

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

PART 3: THE RESPONSIVENESS SUMMARY

1.0 STAKEHOLDER ISSUES AND NAVY RESPONSES

Several comments were received during the public comment period and at the public hearing on the Proposed Plan for the Rubble Disposal Area, Operable Units 2 and 9. A copy of the comments received during the public comment period and a copy of the transcript for the public hearing are attached as Appendix E1 and E2, respectively. Comment responses are provided in Section 3.0.

The Navy has reviewed all comments received from the public and support agencies pertaining the Proposed Plan for the RDA at NAS South Weymouth. As specified in the Proposed Plan, the Navy's preferred remedy for the RDA consists of excavation and offsite disposal of PCB material, construction of a permeable soil cap for the landfill, implementing a long-term monitoring program, and applying institutional controls to soil and groundwater. Upon reviewing the views of the public and support agencies, the Navy understands the stakeholders' major concerns to be related to the issues briefly summarized and responded to below. As the Navy and its consultants have carefully considered the comments submitted by the public and support agencies, and have prepared comprehensive responses to each of them, the Navy encourages reviewers of this document to consider the comprehensive responses provided in Sections 3.1 and 3.2.

Preference to Excavate the Landfill—The stakeholders would prefer excavation of the landfill materials rather than in-place capping. Even if the Navy removed the entire landfill contents from the site, many of the same chemicals detected at the site would be present in the excavation backfill, as well as in the underlying groundwater. The presence of inorganic chemicals and semi-volatile organic compounds (SVOCs) may not be exclusively associated with the RDA. For example, arsenic, lead, and manganese are naturally occurring chemicals, and the SVOCs detected are ubiquitous in developed areas. In addition, the samples collected from within the landfill pose no risks in excess of regulatory thresholds. Only the PCBs in the adjacent wetlands revealed potential ecological risks, and the Navy's selected remedy includes complete removal of those PCBs.

Local Health Concerns—There is a high incidence of health problems in the surrounding area that the stakeholders would like the Navy to consider and address. The Massachusetts Department of Public Health is conducting regional studies to address these concerns. The Navy has made available all of its data.

Chemicals in Groundwater—There are some chemicals in groundwater that the stakeholders believe the Navy should address. Only three chemicals in groundwater were detected at concentrations that could pose potential risks in the event of direct, unfiltered ingestion: arsenic, benzo(a)pyrene (BAP), and manganese. These chemicals were compared to federal and state drinking water standards, which were developed by EPA and MADEP to protect human health and ensure safe drinking water. Arsenic and benzo(a)pyrene were below drinking water standards; the Navy's risk assessment was conservative. Regarding manganese, there is no current or proposed primary drinking water standard; there is only a secondary standard for aesthetics because of its common potential to cause staining. Although lead in groundwater did not pose a calculated risk, it was detected above its drinking water standard, which is not uncommon as a naturally occurring inorganic chemical.

Risk Assessment Dependability—The stakeholders question the conservatism and dependability of the Navy's risk assessments, and are concerned about potential risks posed by the site. Both human health and ecological risk assessments use assumptions that have uncertainty associated with them. As a result, these assumptions tend to be conservative in nature and generally result in an overestimation of potential risk. A prime example being the overestimation of risks posed by the ingestion of arsenic and BAP, when both chemicals were below their respective drinking water standards.

Understanding of Landfill Material—The stakeholders question the Navy's delineation and understanding of the landfill materials. Numerous subsurface investigations and geophysical surveys have been conducted to delineate the extent and characterize the RDA over the past decade. However, it is impossible to view and characterize all materials within the disposal area. Debris and drum/drum fragments observed during construction activities will be disposed on or offsite as appropriate. Further, the preferred remedy includes

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

long-term monitoring to assess groundwater and surface water conditions after landfill closure.

Selection of Lowest-cost Remedy—The stakeholders do not believe the Navy should select the lowest-cost remedy as its preferred method of cleanup. Cost is only one factor that contributed to the Navy's preferred remedy. There were two other alternatives that had lesser costs. The Navy is required to consider many criteria in establishing the basis for a decision, and is a process that requires the approval of EPA.

Limitation on Future Reuse—The stakeholders believe that capping the landfill materials in-place could impede the variety of both human and ecological future site-use. The preferred remedy includes a soil cover that will be designed to allow for active and passive recreation. The cover will include geotextiles to prevent burrowing animals from contacting the landfill materials. All visible debris in the adjacent wetlands will be removed for placement on the landfill prior to capping, or transportation offsite. No debris will be visible following remedy completion.

Potential Flooding—The proximity to wetlands and Old Swamp River causes the stakeholders to have concern over potential flood impacts to a closed-in-place landfill. The Navy will construct the cap such that it does not extend into the wetlands. Rip-rap will be placed along the slopes of the RDA to further protect against flooding and erosion.

Drinking Water Supply Impacts—The stakeholders believe that the Navy should address potential impacts to its local drinking water supply. None of the data collected to date indicates that any contamination has migrated offsite. Chemicals detected at the RDA are not necessarily associated with the landfill; most are naturally occurring or commonly associated with developed, urban areas. The Navy has developed a preferred remedy that includes the use of a permeable soil cover that allows for the continued aeration of the landfill, which will decrease the potential for metals and other inorganic chemicals to migrate into groundwater and surface water. Long-term monitoring is included assess the continued quality of nearby groundwater and surface water.

Lack of Offsite Well Data—The Navy's lack of offsite private well sampling is a concern of the stakeholders, relative to the Navy's understanding of the broader groundwater conditions associated with the site. To date, the Navy has no data that indicates any contamination has migrated off the property. Therefore, no sampling or testing beyond the property boundary by the Navy has been necessary.

Future Liability—The stakeholder are concerned about the future ownership and liability associated with maintaining the integrity of the landfill after the Navy transfers the property. Unfortunately, the future ownership of the site is currently unknown and is the subject of on-going discussions. If a remedy that is implemented under CERCLA becomes ineffective, EPA will require corrective action to repair the in-place system, or will consider requiring the consideration of alternate remedies.

2.0 TECHNICAL AND LEGAL ISSUES

No legal or technical issues pertaining to the ROD for the RDA have been identified.

3.0 COMMENT RESPONSES

Section 3.1 presents verbal comments recorded at the public hearing on February 27, 2003, with Navy responses. Section 3.2 presents written comments received during the public comment period, with Navy responses. The 30-day comment period for the RDA was from February 24, 2003 to March 26, 2003, however, based upon verbal and written requests, the Navy granted a 15-day comment period extension. Therefore, the 45-day comment period ended on April 10, 2003.

