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TRANSMITTAL LETTER AND U S NAVY RESPONSES TO U S EPA REGION I AND RHODE
ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT COMMENTS ON THE DRAFT
FEASIBILITY STUDY FOR OPERABLE UNIT 6 (OU 6) SITE 17 FORMER BUILDING 32
GOULD ISLAND NS NEWPORT RI
10/23/2012
TETRA TECH



AR#

C-NAVY-10-12-5154W

October 23, 2012

Ms. Kymberlee 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

SUBJECT: Transmittal of Responses to Comments
Evaluation of Response - Draft Feasibility Study
Site 17, Building 32, Gould Island, Naval Station Newport, Newport RI
Contract N62470-08-D-1001, CTO WE46

Dear Ms. Keckler and Ms. Crump:

Tetra Tech is pleased to present the attached response to comments (RTCs) related to the Draft Feasibility Study (FS) for the above-referenced site at Naval Station (NAVSTA) Newport to the U.S. Environmental Protection Agency (EPA) and Rhode Island Department of Environmental Management (RIDEM) on behalf of the U.S. Navy Naval Facilities Engineering Command Mid-Atlantic (NAVFAC MIDLANT) and Ms. Maritza Montegross. Specifically, this package is provided in response to your "Evaluation of Response" dated 8/22/12 (EPA) and 9/18/12 (RIDEM).

These Draft FS comments were discussed on three separate occasions: during the Remedial Project Manager (RPM) Meeting held on September 19, 2012; during the conference call held regarding ecological preliminary remediation goals (PRGs) on October 4, 2012; and during the technical call held on October 10, 2012. Additionally, a draft response was provided October 1, 2012. It was agreed on October 10, 2012 that in lieu of an additional call regarding the Applicable or Relevant and Appropriate Requirements (ARARs), revised ARAR tables would be provided to the agencies with this response.

Based on the above, three attachments are provided as follows:

- A. Response to USEPA Comments dated August 22, 2012;
- B. Response to RIDEM Comments dated September 18, 2012 (without the ARAR summary)
- C. Revised ARAR Tables that will be provided in the Draft Final FS.

It is noted that RIDEM is still not fully in agreement with the sediment PRGs and requests a reduction of the PRG for total polycyclic aromatic hydrocarbons (PAHs) by half (RIDEM electronic mail dated October 19, 2012). The Navy has reduced sediment PRGs twice at RIDEM's request, and finds no grounds to make additional reductions without further justification. The Navy also requests reconsideration or clarification of RIDEM's position on the use of area average concentrations for measurement of success after dredging. Although this point is not critical to the subject FS document, it will require resolution prior to drafting a record of decision (ROD) or proposed plan.

If you have any questions regarding this submittal, 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', with a long horizontal flourish extending to the right.

Stephen S. Parker, LSP
Project Manager

Enclosures

cc: D. Barclift, NAVFAC (w/encl.)
A. Bernhardt, Tetra Tech (w/encl.)
K. Finkelstein, NOAA (w/encl.)
A. Gavaskar, NAVFAC (w/encl.)
G. Glenn, Tetra Tech (w/o encl.)
W. Johnson, NAVFAC (w/encl.)
M. Montegross, NAVFAC (w/encl.)
K. Munney, USF&W (w/encl.)
P. Steinberg, Mabbett & Associates (2- w/encl.)
D. Moore, NAVSTA (w/encl.)
NIRIS RDM, Tetra Tech - Pittsburgh (w/encl.)
File 112G02303-8.0 (w/encl.), 3.1 (w/o encl.)

**ATTACHMENT A
RESPONSE TO COMMENTS
EVALUATION OF RESPONSE, DRAFT FEASIBILITY STUDY
SITE 17 GOULD ISLAND, NAVSTA NEWPORT
Comments Dated August 22, 2012**

Introduction:

This response summary is prepared to address comments from USEPA dated 8/22/12, written by EPA as an evaluation of the response to comments (Tetra Tech 7/20/12).

Comments to the previous responses are provided in italics, and the Navy's understanding of the resolution reached is provided below. Original comments are not restated.

GC2. Contrary to the response, all data collected are relevant and need to be presented because there is no evidence that the new data prove that the older data are not valid. As stated, the new data were collected from locations surrounding the older sampling locations, but even if the Navy attempted to resample at older locations, for several reasons the new data would not prove that the previously-detected contamination no longer existed. Also, please note that the more recent sample locations referenced by Navy in its response are not presented in Figure 6-3C that presents sitewide ERM-Q PRG exceedances. Please ensure all data are presented and considered when making decisions related to remediation of this site.

Proposed Resolution 9/19/19:

This was discussed at length on September 19. The comment is made in regards to the validity of sediment data collected in 2005 at the Northeast Shoreline. Sediment data collected in 2005 provided three locations (five samples) where the ERMQ PRG was exceeded. Sediment data collected in 2010 was below these PRGs. The question above indicates disagreement that the 2010 data would supplant the 2005 data. A summary of the data in question is provided in the table that follows:

Sample ID, 2005	Calculated ERMQ from 2005 data	Sample ID, 2010	Calculated ERMQ from 2010 data	Approximate Distance between locations
G32-SD304B	2.12	G32-SD519	0.21	33 feet
G32-SD304C	2.22			8 feet
G32-SD304E	1.94			20 feet
G32-SD304F	11.09	G32-SD530	0.19	Within 3 feet
G32-SD317	4.28	G32-SD511	0.20	Within 3 feet

At the meeting on September 19, 2012, the Navy presented the data above, and the parties reached the following resolution: The Navy agreed to quantify the sediment at the Northeast Shoreline that exceeded PRGs in 2005, and provide Sediment Alternative 4 with two options - Alternative 4a will include conducting long monitoring the NE shoreline to assure concentrations measured in 2010 remain below PRGs (current alternative 4), and Alternative 4b will be developed to include spot dredging at the three locations where PRGs were exceeded in 2010. The Navy maintains that alternative 4a is the appropriate alternative since it does not include damage to the eelgrass beds which are present in this area. Alternative 4b will damage the eelgrass beds which are a protected habitat in Narragansett Bay.

GC3. Please clarify which contaminated media is in the sumps. If it is soil, the soil PRGs that are being developed should be used as the cleanup standards. If the material is considered sediment, freshwater sediment PRGs may need to be developed. Which PRGs apply will determine how extensive the area targeted for excavation will be (since contaminants may have migrated into and out of the sump area). While the Navy may have discussed this issue in the response to

GC42, the text throughout the document should clarify that additional remedial measures may be required other than just removing the material in the sumps (e.g., additional excavation or capping the area of remaining contamination).

Proposed Resolution 9/19/19:

This issue was discussed at length on September 19. Tetra Tech clarified that the material in the sumps is a mixture of soil and debris that was placed in those sumps during building demolition to provide a level working surface on the slab foundation. It was also clarified that during the RI, the material from within the sumps was tested as soil, that the borings were advanced through the concrete bottoms of the sumps, and the soil below the concrete bottoms was also sampled prior to grouting the entire borehole. The soil under the slab is addressed with the soil alternatives.

Based on the findings and the type of material within the sumps, the Navy is including an element in each of the soil alternatives (except the no action alternative) in the draft final FS which will describe removal, characterization and disposal of this material. The EPA and RIDEM were in agreement with this proposed solution, though they requested that the sumps also be cleaned (power-washed), inspected, and backfilled with clean fill. The Navy agreed that this was an appropriate element of all the soil alternatives, and would prevent the need for addressing this material as sediment or sludge as indicated by the comment above.

SPECIFIC COMMENTS

No. Comment

4. *Although the text can include general information on the history of the island's use, the document should specify the historical use of the area that is within the operable unit subject to this FS (specify whether it is all of Site 17 or just the area around Building 32 and the contamination associated with it). Consistent terminology should be used throughout the FS.*

Proposed Resolution: This comment was discussed on October 10, 2012 in conjunction with comments 23a, and 66 within this document. Site 17 is defined as the Former Building 32, but is understood to mean where the contaminants released have come to reside. The description of the "Site" will be made consistent throughout the document.

8. *See response to GC3 as far as what contaminated media are present and whether a separate RAO is needed for the sump material. Also, please clarify whether the future industrial use also includes exposure to trespassers.*

Proposed Resolution: Regarding the material in the sumps, refer to the response to GC3 stated above.

Regarding exposure to trespassers, cancer risk was measured to be 2E-6, with a noncancer risk of <1 (FS Table 1-2). Future industrial use would assume continued trespass, at the same level of risk. The comment is directed to the RAOs on Page ES-3, and no change is appropriate based on this question.

9. *The protectiveness level for ingestion should be based on a level that is protective of human health unless the level to protect ecological receptors is lower. Please clarify whether a level that is "protective of fish tissue" refers to addressing a human health risk from people consuming the fish or an ecological risk to the fish and biota.*

Regarding, the citation of TSCA as the cleanup standard for PCBs, the risk-based standard used in the FS should be cited under 40 C.F.R. §761.61(c).

Proposed Resolution: The ecological – based PRG is 1.78ug/kg (Table 2-4), and the human health –

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based PRG for PCBs in sediment is 1.5ug/kg (Table 2-6). Since the lower value was selected, the PRG is protective of both receptors. This will be clarified.

Regarding the citation of TSCA, the text will be revised to state that the site specific risk-based cleanup goal is protective for the site and compliant with the TSCA risk-based standard described in 40 C.F.R. §761.61(c). This is consistent with the approach used for Site 08.

10. *Contaminants may have migrated from the sumps. The FS mentions that water levels in the sumps change with changes in groundwater levels. See EPA's comment to GC3.*

Also, how much contaminated groundwater lies under the foundation? Can it migrate to the bay?

Proposed Resolution: Regarding the material in the sumps, refer to the resolution to GC3 stated above. Regarding the Groundwater, please refer to the RI report.

11. *If there are exceedances of PRGs in the sediment in the Northeast shoreline, the cost of alternatives to address the exceedances and volume of sediments exceeding PRGs (even if MNR is chosen to protect the eel grass beds) should be included in the cost estimates.*

Proposed Resolution: Regarding the sediment at the Northeast shoreline, refer to the resolution to GC2 described above.

12. *See comments to GC3, SC8, SC10 regarding what media are in the sumps (soil or sediment), what PRGs are required, and whether the contamination has migrated beyond the sumps and if additional contaminated media needs to be removed beyond the "concrete boxes."*

Proposed Resolution: Regarding the material in the sumps, refer to the resolution to GC3 stated above.

13. *In its response to GC2, the Navy stated that there is one exceedance in an eelgrass area. That does not preclude the Navy from including the area in the remedial action. "Augmenting natural recovery" in SD 3 and "monitoring sediments in the Northeast shoreline" in SD4 require meeting MNR standards. The Navy needs to show that over time sediment PRGs will be achieved under either alternative.*

Proposed Resolution: Regarding the sediment at the Northeast shoreline, refer to the resolution to GC2 described above. Since the 2010 data is below PRGs, the Navy would speculate that the Sediment PRGs are already achieved. However, it is recognized that there is some variability with sediment testing and acknowledges that several rounds of testing may be appropriate to confirm this to all parties satisfaction.

17. *Please respond to the second part of EPA's comment regarding whether the removal action addressed the PCBs in the groundwater.*

Proposed resolution: Because PCBs are not present in groundwater samples collected during the RI, it is concluded that the removal action addressed the PCBs in the groundwater. This will be clarified in the draft final FS.

22. *See the previous question about PCB contamination remaining in groundwater after the transformer removal action. Also, after the sediment is remediated and the PCB contaminated sediment is removed or capped, can it be recontaminated from PCBs (either in soil or groundwater) from the island? The text referenced by EPA still needs to be corrected because*

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the relevant thresholds are the sediment PRGs not the COC concentrations existing in the sediment. Regardless, it is appropriate to stabilize the shoreline in this area to prevent further erosion of soil to the sediment because the available boring analytical data are limited to soil intervals at the surface, the groundwater interface, and a stained interval if present.

Proposed Resolution: Because PCBs are not present in groundwater samples collected during the RI, it is concluded that the removal action addressed the PCBs in the groundwater. This will be clarified in the draft final FS.

There is one soil sample at the Building 41 area that exceeds the sediment PRG for PCBs (1.84 ug/kg total Aroclor at SB412 in the 0-1 foot interval). There is no ERMQ calculated for the soil that is not eroded, since there is no corresponding toxicity test. Regardless, this soil at Building 41 will be addressed by the soil alternatives. There was no stained interval found. The shoreline on the North end of Gould Island is deteriorating and will need to be stabilized as part of the remedial action.

23a. *See SC4 about whether the "site" refers to all of Site 17 or just the area associated with Building 32. If the former is the case was the groundwater evaluated through Site 17 or just around Building 32.*

Proposed resolution: "The Site" in the context of the sentence referenced is Site 17 – Former Building 32 (see #4 above). Based on prior discussions with EPA and RIDEM, it is presumed at this point that the contaminants in the groundwater wells that exceed MCLs described are part of Site 17, and the original comment 23a requesting that groundwater be included as a media of concern in the FS has been agreed to.

24. *Please incorporate the information in the response into the FS.*

Proposed Resolution: The response to comment 24 from 7/20/12 will be incorporated into the Second paragraph of "Chemical Fate and Transport, currently shown as the first paragraph of Page 1-18 in the Draft FS.

29. *See EPA second comment on SC9.*

Proposed Resolution: Regarding the citation of TSCA, the text will be revised to state that the site specific risk-based cleanup goal is protective for the site and compliant with the TSCA risk-based standard described in 40 C.F.R. §761.61(c).

30a+b. *Since groundwater will be added as a media of concern, the chemical-specific ARARs for groundwater will include federal MCLs, federal MCLGs, federal risk-based standards, and any more stringent State groundwater standards (including remediation regulation leachability standards).*

Proposed Resolution: It is agreed that since groundwater will be added as a media of concern, the chemical-specific ARARs for groundwater will include federal MCLs, non-zero federal MCLGs, federal risk-based standards, and any more stringent State groundwater standards. State leachability criteria apply to soil, not groundwater.

30c. *See EPA second comment on SC9.*

Proposed Resolution: Regarding the citation of TSCA, the text will be revised to state that the site specific risk-based cleanup goal is protective for the site and compliant with the TSCA risk-based standard described in 40 C.F.R. §761.61(c).

34. *In the FS, please describe how PRGs for PCBs in sediment were selected to address human health risks from ingestion of shellfish contaminated with PCBs.*

Proposed Resolution: This information is provided in Appendix B and summarized in Section 2.2.2.

35. *Please see EPA's comment on SC22.*

Proposed resolution: Please refer to the resolution described above for #22.

36. *This comment pertains to Section 2.4 that presents an estimation of areas and volumes subject to remedial action. EPA requested that the area of eelgrass that had exceedances of the sediment PRGs be calculated. That value should be provided because this area is included in the remedial action. It is not relevant whether active remediation will be required for the eelgrass beds, monitoring is proposed.*

Regarding the comment that requested the volume of soil exceeding risk standards, please instead provide the area and volume of soil subject to any remedial action.

