00, Section 1.6 and Table 3-1 were revised.

## **PREQB COMMENTS ON REVISED WORK PLAN (NEW TEXT)**

### **GENERAL COMMENTS**

*Sections 4.3 and 4.5 have been revised to indicate that a field delineation of wetlands will be undertaken while the response confirms that no soil excavation will occur within the delineated wetlands. If contaminated soils are determined to extend into the limits of the delineated wetlands, additional justification should be provided to support not excavating contaminated soils within the wetland, specifically how leaving contaminated soils in-place will be protective of ecological receptors within the wetland. An alternative approach is excavation of the contaminated soils within wetlands followed by wetland restoration.*

**Navy Response:** Please note that this is an interim corrective measures action, not a final corrective measures action. The interim corrective measures action addresses soil only with the CAO developed for terrestrial avian omnivore dietary exposures chemical of concern. As identified in the Draft Final Steps 5,

6 and 7 of the Baseline Ecological Risk Assessment for SWMU 2 dated April 7, 2010, the following recommendations were made.

Initially, it is recommended that an Interim Corrective Measure (ICM) be performed (i.e., soil removal) to eliminate potential risks to terrestrial avian omnivores (and assumed risks to terrestrial amphibians and reptiles) from dietary exposures to copper, lead, and mercury in soil (surface and subsurface soil). The ICM also will serve to reduce potential risks presented by antimony, copper, lead, mercury, and zinc to terrestrial invertebrates based on their co-location with one another. Finally, the ICM will serve to eliminate/reduce potential source areas in upland habitat serving as a release point for chemical migration to the estuarine wetland. Specifics of the soil removal action, including locations and volumes, will be detailed within the ICM's Basis of Design Report. Following the ICM, it is recommended that SWMU 2 proceed to a CMS to further address low-level, wide-spread spatial coverage of ecological COCs above soil and background soil screening values, as well as unacceptable risks presented by copper, lead, mercury, and zinc to estuarine wetland benthic invertebrates and/or avian invertivores. Based on the evaluation of West Indian manatee dietary exposures using measured ecological COC concentrations in turtle grass tissue and sediment, a recommendation of corrective action complete without controls is made for sediments within the Ensenada Honda.

Therefore, any additional remedial approach beyond that identified in the ICM WP will be addressed in a future CMS, specifically any contamination in the wetlands.

## PAGE-SPECIFIC COMMENTS

*Table 3-2:*

- a. *Please remove the water/soil preparation methods for TCLP VOCs as the listed methods are applicable for SVOCs, not VOCs. The water/soil preparation methods should be listed as 5030B for both matrices for TCLP VOCs.*

**Navy Response:** TCLP VOCs water/soil preparation methods were changed from 3510C to 5030B for both soil and water matrices.

- b. *Please include method 1311 for TCLP SVOCs, TCLP pesticides and TCLP herbicides.*

**Navy Response:** Method 1311 was added to TCLP SVOCs, TCLP pesticides and TCLP herbicides.

- c. *Please revise the soil preparation methods for TCLP SVOCs, TCLP pesticides and TCLP herbicides to 3510C.*

**Navy Response:** The soil preparation methods for TCLP SVOCs, TCLP pesticides and TCLP herbicides were changed to 3510C.

- d. *Please explain why AVS/SEM analysis is included on Table 3-2 and please provide a reference for the listed method 6310B.*

**Navy Response:** The AVS/SEM analysis was mistakenly placed in Table 3-2 and has been removed.

## Appendix A: Phase I Interim Corrective Measures Design Drawings

*Sheet C-4: Please clarify whether the black triangles with numbers next to them are the proposed post-excavation sample locations. These items are not included in the legend. If these are intended to depict*

*the proposed post-excavation sample locations, they do not correspond with Specification Sections 01 35 45.00 10 and 02 61 13. Both of the specification sections state that post excavation samples will be collected from the excavation sidewalls at a frequency of 1 per 25 linear feet as well as from the excavation bottoms. The symbols shown do not indicate any bottom sample locations and do not meet the 1 per 25 linear feet frequency.*

**Navy Response:** The black triangles are not the proposed post-excavation sample locations. The black triangles are to call out the corners of the excavations with the corresponding coordinates containing the northings and eastings which are in the inset table on sheet C-4.

### **Appendix C, Sampling and Analysis Plan**

*Section 4.5 of the work plan states “The limits of excavation are based on the results of delineation sampling conducted in September 2009.” However, Section 3.0 of the SAP states “Delineation sampling will be conducted prior to soil excavation activities to further delineate the limits of contaminated soil excavation.” Please revise section 4.5 of the Work Plan to indicate that the limits of excavation will be further defined during additional delineation sampling that will be conducted as part of the soil removal.*

**Navy Response:** The following sentence was added to the first paragraph of Section 4.5.

The limits of excavation will be further defined during additional delineation sampling that will be conducted as part of the soil removal.

### **Appendix H, Technical Specifications:**

*Section 02 61 13, Section 2.2: The following issues were noted with the method numbers listed in this section:*

- a. *TPH-DRO and TPH-GRO: The preparation methods need to be reversed.*

**Navy Response:** Section 02 61 13, Section 2.2 preparation methods for TPH-DRO and TPH-GRO have been changed to 3550B/8015B and 5035/8015B respectively.

- b. *Method 3010A is listed for TCLP but this is for TCLP metals only. Please include preparation methods for other TCLP parameters as well.*

**Navy Response:** The preparation methods identified for TCLP was revised to include all TCLP parameters.

- c. *The preparation method for SVOCs is 3550B (not 3505B).*

**Navy Response:** The preparation method for SVOCs was changed to 3550B.

- d. *Please explain and provide a reference for method 4425 for PCB analysis.*

**Navy Response:** The PCB analysis method was updated to reflect the use of 8082 only, the reference to method 4425 for PCB analysis was removed.

*Section 31 23 00.00 20, Section 1.6: Grab samples are proposed for backfill and topsoil samples for Full TCLP, BTEX and total TPH. However, grab samples are only required for BTEX, TPH-GRO and TCLP VOCs. Composite samples are required for the remaining TCLP parameters and TPH-DRO. Please revise the section accordingly. This comment applies to Technical Specification 01 35 45.00 10, Section 3.1.3 also.*

**Navy Response:** Technical Specification 31 23 00.00 20, Section 1.6 and 01 35 45.00, Section 3.1.3 have been changed to reflect grab sample collection for VOC, TPH GRO, TCLP VOC, and BTEX in soil. All other soil samples will be composite samples.

Section 01 35 45.00 10, Sections 3.1.1, 3.1.2, and 3.1.4: Please include method 7471A for the analysis of mercury.

**Navy Response:** Technical Specification 01 35 45.00, Sections 3.1.1, 3.1.2, and 3.1.4 were revised to reflect method 7471A for soils analysis of mercury.

Section 01 35 45.00 10, Section 3.1.3:

a. Please include method 7471A for the analysis of mercury.

**Navy Response:** Technical Specification 01 35 45.00, Section 3.1.3 was revised to reflect method 7471A for soils analysis of mercury.

b. Please revise the BTEX method to 8260B instead of 8020.

**Navy Response:** Technical Specification 01 35 45.00, Section 3.1.3 was revised to reflect method 8260B for soils analysis of BTEX.