3.1 Verbal Comments and Responses

Note that the following comments are paraphrased. Refer to the Public Hearing Transcript for a complete set of verbal comments recorded at the public hearing on February 27, 2003.

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

1. **Comment from Dave Wilmot, Abington Resident:** Mr. Wilmot stated that he disagrees with the Navy's proposed remedy for the RDA. Concerns raised included the increasing number of serious health issues in the areas surrounding NAS South Weymouth, the presence of 4 of the top 8 priority toxins on the Federal Center of Disease Control Toxicity Registry at the RDA (PCBs, arsenic, lead, and benzo(a)pyrene), and that monetary issues are taking precedent over public health issues. Mr. Wilmot further stated that the costs associated with the complete removal and offsite disposal of the RDA would be small compared to the costs associated with the increasing number of chronic illnesses in the US.

Navy Response: *The Navy is committed to investigating and cleaning up environmental items at NAS South Weymouth. Since the mid-1980s, the Navy has been conducting, and continues to conduct, numerous environmental investigation and/or cleanup activities at NAS South Weymouth. These activities have been conducted under either the federal Superfund program, in accordance with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), or the state program, in accordance with the Massachusetts Contingency Plan (MCP). In addition, the Navy initiated an environmental baseline survey (EBS) to further identify potential areas warranting investigation and cleanup that were not already covered under the federal or state programs. The protection of human health and the environment is the Navy's first priority.*

In accordance with federal and state cleanup program guidance, areas to be investigated are typically identified based on historic site uses and activities, Navy records, known or suspected areas of potential contaminant releases (e.g., an underground fuel storage tank), analytical data, or reported observations from the community (e.g., iron precipitation in French Stream). These areas are further investigated through surface and subsurface explorations, geophysical surveys, ecological surveys, and/or the collection of soil, sediment, groundwater, and surface water samples for laboratory analysis to identify and delineate the extent of potential impacts. Human health and ecological risk assessments are then conducted using site-specific data to determine whether the "site" poses potential risks to human health and the environment, which may warrant remediation and cleanup under the federal and state programs.

The Navy has identified 9 CERCLA sites, approximately 30 MCP sites, and over 100 EBS sites at NAS South Weymouth that are either currently being investigated, are in the process of being remediated, or have been closed in accordance with applicable state and federal guidance. To date, none of the data collected from NAS South Weymouth indicates that any contamination has migrated off the base in to the surrounding communities. Therefore, no sampling or testing by the Navy beyond the perimeter of NAS South Weymouth has been required. However, if, through its ongoing programs, the Navy identifies offsite contaminant migration from Navy sources on the property, the Navy will ensure that it is cleaned up in accordance with applicable state and federal laws and regulations.

For the most part, chemicals found at the RDA are at levels close to the laboratory detection limits and are either consistent with background conditions or consistent with expected residual levels due to previous base-wide activities (e.g., the routine application of pesticides and herbicides). There were some chemicals detected at the RDA above laboratory detection limits or background conditions, including PCBs in hydric soil and arsenic, lead, manganese, and benzo(a)pyrene in groundwater. Therefore, in accordance with Superfund guidance, the Navy conducted a human health and ecological risk assessment to further evaluate potential risks from the levels of those chemicals detected.

Although the baseline human health portion of the risk assessment performed for the RDA identified potential risks for a future resident ingesting groundwater from beneath the site containing arsenic, benzo(a)pyrene, and manganese, the Navy, EPA, and MADEP have determined that groundwater cleanup is not necessary because (1) arsenic and benzo(a)pyrene concentrations are below drinking water standards, (2) there is no current or proposed primary drinking water standard for manganese (which is generally categorized with iron as a source of staining in sinks or laundry and not as a potential source of toxicity), and (3) the risk assessment was highly conservative which tends to overestimate potential risks. The Navy concluded that if, in the future, the groundwater beneath the site were to be used as a drinking water supply, routine groundwater treatment using standard municipal treatment technologies (e.g., precipitation and filtration) would be necessary to meet other federal and state drinking

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

water and aesthetic (e.g., taste and odor) standards. No risks were identified based upon exposure to lead in groundwater. The results of the Integrated Exposure Uptake Biokinetic (IEUBK) model (used to evaluate exposure to lead) showed that 99.9% of the exposed population would have blood lead levels below 10 ug/dL (this equals 10 micrograms of lead per deciliter of blood, which equals 100 parts per billion). This is better than the Center for Disease Control guideline, which states that 95% of a population should have blood lead levels below 10 ug/dL.

Further, the benzo(a)pyrene detection (MW-49D) in groundwater was at 0.03 J micrograms per liter. The non-detects at other wells from the same round of sampling and analysis are reported at 0.1 and even 10 micrograms per liter. So, this "problem" detection is right near the analytical detection limits and thus not very meaningful. Furthermore, this sample was turbid (recorded at 180 NTU at the time of sampling), so there is reason to believe that the analysis may be tainted by SVOCs sorbed on particulates (possibly dragged down from surface soils in the course of drilling).

The metals concerns are also driven principally by one sample from MW-22D (arsenic at 10.8 micrograms per liter, lead at 42.9 micrograms). This sample too was highly turbid (190 NTU), and the high metals are probably associated with particulates. MW22D also showed reducing conditions (ORP = -66 mV), so it is possible that there is a contribution to the elevated metals from dissolution of iron oxyhydroxides and liberation of sorbed trace metals. Moreover, it has to be acknowledged that it is possible that the RDA site has some influence on this (e.g., presence of organic materials in the fill that contribute to the reducing conditions), but one does not need to look there for an explanation. This is an environment with wetlands (past and present), peat, etc., where reducing groundwater is quite common, even absent of a landfill. There is no reason to believe that the "elevated" arsenic, lead, and manganese are associated with the RDA site at all. The arsenic and manganese, in particular, are almost certainly present in the natural site soils and mobilized to groundwater by what may be processes not strongly influenced by the RDA site. The Navy and EPA do not consider the RDA site to be the "source" of the arsenic and manganese; removing the debris within the RDA will not alter the groundwater conditions relative to these two common elements. The lead and benzo(a)pyrene are ubiquitous in surface soils in urban environments, and there is little evidence that their detections at the RDA site are associated with the RDA site.

The ecological portion of the risk assessment identified potential risks to small mammals based upon the presence of PCBs in hydric soil and small mammal tissue. Therefore, the Navy and EPA jointly developed a cleanup goal for PCBs that would be protective of ecological receptors, and selected a remedial alternative that included the excavation and offsite disposal of this PCB-impacted material. Once this soil is removed, the potential risks to the small mammals will no longer be realized.