Proposed Resolution: Regarding the sediment at the Northeast shoreline, refer to the resolution to GC2 described above. The quantity of sediment on the Northeast Shoreline "impacted" by contaminants exceeding PRGs using the 2005 data (published in 2006 in the Phase 1 RI) will be identified in both alternatives 4A (monitoring the sediment) and 4B (spot removal of sediment)

The area and volume of soils exceeding PRGs, in accordance with dispute resolutions describing use of RIDEM DEC's, will be mapped and quantified in the Draft Final FS.

37. *Please see EPA's comment on GC3.*

Proposed Resolution: Regarding the material in the sumps, refer to the resolution to GC3 stated above.

38. *Please see EPA's comment on SC36.*

Proposed Resolution: Regarding the sediment at the Northeast shoreline, refer to the resolution to GC2 described above.

The area and volume of soils exceeding PRGs, in accordance with dispute resolutions describing use of RIDEM DEC's, will be mapped and quantified in the Draft Final FS.

41. *Regarding erosion issues, see EPA's comment on SC22.*

Proposed resolution: Please refer to the resolution described above for #22.

42. *As discussed on the August 8, 2012 conference call, confirmation sampling and/or soil cover and institutional controls will be required in some areas that do not achieve PRGs. Regarding what PRGs should apply, see EPA's comment on GC3.*

Proposed Resolution: Refer to the response to GC3 above, and #48 below.

45. *Part of this comment refers to whether remedial activities (handling of contaminated materials) will occur on the mainland shore of the base. For instance, if barges are off-loaded onto trucks*

within the mainland area of the base, the off-loading operations need to be included as part of the remedial action and evaluated in the FS. There is also an issue regarding the Off-Site Rule. If the transshipment from barge to truck is within the base (on the mainland) and within the Superfund Site, then the Off-Site Rule does not apply to the transshipment facility. However, if the transfer from barge to truck will occur off of the base, then the Off-Site Rule applies to whatever shoreline facility the transshipment occurs at.

Proposed resolution: Currently, the conceptual plan for dredging operations at Gould Island is to sort and dewater debris and sediment on the island, and after characterization, load that material onto roll-off containers or trucks on the island, then barge loaded containers or trucks to the mainland for overland shipping. It is assumed that the barges from the island would dock at the base and the trucks and/or containers would be off-loaded from the barges there. Under this scenario, the Off-Site Rule does not apply.

47. *Monitoring of sediment in some areas will be required, so please ensure that it is retained in the Draft Final FS.*

Proposed Resolution: Refer to the response to comment GC2, above.

48. *If, as stated in response to SC42, contamination could be left in place after the contaminated media in the sumps is removed, then coastal flooding could result in migration of contamination unless the remaining contaminated media is capped to prevent infiltration from flooding.*

Proposed resolution: This was discussed on 10/10/12. At that time, it was clarified that soils at the site are not at risk of erosion if the slab is not being relied upon as a part of a cover system. However, since the residential DEC's will be used to revise PRGs for soil in accordance with the dispute resolution (January 2012), soils exceeding these residential DEC's will be left in place to be addressed through a LUC preventing residential use of the property as discussed. It is the Navy's understanding that this soil exceeding residential PRGs addressed by LUC's is not of concern for erosion as a contaminant release to the sediment since it does not exceed sediment PRGs.

50. *Clarify what "legal difficulties" exist to prevent enforceable shellfish restrictions from being established. State shellfishing bans have been implemented at many Superfund Sites.*

Proposed resolution: As the comment indicates, shellfishing bans ultimately fall to the State to implement. The State of Rhode Island has previously expressed that they have no interest in implementing such a ban, nor in any alternative that restricts the use of a State natural resource. G. Jablonski stated (8/16/12) that the RIDEM is not willing to enter into decisions that restrict any of the resources of the state, whether they are either economic or natural resources.

The Navy also considered implementing an access restriction to prevent anyone from accessing the area. This action would be initiated by the Navy similar to the Safety Zone identified for Coddington Cove under 33CFR 334.81. However, this action would simply be a different way to implement a restriction to which RIDEM is opposed anyway. Finally, it is recognized that most sites implement access restrictions that are enforced only through posting of signs. The response to comment 50 currently provides for posting signs to discourage entry into the area and disturbing sediment.

During the meeting 9/19/12 it was noted that this posting for the restriction is an element of an alternative that is not likely to be included in the proposed plan, and therefore it was agreed that the posting can be identified as the restriction for Alternatives SD2 and SD3, and as long as the proposed plan proposes alternative SD4, the item would be considered resolved.

51. *It is unclear whether a one foot cover would be sufficient unless the purpose of the cover is to dilute the concentration of sediment contamination (a "thin-layer cap" or enhanced MNR) versus a*

protective barrier to prevent contact with contaminated sediments.

Proposed Resolution: SD3 includes a subaqueous cover (cap), not enhanced MNR. During discussions recently held for Site 19, subaqueous "cover" or "cap" was generally defined as a two foot engineered cover system, maybe including several layers of different materials defined during the RD *to isolate contaminants*, and "enhanced MNR" was generally defined as a one foot sand cover that would, over time, be expected to both cover areas, and mix within the existing sediment *reducing exposure*. For that site, these general parameters were assigned because of some continued ship traffic in that area, which is not expected at Gould Island. Appendix C2 of the FS presents the ocean energies measured at Site 17, and this information could and would be used to develop a design of a sediment cover if SD3 were to be selected as a Remedial Action.

However, given that the Navy does not intend to propose a remedial alternative for this site that includes a sediment cover, the Navy proposes to use these definitions in the revised FS report, so as to be consistent between sites, and address the comment without lengthy discussions on the water flow and near-bottom energies measured and presented in Appendix C2 of the FS. As such Sediment Alternative SD3 will be revised to describe a two foot engineered cover system, though without extensive detail on the material that would be used.

57. *The more recent sampling results do not indicate that the previously-detected contamination is not there but rather that the contamination is not uniformly distributed across a large area. (See also EPA's comment on GC2.) Some exceedances were significant, so with the available data it is unclear whether monitoring alone is the most appropriate remedy.*

Proposed Resolution: Refer to the response to comment GC2, above.

60a. *See EPA's comments on GC2 and SC57.*

See response to same.

60b. *See EPA's comment on SC45.*

See response to same.

62. *See EPA's comments on GC3 and SC48.*

See response to same.

63a. *See EPA's comment on SC13.*

See response to same.

65. *See EPA's comment on SC45.*

See response to same.

66. *See EPA's comment on SC4 regarding how the Navy defines the site for purposes of delineating a LUC boundary.*

Proposed resolution: Comment SC4, or the follow up on #4 above doesn't really broach the idea that the Navy needs to define the site limits for the LUC Boundary, it talks about consistency on how the site is described, and limiting discussions to "Building 32" and contamination associated with it. However, to clarify the previous response to comment SC66, the LUC boundary will be drawn at the Navy property boundary (shoreline and fenceline) since residential risk from soil is presumed and not measured.

LUC Bdy See 3.2.2

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67. *See EPA's comment on SC4 regarding how the Navy defines the site for purposes of delineating an LUC boundary.*

See response to same, and response to #66 above.

70. *It is still unclear that a LUC only alternative is either protective or meets ARARs. Please explain why it is carried forward.*

Proposed Resolution: An LUC only alternative could be protective, particularly on an island with no public access. However, for this site, and given the previous agreements, it is acknowledged that the on shore alternatives will be revised, the Navy will eliminate the LUC-only alternative for this site, and the matter should be considered resolved.

71. *Leaving sump contamination subject to coastal flooding does not meet ARARs or protectiveness standards.*

Proposed Resolution: Please refer to the response to comment GC3, above.

77. *As previously noted, OS-2 is not protective and does not meet ARARs, so it is not a viable alternative.*

Proposed Resolution: Please refer to the response to #70, above.

78. *As previously noted, OS-2 is not protective and does not meet ARARs, so it is not a viable alternative.*

Proposed Resolution: Please refer to the response to #70, above.

80. *See EPA's comment on SC63.*

See response to same.

81. *See EPA's comment on SC57.*

See response to same.

82. *See EPA's comment on SC13.*

See response to same.

85. *The cohesion testing was conducted on the existing sediment bed that is covered heavily with shells and shell fragments. The scope of the testing was not comprehensive enough to determine that the proposed cover material would be stable enough to serve as a long-term cover. Ultimately, any cover material selected would need to be evaluated for stability, including resistance to reflection effects, as a component of a cover remedy.*

Proposed resolution: Please refer to the proposed resolution to comment 51, above. Sediment Alternative SD3 will be revised to describe a two foot engineered cover system, though without extensive detail on the material that would be used.

- 86a. *The standards for the sediment dewatering facility on-shore on the island need to be evaluated under the NCP criteria, particularly if the facility is in the coastal flood zone.*

Proposed resolution –

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Refer to the response to comment 45. Given the conceptual plan described in that response, it is agreed that the temporary operations set up on the island will need to be compliant with applicable ARARs. Dewatering operations would be configured and managed to prevent sediment from being washed away during flood conditions.

86b. *See previous comments on LUCs.*

See response to same.

90. *See EPA's comment on SC50.*

See response to same.

91a+b. *See EPA's comments on GC2 and SC13.*

See response to same.

92. *In EPA's proposed text, change "by fisherman" to "by human activities." LUC are ineffective against natural forces that might disturb the sediments. See EPA's comment on SC50.*

See response to comment 50.

94. *See EPA's comments on GC2 and SC13.*

See response to same.

95. *See EPA's comment on SC50.*

See response to same.

96a. *See previous EPA comments about the matters listed in EPA's original comments and the responses.*

See response to same.

96b+c. *See EPA's comments on GC2 and SC13.*

See response to same.

98. *See EPA's comments on GC2 and SC13.*

See response to same.

99. *See EPA's comment on SC86a.*

See response to same.

100. *See previous EPA comments about the matters listed in EPA's original comments and the responses.*

See response to same.

102. *See EPA's comments on GC2 and SC13.*

See response to same.

106. *Regarding the sumps, see EPA's comments on GC3.*

See response to same.

107. *Regarding the second paragraph of the response, if the water in the sumps is trapped surface water (because the sumps are water tight), it isn't groundwater.*

Proposed Resolution: Concur. During development of the RI, this was confused by the fact that the Navy could not prove that the sumps were not hydraulically connected to the subsurface. Since this could not be proved without additional field work, the groundwater term was assigned. Note also that this water should not be considered surface water (which also came up during those discussions). Hence the material and the associated water will be removed and disposed of (see GC3), and the matter, as well as the risk from the trench-air risk scenario will all be eliminated.

108. *What is the PCB PRG that is protective of ingestion risk from consuming PCB contaminated shellfish?*

Please refer to the response to comment 9.

136c. *Please explain how it was determined that armor is not needed or than sand or similar material would be sufficiently stable.*

Proposed resolution: Please refer to the proposed resolution to comment 51 above. Sediment Alternative SD3 will be revised to describe a two foot engineered cover system, though without extensive detail on the material that would be used.

Attachment C

C-1 Table 2-1, p. 1 *Restore "Subpart B" to the citation for the MCLs since groundwater will need to meet all federal drinking water and risk-based standards for all contaminants (i.e., not just identified COCs).*

Proposed resolution: Agree. Subpart B will be added, consistent with Site 08.

C-2 Table 2-1, p. 3 *Since CWA NRWQCs were not used to develop sediment cleanup number, move the ARAR to Table 2-3 since they will be used as Action-specific ARARs establishing monitoring standards.*

Proposed resolution: Partly agree. NRWQC will be removed from Table 2-1. However, no surface water monitoring is foreseen with the exception for discharge of dewatering sediment dredge spoils. Therefore, NRWQCs will be included on Table 2-3.

C-3 Table 2-1, p. 4 *Keep the Health Advisory citation since groundwater will need to meet all federal drinking water and risk-based standards for all contaminants (i.e., not just identified COCs).*

Proposed resolution: Agree. Health advisory criteria will be added, consistent with Site 08

C-4 Table 2-1, p.5 *Regarding the paragraph for Table 2-1, what standards/guidance did the Navy use to assess ingestion risks from consuming contaminated shellfish at the site?*

Please refer to the RI for this information.

C-5 Table 2-2, p. 5 *Retain the citation to the Wetland Executive Order since federal jurisdictional*

wetlands includes intertidal areas and subtidal areas (including special aquatic habitats such as eel grass beds).

Proposed Resolution: Executive Order 11990 - Protection of Wetlands will be added to the location-specific ARAR tables to address eelgrass beds.

C5a *(Addition to Table 2-2 not previously included): Add the Federal Endangered Species Act to the tables since the Atlantic Sturgeon was recently listed as an Endangered Species in the waters of southern New England, including Narragansett Bay.

Endangered Species Act	16 U.S.C. 1531 <i>et seq.</i> , 50 C.F.R. Parts 200 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that the dredging, dewatering, and cap maintenance components will be conducted to minimize disturbance to aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.
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Proposed resolution – Agree. ESA will be added.

C-6 Regarding RI Endangered Species - the State's listed endangered sea turtles are for off-shore waters only, so would not apply to the bay within the Site, and the Atlantic and short-nosed sturgeons are listed as state historic species (http://www.rinhs.org/wp-content/uploads/ri_rare_animals_2006.pdf). It is unclear if this refers to breeding populations versus migratory fish that may use the bay for foraging (the primary breeding area for sturgeon found in the southern New England area is in the Hudson River).

Proposed resolution – Agree. State ESA will be added.

C-7 Additions to Table 2-3 not previously included – Regarding the TSCA citation on page 1, the proper citation should be to 40 C.F.R. §761.61(c) and the text should be:

Toxic Substance Control Act (TSCA), Polychlorinated Biphenyls (PCB) Remediation Waste Risk-Based Standards	15 U.S.C. §2601 <i>et seq.</i> ; 40 C.F.R. §761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to all alternatives that address PCBs, whether through sampling, cleanup, disposal, or capping/cover. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision.
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Proposed resolution – Agree. The TSCA citation will be included.

The Navy may also add State air standards that are applicable to the potential generation of hydrogen sulfide from sediment dredging and dewatering activities. Air standards should be added to the Table 2 and Table 5 (sediment alternatives) action-specific ARARs Tables.

Proposed resolution - The RIDEM Air Toxics Regulation No. 22 will be added to address the potential release of hydrogen sulfide.

C-8 Table 2-3, p. 8 Regarding the Sediment Guidance text, per EPA's comments on GC2 and SC13, discussion of MNR needs to be retained for any alternative that proposes monitoring only in the Northeast area.

Proposed Resolution: See the response GC2.

C-9 Table 2-3, p. 10 For the CWA NRWQC, retain the text that describes how the standards will be used for long-term monitoring of any capping alternative and for any MNR used in the Northeast area (see EPA comments on GC2 and SC13).

