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LETTER AND U S NAVY RESPONSE TO REGULATOR COMMENTS TO DRAFT
FEASIBILITY STUDY SITE 17 GOULD ISLAND NS NEWPORT RI
7/20/2012
TETRA TECH



C-NAVY-07-12-5096W

July 20, 2012

Ms. Kimberlee Keckler
United States Environmental Protection Agency Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

Ms. Pamela Crump
Office of Waste Management
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908-5767

Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order WE46

Subject: Transmittal of Responses to Comments
Draft Feasibility Study,
Site 17 (Gould Island),
Naval Station Newport, Newport, Rhode Island

Dear Ms. Keckler and Ms. Crump:

On behalf of Ms. Maritza Montegross, US Navy NAVFAC, I am providing to you responses to comments on the document referenced above.

The Navy received comments on the draft document from the Environmental Protection Agency (EPA) on November 10 and November 30, 2011 and from the Rhode Island Department of Environmental Management (RIDEM) on January 13, 2012. Comments were also received from the National Oceanic and Atmospheric Administration (NOAA) on October 26, 2011. This response package was delayed by formal disputes resolved in January and April, 2012, and as such, these responses take into account the resolutions to the disputes as well as recent agreements on ARARs issues that are common to all sites at Naval Station Newport.

If you have any questions regarding this material, please do not hesitate to contact me at 978-474-8434.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Stephen S. Parker', written over a horizontal line.

Stephen S. Parker, LSP
Project Manager

Enclosures

c: D. Barclift, NAVFAC (w/encl.)
S. Bird, NAVFAC (w/encl.)
K. Finkelstein, NOAA (w/encl.)
G. Glenn, Tetra Tech (w/o encl.)
W. Johnson, NAVFAC (w/encl.)
M. Montegross, NAVFAC (w/encl.)
P. Steinberg, Mabbett Associates (w/encl.)
D. Straker, Tetra Tech (w/encl.)
D. Moore, NAVSTA (w/encl.)
Site File (c/o G. Wagner, Tetra Tech) (w/encl.)
File 112G02303-8.0 (w/encl.), 3.1 (w/o encl.)

**ATTACHMENT A
NAVY RESPONSES TO U. S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
COMMENTS DATED NOVEMBER 10, 2011
DRAFT FEASIBILITY STUDY FOR SITE 17, GOULD ISLAND
NAVSTA NEWPORT, RHODE ISLAND**

Navy responses to EPA comments dated November 10, 2011 on the draft Feasibility Study for Site 17 – Gould Island, Naval Station (NAVSTA) Newport Rhode Island (September 2011) are presented below. The EPA’s comments are presented first (in italics) followed by Navy’s responses.

General Comment 1: *The Navy prepared Preliminary Remediation Goals for sediment using a NOEC/LOEC approach based on the paired toxicity testing and chemistry results. This approach is consistent with the approach used at other CERCLA sites. EPA evaluated other PRG development methods, including use of an ERM-quotient method, to develop alternative PRGs. None of the methods tried is ideal because the data include samples that were toxic, but with toxicity not attributable to any particular measured parameter. Similarly, the data include some samples with high chemical concentrations that did not exhibit toxicity. EPA also examined grain size and total organic carbon as possible confounding factors but found no strong association among these parameters and toxicity. EPA therefore acknowledges that the methods used by the Navy are technically defensible. EPA supports the recommendation by NOAA to use a value other than the NOEC as the "non-toxic" value for purposes of calculating a PRG. The LOEC for HMW PAHs is quite high using the current approach, and it is unclear what factors may inhibit or enhance toxicity with respect to PAHs.*

Response: The uncertainty of the calculated LOEC is noted. This was discussed at length with the project team during the development of the Phase 2 RI and BERA, and it was determined at that time that the values were acceptable and defensible as noted in the first part of the comment above. Selection of another value other than the site specific NOEC has been discussed, but those discussions have not provided a suitable alternative. Furthermore, using a literature-based value would result in a cleanup goal that is not site-specific. It is therefore recommended that the previous conclusions from the BERA be retained.

General Comment 2: *The ERM-Q PRG is significantly exceeded in the vicinity of the dock along the eastern shoreline and at the nearby outfall. This area is also a surface drainage discharge area for the site. This area needs to be assessed further.*

Response: On the Northeast shoreline, the ERM-Q PRG was exceeded in samples collected in 2006 at stations 304B, 304C, 304E, 304F, and 317. Values as presented in Table 2-7 of the FS are summarized below:

Station ID	Calculated ERM-Q	ERM-Q PRG
G32-SD304B	2.12	1.42
G32-SD304C	2.22	1.42
G32-SD304E	1.94	1.42
G32-SD304F	11.09	1.42
G32-SD317	4.28	1.42

Stations 304B, C, and E are all within 25 feet of each other, and while the 2006 data from these stations exceed the ERM-Q PRG value, it is not assured that this exceedance is significant. Regardless, because of the elevated concentrations found at these locations, new sample stations were placed east and south of this position in 2009 and 2010 (SD 435, SD566 (east), SD436, SD517 (south) and SD519 (west)). Data from all of these new stations provided ERMQ values below the ERM-Q PRG; therefore, inclusion of the station set SD304-B, C, and E in any remedial action is not justified given the lack of PRG exceedances in more current data from the surrounding stations. Alternative SD3 of the draft FS provides for monitoring this station in order to confirm this improved condition and to assure it does not deteriorate over time. Given the presence

of the protected eelgrass bed, no action should occur here unless repeated samples indicate a condition that would need to be addressed.

Stations 304F and 317 both were re-sampled in 2010 as part of the Phase 2 RI and baseline ecological risk assessment. The new sample at Station SD304F was SD530, and the new sample at Station SD317 was SD511. Both of these new samples showed improved conditions and calculated ERM-Qs were well below the PRG: ERM-Q was 0.2 at SD511 and 0.19 at SD530. Additionally, in 2009, new samples were collected around station SD317 (SD421, 422, 423, 449) and data from these samples were also below the ERM-Q PRG. Based on the improved conditions demonstrated by ERM-Q values measured at these two stations and the new stations around SD317 in 2009 and 2010, inclusion of these stations in remedial actions does not appear to be necessary. However, alternatives SD-3 and SD-4 of the draft FS provide for monitoring at these stations in order to confirm this improved condition and to assure it does not deteriorate over time.

Overall, it can be concluded that, based on the most recent data, PRGs are not currently exceeded in the sediment of the Northeast shoreline. Therefore, monitoring is appropriate for this area to assure the condition does not deteriorate.

General Comment 3: *The FS stated that soil is not a medium of concern since risks from exposure to contaminated soil are acceptable. Therefore, soil PRGs were not developed. However, the FS also stated that onshore soil-debris containing elevated concentrations of contaminants as well as standing water within the debris must be addressed. A volume of 144 cubic yards of this material was estimated to be present exceeding the PRGs and will be targeted for hot spot cleanup but the FS did not identify those PRG levels. Section 2.2.2 and Table 2-5 listed the soil COCs with EPA Regional Screening Levels, RIDEM Direct Exposure Criteria, and maximum detected concentrations from the risk assessment. It was unclear why the maximum detected concentrations used in the HHRA were selected for defining the area and volume of the hot spot removal. Federal and state screening levels and ARARs should be considered for the cleanup.*

Response: Soil is a medium of concern, based on the assumed (not measured) risk for future residential use, and demonstrated by the presence of vadose zone soil exceeding RIDEM residential Direct Exposure Criteria (DEC). In accordance with the Dispute Agreement dated 1/12/12, RIDEM DEC and Leachability Criteria will be used to develop PRGs for soil. Based on these DEC, residential PRGs will be included to establish a LUC boundary to prevent residential use, while industrial PRGs will be developed and used for other remedial actions at the site, consistent with its current and future industrial use.

The risk from the soil/debris was measured from the water trapped within this material in the sumps. No risk was measured from the soil/debris because it is not truly soil, and as such it was not included in the 2006 risk assessment. Despite the fact that risk was not calculated for the soil/debris in the sumps, the material is contaminated and requires removal. The maximum concentration evaluated for soil in the HHRA was used as a "threshold risk concentration" and as an action level for determining if there is possible risk from the soil/debris. The federal and state screening levels listed in Table 2-5 could have been used, but this value was selected because it provided consideration of site-specific risk. Regardless, the end result was to provide a basis for removal of the soil/debris. The text and table will be revised to also include a comparison of sump soil/debris analytical results to RIDEM DEC.

General Comment 4: *In general, a lot more detail is needed to explain the reported results in this modeling study. Specific comments to this affect are provided in Attachment A. EPA strongly recommends that the sediment stability performed in this study be performed again after the recommended changes are made. Further, a plan for performing the stability analysis should be submitted to EPA for approval before the stability analysis is repeated. EPA disagrees with the principal conclusions that: 1) the sediments in Stillwater Basin and the adjacent open water are stable and there is little potential for erosion and exposure of buried contaminants or for transport of contaminated sediment within the site; and 2) that active remediation is not recommended at the site.*

Response: The sediment transport model was discussed briefly on December 1, 2011, and then again on December 13, 2011. It was agreed that the conclusion statement about active remediation is not the subject matter for the model and will be deleted, but Tetra Tech stated that the model findings are supportable.

Based on the technical discussions held, responses to specific technical comments were previously provided in a different format and delivered January 6, 2012. For completeness, these responses are also provided in this attachment as responses to comments SC114-SC134. Since that time, a revised model has been distributed as a Draft Final (January 27, 2012). Follow-up correspondence has been provided on the Draft Final Sediment Transport Model and addressed via electronic mail between 2/14/12 and 2/17/12. This electronic mail exchange is provided as Attachment B to this response summary.

SPECIFIC COMMENTS

SC1, Title Page: Please include "Operable Unit 6" in the title.

Response: Concur

SC2, p. ES-1, ¶1: a) Please replace the second sentence in the first paragraph that refers to the NUSC Disposal Area rather than the Former Building 32 at Gould Island.

b) Please correct the last sentence on the page by deleting "sediments within the" because the sediments do not reduce water energies.

Response: The text will be revised as suggested

SC3, p. ES-1, ¶2: Please state that the Gould Island OU is located in Jamestown, RI. Identify when the southern end of the island was transferred from Navy control.

Response: The text will be edited accordingly.

SC4, p. ES-1, ¶3: Please limit the discussion to Building 32 and the contamination associated with it.

Response: The cited section provides useful historical information that has been requested in the past and is appropriate for the discussion. No changes are recommended.

SC5, p. ES-2, ¶2: Please specify when the transformers were in use and when they leaked the PCBs.

Response: The dates of operation and when the leaks were found will be researched and added if that information is available.

SC6, p. ES-2, ¶5: Please state whether there is potable groundwater on the island. Provide sodium concentrations if relevant.

Response: There is a non-operational groundwater production well, installed on the site in the early 1940s. This well was found to provide inadequate water supply for the intended purpose during the development of the island at that time. There is no current and future use of groundwater planned for potable purposes.

Although it appears that groundwater in bedrock and overburden wells located close to the shoreline are tidally influenced, salinity data reported during the Building 44 SI (1995), for wells formerly located near the former fuel USTs, indicate that the groundwater is not saline (salinity <0.05%). Distribution provided in the 1995 report indicates that the highest salinity measured (0.05%) was found in a shallow well within 40 feet of the northeast shoreline. Based on this, it is expected that groundwater inland could be potable with treatment. This information will be added, but within the constraints of the format of the executive summary.

SC7, p. ES-3, ¶1: *The presence of eelgrass is not a legitimate reason to exclude areas of contaminated sediment exceeding PRGs as part of the OU. The presence of eelgrass may influence which remedial action might be taken, but not whether remedial measures need to be evaluated to address the PRG exceedances.*

Response: The cited section does not exclude areas of contaminated sediment, it describes the locations where sediments exceed PRGs. No changes to the cited section are recommended.

SC8, p. ES-3, ¶3: *Consistent with the NCP at 40 CFR 300.430(e)(2)(i), remedial action objectives need to include remediation goals. Remediation goals shall establish acceptable exposure levels that are protective of human health and the environment. Please note that if recreational use is present (or may be present in the future) the human health PRGs need to be based on residential risk standards.*

Response: Recreational use is not a current or planned future use of the site. This will be clarified in the cited section. RAOs will be added to identify remediation goals for site soil and groundwater. For clarity, the first RAO (related to sediment) will be separated into two bullets:

- Reduce risk to human receptors by preventing human exposure to intertidal sediment with chromium concentrations that exceed the PRG.
- Reduce risk to benthic invertebrates by preventing exposure to COCs in sediment that contribute to toxic effects in these organisms.

SC9, p. ES-3, bullet 2: *PCB cleanup levels to prevent human exposure from shellfish consumption need to be based on TSCA risk-based standards.*

Response: This was discussed via conference call on December 1, 2011. Based on that discussion it was agreed that the work conducted by the Navy under CERCLA also meets the requirements provided by TSCA, and use of site-specific risk-based cleanup goals is protective for the site.

SC10, p. ES-3, ¶4: *Please describe how migration of soil contamination to groundwater or to the bay via erosion will be prevented.*

Response: Based on chemical concentrations measured in groundwater, migration of soil contamination to groundwater (leaching) does not appear to be occurring.

Soil contaminants and the contaminants within the soil-debris in sumps and pits are confined within these concrete structures.. Removal of the soil/debris from the site would reduce the potential for transport to the bay via erosion.

SC11, p. ES-3, ¶5: *Sediments exceeding PRGs along the Northeast shoreline should be estimated for cost purposes.*

Response: Please refer to the response to General Comment 2.

SC12, p. ES-4, ¶1: *If waste exceeding residential PRGs is left in place for OS-2 and OS-3, long-term monitoring will also be required. For OS-2, LUCs need to include engineering controls to prevent migration of contamination, prevent direct human exposure, and restrict activities in the area. Specify whether OU-3 includes backfilling with clean material to prevent direct exposure to remaining contaminated soil that will not be excavated*

Response: Under alternative OS 2 and OS 3, inspections are part of the LUCs. Under alternative OS2, the elements requested are included but not described in the executive summary. Under OS 3, backfill will be provided, although as described in the document, there will be no remaining contaminated soils not excavated because the limits of the excavation are defined by the concrete boxes that contain the affected soil/debris. The last Paragraph of Page ES2 will be revised to clarify.

SC13, p. ES-4, ¶2 (a): SD2 will need to meet EPA guidance for Monitored Natural Recovery alternatives, including source control and meeting sediment PRGs within a reasonable period of time. The LUCs to prevent shellfish harvesting would be temporary until sediment PRGs are achieved. Five-Year Reviews would only be required until cleanup levels are achieved.

Response: Alternative SD-2 will be removed from the document.

SC13, p. ES-4, ¶2 (b): Does SD-3 involve installing a subaqueous cover over the NE Shoreline area? For SD-4 will the proposed MNR for the NE Shoreline area meet EPA guidance? Specify what LUCs would be required and whether they are just for the NE Shoreline Area until sediment cleanup standards are met. Five-Year Reviews would only be required until cleanup levels are achieved.

Response: Alternatives SD3 and SD4 do not include MNR although monitoring may include measurement of sedimentation rates over time. Sediment at the NE shoreline already meets PRGs (see response to General Comment 2 above), and monitoring in that area will document that this is not a temporary condition. The monitoring plan will include details of the monitoring effort and a completion goal (exit strategy) for each area, that is appropriate for the action taken.

SC14, p. ES-4, ¶3: State that a Responsiveness Summary will be developed to address public comments and incorporated into the ROD.

Response: The text will be edited accordingly.

SC15, p. 1-3, §1.3: Please state that the Gould Island OU is located in Jamestown, RI. Specify when the southern end of the island was transferred from Navy control.

Response: See the response to SC3.

SC16, p. 1-4, ¶2: What is the acreage under Navy, versus State control?

Response: There are 44 acres on the south portion that is controlled by the State of Rhode Island, and 9 acres still under control by the Navy. These values will be added to the cited page.

SC17, p. 1-5, §1.3.2: Please describe the removals in greater detail. Were the removals conducted under CERCLA? If a CERCLA removal was the cleanup level to industrial or residential standards? Were the PCBs in the groundwater addressed?

Response: The removal actions were conducted under various regulatory pathways, including UST regulations (Building 44 USTs), RCRA (waste disposal from the electroplating shop) and TSCA (transformers). These will be clarified in the FS. Since the descriptions of the removals are detailed in the RI documents, the summary information will be copied into this document and the RI will be referenced.

SC18, p. 1-7, §1.4.1: The discussion of groundwater needs to address groundwater on Gould Island, not the base in general.

Response: Comment noted. However, there is no regional information for the island, other than what is presented in Section 1.4.2. The section will be revised for clarity.

SC19, p. 1-8, §1.4.2: This section should discuss whether the groundwater on the Site is potable (non-saline) groundwater.

Response: See the response to SC 6. The text in the cited section will be edited accordingly.

SC20, p. 1-8, §1.5: Is the State land a designated wildlife refuge?

Response: According to the Jamestown Comprehensive Community Plan, both Dutch Island and Gould

Island are owned by the State of Rhode Island and are managed as Wildlife management areas by the RIDEM Division of Fish and Wildlife. Mr. Charles Brown of the RIDEM Department of Fish and Wildlife was contacted on December 23, 2011 who acknowledged that RIDEM F&W manages this area.

SC21, p. 1-15, §1.8: Was subsurface soil sampled below the Building 32 slab foundation (or just in the sumps and trenches)?

Response: Yes. In addition to the borings in the sumps and trenches, at least 17 other subsurface borings were advanced at various locations throughout the Building 32 foundation (RI, Fig 2-1). Sample results from these locations were all included in the risk assessment. In addition, borings in the sumps and trenches were advanced through the floors of the sumps to the top of bedrock. Continuous soil sampling was conducted throughout these borings. Refer to Table 2-2 of the Phase 1 RI.

SC22, p. 1-15, ¶13: The following sentence is unclear: "Additionally, these soils are not expected to impact the adjacent marine sediments in the Stillwater Basin: the adjacent sediments already contain PCBs and PAHs above the concentrations measured in the soil." Any remedial measure for sediments would need to take into account whether remediated areas would become re-contaminated from on-shore sources.

Response: The concentrations of PAHs and PCB in the soil at former building 41 do not exceed the PRGs for sediment established in Section 2 with the exception of one soil sample (SB412) where PCBs were detected at 1.8 mg/kg. The average concentrations and 95% UCL concentrations are below the PRGs for PAHs and PCBs. Based on these soil data, it is presumed that the remediated sediment will not become re-contaminated.

SC23, p. 1-15, §1.8.2, (a): If there are exceedances of MCLs in groundwater at the Site (it is unclear whether this section is just discussing groundwater under Building 32 or throughout the Navy property on Gould Island), then groundwater remedial alternatives need to be evaluated in the FS.

Response: The cited passage describes groundwater at the site, where two wells had slight exceedances of MCLs. Since there are no receptors identified for these drinking water standards, development of remedial alternatives for groundwater were not included in the draft document. This was discussed on December 1, 2011. It was agreed at that time that groundwater can be selected as a media of concern based on the MCL exceedances, and two alternatives would be evaluated for groundwater – no action and MNA with institutional controls. A recovery period will be estimated based on hydrogeological conditions.

SC23, p. 1-15, §1.8.2, (b): Section 1.3.2 discusses PCBs in groundwater in the area of Building 54 that should be discussed in this section also.

Response: PCBs were found in standing water where they were released in the foundation of building 54, and were removed during the excavation. Low concentrations of PCBs were later found in standing water during follow-up excavations conducted in 2003 and 2004. As discussed in the RI and in Section 1.3.2 of the FS, PCBs were not detected in groundwater wells downgradient of the Building 54 foundation after the excavations were completed (DF Phase 2 RI - TT, 2010). This information will be added to the document for clarity.

SC24, p. 1-18, ¶1: Regarding the third sentence, in stating PAH levels in groundwater are "low," what are the levels compared to?

Response: Maximum PAH concentrations detected in groundwater monitoring wells ranged from 0.33 µg/L for pyrene to 9.4 µg/L for naphthalene. Naphthalene and 2-methylnaphthalene (1.4 µg/L) were the only PAHs that exceeded the then-applicable Region 9 tap water PRG (0.62 µg/L) and current RSLs (2.7 µg/L and 0.14 µg/L, respectively). Other detected PAHs were below the screening levels used in the HHRA.

SC25, p. 1-19, §1.10: Risk from exposure to contaminated groundwater needs to be addressed as there are some exceedances of MCLs.

Response: Please refer to the response to SC23(a).

SC26, p. 1-20, ¶2: *Should the fourth sentence refer to mussels or clams?*

Response: The fourth sentence should refer to mussels. The text will be corrected.

SC27, p. 1-21, §1.10.4: *Please identify COCs for groundwater (at least for contaminants exceeding MCLs) and for residential exposure levels in soils.*

Response: Please refer to the response to comment SC25 and SC66

SC28, p. 1-22, ¶2 (a): *The groundwater analysis needs to be revised based on future potential use of potable groundwater. All groundwater that is not saline needs to meet MCLs unless the groundwater use has been reclassified by EPA's Drinking Water Program (which has not occurred at Gould Island). Future residential or recreational development of the property (or the adjacent State property) is not restricted and therefore low rate drinking water wells could be developed under future development scenarios.*

Response: Please refer to the response to comment SC25

SC28, p. 1-22, ¶2 (b): *Regarding vapor issues, if the groundwater has sufficient contamination to pose a current vapor risk to construction workers, then future reuse could be at risk from vapor.*

Response: Vapor intrusion from groundwater was evaluated in Section 6.3.2.3 of the RI (Tt, 2006), in accordance with EPA's OSWER draft *Guidance for Evaluating the Vapor Intrusion Indoor Air Pathway from Groundwater and Soils*. As discussed in that section of the RI, the maximum concentration of just one contaminant (PCE at 6 µg/L) in groundwater monitoring well data exceeded the initial screening value (5 µg/L), which is based on the MCL rather than an indoor air risk-based concentration and corresponds to the 10⁻⁶ target cancer risk level (residential indoor air exposure). None of the contaminants were present at concentrations greater than the 10⁻⁵ or 10⁻⁴ target cancer risk levels shown on Tables 2b and 2a of the draft Guidance.

SC29, p. 1-25, §1.11.4: *A PRG for PCBs may need to be calculated based on risk-based TSCA PCB standards.*

Response: This was discussed via conference call on December 1, 2011. Based on that discussion it was agreed that the work conducted by the Navy under CERCLA also meets the requirements provided by TSCA, and use of site-specific risk-based cleanup goals is protective for the site.

SC30, p. 2-3, §2.1.4.1 (a): *Chemical-specific ARARs need to be identified for groundwater (i.e., MCLs, MCLGs, federal risk-based standards, or more stringent state MCLs or MCLGs).*

Response: Groundwater will be added as a media of concern. Please refer to the responses to comment SC25.

SC30, p. 2-3, §2.1.4.1 (b): *For soil compliance with RI Remediation Regulations Soil Leachability criteria need to be assessed for potable groundwater.*

Response: Groundwater will be added as a media of concern. Please refer to the responses to comment SC25 and General Comment 3.

SC30, p. 2-3, §2.1.4.1 (c): *For sediment and shellfish federal risk-based standards for PCBs may be developed under TSCA.*

Response: Please refer to the response to comment SC29

SC31, p. 2-6, ¶1: *Residential PRGs also need to be developed to determine the extent of LUCs that may be required at the Site. They also need to be developed to address potential recreational activity at the site.*

Response: Regarding residential use, please refer to the response to General Comment 3, above. Regarding recreational use, please refer to the response to SC8, above.

SC32, p. 2-6, §2.2.1: Regarding groundwater, unless the groundwater is saline, groundwater is a media of concern if there are contaminant exceedances of federal drinking water, federal risk-based standards, or more stringent state standards. Vapor needs to be evaluated if concentrations would pose a risk to future development (for instance if a remedy would require LUCs to prevent development that would cause exposure to vapor).

Response: See response to SC6, SC28 and SC30(a) above.

SC33 p. 2-8, §2.2.2: Human Health PRGs also have to be based on unrestricted residential exposure levels.

Response: Please refer to the response to SC8. RAOs and PRGs will be developed as noted.

SC34, p. 2-10, ¶3: The text discusses that PCBs in sediment pose a human health risk, but PCBs in sediment are not discussed in the Human Health subsection starting on page 2-8.

Response: PCBs were not found to pose risk to human health other than through ingestion of shellfish, as presented on pages 2-8 and 2-9. PRGs are developed for these receptors.

SC35, p. 2-10, §2.3: RAOs need to be developed for groundwater and for future residential (including recreational) use at the Site. An RAO is needed to address preventing erosion or other migration of soil contaminants to sediments.