Cost is only one factor that contributed to the Navy's preferred remedy. There were two other alternatives that had lesser costs. The Navy is required to consider many criteria in establishing the basis for a decision, and is a process that requires the approval of EPA.

In summary, the Navy has studied and evaluated the RDA as required under Superfund guidance. The results of this study have concluded that a remedial action is necessary to remove PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary.

- Comment from Charles Kimball, Rockland Resident:** Mr. Kimball stated that the Rubble Disposal Area should be excavated and disposed offsite to remove the contamination from the Base and avoid the potential for additional environmental studies.

Navy Response: The RDA site is subject to federal laws and regulations, specifically, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorizations Act (SARA), and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), which are collectively referred to as "Superfund." CERCLA and the NCP set forth the process by which remedial alternatives are evaluated and selected. Section 121(b)(1) of CERCLA presents several factors that the Navy must consider in its

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

assessment of alternatives. The NCP further builds on these mandates and articulates that nine evaluation criteria be used in assessing the individual remedial alternatives. Therefore, a detailed analysis was performed on the alternatives developed for the RDA using all nine NCP criteria prior to rendering a final remedial decision.

The NCP evaluation criteria are grouped, in order of priority, into the following three categories: (1) threshold criteria, (2) primary balancing criteria, and (3) modifying criteria. The threshold criteria (overall protection of human health and the environment and compliance with ARARs) must be met in order for the alternatives to be eligible for selection. Once the threshold criteria is met, the primary balancing criteria (long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short term effectiveness, implementability, and cost) are used to evaluate, compare, and weigh the advantages and disadvantages of each alternative. Finally, the modifying criteria (state acceptance and community acceptance) are considered. Although the modifying criteria is important in the evaluation process, it does not necessarily outweigh the threshold and primary balancing criteria that have been met.

As presented in the Proposed Plan and summarized in Section 6 of Tetra Tech NUS/ENSR's report, "Feasibility Study, Rubble Disposal Area, NAS South Weymouth", dated March 2003, and Section 11 of this ROD, an evaluation of the threshold and primary balancing criteria reveal that the in-place capping alternatives (Alternatives RDA-3, RDA-4, and RDA-5) are the most appropriate remedies for the RDA. The capping alternatives are protective of human health and the environment, are compliant with ARARs, achieve long-term effectiveness and permanence, reduce toxicity/mobility/volume (through removal), achieve short-term effectiveness, can be implemented, and are cost effective. Further, the capping alternatives are conditionally supported by both EPA and MADEP, and are consistent with EPA Headquarters' expectations for landfills (per presumptive remedy guidance). Of the capping alternatives developed for the RDA, EPA and MADEP prefer RDA-5 because it includes excavation and offsite disposal of the PCB-impacted soil in the wetland; however, EPA conditionally supports this alternative. Please refer to Section 3.2 comment number 38 for EPA's statement regarding their conditional acceptance of the selected remedy.

There are also several technical reasons to support the selected remedy.

- The Navy has studied and evaluated the RDA as required under Superfund guidance. The results of this study have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary (please refer to the Navy's response to Section 3.1, comment number 1).
- The remedial action for the RDA includes excavation to remove the potential risks identified (i.e., excavation and offsite disposal of PCBs in hydric soil in the wetland area adjacent to the RDA). Once this soil is removed, the potential risks to small mammals will no longer be realized.
- Regarding the chemicals detected above laboratory detection limits or above background in groundwater (arsenic, benzo(a)pyrene, manganese, and lead), arsenic and benzo(a)pyrene concentrations are below drinking water standards, and there is no current or proposed primary drinking water standard for manganese. For lead, the results of the IEUBK model (used to evaluate exposure to lead) showed that 99.9% of the exposed population would have blood lead levels below 10 ug/dL (this equals 10 micrograms of lead per decilitre of blood, which equals 100 parts per billion). This is better than the Center for Disease Control guideline, which states that 95% of a population should have blood lead levels below 10 ug/dL.
- The presence of inorganic chemicals and semi-volatile organic compounds (SVOCs) may not be exclusively associated with the RDA. For example, arsenic, lead, and manganese are naturally occurring chemicals, and the SVOCs detected are ubiquitous in developed areas. The removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.

Therefore, the Navy has concluded that the most appropriate remedy for the site, is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

3. **Comment from Mary Parsons, Rockland Resident, member of the Town of Rockland Board of Selectmen (first comment):** Ms. Parsons stated that the Rubble Disposal Area should be completely removed and disposed offsite. Concerns raised included a potential pathway to Weymouth's drinking water supply, rare and endangered species management during remedy implementation, and impacts on the food chain based on the presence of PCBs in mice tissue. Ms. Parsons also questioned the contents of the landfill as well as the actual time period over which the RDA was used for disposal of materials.

Navy Response: *The Navy has conducted several investigations to determine the nature and extent of potential contamination, and to adequately characterize the physical and ecological settings of the RDA. These investigations were done in accordance with CERCLA, the NCP, and the MCP. The EPA and MADEP have been involved in each step of the evaluation process.*

During these investigations, the Navy identified applicable or relevant and appropriate requirements (ARARs). ARARs are federal and state human health and environmental requirements used to define the appropriate extent of site cleanup, identify sensitive land areas or land uses, develop remedial alternatives, and direct site remediation. ARARs are broken down in to 3 categories (1) chemical-specific which govern the extent of site remediation with regard to specific contaminants or pollutants, (2) location-specific which govern site features such as wetlands, floodplains, and sensitive ecosystem, as well as natural and manmade site features such as historical or archaeological features; and (3) action-specific which pertain to the proposed site remedies. These ARARs include those requirements necessary to protect endangered species from harm during and after remedial action, and to protect and restore the wetlands in the vicinity of the site. Please refer to Appendix F for the ARARs associated with the selected remedy.

With respect to the PCBs found at the RDA, the remedial action selected for the site includes the removal of PCB-impacted soil from the wetlands. This soil will be removed to protect small mammals in the vicinity of the site. Regarding higher tropic level mammals, conservative food chain modeling to higher trophic-level birds and mammals indicates that risks to higher-level predators are below regulatory risk thresholds. Please refer to Section 7 of Tetra Tech NUS/ENSR's report, "Phase II Remedial Investigation, Rubble Disposal Area, NAS South Weymouth", dated January 2001, available at the information repositories for NAS South Weymouth, for additional information.

Based on available groundwater and surface water data, potential contaminant migration from the RDA does not appear to be occurring. Further, potential contaminant migration to Weymouth's water supply (Whitman's Pond) is unlikely based on proximity (approximately 15,500 feet), low contaminant concentrations, and factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution. These factors would result in sufficient attenuation such that contamination is unlikely to reach Whitman's Pond, or would reach the pond at levels below detection limits of most analytical methods. However, to ensure the continued protectiveness of the selected remedy, long-term monitoring of groundwater and surface water will be conducted as part of landfill closure activities.