Proposed Resolution: Disagree. NRWQC will not be used for monitoring any of the alternatives, so they will not be included in the soil and groundwater tables. NRWQC will be retained to address the discharge of water from dewatering, so it should be included in the sediment table.

C-10 Table 2-3, p. 11 For the state Water Quality standards, retain the text that states that these standards will apply to long-term monitoring of any capping alternative or any alternative that includes MNR. They also apply if water from dewatering sediments is discharged back to surface waters.

Proposed Resolution: State WQC will not be used for monitoring any of the alternatives, so they will not be included. State WQC will be retained to address the discharge of water from dewatering.

C-11 Table 2-3, p. 12 Retain the State Shellfish Ground standards and modify based on the presence of CERCLA contaminants.

Proposed Resolution: Disagree. Please refer to the original response to this comment – the north end of Gould Island is already a state shellfish prohibition area.

C-12 Table 2-3, p. 12 Retain the State Commercial Fishing Restrictions, particularly if the Navy is only proposing a 1 foot thick cap (which may not be sufficient), such a thin cap could be disturbed by dragging and other bottom fishing activities.

Proposed Resolution: Disagree. As stated elsewhere, the cap will be designed as an engineered barrier with a thickness of 2 feet which should withstand impacts from fishing gear.

C-13 Table 2-3, p. 12 Regarding the last paragraph, the OFFTA ROD included more State Solid Waste requirements that just cover maintenance. Please review the entire list of State Solid Waste standards included in the OFFTA ROD to determine which should be cited for the soil alternatives at Gould Island.

Proposed Resolution: The list was re-evaluated. Considering the very low levels of contamination and that solid waste debris will be removed, additional portions of the solid waste regulations are not appropriate.

Attachment D

D-1 As a general comment, EPA comments on the Table 2 tables also apply to relevant alternative-specific ARARs tables for each contaminated media.

Resolution: This is understood, and changes to Section 2 tables will be flowed down to other section tables, but only as appropriate (i.e. Sediment ARARs will not be included in soil alternatives)

D-2 p. 1, Table 2-1 It is not clear why RI Remediation Regulation changes were made. In particular, why was Section 8.01 was eliminated? Section 8.03 should be included only if they are more stringent than federal MCLs, MCLGs or risk-based standards.

Proposed Resolution: Section 8.01 was excluded because it only refers to Remedial Objectives in general.

D-3 p. 2, Table 2-2 Regarding the ESA, the Act is "Applicable" (see comment to Attachment C adding ESA standards for protecting the newly listed Atlantic Sturgeon).

Proposed Resolution: Disagree. The State ESA is considered Relevant and Appropriate.

D-4 p. 2, Table 2-3 Regarding the RI Hazardous Waste Regulations for Generators the citations should be to sections "5.02, 5.03, and 5.04."

Proposed Resolution: Agree, this change will be made.

D-5 p. 3, Table 4-1 Why were RI Remediation Regulation changes made? In particular, why was Section 8.01 eliminated? Section 8.03, for groundwater, should be included only if they are more stringent than federal MCLs, MCLGs or risk-based standards.

Proposed Resolution: Section 8.01 was excluded because it only refers to Remedial Objectives in general. The specific changes were made to exclude TPH.

D-6 p. 4 Table 4. As a general comment, these tables need to be revised to address soil alternatives only (see previous comments about whether the contaminated material in the sumps will be addressed as contaminated soil or sediment). Separate tables need to be developed for groundwater alternatives. In that regard, the citations to the RI Remediation Regulation should only cite the State soil standards. When ARARs tables for the groundwater alternatives are developed, the RI Remediation Regulations for groundwater should only be included if they are more stringent than federal ARARs or risk-based standards.

Resolution – It is agreed that separate tables will need to be developed for soil alternatives and Groundwater alternatives. Navy is in agreement with EPA on the point about state groundwater standards.

D-7 p. 6 The TSCA citation to Table 5-1 should be retained. For the other sediment alternatives, the citation to 40 C.F.R §761.61(c) should be moved from the Chemical-specific ARARs Tables to the Action-specific ARARs tables replacing the TSCA citation of 40 C.F.R §761.61(a)(5)(i)(B).

Proposed Resolution: Agree. The citation for 40 CFR 761.61(c) will be used.

D-8 p. 11 Proposed groundwater ARARs. As previously noted for the chemical-specific ARARs, include the EPA Health Advisory as a TBC. Only include the RI Remediation regulations for groundwater if they are more stringent than federal standards.

Proposed resolution - Agree to the Health Advisory. RIDEM regulations will be retained to cover more

stringent values.

D-9 p. 11 For alternative G-2, include all location-specific standards that may be prompted by the installation, sampling, maintenance and decommissioning of monitoring wells in protected resource areas (coastal floodplain, historic areas).

Proposed Resolution – Agree. The Protection of Floodplains and CMA regulations will be added to address installation, sampling, maintenance, and decommissioning of monitoring wells..

Attachment F

F-1 p. 1 RI Air Standards for dust and detrimental emissions are “Applicable.”

Proposed Resolution: Agree. Refer to Responses to RIDEM Comments on the ARAR table that RIDEM submitted.

See previous comment to Attachment C that the Navy may also add State air standards that are applicable to the potential generation of hydrogen sulfide from sediment dredging and dewatering activities. Air standards should be added to the Tables 2 and 5 (sediment alternatives) action-specific ARARs Tables.

Proposed Resolution: See the response to C-7 above. Also, refer to Responses to RIDEM Comments on the ARAR table that RIDEM submitted.

F-2 p. 2 For the RI Rules and Regulations for Groundwater Quality, Appendix 1 the standards are “Applicable.”

Proposed Resolution: Agree. Refer to Responses to RIDEM Comments on the ARAR table that RIDEM submitted.

F-3 p. 6-7 Please review the RI Solid Waste regulations cited for the OFFTA ROD and determine which apply to any proposed remedy that leaves contaminated material in place under the foundation/sumps.

Resolution – See the response to GC3 above, there is no solid waste beneath the sumps. See also the response to comment 48 above.

F-4 p. 10 Regarding RI Endangered Species, the State’s listed endangered sea turtles are only for off-shore waters, so they would not apply to the bay within the Site, and the Atlantic and short-nosed sturgeons are listed as state historic species (http://www.rinhs.org/wp-content/uploads/ri_rare_animals_2006.pdf). It is unclear if this refers to breeding populations versus migratory fish that may use the bay for foraging (the primary breeding area for sturgeon found in the southern New England area is in the Hudson River).

Resolution – See Response to C-6, above.

Attachment B
RIDEM's Evaluation (9/18/12) of Navy's Responses (7/20/12)
to RIDEM's Comments Dated (1/13/12) on the
Draft Feasibility Study for Site 17 - Gould Island
NAVSTA Newport, RI

Introduction:

This response summary is prepared to address comments from RIDEM dated 9/18/12, written by RIDEM as an evaluation of the response to comments (Tetra Tech 7/20/12).

The original comment, the response is provided below for each comment, and RIDEM's evaluation of the response is provided in blue text. The Navy's understanding of the resolution reached is provided as a "Proposed Resolution".

Comment 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.

Regardless of the proposed remedy, the Navy must state the total volume of sediments exceeding PRGs in this section of the FS, including the sediment along the Northeast Shoreline, and include the cost for removal of this sediment in the cost estimates for comparison purposes. The FS should evaluate all applicable remedial alternatives for this area. See evaluation of Comment 34.

Proposed resolution: This was agreed at the RPM Meeting 9/19/12

Comment 7. Page 1-15, Section 1.8.1, Soil; 3^d 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.

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Based on these responses, the Navy proposes to address all exceedances of industrial/commercial criteria in soil. Sample SB-412 also contained total PAH at a concentration (104 mg/kg) exceeding the sediment PRG of 46 mg/kg. Please note that soil stabilization of all soils adjacent to the Stillwater basin shoreline may be necessary to prevent recontamination of the sediment through erosion.

Resolution: This was agreed at the RPM Meeting 9/19/12, though it should be clarified that the discussion on stabilization was actually referring to stabilizing the shoreline, not chemically or physically altering the matrix of the soil itself.

Comment 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.

Please ensure that groundwater alternatives also address any exceedances of RIDEM’s groundwater criteria.

Proposed resolution: This was agreed at the RPM Meeting 9/19/12. Please also refer to EPA Comment Nos. 30 and D-5 in their letter copied to RIDEM on 8/22/12.

Comment 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 noncarcinogenic 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.

According to Section 6.5.2.1 of the Phase 1 RI Report (2006) human health risk assessment (HHRA), noncancer hazard exceeds unity for future industrial workers and construction workers

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exposed to cadmium in soils (HI of 1.4, reasonable maximum exposure condition). Soil debris in the sumps was not evaluated in the HHRA, according to Section 6.2 of the Phase 1 RI. Therefore, the FS should be corrected to reflect the conclusions of the HHRA.

Proposed resolution: In response to the evaluation, the non-cancer hazard index (HI) of 1.4 is correct. In accordance with EPA and Navy risk policy, a non-cancer risk HI greater than 1 is a threshold for risk. The Phase 1 RI report reported these values to a first decimal place, which is actually not typical. Rounded off, the value of 1 is not exceeded. That being said, in accordance with the dispute and other agreements reached for development of PRGs for this site, the RIDEM Direct Exposure Criteria are candidate PRGs, as shown on Table 2-4. Since the representative site concentrations of 1.5 and 0.9 (the 95% UCLs for surface and subsurface soil) are below the residential direct exposure criteria for cadmium, it is not selected as a COC. Section 1.10.1 will be revised to clarify these matters.

However, notwithstanding the statistics used for development of PRGs, it is recognized that there is a single location of soil with high concentration of cadmium measured (5670 mg/kg) in soil at the former dust collector (TP-09) and this location is therefore now identified as a target soil removal area due to this level of cadmium as well as due to the presence of comingled PAHs, chromium and lead present in this area.

Comment 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."

Please note that section 6.5.2.1 of the Phase 1 HHRA indicates that the ILCR for cadmium and hexavalent chromium in dust for the construction worker scenario exceeds $1E-06$ (see Table 8.5b of Appendix G of the Phase 1 RI). Because the FS states in Section 1.10.4 that contaminants with "cancer risks greater than 10^{-6} in a scenario with total cancer risks greater than the EPA cancer risk range" were identified as COCs, PRGs protective of a construction worker scenario should be developed for cadmium and Cr+6. This is not conveyed in the Navy's proposed revised sentence. Please correct as necessary.

Proposed resolution: The comment is correct: The dust in soil exposure provides a cancer risk of $5.7E-6$ under the RME, which contributes to a risk greater than $1E-4$ for this receptor. This assumes all the chromium present is Cr+6, and the remainder of risk is associated with the long term exposure of the construction worker to the air from within a confined trench. The PRG is developed for Cr+6 as presented in Table 2-4. The previously proposed text revision above is correct, but will be added to as follows:

"There is an elevated cancer risk estimated for construction workers, and part of that risk is from exposure to soil (dust during excavation) due to the presence of chromium (assuming a +6 valence) and cadmium in shallow soil."

Comment 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.

Please include in this FS a comparison of TPH confirmatory results to RIDEM DECs/Leachability Criteria. Based on the dispute agreement of 4/24/12, the Navy agreed to address TPH along with CERCLA contaminants during the CERCLA remedial action.

Proposed resolution: The dispute resolution on this matter states that "The Navy will remediate petroleum to the State remedial objective for the projected land use", though the parties "have not reached agreement on whether TPH and Petroleum are ARARs" (note that this was an agreement for the Tank Farms sites). As was the case at Site 08 (NUSC disposal area), TPH at Gould Island is comingled

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with PAHs. PAHs are defined as COCs and have PRGs developed for soil and sediment. As such the PAHs will be addressed to reduce risk, and the comingled TPH will be addressed along with it. TPH can be added to the confirmatory sampling after addressing the co-mingled PAHs.

Comment 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.

EPA updated its risk-based vapor intrusion screening levels (VISLs) in 2012. A comparison of maximum groundwater concentrations to VISLs shows that the following volatile organic compounds exceed VISLs for a residential scenario: benzene (twice its VISL), chloroform (24 times its VISL), naphthalene (twice its VISL), and bromodichloromethane (eleven times its VISL). The commercial scenario VISLs are exceeded for chloroform (five times its VISL) and bromodichloromethane (twice its VISL). Because of these exceedances, please include vapor

intrusion as a relevant exposure pathway in the development of risk-based PRGs for groundwater in this FS.

Need further discussion: Since risk was not calculated for vapor intrusion, and since the risk assessment was accepted as final, this appears to be a request to step backwards to the RI. It is arguable that the risk should be calculated first so as to determine there is one for vapor intrusion, and then back calculate the PRGs based on that risk. Given that there are no buildings on site, and no plan for constructing buildings on site, and given the previous agreements made 12/1/11, the Navy proposes no change based on this comment.

Comment 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.

In accordance to the last sediment dredging Final FS/ROD for NETC (McAllister Point Landfill) the PRGs listed for marine sediment were for the following individual PAHs (anthracene, benzo(a)anthracene, chrysene, fluorene, and pyrene). Please remove the statement above that states "always" and include individual PAH PRGs.

Proposed Resolution & Further Discussion: This was discussed on 10/4/12. To clarify the prior response, current ecological risk techniques typically evaluate ecological risk to PAHs as a sum of the high molecular weight (HMW), sum of the low molecular weight (LMW), or sum total of all the PAHs measured, and generally not for each individual PAH compound. This is particularly the case in a situation such as this where mixed sources and mixed PAHs are present. It would be appropriate to separate PAHs if the risk from one specific release was being separated from an area – wide non-point source. Thus it is acknowledged that PAHs are not "always" addressed as a sum Total PAH value for ecological risk, and any such language will be removed from the report.

Comment 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.

Please see the attached ARAR table for RIDEM's evaluation of the Navy's responses.

Proposed Resolution & Further Discussion: Further discussion on ARARs will be required with EPA on all ARAR matters. During the conference call held 10/10/12, it was agreed that redline ARAR Tables would be provided to all parties for review.

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

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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.

Please see evaluation of response to comment 13.

Proposed Resolution & Further Discussion: Please see proposed resolution to same.

Comment 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.

The information provided in Table 6-32 of the BERA suggests that ERM-Q is not an accurate or conservative predictor of benthic toxicity. The NOEC of 1.27 and the LOEC of 1.42 are greater than the ERM-Qs calculated for all but two "toxic samples", and most "toxic" samples had ERM-Q values of 0.7 or lower (with two exceptions, "non-toxic" sample ERM-Qs ranged from 0.04-0.4). Because of this, additional discussion of the sediment PRG development is warranted, including additional considerations such as evaluation of background concentrations, incorporation of safety factors, etc. RIDEM would like to schedule a conference call with all parties, including the risk assessors, for further discussion on this matter.