Response: Regarding the RAO for groundwater and soil please refer to the response to comment 31, above. Regarding erosion of soil contaminants to sediments, please refer to comment SC10. While erosion of soil to sediment is a possibility, the need for an RAO to prevent such movement of soil to sediment is not really necessary due to the concentrations measured and the distances involved.

SC36, p. 2-12, §2.3: The volume of contaminated material exceeding residential risk standards needs to be calculated, as well as the volume of contaminated groundwater. The area of eelgrass beds the exceed sediment PRGs need to be included in the volume estimate.

Response: Please refer to the responses to General Comments 2 and 3 above. Active remediation in that area is not justified based on current data. Volume of affected groundwater will be estimated. Soils exceeding residential risk standards will not be estimated since residential risk was not measured (refer to the response to comment SC66).

SC37, §2.4: Although soil debris from the sump could be considered for hot spot removal, it seems that the maximum soil PAH concentrations will be used as cleanup levels. Please clarify the rationale for using these concentrations instead of federal/state screening levels and ARARs (see also general comments).

Response: Because the soil-debris data for sump samples were not included in the risk assessment (RA), the maximum soil PAH concentrations used in the RA were used as a benchmark to identify (and target for removal) those sumps where detected PAH concentrations exceeded that maximum. As stated under the removal alternative (OS3) in Section 4.1.3, soil-debris would be removed (in its entirety) to the bottom of the concrete sumps. Section 2.4 will be edited to eliminate the confusion. Please refer also to the response to general comment 3 above.

SC38, p. 3-1, §3.0: This section needs to address groundwater and soil exceeding residential risk standards. Treatment GRAs need to be included to address the water in the sumps/trenches and dewatering liquid removed from sediment dewatering and stabilization of sediments using polymers.

Response: Refer to SC36 for groundwater and residential standards. Stabilization of sediment may be needed however, this is uncertain at this point. Treatment GRAs can be included in case such amendments are needed.

SC39, p. 3-6, §3.2: a) In the first sentence of the third paragraph of the section add “and EPA guidance” at the end of the sentence. In the third sentence replace “; however, the manner in which the LUCs are to be enforced will be addressed in the ROD” with “if the Navy does not meet its obligations under the FFA to enforce the ROD restrictions.”

Response: The first sentence of the third paragraph will be revised as follows, which was taken from the Site 08 FS (Tetra Tech, July 2012): “LUCs would be implemented in accordance with the Department of Defense Principles and Procedures for Specifying, Monitoring and Enforcement of Land Use Controls and Other Post ROD Actions, (DOD, 2004) and other relevant guidance.”.

The third sentence shall remain the same, as consistent with that same document (Site 08 FS, Tt July 2012)

SC39, p. 3-6, §3.2: b) Describe the LUC RD process.

Response: The LUC RD process is presented in the LUC RD documents provided for Newport Sites 01 and 09. A brief summary will be provided in this section.

SC40, p. 3-7, bullets 1 & 2: LUCs are needed to prevent recreational and residential use. Since the State-owned part of the island is open for public access for part of the year (between Aug. 16 and March 31), it is unclear how effective or implementable LUCs would be in preventing public access either from the State property or by water.

Response: The existing signage and fencing between the properties and proposed signage along water access ways will be described as part of the LUCs to prevent access from these areas .

SC41, p. 3-7, Conclusion: Regarding the second sentence, any allowed recreational use as open space must meet residential risk cleanup levels. LUCs will not address any risk from movement of contamination through erosion or flooding.

Response: The use of the term “open space” is not appropriate and will be eliminated. The site will remain industrial and unrestricted recreational use would not be allowed under the described LUCs. Regarding erosion and movement of contamination, please refer to the response to comment SC10.

SC42, p. 3-9, ¶1: If excavation does not remove all contaminated material down to unrestricted use levels then the backfill will all serve as a containment cover and long-term O&M, LUCs and long-term monitoring will be required. Confirmatory sampling would be needed to assess whether contamination has migrated from the trenches and sumps through cracks or other faults in the foundation into subsurface soils.

Response:

The sumps are constructed of concrete that provide confining walls and floors; therefore, when sump contents are removed, there will be no remaining soil-debris- or soil that will need to meet a PRG. If an unconsolidated bottom is found during removal, then confirmatory sampling would be done; however, this is not anticipated based on field observations prior to building demolition. Soils were collected under the sumps by drilling through them, and after sampling, the boreholes were grouted. The results of the subsurface soil samples collected beneath the sumps will be presented and discussed in the FS. If any of these subsurface soils exceed applicable PRGs, they will be addressed through other means (i.e. LUCs).

SC43, p. 3-9, §3.3.5: The text needs to state whether in situ treatment will be considered. In the last sentence “There GRAs” should be changed to “The GRAs for the two treatment alternatives.” Discuss treatment of water removed from the sumps/trenches.

Response: The quantity of water to be dealt with is expected to be minimal, and will be captured and

disposed of offsite if present during remedial activities. The typo will be corrected.

SC44, p. 3-11, bullet 1: *Regarding the last sentence, no onsite treatment before offsite disposal is proposed.*

Response: The quantities involved do not merit establishing a treatment system on this remote site, and this consideration will be clarified in the implementability bullet that follows. There will be no on-site treatment.

SC45, p. 3-11, bullet 2: *Does the waste need to be manifested to transport it by barge across the Bay? What facilities are needed to off-load the barge (the off-loading facility standards and decontamination standards for the barge need to be incorporated into any remedial alternative that involves off-site disposal)? Regarding the fourth sentence, clarify that no onsite treatment of the material is proposed (either on the island or on base after it is off-loaded from the barge).*

Response: Currently it is assumed that waste, once generated, will be classified as nonhazardous, and will be transported under appropriate documentation (i.e. bills of lading, or similar). The hauling vehicles and containers will need to be managed as on any other site, whether they are floating or over the road vehicles. Added details for this alternative will be provided in the Draft Final FS, including use of the island as handling area, transfer of material to land transport on the mainland, and manifesting (or other shipping documentation required) originating at the site (departure from the island). In the draft document, on-site treatment is not included, although amendments may be needed for stabilization.

SC46, p. 3-13, §3.4.2: *The last sentence of the first bullet is not correct. Enhanced natural recovery would have a detrimental impact on the environment. Please revise this sentence to acknowledge that.*

Response: Sediment Alternative 2 will be removed from the FS.

SC47, p. 3-13, bullet 1: *Evaluate whether MNR would be effective in the eelgrass areas. The MNR alternative must state how long it will take to reach sediment cleanup standards.*

Response: Sediment Alternative 2 will be removed from the FS.

SC48, p. 3-13, bullet 2: *Remove the last sentence, since there still are sources of contamination on site. Coastal flooding events could cause migration of on-site contamination to off-shore sediments. Does the groundwater pose a migration pathway? Does subsurface soil under the foundations exceed leachability standards? Please clarify whether the previous removal action removed all PCBs in all media to unrestricted exposure levels.*

Response: The statement “however, at Site 17 sources for sediment contamination no longer exist” will be deleted. However, in answer to the questions above, groundwater does not pose a migration pathway, soil-debris in sumps (and not subsurface soil under the foundation) exceed leachability standards, and PCB concentrations remaining at the site are reflected in the data set which is used in the risk assessment and have been determined to not pose unacceptable risk. Please refer also to the response to comments SC10, SC66, and General Comment 3

SC49, p. 3-13, Conclusion: *Remove the first sentence.*

Response: The passage will be revised to state “Based on the findings of the sediment transport model, Monitored Natural Recovery is not retained for the Stillwater Area at the site.”

SC50 p. 3-13, IC/LUCs: *Describe the issues with restricting state-owned subtidal/intertidal property under either the circumstances that the Navy retains ownership of the island or it is transferred (can an ELUR be put on State-owned submerged lands?). Under the current ownership, will state shellfishing regulations be used to establish a shellfishing ban. If not will the ban be contingent on the Navy patrolling the area and preventing access (both to prevent contact risks and shellfishing)? If a cap is proposed what measures are proposed to protect the cap? In the event of a transfer would the Navy coordinate with the Coast Guard to establish anchorage restrictions over any capped areas? Under capping alternatives LUCs would be*

permanent; under MNR they would be temporary until sediment cleanup levels are achieved.

Response: Following discussions with EPA on 12/1/11, the sediment alternatives that cite establishing a LUC to prevent shellfish collection were reconsidered. The Navy also looked into establishing a safety zone for preventing access to affected areas, but this concept was rejected due to potential legal difficulties. Based on these considerations, the Navy proposes to include postings to deter access to the area as a part of the “Cover in Place” alternative for sediment. It is believed that these postings will discourage collection of shellfish within the affected area and minimize disturbance of the cover system under the cover alternative. The following will be clarified in the FS:

Warning signs that indicate the presence of contaminants and/or underwater hazards would be posted at the entrance to the Stillwater area as a deterrent for access. Existing structures at the entrance are approximately 320 feet apart and would allow for sign posting without installing new structures. This approach has been used successfully in the past at other sites (including Bogue Island Cherry Point in 2012) and could work at Gould Island also. The signage and restriction would need to be continued by a new owner if the property was ever transferred.

The Navy currently controls access to the on shore portions of the site and would provide limited enforcement of any restriction while the site remains under the ownership of the Navy. It is recognized that posting of signs does not assure prevention of trespassing; however, under the best of circumstances this site would not be monitored continuously even if the Navy owned the submerged area at issue. Signage is a form of LUC that is commonly used to dictate land use, as well as to deter collection of contaminated fish and shellfish. It is understood, and the Navy agrees that the LUCs would be temporary until sediment cleanup levels are achieved.

SC51, p. 3-14, Cover System: *It is unclear whether a one foot cap would be effective as a cover system.*

Response: A one-foot cover has been found to be adequate in other similar areas and particularly for a conceptual design. A full design step would need to be done to evaluate existing energies (Appendix C) and to select the appropriate materials for the cover system. Based on the design, some adjustments to the thickness and armoring may be appropriate.

SC52, p. 3-15, bullet 2: *There may be implementability issues with habitat mitigation requirements from cap installation (changes in bottom depth change aquatic habitats – i.e. subtidal to intertidal).*

Response: There should be no issues with habitat mitigation requirements. The overall depth would not change significantly, and there is no evidence that a habitat is present, which would not reestablish itself within two years. Recovery monitoring may be appropriate, but this can be done as part of the overall monitoring effort.

SC53, p. 3-15, last ¶: *It is unclear whether the consolidation would occur in the water or along the shore. There are different issues involved with each, including whether subtidal areas might be converted to intertidal areas or intertidal areas converted to upland.*

Response: It will be clarified that for this element, the discussion pertains to consolidation under water. The material being considered is not enough to change the subtidal areas into intertidal areas. Regardless, the element is not carried forward in the FS.

SC54, p. 3-16, bullet 1: *In the last sentence insert “long-term O & M and” before “continual monitoring.”*

Response: Concur, this will be included

SC55, p. 3-16, bullet 2: *There may be implementability issues with habitat mitigation requirements due to creation of the consolidation cell (dependent on where the cell is located).*

Response: See the response to SC 52

SC56, p. 3-16, Conclusion: The reasons for not choosing the alternative would not apply as much if the containment cell were constructed along the shore).

Response: Construction of a containment cell on the shoreline or upland area is addressed in Section 3.4.5.

SC57, p. 3-16, §3.4.4: Removal needs to be evaluated for the Northeast Shoreline as well as the Stillwater Basin.

Response: Regarding the current conditions at the Northeast shoreline, please refer to General Comment 2. Although samples collected from four stations in the Northeast Shoreline during 2006 did exceed PRGs, all of the new samples from 2009 and 2010 did not exceed PRGs, including new samples collected from two of the original four stations. Based on this new data set, PRGs are not believed to be exceeded in the Northeast shoreline under the current conditions. Monitoring is proposed in this area under all the sediment alternatives (with the exception of the No Action Alternative) to assure that COC concentrations in sediment remain below PRGs.

SC58, p. 3-16, §3.4.3: The conclusion that consolidation and covering is not a viable alternative is not consistent with the retention of SD-3 and SD-4 that have the same impacts that consolidation and covering was dismissed with. One viable rationale to dismiss consolidation and covering would be the potential impact on vessel use in the area of consolidation and covering should the Navy decide that the area would be used significantly in the future, which seems unlikely.

Response: The comment is noted. The similarities in consolidation and covering vs covering in place are noted also. Consolidation, as described in this section is essentially moving the sediment into a made structure and then maintaining it in place. This presents many of the hazards of dredging with all the hazards of covering it in place. The fact that the consolidation in an underwater cell is more complex, costly and less protective (due to disturbance and resuspension from pumping/dredging) will be described in the conclusion section. The impact to vessel traffic in both cases should be minimal, unless the shoreline is upgraded, in which case both sediment covered in place and consolidated material could be impacted, and would need to be considered and protected. This will be included in the conclusion as well.

SC59, p. 3-21, §3.4.4: Please edit the discussion of hydraulic dredging to acknowledge that the presence of larger debris could impact the effectiveness and efficiency of hydraulic dredging.

Response: The text will be revised as suggested.

SC60, p. 3-22, §3.4.5: a) Disposal needs to be evaluated for the Northeast Shoreline as well as the Stillwater Basin.

Response: Please refer to the response to SC57.

SC60, p. 3-22, §3.4.5: b) Would the contaminated sediment need to be manifested to transport it by barge across the Bay? What facilities are needed on the Base side to off-load the barge (the off-loading facility standards and decontamination standards for the barge need to be incorporated into any remedial alternative that involves off-site disposal)?

Response: Refer to the response to SC45

SC61, p. 3-23, §3.5: It appears that remedial alternatives need to be developed for groundwater based on exceedances of MCL and potential PCB left in groundwater after the removal action. It is unclear whether soil remedial alternatives may be required either because potential soil contamination under the building slab foundation was not fully assessed or because soil within the Site exceeds residential/state recreational risk levels.

Response: Groundwater will be added as a media of concern due to the MCL exceedances. PCBs in

groundwater are addressed in SC23 b). Extensive soil sampling was conducted under the former Building 32 foundation as demonstrated in the Phase I RI and summarized in the FS. Regarding residential/recreational cleanup please refer to SC31.

SC62, p. 3-26, Onshore: If waste exceeding residential PRGs is left in place for OS-2 and OS-3, long-term monitoring will also be required. For OS-2, LUCs should include engineering controls to prevent migration of contamination, prevent direct human exposure, and restrict activities in the area. Specify whether OU-3 includes backfilling with clean material to prevent direct exposure to remaining contaminated soil that will not be excavated.

Response: Refer to the response to SC12 and General Comment 3

SC63, p. 3-26, Offshore: a) The Monitored Natural Recovery alternatives need to include source control measures and meet sediment PRGs within a reasonable period of time. The LUCs to prevent shellfish harvesting would be temporary until sediment PRGs are achieved. Five-Year Reviews would only be required until cleanup levels are achieved.

Response: Regarding MNR, please refer to the response to comment SC13 (a). Regarding LUCs and Five-Year Reviews, the Navy concurs with the comment above.

SC63, p. 3-26, Offshore: b) Does SD-3 involve installing a subaqueous cover over the NE Shoreline area? For SD-4 will the proposed MNR for the NE Shoreline area meet EPA guidance? Specify what LUCs would be required and whether they are just for the NE Shoreline Area until sediment cleanup standards are met. Five-Year Reviews would only be required until cleanup levels are achieved.

Response: Alternative SD-3 does not include installation of a cover over the NE shoreline. The purpose of monitoring the northeast shoreline is to confirm an improved condition from the 2006 sample collection round, and to assure that conditions do not deteriorate over time. The LUCs will be described, though they are detailed in Section 3.4.2. It is understood that five year reviews are required until cleanup levels are achieved.

SC64, p. 4-2, §4.1.3: Alternative OS3 needs to describe the collection, treatment and disposal of the contaminated water in the sumps/trenches. Please explain how the Navy will manage any water that may be present in the sumps and trenches for Alternative OS-3.

Response: The water in the sumps and trenches will be addressed at the same time with the excavation. Additional line items will be provided in the cost to address this; however, the quantity of free water associated with the soil/debris in the sumps is not considered significant enough (and may no longer be present) to require special consideration as a separate media. See also the response to SC 43.

SC65, p. 4-2, Offsite Disp.: Will the waste be manifested to transport it by barge across the Bay? What facilities are needed on the Base side to off-load the barge (the off-loading facility standards and decontamination standards for the barge need to be incorporated into any remedial alternative that involves off-site disposal – assuming the waste is off-loaded at the Base)? If the off-loading is not conducted at the Base then the off-loading facility standards and barge decontamination standards should not be included as components of the remedy.

Response: Repeat comment - Refer to the response to SC45

SC66, p. 4-2, LUCs: An unlimited use risk-based level needs to be calculated in order to determine the boundary of where LUCs would be required. It is unclear whether sufficient sampling has been done to characterize the soil under the building slab foundation for purposes of identifying required LUCs. If contamination about unlimited use risk-based level is left on site then long-term monitoring will also be required. It is unclear whether, post removal of the soil-debris, whether LUCs will be protective against trespasser use of the property (assuming contamination is left in place at the surface that would pose a risk), since enforcement of LUCs may be difficult because of public use of the rest of the island and the island's distance from the Base.

Response: It is assumed for the FS that the LUC boundary would be established at the site boundary (fence line to the shoreline). Since residential risk was not calculated, site-specific, risk-based soil PRGs were therefore not developed for unlimited use. However, the Navy believes that sufficient sampling was conducted under the former building foundation, as demonstrated in the RI, and also believes that there would be no unacceptable risk to the trespasser (post-removal of the soil-debris), since removal areas would be backfilled to surface-level with clean soil. To better define the areas for removal and establishment of LUCs, soil PRGs will be developed based on both CERCLA risk-based calculations as well as RIDEM soil criteria as per the Dispute Agreement dated January 2012. The Site 17 FS will be modified to identify and mitigate CERCLA contaminants exceeding RIDEM's criteria as appropriate using these alternatives, as revised based on other responses to comments described in this response summary.

SC67, p. 4-3, §4.1.3: Please provide better rationale for the need for LUCs. Briefly describe where contamination is present at levels that require LUCs and over what portion of the Site LUCs need to be applied.

Response: This section of the report will be modified to clarify that the LUCs for soil will be established over the entire site to prevent use of the property for residential purposes. Existing data will be used to map exceedances of RIDEM criteria and to provide a basis for the land use control.

SC68, p. 4-5, §4.2: There is no environmental risk associated with OS-2 so delete the reference to protection of the environment.

Response: Concur.

SC69, p. 4-5, Cost Table: A Five-Year Review cost should be included (\$27,500 every 5 years).

Response: This was discussed on 12/1/11. During that call, it was agreed that the text would be revised to cite a nominal cost for the no action alternative, but an actual dollar amount would not be cited.

SC70, p. 4-5, §4.2.2: It is unclear why this alternative is carried forward for analysis since it fails to meet the Protectiveness and ARARs criteria.

Response: Alternative OS2 is protective through reduction of exposure. One component of the land use control will be established to prevent use of the site for residential purposes. In addition, the areas of the site where soil-debris- is exposed would be addressed through a second component of the land use control, a restriction preventing access to that area. On review of the text in the cited section, errors were noted and a revised paragraph is provided below in redline:

“Long-Term Effectiveness and Permanence: Alternative OS2 would ~~not~~ provide **limited long-term effectiveness and permanence. The contaminated soil-debris would remain in place within the Building 32 foundation open sumps and trenches; therefore, ~~the risk risks to human health and the environment would remain.~~ LUCs would be relied upon for protectiveness, by limiting exposure. One component of the land use control would be established to prevent use of the site for residential purposes. In addition, the areas of the site where soil-debris is exposed would be addressed through a second component of the land use control, a restriction preventing access to that area.”**

With the implementation of LUCs, the site would be suitable for continued use similar to the current **industrial use, and LUCs (if properly enforced) would restrict potential human receptors from coming into contact with the sump soil-debris. LUCs would also reduce exposure by preventing access to, and disturbance of, the building foundation and surrounding area and would prevent site development for other uses that could provide unacceptable exposure to future construction workers at the site. Five-year reviews would be conducted to evaluate the continued effectiveness of the remedy.”**

SC71, p. 4-5, last ¶: Change the first sentence to: "Alternative OS2 would not be protective of human health and the environment because LUCs alone would not be effective in preventing residential/recreational exposure to Site contaminants nor migration of contaminants during coastal storm events." [The building foundation is below the 100-year coastal storm elevation]. LUCs are not effective in preventing ecological exposure.

Response: Please refer to the responses to comment 10. There is no risk measured for recreational or trespasser exposure. There is no risk to soil measured for ecological receptors.

SC72 p. 4-6, §4.2.2: The discussion under Long-Term Effectiveness and Permanence states that risks to the environment would remain. Section 2.2.1 states that no unacceptable risks were identified for ecological receptors exposed to soil at the site. Please correct.

Response: The text will be edited accordingly for consistency.

SC73 p. 4-6, CompARARs: The alternative does not meet location-specific ARARs (coastal resource/floodplain standards).

Response: Concur, the text will be edited to reflect this.

SC74, p. 4-6, ¶4: See previous comments about the potential ineffectiveness of LUCs.

Response: See response to SC70 and SC71.

SC75, p. 4-7, §4.2.3: See previous comments about this alternative. It is not possible to fully assess the NCP criteria since it is not known whether residential/ recreational risks will be adequately addressed (it is uncertain the extent of LUCs required and whether they would be effective). Water removed from the sumps/trenches will require treatment before discharge (or may need treatment before disposed at a POTW or other waste facility). If the off-loading of contaminated material takes place on base, then the off-loading operations and the decontamination of the barge need to be included as components of the alternative.

Response: These are repeat comments. The minimal quantity of water associated with debris/soil in the sumps will be addressed with the soil-debris. Handling processes for soil-debris will be addressed in the design. The effectiveness of the LUCs is described in responses to SC70 and 71 and other comments above.

SC76, p. 4-7, §4.2.3: The last paragraph states that Five-Year Reviews would not be required for OS-3. That is not correct and is inconsistent with the need for LUCs. If unrestricted use of the site is not allowed then Five-Year Reviews will be required. Please correct.

Response: Concur. Five year reviews will be required in conjunction with the groundwater alternatives that are anticipated to be added to address MCL exceedances. The text will be edited to reflect this.

SC77, p. 4-9, §4.3: The discussion under Compliance with ARARs highlights the need for additional remedial alternatives for on-site soil/debris because with only one viable alternative, the FS is not complete. Please add at least one more viable alternative, such as pouring a concrete cap over the sumps and trenches.

Response: Covering of the sumps and trenches may not be viable and is also not advisable. The Navy believes that OS2 is a viable alternative. Please refer to the response to comment SC70.

SC78, p. 4-9, §4.3: This comparison section cannot be evaluated because: 1) there is incomplete information on OS3 and 2) OS2 is neither protective nor meets ARARs. Additional alternatives that meet the NCP criteria need to be considered (in addition to addressing the incomplete information concerning OS3).

Response: The Navy believes that OS2 is a viable alternative. Please refer to the response to comment SC70. By preventing access to the soil-debris, the exposure will be eliminated. OS3 will be revised to include

a description of how the water in the sumps and trenches will be addressed with the excavation. Additional line items will be provided in the cost to address this as well.

SC79, p. 4-10, §4.3: a) *Under Short-Term Effectiveness, the statement that OS-1 would be effective in the short-term is not correct because OS-1 would do nothing to prevent exposure to the materials causing risk. Please correct.*

Response: Concur: OS-1 is not effective in the short term. The text will be revised accordingly.

SC79, p. 4-10, §4.3: b) *Under Costs, there must be a difference in the monitoring costs for OS-2 and OS-3. Additional sampling throughout the life of the alternative would be needed for OS-2 to check the concentrations of contaminants in the sumps and trenches and to check for migration of contamination from the sumps and trenches. Please edit the costs and the text to reflect this.*

Response: The text and costs will be edited appropriately, based on revisions to remedial alternatives, resulting from the comparison of site sample data to RIDEM Criteria.

SC80, p. 5-1, §5.0: a) *See previous comments about the sediment alternatives. In particular, the SD2 Monitored Natural Recovery alternative needs to include source control measures and meet sediment PRGs within a reasonable time. The LUCs to prevent shellfish harvesting and Five-Year Reviews would only be required until sediment PRGs are achieved.*

Response: Please refer to the response to comment SC13(a). Alternative SD2 will be eliminated.

SC80, p. 5-1, §5.0: b) *Does SD-3 involve installing a subaqueous cover over the NE Shoreline area? For SD-4 will the proposed MNR for the NE Shoreline area meet CULS within a reasonable time period? Specify what LUCs would be required and whether they are just for the NE Shoreline Area until sediment cleanup standards are met. Five-Year Reviews would only be required until cleanup levels are achieved.*

Response: Please refer to the responses to Comment SC63. The purpose of monitoring the northeast shoreline is to confirm an improved condition from the 2006 sample collection, and to assure it does not deteriorate over time.