As part of the Remedial Investigations (Phases I and II), the Navy has conducted numerous subsurface investigations (soil borings and test pits) and geophysical surveys to delineate the extent and characterize the material that comprises the fill within the RDA. Although it is impractical to view and characterize all materials within the RDA, the Navy and their professional consultants are confident that sufficient information has been collected over the past decade to sufficiently describe the chemical and physical characteristics of the RDA and select an appropriate remedy. Further, based on Navy records, the RDA was used for 4 years between 1959 and 1962, and for a short period in 1978. The Navy is not aware of any disposal activities that have occurred at the RDA since 1978.

The Navy has studied and evaluated the RDA as required under Superfund guidance. The results of this study have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA. In addition, existing groundwater data indicates that no active cleanup of groundwater is necessary. This decision has been confirmed by both EPA and MADEP. Therefore, the

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

Navy has concluded that the most appropriate remedy for the site is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls. Please refer to Section 3.1, comment number 2, for an explanation of the process involved and technical justifications that led to and support the selected remedy.

4. **Comment from Robert Loring, Weymouth Resident:** Mr. Loring questioned why the Navy needs to cap, fence and test the landfill if it does not pose a concern. Mr. Loring also questioned the contents of the RDA as well as the budget for the proposed remedy. Mr. Loring stated that if, in the future, LTM data indicates further remediation is necessary, there would be insufficient funding to cleanup the site. Mr. Loring indicated that based on the information he has reviewed, the RDA should be completely removed and disposed offsite.

***Navy Response:** The Navy selected Alternative RDA-5 (which includes capping the former disposal area) over Alternative RDA-2 (which did not include a cap) because it was determined that preventing physical hazards associated with exposed debris on the surface of the landfill, controlling erosion and surface water runoffs, and preventing deposition of sediments from the upland portion of the site into the adjacent wetlands would be an appropriate response action for the RDA. The requirement for a fence and related signs was included as an added, optional level of protection. The use of these components should be consistent with reuse plans for the area.*

Regarding the contents of the RDA, the Navy has studied the site as part of the Remedial Investigation (Phases I and II), where numerous subsurface investigations (soil borings and test pits) and geophysical surveys were conducted to delineate the extent and characterize the material that comprises the fill within the RDA. Although it is impractical to view and characterize all materials within the RDA, the Navy and their professional consultants are confident that sufficient information has been collected over the past decade to sufficiently describe the chemical and physical characteristics of the RDA and select an appropriate remedy.

Regarding the cost estimate for the selected remedy for the RDA, it is recognized that the estimate is approximate. In accordance with Superfund guidance, such estimates should be accurate to within +50 or -30 percent of the actual cost. Regardless of the accuracy of the cost, such estimates are used in budget planning.

It is important to note that under CERCLA, if a remedy selected in a ROD is found to be ineffective at achieving the remedial objectives for the site, then an evaluation of others options is warranted. This is typically done for the 5-year review, but may also be done during the long-term monitoring program. If a remedy that is implemented under CERCLA becomes ineffective, EPA will require corrective action to repair the in-place system, or will consider requiring the consideration of alternate remedies. CERCLA provides for making changes to the selected remedy through a Memorandum to the Site File (for insignificant changes) or through implementation of an Explanation of Significant Differences (ESD) or ROD Amendment (for significant and fundamental changes). As the lead agency for all investigation and cleanup programs ongoing at NAS South Weymouth, the Navy has the obligation under CERCLA to continue to evaluate the protectiveness of the selected remedy. However, the Navy may arrange, by contract or otherwise, for another party (ies) to carry out these responsibilities.

5. **Comment from Walter Bainter, Weymouth Resident:** Mr. Bainter supported the Navy's proposed decision to cap the Rubble Disposal Area. Mr. Bainter indicated that numerous studies have been conducted at considerable cost, and that it is time to address the issues and move on.

***Navy Response:** The Navy appreciates Mr. Bainter's acknowledgement of the studies conducted and his support for the selected remedy.*

6. **Comment from James Cunningham, Weymouth RAB Member:** Mr. Cunningham stated that the RDA should be completely removed and disposed offsite under Alternative RDA-6. Concerns raised included contaminant migration to Weymouth's drinking water supply, impacts of PCBs on the food chain, unknown

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

materials or substances in the subsurface based on field investigation limitations, potential for further impacts to the adjacent wetlands, and the limited, but growing knowledge of health effects associated with hazardous chemicals. Mr. Cunningham also stated that due to escalating costs, the long-term costs for monitoring and maintaining the Navy's preferred capping alternative may exceed the cost of excavating the entire contents of the RDA for offsite disposal.

Navy Response: Please see Navy response to Section 3.1, comments numbers 1 and 3. With respect to the wetlands, the soil cap for the RDA will be constructed in accordance with applicable state and federal regulations such that the potential for further impacts to the wetlands from erosion of the soil cap would be minimal. The soils used for cap construction will be compacted to form a stable, dense, graded fill. Further, in order to prevent erosion of the soil cap, a topsoil layer will be constructed and seeded to produce a thick and dense vegetative mat.

Regarding costs, based on inflation, unforeseen circumstances that could hamper project activities, and the absence of a limit to analyzing on-going activities, it is difficult to project costs to be incurred up to 30 years in the future. However, the Navy followed EPA costing guidance, included contingencies, and converted future expenditures into today's dollars (net present value) in an attempt to understand costs and to maintain consistency across the alternatives evaluated.

7. **Comment from Don McCormack, Weymouth Resident:** Mr. McCormack stated that the entire contents of the RDA, not a limited 54 cubic yards of PCB-impacted material, should be removed and disposed offsite.

Navy Response: Please refer to the Navy's response to Section 3.1, comment number 2 above.

8. **Comment from Mary Parsons, Rockland Resident, member of the Town of Rockland Board of Selectman (second comment):** Ms. Parsons stated that the Rockland Board of Selectman and the Rockland Board of Health would like the entire contents of the RDA removed and disposed offsite under Alternative RDA-6. Ms. Parsons further stated that once the South Shore Tri-Town Development Corporation completes its projects, the Town of Rockland will end up being responsible for the continuous monitoring and testing of the landfill required by the MADEP.