Proposed Resolution & Further Discussion: Further discussion on this matter was held 10/4/12. In order to move the project forward, on 10/10/12, the Navy agreed to utilize RIDEM's proposed lower ERMQ PRG to a value of 0.7 (unitless) if it were applied on an area average concentration basis. It was noted by the Navy that such a change does not alter the footprint of the remedy. RIDEM followed up with an email on 10/19/12 stating that RIDEM does not envision approval of the use of this value on an area average basis to measure dredging success. This is problematic because cleanup goals are not easily met on a point-by-point basis during marine sediment dredging due to the nature of the media, quite unlike soil excavation. Area averaging is accepted practice for this purpose.

RIDEM also requested that the PAH PRG be reduced by half from 46 mg/kg to 23 mg/kg (10/4/12 and again 10/19/12). While it is noted that this change also does not increase the footprint of the remedy, the wholesale reduction of PRGs to half the values calculated without justification is not advisable. There are already conservative assumptions built into the selection of the PRGs such as:

- ***Lowering the threshold for toxicity, changing six stations from non-toxic to toxic status.***
- ***Lowering the ERMQ PRG by half, addressing any uncertainties in the correlation of toxicity and chemistry.***

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- **Reduction of the ERMQ twice (once from 1.91 to 1.42 and then again from 1.42 to 0.7) addresses the PAHs in part since they are included in the ERM calculation.**

Finally, lowering the PAH PRG to almost 20 mg/kg is not justified by the toxicity data: Two samples that had total PAH concentrations above 30 mg/kg were found to be not toxic, even using the lowered toxicity threshold (note that these stations are being addressed by ERMQ and PCB PRG exceedances anyway). The Navy will require further technical justification for reduction of the PRGs again.

Comment 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.

See evaluation of Comments 11 and 12. The HHRA indicates unacceptable risk from soil for the future industrial worker and construction workers scenarios. Please update the FS to reflect this.

Proposed Resolution: Please see proposed resolution to same.

Comment 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

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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.

The Navy has stated that the samples showing ERM exceedances are no longer representative of current conditions, based on more recent chemical data. However, although recent data indicate lower concentrations, these data do not necessarily negate the validity of the older sediment sample results, which showed PRG exceedances. The objective of the FS is to evaluate all viable remedial alternatives, which could also include capping or dredging. Please provide further discussion in the FS on the volume of impacted sediment and additional alternatives to meet PRGs within the Northeast Shoreline, and discuss the more recent sediment data, to better support MNR as a viable remedy.

Proposed resolution: This was discussed at length at the RPM Meeting 9/19/12, and it was agreed that the Navy would quantify the sediment that exceeded PRGs in the 2005 round of data so as to include a variance on the alternative SD4: Alternative SD4 will remain as dredging in the Stillwater area and MNR in the NE Shoreline, while a new alternative SD4A will include both dredging in the Stillwater area and a spot-excavation in the NE Shoreline where those PRGs were previously exceeded, including the areas within the eelgrass beds.

Comment 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.

Please provide in the FS a summary of the former sources and subsequent source-removal activities. For example, discuss the type, contents, and quantity of the known tanks and whether they have all been removed from the site.

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Proposed Resolution: This information is provided in Section 1.3.2 of the FS. Please refer also to comments 4, 23a and 66 in the letter from USEPA dated 8/22/12, which suggests limitation of discussion of information to the site and site-related contaminants. Further discussion between the two agencies may be necessary to assure that the proper information is presented in the FS report.

Comment 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.

Please refer to evaluation of comments #7 and #36.

Proposed Resolution: Please refer to the responses to the same.

Comment 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.

A one-foot or less sand cover is typically classified as a "thin-layer" cap and is often included as part of an MNR remedy. Traditional sediment caps are typically greater than two-feet in thickness. We agree that additional analysis would be warranted to determine the appropriate materials for the cover system. A thin layer does often include a geotextile as indicated in the FS cost estimate.

The protectiveness of a thin-layer cap could potentially be greatly enhanced by a thin "active" layer with amendments for contaminant treatment/containment. Amendments could be placed in bulk (e.g. AquaBlok®) or in a reactive mat provided by a vendor such as CETCO. Potential amendments include Organoclay®, activated carbon, or zero valent iron. Based on the relatively small area requiring capping in the Stillwater Area, an active cap could provide equivalent protection as a thick sand cap at lesser cost and ecological disruption. Please add flexibility to alternative SD3 by stating that the subaqueous cover may potentially include a thin active layer applied in bulk or in a reactive mat or other liner material. The ROD could then be written in such a way that the "subaqueous cap" could incorporate an active layer if Pre-Design work determines that such a layer would increase protectiveness and reduce long-term O&M costs. Design assessment of the cap should be made assuming "worst-case" changes to the pier, pilings, and shoreline structures.

Proposed Resolution: Alternative SD3 includes a subaqueous cover (cap). During discussions recently held for Site 19, subaqueous "cover" or "cap" was generally defined as a two foot engineered cover system, maybe including several layers of different materials defined during the RD, and "enhanced

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MNR” was generally defined as a one foot sand cover that would, over time, be expected to both cover areas, and mix within the existing sediment. For that site, these general parameters were assigned because of some continued ship traffic in that area, which is not expected at Gould Island. Appendix C2 of the FS presents the ocean energies measured at Site 17, and this information could and would be used to develop a design of a sediment cover if SD3 were to be selected as a Remedial Action.

Additives that are cited in the evaluation above are typically used to control groundwater flow or capture and or neutralize contaminants in groundwater flowing from the site into the water body. Since the conceptual site model shows that the contaminant source at this site appears to be overland runoff from shore releases, and because groundwater does not contain the contaminants identified as COCs in sediment, such amendments are not necessary.

However, given that the Navy does not intend to propose a remedial alternative for this site that includes a sediment cover, the Navy proposes to use the definitions above in the revised FS report, so as to be consistent between sites, and address the comment without lengthy discussions on the water flow and near-bottom energies measured and presented in Appendix C2 of the FS. As such Sediment Alternative SD3 will be revised to describe a two foot engineered cover system, though without extensive detail on selection of the material that would be used.

Comment 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.

Please refer to evaluation of comments 4 and 34.

Proposed Resolution: Please refer to the responses to the same.

Comment 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.

Please refer to evaluation of comments 4 and 34.

Proposed Resolution: Please refer to the responses to the same.

Comment 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.

Please include this information in the text of the FS.

Proposed Resolution: Concur, this information will be included.

Comment 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.

Please note that the call on 12/1/11 was a discussion of EPA's comments. Any agreements made were between the Navy and EPA only. It is unclear what a "nominal cost" is or how it is to be defined without a dollar amount. Please explain.

Proposed Resolution: A nominal cost is a low amount that is not defined. For the purpose of cost estimating in the FS, the No Action alternative is presumed to require no action, thus no cost.

Comment 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).

Please see evaluation of comment 43. Please clarify the on-shore alternative cost summary tables in Sections 4.2.2 and 4.2.3. Currently, these tables do not clearly demonstrate why the Present Worth of OS3 is significantly higher than that of OS2 despite the relatively minor increase in capital cost and equivalent O&M and 5-year review costs.

Proposed Resolution: The Capital cost stated on Page 4-8 and 4-10 is incorrect and should be changed from \$43,717 to \$437,717. The Cost backup in Appendix F is correct, and can be referred to for details. Note that these alternatives and costs will be revised to accommodate soil exceeding PRGs based on RIDEM DECs.

Comment 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.

Please refer to evaluation of comments 4 and 34.

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Proposed Resolution: Please refer to the response to the same.

Comment 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.

Please see evaluation of comment 43.

Proposed Resolution: Please refer to the response to the same.

Comment 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.

Please see response to comment 38.

Proposed Resolution: Please refer to the response to the same.

Comment 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 indicated 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 deposition 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: 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.

Please see evaluation of comment #7 regarding shoreline soils.

Proposed Resolution: Please refer to the response to the same.

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.

Please see the attached ARAR table for RIDEM's evaluation of the Navy's responses.

Proposed Resolution & Further Discussion: Further discussion on ARARs will be required with EPA on all ARAR matters.

Comment 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

Comment response 22 indicates that leachability criteria will also be considered, in addition to DECs. Therefore, please also include soil COCs exceeding leachability criteria in Table 2-4 of the draft FS.

Proposed resolution: This matter was briefly discussed 10/10/12, and it was agreed that leachability criteria will be included as state regulatory based remedial objectives for selection as soil PRGs as was done for FS's for Tank Farms 4 and 5.

Comment 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

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the results. Further discussion initiated by RIDEM would be required to make changes at this point.

Please see evaluation of comment 27.

Proposed Resolution: Please refer to the response to the same.

Comment 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.

Although a PRG will not be established for TPH, TPH concentrations should be compared to RIDEM DEC's/Leachability criteria. This would be consistent with the approach stated on page 4-5 of the NUSC Final FS, which states: "Although TPH is not a CERCLA-regulated contaminant, the remedial alternative would address RIDEM's regulations for these TPH locations, through excavation or capping (excavation of TP-15A and SB-110 due to leachability criteria, and capping of SB-121 in the South Meadow). Compliance with RIDEM TPH criteria would be demonstrated through confirmatory (verification) sampling. Any remaining site locations containing TPH above RIDEM's Residential DEC of 500 mg/kg, would be addressed by the LUCs (see below) prohibiting residential/recreational site use." Please include TPH exceedances on these figures or provide a separate figure for TPH only in the Draft Final FS.

Proposed Resolution: Please refer to the response to Comment 13, above. Language similar to that above can be used in the Revised FS, to describe where TPH in soil exceeds the associate industrial DEC of 2500 mg/kg, though the TPH criteria will not be selected as a PRG. TPH data is also presented with all the site data in Appendix A3 of the FS report, though it does not present a comparison with RIDEM standards. Figures will be limited to those showing PRG exceedances which will include leachability criteria and direct exposure criteria.

Comment 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.

Please refer to the evaluation of comment 43.

Proposed Resolution: Please refer to the response to the same.

TABLE 2-1

**SUMMARY OF CHEMICAL-SPECIFIC ARARs AND TBCs
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 3**

Requirement	Citation	Status	Synopsis of Requirement	Consideration
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs).	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants.
Safe Drinking Water Act	42 USC §300f et seq.; National primary drinking water regulations (40 CFR 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.	Under federal standards, is considered a potential drinking water source and therefore groundwater must achieve these standards.
Safe Drinking Water Act	42 USC §300f et seq.; National primary drinking water regulations (40 CFR Part 141, Subpart F)	Relevant and Appropriate for non-zero MCLGs	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.	Under federal standards, groundwater within the Site is considered a potential drinking water source and therefore groundwater must achieve these standards.

TABLE 2-1

SUMMARY OF CHEMICAL-SPECIFIC ARARs AND TBCs
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
Federal (continued)				
Health Advisories (EPA Office of Drinking Water)	None	To be Considered	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.	Health advisories will be used to evaluate the non-carcinogenic risk resulting from exposure to manganese. Under federal standards, groundwater within the Site is considered a potential drinking water source and therefore groundwater must achieve this standard.
National Oceanographic and Atmospheric Administration (NOAA) Incidence of Adverse Biological Effects within Ranges of Chemical Concentration in Marine and Estuarine Sediments, Long, <i>et al.</i> , 1995	None	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.

TABLE 2-1

SUMMARY OF CHEMICAL-SPECIFIC ARARs AND TBCs
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
State				
State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02A(i), (ii), and (iii); 8.02B, 8.03A(i) and (iii); and 8.03B (with the exception of 8.02A(iv)-TPH); Code of Rhode Island Rules (CRIR) 12-180-001	Applicable	These regulations set remediation standards for contaminated media. These standards are applicable to a remedy when they are more stringent than federal standards. Establishes criteria for groundwater and both direct contact and leachability of contaminants in soil and standards for drinking water (applicable when more stringent than federal standards).	These standards were used to develop soil and groundwater preliminary remediation goals (PRGs). Also used to establish groundwater PRGs when these standards are more stringent than federal standards. Sets standards for soil and for instituting LUCs.

TABLE 2-2

**SUMMARY OF LOCATION-SPECIFIC ARARs AND TBCs
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 4**

Requirement	Citation	Status	Synopsis of Requirement	Consideration
Federal				
Fish and Wildlife Coordination Act	16 United States Code (USC) 661 et seq	Applicable	Requires that the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), and related state agencies be consulted prior to structural modification of any body of water, including wetlands.	Actions taken may impact wetlands and aquatic resources protected under this act. Alternatives will need to consider the protection measures provided by the act. If there is no alternative to damage to such resource areas, federal and state fish and wildlife officials would be consulted on how to minimize impacts of any remedial activities on any fish, wildlife and endangered species.
Endangered Species Act (ESA)	50 Code of Federal Regulations (CFR) 200 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that the dredging, dewatering, and cap maintenance components will be conducted to minimize disturbance to aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.
Permits for Structures or Work in or Affecting Navigable Waters of the United States	33 CFR 322	Relevant and Appropriate	Sets forth criteria for obstructions and alterations of navigable waters.	Remedial actions that require work to occur within waterways will be performed in compliance with the substantive requirements of the statute.

**TABLE 2-2
SUMMARY OF LOCATION-SPECIFIC ARARs AND TBCs
SITE 17 BUILDING 32 GOULD ISLAND
FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
Federal (continued)				
Clean Water Act - Section 404 (b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	40 CFR 230 and 33 CFR 322 and 323	Applicable	These rules regulate the discharge of dredge and fill materials in federal jurisdictional wetlands, vegetated shallows, and navigable waters. Such discharges are not allowed if practicable alternatives are available. Sets forth criteria for obstructions or alterations of navigable waters. For discharges, the Navy must identify a remedial alternative that is the Least Environmentally Damaging Practicable Alternative (LEDPA) for protecting wetlands and aquatic habitat resources. The Navy will solicit public comment as part of the Proposed Plan as to its LEDPA determination.	Alternatives that involve dredging or cap installation would be conducted according to the substantive requirements of the statute. Resource agencies will be consulted to determine if mitigation would be required for altering aquatic habitat. The eelgrass (classified as vegetated shallows) impacted during remedial actions may require mitigation. If fill/dredged material is discharged, the Navy will identify a remedy that is the Least Environmentally Damaging Practicable Alternative on the aquatic ecosystem.
Coastal Zone Management Act	16 USC Parts 1451 <i>et. seq.</i>	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.
National Historic Landmarks (Historic Sites Act)	16 USC §461 <i>et seq.</i> ; 36 CFR Part 65	Applicable	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.	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.

TABLE 2-2
SUMMARY OF LOCATION-SPECIFIC ARARs AND TBCs
SITE 17 BUILDING 32 GOULD ISLAND
FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
Federal (continued)				
Protection of Historic Properties (National Historic Preservation Act)	16 USC §470 et seq., 36 CFR Part 800	Applicable	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.	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.
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.	Remedial alternatives conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation will be mitigated in accordance with requirements. 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.