SC81, p. 5-1, §5.1: *The remedial alternatives for sediment need to address the Northeast shoreline and eelgrass areas (include the sediment volume estimates for these areas).*

Response: Please refer to the response to Comment SC57.

SC82, p. 5-2, §5.1.2: *This remedy should only be carried forward if it will achieve sediment cleanup standards through MNR. The period that the alternative will take to meet cleanup standards through MNR needs to be revealed.*

Describe the issues with restricting state-owned subtidal/intertidal property under either the circumstances that the Navy retains ownership of the island or it is transferred (can an ELUR be put on State-owned submerged lands?). Under the current ownership, will state marine fisheries regulations be used to establish a fishing and shellfishing ban? In the event of a transfer would the Navy coordinate with the Coast Guard to establish anchorage restrictions over the areas? Assuming MNR standards can be achieved, the LUCs would be temporary until sediment cleanup levels are achieved.

Response: Please refer to the response to comment SC13(a). Alternative SD2 will be eliminated.

SC83, p. 5-2, §5.1.2: *As written Alternative SD-2 does not satisfy the remedial action objectives (RAOs), because it is not protective of the environment, so it should not be retained for detailed analysis.*

Response: Please refer to the response to comment SC13(a). Alternative SD2 will be eliminated.

SC84 p. 5-3, §5.1.3: a) Please edit the description of alternative SD-3 to include pre- and post-remediation bathymetric surveys to confirm the proper placement of the cover system.

Response: Concur, pre- and post-cover survey is appropriate for the cover alternative. This will be added to the cost estimate as appropriate.

SC84 p. 5-3, §5.1.3: b) In order to establish a restricted zone within the Narragansett Bay, coordination would be needed with the appropriate federal and/or Rhode Island agencies. Please clarify that requirement in the FS.

Response: Refer to the response to comment SC50 above. This will be clarified.

SC85 p. 5-3, §5.1.3 A one foot cover may not be protective in preventing ecological exposure to burrowing marine life, the areas not covered (Northeast shoreline/eel-grass areas) need to achieve sediment cleanup standards. Describe any issues with establishing and enforcing LUC in State subtidal/intertidal property.

Response: A sediment transport model and cohesion testing has been conducted for the Stillwater Area and these reports are provided in Appendix C of the FS report. This information shows that the Stillwater area is a low energy environment, and scouring is not likely to occur. Based on the information provided, a one foot-thick cover is deemed to be adequate for protection of ecological receptors, mostly based on the predicted zone of bioturbation. For LUCs on land under water, please refer to the response to comment SC50.

SC86 p. 5-4, §5.1.4 (a): See previous comments about SD4, particularly that the location of the sediment dewatering and transfer areas need to be identified and if they are on the main Base, those areas need to be incorporated into the alternative. Will there be confirmatory sampling to ensure all contaminated sediment above cleanup levels is removed? Any backfill needs to serve as a protective cover, along with long-term O&M, monitoring, and Five-Year Reviews. Will absorbent polymer be added when the dewatered sediment is in the barge or in the truck? Barging of sediment may need to be manifested. How will liquid that is released in the barge be addressed?

Response: Regarding manifesting, refer to the response to comment SC45. Addressing free water can be done at the design step, since it is uncertain at this stage how the dredging operation will be carried out. Currently it is anticipated that clamshell dredging will be utilized due to the presence of debris and to achieve the required depth. Dewatering is currently anticipated to be conducted on the island which is anticipated to be used for separation of debris from sediment and processing both prior to shipment. However, amendments may be needed to prevent free water from being further generated during transportation. It is agreed that confirmatory sampling is appropriate since the sampling conducted to date does not completely bound the vertical PRG exceedances in sediments.

SC86 p. 5-4, §5.1.4 (b): Furthermore, the areas not dredged need to achieve sediment cleanup standards through MNR guidance standards, and the alternative needs to identify issues with establishing and enforcing LUC in State subtidal/intertidal property.

Response: For MNR, please refer to Comment SC13(b). For LUCs on land under water, please refer to the responses to Comments SC 50 and SC 82.

SC87, p. 5-6, Cost Table: Add Five-Year Review costs (\$25,300/5 years).

Response: This was discussed on 12/1/11. During that call, it was agreed that the text would be revised to cite nominal cost for the no action alternative, but an actual dollar amount would not be cited.

SC88, p. 5-7, §5.2.2: This alternative should only be carried forward with the NCP analysis if it will achieve

sediment cleanup standards through MNR. The time to meet cleanup standards through MNR needs to be revealed.

In the second paragraph the text needs to clearly state whether the alternative meets the criteria (“moderate protection” is not enough).

In the fourth paragraph, the alternative does not meet ARARs if MNR cannot achieve sediment cleanup standards within a reasonable period of time. The alternative does not meet TSCA risk-based standards unless MNR can be achieved throughout the Site.

Under the discussion of this alternative, delete the references that claim to reduce the risk to the environment because LUCs will not provide any significant benefit that would reduce risks to the environment.

Response: Please refer to the response to comment SC13(a). Alternative SD2 will be eliminated.

SC89, p. 5-8, ¶13: *Identify when the alternative would meet ecological RAOs through MNR throughout the Stillwater Area and Northeast Shore.*

Response: Please refer to the response to comment SC13(a). Alternative SD2 will be eliminated.

SC90 p. 5-8, ¶14 *See previous questions about LUC implementability issues in State-owned subtidal and intertidal areas.*

Response: Refer to the response to comment SC 50 above.

SC91, p. 5-9, §5.2.3: a) *See previous comments about SD3, particularly that a one foot cover is not protective in preventing ecological exposure to burrowing marine life, the areas not covered (Northeast shoreline/eelgrass areas) need to achieve sediment cleanup standards through MNR, and the alternative needs to identify issues with establishing and enforcing LUC in State subtidal/intertidal property.*

Response: Refer to the responses to comment SC 85 (cover) and SC 50 (LUCs). Regarding the northeast shoreline, please refer to the response to comment GC2. The Northeast Shoreline is not currently an area of concern that requires an active remedy.

SC91, p. 5-9, §5.2.3: b) *In the third paragraph, the alternative does not meet ARARs if the cap is not protective nor if MNR cannot achieve sediment cleanup standards in the Northeast Shoreline/Eelgrass Areas within a reasonable time period. The alternative does not meet TSCA risk-based standards unless a protective cover is used in the Stillwater Area and MNR can achieve sediment cleanup standards throughout the rest of the Site.*

Response: Please refer to the response to General Comment 2: The Northeast Shoreline is not currently an area of concern that requires an active remedy. The purpose of monitoring the Northeast shoreline is to confirm an improved condition since the 2006 sample collection date, and to assure that it does not deteriorate over time.

SC91, p. 5-9, §5.2.3: c) *In the last sentence, change increased to indicated.*

Response: The typo will be corrected.

SC92, p. 5-10, §5.2.3: *Please edit the sentence at the top of the page to clarify that LUCs would only prevent disturbance of the sediment by fishermen.*

Response: Please refer to the response to comment SC 50. Restrictions would not be limited only to fishermen.

SC93, p. 5-10, ¶12: *Remove all of the text after the first sentence since it has no bearing on whether the*

alternative complies with the criterion (the only relevant issue is whether there is treatment).

Response: Concur, the text will be revised accordingly.

SC94 p. 5-10, ¶4: *The alternative would not achieve RAOs until sediment cleanup levels were met through MNR in the Northeast Shoreline area.*

Response: Please refer to the response to comment GC2. The Northeast Shoreline is not currently an area of concern that requires an active remedy. The purpose of monitoring the northeast shoreline under this alternative is to confirm an improved condition from the 2006 sample collection, and to assure it does not deteriorate over time.

SC95, p. 5-10, ¶5: *See previous comments about LUC implementability issues in State-owned subtidal and intertidal areas.*

Response: Please refer to the response to comments SC 50 and SC 82.

SC96, p. 5-11, §5.2.4: *a) See previous comments about SD4, particularly that the location of the sediment dewatering and transfer areas need to be identified and if they are on the main Base, those areas need to be incorporated into the alternative. Will there be confirmatory sampling to ensure all contaminated sediment above cleanup levels is removed? If the site is backfilled, the backfill needs to serve as a protective cover, cover standards need to be met, along with long-term O&M, monitoring, and Five-Year Reviews. Barging of sediment may need to be manifested. How will liquid that is released in the barge be addressed? See previous comments regarding whether MNR will be effective in achieving sediment cleanup level in the Northeast Shore Area and that the alternative needs to identify issues with establishing and enforcing LUC in State subtidal/intertidal property.*

Response: Regarding dewatering and transfer areas, please refer to response to comment SC 45. Possible transfer areas include the Coddington Cove Waterfront, and the industrial piers at Quonset Point and Davisville, which have better highway access and avoid bridges. Candidate transfer points will be reviewed prior to completion of the FS.

Regarding confirmatory sampling, please refer to the response to comment SC86 a).

The alternative is intended to remove the sediment where PRGs were previously exceeded, based on the RI data. Backfill as a cover material is not anticipated at this time under alternative SD-4, unless PRG exceedances extend beyond the 4-foot maximum excavation depth.

Regarding manifests for waste barged off site, please refer to the response to comment SC45.

Regarding dewatering operations, it is currently anticipated that the sediment would be processed on the island to sort debris from sediment, to remove water and to stabilize the sediment for transportation. That way free liquid would not be generated crossing the bay. Water captured would have to be managed from the island using a series of tanks and pumping operations. This information will be included in the Draft Final FS.

Regarding the northeast shoreline, please refer to the response to General Comment 2.

Regarding subtidal LUCs, please refer to the response to comment SC50 and SC82, above.

All of these items will be identified in the cited section, as appropriate.

SC96, p. 5-11, §5.2.4: *b) In the second paragraph, the alternative will only meet RAOs in the Northeast Shore Area if LUCs can be demonstrated to be met via MNR in a reasonable time period.*

Response: Please refer to the response to comment GC2. The Northeast Shoreline is not currently an

area of concern that requires active remediation. The purpose of monitoring the northeast shoreline under this alternative is to confirm an improved condition from the 2006 sample collection, and to assure it does not deteriorate over time.

SC96, p. 5-11, §5.2.4: c) *In the third paragraph ARARs will only be fully met if LUCs can be demonstrated to be met via MNR in a reasonable time period in the Northeast Shore Area.*

Response: Please refer to the response to comment GC2. The Northeast Shoreline is not currently an area of concern that requires an active remedy. The purpose of monitoring the northeast shoreline under this alternative is to confirm an improved condition from the 2006 sample collection, and to assure it does not deteriorate over time.

SC96, p. 5-11, §5.2.4: d) *For the discussion of this alternative, delete the references that claim to reduce the risk to the environment via LUCs because LUCs will not provide any significant benefit that would reduce risks to the environment.*

Response: Concur.

SC97, p. 5-12, ¶12: *This alternative will provide limited treatment of dewatering water released from the sediment, also stabilization of contaminated sediments before shipment off-site (assuming the stabilization occurs either on the barge before departing Gould Island, or at the Base if the barge is off-loaded there). Replace the last sentence with: "There will be no treatment of the sediments in the Northeast Shore Area."*

Response: The comment is noted. The final sentence will be added as requested.

SC98 p. 5-12, ¶14: *RAOs will not be achieved unless sediment cleanup standards in the Northeast Shore Area can be met through MNR in a reasonable time period.*

Response: Please refer to the response to comment GC2. The Northeast Shoreline is not currently an area of concern that requires an active remedy. The purpose of monitoring the northeast shoreline under this alternative is to confirm an improved condition from the 2006 sample collection, and to assure it does not deteriorate over time.

SC99, p. 5-12, ¶15: *Identify whether the dewatering will occur on Gould Island or at the Base.*

Response: Please refer to the response to comment SC86 a).

SC100, p. 5-12, Implement: *This section needs to discuss LUC issues in State waters, as well as whether confirmatory sampling will ensure that all contaminated sediment exceed cleanup standards is removed in the Stillwater Area or that the backfill will serve a cap/cover over deeper contaminated sediments (which would then require long-term O&M and Monitoring).*

Response: For LUCs, see response to comment SC50. This information will be added to the implementability section as noted. For confirmatory sampling, refer to the response for comment SC86. Text regarding confirmatory sampling will be added to the FS.

SC101, p. 5-13, ¶12: *Under CERCLA, the State and other resource agencies may be consulted regarding fisheries timing issues, but EPA retains decision authority.*

Response: The above comment will be stated in this section and referenced.

SC102, p. 5-13, §5.3: *This comparison section cannot be evaluated because there is incomplete information on whether the MNR components of the sediment alternatives are protective and meet ARARs. In addition, previous comments (above) for each alternative regarding the NCP criteria analysis need to be addressed before a comparison of alternative can be made.*

Response: Please refer to the response to GC2. The purpose of monitoring the northeast shoreline under this alternative is to confirm an improved condition from the 2006 sample collection, and to assure it does not deteriorate over time.

SC103 p. 5-13, §5.2.4: The O&M/LTM costs for Alternative SD-4 should be significantly less than the O&M/LTM costs for SD-3. Please revise the FS to reflect that.

Response: The O&M / LTM costs for SD-3 and SD-4 were estimated to be similar given that the Northeast shoreline would need to be monitored under both alternatives. However, it is recognized that monitoring the Stillwater area under Alternative SD-3 would also be required to assure that the cover system is remaining intact and in place. As such the monitoring program for SD-3 will be revised to include diver inspections of the cover.

SC104, p. 5-14, §5.3: a) The last sentence in the first paragraph states that the marine benthic ecosystem would be expected to recover faster with SD-3 than with SD-4. It is not apparent that this is true or that a significant time difference would exist if it is true. Please supplement the discussion with information supporting this contention.

Response: It will be clarified that the SD-3 alternative would allow for installation of substrate that can be selected to provide a suitable habitat for benthic and pelagic species, and that alternative SD-4 would result in a substrate of unknown quality after dredging.

SC104, p. 5-14, §5.3: b) Regarding the discussion in the second paragraph and throughout this section, please acknowledge that Alternative SD-2 is not protective of the environment and that it is significantly less protective and effective than SD-3 or SD-4. Also, SD-2 does not satisfy the ARARs. Because SD-2 does not achieve the project RAOs it should not even be carried into detailed analysis.

Response: Please refer to the response to comment SC13(a). Alternative SD2 will be eliminated.

SC105, p. 5-15, §5.3: Under Short-Term Effectiveness, the statement that SD-1 would be effective in the short-term is not correct because SD-1 would do nothing to prevent exposure to the contaminants causing risk. Similarly, SD-2 does nothing to prevent the exposure of ecological receptors to the contaminants so it cannot be effective in the short-term either. Please correct.

Response: The cited text will be revised to state that SD1 would not be effective in the short term as natural reduction is not expected to take place. Please also refer to the response to comment SC13(a). Alternative SD2 will be eliminated.

SC106 Table 1-1 In Page 1 - It is unclear whether the removal action removed all PCBs that could pose an actionable ecological risk. Since no evaluation was done of potential risk to human residential/recreational receptors, it is unknown whether there is actionable risk. The line for petroleum should be removed (and anywhere it occurs in Table 1-1). There is not a section concerning the risks posed by the soil/debris in the sumps and trenches.

Response: PCBs were found to pose an ecological risk in the sediment but not the soil as documented in the RI. Regarding residential risk, the comment is noted. Petroleum is cited in the document for completeness. The risk associated with the soil/debris in the sumps and pits is described in the "Test Pits" section (page 3 of 5), and this will be revised to be titled Water (and modeled air exposures) from Soil-Debris in Pits and Sumps".

In page 2, clarify whether the subsurface soil includes under the foundation slab.

Response: The subsurface soil media includes soil under the foundation slab. This will be clarified.

In page 3, it does not appear that groundwater was evaluated based on drinking water standards (in section 1.8.2 it states there are exceedances of MCLs). It is

unclear whether the water in the sumps/trenches is groundwater that migrates in and out of the sumps/trenches through openings in the foundation or if it is trapped stormwater.

Response: Groundwater was not evaluated in the risk assessment to determine risk from potable use. It is assumed to pose risk based on the MCL exceedances. This will be clarified on Page 3. The water within the pits and trenches is believed to be trapped rainwater. The ability of this water to pass through imperfections in the concrete is unknown.

Page 4 – Specify whether sediment contaminant levels pose a human health risk at unrestricted/residential risk levels. Does the sediment Table address both the Stillwater and Northeast Shore Areas?

Response: Residential risk to sediment is generally not measured. The recreational exposures/risks measured for intertidal sediment on page 4 is from unrestricted recreational use (swimming/wading).

SC107 Table 1-2 *Include an assessment for drinking water. Subsurface soil/dust risk is not discussed in the FS text. It is unclear where “Shallow Groundwater – Test Pits” are at the Site. Is this the water in the sumps/trenches? Is this water groundwater or is it stormwater that has flowed into the sumps/trenches?*

Response: A footnote will be added to the table that states “use of groundwater as a potable source was not evaluated for risk, however MCLs are exceeded in two shallow wells, and as such there is a presumed risk (pentachlorophenol and tetrachloroethene).”

The shallow groundwater (from test pits) is the water trapped with the soil debris in the sumps and trenches. This will be clarified in the revised document. The text of Section 1.10.5 will be revised to summarize risk measured from dust exposure.

SC108 Table 2-7 *The human health PRG for total Aroclor should be 1000ug/kg or 1ppm, not 1500 ug/kg. This is EPA policy cleanup number for PCBs (OSWER Directive No. 9355.4-01, August 1990.).*

Response: The value of 1 ppm is established in the OSWER directive for residential use. The Navy proposes to keep the PRG for sediment at 1.5 mg/kg, which is based on ecological and human exposure to site sediment as described in the PRG document (Appendix B).

SC109 Table 2-7 *Please add total Aroclor values for SD304B and SD304E. Table A-3.5 indicates these values are 3,600 for SD304B and 3,300 for SD304E.*

Response: Concur, these exceedances will be included as appropriate.

SC110 Figure 2-8 *The exceedances of PRGs shown are not consistent with the exceedances shown on Figures 2-3 through 2-7. Other locations also had PRG exceedances, such as SD-401, SD-407, and SD-317, and should be colored green. Please correct.*

Response: SD-401 and SD-407 exceed PRGs only in subsurface sediment. SD317 did not exceed PRGs when it was resampled in 2010. The symbols will be revised to describe these differences for clarity.

Appendix A – Historical Information

SC111 Appendix A-2 *Figure H-3 should include PCBs in the underground release from the transformers.*

Response: Concur, this will be included.

SC112 Appendix A-4 *No Attachment A was included.*

Response: The missing pages will be provided.

Appendix B – Preliminary Remediation Goals

SC113 Table B-1.2 *Please correct footnotes 8, 9, 10, and 11 since they do not match with the values in the table. Also correct the ingestion rate units to g/day, not g/meal.*

Response: Concur. The units will be corrected.

Appendix C - Sediment Transport Model

AUTHORS NOTE: Comments SC114 through 134 were addressed through a series of discussions and other correspondence; please refer to Attachment B of the response summary.

SC114 Figure 2 *Recognizing that none of the originally planned locations for core collection were successful, there is some concern that all the cores evaluated were generally collected from a clustered area and may not be representative of sediment throughout the site vicinity or in other parts of the Stillwater Basin within and outside the area potentially designated for remediation. EPA notes that page 9 of the Flume Test Report states: Cohesive sediment erosion is sensitive to slight changes in bed density, deposit mineralogy, gas content, organic content, biological activity, debris and a host of other factors. Please explain why these particular alternative locations were appropriate other than the fact that sediment could be collected there. Also discuss how this affects the analyses in the FS that rely upon the flume tests.*

Response: The sediment sampling was hampered by the inability to collect sufficient sediment at all the targeted locations. Samples were unable to be obtained at some of the locations because the substrate was too rocky or armored. Areas with those characteristics are believed to have a lower risk of erosion. The assumption that the entire sediment area was characterized by the samples that were collected provided an implicit level of safety by overestimating the erodibility of the benthos.

SC115 p. 11, Figure 8 *Is the minimum wave period measureable by the ADCP two seconds? Is this correct?*

Response: Yes. The ADCP only resolved wave periods to ~2 sec.

SC116 p. 18, §2.4.4 *Regarding the first sentence, if sediment transport modeling is performed in the future, then suspended sediment data should be collected for use in calibrating and validating the model. Composition of the collected sediment samples must be determined to know what percentage of the sediment was organic matter.*

Response: We agree that suspended sediment data should have been collected for use in calibrating and validating the model, and such data were requested. Unfortunately, TSS data coincident with the ADCP deployment were not obtained.

SC117 p. 23, Table 2 *How were the critical erosion velocities in this table determined? Define the maximum stresses provided. Were maximum stresses used in this analysis?*

Response: Critical and maximum stresses shown in the table were from the Sedflume tests and taken from Table 2 (p. 10) in the ERDC report. The maximum is the limiting shear stress, τ_m , corresponding to the asymptotic maximum erosion rate. The stability analysis compares model results to the critical stress, not the maximum stress.

SC118 p. 23, §2.6 *Please change “The mass erosion rate of sediment” to “The resuspension rate in units of mass of eroded sediment per unit bed area per second.”*

Response: The requested change will be made.

SC119 p. 24, Table 3 *Provide the units of the parameters listed in this table.*

Response: Units (g/cm³ and percent) will be added to the table.

SC120 p. 25, §3.3.1 *Depending on its magnitude, a storm surge might result in increased near-bottom velocities. This sentence should be modified.*

Response The statement in that section states “storm surge would deepen the water, thus reducing the near-bottom velocities and potential resuspension of sediments.” The effect of increased wave actions are accounted for in the model simulation using the current tidal record. With a storm surge, the waves would be the same but the water depth would deepen, lessening the predicted velocities from the model simulation.

SC121 p. 27, §4.1.1 *Explain why the model domain shown in Figure 19 was used for STWAVE.*

Response: The STWAVE model domain was used to mimic the domain used in the previous Navy study. It allowed for a fully developed sea state at Gould Island along the lines of maximum fetch from the north and north-northeast. However, based on additional oral comments from Earl Hayter, additional wave analyses will be conducted using CGWAVE.

SC122 p. 31, §5.1 *Were the principal tidal components from the Newport tide gage adjusted for phase and amplitude application along the offshore grid boundary? What is the significance of the model’s performance at the tide gage nearest Gould Island? These results are not surprising since the model was driven by tidal constituents determined from this tide gage.*

Response: The tidal components for the southern boundary were derived from the tidal record at the Newport tide gage were not adjusted for phase and amplitude. The tidal records at the ADCP gages were used to ensure that the model correctly predicted the observed tidal elevations.

SC123 p. 33, §5.2.2 *Please explain why the Narragansett Bay model did not have sufficient resolution to determine the northern boundary condition for the Gould Island model. The resolution of the Narragansett Bay model looks fine in that portion of the grid. Why wasn’t this checked during the development of the Narragansett Bay model? EPA disagrees with the procedure used to determine the northern boundary condition (‘optimization approach along with further adjustment of the south boundary conditions’), as well as the use of the current measurements at ADCP 3 to adjust this boundary condition that eliminated a data set that should have been used for model validation. The sensitivity analyses performed does not compensate for the incorrect procedure used to setup, calibrate, and validate the Gould Island hydrodynamic model.*

Response: The larger Narragansett Bay model was not used in the model development. Tidal records from Newport were used to define the tidal harmonics at the southern seaward boundary. The ADCP3 was not used to adjust the boundary condition. It was an independent data set that was used for model calibration.

The model was set up to ensure that the northward propagating incoming wave on the south boundary represents propagation of the tide from the ocean while the southward propagating incoming wave on the north boundary represent reflection from the interior of Narragansett Bay. The radiation separation technique employed on the northern boundary was used to characterize the south bound wave from the upper portion of the Bay. Harmonics on the northern boundary were scaled, relative to the southern boundary, to mimic the ebbing flows (see Bennett and McIntosh (1982)).

For the Gould Island application the equivalent incoming wave amplitudes on the south

$$\zeta - \frac{\bar{v}H}{\sqrt{gH}} = 2\zeta_{IS}(\mathbf{x}_S, t)$$

and north open boundaries

$$\zeta + \frac{\bar{v}H}{\sqrt{gH}} = 2\zeta_{IN}(\mathbf{x}_N, t)$$

were determined by an ad hoc bi-section procedure to obtain a best fit of observed water surface elevation and velocity observations in the interior of the model domain. In this case, the northward propagating incoming wave on the south boundary represents propagation of the tide from the ocean while the southward propagating incoming wave on the north boundary represent reflection from the interior of Narragansett Bay.

SC124 p. 35, §5.2.3.1 Explain what is shown in Table 8 and in Figure 23, and what conclusions were reached from the analyses depicted.

Response: Table 8 and Figure 23 show the range and median measured and modeled water depths at each station. The figure presents the data in the table showing that the median and range of depths at each monitoring location are well represented by the model.