Navy Response: Please refer to Navy response to Section 3.1 comment number 2. In accordance with CERCLA guidance, the Navy has prepared the Remedial Investigation (RI), Feasibility Study (FS), the Proposed Remedial Action Plan (PRAP), and selected an appropriate remedy for the site. The future transfer, ownership, and reuse of the RDA are the subject of ongoing discussions between the Navy, reuse authority and the prospective developer, and is an important aspect of site closure. Despite some uncertainties associated with the precise level of responsibility after property transfer, the Navy is clearly required and committed to proceed with most appropriate remedy for the RDA as per Superfund guidance. However, if a remedy that is implemented under CERCLA becomes ineffective, EPA will require corrective action to repair the in-place system, or will consider requiring the consideration of alternate remedies.

9. **Comment from Patty Whittemore, U.S. Environmental Protection Agency:** EPA stated that they agree with the final Proposed Plan; however, they will not concur with the final remedy for the RDA until additional data is obtained to support the selected remedy. EPA also stated that they do not believe that the Navy has adequate information to complete a remedial design at this time. EPA requested additional characterization of the landfill material, the expansion and optimization of the LTM program, the evaluation of potential impacts to nearby drinking water resources, the assessment of potential for compromise of the landfill cover by high water levels, and the determination of whether the RDA is located within a potential floodplain. Although EPA disagrees with the timing of when the Navy plans to collect the additional data (i.e., during the basewide watershed investigation and LTM program instead of during a pre-design investigation as EPA had requested) EPA believes that the Navy will address any new data needs that arise as the remedial design advances.

Navy Response: The Navy, MADEP, and EPA have met and discussed refinements to the selected

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

remedy, including site characterization, PCB sampling and removal, and design aspects of the landfill cap, which are amenable to EPA, MADEP, and the Navy. Additional data needs that may arise later in the design process, as plans and specifications are developed, refined, will be reviewed together with the regulatory agencies. Further, there will be upcoming opportunities to work with EPA in gathering and evaluating additional site data from the RDA, including the basewide evaluation (which will include the area in the vicinity of the RDA) and long-term monitoring plan (which will be prepared specifically for the RDA), along with the designated design review submissions stipulated in the FFA.

3.2 Written Comments and Responses

Note the following section presents the written comments received during the public comment period (February 24, 2003 through April 10, 2003) and the Navy's responses to those comments. Refer to the attached comment package for a copy of the written comments received during the public comment period.

- 1. Comment from John W. Rogers, Chairman of the Board of Directors, representing the South Shore Tri-Town Development Corporation.** These comments are submitted on behalf of the South Shore Tri-Town Development Corporation (the "Corporation") with respect to the United States Navy's Proposed Plan for the Rubble Disposal Area ("RDA"), issued in February 2003. Under its Enabling Legislation, the Corporation represents the interests of its constituent communities (the Towns of Abington, Rockland, and Weymouth) with respect to issues related to the redevelopment of Naval Air Station South Weymouth. As has been made clear from the tenor of public comments at the Navy's public hearing on the Proposed Plan as well as in many other formal and informal settings in the community, capping the Rubble Disposal Area in place, even after limited removal of PCB-contaminated material, is not currently acceptable to the constituent communities of the Corporation.

Among the possible issues of concern to the host communities are the potential liability associated with municipal ownership of property with capped waste in place; the potential inconsistency of having a closed landfill on land zoned as a Water Resources Protection Overlay District which prohibits landfills because of underlying high and medium yield aquifers classified as Potential Drinking Water Source Areas; and the potential for interference with the implementation of the Reuse Plan, as discussed in previous Corporation comments, and the PBC Utilization Plan. Special deference should be accorded to the community concerns in this case because the host communities will ultimately be the owners of the property that includes the RDA because most of this land is expected to be transferred as part of the Public Benefit Conveyance ("PBC"). The Corporation is concerned with this lack of community acceptance, which suggests that further consideration should be given to removal options for the RDA, perhaps in conjunction with remedy selection for the West Gate Landfill.

The Corporation is also concerned about unresolved technical issues, as further detailed in previous comments from the United States Environmental Protection Agency and the Massachusetts Department of Environmental Protection. These regulator comments reflect concern with the timing of investigation into numerous issues which must be finally resolved before they can approve a record of decision for the RDA site. These include, but are not limited to, the necessity for characterization of disposal material and analysis of the flood hazard. The Corporation suggests that doing this investigation before, not after, remedy selection would help address community questions.

The Corporation is pleased to have this opportunity to submit comments and we look forward to working with the U.S. Navy, the EPA, and the DEP to select a remedial alternative that is acceptable to the host communities and consistent with the basic legal documents governing reuse of the base.

Navy Response: *The future transfer, ownership, and reuse of the RDA are the subject of ongoing discussions between the Navy, reuse authority and the prospective developer, and is an important aspect of site closure. Despite some uncertainties associated with the precise level of responsibility after property transfer, the Navy is clearly required and committed to proceed with most appropriate remedy for the RDA as per Superfund guidance. However, if a remedy that is implemented under CERCLA becomes ineffective, EPA will require corrective action to repair the in-place system, or will consider requiring the consideration of alternate remedies. The Navy selected Alternative RDA-5 (which includes*

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

capping the former disposal area) because it was determined that preventing physical hazards associated with exposed debris on the surface of the landfill, controlling erosion and surface water runoffs, and preventing deposition of sediments from the upland portion of the site into the adjacent wetlands would be an appropriate response action for the RDA. The requirement for a fence and related signs was included as an added, optional level of protection. The use of these components should be consistent with reuse plans for the area. Current discussions reveal the proposed future use of the majority of RDA as open space. Therefore, the Navy will ensure that the soil cover will be designed to allow for active and passive recreation. Design component details will be provided in the design documents for the RDA.

Existing groundwater data indicates that no active cleanup of groundwater is necessary. This decision has been confirmed by both EPA and MADEP.

With regards to EPA and MADEP technical issues, the Navy has met with both EPA and MADEP and discussed refinements to the selected remedy (including cap design detail, PCB sampling and removal, and site characterization) that were amenable to EPA, MADEP, and the Navy. For example, the Navy will construct the cap such that it does not extend into the wetlands. Waste material in the wetlands will be excavated and placed on the disposal area prior to capping. In addition, rip-rap will be placed along the slopes of the RDA to protect against flooding. Further, the Navy will work with EPA and MADEP in gathering and evaluating additional site data from the RDA during remedy implementation.

2. **Comment from Brad Plante, Rockland Town Administrator, for the Rockland Board of Selectmen.** The Rockland Board of Selectmen at their meeting of February 24, 2003 voted unanimously to recommend that the Navy proceed with the actions as outlined in the Public Information Session and Public Hearing Notice distributed to the towns on 2/19/03. The board recommends the Navy take the following options for the RDA including the former disposal area and adjacent impacted wetlands as outlined in the notice.
- Remove PCB-impacted soils from the wetlands and dispose off-site, construct a soil cover over the disposal area, and conduct long-term monitoring and institutional controls.
 - Remove all disposed materials and the PCB-impacted soils from the wetlands and dispose off-site, and implement institutional controls.