TABLE 2-2
SUMMARY OF LOCATION-SPECIFIC ARARs AND TBCs
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq</i>	Applicable	Sets standards for management and protection of coastal resources. Jurisdiction includes areas within 200 feet of coastal features, within 50 feet of wetlands under the jurisdiction of the CRMC, and floodplains.	The entire site is located in a coastal resource management area; therefore, applicable coastal resource management requirements will be considered during evaluation of alternatives.
Rhode Island Endangered Species Act	RIGL 20-37-1 <i>et seq.</i>	Relevant and appropriate	Regulates activities affecting state listed endangered or threatened species or their critical habitat.	The State listed Atlantic and short-nosed sturgeons occur in the waters of Narragansett Bay. If ESA species are present and remedial actions are expected to have an effect on the listed species, then Navy will consult with RIDEM Division of Fish and Wildlife as to how to mitigate such impacts, or avoid them altogether.
Rhode Island Historical Preservation Act	RIGL 42-45 <i>et seq.</i>	Applicable	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.	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.

TABLE 2-3

**SUMMARY OF ACTION-SPECIFIC ARARs AND TBCs
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
Federal				
Toxic Substances Control Act (TSCA) – Polychlorinated biphenyl (PCB) Remediation Waste	40 Code of Federal Regulations (CFR) 761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to all alternatives that address PCBs, whether through sampling, cleanup, disposal, or capping/cover. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision.
CWA, Section 402, National Pollution Discharge Elimination System (NPDES)	33 USC 1342; 40 CFR 122 through 125	Applicable	These standards govern point source discharges of pollutants to surface water.	Standards for discharging of dewatering liquid or other water to surface waters at the site.
Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites	OSWER Directive 9200.4-17P (April 21, 1999)	To be Considered	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.	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.

TABLE 2-3
 SUMMARY OF ACTION-SPECIFIC ARARs AND TBCs
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
Federal (continued)				
Contaminated Sediment Remediation Guidance for Hazardous Waste Sites	OSWER 9355.0-85, (December 2005)	To be Considered	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 Selection; and Chapter 8, Long-term Monitoring	Sediment alternatives will be developed using methods described in this document.
Clean Water Act, National Recommended Water Quality Criteria (NRWQC)	33 USC 1251 <i>et seq.</i> ; 40 CFR 122.44	Relevant and Appropriate	Used to establish water quality standards for the protection of aquatic life.	These are standards for water quality monitoring that would be conducted to ensure that these criteria are not exceeded during dredging activities.
EPA Groundwater Protection Strategy	August 1984; NCP Preamble, Vol. 55, No. 46, March 8, 1990, 40 CFR 300, p. 8733); Guidelines for Ground-Water Classification (November 1986)	To Be Considered	The Groundwater Protection Strategy provides a common reference for preserving clean groundwater and protecting the public health against the effects of past contamination. Guidelines for consistency in groundwater protection programs focus on the highest beneficial use of a groundwater aquifer.	Under federal standards, groundwater within the Site is considered a potential drinking water source; therefore, groundwater must achieve these standards.

TABLE 2-3
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
Federal (continued)				
Coast Guard Anchorage Ground and Regulated Navigation Area Rules	33 CFR Part 165	To Be Considered (Applicable once a Rule for the LUC area is promulgated)	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.	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.
State				
Standards for Identification and Listing of Hazardous Waste Rules and Regulations for Hazardous Waste Management	Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal Resource Conservation and Recovery Act (RCRA) statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the site, such as soils excavated, sediments dredged, and investigation-derived waste (IDW) from monitoring. Will be used in determining whether or not a solid waste is hazardous.
Standards for Generators of Hazardous Waste Rules and Regulations for Hazardous Waste Management	CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes manifesting and pre-transport requirements for hazardous waste.	These regulations would apply to all waste generated at the site during remedial actions, including well installation and monitoring well sampling IDW, if hazardous, excavation and/or dredging.
Clean Air Act - Fugitive Dust Control	CRIR 12-31-05	Applicable	Requires that reasonable precaution be taken to prevent particulate matter from becoming airborne.	These regulations apply to all remedial actions that involve excavation, dredging, etc. of contaminated media. Such activities would be conducted in a manner to prevent material from becoming airborne, either through engineering or other controls.

TABLE 2-3
 SUMMARY OF ACTION-SPECIFIC ARARs AND TBCs
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
State (continued)				
Clean Air Act - Emissions Detrimental to Persons or Property	CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during remedial activities will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act - Air Toxics	CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Emissions of air toxics during remedial actions such excavation would be controlled through control of fugitive dust emissions. Emissions of air toxics during dredging such excavation would be controlled.
Rules and Regulations for Dredging and the Management of Dredged Material	DEM-OWR-DR-02-03, Sections 5, 6, 7, 8, 9, and 11	Applicable	Standards to ensure that dredging in the marine environment and management of the associated dredged material is conducted in a manner which is protective of groundwater and surface water quality so as to ensure the continued viability and integrity of drinking water and fish and wildlife resources. Establish standards and criteria governing the dewatering of dredged material for upland use or disposal.	Remedial alternatives that involve dredging operations, including dewatering, will be conducted in accordance with the substantive requirements of these standards.

**TABLE 2-3
SUMMARY OF ACTION-SPECIFIC ARARs AND TBCs
SITE 17 BUILDING 32 GOULD ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
State (continued)				
Water Quality Regulations Water Quality Regulations,	CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Surface water concentrations will be compared against these criteria to ensure that these criteria are not exceeded during dredging activities. Dredging will be conducted in a manner as to minimize degradation of water quality. Any drainage from the temporary sediment storage area and any dewatering discharge would be treated as required to meet this requirement and discharged into Narragansett Bay.
Water Pollution Control – Pollutant Discharge Elimination System (PDES)	Regulations of Rhode Island Pollutant Discharge Elimination System	Applicable	Contains applicable effluent monitoring requirements, and standards and special conditions for discharges.	Discharge of water to surface water from remedial activities, such as dewatering of sediment will meet these standards.
Rhode Island Soil Erosion and Sediment Control (SESC) Manual	None	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.
Identification and Management of Aquatic Invasive Species	None	To be Considered	Guidance on addressing aquatic invasive species in Rhode Island.	Remedial work in the Bay will be conducted in a manner to prevent the establishment or spread of aquatic invasive species.

**TABLE 2-3
SUMMARY OF ACTION-SPECIFIC ARARs AND TBCs
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Requirement	Citation	Status	Synopsis of Requirement	Consideration
State (continued)				
Well Standards State of Rhode Island	Rules and Regulations for Groundwater Quality – Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Applies to the abandonment of existing monitoring wells.
Drilling of Drinking Water Wells; Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to the Drilling of Drinking Water Wells	Rule 7.01	Applicable	Prohibits installing drinking water wells near pollution sources or potential contamination sources.	Installation of residential groundwater wells near the site will be prevented.

TABLE 4-1

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs – SOIL ALTERNATIVE 1: NO ACTION
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs).	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. There are no actions for this alternative, so unacceptable risk remains.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.

TABLE 4-1

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs – SOIL ALTERNATIVE 1: NO ACTION
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02A(i), (ii), and (iii); 8.02B (with the exception of 8.02A(iv)-TPH); Code of Rhode Island Rules (CRIR) 12-180-001	Applicable	These regulations set remediation standards for contaminated media. These standards are applicable to a remedy when they are more stringent than federal standards. Establishes criteria for both direct contact and leachability of contaminants in soil.	There are no actions for this alternative, so these standards would not be met.

TABLE 4-2

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 1: NO ACTION
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
There are no federal location-specific ARARs.				
State				
There are no state location-specific ARARs.				

TABLE 4-3

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 1: NO ACTION
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
There are no federal action-specific ARARs.				
State				
There are no state action-specific ARARs.				

TABLE 4-4

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 2: LIMITED EXCAVATION, DISPOSAL, LUCS,
INSPECTION AND MONITORING
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs).	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. LUCs will prevent exposure to site contaminants exceeding risk levels.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. LUCs will prevent exposure to site contaminants exceeding risk levels.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. LUCs will prevent exposure to site contaminants exceeding risk levels.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. LUCs will prevent exposure to site contaminants exceeding risk levels.

TABLE 4-4

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 2: LIMITED EXCAVATION, DISPOSAL, LUCS,
 INSPECTION AND MONITORING
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02A(i), (ii), and (iii); 8.02B (with the exception of 8.02A(iv)-TPH); Code of Rhode Island Rules (CRIR) 12-180-001	Applicable	These regulations set remediation standards for contaminated media. These standards are applicable to a remedy when they are more stringent than federal standards. Establishes criteria for both direct contact and leachability of contaminants in soil.	LUCs will prevent exposure to site contaminants exceeding criteria.

TABLE 4-5

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 2: LIMITED EXCAVATION, DISPOSAL, LUCs,
 INSPECTION AND MONITORING
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Fish and Wildlife Coordination Act	16 United States Code (USC) 661 et seq	Applicable	Requires that the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), and related state agencies be consulted prior to structural modification of any body of water, including wetlands.	Excavations may impact the wetlands (shoreline). Federal and state fish and wildlife officials would be consulted on how to minimize impacts of any remedial activities on any fish, wildlife and endangered species.
Endangered Species Act (ESA)	50 Code of Federal Regulations (CFR) 81 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that the excavation and backfill will be conducted to minimize disturbance to adjacent aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.

TABLE 4-5

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 2: LIMITED EXCAVATION, DISPOSAL, LUCs,
 INSPECTION AND MONITORING
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
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.	Remedial alternatives conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation will be mitigated in accordance with requirements. 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.
Federal (continued)				
Coastal Zone Management Act	16 USC Parts 1451 <i>et. seq.</i>	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.
National Historic Landmarks (Historic Sites Act)	16 USC 461 <i>et seq.</i> ; 36 CFR Part 65	Applicable	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.	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.

TABLE 4-5

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 2: LIMITED EXCAVATION, DISPOSAL, LUCs,
 INSPECTION AND MONITORING
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Protection of Historic Properties (National Historic Preservation Act)	16 USC 470 et seq., 36 CFR Part 800	Applicable	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.	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.

TABLE 4-5

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 2: LIMITED EXCAVATION, DISPOSAL, LUCs,
 INSPECTION AND MONITORING
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq.</i>	Applicable	Sets standards for management and protection of coastal resources. Jurisdiction includes areas within 200 feet of coastal features, within 50 feet of wetlands under the jurisdiction of the CRMC, and floodplains.	The entire site is located in a coastal resource management area; therefore, applicable coastal resource management requirements need to be addressed.
Rhode Island Endangered Species Act	RIGL 20-37-1 <i>et seq.</i>	Relevant and appropriate	Regulates activities affecting state listed endangered or threatened species or their critical habitat.	The State listed Atlantic and short-nosed sturgeons occur in the waters of Narragansett Bay. If ESA species are present and remedial actions (such as excavation) will have an effect on the listed species, then Navy will consult with RIDEM Division of Fish and Wildlife.
Rhode Island Historical Preservation Act	RIGL 42-45 <i>et seq.</i>	Applicable	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.	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.

TABLE 4-6

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 2: LIMITED EXCAVATION, DISPOSAL, LUCs, INSPECTION AND MONITORING
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act - PCB Remediation Waste	40 Code of Federal Regulations (CFR) 761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to sampling, cleanup, and disposal. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision. The excavation and off-site disposal will prevent exposure to PCBs exceeding cleanup levels.
State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal RCRA statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the site, such as soils excavated from target areas. Will be used when determining whether or not a solid waste is hazardous.
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes manifesting and pre-transport requirements for hazardous waste.	These regulations would apply to all waste generated at the site during removal, if hazardous.
Well Standards	State of Rhode Island Rules and Regulations for	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of	Applies to the installation of new monitoring wells and abandonment of unused existing monitoring wells.

TABLE 4-6

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 2: LIMITED EXCAVATION, DISPOSAL, LUCs, INSPECTION AND MONITORING
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
	Groundwater Quality – Appendix 1		monitoring wells.	
Clean Air Act - Fugitive Dust Control	CRIR 12-31-05	Applicable	Requires that reasonable precaution be taken to prevent particulate matter from becoming airborne.	Removal and temporary storage of soil during hot spot excavation would be conducted in a manner to prevent material from becoming airborne.
State (continued)				
Clean Air Act - Emissions Detrimental to Persons or Property	CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during excavation will be used to assess compliance with these standards if threshold levels are reached.
Rhode Island Soil Erosion and Sediment Control (SESC) Manual	None	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.
Identification and Management of Aquatic Invasive Species	None	To be Considered	Guidance on addressing aquatic invasive species in Rhode Island.	Remedial work in the bay and shorelines will be conducted in a manner to prevent the establishment or spread of aquatic invasive species.

TABLE 4-7

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs – SOIL ALTERNATIVE 3: COMBINATION EXCAVATION,
SOLIDIFICATION/STABILIZATION, LUCS, AND INSPECTIONS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs).	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Removal of contaminated soil, solidification/stabilization (S/S), and LUCs will prevent exposure to site contaminants exceeding risk levels.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. Removal of contaminated soil, S/S, and LUCs will prevent exposure to site contaminants exceeding risk levels.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Removal of contaminated soil, S/S, and LUCs will prevent exposure to site contaminants exceeding risk levels.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Removal of contaminated soil, S/S, and LUCs will prevent exposure to site contaminants exceeding risk levels.

TABLE 4-7

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs – SOIL ALTERNATIVE 3: COMBINATION EXCAVATION,
 SOLIDIFICATION/STABILIZATION, LUCS, AND INSPECTIONS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02A(i), (ii), and (iii); 8.02B (with the exception of 8.02A(iv)-TPH); Code of Rhode Island Rules (CRIR) 12-180-001	Applicable	These regulations set remediation standards for contaminated media. These standards are applicable to a remedy when they are more stringent than federal standards. Establishes criteria for both direct contact and leachability of contaminants in soil.	Removal of contaminated soil, S/S, and LUCs will prevent exposure to site contaminants exceeding criteria and prevent leaching of contaminants at unacceptable levels.

TABLE 4-8

**ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 3: COMBINATION EXCAVATION,
SOLIDIFICATION/STABILIZATION, LUCS, AND INSPECTIONS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Fish and Wildlife Coordination Act	16 United States Code (USC) 661 et seq	Applicable	Requires that the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), and related state agencies be consulted prior to structural modification of any body of water, including wetlands.	Excavations and solidification/stabilization (S/S) may impact the wetlands (shoreline). Federal and state fish and wildlife officials would be consulted on how to minimize impacts of any remedial activities on any fish, wildlife and endangered species.
Endangered Species Act (ESA)	50 Code of Federal Regulations (CFR) 81 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that the excavation, S/S, and backfill will be conducted to minimize disturbance to aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.
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.	Remedial alternatives conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation will be mitigated in accordance with requirements. 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.