SC125 p. 36, Figure 22 Plot the modeled results using another color so that the differences between measured and modeled results can be more easily seen.

Response: The requested change will be made.

SC126 p. 37, Table 8 Why was water depth instead of water surface elevation used in the analysis shown in this table?

Response: Water depth was used rather than water surface elevation because correctly capturing the water depth is critical in characterizing the benthic stresses. If, for example, water surface elevations compared well but predicted depths were shallower, benthic stresses could be over-predicted because of the shallower water column.

SC127 p. 37, §5.2.3.2 Was the 'difficulty in achieving a high level of agreement between observed and predicted current phases' owing to the constructed northern boundary conditions?

Response: We do not believe that the constructed northern boundary condition is the cause of the difficulty. The model has subsequently been further refined to develop a better agreement between observed and predicted currents. These results will be incorporated into the revised report.

Explain in detail how the 'calibration adjustment of the open boundary conditions' was performed.

Response: Southern boundary harmonics were derived from the monitoring at Newport. Northern harmonics amplitudes were reduced by a constant for all harmonics

Explain in detail how 'the observational data was assimilated into the model', and why this procedure was performed.

Response: EFDC has the capability to incorporate observations into the model to provide a better representation of the observed conditions. The average current speed and direction within each vertical layer were used, along with a weighting factor, to better represent water movement in the Stillwater Area. The data assimilation procedure is being revisited for the revised report.

SC128 p. 38

a) The last sentence in the partial paragraph at the top of the page states: To compensate for this under-prediction extra care will be necessary in evaluating sediment stability in the vicinity of location 5. Please clarify how the Navy exercised extra care for location 5. Also, because no testing was done in the southwestern corner of the Stillwater Basin, presumably even more care must be exercised for this area as compared to location 5. Please clarify how the Navy can confidently make predictions about the sediment in the southwestern corner of the Stillwater Basin without the location-specific sediment stability data.

Response: Due to the possible underestimation of velocity, a margin of safety should be applied when comparing predicted shear stress to critical shear stress at location 5. We disagree that additional "extra care" is required for the southwestern corner of the area. No SEDFLUME testing was done in this area because it was not possible to recover a core due to shell hash and other armoring. Thus, critical shear stresses are likely to be higher in this region than in the areas where testing was feasible.

b) Page 39, Figure 25: This figure indicates the maximum bed stress is based on a bed roughness of 0.01. Figure 24 suggests that at least two other bed roughness factors were evaluated. Please clarify the basis for the bed roughness factors evaluated and indicate to what extent the debris present in the Stillwater Basin, that would impact the bed roughness factor, was considered in the modeling. How well was the Navy able to characterize the debris present at the site to derive a suitable bed roughness factor?

Response: The roughness for the area outside of the Stillwater Area was set to 0.01. The roughness within the area was increased to 0.05 to account for the rocks and shell hash.

c) Page 45: Please delete the last sentence in the second paragraph that reads: "Active remediation is not recommended for the site." The Feasibility Study does not recommend alternatives and it is not the place of the Tier 2 modeling to make recommendations for remediation but only to evaluate the stability of the site sediment.

Response: It was not appropriate for this technical report to make recommendations on remedial alternatives, and the sentence will be removed. It would be appropriate to include text stating that the sediment in the site is estimated to be stable, depending on the outcome of the revised wave modeling.

SC129 p. 38, §5.2.3.2 *Location 5 is an area of high COC concentrations. A spatially variable bed roughness should be used to improve the model's performance in this area.*

Response: The roughness for the area outside of the Stillwater Area was set to 0.01. The roughness within the area was increased to 0.05 to account for the rocks and shell hash. While specifying variations in bed roughness at a finer scale might appear to improve the model performance physical data were not available to justify this and using finer scale variations in bed roughness would, in our opinion, be overfitting the model.

SC130 p. 38, Figure 24 Why were depth-averaged velocities used in the analyses seen in this figure instead of the measured velocities in the lowest ADCP bin? This should have been done for comparison of velocities calculated using the 4-layer hydrodynamic model.

Response: The analysis will be modified to explicitly look at the 4 layer model outputs.

SC131 p. 38, §5.2.3.3 Why were the 'maximum bed stresses used in analysis of sediment bed stability' determined during a neap tide, when the tidal currents will be the smallest? This procedure needs to be changed.

Response: This analysis will be changed to ensure that the period of maximum currents will be investigated.

The equations that were used to calculate the bed shear stresses under currents only and under wave and currents should be included in the report.

Response: These equations will be added.

Were the bed shear stresses shown in Figure 26 calculated using wave results from a STWAVE simulation for the same time period as that simulated using EFDC? The bed shear stresses 'with wave-current boundary layer' shown in Figure 26 in Stillwater Basin do not appear to be correct. Since the equation used to calculate the bed shear stress in EFDC with the wave-current boundary layer option is not included in the report, it not possible to review why those bed shear stresses are not higher.

Response: Maximum waves were used for Figure 26. Based on oral comments, we are revising the evaluation of wave-induced stresses through use of a finer-scale CGWAVE application that can better resolve wave reflection in the area. We are also conducting additional quality assurance checks on the wave-induced stresses and will revise this section of the report.

Explain what is meant by momentum addition at ADCP locations 4 and 5. Because of the identified problems with the presented analysis, EPA does not agree with the statement that "it is reasonable to assume that maximum stresses within Stillwater Basin will be less than 0.2 Pa."

Response: Momentum addition occurs from the velocity adjustment due to the assimilation procedure and helps ensure that reasonable current stresses are simulated. The conclusion will be revisited with the revised model results incorporating more detailed wave modeling.

SC132 p. 41, §5.3, 8th line Since a site-specific test of cohesive sediment erodibility was performed at this site, this statement is confusing.

Response: The sentence referred to was copied from our initial plan for this work. We will clarify it in the context of §5.3 to show that this was indeed done.

SC133 p. 42, §5.3, ¶1 In the last sentence, it is stated that the maximum total bed stress, rather than the grain stress or skin friction, was used to perform a conservative comparison. The total bed stress would be equal to the grain stress unless there were bed forms at this site. Were bed forms present in the area where the comparison was performed?

If so, were they accounted for in performing the model calibration, specifically in adjusting the value of z_o used?

Response: The comment is correct. Bed forms were not used, so this sentence will be deleted.

SC134 p. 42, Figure 28 Explain how the Shields Diagram shown in this figure was modified.

Response: Tetra Tech did not modify the Shields diagram; instead we are referring to a graphical technique known as a Modified Shields Diagram (Bureau of Reclamation, 1987). This will be clarified in the text and a reference supplied. - Bureau of Reclamation (1987). Design of Small Dams, Denver, Colorado.

Appendix D – Cost Estimates for On-shore Alternatives

SC135 Appendix D a) For OS-1, because unrestricted site use would not be allowed, Five-Year Reviews are required for OS-1. Please edit the costs accordingly.

Response: This was discussed on 12/1/11. During that call, it was agreed that the text would be revised to cite nominal cost for the no action alternative, but an actual dollar amount would not be cited.

b) For OS-3, please clarify why 50 tons of trees need to be cut and disposed to implement this alternative. There are few if any trees around former Building 32 although there may be some small trees or shrubs growing in the sumps and trenches. If vegetation needs to be removed from the sumps and trenches, why would it need to be disposed off site?

Response: The line item is included for brush clearing to access the work areas. Disposal on site is acceptable to the Navy.

c) Also for OS-3, why would the sumps and trenches need to be backfilled and seeded?

Response: This is an error, the sumps and trenches should be backfilled with stone.

d) Please clarify the current status of the sumps and trenches. Have they previously been backfilled or are they open pits?

Response: The sumps are filled with a mix of soil and debris from building demolition.

*e) For the detailed capital cost for OS-3:
1. Line Item 1.2: presumably this item refers to development of the LUC RD (as it did for OS-2); therefore, please change the title accordingly.*

Response: Concur.

2. Line Item 1.3: why would a groundwater monitoring plan be required for OS-3 when it is not required for OS-2?

Response: This is in error and will be deleted.

3. Line Item 3.4: Why would survey support be required?

Response: This is in error and will be deleted.

4. Line Item 3.7: If utility clearance is actually required in sumps and trenches, the

estimate grossly exaggerates the cost.

Response: This is in error and will be deleted.

5. Line Item 4: Please clarify why the decontamination costs are so high and why a decontamination pad is required? When would equipment decontamination be needed other than when leaving the site?

Response: Decontamination would only be required after completion of the work and leaving the site the pad would still be required.

6. Line Item 5: No access ways apparently need to be created based on the existing site conditions. Therefore, the site preparation costs appear to be grossly overestimated.

Response: Site preparation costs include restoration of the barge landing ramp. This cost will be quite high. This will be clarified.

7. Line Item 6.4: Why are verification samples required? The alternative will remove all contaminated materials.

Response: It is expected that concrete sampling will be required by RIDEM.

8. Line Item 7: Why is restoration (backfill and seeding) of the sumps and trenches required?

Response: This is an error, the sumps and trenches should be backfilled with stone.

9. The cost for off-site disposal of the 50 tons of vegetation identified earlier in this appendix for this alternative is missing. Assuming this is not necessary, please delete the requirement from the description of the alternative.

Response: Disposal on site is acceptable to the Navy.

Appendix E – Cost Estimates for Off-shore Alternatives

SC136 Appendix E a) For SD-1 (p. 1 of 9), because unrestricted site use would not be allowed, Five-Year Reviews are required for SD-1. Please edit the costs accordingly.

Response: This was discussed on 12/1/11. During that call, it was agreed that the text would be revised to cite nominal cost for the no action alternative, but an actual dollar amount would not be cited.

b) For SD-2, a much more comprehensive sampling program is expected for this alternative.

Response: SD2 will be eliminated. Please refer to the response to comment SC13.

c) The description of SD-3 in this appendix (p. 4 of 9) is not consistent with the description in Section 5.1.3 of the FS. Section 5.1.3 includes and additional six inches of armor material and it does not include the geotextile. Please correct the description and the costs for SD-3.

Response: Concur. The use of armor material and geotextile was specified prior to the availability of the sediment transport model findings. These features are not necessary based on that model, and will be deleted.

d) The annual costs for SD-3 (p. 5 of 9) include only four sediment samples. Many more sediment (and biota) samples than that will be required to monitor the vicinity of the cover system but also the other areas of sediment where the cleanup goals have been exceeded but no remedial action is taken.

Response: Further discussions would need to be held to develop a sampling program during the development of a LTM Work Plan and SAP. For the purpose of costing in the revised FS, the effort for this program will be doubled and the EPA comment will be referenced.

e) For SD-4 (p. 7 of 9) please clarify what the load platform structure is. This feature is not discussed and not apparently necessary based on the description of this alternative in Section 5.1.4. Please reconcile. EPA assumes the barge containing the geotube would be transported off site for off loading and disposal.

Response: The comment is correct, the revision will be made.

f) For the detailed capital cost for SD-2: Line Item 1.2: Please clarify what permits are required for this alternative given that CERCLA work is generally exempt from preparing permits.

Response: SD2 will be eliminated. Please refer to the response to comment SC13.

*g) For the detailed capital cost for SD-3:
1. Line Item 1.2: Please clarify what permits are required for this alternative that require 300 hours of effort given that CERCLA work is generally exempt from securing permits.*

Response: For this alternative, it is anticipated that additional information required by permits under some of the ARARs will be required because fill will be added to land under the water. To conduct the revetment design at site 09, there was significant effort in meeting the intent of the permits and review of the design by RI CRMC and other state agencies although the permits may not actually have been obtained. The line item will be revised: "Design Coordination with Partner Agencies"

2. Line Item 4: It is not clear why a decontamination pad would be needed or why extensive decontamination services would be required. Debris recovered would likely be loaded onto a barge rather than off loaded to land and reloaded again onto a barge for disposal. Please clarify the need for the extensive decontamination services included.

Response: The decontamination process is not determined at this time. Decontamination of equipment leaving the island is assumed to be required. The line item cost will be checked and revised if needed.

*h) For the detailed capital cost for SD-4:
1. Line Item 1.2: Please clarify what permits are required for this alternative that require 300 hours of effort given that CERCLA work is generally exempt from securing permits.*

Response: For this alternative, it is anticipated that additional information required by permits under some of the ARARs will be required for dredging. To conduct the revetment design at site 09, there was significant effort in meeting the intent of the permits and review of the design by RI CRMC and other state agencies although the permits may not actually have been obtained. The line item will be revised: "Design Coordination with Partner Agencies"

2. Line Item 4: It is not clear why a decontamination pad would be needed or why extensive decontamination services would be required. Debris recovered would

likely be loaded onto a barge rather than off loaded to land and reloaded again onto a barge for disposal. Please clarify the need for the extensive decontamination services included.

Response: The decontamination process is not determined at this time. Decontamination of equipment leaving the island is assumed to be required. The line item cost will be checked and revised if needed.

3. Line Items 5.4 and 5.5: Please clarify in the description of the alternative why a loading platform is needed.

Response: The loading platform is a piling and platform structure at the north portion of the island described elsewhere in the report as "Rigging Platform". This structure requires removal so as to access the sediment nearest the shoreline. This will be a significant cost. The line item 5.4 will be retitled "Demolition of Former Rigging Platform".

Parker, Stephen

ATTACHMENT B - FOLLOW-UP ON SED TRANSPORT MODEL

From: Hayter, Earl J ERDC-CHL-MS <Earl.Hayter@usace.army.mil>
Sent: Friday, February 17, 2012 1:32 PM
To: Butcher, Jon
Cc: Kymberlee Keckler; Parker, Stephen; Ackerman, Drew; Czapinski, Richard
Subject: RE: Newport-Gould-Sediment Transport Model revision

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Yellow Category

Jon,

Thanks for this information. However, it is not appropriate to use the equation given in Section 7.1 for calculating wave-induced shear stresses.

For station 413, using an assumed depth of 7 m, it took a current speed of ~ 0.4 m/s to get the current-induced shear stress of 0.19 Pa given in Table 7. Is that the current speed used by EFDC to calculate the 0.19 Pa bed shear stress? Maybe my depth estimate at this location is off.

Also, using the Soulsby et al. (1993) method for calculating a combined current-wave shear stress, I calculated a wave-induced shear stress of 2.2 Pa for a wave with a 1.59 m height and 5 sec period in 7 m of water, and a combined shear stress of 2.8 Pa.

Earl

Soulsby, R. L., Hamm, L., Klopman, G., Myrhaug, D., Simons, R.R. and Thomas, G.P. 1993. "Wave-current interaction within and outside the bottom boundary layer," Coastal Engineering, 21:41-69.

-----Original Message-----

From: Butcher, Jon [mailto:Jon.Butcher@tetrattech.com]
Sent: Friday, February 17, 2012 12:33 PM
To: Hayter, Earl J ERDC-CHL-MS
Cc: Kymberlee Keckler; Parker, Stephen; Ackerman, Drew; Czapinski, Richard
Subject: RE: Newport-Gould-Sediment Transport Model revision

In response to your questions:

1. Yes, we did use the C_b coefficient shown in Section 7.1 2. Stresses given in the CGWAVE column of Table 7 are calculated from the wave height and period conditions given in Section 5.1: Waves from NNE; $H_{mo} = 1.59$ m; $T_p = 5.0$ s. Wave length was not externally specified but rather the wave length is internally calculated based upon the inputs and the water depths along the open water portion of the model domain boundary.

Dr. Jon Butcher, P.H. | Director
Direct: 919.485.8278 x103 | Fax: 919.485.8280 jon.butcher@tetrattech.com

Tetra Tech | Complex World, Clear Solutions P.O. Box 14409 | Cape Fear Bldg Suite 105, 3200 Chapel Hill-Nelson Hwy, Research Triangle Park, NC 27709 | www.ttwater.com

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-----Original Message-----

From: Hayter, Earl J ERDC-CHL-MS [mailto:Earl.Hayter@usace.army.mil]
Sent: Tuesday, February 14, 2012 3:14 PM
To: Butcher, Jon
Cc: Kymberlee Keckler
Subject: RE: Newport-Gould-Sediment Transport Model revision

Hi Jon,

In calculating the wave induced shear stresses that are shown in Table 7, did you use the Cb coefficient shown in Section 7.1? Also, what were the wave conditions (period, length, height) used to calculate the stresses given in the CGWAVE column of Table 7?

Earl

-----Original Message-----

From: Butcher, Jon [mailto:Jon.Butcher@tetrattech.com]
Sent: Tuesday, February 14, 2012 10:23 AM
To: Kymberlee Keckler; Parker, Stephen
Cc: Bernhardt, Aaron; Ackerman, Drew; Hayter, Earl J ERDC-CHL-MS; Kenneth_Munney@fws.gov; 'ken.finkelstein'; Montegross, Maritza L CIV NAVFAC MIDLANT, IPTNE; Pamela Crump; steinberg@mabbett.com
Subject: RE: Newport-Gould-Sediment Transport Model revision

Kymberlee -

Thank you for your comments. However, I think your letter may reflect some misunderstanding about our report. You state that you cannot review the Table 7 estimates of shear stress because the equation is not presented for the wave shear stress. On p. 48, the report states that the Table 7 estimates combine the current and wave shear, and that the wave shear stress was calculated from the wave model maximum orbital velocities "in the same manner as the EFDC shear stresses." The equation for the EFDC shear stress as a function of velocity is given on p. 47, and the same equation was applied to the maximum predicted bottom velocities induced by waves. This is a quasi-steady approach, appropriate for a basin with approximately vertical sides and little shoaling acceleration.

My apologies if we did not make the explanation of the approach sufficiently clear.

Dr. Jon Butcher, P.H. | Director
Direct: 919.485.8278 x103 | Fax: 919.485.8280 jon.butcher@tetrattech.com

Tetra Tech | Complex World, Clear Solutions P.O. Box 14409 | Cape Fear Bldg Suite 105, 3200 Chapel Hill-Nelson Hwy, Research Triangle Park, NC 27709 | www.ttwater.com

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ATTACHMENT B

be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

-----Original Message-----

From: Kymberlee Keckler [mailto:Keckler.Kymberlee@epamail.epa.gov]

Sent: Monday, February 13, 2012 1:30 PM

To: Parker, Stephen

Cc: Bernhardt, Aaron; Ackerman, Drew; 'Earl.Hayter@usace.army.mil'; Butcher, Jon; Kenneth_Munney@fws.gov; 'ken.finkelstein'; Montegross, Maritza L CIV NAVFAC MIDLANT, IPTNE; Pamela Crump; steinberg@mabbett.com

Subject: Re: Newport-Gould-Sediment Transport Model revision

(See attached file: revisedmodel.docx)

Kymberlee Keckler, Chemical Engineer
Federal Facilities Superfund Section
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Mail Code: OSRR07-3
Boston, MA 02109-3912

Telephone: 617.918.1385

Facsimile: 617.918.0385

E-mail: keckler.kymberlee@epa.gov

From: "Parker, Stephen" <Stephen.Parker@tetrattech.com>

To: Kymberlee Keckler/R1/USEPA/US@EPA,
"Earl.Hayter@usace.army.mil" <Earl.Hayter@usace.army.mil>,
'ken.finkelstein' <Ken.Finkelstein@noaa.gov>, Pamela Crump
<pamela.crump@DEM.RI.GOV>, "Kenneth_Munney@fws.gov"
<Kenneth_Munney@fws.gov>, "steinberg@mabbett.com"
<steinberg@mabbett.com>

Cc: "Bernhardt, Aaron" <Aaron.Bernhardt@tetrattech.com>,
"Butcher, Jon" <Jon.Butcher@tetrattech.com>, "Ackerman, Drew"
<Drew.Ackerman@tetrattech.com>, "Montegross, Maritza L CIV
NAVFAC MIDLANT, IPTNE" <maritza.montegross@navy.mil>

Date: 01/26/2012 03:08 PM

Subject: Newport-Gould-Sediment Transport Model revision

All

Attached for your review is the revised Sediment Transport Model prepared for NAVSTA Newport Site 17 – Gould Island. This document was originally provided as Appendix B of the Draft Feasibility Study for that site. This revision has been prepared based on comments received

11/22/11 and discussions held on December 1, 2011 and December 14, 2011, during which it was agreed that the document include a more robust wave analysis. Since the document was originally provided with the Draft FS, and because the document has already been through a review and comment phase, this revision should be considered a "Draft Final" in accordance with the FFA.

ATTACHMENT B

Also attached are responses to EPA's comments on the Draft submittal that reflect the changes made.

If you have any questions, please do not hesitate to contact me.

Stephen S. Parker, LSP | Sr. Project Manager
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[attachment "ResponseToComments_v2_01-06-12.docx" deleted by Kymberlee Keckler/R1/USEPA/US] [attachment "GouldIs_Tier2_ModelReport_Revised_20120126.pdf" deleted by Kymberlee Keckler/R1/USEPA/US]

ATTACHMENT C

SUMMARY OF PROPOSED REVISIONS – ARAR TABLES

Site 17 Gould Island

EPA Comments Dated 11/30/11

The tables that follow provide responses and proposed revisions to the ARAR tables to which comments were provided by the USEPA via email on 11/30/11. This material augments responses to comments dated 11/10/11.

1. Table 2-1, p.1 Add the following federal chemical-specific ARARs and TBCs:

<p>Safe Drinking Water Act (42 U.S.C. §300f <i>et seq.</i>); National primary drinking water regulations (40 C.F.R. Part 141, Subpart B and G)</p>	<p>Relevant and Appropriate</p>	<p>Establishes maximum contaminant levels (MCLs) for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate cleanup standards for aquifers and surface water bodies that are potential drinking water sources.</p>	<p>Under federal standards, groundwater within the Site that is outside the compliance boundary of any waste management unit for the Site's contaminated soil (such as under the building foundation) is considered a potential drinking water source and therefore groundwater must achieve these standards. Groundwater use restrictions will be maintained until these standards are achieved. Within the compliance boundary for any waste management unit these are used as monitoring standards. Agree – Pentachlorophenol (PCP) and Tetrachloroethene (PCE) were detected in groundwater at concentrations greater than MCLs.</p>
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<p>Safe Drinking Water Act (42 U.S.C. §300f et seq.); National primary drinking water regulations (40 C.F.R. Part 141, Subpart F)</p>	<p>Relevant and Appropriate for non-zero MCLGs; MCLGs set at zero are To Be Considered</p>	<p>Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds. Agree, except the text referring to WMUs is deleted, because there will be no WMU.</p>	<p>Under federal standards, groundwater within the Site that is outside the compliance boundary of any waste management unit for the Site's contaminated soil (such as under the building foundation) within the Site is considered a potential drinking water source and therefore groundwater must achieve these standards. Groundwater use restrictions will be maintained until these standards are achieved. Within the compliance boundary for any waste management unit these are used as monitoring standards.</p>
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<p>Clean Water Act, National Recommended Water Quality Criteria (NRWQC), 33 USC 1251 <i>et seq.</i>; 40 CFR § 122.44</p>	<p>Relevant and Appropriate</p>	<p>Used to establish water quality standards for the protection of aquatic life. Used to develop sediment cleanup standards. [WQCs not used for sediment PRGs.]</p>	<p>Sediment alternatives will address contaminated sediments that exceed standards developed under these regulations. These are action-specific standards for water quality monitoring that would be conducted to ensure that these criteria are not exceeded during excavation/dredging activities. Will also be used for the long-term monitoring of any cap/cover alternative and to assess Monitored Natural Recovery alternatives. Partly agree, as noted. Deleted text not required because WQC was not used for sediment PRG and there will be no MNR alternative.</p>
<p>OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) EPA530-D-02-004 (November 2002)</p>	<p>To be Considered</p>	<p>Guidance for assessing and mitigating vapor intrusion risk.</p>	<p>Assessment and mitigation of potential vapor intrusion risks will be conducted in accordance with this guidance. Disagree. This should not be a TBC. There is no current or future use anticipated for this site, so VI was not evaluated.</p>

<p>Health Advisories (EPA Office of Drinking Water)</p>	<p>To be Considered</p>	<p>Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water where the standard is more conservative than either federal or state statutory or regulatory standards. The Health Advisory standard for manganese is 0.3 ppm.</p> <p>Disagree, Mn is not a COC.</p>	<p>Health advisories will be used to evaluate the non-carcinogenic risk resulting from exposure to certain compounds. Under federal standards, groundwater within the Site that is outside the compliance boundary of any waste management unit for the Site's contaminated soil (such as under the building foundation) is considered a potential drinking water source and therefore groundwater must achieve these standards. Groundwater use restrictions will be maintained until these standards are achieved. Within the compliance boundary for any waste management unit these are used as monitoring standards. Disagree, Mn is not a COC. In addition, a WMU is not planned.</p>
---	-------------------------	---	--

If federal ecological risk guidances were used to develop cleanup standards for contaminated sediment cite in this Table as a TBC.