Navy Response: The Navy appreciates the Rockland Board of Selectmen's support for the selected remedy.

3. **Comment from Brad Plante, Rockland Town Administrator, for the Rockland Board of Selectmen.** The Rockland Board of Selectmen has had further discussion on the subject of the "Proposal Plan for the Rubble Disposal Area" at the Naval Air Station, South Weymouth, MA. At the last meeting of March 24th the board agreed to recommend the "Alternative RDA-6: Remove All Disposed Materials at the RDA and Soil and Sediment Containing PCBs and Dispose of Off-Site." We request you file this recommendation as the board's official position on the matter.

Navy Response: As described in the Navy's response to Mr. Kimball (Section 3.1, comment number 2), there are several factors that the Navy must consider in its assessment of alternatives under CERCLA and the NCP. Therefore, a detailed analysis was performed on the seven alternatives developed for the RDA using nine NCP criteria prior to rendering a final remedial decision. An evaluation of the first seven criteria reveals that the in-place capping alternatives (Alternatives RDA-3, RDA-4, and RDA-5) are the most appropriate remedies for the RDA. Further, the capping alternatives are conditionally supported by both EPA and MADEP, and are consistent with EPA Headquarters' expectations for landfills (per presumptive remedy guidance). Of the capping alternatives developed for the RDA, EPA and MADEP prefer RDA-5 because it includes excavation and offsite disposal of the PCB-impacted soil in the wetland. EPA conditionally supports this alternative. Please refer to Section 3.2, comment number 38 for EPA's statement regarding their conditional acceptance of the selected remedy.

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

There are also several technical reasons to support the selected remedy. The results of numerous studies conducted at the RDA have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary. The selected remedial action includes the removal of PCB-impacted material. Of the chemicals detected above laboratory detection limits or above background in groundwater (arsenic, benzo(a)pyrene, manganese, and lead), arsenic and benzo(a)pyrene concentrations are below drinking water standards, and there is no current or proposed primary drinking water standard for manganese. For lead, no risks were identified based upon exposure to lead in groundwater. Further, although these chemicals were detected in groundwater samples collected from the RDA, these chemicals may not be associated with the RDA site at all (naturally occurring or are common in developed areas) Therefore, the removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.

4. **Comment from Linda Higgins.** I am writing to you in regards to the cleanup proposal for the Naval Base in South Weymouth, Mass. by the Navy. I strongly advise that the remedial alternative be RDA6. This problem started with the Navy, and they should be responsible to clean it up 100%. We as tax payers and homeowners are responsible for our land on which we live and we have to maintain any problems before we can sell our property by law, so I feel the Navy should be responsible to clean all the land that has been contaminated by THEM!

Navy Response: *The Navy is committed to investigating and cleaning up environmental items at NAS South Weymouth. The Navy has been conducting, and continues to conduct, numerous environmental investigation and/or cleanup activities at NAS South Weymouth in accordance with federal and state regulations. In addition, the Navy initiated an environmental baseline survey to further identify potential areas warranting investigation and cleanup that were not already covered under the federal or state programs.*

The Navy has studied and evaluated the RDA as required under Superfund guidance. The results of these studies have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary. Based upon an evaluation of the NCP criteria and several technical reasons (please refer to Section 3.1, comment number 2, the Navy has concluded that the most appropriate remedy for the site is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.

5. **Comment from Jennifer Accomando.** I am writing to you in regard to the contamination brought forth in the Rubble Disposal Area of the South Weymouth Naval Air Station. I am currently a freshman at Stonehill College and live in Hingham, but I lived in South Weymouth until I was ten years old. I grew up playing in Old Swamp River every day. It runs directly behind my old neighbor's house and we often played around it. In 1989, when I was only six years old, I was diagnosed with a malignant brain tumor. To this day, it is not possible to pin point the exact cause of my cancer, but it should be noted that in the same year I had cancer, approximately four other people in my neighborhood were diagnosed with cancer as well. Within a year, our conditions rapidly became worse. My battle with cancer took a lot away from me, my childhood, my health, and at times my hope. Cancer not only impaired my physical health, but it took a considerable toll on my family, who had to maintain a united front for my sake, even though they were struggling emotionally. Although I underwent approximately two to three years of cancer treatment, and am now living a cancer-free existence, I am still haunted with the burdensome memories of this disease, and left with many unanswered questions. Recently, it was brought to my immediate attention that the Navy disposed of materials responsible for depositing toxic waste into the ground alongside Old Swamp River. My neighbors and I adamantly believe that this waste seeped into the water supply, contaminating the Old Swamp River—my childhood play area. We believe that this contamination caused our cancer. There are too many unanswered questions surrounding this matter, and there is too much of a connection between the Weymouth Naval Air Base's disposal of these toxic materials and the subsequent cancer cases that emerged in this area. Although these claims were dismissed as insignificant at that time, presently these claims are being readdressed and reinvestigated. I cannot emphasize my joy over this fact. As a cancer victim and survivor, I will never be completely healed and

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

satisfied until I know the origin of my disease. I know for a fact that my neighbors, who were also cancer patients will never be healed or satisfied either. This matter is of the utmost importance to me, and my personal stake in this venture is considerable. The towns of Weymouth, Rockland, and Abington Massachusetts are petitioning the government to completely excavate the entire toxic dumping area to prevent further contamination and subsequent disease. Although there is a resolution presently on the table to remove the contaminated soil in the area, and cap the remainder of the RDA, I believe that this measure displays the incredible incompetence and negligence of the Navy. This measure is a mere means of appeasement-- a half-hearted attempt aimed at quelling the voices of those seeking further investigation. Let it be known, and I say it loud and proud, that my voice will not be silenced and neither will the voices of my former neighbors and fellow cancer survivors. Our personal stake in this is too great. Please seriously consider my words. The battle with cancer is one that is fought alone, although the support and love of one's family is crucial, only the cancer victim can truly understand what it means to grapple with this disease. Help me FINALLY put this chapter of my life behind me by helping me answer the questions, which have plagued me for so long. Removal of the entire contents of the Rubble Disposal Area would remove an ever present threat to people living in this area, something that removal of contaminated soil and capping the remainder of the landfill is not capable of. I urge you to do the right thing and see that proper action is taken to remedy this situation—once and for all.