TABLE 4-8

**ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 3: COMBINATION EXCAVATION,
SOLIDIFICATION/STABILIZATION, LUCS, AND INSPECTIONS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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PAGE 2 OF 3**

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (continued)				
Coastal Zone Management Act	16 USC Parts 1451 <i>et. seq.</i>	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.
National Historic Landmarks (Historic Sites Act)	16 USC 461 <i>et seq.</i> ; 36 CFR Part 65	Applicable	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.	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.
Protection of Historic Properties (National Historic Preservation Act)	16 USC 470 <i>et seq.</i> ; 36 CFR Part 800	Applicable	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.	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.

TABLE 4-8

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 3: COMBINATION EXCAVATION,
 SOLIDIFICATION/STABILIZATION, LUCS, AND INSPECTIONS
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq.</i>	Applicable	Sets standards for management and protection of coastal resources. Jurisdiction includes areas within 200 feet of coastal features, within 50 feet of wetlands under the jurisdiction of the CRMC, and floodplains.	The entire site is located in a coastal resource management area; therefore, applicable coastal resource management requirements need to be addressed.
Rhode Island Endangered Species Act	RIGL 20-37-1 <i>et seq.</i>	Relevant and appropriate	Regulates activities affecting state listed endangered or threatened species or their critical habitat.	The State listed Atlantic and short-nosed sturgeons occur in the waters of Narragansett Bay. If ESA species are present and remedial actions (such as excavation) will have an effect on the listed species, then Navy will consult with RIDEM Division of Fish and Wildlife.
Rhode Island Historical Preservation Act	RIGL 42-45 <i>et seq.</i>	Applicable	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.	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.

TABLE 4-9

**ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs – SOIL ALTERNATIVE 3: COMBINATION EXCAVATION,
SOLIDIFICATION/STABILIZATION, LUCS, AND INSPECTIONS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act - PCB Remediation Waste	40 Code of Federal Regulations (CFR) 761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to sampling, cleanup, and disposal. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision. The excavation and off-site disposal will prevent exposure to PCBs exceeding cleanup levels.
State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal RCRA statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the site, such as soils excavated from hot spots. Will be used when determining whether or not a solid waste is hazardous.
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes manifesting and pre-transport requirements for hazardous waste.	These regulations would apply to all waste generated at the site during removal, if hazardous.

TABLE 4-9

**ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs – SOIL ALTERNATIVE 3: COMBINATION EXCAVATION,
SOLIDIFICATION/STABILIZATION, LUCS, AND INSPECTIONS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State (continued)				
Well Standards	State of Rhode Island Rules and Regulations for Groundwater Quality – Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Applies to the abandonment of existing monitoring wells.
Clean Air Act - Fugitive Dust Control	CRIR 12-31-05	Applicable	Requires that reasonable precaution be taken to prevent particulate matter from becoming airborne.	Removal and temporary storage of soil during hot spot excavation and soil and material handling during solidification/ stabilization (S/S) would be conducted in a manner to prevent material from becoming airborne.
Clean Air Act - Emissions Detrimental to Persons or Property	CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during excavation and S/S will be used to assess compliance with these standards if threshold levels are reached.
Rhode Island Soil Erosion and Sediment Control (SESC) Manual	None	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.
Identification and Management of Aquatic Invasive Species	None	To be Considered	Guidance on addressing aquatic invasive species in Rhode Island.	Remedial work in and adjacent to the Bay will be conducted in a manner to prevent the establishment or spread of aquatic invasive species.

TABLE 4-10

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs – SOIL ALTERNATIVE 4: FULL EXCAVATION, LUCs, AND INSPECTIONS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs).	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Removal of contaminated soil and LUCs will prevent exposure to site contaminants exceeding risk levels.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. Removal of contaminated soil and LUCs will prevent exposure to site contaminants exceeding risk levels.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Removal of contaminated soil and LUCs will prevent exposure to site contaminants exceeding risk levels.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Removal of contaminated soil and LUCs will prevent exposure to site contaminants exceeding risk levels.

TABLE 4-10

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs – SOIL ALTERNATIVE 4: FULL EXCAVATION, LUCs, AND INSPECTIONS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02A(i), (ii), and (iii); 8.02B (with the exception of 8.02A(iv)-TPH); Code of Rhode Island Rules (CRIR) 12-180-001	Applicable	These regulations set remediation standards for contaminated media. These standards are applicable to a remedy when they are more stringent than federal standards. Establishes criteria for both direct contact and leachability of contaminants in soil.	Removal of contaminated soil and LUCs will prevent exposure to site contaminants exceeding criteria.

TABLE 4-11

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 4: FULL EXCAVATION, LUCs, AND INSPECTIONS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Fish and Wildlife Coordination Act	16 United States Code (USC) 661 et seq	Applicable	Requires that the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), and related state agencies be consulted prior to structural modification of any body of water, including wetlands.	Excavations may impact the wetlands (shoreline). Federal and state fish and wildlife officials would be consulted on how to minimize impacts of any remedial activities on any fish, wildlife and endangered species.
Endangered Species Act (ESA)	50 Code of Federal Regulations (CFR) 81 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that the excavation and backfill will be conducted to minimize disturbance to aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.
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.	Remedial alternatives conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation will be mitigated in accordance with requirements. 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.

TABLE 4-11

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 4: FULL EXCAVATION, LUCs, AND INSPECTIONS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (continued)				
Coastal Zone Management Act	16 USC Parts 1451 <i>et. seq.</i>	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.
National Historic Landmarks (Historic Sites Act)	16 USC 461 <i>et seq.</i> ; 36 CFR Part 65	Applicable	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.	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.
Protection of Historic Properties (National Historic Preservation Act)	16 USC 470 <i>et seq.</i> , 36 CFR Part 800	Applicable	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.	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.

TABLE 4-11

**ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 4: FULL EXCAVATION, LUCs, AND INSPECTIONS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq.</i>	Applicable	Sets standards for management and protection of coastal resources. Jurisdiction includes areas within 200 feet of coastal features, within 50 feet of wetlands under the jurisdiction of the CRMC, and floodplains.	The entire site is located in a coastal resource management area; therefore, applicable coastal resource management requirements need to be addressed.
Rhode Island Endangered Species Act	RIGL 20-37-1 <i>et seq.</i>	Relevant and appropriate	Regulates activities affecting state listed endangered or threatened species or their critical habitat.	The State listed Atlantic and short-nosed sturgeons occur in the waters of Narragansett Bay. If ESA species are present and remedial actions (such as excavation) will have an effect on the listed species, then Navy will consult with RIDEM Division of Fish and Wildlife.
Rhode Island Historical Preservation Act	RIGL 42-45 <i>et seq.</i>	Applicable	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.	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.

TABLE 4-12

**ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 4: FULL EXCAVATION, LUCs, AND INSPECTIONS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act - PCB Remediation Waste	40 Code of Federal Regulations (CFR) 761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to sampling, cleanup, and disposal. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision. The excavation and off-site disposal will prevent exposure to PCBs exceeding cleanup levels.
State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal RCRA statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the site, such as excavated soil. Will be used when determining whether or not a solid waste is hazardous.
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes manifesting and pre-transport requirements for hazardous waste.	These regulations would apply to all waste generated at the site during removal, if hazardous.

TABLE 4-12

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SOIL ALTERNATIVE 4: FULL EXCAVATION, LUCs, AND INSPECTIONS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State (continued)				
Well Standards	State of Rhode Island Rules and Regulations for Groundwater Quality – Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Applies to the abandonment of existing monitoring wells.
Clean Air Act - Fugitive Dust Control	CRIR 12-31-05	Applicable	Requires that reasonable precaution be taken to prevent particulate matter from becoming airborne.	Removal and temporary storage of soil during excavation would be conducted in a manner to prevent material from becoming airborne.
Clean Air Act - Emissions Detrimental to Persons or Property	CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during excavation will be used to assess compliance with these standards if threshold levels are reached.
Rhode Island Soil Erosion and Sediment Control (SESC) Manual	None	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.
Identification and Management of Aquatic Invasive Species	None	To be Considered	Guidance on addressing aquatic invasive species in Rhode Island.	Remedial work in the Bay will be conducted in a manner to prevent the establishment or spread of aquatic invasive species.

TABLE 5-1

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 1: NO ACTION
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 2**

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. There are no actions for this alternative, so unacceptable risk remains.
EPA Risk Reference Doses (RfDs)	None	To Be Considered	Toxicity values for evaluating non-carcinogenic hazards from exposures to contamination.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.
Guidance for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance values used to evaluate the potential carcinogenic hazard to children caused by exposure to contaminants	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.
National Oceanographic and Atmospheric Administration (NOAA) Incidence of Adverse Biological Effects within Ranges of Chemical Concentration in Marine and Estuarine Sediments, Long, <i>et al.</i> , 1995	None	To be Considered	Guidance on concentration ranges of contaminants in sediment that correspond to the likelihood of adverse effects to organisms.	Used to establish sediment cleanup standards. There are no actions for this alternative, so likelihood of adverse effects to organisms remains.

TABLE 5-1

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 1: NO ACTION
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
There are no state chemical-specific ARARs.				

TABLE 5-2

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 1: NO ACTION
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
There are no federal location-specific ARARS.				
State				
There are no state location-specific ARARS				

TABLE 5-3

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 1: NO ACTION
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
There are no federal action-specific ARARS.				
State				
There are no state action-specific ARARS.				

TABLE 5-4

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 2: LUCS AND MNR
SITE 17, BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND**

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. LUCs will prevent exposure to site contaminants exceeding risk levels.
EPA Risk Reference Doses (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. LUCs will prevent exposure to site contaminants exceeding risk levels.
Guidance for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. LUCs will prevent exposure to site contaminants exceeding risk levels.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. LUCs will prevent exposure to site contaminants exceeding risk levels.
National Oceanographic and Atmospheric Administration (NOAA) Incidence of Adverse Biological Effects within Ranges of Chemical Concentration in Marine and Estuarine Sediments, Long, <i>et al.</i> , 1995	None	To be Considered	Guidance on concentration ranges of contaminants in sediment that correspond to the likelihood of adverse effects to organisms.	Used to establish sediment cleanup standards. Monitoring will be used to determine if there is a likelihood of adverse effects to organisms.

State

There are no state chemical-specific ARARs.

TABLE 5-5

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 2: LUCS AND MNR
 SITE 17, BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
 PAGE 1 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Fish and Wildlife Coordination Act	16 United States Code (USC) 661 et seq	Applicable	Requires that the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), and related state agencies be consulted prior to structural modification of any body of water, including wetlands.	Activities may impact the waters of the United States. USFWS and NMFS officials would be consulted on how to minimize impacts of any remedial activities on any wildlife.
Permits for Structures or Work in or Affecting Navigable Waters of the United States	33 Code of Federal Regulations (CFR) 322	Relevant and Appropriate	Sets forth criteria for obstructions and alterations of navigable waters.	Installation of access restriction markers and monitoring activities will be performed in compliance with the substantive requirements of the statute.
Endangered Species Act (ESA)	50 CFR 200 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that the monitoring will be conducted to minimize disturbance to aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.
Coastal Zone Management Act	16 USC Parts 1451 et. seq.	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.

TABLE 5-5

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 2: LUCS AND MNR
 SITE 17, BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (continued)				
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.	Monitoring activities conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. 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.

TABLE 5-5

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 2: LUCS AND MNR
 SITE 17, BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq.</i>	Applicable	Sets standards for management and protection of coastal resources.	The entire site is located in a coastal resource management area, therefore, activities conducted under this alternative would be conducted in compliance with applicable coastal resource management requirements.
Rhode Island Endangered Species Act	RIGL 20-37-1 <i>et seq.</i>	Relevant and Appropriate	Regulates activities affecting state listed endangered or threatened species or their critical habitat.	The State listed Atlantic and short-nosed sturgeons occur in the waters of Narragansett Bay. If ESA species are present and remedial actions (such as excavation) will have an effect on the listed species, then Navy will consult with RIDEM Division of Fish and Wildlife.

TABLE 5-6

**ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 2: LUCS AND MNR
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act - PCB Remediation Waste	40 Code of Federal Regulations (CFR) 761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to sampling. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision.
Coast Guard Anchorage Ground and Regulated Navigation Area Rules	33 CFR Part 165	To Be Considered (Applicable once a Rule for the LUC area is promulgated)	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.	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 in the promulgation of a Rule to establish a RNA or Safety Zone for the portion of the surface water overlying the contaminated sediment 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.
State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal Resource Conservation and Recovery Act (RCRA) statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the site, such as investigation-derived waste (IDW) from monitoring. Will be used when determining whether or not a solid waste is hazardous.

TABLE 5-6

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 2: LUCS AND MNR
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State (continued)				
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes manifesting and pre-transport requirements for hazardous waste.	These regulations would apply to all waste generated at the site during monitoring and sampling IDW, if hazardous.
Water Pollution Control – Pollutant Discharge Elimination System	Regulations of Rhode Island Pollutant Discharge Elimination System	Applicable	Contains applicable effluent monitoring requirements, and standards and special conditions for discharges.	The substantive provisions of these standards will be satisfied through on-site treatment of any effluent generated during the remedy prior to being discharged to surface waters.

TABLE 5-7

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs--SEDIMENT ALTERNATIVE 3: SUBAQUEOUS COVER, LUCS, AND MONITORING
SITE 17, BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Reduction of contaminant concentrations through enhanced natural recovery (ENR), a cover layer over contaminated sediment, and LUCs will prevent exposure to site contaminants exceeding risk levels.
EPA Risk Reference Doses (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. Reduction of contaminant concentrations through ENR, a cover layer over contaminated sediment, and LUCs will prevent exposure to site contaminants exceeding risk levels.
Guidance for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Reduction of contaminant concentrations through ENR, a cover layer over contaminated sediment, and LUCs will prevent exposure to site contaminants exceeding risk levels.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Reduction of contaminant concentrations through ENR, a cover layer over contaminated sediment, and LUCs will prevent exposure to site contaminants exceeding risk levels.

TABLE 5-7

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs- -SEDIMENT ALTERNATIVE 3: SUBAQUEOUS COVER, LUCS, AND MONITORING
 SITE 17, BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
National Oceanographic and Atmospheric Administration (NOAA) Incidence of Adverse Biological Effects within Ranges of Chemical Concentration in Marine and Estuarine Sediments, Long, <i>et al.</i> , 1995	None	To be Considered	Guidance on concentration ranges of contaminants in sediment that correspond to the likelihood of adverse effects to organisms.	Used to establish sediment cleanup standards. Subaqueous cap and enhanced natural recovery will prevent adverse effects to organisms.
State				
There are no state chemical-specific ARARs.				