<p>Technical Basis for Deriving Sediment Quality Criteria for Non-Ionic organic Contaminants for Protection of Benthic Organisms by Using Equilibrium Partitioning, EPA-882-R-93-011 (1993)</p>	<p>To be Considered</p>	<p>Guidance for estimating cleanup goals for contaminated sediment.</p>	<p>Guidance used to establish sediment cleanup standards. Disagree. Was not used for sediment PRGs.</p>
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National Oceanographic and Atmospheric Administration (NOAA) Incidence of Adverse Biological Effects within Ranges of Chemical Concentration in Marine and Estuarine Sediments, Long, et al., 1995	To be Considered	Guidance on concentration ranges of contaminants in sediment that correspond to the likelihood of adverse effects to organisms.	Guidance used to establish sediment cleanup standards. Agree. This was used to develop sediment COCs.
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If any guidance were utilized to develop fish/shellfish consumption risk standard cite in this Table as a TBC. **No other guidance document was used.**

2. Table 2-2, p. 1 Add federal location-specific ARARs:

Floodplain Management and Protection of Wetlands, 44 CFR 9	Relevant and Appropriate	FEMA regulations that set forth the policy, procedure and responsibilities to implement and enforce Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands. Agree. Remedial activities will take place in floodplains and contaminated media may remain in the floodplain. Note that the 500-year floodplain is not mapped at the site, so the reference to the 100-year floodplain will be used. There are no wetlands present.	Remedial alternatives conducted within the 100500- year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. The Navy will solicit public comment as part of the proposed plan on the measures taken through the remedial action to protect floodplain and wetland/aquatic habitat resources.
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<p>Coastal Zone Management Act, 16 U.S.C. Parts 1451 <i>et. seq.</i></p>	<p>Applicable</p>	<p>Requires that any actions must be conducted in a manner consistent with state-approved management programs.</p>	<p>The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed. Agree.</p>
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Need to add federal historic preservation ARARs if the sediment areas that will be excavated have not been assessed for historic resources.

Response: The following will be added as consistent with the Site 08 FS report (May 2012)

<p>National Historic Landmarks (Historic Sites Act) 16 USC §461 et seq.; 36 CFR Part 65</p>	<p>Applicable</p>	<p>The purpose of the National Historic Landmarks program is to identify and designate National Historic Landmarks, and encourage the long range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States.</p>	<p>Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact historical properties/structures determined to be protected by this standard, activities will be coordinated with the Department of the Interior.</p>
<p>Protection of Historic Properties (National Historic Preservation Act) 16 USC §470 et seq., 36 CFR Part 800Act)</p>	<p>Applicable</p>	<p>Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.</p>	<p>Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the Advisory Council on Historic Preservation.</p>
<p>Rhode Island Historical Preservation Act RIGL 42-45 et seq.</p>	<p>Applicable</p>	<p>Requires action to take into account effects on properties included on or eligible for the National register of Historic Places and minimizes harm to National Historic Landmarks.</p>	<p>Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the State Agency.</p>

3. Table 2-3, p.1 Add the following federal action-specific ARARs and TBCs:

<p>CWA, Section 402, National Pollution Discharge Elimination System (NPDES), 33 U.S.C. 1342; 40 CFR 122 through 125</p>	<p>Applicable</p>	<p>These standards govern point source discharges of pollutants to surface water. Includes stormwater requirements for construction projects that disturb over one acre.</p>	<p>Standards for discharging of dewatering liquid or other water to surface waters at the site. The stormwater standards under these regulations will be met during any construction or maintenance activities. Disagree that storm water standards are applicable because disturbed area less than 1 acre.</p>
<p>Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites, OSWER Directive 9200.4-17P (April 21, 1999)</p>	<p>To be Considered</p>	<p>EPA guidance regarding the use of monitored natural attenuation for the cleanup of contaminated soil and groundwater. In particular, a reasonable time frame is defined as achieving cleanup standards though monitored attenuation would be comparable to that which could be achieved through active restoration.</p>	<p>The monitored natural attenuation component of any groundwater alternative will only meet these standards if natural attenuation will attain all groundwater cleanup standards within a timeframe that is reasonable compared to that offered by other methods. Agree, but with modified text per the cited document.</p>
<p>Contaminated Sediment Remediation Guidance for Hazardous Waste Sites, OSWER 9355.0-85, (December 2005)</p>	<p>To be Considered</p>	<p>This document provides technical and policy guidance for making remedy decisions for contaminated sediment sites. Issues addressed include: Chapter 4, Monitored Natural Recovery; Chapter 5, In-situ Capping; Chapter 6, Dredging and Excavation; Chapter 7, Remedy</p>	<p>Sediment alternatives will be developed using methods described in this document. that meet these standards. In particular, any alternative including MNR must attain all sediment cleanup standards within a reasonable time frame. Agree. However, the document contains no standards or specifications, so the text has been revised. None of the alternatives use MNR, so</p>

		Selection; and Chapter 8, Long-term Monitoring	the reference to MNR is deleted for sediment.
Safe Drinking Water Act (42 U.S.C. §300f <i>et seq.</i>); National primary drinking water regulations (40 C.F.R. Part 141, Subpart B and G)	Relevant and Appropriate	Establishes maximum contaminant levels (MCLs) for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate cleanup standards for aquifers and surface water bodies that are potential drinking water sources.	Within the compliance boundary for any waste management unit these are used as groundwater monitoring standards and as monitoring any groundwater outside of the compliance boundary subject to Monitor Natural Attenuation. Disagree. This is not an action-specific ARAR because no WMU is proposed. This is a chemical-specific ARAR.
Safe Drinking Water Act (42 U.S.C. §300f <i>et seq.</i>); National primary drinking water regulations (40 C.F.R. Part 141, Subpart F)	Relevant and Appropriate for non-zero MCLGs; MCLGs set at zero are To Be Considered	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	Within the compliance boundary for any waste management unit these are used as groundwater monitoring standards and as monitoring any groundwater outside of the compliance boundary subject to Monitor Natural Attenuation. Disagree. This is not an action-specific ARAR because no WMU proposed. This is a chemical-specific ARAR.

<p>Clean Water Act, National Recommended Water Quality Criteria (NRWQC), 33 USC 1251 <i>et seq.</i>; 40 CFR § 122.44</p>	<p>Relevant and Appropriate</p>	<p>Used to establish water quality standards for the protection of aquatic life. Used to develop sediment cleanup standards.</p>	<p>These are standards for water quality monitoring that would be conducted to ensure that these criteria are not exceeded during excavation/dredging activities. Will also be used for the long-term monitoring of any cap/cover alternative and to assess Monitored Natural Recovery alternatives. Agree in part, as noted.</p>
<p>Health Advisories (EPA Office of Drinking Water)</p>	<p>To be Considered</p>	<p>Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water where the standard is more conservative than either federal or state statutory or regulatory standards. The Health Advisory standard for manganese is 0.3 ppm.</p>	<p>Within the compliance boundary for any waste management unit these are used as groundwater monitoring standards and as monitoring for any groundwater outside of the compliance boundary subject to Monitor Natural Attenuation. Disagree. Manganese is not a COC. In addition, no WMU is proposed</p>

<p>Coast Guard Anchorage Ground and Regulated Navigation Area Rules (33 CFR Part 110; 165) [110 is only for anchorages.]</p>	<p>To Be Considered (Applicable once a Rule for the LUC area is promulgated)</p>	<p>The Coast Guard may promulgate site-specific rules to establish federal anchorage areas and regulated navigation areas (RNAs). Once promulgated such a rule is also the basis for the National Oceanic and Atmospheric Administration (NOAA) to revise navigation charts to show the restricted area.</p>	<p>If the Gould Island property is transferred from Navy ownership the Navy will coordinate with the Coast Guard and river stakeholders in the promulgation of a Rule to establish an RNA for the area of the bay requiring LUCs for contaminated sediments left in place to create federally enforceable restrictions to protect the LUC area from disturbance and to delineate the area of the LUCs on federal navigation charts. Use NLON Subase text (see *below). Revise text for option for Safety Zone or RNA.</p>
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**[This would be used the text used in the last column above and was derived from the New London FS Addendum: “If, in the future, the Navy transfers the Site to a non-federal owner, it will explore the option of coordinating with the Coast Guard and river stakeholders in the promulgation of a Rule to establish a RNA or Safety Zone for the portion of the surface water requiring LUCs. An RNA or Safety Zone would create federally enforceable restrictions to protect the LUC area from disturbance and to delineate the area of the LUCs on federal navigation charts.”]*

7. Table 2-3, p. 3 Add the following State Action-specific ARARs:

<p>Water Pollution Control – Water Quality, RIGL 42-16 <i>et seq.</i>; CRIR 12-190-001</p>	<p>Applicable</p>	<p>Establishes water use classification and water quality criteria for waters of the state.</p>	<p>Surface water concentrations will be compared against these criteria during monitoring of the implementation of the remedy, as well as during long-term monitoring events. Disagree. No surface water discharges during remedy implementation or during long-term monitoring are proposed.</p>
--	-------------------	---	--

<p>Shellfish Grounds, RIGL 20-8.1; Rhode Island Marine Fisheries, Part VI Shellfish, Rule 4.18; Notice of Polluted Shellfish Grounds (Map – West Passage GA7)</p>	<p>To Be Considered (Applicable once a Rule for the LUC area is promulgated)</p>	<p>Rhode Island may designate shellfish grounds as “polluted” and establish closure areas. Gould Island is in shellfish closure map area GA7.</p>	<p>The Navy will coordinate with the State of Rhode Island to close shellfishing in any areas where contamination is left in place above shellfish consumption risk levels (including where a cap/cover is in place) and to have closed areas defined within the State’s shellfishing regulations and shown on State shellfish closure maps. Disagree. It is our understanding that this area is already a state shellfish prohibition area.</p>
<p>Rhode Island Commercial Fishing License Regulations, Area Closures and Restrictions, Rule 6.1-5</p>	<p>To Be Considered (Applicable once a Rule for the LUC area is promulgated)</p>	<p>Rhode Island may place commercial fishing closures and other restrictions on disturbing contaminated areas.</p>	<p>The Navy will coordinate with the State of Rhode Island to close commercial fishing in any areas where contamination is left in place above fish consumption risk levels and to prevent the uses of commercial fishing gear that may damage any cap/cover installed over contaminated sediment. Disagree. No unacceptable risk related to consumption of fish has been identified. Cap would be designed and implemented to withstand anticipated fishing gear impacts.</p>

If contaminated soil is left in place above unrestricted risk levels either in the sump/trenches, under the building foundation or elsewhere around the Site, either the RI Remediation Standards or the RI Solid Waste regulations need to be cited at cap/cover standards. If the RI Solid Waste regulations are to be cited add the citations consistent with those used in the final OFFTA ROD. **Agree. The RI**

Solid Waste regulation for cover maintenance will be included: DEM OWM-SW0401, 2.3.04(e).

<p>Identification and Management of Aquatic Invasive Species</p>	<p>To be Considered</p>	<p>Guidance on addressing aquatic invasive species in Rhode Island.</p>	<p>Remedial work in the Bay will be conducted in a manner to prevent the establishment or spread of aquatic invasive species. Agree.</p>
<p>Well Standards State of Rhode Island Rules and Regulations for Groundwater Quality – Appendix H</p>	<p>Applicable</p>	<p>Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.</p>	<p>Applies to the abandonment of existing monitoring wells. Agree.</p>

ATTACHMENT D

RESPONSE TO COMMENTS – ARAR TABLES

Site 17 Gould Island

EPA Comments Dated 11/30/11

This attachment addresses comments to the ARAR tables that were made on pdf versions of the tables in the Draft FS (September, 2011). Because the method used to make the comments in Adobe ® tags does not lend itself to making responses directly to the comments, the comments are restated and responses are presented below. Each table and page is listed followed by comment (or a summary of the comment) and a response. Unless noted, “Requirement”, “Status”, “Synopsis”, and “Consideration” refer to the column headings.

Table 2-1, Page 1 of 2

Move TSCA citation to Action-specific Table.

Response: Agree.

Table 2-1, Page 2 of 2

RIDEM Remediation Regulations citation - General revisions.

Response: Requirement text is not accepted; “Section 8.01, 8.02, 8.02B” will be replaced with “8.02A(i), (ii), and (iii); 8.02B, 8.03A(i) and (iii); and 8.03B”.

Synopsis text will be accepted.

Consideration text will be accepted, except “establishing points of compliance for groundwater” because waste management unit will not be used for site.

Table 2-2. Page 1 of 3

Fish and Wildlife Coordination Act citation - General revisions.

Response: Agree.

General revisions to ESA citation.

Response: Agree. However, “USFWS” will be revised to “federal wildlife officials”.

Migratory Bird Act - Deletion.

Response: Agree.

Rivers and Harbors Act - Revisions.

Response: Agree. However, only Part 322 (Permits for Structures or Work in or Affecting Navigable Waters of the United States) is pertinent.

Table 2-2, Page 2 of 3

CWA Section 404 Guidelines - General revisions.

Response: Agree, except as follows:

The last sentence to Consideration proposed by EPA will be revised to: *If fill/dredged material is discharged, the Navy will identify a remedy that is the Least Environmentally Damaging Practicable Alternative on the aquatic ecosystem.*

Table 2-2, Page 3 of 3

CRM - Revisions to Synopsis.

Response: Partly agree. The text proposed by EPA will be revised as follows:

Jurisdiction includes area 200 feet landward for coastal features and areas within 50 feet of fresh water wetlands determined to be under the jurisdiction of CRMC, as well as coastal floodplain.

The reference to Rule 6.08 is from the RI Fresh Water Wetlands regulations and will not be included. There are no fresh water wetlands at the site.

ESA – Revision.

Additional revision: “Applicable” will be changed to “Relevant and Appropriate”.

Table 2-3, Page 1 of 3

TSCA - Revisions.

Response: Agree. However, in the proposed text for Consideration, “TSCA risk-based standards” will be replaced with “risk-based standards that are acceptable under TSCA”.

Standards for Identification and Listing of Hazardous Waste - General revisions.

Response: Agree.

Standards for Generators of Hazardous Waste - General revisions.

Response: Agree. However, the Cited rules will be revised from “5.1, 5.2, 5.3, and 5.4” to “5.2, 5.3, and 5.4”.

Table 2-3, Page 2 of 3

Water Pollution Control – Revision to Consideration

Response: Agree.

Table 2-3. Page 3 of 3

Standards for Storm Water Management – Deletion and replacement.

Additional revision: After consideration of the limited area of disturbance (less than 1 acre), the subject citation for Stormwater Management will be deleted and replaced with the RI Soil Erosion and Sediment Control Manual:

Rhode Island Soil Erosion and Sediment Control (SESC) Manual	To be considered	RIGL Erosion and Sediment Control Act places enforcement of soil erosion and sediment control at the local level. The SESC Manual is the primary guidance document.	An erosion and sediment control plan will be prepared according to the SESC Manual for all activities with land disturbance.
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Table 4-1, Page 1 of 2

General comment – incorporate comments made on Table 2-1.

Response: No changes per Table 2-1 are required.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 4-1. Page 2 of 2

RIDEM Remediation Regulations – revisions

Response: Requirement text (on Table 2-1) is not accepted; “Section 8.01, 8.02, 8.02B” will be replaced with “8.02A(i), (ii), and (iii); 8.02B, 8.03A(i) and (iii); and 8.03B”.

Table 4-2

No comments and no revisions.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 4-3

No comments and no revisions.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 4-4, Page 1 of 2

General comment – incorporate comments made on Table 2-1.

Response: No changes per Table 2-1 are required.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 4-4, Page 2 of 2

RIDEM Remediation Regulations – revisions

Response: Requirement text (on Table 2-1) is not accepted; “Section 8.01, 8.02, 8.02B” will be replaced with “8.02A(i), (ii), and (iii); 8.02B, 8.03A(i) and (iii); and 8.03B”.

Table 4-5

Migratory Bird Act – Delete

Response: Agree.

Coastal Resources Management - Revisions

Response: Revisions will be made to be consistent with Table 2-2, page 3.

Floodplain Management/Wetlands Protection (per EPA Attachment) – Add.

Response: Agree.

Table 4-6

General comment – incorporate comments made on Table 2-3.

Response: No changes per Table 2-3 are required.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 4-7. page 1 of 2

General comment – incorporate comments made on Table 2-1.

Response: No changes per Table 2-1 are required.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 4-7. page 2 of 2

RIDEM Remediation Regulations – revisions

Response: Requirement text (on Table 2-1) is not accepted; “Section 8.01, 8.02, 8.02B” will be replaced with “8.02A(i), (ii), and (iii); 8.02B, 8.03A(i) and (iii); and 8.03B”.

Table 4-8, Page 1 of 2

Migratory Bird Act – Delete

Response: Agree.

Fish and Wildlife Coordination and ESA – Revisions

Response: Revisions will be made to be consistent with Table 2-2, Page 1 of 3.

Table 4-8, Page 2 of 2

Coastal Resources Management - Revisions

Response: Revisions will be made to be consistent with Table 2-2, page 3.

ESA – Revision.

Additional revision: “Applicable” will be changed to “Relevant and Appropriate”.

Protection of Floodplains (44 CFR 9) from EPA Attachment will be added.

Table 4-9, Page 1 of 2

General comment – Add ARARs per EPA Attachment.

Response: No additional ARARs per EPA Attachment are required for this table.

Standards for Identification and Listing of Hazardous Waste - General revisions.

Response: Revisions will be made to be consistent with Table 2-3, page 1.

Standards for Generators of Hazardous Waste - General revisions.

Response: Revisions will be made to be consistent with Table 2-3, page 1. However, the Cited rules will be revised from “5.1, 5.2, 5.3, and 5.4” to “5.2, 5.3, and 5.4”.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 4-9, Page 2 of 2

RIPDES – Deleted

Additional revision: There are no surface water discharges, including storm water discharges from construction.

Standards for Storm Water – Replace

Additional revision: The subject citation will be deleted and replaced with the RI Soil Erosion and Sediment Control Manual, per Table 2-3 Page 3 of 3, above.

Table 5-1

General comment – incorporate comments made on Table 2-1.

Response: No changes per Table 2-1 are required.

TSCA – Delete.

Response: Agree.

Add Long at al. from EPA Attachment.

Response: Agree.

Table 5-2

No comments and no revision.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 5-3

No comments and no revision.

Also, no additional ARARs per EPA Attachment are required for this table.

~~Table 5-4~~ **SEDIMENT ALTERNATIVE 2 HAS BEEN ELIMINATED COMMENTS IN STRIKE OUT ARE NO LONGER APPLICABLE.**

This alternative was determined to be not protective based on the findings of the sediment transport model.

~~General comment – incorporate comments made on Table 2-1.~~

~~**Response:** No changes per Table 2-1 are required.~~

~~TSCA – Delete.~~

~~**Response:** Agree.~~

~~Add Long at al. from EPA Attachment.~~

~~**Response:** Agree.~~

Table 5-5, Page 1 of 2

~~Migratory Bird Act – Delete~~

~~**Response:** Agree.~~

~~Fish and Wildlife Coordination and ESA – Revisions~~

~~**Response:** Revisions will be made to be consistent with Table 2-2, Page 1 of 3.~~

~~Rivers and Harbors Act – Revisions.~~

Response: ~~Revisions will be made to be consistent with Table 2-2, page 1 of 3, as adjust to the Response to Comment above. Citation is for Part 322 only.~~

Table 5-5, Page 2 of 2

~~Coastal Resources Management – Revisions~~

Response: ~~Revisions will be made to be consistent with Table 2-2, page 3.~~

~~ESA – Revision.~~

Additional revision: ~~Applicable will be changed to Relevant and Appropriate.~~

Table 5-6

~~General comment – Add ARARs per EPA Attachment.~~

Response: ~~Contaminated Sediment Remediation Guidance; and RNA/Safety Zone will be added to Federal ARARs. “Action to be Taken” text will be revised to be similar to New London Lower Subbase FS. Also, RI Shellfish Notice of Polluted Grounds; RI Commercial Fishing – Area Closures and Restrictions, and RI Management of Invasive species will be added to the table. The Shellfish and Fishing “Action to be Taken” text will be revised to be similar to the RNA/Safety Zone text above.~~

~~Standards for Identification and Listing of Hazardous Waste – General revisions.~~

Response: ~~Revisions will be made to be consistent with Table 2-3, page 1.~~

~~Standards for Generators of Hazardous Waste – General revisions.~~

Response: ~~Revisions will be made to be consistent with Table 2-3, page 1.~~

~~RIPDES – delete.~~

Additional revision: ~~There are no discharges associated with this alternative, so RIPDES will be deleted.~~

Table 5-7, Page 1 of 2

~~General comment – incorporate comments made on Table 2-1.~~

Response: ~~No revisions on this page.~~

Table 5-7, Page 2 of 2

~~Add Long at al. from EPA Attachment.~~

Response: ~~Agree.~~

Table 5-8, Page 1 of 2

~~Fish and Wildlife Coordination and ESA – Revisions~~

Response: ~~Revisions will be made to be consistent with Table 2-2, Page 1 of 3.~~

RTC Gould Island Draft FS

CWA Section 404 Guidelines - Revisions.

Response: Revisions will be made to be consistent with Table 2-2, page 2 of 3.

Also, no additional ARARs per EPA Attachment are required for this table.

Table 5-8, Page 2 of 2

Migratory Bird Act – Delete

Response: Agree.

Coastal Resources Management - Revisions

Response: Revisions will be made to be consistent with Table 2-2, page 3.

ESA – Revision.

Additional revision: “Applicable” will be changed to “Relevant and Appropriate”.

Table 5-9, Page 1 of 2

General comment – Add ARARs per EPA Attachment.

Response: Contaminated Sediment Remediation Guidance; and RNA/Safety Zone (as revised) will be added to Federal ARARs per the EPA Attachment (as revised).

Standards for Identification and Listing of Hazardous Waste - General revisions.

Response: Revisions will be made to be consistent with Table 2-3, page 1.

Standards for Generators of Hazardous Waste - General revisions.

Response: Revisions will be made to be consistent with Table 2-3, page 1. However, the Cited rules will be revised from “5.1, 5.2, 5.3, and 5.4” to “5.2, 5.3, and 5.4”.

Table 5-9, Page 2 of 2

General comment – Add ARARs per EPA Attachment as noted below.

Response: RI Management of Invasive species will be added to the table.

Standards for Storm Water – Replace

Additional revision: The subject citation will be deleted and replaced with the RI Soil Erosion and Sediment Control Manual, per Table 2-3 Page 3 of 3, above. Citation addresses stockpile cap/cover material.

Table 5-10

TSCA – Delete.

Response: Agree.

Add Long at al. from EPA Attachment.

Response: Agree.

Table 5-11, Page 1 of 2

Fish and Wildlife Coordination and ESA – Revisions

Response: Revisions will be made to be consistent with Table 2-2, Page 1 of 3.

CWA Section 404 Guidelines - Revisions.

Response: Revisions will be made to be consistent with Table 2-2, page 2 of 3,

Also, no additional ARARs per EPA Attachment are required for this table.

Table 5-11, Page 2 of 2

Migratory Bird Act – Delete

Response: Agree.

Coastal Resources Management - Revisions

Response: Revisions will be made to be consistent with Table 2-2, page 3.

ESA – Revision.

Additional revision: “Applicable” will be changed to “Relevant and Appropriate”.

Table 5-12, Page 1 of 3

General comment – Make revisions per Table 2-3 and add ARARs per EPA Attachment.

Response: Contaminated Sediment Remediation Guidance; and RNA/Safety Zone (as revised) will be added to Federal ARARs. Also, NPDES will be added for discharge of water during sediment dewatering.

TSCA – Revise to 40 CFR 761-61(c)

Response: Revisions will be made to be consistent with Table 2-3, page 1.

Standards for Identification and Listing of Hazardous Waste - General revisions.

Response: Revisions will be made to be consistent with Table 2-3, page 1.

Standards for Generators of Hazardous Waste - General revisions.

Response: Revisions will be made to be consistent with Table 2-3, page 1. However, the Cited rules will be revised from “5.1, 5.2, 5.3, and 5.4” to “5.2, 5.3, and 5.4”.

Table 5-12, Page 2 of 3

No revisions.

Table 5-12, Page 3 of 3

General comment – Make revisions per Table 2-3 and add ARARs per EPA Attachment.

Response: Revisions will be made to RIPDES to be consistent with Table 2-3, page 2, and RI Management of Invasive species will be added to the table.

Standards for Storm Water – Replace.

Additional revision: The subject citation will be deleted and replaced with the RI Soil Erosion and Sediment Control Manual, per Table 2-3 Page 3 of 3, above. Citation addresses stockpile cap/cover material.

GROUNDWATER ALTERNATIVES ARAR TABLES

These table will be created based on comments on the existing tables. The tables will include the citations summarized below. Requirement, Synopsis, and Action to be Taken will be revised as appropriate for groundwater.