Navy Response: Numerous environmental investigations and/or cleanup activities have been conducted at NAS South Weymouth in accordance with federal and state guidance. To date, none of the data collected indicates that any contamination has migrated off the base into the surrounding communities, including Old Swamp River.

The Navy did dispose of materials at the RDA. However, its use was for four years between 1959 and 1962 to dispose of material dredged from Old Swamp River during the construction of a bridge, and for a short period in 1978 to dispose of debris from Building 21, which was destroyed by fire. Other material that may have been disposed at the RDA during its operation period include rubble and concrete debris.

Based upon the studies conducted and evaluated at the RDA, as required under Superfund, the Navy concluded that Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls is an appropriate remedy for the site. There are also several technical reasons supporting this alternative, which include:

- The Navy has studied and evaluated the RDA as required under Superfund guidance. The results of this study have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary (please refer to the Navy's response to Section 3.1, comment number 1).*
- The remedial action for the RDA includes excavation to remove the potential risks identified (i.e., excavation and offsite disposal of PCBs in hydric soil in the wetland area adjacent to the RDA). Once this soil is removed, the potential risks to small mammals will no longer be realized.*
- Regarding the chemicals detected above laboratory detection limits or above background in groundwater (arsenic, benzo(a)pyrene, manganese, and lead), arsenic and benzo(a)pyrene concentrations are below drinking water standards, and there is no current or proposed primary drinking water standard for manganese. For lead, the results of the IEUBK model (used to evaluate exposure to lead) showed that 99.9% of the exposed population would have blood lead levels below 10 ug/dL (this equals 10 micrograms of lead per deciliter of blood, which equals 100 parts per billion). This is better than the Center for Disease Control guideline, which states that 95% of a population should have blood lead levels below 10 ug/dL.*
- The presence of inorganic chemicals and semi-volatile organic compounds (SVOCs) may not be exclusively associated with the RDA. For example, arsenic, lead, and manganese are naturally occurring chemicals, and the SVOCs detected are ubiquitous in developed areas. The removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.*

6. **Comment from William Cotter, Weymouth Resident.** I feel that alternative RD-5 is a half measure for cleanup considering the close proximity to the Swamp River which supplies 25% of Weymouth's water demand. Ground water can migrate to the Swamp River and allow any latent chemicals, metals to enter

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

the water supply. If this site is hazardous enough to fence in after RD-5 remediation, I think it is unacceptable to allow the possibility for drinking contaminated water downstream.

Respectfully ask that the entire RDA site be removed down to eight feet and taken offsite and replaced with new soil. RDA can be restored to its original condition no fence or warning signs needed.

Navy Response: *Based on available groundwater and surface water data, potential contaminant migration from the RDA is not occurring. Further, potential contaminant migration to Weymouth's water supply (Whitman's Pond) is unlikely based on proximity (approximately 15,500 feet), low contaminant concentrations, and factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution. These factors would result in sufficient attenuation such that contamination is unlikely to reach Whitman's Pond, or would reach the pond at levels below detection limits of most analytical methods.*

The alternative selected for the RDA includes the use of a permeable soil cover material that would promote the continued aeration of the landfill and underlying groundwater through the infiltration of oxygen in fresh rain, as well as the permeation of oxygen from the atmosphere. Based upon the presence of metals and inorganic chemicals at the RDA, it is advantageous to maintain continued aeration of the landfill in order to encourage higher oxidation states. Metals and inorganics at higher oxidation states are less soluble in groundwater. Therefore, the continued aeration of the landfill would decrease the potential for metals and other inorganic chemicals to impact the groundwater or surface water quality in the future. The Navy has begun preliminary conceptualization of the landfill design, and the Navy's professional design team, as well as EPA and MADEP participants, have endorsed the planned aeration-enhancing cover system. The alternative selected for the RDA also includes long-term monitoring of groundwater and surface water as a component of landfill closure to allow for continued assessment of the adequacy, reliability, and long-term effectiveness of this alternative.

Further, the presence of inorganic chemicals and semi-volatile organic compounds (SVOCs) may not be exclusively associated with the RDA. For example, arsenic, lead, and manganese are naturally occurring chemicals, and the SVOCs detected are ubiquitous in developed areas. The removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.

The fence and sign components were included as an optional added level of protection. The use of these components should be consistent with reuse plans for the area.

7. **Comment from Muriel Clifford, Hyannis Resident.** I am very concerned about the waist from The S. Weymouth Naval Air Base. My family of 6 children, myself and my husband lived on Ellis Circle for 30 years while the children were growing up, It runs from Pine St. to Old Swamp River. I have a very ill daughter with a neuromuscular disease. I am also concerned about our grandchildren. Please take care of the problem so that none else can become sick from this.

Navy's Response: *The Navy is committed to investigating and cleaning up environmental items at NAS South Weymouth in a manner consistent with federal and state guidance. Numerous environmental investigation and/or cleanup activities at NAS South Weymouth have been or are currently being conducted under either the federal Superfund program, in accordance with CERCLA and the NCP, or the state program, in accordance with the MCP. In addition, the Navy initiated an environmental baseline survey to further identify potential areas warranting investigation and cleanup that were not already covered under the federal or state programs. One of the sites studied at NAS South Weymouth included the RDA. The Navy has studied and evaluated the RDA as required under Superfund guidance. The results of this study have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA. The selected remedial action includes the removal and offsite disposal of the PCB-impacted material in the wetlands. Existing groundwater data indicates that no active cleanup of groundwater is necessary. This decision has been confirmed by both EPA and MADEP. In addition, to ensure the continued protectiveness of the selected remedy, long-term monitoring of groundwater and surface water will be conducted as part of landfill closure activities.*

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

8. **Comment from Liz Tomolillo, Rockland Resident, and Dave Wilmot, Abington Resident.** Please submit these comments regarding the Rubble Disposal Area. As you know myself and Dave Wilmot want to see all areas of the base cleaned up properly. The followig are some of our concerns with this area and what we propose for clean up.
1. This site has many toxic chemicals in it that sit right on Swamp River, which feeds into Whitman's Pond, which is a secondary drinking water source for the Town of Weymouth.
 2. The EPA recently announced that TCE is now 60x more toxic then orginally thought.
 3. The EPA has just announced (within the last 2 months) that children are 10 times more susceptible then was previously thought.
 4. Capping will not eliminate the danger to children in the area, water, land, etc.
 5. With all the illness surrounding the Navy Base, the precautionary principle should be followed for this site and any future clean up sites.

Therefor we recommened Alternative RDA*6: Remove All Disposed Materials Offsite.