TABLE 5-8

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 3: SUBAQUEOUS COVER, LUCS, AND MONITORING
 SITE 17, BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act - Section 404 (b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	40 Code of Federal Regulations (CFR) 230 and 33 CFR 322 and 323	Applicable	These rules regulate the discharge of dredge and fill materials in federal jurisdictional wetlands, vegetated shallows, and navigable waters. Such discharges are not allowed if practicable alternatives are available. Sets forth criteria for obstructions or alterations of navigable waters. For discharges, the Navy must identify a remedial alternative that is the Least Environmentally Damaging Practicable Alternative (LEDPA) for protecting wetlands and aquatic habitat resources. The Navy will solicit public comment as part of the Proposed Plan as to its LEDPA determination.	Installation subaqueous cap would be performed in compliance with the substantive requirements of the statute. Resource agencies will be consulted to determine if mitigation would be required for altering aquatic habitat, including the eelgrass (classified as vegetated shallows), if impacted by the remedial activities. The Navy will identify a remedy that is the Least Environmentally Damaging Practicable Alternative on the aquatic ecosystem.
Permits for Structures or Work in or Affecting Navigable Waters of the United States	33 Code of Federal Regulations (CFR) 322	Relevant and Appropriate	Sets forth criteria for obstructions and alterations of navigable waters.	Installation of access restriction markers and monitoring activities will be performed in compliance with the substantive requirements of the statute.
Fish and Wildlife Coordination Act	16 United States Code (USC) 661 <i>et. seq.</i>	Applicable	Requires that the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), and related state agencies be consulted prior to structural modification of any body of water, including wetlands.	Installation of subaqueous cover will impact the waters of the United States. Federal and state fish and wildlife officials would be consulted on how to minimize impacts of any remedial activities on any fish, wildlife and endangered species.
Endangered Species Act (ESA)	50 CFR 200 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that the cover installation and maintenance components will be conducted to minimize disturbance to aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.

TABLE 5-8

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 3: SUBAQUEOUS COVER, LUCS, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (continued)				
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.	Remedial activities conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation will be mitigated in accordance with requirements. 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.
Coastal Zone Management Act	16 USC Parts 1451 <i>et. seq.</i>	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.

TABLE 5-8

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 3: SUBAQUEOUS COVER, LUCS, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq.</i>	Applicable	Sets standards for management and protection of coastal resources. Jurisdiction includes areas within 200 feet of coastal features, within 50 feet of wetlands under the jurisdiction of the CRMC, and floodplains.	The entire site is located in a coastal resource management area, therefore, activities conducted under this alternative would be conducted in compliance with applicable coastal resource management requirements.
Rhode Island Endangered Species Act	RIGL 20-37-1 <i>et seq.</i>	Relevant and Appropriate	Regulates activities affecting state listed endangered or threatened species or their critical habitat.	The State listed Atlantic and short-nosed sturgeons occur in the waters of Narragansett Bay. If ESA species are present and remedial actions (such as installation of subaqueous cap) will have an effect on the listed species, then Navy will consult with RIDEM Division of Fish and Wildlife.

TABLE 5-9

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 3: SUBAQUEOUS COVER, LUCs, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act - PCB Remediation Waste	40 Code of Federal Regulations (CFR) 761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to capping/cover. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision. The ENR cover layer over contaminated sediment and LUCs will prevent exposure to PCBs exceeding cleanup levels.
Contaminated Sediment Remediation Guidance for Hazardous Waste Sites	OSWER 9355.0-85, (December 2005)	To be Considered	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 Selection; and Chapter 8, Long-term Monitoring	The subaqueous cover and enhanced natural recovery system will be developed using methods described in this document.
Coast Guard Anchorage Ground and Regulated Navigation Area Rules	33 CFR Part 165	To Be Considered (Applicable once a Rule for the LUC area is promulgated)	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.	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 in the promulgation of a Rule to establish a RNA or Safety Zone for the portion of the surface water overlying the capped sediment 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.

Federal (Continued)

TABLE 5-9

**ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 3: SUBAQUEOUS COVER, LUCS, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Clean Water Act, National Recommended Water Quality Criteria (NRWQC)	33 USC 1251 <i>et seq.</i> ; 40 CFR 122.44	Relevant and Appropriate	Used to establish water quality standards for the protection of aquatic life.	These are standards for water quality monitoring that would be conducted to ensure that these criteria are not exceeded during cap placement activities.

State

Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal Resource Conservation and Recovery Act (RCRA) statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the site, such as investigation-derived waste (IDW) from monitoring. Will be used when determining whether or not a solid waste is hazardous.
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes manifesting and pre-transport requirements for hazardous waste.	These regulations would apply to all waste generated at the site during monitoring and sampling IDW, if hazardous.
Water Quality Regulations	Water Quality Regulations, CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Installation of cover materials will be conducted in a manner as to minimize degradation of water quality.

TABLE 5-9

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 3: SUBAQUEOUS COVER, LUCS, AND MONITORING
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State (Continued)

Rhode Island Soil Erosion and Sediment Control (SESC) Manual	None	Applicable	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.
Identification and Management of Aquatic Invasive Species	None	To be considered	Guidance on addressing aquatic invasive species in Rhode Island.	Remedial work in the Bay will be conducted in a manner to prevent the establishment or spread of aquatic invasive species.

TABLE 5-10

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4: PARTIAL SEDIMENT REMOVAL, OFFSITE DISPOSAL, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Removal of contaminated sediment by dredging and LUCs will prevent exposure to site contaminants exceeding risk levels.
EPA Risk Reference Doses (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. Removal of contaminated sediment by dredging and LUCs will prevent exposure to site contaminants exceeding risk levels.
Guidance for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Removal of contaminated sediment by dredging and LUCs will prevent exposure to site contaminants exceeding risk levels.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Removal of contaminated sediment by dredging and LUCs will prevent exposure to site contaminants exceeding risk levels.
National Oceanographic and Atmospheric Administration (NOAA) Incidence of Adverse Biological Effects within Ranges of Chemical Concentration in Marine and Estuarine Sediments, Long, <i>et al.</i> , 1995	None	To be Considered	Guidance on concentration ranges of contaminants in sediment that correspond to the likelihood of adverse effects to organisms.	Used to establish sediment cleanup standards. Removal of contaminated sediment will prevent adverse effects to organisms.

TABLE 5-10

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4: PARTIAL SEDIMENT REMOVAL, OFFSITE DISPOSAL, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State <p style="text-align: center;">There are no state chemical-specific ARARs.</p>				

TABLE 5-11

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4: PARTIAL SEDIMENT REMOVAL, OFFSITE DISPOSAL, AND MONITORING
 SITE 17 BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act -Section 404 (b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	40 Code of Federal Regulations (CFR) 230 and 33 CFR 322 and 323	Applicable	These rules regulate the discharge of dredge and fill materials in federal jurisdictional wetlands, vegetated shallows, and navigable waters. Such discharges are not allowed if practicable alternatives are available. Sets forth criteria for obstructions or alterations of navigable waters. For discharges, the Navy must identify a remedial alternative that is the Least Environmentally Damaging Practicable Alternative (LEDPA) for protecting wetlands and aquatic habitat resources. The Navy will solicit public comment as part of the Proposed Plan as to its LEDPA determination.	Dredging operations including sediment dewatering would be conducted in a manner that will minimize discharges to navigable waters. Resource agencies will be consulted to determine if mitigation would be required for altering aquatic habitat. The eelgrass (classified as vegetated shallows) removed during dredging (if any is encountered) would require mitigation. The dredging and dewatering components would meet the substantive environmental requirements of these standards. If fill/dredged material is discharged, the Navy will identify a remedy that is the Least Environmentally Damaging Practicable Alternative on the aquatic ecosystem.
Permits for Structures or Work in or Affecting Navigable Waters of the United States	33 Code of Federal Regulations (CFR) 322	Relevant and Appropriate	Sets forth criteria for obstructions and alterations of navigable waters.	Installation of access restriction markers and monitoring activities will be performed in compliance with the substantive requirements of the statute.
Fish and Wildlife Coordination Act	16 United States Code (USC) 661 <i>et seq.</i>	Applicable	Requires that the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), and related state agencies be consulted prior to structural modification of any body of water, including wetlands.	Dredging will impact the waters of the United States. Federal and state fish and wildlife officials would be consulted on how to minimize impacts of any remedial activities on any fish, wildlife and endangered species.

TABLE 5-11

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4: PARTIAL SEDIMENT REMOVAL, OFFSITE DISPOSAL, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (continued)				
Endangered Species Act (ESA)	50 CFR 200 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that the dredging will be conducted to minimize disturbance to aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.
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.	Remedial activities conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation will be mitigated in accordance with requirements. 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.
Coastal Zone Management Act	16 USC Parts 1451 <i>et. seq.</i>	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.

TABLE 5-11

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4: PARTIAL SEDIMENT REMOVAL, OFFSITE DISPOSAL, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq.</i>	Applicable	Sets standards for management and protection of coastal resources. Jurisdiction includes areas within 200 feet of coastal features, within 50 feet of wetlands under the jurisdiction of the CRMC, and floodplains.	The entire site is located in a coastal resource management area. Therefore, activities conducted under this alternative would be conducted in compliance with applicable coastal resource management requirements.
Rhode Island Endangered Species Act	RIGL 20-37-1 <i>et seq.</i>	Relevant and Appropriate	Regulates activities affecting state listed endangered or threatened species or their critical habitat.	The State listed Atlantic and short-nosed sturgeons occur in the waters of Narragansett Bay. If ESA species are present and remedial actions (such as dredging) will have an effect on the listed species, then Navy will consult with RIDEM Division of Fish and Wildlife.

TABLE 5-12

**ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4: PARTIAL SEDIMENT REMOVAL, OFFSITE DISPOSAL, AND MONITORING
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act - PCB Remediation Waste	40 Code of Federal Regulations (CFR) 761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to sampling, cleanup, and disposal. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision. The ENR cover layer over contaminated sediment and LUCs will prevent exposure to PCBs exceeding cleanup levels.
CWA, Section 402, National Pollution Discharge Elimination System (NPDES)	33 USC 1342; 40 CFR 122 through 125	Applicable	These standards govern point source discharges of pollutants to surface water.	Standards for discharging of dewatering liquid to surface waters at the site.
Contaminated Sediment Remediation Guidance for Hazardous Waste Sites	OSWER 9355.0-85, (December 2005)	To be Considered	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 Selection; and Chapter 8, Long-term Monitoring	The dredging operations will be developed using methods described in this document.
Clean Water Act, National Recommended Water Quality Criteria (NRWQC)	33 USC 1251 <i>et seq.</i> ; 40 CFR 122.44	Relevant and Appropriate	Used to establish water quality standards for the protection of aquatic life.	These are standards for water quality monitoring that would be conducted to ensure that these criteria are not exceeded during cap placement activities.

TABLE 5-12

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4: PARTIAL SEDIMENT REMOVAL, OFFSITE DISPOSAL, AND MONITORING
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State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal RCRA statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the site, such as dredged sediment and investigation-derived waste (IDW) from monitoring. Will be used when determining whether or not a solid waste is hazardous.
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes manifesting and pre-transport requirements for hazardous waste.	These regulations would apply to all waste generated at the site during dredging and monitoring and sampling IDW, if hazardous.
Rules and Regulations for Dredging and the Management of Dredged Material	DEM-OWR-DR-02-03, Sections 5, 6, 7, 8, 9, and 11	Applicable	Standards to ensure that dredging in the marine environment and management of the associated dredged material is conducted in a manner which is protective of groundwater and surface water quality so as to ensure the continued viability and integrity of drinking water and fish and wildlife resources. Establish standards and criteria governing the dewatering of dredged material for upland use or disposal.	Dredging operations, including dewatering, will be conducted in accordance with the substantive requirements of these standards.
Clean Air Act - Fugitive Dust Control	CRIR 12-31-05	Applicable	Requires that reasonable precautions be taken to prevent particulate matter from becoming airborne.	Removal, processing, and temporary storage of debris and sediments during dewatering and before shipment would be implemented to prevent material from becoming airborne.

TABLE 5-12

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4: PARTIAL SEDIMENT REMOVAL, OFFSITE DISPOSAL, AND MONITORING
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State (continued)

Clean Air Act - Emissions Detrimental to Persons or Property	CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during dredging and dewatering will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act – Air Toxics	CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Emissions of hydrogen sulfide during dredging, dewatering, and stockpiling would be controlled.
Water Quality Regulations	Water Quality Regulations, CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Dredging will be conducted in a manner as to minimize degradation of water quality. Any drainage from the temporary sediment storage area and any dewatering discharge would be treated as required to meet this requirement and discharged into Narragansett Bay.
Water Pollution Control – Pollutant Discharge Elimination System (PDES)	Regulations of Rhode Island Pollutant Discharge Elimination System	Applicable	Contains applicable effluent monitoring requirements, and standards and special conditions for discharges.	Discharge of water to surface water from remedial activities, such as dewatering of sediment will meet these standards.
Rhode Island Soil Erosion and Sediment Control (SESC) Manual	None	Applicable	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.
Identification and Management of Aquatic Invasive Species	None	To be considered	Guidance on addressing aquatic invasive species in Rhode Island.	Remedial work in the Bay will be conducted in a manner to prevent the establishment or spread of aquatic invasive species.

TABLE 5-13

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4A: SEDIMENT REMOVAL, OFFSITE DISPOSAL
SITE 17 BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Removal of contaminated sediment by dredging and LUCs will prevent exposure to site contaminants exceeding risk levels.
EPA Risk Reference Doses (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. Removal of contaminated sediment by dredging and LUCs will prevent exposure to site contaminants exceeding risk levels.
Guidance for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Removal of contaminated sediment by dredging and LUCs will prevent exposure to site contaminants exceeding risk levels.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Removal of contaminated sediment by dredging and LUCs will prevent exposure to site contaminants exceeding risk levels.
National Oceanographic and Atmospheric Administration (NOAA) Incidence of Adverse Biological Effects within Ranges of Chemical Concentration in Marine and Estuarine Sediments, Long, <i>et al.</i> , 1995	None	To be Considered	Guidance on concentration ranges of contaminants in sediment that correspond to the likelihood of adverse effects to organisms.	Used to establish sediment cleanup standards. Removal of contaminated sediment will prevent adverse effects to organisms.

TABLE 5-13

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4A: SEDIMENT REMOVAL, OFFSITE DISPOSAL
SITE 17 BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
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State

There are no state chemical-specific ARARs.