No Action – Chemical-Specific

MCLs

MCLGs

RI Remediation Regulations

No Action – Location-Specific

None

No Action – Action-Specific

None

Alternative G-2 – Monitored Natural Attenuation and LUCs - Chemical-Specific

MCLs

MCLGs

RI Remediation Regulations

Alternative G-2 – Monitored Natural Attenuation and LUCs – Location-Specific

Federal ESA

RI ESA

Alternative G-2 – Monitored Natural Attenuation and LUCs – Action-Specific

EPA MNA Guidance

RI Identification of Hazardous Waste

RI Generator Requirements for Hazardous Waste

RI Well Standards

ATTACHMENT E

**NAVY RESPONSES TO
RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM)
COMMENTS DATED JANUARY 13, 2012
DRAFT FEASIBILITY STUDY FOR SITE 17, GOULD ISLAND
NAVSTA NEWPORT, RHODE ISLAND**

1. Page ES-1, Executive Summary; 1st paragraph, 2nd sentence.

Please replace "NUSC Disposal Area" with "Former Building 32 – Gould Island".

Response: The correction will be made.

2. Page ES-3, Executive Summary; 1st bullet.

"Prevent human health (recreational) and ecological exposure..."

Please be advised that under RIDEM'S Remediation Regulations, PRGs calculated for recreational exposure must comply with residential risk standards. Please revise this FS as necessary.

Response: The FS will be revised to restrict use of the site to industrial use only, and to clarify that recreational use is not a current or planned future use of the site. RAOs will be added to identify remediation goals for site soil and groundwater. For clarity, the first RAO (related to sediment) will be separated into two bullets, which will read as follows:

- Reduce risk to human receptors by preventing human exposure to intertidal sediment with chromium concentrations that exceed the PRG.
- Reduce risk to benthic invertebrates by preventing exposure to COCs in sediment that contribute to toxic effects in these organisms.

3. Page ES-3, Executive Summary; 4th paragraph.

"Based on the distribution of these COCs, 144 cubic yards of soil is estimated to be present exceeding the PRGs."

This volume of soil only includes the "soil-debris hotspots", which are not the only areas where concentrations were found to exceed regulatory criteria. Please revise this statement to include all locations on this Site exceeding RIDEM's Direct Exposure and Leachability Criteria.

Response: To better define the areas for removal and/or establishment of LUCs, soil PRGs will be developed based on both CERCLA risk, as well as RIDEM's soil criteria promulgated in the Remediation Regulations, as per the Dispute Agreement dated January 12, 2012. The Site 17 FS will be revised to include an evaluation of soil locations with COC concentrations that exceed RIDEM's Direct Exposure Criteria (DEC) and Leachability Criteria (LC). Based on this evaluation, additional soil removal volumes will be calculated for the soil locations that exceed industrial PRGs and the total on-shore removal volume will be revised accordingly. In this respect, the approach will be similar to that used at Site 8 - NUSC.

4. Page ES-3, Executive Summary; 4th paragraph.

“...7,200 cubic yards of sediment is estimated to be present in the Stillwater area that exceeds PRGs.”

Please include the volume of contaminated sediment along the Northeast Shoreline in this paragraph of this FS. Also, please refer to RIDEM's comment #34 listed below

Response: The Northeast shoreline data were reviewed and a full assessment is provided as the response to comment 34 below. To summarize, concentrations measured in 2009 and 2010 showed an improved condition in the sediment at the Northeast shoreline, and the concentrations measured do not exceed PRGs. Therefore, monitoring is appropriate for this area to assure the condition does not deteriorate. Quantification of this sediment for remedy would not be appropriate, since to do so would require using older data that do not represent current conditions.

5. Page 1-5, Section 1.3.2, Removal Actions Conducted; whole section.

Please describe in this section the removals in greater detail. Please include the standards employed and the results of any confirmatory samples. Also please describe in this section that at the PCB removal action at Transformer 54, PCBs were found in the groundwater and as part of that action, part of the area was backfilled with stone and a PVC pipe was installed to facilitate both monitoring and remedial actions for the PCBs in the groundwater and potential in soils upgradient of the removal action.

Response: This section will be expanded to include and reference additional supporting information already published in the RI.

6. Page 1-15, Section 1.8.1, Soil; whole section.

This FS only focuses on the PAHs and metals found within the vaults and sumps in the foundation of former Building 32, which are considered “soil-debris hotspots” to be addressed in this FS. This led to the elimination of soil as a media of concern. However, there remain several areas of concern on this Site with concentrations exceeding RIDEM's Direct Exposure and Leachability Criteria, which will need to be addressed in this FS. Therefore, please review the soil data obtained during both the Phase 1 and Phase 2 RIs and other studies and include in this section a discussion of other locations where exceedances of regulatory criteria occur. Please include soil as a media of concern in this FS and develop remedial alternatives to address these exceedances. Please submit these revised sections in the response to comments (the revised sections will be considered as draft), or alternatively submit a separate FS for site soil.

Response: See the response to Comment #3. Soil will be included as a media of concern and the remedial alternatives in the Site 17 FS will be revised to address exceedances of the RIDEM Direct Exposure and Leachability Criteria.

7. Page 1-15, Section 1.8.1, Soil; 3rd paragraph.

“...these soils are not expected to impact the adjacent marine sediments in the Stillwater Basin: the adjacent sediments already contain PCBs and PAHs above the concentrations measured in the soil.”

The surface/subsurface soils near the former riggers storage house (Former Building 41) that are above regulatory criteria for PAHs and/or PCBs will need to be addressed in this FS. Remedial alternatives for these areas should be designed to prevent recontamination of the sediments adjacent to this area following any remedial action. Please update this FS accordingly.

Response: The concentrations of PAHs and PCB in the soil at former building 41 do not exceed the PRGs for sediment established in Section 2 with the exception of one soil sample where PCBs =1.8 mg/kg. The average concentrations and 95% UCL concentrations are below the PRGs for PAHs and PCBs. Based on these soil data, it is presumed that the remediated sediment will not become re-contaminated.

8. Page 1-15, Section 1.8.2, Groundwater; whole section.

“Overall, groundwater contaminant concentrations do not exceed the federal maximum contaminant levels (MCLs), with the exception of two contaminants, pentachlorophenol and tetrachloroethene, both found in the shallow overburden groundwater at low concentrations.”

Please include a statement in this paragraph comparing the groundwater contaminant concentrations with RIDEM’s groundwater criteria for all areas of this Site. If there are exceedances of any regulatory criteria, then groundwater should not be eliminated as a media of concern for this Site. Please submit these revised sections in the response to comments (the revised sections will be considered as draft), or alternatively submit a separate FS for site groundwater.

Response:

The addition of groundwater as a media of concern was discussed on December 1, 2011. It was agreed at that time that groundwater would be selected as a media of concern based on the MCL exceedances, and that two alternatives will be evaluated for groundwater – no action and MNA with institutional controls. The FS will be revised accordingly to include site groundwater.

9. Page 1-15, Section 1.8.3, Sediment; whole section.

“High concentrations of PCBs and PAHs were noted in the sediment in the Stillwater Basin, particularly adjacent to the former rigging platform.”

Please include a section discussing other contaminants found at high concentrations in sediment, such as lead found along the Northeast Shoreline near the outfall pipe.

Response: A summary of additional pertinent sediment information from the RI will be added as appropriate.

10. Page 1-17, Section 1.9, Fate and Transport; 2nd paragraph.

“The first is the storm drainage system and “trench drain” that gathered groundwater and runoff from the roadway and storage areas (acid storage shed and dust collection building) outside the southwestern corner of Building 32, and discharged that water to the shoreline near the southeast corner of Building 32 at station SD304F.”

Please note in this FS that lead was found at a concentration of 21,200 ppm at SD304F in the Phase I RI, and at concentrations exceeding the ERL for lead at several locations (SD517, SD304, SD438 & SD531) within 60-170 ft from SD304F.

Response: The following text from the Phase I RI will be added to the FS:

“Elevated concentrations of lead were noted in the intertidal sediments at station SD-304F, where the NOAA ERM screening value was exceeded. This condition is most likely attributable to open channel flow from the waste discharge “trench drain” line taking street drainage from the south west corner of Building 32 to the intertidal area. Elevated concentrations were also noted in subtidal sediments at stations SD-304, 305, and 306, all likely influenced by discharges from waste drains from the

electroplating room, sewer system and the trench drain. Other areas where lead exceeded screening criteria in sediments include subtidal sediments in the Stillwater area to the north of the site, and in the northeast portion of the site.”

11. Page 1-19, Section 1.10.1, Non-carcinogenic Risks; 2nd paragraph.

“There are no non-carcinogenic risks present at the site with regard to surface or subsurface soil.”

Please remove this statement from this FS. From p. 7-17 of the Draft Final Phase 2 RI/BERA, “...there is a potential for human health risk at Site 17 from: PCBs, PAHs, arsenic, cadmium and chromium in limited soil areas that pose risk to future industrial and construction workers.” In addition, any exceedance of RIDEM’s Residential Direct Exposure Criteria is considered a risk since these values are risk-based numbers.

Response: The risk identified in the passage cited in the Draft Final BERA refers to the soil-debris, and not soil. This has been corrected and clarified in the Final BERA (May 2012). RME and CTE HIs in soil are less than or equal to unity and for this reason, adverse noncarcniogenic health effects are not anticipated for receptors evaluated. For this reason, adverse non-carcinogenic health effects are not anticipated for adult recreational visitors, trespassers, and current industrial workers at the study area.

Regarding the use of Residential DEC please see the response to Comment 3.

12. Page 1-20, Section 1.10.2, Carcinogenic Risks; 2nd paragraph.

“There are no cancer risks associated with the receptors of concern in the surface or subsurface soils at the site.”

Please remove this statement from this FS. From p. 7-17 of the Draft Final Phase 2 RI/BERA, “...there is a potential for human health risk at Site 17 from: PCBs, PAHs, arsenic, cadmium and chromium in limited soil areas that pose risk to future industrial and construction workers.” In addition, any exceedance of RIDEM’s Residential Direct Exposure Criteria is considered a risk since these values are risk-based numbers.

Response: The sentence above will be replaced with the following:

“Cancer risk estimates for current industrial workers, recreational visitors, and trespassers exposed to surface soils, and future industrial workers exposed to subsurface soils within the study area do not exceed the targeted EPA cancer risk range (10^{-4} to 10^{-6}). It is presumed that risks to potential future residents exposed to surface and subsurface soil exceed the acceptable risk range, therefore LUCs will be implemented to restrict site use.”

13. Page 1-21, Section 1.10.4, Human Health Risk Assessment Contaminants of Concern; whole section.

According to the “Recommendations” section of the Phase 2 RI (page 7-17), soil and sediment should be listed in this section of the FS as media of concern with the following COCs identified for soil: PCBs, PAHs, arsenic, cadmium and chromium; and chromium listed as a COC for sediment. In addition, please add PCBs as a COC for groundwater. Finally, according to the Phase 1 RI, gamma-BHC and heptachlor epoxide should be added as COCs for Trench Air.

As stated in the Navy’s response to RIDEM’s comment #56 for the Phase II RI/BERA, “it will be stated that direct exposure criteria established by RIDEM Remediation regulations are considered ARARs, and as such, COCs that exceed ARARs will be identified in Section 2 of the FS report for this

site.” Therefore, please update this list of COCs to include any contaminants, including TPH, which exceeded RIDEM’s criteria for soil or groundwater at this Site during the Phase I and/or Phase II/BERA, and revise this FS accordingly.

Response: In regards to sediment, chromium is one of the constituents that contribute to the ERMQ for which the sediment PRG is established, and this will be clarified. These constituents can be identified as COCs because they are included in the ERMQ equation.

In regards to soil, in accordance with the Dispute Resolution Document 1/12/12, DEC/LCs are considered ARARs and will be compared against measured soil concentrations at the site to assist selection of PRGs for soil. This should not be confused with the soil/debris in the sumps, as this is a separate medium in the FS, and is being addressed accordingly.

As discussed during the 4/20/2012 formal dispute meeting, petroleum is excluded from coverage by CERCLA. CERCLA cleanups address “hazardous substances, pollutants or contaminants,” which have definitions that explicitly exclude petroleum [CERCLA sec 101(14) & 101(3)]. RIDEM Remediation Regulation DECs may be CERCLA ARARs only if they pertain to CERCLA “hazardous substances, pollutants or contaminants” being addressed by the CERCLA cleanup. [CERCLA sec 121(d)]. Other state regulated contaminants, such as TPH, would be addressed outside CERCLA (but see below).

PCBs were limited to water trapped in sumps and not groundwater, and this will be clarified. With respect to trench air, the pesticides listed were not major risk contributors. However, they will be addressed with the soil-debris in which they were found due to comingling with other constituents present.

If TPH is “co-mingled” with a CERCLA release that requires remedial action, the Navy will address the TPH contamination and the CERCLA contaminants together in a single cleanup. However, risk from the petroleum will be assessed on its individual hydrocarbons constituents (i.e. polycyclic aromatic hydrocarbons). The Navy would include state Petroleum remediation criteria as PRGs for the implemented action. They would not be ARARs for the CERCLA cleanup. In addition, the Navy agrees to include TPH analyses during post-removal confirmation sampling events. The FS will be modified accordingly.

14. Page 1-22, Section 1.10.5, Human Health Risk Summary; 2nd paragraph.

“...there are currently no groundwater drinking water supplies on the island, and no such future use is planned for groundwater at the site; therefore, there is no current or anticipated exposure via a potable water source.”

Please be advised that there are onsite and offsite drinking water wells which were previously used as a source of potable water. Further, groundwater could potentially be used in the future as a potable water source. This Site could possibly be converted into a residential or recreational area; therefore, this FS must evaluate residential risk from groundwater and present remedial alternatives to address this risk. As stated in the Phase 1 RI (p. E-6):

“Tetrachloroethene and Pentachlorophenol are present in groundwater at concentrations exceeding the federal MCLs. While there is no drinking water exposure route present or expected at this location, the site is within a GA aquifer so these contaminants will need to be taken into consideration in a Feasibility Study for the site.”

Regarding vapor issues, if the groundwater has sufficient contamination to pose a current vapor risk to construction workers, then future receptors could be at risk from vapor intrusion. The risk from vapor intrusion should be determined using values established by the RI Department of Health and RIDEM Office of Air Resources. Please remove the above language from this FS and modify this section accordingly to include groundwater and vapor intrusion as potential risks.

Response: This was discussed on December 1, 2011. It was agreed at that time that groundwater would be selected as a media of concern based on the MCL exceedances, and two alternatives will be evaluated for groundwater – 1) no action and 2) MNA with institutional controls. A recovery period will be estimated based on hydrogeological conditions. The cited section will be revised accordingly.

Vapor intrusion from groundwater was evaluated in Section 6.3.2.3 of the RI (Tt, 2006), in accordance with EPA's OSWER draft *Guidance for Evaluating the Vapor Intrusion Indoor Air Pathway from Groundwater and Soils*. As discussed in that section of the RI, the maximum concentration of just one contaminant (PCE at 6 µg/L) in groundwater monitoring well data exceeded the initial screening value (5 µg/L), which is based on the MCL rather than an indoor air risk-based concentration and corresponds to the 10⁻⁶ target cancer risk level (residential indoor air exposure). None of the contaminants were present at concentrations greater than the 10⁻⁵ or 10⁻⁴ target cancer risk levels shown on Tables 2b and 2a of the draft Guidance.

In situations such as this where EPA guidance provides a standardized approach to evaluating risk, that approach is utilized. If RIDEM wishes this risk to be reevaluated using new guidance from RI Department of Health and RIDEM Office of Air Resources for vapor intrusion, please provide that guidance so it can be evaluated for use at this site.

15. Page 1-25, Section 1.11.4, Ecological COCs; whole section.

Based on the multiple conference calls held to discuss the Phase 2 RI/BERA, RIDEM was under the impression that the Navy had agreed to evaluate individual PAHs rather than total PAHs for sediment in the FS. Please revise this FS to include the individual PAHs as ecological COCs, and develop PRGs for these contaminants.

Response: During the conference calls discussing the BERA and PRG development, it was explained to RIDEM clearly that for marine sediment, ecological risks and cleanup goals for PAHs are always identified and evaluated as a sum total, and not for each individual PAH. The ecological PRG for PAHs in sediment is therefore established for the COC "Total PAHs" as a group, and not for individual PAHs.

16. Page 1-25, Section 1.11.4, Ecological COCs; whole section.

"While the metals noted above are each identified as COCs, they do not, individually, need to have PRGs calculated for them. Only taken collectively do they pose a risk as determined by the ERM-Q. Therefore the PRG should be calculated for the ERM-Q."

Please clarify the above statement. In addition, please be advised that PRGs can be developed based upon the ERL-Q or 0.1, 0.5 or 0.6 of an ERM-Q. Please modify this FS to note the possible ranges of PRGs.

Response: The requested information is provided in the Phase 2 RI and will be summarized as appropriate.

17. Page 2-3, Section 2.1.4, Identification of Applicable or Relevant and Appropriate Requirements; whole section.

Please ensure that all of the State ARARs listed on the attached table are included in the list of ARARs in Tables 2-1, 2-2 and 2-3 of this Feasibility Study.

Response: The ARARs listed on the table provided with the response to comments have been reviewed with regards to the site and the recent agreements to disputes on other sites at NAVSTA Newport. Reference Attachment E of this response summary. Further discussion may be warranted.

18. Page 2-4, Section 2.1.4.1, Soil; 2nd paragraph.

"...soil as measured in the risk assessment is no longer considered a medium of concern at Site 17 and no COCs are identified."

Please revise this FS to include soil as a medium of concern, based on the recommendations determined in the Phase 2 RI/BERA and to address exceedances of ARARs, including RIDEM's Remediation Regulations.

Response: This section will be revised based on the responses to comments above, most notably, comments #3, 6, and 7.

19. Page 2-4, Section 2.1.4.1; Groundwater; whole section.

"...water with the sump will be addressed with the soil-debris described above, and groundwater is not considered a media of concern in this FS."

Please revise this FS to include groundwater as a medium of concern, based on the recommendations determined in the Phase 2 RI/BERA and to address exceedances of MCLs and ARARs, including RIDEM's Remediation Regulations, unless it can be proven that the groundwater on this Site is non-potable.

Response: Regarding groundwater, please refer to the response to comment #8. Groundwater should not be confused with the standing water trapped within the sumps and soil/debris which was found to pose a risk to construction workers conducting trenching operations.

20. Page 2-5, Section 2.2, Development of Preliminary Remediation Goals; 2nd paragraph.

"PRGs are established for the COCs identified in Section 1.10 and Table 1-2 (site-specific constituents that pose unacceptable risks to human health) and Section 1.11 and Table 1-3 (site-specific constituents that pose unacceptable risks to ecological receptors.)"

Please update this section accordingly based on the revisions necessary as stated in the previous comments.

Response: The section will be revised per the responses above, and the dispute resolution document.

21. Page 2-6, Section 2.2, Development of Preliminary Remediation Goals; 3rd paragraph.

"For Site 17, PRGs were developed for identified COCs for the existing and planned site use (industrial/commercial)."

Please update this FS to include residential PRGs as this property could potentially be used for future residential and/or recreational use.

Response: See the response to Comment 3. PRGs based on residential use will be established.

22. Page 2-6, Section 2.2.1, Identification of Media of Concern; 1st bullet/soil.

"The COCs for soil were not retained because risks associated with site soil did not exceed a cancer risk of 1E-5 or an HI of 1."

Please be advised that RIDEM's cancer risk criterion is 1E-6, as well as 1E-5 for cumulative risk. Any contaminants exceeding RIDEM's risk thresholds must be retained in this FS. Please update this FS to include soil as a media of concern and include as COCs any contaminants exceeding RIDEM's Direct Exposure and Leachability Criteria.

Response:

Decisions as to whether risk is present at the site are made using the EPA cancer risk range as stated in CERCLA and the following EPA guidance documents:

USEPA, 1991. Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions. Washington DC. OSWER Directive 9355.0-30

In accordance with these documents, if total site risk exceeds the ILCR range of 10⁻⁴ to 10⁻⁶, a remedial action is likely warranted, depending on site-specific conditions. As stated in the EPA guidance document:

"Where the cumulative carcinogenic site risk to an individual based on reasonable maximum exposure for both current and future land use is less than 10⁻⁴ and the non-carcinogenic hazard quotient is less than 1, action generally is not warranted unless there are adverse environmental impacts."

Upon identification of risk based COCs, additional CERCLA hazardous substances, pollutants or contaminants, while not posing unacceptable risk, will be included as COCs if detected at concentrations exceeding RIDEM DEC's or leachability standards. In the FS, these criteria will be used in the development of PRGs for all COCs.

23. Page 2-6, Section 2.2.1, Identification of Media of Concern; 2nd bullet/groundwater.

Please update this FS to include groundwater as a media of concern and include as COCs any contaminants exceeding RIDEM's GA Groundwater Standards or any federal standards.

Response: Groundwater will be added as a media of concern as described in the response to Comment 8 and due to MCL exceedances.

24. Page 2-8, Section 2.2.2, Derivation of Preliminary Remediation Goals; 1st paragraph.

"Because the site is not currently used for residential purposes, risk was not calculated for residential receptors at the site. As such, and because there are no plans for residential use of the property in the future, PRGs for residential exposures have not been calculated."

Please update this FS to include human health PRGs for unrestricted residential exposure levels.

Response: See the response to Comment #3, PRGs based on residential use will be established.

25. Page 2-8, Section 2.2.2, Human Health PRGs; whole section.

Please ensure that all areas which exceed RIDEM's residential direct exposure criteria and leachability standards, including TPH, are identified and remedial actions are proposed for these areas.

Response: Please refer to the responses to Comments 3 and 13.

26. Page 2-8, Section 2.2.2, Human Health PRGs; 2nd paragraph.

"...a cumulative cancer risk of 1×10^{-5} was used as the threshold for calculating risk-based PRGs..."

Please ensure that PRG calculations also included RIDEM's more stringent risk criteria of 1×10^{-6} for individual contaminants. Please update this FS accordingly.

Response: As stated in Appendix B of the draft FS and in accordance with the risk assessment guidance documents cited there, the individual carcinogenic risk ($>1 \times 10^{-6}$) and non-carcinogenic risk (HQ >0.1) contribution of each contaminant was used to develop risk based PRGs. As per the Dispute Agreement, CERCLA hazardous substances, pollutants or contaminants, while not posing unacceptable risk, will be included as COCs if detected at concentrations exceeding RIDEM's Remediation Regulations soil DEC or leachability standards. Accordingly, Table 2-4 of the draft FS will be updated to include not only the risk-based COCs identified from the CERCLA risk assessments, but also those contaminants in soil exceeding RIDEM's DEC and leachability standards. The cited section of the FS will also be revised accordingly.

27. Page 2-9, Section 2.2.2, Ecological PRGs; whole section.

As noted in previous comments, RIDEM has concerns with respect to the sediment PRG process. These concerns include the interpretation of the toxicity results, the dose response curves in establishing both the NOEC/ LOEC, lack of consideration for multiple lines of evidence, interpretation of tissue residual values, etc. Further, RIDEM requested that the Navy evaluate the ERL-Q as was done at other Naval Station Newport sites in the past. In recognition of these concerns, RIDEM does not accept the current ecological PRGs. In light of the problems associated with both the ecological risk assessment and PRG development process, RIDEM is willing to discuss alternative avenues for achieving acceptable PRGs, such as employing values equal to 0.5 of the ERM-Q.

Response: The issues were considered resolved with EPA, NOAA, USF&W, and RIDEM during the Phase 2 BERA comment / response cycle. Many conference calls were held, and secondary submittals were made. The EPA, NOAA and USF&W have concurred with the methodology and the results, and the final BERA has been submitted. The Navy considers this issue resolved..

28. Page 2-11, Section 2.3, Development of Remedial Action Objectives; 1st bullet.

"The HHRA identified risks related to contact with sediment by the recreational user, from ingestion of shellfish in contact with sediment by the recreational and subsistence fisherman, and from contact with water trapped in sumps and subsequent inhalation of trench air (volatized from this water in excavations) by construction workers during on-shore excavation activities of the sumps."

Please include in the statement above in this FS all risks identified by the HHRA, including contact with soil and exposure to shallow groundwater by future industrial and construction workers.

Response: The statement is made in regards to all risk measured in the HHRA: Shallow groundwater cited is actually the water trapped within the sumps. The soil cited is actually soil/debris in the sumps. See also, the response to Comment 2.

29. Page 2-11, Section 2.3.1, Remedial Action Objectives; bullets.

Please develop Remedial Action Objectives for groundwater and for future residential use at this Site, including the prevention of migration of contaminants from soil to sediments.

Response: See the response to Comments 2 and 3. Groundwater will be added as a media of concern, remedial action objectives for groundwater will be developed and remedial alternatives will consider the prevention of contaminant migration from soil to sediments.

30. Page 2-12, Section 2.4, Estimation of Areas and Volumes; 2nd sentence.

"The identified risks to construction workers from exposure to "soil-debris" and associated water and trench air are understood to be limited to hot-spot soil-debris that remain in place within various concrete sumps in the former Building 32 foundation..."

The concrete sumps within the Building 32 foundation are not the only areas where concentrations were found to exceed criteria. Please remove this statement and revise this FS to address all areas exceeding regulatory criteria.

Response: See the responses to Comments 2, 3, 13, and 26. The FS will be edited accordingly.

31. Page 2-12, Section 2.4, Soil/Sump Materials; 1st sentence.

"Although no risks were identified for site soils..."

Please remove this statement from this FS, as there were risks identified from site soils in the Phase 1 RI and Phase 2 RI/BERA. As stated on p. 7-17 in the Draft Final Phase 2 RI/BERA, "...there is a potential for human health risk at Site 17 from PCBs, PAHs, arsenic, cadmium and chromium in limited soil areas that pose risk to future industrial and construction workers".

Response: The statement will be deleted. See the responses to Comments 2, 3, 13, and 26.

32. Page 2-12, Section 2.4, Soil/Sump Materials; whole section.

Please revise this entire section to include an estimation of the total area and volume of soil quantified for remedial action, including all areas exceeding RIDEM's Residential Direct Exposure and Leachability Criteria, and revise this FS accordingly.

Response: The comparisons described in the responses to above comments will be made, and may be mapped onto the ground for clarity. Based on that information, a quantity of soil will be estimated.

33. Page 2-12, Section 2.4, Estimation of Areas and Volumes; whole section.

Please revise this section to include an estimation of the total volume of contaminated groundwater exceeding federal standards and/or RIDEM's GA Groundwater Standards.

Response: Please refer to the response to comment #8. A simplified quantification of groundwater can be estimated, but there will be high uncertainty associated with it.

34. Page 2-13, Section 2.4, Sediment; 2nd paragraph.

“...no action other than monitoring is proposed from the Northeast Shoreline of Gould Island.”

Although an eel grass bed is located in the vicinity of the contaminated sediment along the Northeast Shoreline, this area cannot be excluded from requiring a remedial action. Please include an estimation of the area and volume of contaminated sediment in this area which requires a remedial action, and develop remedial alternatives in this FS to address all locations of PRG exceedance.

Response: On the Northeast shoreline, the ERM-Q PRG was exceeded in samples collected in 2006 at stations 304B, 304C, 304E, 304F, and 317. Values as presented in Table 2-7 are listed below:

Station ID	Calculated ERM-Q	ERM-Q PRG
G32-SD304B	2.12	1.42
G32-SD304C	2.22	1.42
G32-SD304E	1.94	1.42
G32-SD304F	11.09	1.42
G32-SD317	4.28	1.42

Stations 304B, C, and E are all within 25 feet of one another, and while the 2006 data from these stations exceed the ERM-Q PRG value, it is not assured that this exceedance is significant. Regardless, because of the elevated concentrations found at these locations, new sample stations were placed east and south of this position in 2009 and 2010 (SD 435, SD566 (east), SD436, SD517 (south) and SD519 (west)). Data from all of these new stations provided ERMQ values below the ERM-Q PRG. Therefore inclusion of the station set SD304-B, C, and E in any remedial action is not justified given the lack of PRG exceedances in more current data from the surrounding stations. Alternative SD3 of the draft FS provides for monitoring this station in order to confirm this improved condition and to assure it does not deteriorate over time. Given the presence of the protected eelgrass bed, no action should occur here unless continued samples indicate a condition that would need to be addressed.

Stations 304F and 317 both were re-sampled in 2010 as part of the Phase 2 RI and baseline ecological risk assessment. The new sample at Station SD304F was SD530, and the new sample at Station SD317 was SD511. Both of these new samples showed improved conditions and ERM-Qs were calculated to be well below the PRG: ERM-Q was 0.2 at SD511 and 0.19 at SD530. Additionally, in 2009, new samples were collected around station SD317 (SD421, 422, 423, 449), and data from these samples was also below the ERM-Q PRG. Based on the improved conditions demonstrated by ERM-Q values measured at these two stations and the new stations around SD317 in 2009 and 2010, inclusion of these stations in remedial actions does not appear to be necessary. However, alternatives SD-3 and SD-4 of the draft FS provide for monitoring at these stations in order to confirm this improved condition and to assure it does not deteriorate over time.

Overall, it can be concluded that, based on the most recent data, PRGs are not exceeded in the Northeast shoreline. Therefore, monitoring is appropriate for this area to assure the condition does not deteriorate.

35. Page 3-1, Section 3.0, Identification and Screening of Technologies; whole section.

“This section identifies, discusses, and screens potential technologies and process options for the assembly of remedial alternatives for the Site 17 media of concern (soil and debris, and sediment).”

Please revise this section to include technologies and process options to address all contaminated soil (not just the soil-debris hotspots) and groundwater at this Site.

Response: See the responses to Comments 2, 3, 8, 13, and 26. Groundwater will be included as media of concern and alternatives will be developed accordingly. Soil will be addressed through addition of RIDEM DEC's and LCs as described in other responses.

36. Page 3-13, Section 3.4.2, Limited Action, Implementability; last sentence.

"...at Site 17 sources for sediment contamination no longer exist."

Please remove this statement from this FS. Sources of contamination in soil and groundwater still remain onsite. Please include in this FS an evaluation of all contaminants remaining onsite which exceed RIDEM's Residential Direct Exposure, Leachability, and Groundwater Criteria to determine potential migration from groundwater, leaching, erosion, etc. to the sediment.

Response: It is our understanding that known sources have been removed. Residual concentrations of constituents present in the soil will be addressed through selection of alternatives for soil and groundwater to be added to the report. See responses to Comments 2, 3, and 8. The last sentence will be revised accordingly.

37. Page 3-13, Section 3.4.2, Limited Action, Conclusion; 1st sentence.

"The sources for contaminated sediment in the Stillwater Basin area have been removed, and no longer exist."

As stated on p. 1-15 of this FS, soils impacted with PAHs and PCBs remain onshore adjacent to the contaminated sediment in the Stillwater Basin, which could potentially migrate to the adjacent sediment. Therefore, please remove this statement from this FS.

Response: See the response to Comment 36.

38. Page 3-14, Section 3.4.3, Containment; whole section.

The installation of a one-foot cover is questionable as an effective cover system (i.e., it would not prevent burrowing marine life from exposure to the contaminated sediment). Further, this cover system would be difficult to maintain and would require frequent monitoring and inspection. Please reconsider whether this cover system should be carried forward as a remedial alternative in this FS.

Response: A one-foot cover has been found to be adequate in other similar areas and particularly for a conceptual design. A full design step would need to be done to evaluate existing energies (Appendix C) and to select the appropriate materials for the cover system. Based on the design, some adjustments to the thickness and armoring may be appropriate.

39. Page 3-16, Section 3.4.4, Removal; whole section.

"Approximately 7,186 cy of sediment are estimated for removal."

Please update this section of this FS to include an evaluation of the removal of contaminated sediment along the Northeast Shoreline as well as the Stillwater Basin.

Response: Please refer to the response to comments 4 and 34.

40. Page 3-22, Section 3.4.5, Disposal; whole section.

Please update this section of this FS to include an evaluation of the disposal of contaminated sediment along the Northeast Shoreline as well as the Stillwater Basin.

Response: Please refer to the response to comments 4 and 34.

41. Page 4-1, Section 4.0, Description and Analysis of On-Shore Alternatives; whole section.

Please revise this entire section to include remedial alternatives for soil and groundwater at this Site for all locations exceeding regulatory criteria.

Response: See the responses to Comments 2, 3, and 8. Remedial alternatives will be provided to address ARAR-based PRGs as described there and elsewhere in this response summary

42. Page 4-2, Section 4.1.3, Alternative OS3 – Removal and Offsite Disposal of Soil and Debris, LUCs; whole section.

Please include a discussion of how the contaminated water within the sumps and trenches will be collected, treated, disposed, etc. in this section of this FS.

Response: The water in the sumps and trenches (if any is present) will be addressed at the same time with the excavation. Additional line items will be provided in the cost to address this. The water will be drummed, analyzed and disposed of appropriately based on the characterization results.

43. Page 4-5, Section 4.2.1, Alternative OS1: No Action, Cost; table.

Please include a 5-year review cost for OS1 of \$27,500 every 5 years.

Response: This was discussed on 12/1/11. During that call, it was agreed that the text would be revised to cite a nominal cost for the no action alternative, but an actual dollar amount would not be cited.

44. Page 4-7, Section 4.2.3, Alternative OS3, Long-Term Effectiveness and Permanence; 2nd paragraph.

“Five-year reviews would not be required since COC concentrations in excess of the PRGs and HHRA soil maximums would be removed from the Site and no excess risks would remain for the identified media/receptors of concern.”

This statement is incorrect since exceedances of residential criteria would remain onsite. Therefore, please remove this sentence and state that five-year reviews would be required for this alternative.

Response: This section will be revised based on other comment/responses.

45. Page 4-8, Section 4.2.3, Alternative OS3, Cost; table.

As stated in the following comments for Appendix D, RIDEM has a number of concerns with the cost estimates for Alternative OS3 and therefore does not accept the estimated costs presented in this table. Please review these estimates and revise this table as necessary.

Response: After technical revisions are made, costs will be revised and brought forward to the text.

46. Page 4-9, Section 4.3, Compliance with ARARs.

“Only alternative OS3 meets chemical-specific, location-specific, and action-specific ARARs and is therefore the only alternative that could be implemented in accordance with regulations.”

This FS is incomplete with only one onshore alternative presented that would meet all ARARs. Therefore, please develop another alternative in this section of this FS.

Response: As stated above, the FS will be revised to include soil as a media of concern separated from the soil-debris in sumps. The onshore alternatives will be reviewed in light of the new PRGs and may be revised to include any necessary soil remediation with the hot-spot sump soil-debris removal as a part of each on-shore alternative.

47. Page 4-10, Section 4.3, Cost; table.

Please include a 5-year review cost for Alternative 1. Please adjust the O&M/long-term monitoring costs for either OS2 or OS3, since the monitoring costs for OS2 would be expected to be higher than OS3, due to the amount of contamination that would remain within the sumps and trenches which could potentially migrate to other locations onsite. Also, please refer to RIDEM’s comment #45 listed above.

Response: Costs for the no action alternatives were discussed on 12/1/11. During that call, it was agreed that the text would be revised to cite a nominal cost for the no action alternative, but an actual dollar amount would not be cited.

Cost for alternative OS2 would not require monitoring groundwater within the sumps as the water trapped within is not groundwater (water connected to the aquifer under the building).

48. Page 5-1, Section 5.0, Description and Analysis of Offshore Alternatives for Sediment; whole section.

Please revise this entire section to include remedial alternatives for the contaminated sediment located along the Northeast Shoreline and eelgrass areas.

Response: Please refer to the response to comments 4 and 34. No significant changes should be made based on the historic contaminant concentrations measured.

49. Page 5-3, Section 5.1.3, Alternative SD3, Subaqueous Cover; whole section.

Please be advised that the upper layer of the cap must support the current conditions and be designed to promote colonization in the area. Please state in this section if the proposed cap will meet these requirements.

Response: The subaqueous cover material is not specified as a designed material, but would likely be a medium/coarse sand with stone. This is typical of the conditions of the nearby areas and is suitable for support of natural habitats of the area. Specific needs for the area would be identified and included at the design stage, as was done at OFFTA. For the purpose of the FS, it is only necessary to determine if the material will adequately reduce risk.

50. Page 5-6, Section 5.2.1, SD1, Cost; table.

Please include a 5-year review cost for SD1 of \$23,500 every 5 years.

Response: This was discussed on 12/1/11. During that call, it was agreed that the text would be revised to cite a nominal cost for the no action alternative, but an actual dollar amount would not be cited.

51. Page 5-7, Section 5.2.2, Compliance with ARARs.

This alternative does not meet ARARs unless it can be shown that MNR is taking place in the areas of concern at a rate in which cleanup goals will be met within a reasonable period of time. Please revise this section accordingly.

Response: Alternative SD-2 will be removed from the document.

The purpose of monitoring the northeast shoreline under other alternatives is to confirm an improved condition from the 2006 sample collection, and to assure it does not deteriorate over time (refer to the response to comment 34).

52. Page 5-9, Section 5.2.3, Alternative SD3, Compliance with ARARs.

The installation of a one-foot cover is questionable as an effective cover system (i.e., it would not prevent burrowing marine life from exposure to the contaminated sediment). Also, it is unknown whether MNR is taking place along the Northeast Shoreline within a reasonable period of time. Therefore, this alternative does not meet all ARARs. Please revise this section accordingly.

Response: The cover is a viable alternative to reduction of risk, and should not be removed. One of the goals of the FS is to provide a range of viable alternatives that could be used to reduce risk. The navy acknowledges that a subaqueous cover is difficult to maintain. However, this is not a good enough reason to exclude it as an alternative. Please refer also to the response to comment 34).

53. Page 5-9, Section 5.2.3, Alternative SD3, Long-Term Effectiveness and Permanence.

“Although the results of the sediment transport model did not ascertain that deposition is occurring, it increased(?) that the sediments are stable and there is little potential for erosion and exposure of buried contaminated sediments.”

As noted in previous correspondence, RIDEM has questioned statements concerning the deposit of sediments in the Stillwater Area. Further, as noted in this FS, the portion of Gould Island adjacent to this area which was filled in by the military to construct useable land is eroding away. As this area erodes away, the characteristics of the Stillwater Area will also change which will increase migration of contaminants out of the area. Therefore, please develop another remedial alternative for sediment which would comply with all ARARs.

Response: The word “increased” is a typographical error and will be replaced with ‘indicated’. With regards to sediment alternatives, alternative SD4, removal of sediment exceeding PRGs, meets ARARs and would be the most protective and would not be hindered by the possible future erosion of the shoreline.

54. Page 5-13, Section 5.2.4, Alternative SD4; Cost; table.

The cost estimate shown here for dredging at this Site is substantially higher than the cost for dredging at Site 01 – McAllister Point Landfill, which was a larger area/volume. Please review and

revise the cost estimates for this alternative and include more appropriate cost estimates in this table of this FS. Also, refer to RIDEM's comments on Appendix E listed below.

Response: The cost estimate is projected to have an accuracy of +50%/-30%, in accordance with CERCLA guidance. The basis is provided in the appendix. The actual dredging program conducted at McAllister Point Landfill was conducted differently (using a haul road and excavation equipment), and did not require barge work. This is not possible at Gould Island. No revisions are planned based on this comment.

55. Table 1-1, Third and Fourth Tier Conceptual Site Model – Contaminants in Surface Soil.

Please correct the name of this table as it addresses all media, not just surface soil. Please revise this entire table as necessary based on the previous comments, and include all risks to residential/recreational receptors.

Response: The table will be revised as appropriate. Risks cannot be added that are not calculated, PRGs based on ARARs will direct remediation for residential receptors.

56. Table 1-2, Fourth Tier Conceptual Site Model – Human Health Risks.

Please revise this entire table as necessary based on the previous comments, and include all risks to residential/recreational receptors. In the footnote which states "Yellow shading indicates exceedance of RIDEM acceptable risk (Cancer risk $\geq 1E-5$)", please revise to read, "Yellow shading indicates exceedance of RIDEM acceptable risk (Cancer risk $\geq 1E-6$ for individual contaminants and $\geq 1E-5$ for cumulative risk)," and adjust the yellow shading on this table as necessary.

Response: The PRGs will be revised in accordance with this and other comments as noted elsewhere in this response summary.

Tables 2-1, 2-2 and 2-3, Summary of ARARs and TBCs.

Please ensure that all of the State ARARs listed on the attached table are included in the list of ARARs in Tables 2-1, 2-2 and 2-3 of this Feasibility Study.

Response: The ARARs listed on the table provided with the response to comments have been reviewed with regards to the site and the recent agreements to disputes on other sites at NAVSTA Newport. Reference Attachment E of this response summary.

57. Table 2-4, Summary of Human Health Risk-Based PRGs.

Please revise this entire table as necessary based on the previous comments, including the development of PRGs for all contaminants in surface/subsurface soil and groundwater exceeding RIDEM's Residential Direct Exposure and Leachability Criteria, as these are risk-based values. All of the PRGs selected in this FS as based on a cancer risk of 1×10^{-5} , which is not acceptable by RIDEM. RIDEM's cancer risk threshold for individual contaminants is 1×10^{-6} . Please select PRGs to meet RIDEM's more stringent risk criteria, and edit bullet 3 to state this.

Response: Please see the response to Comment 26. Table 2-4 of the draft FS will be updated to include not only the risk-based COCs identified from the CERCLA risk assessments, but also those contaminants in soil exceeding RIDEM's DEC. Bullet 3 will be edited accordingly

58. Table 2-6, Summary of Ecological PRGs, NOECs and LOECs for Sediment Invertebrates.

Please revise this table to include PRGs for all individual PAHs. Also, as discussed in comment #27, RIDEM does not accept the current ecological PRGs, and proposes to discuss alternative avenues for achieving acceptable PRGs, such as employing values equal to 0.5 of the ERM-Q.

Response: During the conference calls discussing the BERA and PRG development, it was explained to RIDEM clearly that for marine sediment, risks and cleanup goals for PAHs are always identified and evaluated as a sum total, and not for each PAH individually. Therefore they are not individual COCs for sediment, the COC is "Total PAHs" as a group and the PRG is established for that group.

The ecological PRG issues were considered resolved with EPA, NOAA, USF&W, and RIDEM during the Phase 2 BERA comment / response cycle. Many conference calls were held, and secondary submittals were made. The Navy feels that these issues have been addressed since the EPA, NOAA and USF&W have approved the methodology and the results. Further discussion initiated by RIDEM would be required to make changes at this point.

59. Table 2-8, Selection of Final PRGs.

Please revise this table based on comments 58 and 59 above.

Response: The table will require extensive revision based on the other changes documented by this response summary.

60. Figures.

To ensure compliance with ARARs, please include the following figures in this FS, and in the response to comments:

1. a figure depicting all exceedances of RIDEM's Residential Direct Exposure criteria for surface soil, including TPH;
2. a figure depicting all exceedances of RIDEM's Residential Direct Exposure criteria for subsurface soil, including TPH;
3. a figure depicting all exceedances of RIDEM's Leachability criteria, including TPH;
4. a figure depicting all exceedances of RIDEM's GA Groundwater criteria; and,
5. a figure highlighting all onshore areas of concern based on the above exceedances.

Response

A figure depicting exceedances of PRGs in surface and subsurface soil (based on use of DEC's and LC) will be included in the document. Similarly, a figure depicting exceedances of Groundwater PRGs (based on the use of MCLs and RIDEM GA standards where they are more stringent) will also be included. There will be no PRG established for TPH. Please refer to the response comment 13.

61. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Lines 1.1, 1.2.

Please explain why 500 man hours have been budgeted for the creation of plans and obtaining permits for the removal of 144 yards of soil from a series of concrete sumps. Please revise this estimate to be inline with the proposed task.

Response: Cost estimates are developed using the EPA Guidance "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study" provided at the following address:

<http://www.epa.gov/superfund/policy/remedy/pdfs/finaldoc.pdf>

While cost estimates are developed at different stages of the Superfund process (Chapter 2 of this guidance), this guide specifically addresses the FS phase. Cost estimates are developed during the FS primarily for the purpose of comparing remedial alternatives during the remedy selection process, not for establishing project budgets or negotiating Superfund enforcement settlements. An FS level estimate has an expected accuracy range of -30 to +50 percent (page 1-1 of the guidance).

The estimates also reflect Navy and Tetra Tech experience working locally at NAVSTA Newport and other sites. For this site, cost estimates need to further reflect required over-water transportation for all on-site operations, inspections, and meetings.

Individual line items in the cost estimates will be reviewed based on responses to comments and associated changes to the alternatives as described in this response summary. Some cost estimates will be revised as needed.

62. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Line 1.3.

The plan includes 200 man hours for the creation of a groundwater monitoring plan. The proposal entails removal of soils from sumps; as such, groundwater monitoring will not be required. This appears to be a standardized cost estimate and is not reflective of the proposed removal action. Please remove this cost element and adjust the proposal accordingly.

Response: Please refer to the response to comment 61, above.

63. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Lines 2.1, 3.1, 3.2, 3.3.

These line items entail the use of an onsite trailer, onsite storage shed, etc. It is not clear why a removal action of only 144 yards of soil requires all of these support provisions, especially in light of the fact that there is a building at the end of the firing pier which can be used for storage or as a temporary office (if these items were needed). Please remove this provision from the cost estimate.

Response: Please refer to the response to comment 61, above.

64. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Line 3.7.

This is a line item of \$10,525 dollars for underground utility clearance. The proposed action entails the removal of soils which were placed in the sumps which had previously undergone removal of any material; or for the sumps which contained machinery, removal of machinery which was in the sumps. As such, any utilities would have been addressed during this action. As such, it is not clear why there is a \$10,525 fee for underground utilities. This appears to be a standardized cost estimate and is not reflective of site conditions. Please modify this estimate to reflect known conditions at this Site.

Response: Please refer to the response to comment 61, above.

65. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Lines 3.8 & 3.9.

Please provide the vendor documentation that the use of a barge and daily boat transport will cost approximately \$5,400 per day.

Response: Based on projects conducted at this site, heavy barge support on a daily basis with a drive-on/ drive off ramp adequate to support 10-wheel dump trucks, excavation equipment decontamination equipment cost \$4,495 per day in 2005, and \$5,200 per day in 2010.

66. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Lines 4.1-4.6.

Please explain if the decon cost is for decon of the sumps or decon of the trucks and equipment on the island on a daily basis. Please be advised that decon of trucks can be minimized by limiting the areas where the trucks are allowed so that they do not drive over contaminated areas.

Response: If the concrete sumps appear to be contaminated, these should be steam-cleaned or pressure washed prior to backfill. The excavator will require decontamination after it is used at the site and prior to departure. The truck tires themselves are not anticipated to require decontamination, although it may be appropriate depending on the conditions. Please also refer to the response to comment 61, above.

67. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Line 5.3.

Please explain why it will take 3 laborers 6 days for site preparation when the site is a concrete pad with small amounts of vegetation in the sumps.

Response: For this project, the site preparation task involves repair of the barge landings both at the Island and at the mainland. This will be clarified.

68. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Line 6.3.

Please explain why it will take 6 laborers 12 days to remove 144 cubic yards of soil from concrete sumps. This translates into 6 laborers removing approximately 12 cubic yards of soil (half of a truck load) per day. Please employ a higher production rate (assume 2 days) and adjust this cost line accordingly.

Response: Please refer to the response to comment 61, above.

69. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Lines 7.1 & 7.2.

Please explain why it will take 177 cubic yards of backfill and soil to backfill 144 cubic yards of soil removed from the sumps.

Response: Soil in place will expand during excavation. It is common to use 1.1 to 1.5 for expansion factors depending on the material. Likewise, material in a truck is in expanded form and can be compacted to provide a stable surface grade. Please also refer to the response to comment 61, above.

70. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Line 7.9.

Please explain why it will take 3 laborers 3 days to backfill the sumps with 144 yards of soil. This is a low production rate. Please revise and adjust the cost estimate.

Response: Please refer to the response to comment 61, above.

71. Appendix D, Alternative OS3: Excavation, Off-Site Disposal; Lines 9.1 & 9.2.

Please explain why it will take 350 hours to complete a contractor close out report and a remedial action report for a removal action of 144 cubic yards of material from concrete sumps.

Response: Please refer to the response to comment 61, above.

72. Appendix E, Alternative SD1: No Action.

Please include the cost of 5-year reviews for SD1.

Response: This was discussed on 12/1/11. During that call, it was agreed that the text would be revised to cite a nominal cost for the no action alternative, but an actual dollar amount would not be cited.

73. Appendix E, Alternative SD2: LUCs and Monitoring; spreadsheet (p. 2 of 3).

Please review and revise the cost for sediment sampling, analysis and report. Alternative SD2 does not include a cover installed in the Stillwater Basin as stated here. Please include, at a minimum, additional sampling for all locations exceeding PRGs in sediment.

Response: In accordance with responses to comments from EPA, Alternative SD2 will be eliminated.

74. Appendix E, Alternative SD3: Subaqueous Cover (Cap), Monitoring and LUCs; calculation sheet (p. 4 of 9).

This sheet states "line Stillwater Basin Area with geotextile: 48,505 sf". Alternative SD3 does not include geotextile but does include a 6-inch granular layer (coarse sands and gravel) which is not included on this sheet. Please correct this page in this FS.

Response: Please refer to the response to comment 61, above.