TABLE 5-14

**ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4A: SEDIMENT REMOVAL, OFFSITE DISPOSAL
SITE 17 BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act -Section 404 (b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	40 Code of Federal Regulations (CFR) 230 and 33 CFR 322 and 323	Applicable	These rules regulate the discharge of dredge and fill materials in federal jurisdictional wetlands, vegetated shallows, and navigable waters. Such discharges are not allowed if practicable alternatives are available. Sets forth criteria for obstructions or alterations of navigable waters. For discharges, the Navy must identify a remedial alternative that is the Least Environmentally Damaging Practicable Alternative (LEDPA) for protecting wetlands and aquatic habitat resources. The Navy will solicit public comment as part of the Proposed Plan as to its LEDPA determination.	Dredging operations including sediment dewatering would be conducted in a manner that will minimize discharges to navigable waters. Resource agencies will be consulted to determine if mitigation would be required for altering aquatic habitat. The eelgrass (classified as vegetated shallows) known to exist in two target removal areas removed during dredging would require mitigation. The dredging and dewatering components would meet the substantive environmental requirements of these standards. If fill/dredged material is discharged, the Navy will identify a remedy that is the Least Environmentally Damaging Practicable Alternative on the aquatic ecosystem.
Permits for Structures or Work in or Affecting Navigable Waters of the United States	33 Code of Federal Regulations (CFR) 322	Relevant and Appropriate	Sets forth criteria for obstructions and alterations of navigable waters.	Installation of access restriction markers during dredging activities will be performed in compliance with the substantive requirements of the statute.
Fish and Wildlife Coordination Act	16 United States Code (USC) 661 <i>et seq.</i>	Applicable	Requires that the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), and related state agencies be consulted prior to structural modification of any body of water, including wetlands.	Dredging will impact the waters of the United States. Federal and state fish and wildlife officials would be consulted on how to minimize impacts of any remedial activities on any fish, wildlife and endangered species.

TABLE 5-14

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4A: SEDIMENT REMOVAL, OFFSITE DISPOSAL
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (continued)				
Endangered Species Act (ESA)	50 CFR 200 and 402	Applicable	Remedial actions may not jeopardize the continued existence of federally-listed endangered or threatened species, or adversely modify or destroy their critical habitat. The Atlantic Sturgeon has been listed as an Endangered Species in the region including Narragansett Bay.	The Navy will consult with the appropriate federal resource agencies to ensure that dredging will be conducted to minimize disturbance to aquatic habitats in Narragansett Bay that may be used by the federally endangered Atlantic Sturgeon.
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.	Remedial activities conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation will be mitigated in accordance with requirements. 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.
Coastal Zone Management Act	16 USC Parts 1451 <i>et. seq.</i>	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.

TABLE 5-14

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4A: SEDIMENT REMOVAL, OFFSITE DISPOSAL
 SITE 17 BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq.</i>	Applicable	Sets standards for management and protection of coastal resources. Jurisdiction includes areas within 200 feet of coastal features, within 50 feet of wetlands under the jurisdiction of the CRMC, and floodplains.	The entire site is located in a coastal resource management area, therefore, activities conducted under this alternative would be conducted in compliance with applicable coastal resource management requirements.
Rhode Island Endangered Species Act	RIGL 20-37-1 <i>et seq.</i>	Relevant and Appropriate	Regulates activities affecting state listed endangered or threatened species or their critical habitat.	The State listed Atlantic and short-nosed sturgeons occur in the waters of Narragansett Bay. If ESA species are present and remedial actions (such as dredging) will have an effect on the listed species, then Navy will consult with RIDEM Division of Fish and Wildlife.

TABLE 5-15

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4A: SEDIMENT REMOVAL, OFFSITE DISPOSAL
 SITE 17 BUILDING 32, GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act - PCB Remediation Waste	40 Code of Federal Regulations (CFR) 761.61(c)	Applicable	Risk-based standards for the sampling, cleanup, or disposal of PCB remediation waste. Written approval for the proposed risk-based clean-up will be obtained from the Office of Site Remediation and Restoration, EPA Region 1.	Standards apply to sampling, cleanup, and disposal. The Navy will solicit public comment in the Proposed Plan about the finding that the proposed remedy for PCB contamination at the Site will not pose an unreasonable risk of injury to health or the environment. An EPA finding that the remedy meets these standards will be included in the Record of Decision. Removal of the sediment containing PCBs will address the standards.
CWA, Section 402, National Pollution Discharge Elimination System (NPDES)	33 USC 1342; 40 CFR 122 through 125	Applicable	These standards govern point source discharges of pollutants to surface water.	Standards for discharging of dewatering liquid to surface waters at the site.
Contaminated Sediment Remediation Guidance for Hazardous Waste Sites	OSWER 9355.0-85, (December 2005)	To be Considered	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 Selection; and Chapter 8, Long-term Monitoring	The subaqueous cap and enhanced natural recovery system will be developed using methods described in this document.
Clean Water Act, National Recommended Water Quality Criteria (NRWQC)	33 USC 1251 <i>et seq.</i> ; 40 CFR 122.44	Relevant and Appropriate	Used to establish water quality standards for the protection of aquatic life.	These are standards for water quality monitoring that would be conducted to ensure that these criteria are not exceeded during dredging and dewatering activities.

TABLE 5-15

**ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4A: SEDIMENT REMOVAL, OFFSITE DISPOSAL
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State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal RCRA statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the site, such as dredged sediment and investigation-derived waste (IDW) from monitoring. Will be used when determining whether or not a solid waste is hazardous.
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes manifesting and pre-transport requirements for hazardous waste.	These regulations would apply to all waste generated at the site during dredging and monitoring and sampling IDW, if hazardous.
Rules and Regulations for Dredging and the Management of Dredged Material	DEM-OWR-DR-02-03, Sections 5, 6, 7, 8, 9, and 11	Applicable	Standards to ensure that dredging in the marine environment and management of the associated dredged material is conducted in a manner which is protective of groundwater and surface water quality so as to ensure the continued viability and integrity of drinking water and fish and wildlife resources. Establish standards and criteria governing the dewatering of dredged material for upland use or disposal.	Dredging operations, including dewatering, will be conducted in accordance with the substantive requirements of these standards.
Clean Air Act - Fugitive Dust Control	CRIR 12-31-05	Applicable	Requires that reasonable precautions be taken to prevent particulate matter from becoming airborne.	Removal, processing, and temporary storage of debris and sediments during dewatering and before shipment would be implemented to prevent material from becoming airborne.

TABLE 5-15

**ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - SEDIMENT ALTERNATIVE 4A: SEDIMENT REMOVAL, OFFSITE DISPOSAL
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State (continued)

Clean Air Act - Emissions Detrimental to Persons or Property	CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during dredging and dewatering will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act - Air Toxics	CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Emissions of hydrogen sulfide during dredging, dewatering, and stockpiling would be controlled.
Water Quality Regulations	Water Quality Regulations, CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Dredging will be conducted in a manner as to minimize degradation of water quality. Any drainage from the temporary sediment storage area and any dewatering discharge would be treated as required to meet this requirement and discharged into Narragansett Bay.
Water Pollution Control – Pollutant Discharge Elimination System (PDES)	Regulations of Rhode Island Pollutant Discharge Elimination System	Applicable	Contains applicable effluent monitoring requirements, and standards and special conditions for discharges.	Discharge of water to surface water from remedial activities, such as dewatering of sediment will meet these standards.
Rhode Island Soil Erosion and Sediment Control (SESC) Manual	None	Applicable	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.
Identification and Management of Aquatic Invasive Species	None	To be considered	Guidance on addressing aquatic invasive species in Rhode Island.	Remedial work in the Bay will be conducted in a manner to prevent the establishment or spread of aquatic invasive species.

TABLE 6-1

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 1: NO ACTION
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. There are no actions for this alternative, so unacceptable risk remains.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. There are no actions for this alternative, so unacceptable risk remains.
Safe Drinking Water Act, National Primary Drinking Water Regulations - Maximum Contaminant Levels (MCLs)	40 Code of Federal Regulations (CFR) 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.	Under federal standards, is considered a potential drinking water source and therefore groundwater must achieve these standards. There are no actions for this alternative, so unacceptable risk remains.

TABLE 6-1

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 1: NO ACTION
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2**

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
Safe Drinking Water Act, National Primary Drinking Water Regulations - Maximum Contaminant Level Goals (MCLGs)	40 CFR 141 Subpart F	Relevant and Appropriate (non-zero MCLGs only)	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.	Under federal standards, groundwater within the Site is considered a potential drinking water source and therefore groundwater must achieve this standard. There are no actions for this alternative, so unacceptable risk remains.
Drinking Water Health Advisory for Manganese (EPA Office of Drinking Water), 2004	-	To Be Considered	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.	Health advisories will be used to evaluate the non-carcinogenic risk resulting from exposure to manganese. Under federal standards, groundwater within the Site is considered a potential drinking water source and therefore groundwater must achieve these standards. There are no actions for this alternative, so unacceptable risk remains.
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001; DEM-DSR-01-93, Section 8.03A(i) and (iii); and 8.03B.	Relevant and Appropriate	These regulations set remediation standards for contaminated media. These standards are applicable to a CERCLA remedy when they are more stringent than federal standards. Establishes criteria for groundwater.	Used to establish groundwater PRGs when these standards are more stringent than federal standards. There are no actions for this alternative, so unacceptable risk remains.

TABLE 6-2

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 1: NO ACTION
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
There are no federal location-specific ARARs.				
State				
There are no state location-specific ARARs.				

TABLE 6-3

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 1: NO ACTION
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
There are no federal action-specific ARARs.				
State				
There are no state action-specific ARARs.				

TABLE 6-4

**ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 2: MONITORED NATURAL ATTENUATION
AND LUCS
SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 2**

Requirement	Citation	Status	Synopsis of Requirement	Action to be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	Guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Land Use Controls (LUCs) will prevent exposure to contaminants in groundwater exceeding risk levels.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. LUCs will prevent exposure to contaminants in groundwater exceeding risk levels.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risks.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. LUCs will prevent exposure to contaminants in groundwater exceeding risk levels.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance for assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. LUCs will prevent exposure to contaminants in groundwater exceeding risk levels.
Safe Drinking Water Act, National Primary Drinking Water Regulations - Maximum Contaminant Levels (MCLs)	40 Code of Federal Regulations (CFR) 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.	Under federal standards, is considered a potential drinking water source and therefore groundwater must achieve these standards. Groundwater LUCs will be maintained until these standards are achieved through MNA.

TABLE 6-4

ASSESSMENT OF CHEMICAL-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 2: MONITORED NATURAL ATTENUATION AND LUCS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to be Taken to Attain ARAR
Federal (continued)				
Safe Drinking Water Act, National Primary Drinking Water Regulations - Maximum Contaminant Level Goals (MCLGs)	40 CFR 141 Subpart F	Relevant and Appropriate (non-zero MCLGs only)	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.	Under federal standards, groundwater within the Site is considered a potential drinking water source and therefore groundwater must achieve this standard. Groundwater LUCs will be maintained until the standard is achieved through MNA.
Drinking Water Health Advisory for Manganese (EPA Office of Drinking Water), 2004	None	To Be Considered	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.	Health advisories will be used to evaluate the non-carcinogenic risk resulting from exposure to manganese. Under federal standards, groundwater within the Site is considered a potential drinking water source and therefore groundwater must achieve these standards. Groundwater LUCs will be maintained until these standards are achieved through MNA.
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001, DEM-DSR-01-93, Section 8.03A(i) and (iii); and 8.03B.	Relevant and Appropriate	These regulations set remediation standards for contaminated media. These standards are applicable to a CERCLA remedy when they are more stringent than federal standards. Establishes criteria for groundwater.	Concentrations of COCs are already less than Groundwater Objectives. LUCs will prevent residential use of groundwater. Periodic monitoring to be conducted as part of MNA will verify that Groundwater Objectives are not exceeded.

TABLE 6-5

ASSESSMENT OF LOCATION-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 2: MONITORED NATURAL ATTENUATION AND LUCS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to be Taken to Attain ARAR
Federal				
Floodplain Management and Protection of Wetlands	44 Code of Federal Regulations (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.	Monitoring activities conducted within the 100-year coastal storm floodplain or within federal jurisdictional wetlands and aquatic habitats will be implemented in compliance with these standards. During the remedial design stage, the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation will be mitigated in accordance with requirements. 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.
Coastal Zone Management Act	16 United States Code (USC) Parts 1451 <i>et seq.</i>	Applicable	Requires that any actions must be conducted in a manner consistent with state-approved management programs.	The site is located within a coastal zone management area; therefore, applicable coastal zone management requirements need to be addressed.
State				
Coastal Resources Management	Rhode Island General Laws (RIGL) 46-23-1 <i>et seq.</i>	Applicable	Sets standards for management and protection of coastal resources.	The entire site is located in a coastal resource management area, therefore, activities conducted under this alternative would be conducted in compliance with applicable coastal resource management requirements.

TABLE 6-6

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 2: MONITORED NATURAL ATTENUATION AND LUCS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
 NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
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Requirement	Citation	Status	Synopsis of Requirement	Action to be Taken to Attain ARAR
Federal				
EPA Groundwater Protection Strategy	August 1984; NCP Preamble, Vol. 55, No. 46, March 8, 1990, 40 CFR 300, p. 8733); Guidelines for Ground-Water Classification (November 1986)	To Be Considered	The Groundwater Protection Strategy provides a common reference for preserving clean groundwater and protecting the public health against the effects of past contamination. Guidelines for consistency in groundwater protection programs focus on the highest beneficial use of a groundwater aquifer.	Guidance standards will be met since federal drinking water standards, non-zero Maximum Contaminant Level Goals (MCLGs), and more stringent state groundwater standards and risk-based standards will be met through application of the Land Use Controls (LUCs).
Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites	OSWER Directive 9200.4-17P (April 21, 1999)	To be Considered	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.	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.
State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Code of Rhode Island Rules (CRIR), 12-030-003, Rule 5.8	Applicable	Rhode Island is delegated to administer the federal RCRA statute through its state regulations. Defines the listed and characteristic hazardous wastes.	These regulations apply to all waste generated during actions at the Site, such as investigation-derived waste (IDW) from monitoring. Will be used when determining whether or not a solid waste is hazardous. IDW is not expected to be hazardous.

TABLE 6-6

ASSESSMENT OF ACTION-SPECIFIC ARARs AND TBCs - GROUNDWATER ALTERNATIVE 2: MONITORED NATURAL ATTENUATION AND LUCS
 SITE 17 BUILDING 32 GOULD ISLAND FEASIBILITY STUDY
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Requirement	Citation	Status	Synopsis of Requirement	Action to be Taken to Attain ARAR
State (continued)				
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, CRIR 12-030-003, Rule 5.2, 5.3, and 5.4	Applicable	Establishes accumulation, manifesting, and pre-transport requirements for hazardous waste.	These regulations would apply to any waste generated at the Site that is determined to be hazardous, such as IDW from monitoring. IDW is not expected to be hazardous.
Drilling of Drinking Water Wells; Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to the Drilling of Drinking Water Wells	Rule 7.01	Applicable	Prohibits installing drinking water wells near pollution sources or potential contamination sources.	LUCs would prevent the installation of residential groundwater wells near pollution sources or potential contamination sources.
Rules and Regulations for Groundwater Quality (Well Standards) – Appendix 1	-	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Applies to the abandonment of existing monitoring wells.