75. Appendix E, Alternative SD3: Subaqueous Cover (Cap), Monitoring and LUCs; calculation sheet (p. 5 of 9).

The annual cost estimate only includes 3 sediment samples plus 1 QC and 3 shellfish samples plus 1 QC. Annual monitoring will be required for both the Stillwater Basin and Northeast Shoreline areas. Please revise the annual cost for Alternative SD3 to include a much more robust sampling regimen.

Response: The level of effort for monitoring will be evaluated and made specific to each of the sediment alternatives. The Northeast shoreline should only need three positions monitored, which would be those where PRGs were previously exceeded. There would be additional monitoring of the still water area for SD3, but not for the other sediment alternatives. The revisions will be made in the draft final report.

76. Appendix E, Alternative SD3: Subaqueous Cover (Cap), Monitoring and LUCs; calculation sheet (p. 5 of 9).

The annual cost for Alternative SD3 must include inspection and maintenance of the pier and bulkhead at the northern part of the island to ensure that erosion is not occurring. If so, the water current in the area could change and affect the stability of the cap. Please include these additional inspection and maintenance costs on this sheet in this FS.

Response: Please refer to the response to comment 61, above.

77. Appendix E, Alternative SD4: Sediment Removal and Off-Site Disposal (Dredging); capital cost detail sheet.

RIDEM strongly recommends employing the evaporation procedure used during dredging of McAllister Point Landfill (Site 01) which dramatically reduced the amount of water that needed to be processed thereby reducing costs. Please revise this sheet accordingly.

Response: Dewatering and management of the water will be required, whether it be through filtration/treatment or disposal or through evaporation on site or off site, on barges, etc. These issues can be resolved at the design stage and do not require detailed analysis at this step.

78. Appendix E, Alternative SD4: Sediment Removal and Off-Site Disposal (Dredging); capital cost detail sheet.

Please include in this cost detail sheet the use of a long-reach excavator for all areas of sediment that could be dredged using this type of excavator where a barge would not be needed.

Response: The water depth, the lack of a stable and suitable shoreline and the location of the work all prevent the possibility of using a long-reach excavator for this project.

ATTACHMENT F: RIDEM ARAR Table

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
Air Quality	Air Pollution Control Regulations, RI Dept. of Health, Division of Air Pollution Control, effective 8/2/67, amended 7/19/07 - regulation No. 1 - Visible Emissions.	No contaminant emissions will be allowed for periods of more than three minutes in any one hour which is greater or equal to 20% opacity. Disagree. Not pertinent to any of the remedial alternatives. Requires specific training for evaluation and is primarily intended for smoke. Activities at Site 17 are best addressed by fugitive dust regulations.	Action Specific	RIGL Section 23-23, as amended 1992
Air Quality	Rhode Island Air Pollution Control Regulation 5 – Fugitive Dust, RIDEM, 7/19/07	Reflects that reasonable precautions be taken to prevent particulate matter from becoming airborne. Agree. This is relevant and appropriate. Refer to Action-specific ARAR tables.	Action Specific	RIGL Section 23-23, as amended 1992
Air Quality	Rhode Island Air Pollution Control Regulation 7 – Emissions Detrimental to Persons or Property, RIDEM, 7/19/07	Prohibits emissions of contaminants which may be injurious to human, plant, or animal life or cause damage to property or which unreasonably interferes with the enjoyment of life and property. Agree. This is relevant and appropriate. Refer to Action-specific ARAR tables.	Action and Chemical Specific	RIGL Section 23-23, as amended 1992
Air Quality	Rhode Island Air Pollution Control Regulation 15 – Control of Organic Solvent Emissions, RIDEM, 7/19/07	Limits the amount of organic solvents emitted to the atmosphere Disagree. Applies to facilities with 50 to 100 tons per year of potential emissions. The site does not have this potential. Not applicable, and not pertinent to any of the remedial alternatives or circumstances of the site.	Action and Chemical Specific	RIGL Section 23-23, as amended 1992
Air Quality	Rhode Island Air Toxics Guidelines, RIDEM, 4/04.	Companion to Air Pollution Control Regulation No. 22 Disagree. This is not a promulgated regulation, so it is not an ARAR. It is not appropriate as a TBC either, as cleanup of site would emit significantly less air toxics than the quantities for which this publication was designed. Not pertinent to any of the remedial alternatives or circumstances of the site.	Action and Chemical Specific	RIGL Section 23-23, as amended 1992
Air Quality	Rhode Island Guidelines for Air Quality Modeling for Air Toxics Substances, RIDEM, 9/04	Companion to Air Pollution Control Regulations Nos. 9 and 22 Disagree. The potential level of releases does not warrant modeling. This is not a promulgated regulation, so it is not an ARAR. It should not be a	Action and Chemical Specific	RIGL Section 23-23, as amended 1992

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
		<p>TBC either, as it is not pertinent to any of the remedial alternatives or circumstances of the site.</p>		
Air Quality	Rhode Island Air Pollution Control Regulation 17 - Odors. 7/19/07	<p>Prohibits the release of objectionable odors across property lines. Disagree. COCs are inorganics and non-volatiles and no odors are anticipated during remediation. Additionally, this regulation cannot be an ARAR, as it does not appear to be a legally enforceable “standard”. Per the regulation determination of whether an odor is “objectionable” is to be made by “a staff member of the Department [who] shall determine by personal observation if an odor is objectionable....”</p>	Action and Location Specific	RIGL Section 23-23, as amended 1992
Air Quality	Rhode Island Air Pollution Control Regulation 22 – Air Toxics, RIDEM, 7/19/07	<p>This regulation prohibits the emissions of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels in the regulation. Disagree. The regulation addresses emissions at much greater rates than would be expected at the site. It is neither applicable nor relevant and appropriate, as it is not pertinent to any of the remedial alternatives or circumstances of the site.</p>	Action and Chemical Specific	RIGL Section 23-23, as amended 1992
Drinking Water	Public Drinking Water Laws, Protection of Public Drinking Water	<p>Applicable to remedial alternatives that affect public drinking water supplies. Disagree. Neither applicable nor relevant and appropriate. No public water supplies are affected.</p>	Chemical and Location Specific	RIGL 46-14
Groundwater	Rules and Regulations for Groundwater Quality, RIDEM, 5/15/06/7/26/10	<p>Incorporated RI Groundwater Standards. Intends to protect and restore quality of groundwater resources for use as drinking water and other beneficial uses, to assure protect of public health and welfare and the environment These rules set numerical criteria for contaminants in certain aquifers classified as potential drinking water sources (such as the aquifer at the Site), and require that such groundwater be maintained at a quality that does not have any reasonable potential to cause a violation of surface water quality standards. Disagree. Groundwater quality is addressed in the Remediation Regulations. Additional groundwater quality regulations do not</p>	Action, Chemical and Location Specific	RIGL 46-12, 46-13.1, 23-18.9, 23-19.1, 42-17.6, and 42-17.1, 1956 as amended

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
		<p>need to be cited. It is not clear why the Groundwater Water Regulations are being proposed when the criteria are already included in the Remediation Regulations. This regulation has been included in some, but not all RODs. For example, this regulation was not included in or proposed for NCBC Davisville Site 16 FS.</p>		
Groundwater	<p>Rules and Regulations for Groundwater Quality, RIDEM, 5/15/06 7/26/10, Appendix 1</p>	<p>These rules prescribe design requirements for construction of monitoring wells, how monitoring shall be undertaken, and how wells shall be abandoned once monitoring is complete. Agree that Appendix 1 may be relevant and appropriate. These monitoring well installation and abandonment portions of these regulations will be included. Refer to Action-specific ARAR tables.</p>	Action Specific	<p>RIGL 46-12, 46-13.1, 23-18.9, 23-19.1, 42-17.6, and 42-17.1, 1956 as amended</p>
Groundwater	<p>Underground Injection Control Program Rules and Regulations, RIDEM, 6/10/84</p>	<p>Applicable for any remedial or removal action where subsurface discharge or underground injection of treated or untreated groundwater may occur. Disagree. Not pertinent to any of the remedial alternatives, as no underground injection is contemplated.</p>	Action and Location Specific	<p>RIGL 46-12, 42-35, 42-17.3, 23-19.1, as of August 1983</p>
Hazardous Waste	<p>Rhode Island Rules and regulations for Hazardous Waste Management Sections 1 through 5, RIDEM 3/4/07 6/7/10</p>	<p>These rules apply to generators, transporters and treatment/storage facilities dealing with hazardous wastes. The statutes require disposal of solid waste and hazardous waste at licensed facilities.</p> <p>Outlines requirement for general waste analyses, security procedures, inspections, safety, etc.. Sets design, construction, and operational requirements for hazardous waste containers and tanks, and closure requirements for hazardous waste facilities. Agree in part. This is a broad citation, and pertinent parts will be cited as noted below. Only portions of the regulations that are appropriate for on-site activities, such as hazardous waste identification and generator requirements should be cited as ARARs used (5.2, 5.3, 5.4, and 5.8). Other portions of the regulations only apply to off-site activities and will not be included, as they are neither</p>	Action, Chemical and Location Specific	<p>RIGL 23-19.1-10, 23-19.14-18, 42-17.1-2, 42-35, RIDEM 1956 as amended</p>

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
		<p>applicable nor relevant and appropriate. Refer to Action-specific ARAR tables.</p>		
Hazardous Waste	<p>Rhode Island Rules and Regulations for Hazardous Waste Management, Section 8, RIDEM 3/4/07. <i>6/7/10</i></p>	<p>Outlines operational requirements for all hazardous waste treatment, storage, and disposal facilities Disagree. The provisions of this regulation are not pertinent to any of the remedial alternatives or circumstances of the site. The site is not a TSDF, and will not be operated in the manner of a TSDF. These requirements are not applicable, as none of the on-site remedial activities would be regulated by these requirements for a permitted facility, and none would make these requirements relevant and appropriate.</p>	Action and Location Specific	<p>RIGL 23-19.1-10, 23-19.14-18, 42-17.1-2, 42-35, RIDEM 1956 as amended</p>
Hazardous Waste	<p>Rhode Island Rules and Regulations for Hazardous Waste Management, Section 9, RIDEM 3/4/07. <i>6/7/10</i></p>	<p>Outlines requirement for general waste analyses, security procedures, inspections, safety, etc.. Sets design, construction, and operational requirements for hazardous waste containers and tanks, and closure requirements for hazardous waste facilities. Disagree. The provisions of this regulation are not pertinent to any of the remedial alternatives or circumstances of the site. The site is not a TSDF and will not be operated in the manner of a TSDF. These requirements are not applicable, as none of the on-site remedial activities would be regulated by these requirements for TSDFs, and none would make these requirements relevant and appropriate.</p>	Action and Location Specific	<p>RIGL 23-19.1-10, 23-19.14-18, 42-17.1-2, 42-35, RIDEM 1956 as amended</p>
Hazardous Waste	<p>Rhode Island Rules and Regulations for Hazardous Waste Management, Section 10, RIDEM 3/4/07. <i>6/7/10</i></p>	<p>Outlines design, operational, and closure requirements for new hazardous waste landfills. Disagree. The provisions of this regulation are not pertinent to any of the remedial alternatives or circumstances of the site. These requirements are not applicable, as none of the on-site remedial activities would be regulated by these requirements for hazardous waste landfills. Likewise these regs are not relevant or appropriate to the circumstances of this cleanup.</p>	Action and Location Specific	<p>RIGL 23-19.1-10, 23-19.14-18, 42-17.1-2, 42-35, RIDEM 1956 as amended</p>

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
Hazardous Waste	Rhode Island Rules and Regulations for Hazardous Waste Management, Section 11, RIDEM 3/4/07 . 6/7/10	Outlines design, operational, and closure requirements for incineration facilities. Disagree. The provisions of this regulation are not pertinent to any of the remedial alternatives or circumstances of the site. These requirements are not applicable, as none of the on-site remedial activities would be regulated by these requirements for incinerators. Likewise these regs are not relevant or appropriate to the circumstances of this cleanup.	Action and Location Specific	RIGL 23-19.1, 23-19.14, 42-17.1-2, 46-12, 46-13.1, RIDEM 1956 as amended
Hazardous Waste	Rhode Island Rules and Regulations for Hazardous Waste Management, RIDEM 3/4/07, Sections 12 and 13.	Requires minimal standards for solid waste landfill capping. Specifies type and depth of cap barrier layers and engineering standards. Includes measures to protect against odors and dust. Disagree. The provisions of this regulation (as described) do not appear to be pertinent to any of the remedial alternatives or circumstances of the site. (Based on current version of the reg, Section 12 of Rules and Regulations for Hazardous Waste Management are currently “reserved” and Section 13 is Universal Waste (6/7/10).)	Action and Location Specific	RIGL 2-1, 2-22, 2-23, 5-51, 23-18.8, 23-19, 23-19.1, 23-23, 23-63, RIDEM 1956 as amended
Hazardous Materials, Soil, Groundwater, Surface water, Sediments	RIDEM Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (<u>Remediation Regulations</u>), as amended November 2011.	Applicable for removal actions involving reporting, investigation, and remediation of contaminated sites. These rules establish criteria for cleanup of contamination caused by a release of hazardous material. Disagree that the entire state Remediation Regulations should be cited as an ARAR. Specific standards, requirements, criteria or limitations within this regulation which pertain to the CERCLA contaminants at issue for this cleanup may be relevant and appropriate ARARs. These more precise chemical-specific ARARs (see below) need to be identified and included. Refer to Chemical-specific ARAR tables. The FS and the ROD must identify with particularity the actual requirements to be met by the cleanup. Therefore, specific ARAR citations are required, not generalized citations to entire regulations. As noted in the FFA, “...In identifying potential ARARs, the Parties recognize that ... ARARs depend on the specific Hazardous Substances, pollutants and	Action, Chemical and Location Specific	RIGL 23-19.1-11.1, 23-19.14-18, 42-17.1-2, 42-35, 46-12-3 and 46-12-5, as amended

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
		<p>contaminants at the location, the particular actions proposed as a remedy and the characteristics of the AOC or OU.” In the 1990 NCP revision preamble, EPA noted that “It is not sufficient to provide a general ‘laundry list’ of statutes and regulations that might be ARARs for a particular site. The State, and EPA... must instead provide a list of requirements with specific citations to the section of law identified as a potential ARAR, and a brief explanation of why that requirement is considered to be applicable or relevant and appropriate to the site.” (55 FR at 8746. Emphasis added) Subsections of this regulation regarding requirements for specific media should be cited specifically if pertinent to this cleanup. With this in mind, we recommend the following be included as chemical specific ARARs: 8.02A(i), (ii), and (iii); 8.02B; 8.03A(i) and (iii); and 8.03B. This approach has been approved by RIDEM for other sites at Newport in 2012.</p> <p>The text for Synopsis of Requirement will be revised to: “These regulations set remediation standards for contaminated media. These standards are applicable to a CERCLA remedy when they pertain to CERCLA hazardous substances, pollutants or contaminants and are more stringent than federal standards.”</p>		
Solid Waste	Rhode Island Rules and Regulations for Solid Waste Management, RIDEM Solid Waste Regulation No. 1, 10/25/05	<p>Applicable for the minimization of environmental hazards associated with operation of solid waste facilities, including management and disposal of dredged material</p> <p>Disagree, not pertinent to any of the remedial alternatives or circumstances of the site. These requirements are not applicable, as none of the on-site remedial activities would be regulated by these requirements for solid waste disposal facilities. Likewise these regs are not relevant or appropriate to the circumstances of this cleanup.</p>	Action, Chemical and Location Specific	RIGL 23-19.1-11.1, 23-19.14-18, 42-17.1-2, 42-35, 46-12-3 and 46-12-5, as amended

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
Solid Waste	Rhode Island Rules and Regulations for Solid Waste Management, RIDEM Solid Waste Regulation No. 2, 10/25/05.	Applicable for the construction of final covers and leachate collection systems; and Applicable for all monitoring plans that result from on-site remedial actions. Partly agree. The regulation for cover maintenance will be included. (DEM OWM-SW0401, 2.3.04(e).)	Action, Chemical and Location Specific	RIGL 2-1, 2-22, 2-23, 5-51, 23-18.8, 23-19, 23-19.1, 23-23, 23-63, RIDEM 1956 as amended
Solid Waste	Rhode Island Rules and Regulations for Solid Waste Management, RIDEM Solid Waste Regulation No. 4, 10/25/05.	Outlines requirements for on-site waste incineration. Disagree, not pertinent to any of the remedial alternatives or circumstances of the site. These requirements are not applicable, as none of the on-site remedial activities would be regulated by these requirements for solid waste incinerators. Likewise these regs are not relevant or appropriate to the circumstances of this cleanup.	Action, Chemical and Location Specific	RIGL 2-1, 2-22, 2-23, 5-51, 23-18.8, 23-19, 23-19.1, 23-23, 23-63, RIDEM 1956 as amended
Surface Water	Rhode Island Water Quality Regulations, RIDEM, 7/11/06.	Incorporated RI Ambient Water Quality Standards. Classifies water use and defines water quality goals to protect public health and welfare, enhance the quality of state water, and serve the purpose of the CWA. These rules set ambient water quality criteria (AWQCs) applicable to surface waters in Rhode Island. These AWQCs may include numeric limits for chronic exposures to aquatic life, acute exposures to aquatic life, human consumption of water and aquatic organisms, and human consumption of aquatic organisms only. They also forbid activities or discharges that would cause a violation of these criteria. If there is a direct discharge from sediment dewatering, the discharge would be treated to meet these criteria.	Action, Chemical and Location Specific	RIGL 46-13.1, May 1992
Surface Water	Regulations for Rhode Island Pollutant Discharge elimination System (RIPDES), RIDEM, 2/25/03.	Applicable for discharges to surface waters and to protect waters from discharges of pollutants There are two parts to RIPDES that could be considered – direct discharge and storm water during construction. Direct discharges: If there is a direct discharge from sediment dewatering, the discharge will meet these standards. This portion of RIPDES will be included.	Action, Chemical and Location Specific	RIGL 46-13.1, May 1992

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
		<p>Storm Water from Small Construction Sites: The disturbed area is less than 1 acre, so it is outside the applicability range for storm water regulations. However, the Erosion and Sediment Control Handbook will be proposed as a TBC.</p> <p>The regulations for permitting storm water from small construction sites are intended for the minimum size of a construction site as 1 acre. The intent of the regulation was not to burden all construction sites with the permitting process and its underlying requirements. Thus, an area of 1 acre was selected as the threshold.</p> <p>Because the Stormwater Permitting regulations are intended for small construction sites which disturb 1 acre or more and because the ESC Handbook addresses all construction sites, the subject storm water regulations are not appropriate and will not be included. Therefore, RIPDES for storm water discharge regulations will not be included.</p>		
Surface Water and Groundwater	Oil Pollution Control Regulations, RIDEM, 1/3/91	<p>Establishes guidelines for the prevention of discharge, escape or release of oil into the waters of the State and to preserve and protect the quality of the waters of the State, consistent with the purposes of the Clean Water Act</p> <p>Disagree. The provisions of this regulation are neither applicable nor relevant and appropriate to the circumstances of this cleanup. Oil (petroleum) is not a CERCLA hazardous substance, pollutant or contaminant. Petroleum cleanup must be dealt with outside the CERCLA process.</p>	Action and Location Specific	RIGL 46-12, 42-17.1 and 42-35, 1956 as amended
Waste Water	Rhode Island Pretreatment Regulations, RIDEM, 7/16/84	<p>Applicable for any remedial or removal action where treated or untreated liquids are discharged to a Publicly Owned Treatment Works (POTW) facility</p> <p>Disagree, not pertinent to any of the remedial alternatives or circumstances of the site. There is no POTW on the island to discharge to.</p>	Action, Chemical and Location Specific	RIGL 46-13.1, May 1992

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
Wetlands	Rules and Regulations governing the enforcement of the Freshwater Wetlands Act, RIDEM, 4/23/98; and amendments thereto 9/19/01.	<p>Applicable to actions required to prevent the undesirable drainage, excavation, filling, alteration, encroachment, or any other form of disturbance or destruction to a wetland.</p> <p>These rules require that all wetlands and wetland functions be protected to the maximum extent possible, including by preventing pollutants, sediment, direct discharges of stormwater runoff, or any material foreign to a wetland or hazardous to life from entering any wetland. The rules also require that hazardous material remediations fully protect, replace, restore and/or mitigate harm to any affected wetlands</p> <p>Disagree, no fresh water wetlands present or impacted.</p>	Action and Location Specific	RIGL 2-1-18 et seq., as amended 1994
Wetlands	Regulations Adopted by the Department of Natural Resources Governing the Enforcement of Chapter 197 of the Public Laws of 1974	<p>These rules should be considered should remedial activities impact any freshwater wetlands or associated buffer zones Please provide clarification. Cannot locate these regulations to provide comment on their appropriateness.</p>	Action Specific and Location	RIGL 2-1-20.1, 42-35-1, 2-1-18, September 197418 et seq., as amended 1994
Wetlands	Regulations Adopted by the Department of Natural Resources Governing the Enforcement of Chapter 213 of the Public Laws of 1974	<p>These rules should be considered should remedial activities impact any freshwater wetlands or associated buffer zones Please provide clarification. Cannot locate these regulations to provide comment on their appropriateness.</p>	Action Specific and Location	RIGL 2-1-20.1, 42-35-1, 2-1-18, September 197418 et seq., as amended 1994
Wetlands	Coastal Resources Management Council Regulations	<p>Sets standards for management and protection of coastal resources. Agree. Site is within coastal management zone and these regulations will be followed.</p>	Action and Location Specific	RIGL 46-23-1 <i>et seq</i>
Other	Rhode Island Hazardous Substance Community Right-to-Know Act, RIGL 23-24.4	<p>Establishes rules for public right to know concerning hazardous waste storage, discharge, emissions and transportation. Applicable if remedial action involves the off-site disposal or on-site treatment of hazardous substances. Disagree, this is neither applicable nor relevant and appropriate. This is not an environmental cleanup or a facility siting regulation. CERCLA provides for informing the public of the cleanup.</p>	Action, Chemical and Location Specific	RIGL, Title 23, Chapter 24.4 Public Right to Know Requirements as amended in 1989.

Media	Requirements	Requirements Synopsis	Specific Applicability	Legal Citation
Other	Rhode Island Endangered and Threatened Species Act	To be considered if remedial alternative affects any plants or animals of special concern Agree for dredging or subaqueous cover alternatives, there are protected species in the bay and could access the site, but no known R, E&T species per S. Kam, NAVSTA 2012.	Location Specific	RIGL 20-37

ATTACHMENT G
RESPONSES TO COMMENTS FROM NOAA
Comments Dated 10/26/11
Draft Feasibility Study, Site 17, Gould Island
Naval Station Newport, Newport RI

1. Page ES-2 and ES-3 addresses the PRG for soils. I do not know where such came from. And soil PRGs do not (can not!) use an ERM-Q as described on Page ES-2

Response: Concur. This is an error, PRGs for soil are not developed using the ERM-Q, but instead using human health risks and state criteria, these changes will be reflected in the draft final document.

2. My interest lies primarily in the PRG development (Appendix B and much of the BERRA). Here I see some likely improvement in the final LOEL and NOEL given the agreed upon toxicity value of 70%. Given that the metals provide nothing towards benthic toxicity - in this case - their use in the ERM-Q calculation appears pointless. And, in this specific study, the calculation of an ERM-Q as a PRG just might be of no gain. That because only PCBs and total PAHs contribute towards risk. Adding in a bunch of extraneous metal HQs does not contribute to the ERM-Q at all. Hence the two PRGs - one for total PAHs at 46.2 ppm and the other for PCBs at 1.8 ppm (reduced to 1.5 ppm when taking into account the human health PRG) - appears sufficient to outline the area of risk.

Response: The comment is noted. Simplifying the PRG (particularly when assuring compliance would be a benefit to the project, and further discussion on this topic may be useful at the design stage.

3. Lastly, I need to express my professional judgment that the 46.2 ppm PRG for PAHs appears high. Although the ecological risk data set, as weak as it is, does support it. I understand the Navy using the lowest concentration of a toxic sample that is greater than the maximum concentration in a non-toxic sample as the LOEC. But that is not a conservative value despite the ease in defending it. Could the Navy calculate the NOEC similarly, but this time taking the highest non detect value that is lower than the lowest toxic value. Then one finds a much lower NOEC and the geometric mean between the LOEC and NOEC (i.e., the PRG) is considerably lower. Just a thought.

Response: The uncertainty of the calculated LOEC is noted. This was discussed at length with the project team during the development of the Phase 2 RI and BERA, and it was determined at that time that the values were acceptable and defensible as noted in the first part of the comment above. Selection of another value other than the site specific NOEC has been discussed, but those discussions have not provided a suitable alternative. It is therefore recommended that the previous conclusions from the BERA be retained.