Navy Response: *As stated in the Navy's response to Mr. Cotter's comment (Section 3.2, comment number 6), based on available groundwater and surface water data, potential contaminant migration from the RDA does not appear to be occurring. Factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution, would result in sufficient attenuation such that contamination is unlikely to reach Whitman's Pond, or would reach the pond at levels below detection limits of most analytical methods. The alternative selected for the RDA includes the use of a permeable soil cover material that would promote the continued aeration of the landfill and underlying groundwater which would decrease the potential for metals and other inorganic chemicals to impact the groundwater or surface water quality in the future. Further, the alternative selected for the RDA includes long-term monitoring of groundwater and surface water as a component of landfill closure to allow for continued assessment of the adequacy, reliability, and long-term effectiveness of this alternative.*

Although no risks were identified relative to the exposed debris, the Navy selected Alternative RDA-5 (which includes capping the former disposal area) because it was determined that preventing physical hazards associated with exposed debris on the surface of the landfill, controlling erosion and surface water runoffs, and preventing deposition of sediments from the upland portion of the site into the adjacent wetlands would be an appropriate response action for the RDA.

The Navy has studied and evaluated the RDA as required under Superfund guidance. The results of this study have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary. Therefore, the Navy has concluded that the most appropriate remedy for the RDA is Alternative RDA-5, which includes the excavation and offsite disposal of PCB material, a permeable soil cap for the landfill, long-term monitoring, and institutional controls.

9. **Comment from Larry Cassese, Weymouth Resident.** My wife and I have lived in our house on the shore of Whitmans pond for over 53 years, and we want to enjoy many more years on a clean and safe body of water. Please remove the PCBs at the NAS and dispose of them off site.

Navy Response: *The Navy acknowledges Mr. Cassese's support for the selected remedy. The Navy has selected Alternative RDA-5, which includes the excavation and offsite disposal of PCB material, in addition to a permeable soil cap for the landfill, long-term monitoring, and institutional controls.*

10. **Comment from Patricia Pries, Mary and Richard Lindsay, Teri Hayward, Weymouth Residents.** In

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

response to the Public Comments Period regarding South Weymouth Naval Air Station Operable Units 2 and 9, Rubble Disposal Areas, I would like to voice my support for RDA-6 Remove all Disposed Material at the RDA and Sediment Containing PCBs and Dispose Off Site.

A 2001 study of Whitman's Pond done by Beta Engineering for the Town of Weymouth indicates levels of metals in the sediment, specifically Beryllium, and notes Beryllium as being sourced from military activities including aircraft propellants and jet fuels. This study was difficult to obtain from the Town and suggests other environmental effects from the Base not known to residents of the Town. Whitman's Pond is part of the Town of Weymouth's watershed and a secondary source of drinking water for the Town. Whitman's Pond is connected to Old Swamp River which borders the South Weymouth Naval Air Station site.

As the South Weymouth Naval Air Station was built on wetlands adjacent to the river, it is subject to flooding not only from the rain above, but from the water that flows through the ground providing opportunity for continued watershed contamination. Additionally, the South Weymouth Naval Air Station is on top of a medium-yield aquifer. An inordinate number of people who live in Weymouth are turning up with illnesses such as MS, ALS, and various cancers.

RDA-6 should be the only course of action for the cleanup of Operable Units 2 and 9, Rubble Disposal Areas in order to avoid future contamination of the watershed from the South Weymouth Naval Air Station.

Navy Response: *As stated in the Navy's response to Mr. Cotter's comment (Section 3.2, comment number 6), based on available groundwater and surface water data, potential contaminant migration from the RDA does not appear to be occurring. Factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution, would result in sufficient attenuation such that contamination is unlikely to reach Whitman's Pond, or would reach the pond at levels below detection limits of most analytical methods. With respect to beryllium, based on several factors, it is not practical to associate beryllium at the NAS property with beryllium in Whitman's Pond. These factors include (1) beryllium and other common metals are naturally occurring, (2) there are numerous sources of beryllium and other common metals along Old Swamp River between the NAS South Weymouth property and Whitman's Pond, (3) there is a very large distance and variation in subsurface soil between the NAS South Weymouth property and Whitman's Pond, which affects the sources and forms of beryllium present, and (4) beryllium contamination is not present at any of the sites studied by the Navy, including 9 CERCLA sites, approximately 30 MCP sites, and over 100 EBS sites. None of the data collected and analyzed from NAS South Weymouth have identified beryllium as a contaminant of concern that would warrant further assessment or remediation under CERCLA.*

The alternative selected for the RDA includes the use of a permeable soil cover material that would promote the continued aeration of the landfill and underlying groundwater that would decrease the potential for metals and other inorganic chemicals to impact the groundwater or surface water quality in the future. The alternative selected for the RDA also includes long-term monitoring of groundwater and surface water as a component of landfill closure to allow for continued assessment of the adequacy, reliability, and long-term effectiveness of this alternative.

Further, the Navy will construct the cap such that it does not extend into the wetlands. Waste material in the wetlands will be excavated and placed on the disposal area prior to capping. In addition, rip-rap will be placed along the slopes of the RDA to protect against flooding.

Chemicals detected in groundwater at the site would not necessarily be eliminated if the entire disposal area is excavated and disposed offsite. The presence of inorganic chemicals and SVOCs may not be associated with the RDA. Arsenic, lead, and manganese are naturally occurring chemicals, and lead and SVOCs are ubiquitous in developed areas. Therefore, the removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place

11. **Comment from Humpty7173.** i support the RDA-6 PROPOSAL ONLY.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

Navy Response: As described in the Navy's response to Mr. Kimball (Section 3.1, comment number 2), there are several factors that the Navy must consider in its assessment of alternatives under CERCLA and the NCP. Therefore, a detailed analysis was performed on the seven alternatives developed for the RDA using all nine NCP criteria prior to rendering a final remedial decision. An evaluation of the first seven criteria reveals that the in-place capping alternatives (Alternatives RDA-3, RDA-4, and RDA-5) are the most appropriate remedies for the RDA. The capping alternatives are conditionally supported by both EPA and MADEP, and are consistent with EPA Headquarters' expectations for landfills (per presumptive remedy guidance). Of the capping alternatives developed for the RDA, EPA and MADEP prefer RDA-5 because it includes excavation and offsite disposal of the PCB-impacted soil in the wetland. EPA conditionally supports this alternative. Please refer to Section 3.2 comment number 38 for EPA's statement regarding their conditional acceptance of the selected remedy.

Further, there are several technical reasons that support the selected remedy. The results of numerous studies conducted at the RDA have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary.

The selected remedial action includes the removal of PCB-impacted material. Of the chemicals detected above laboratory detection limits or above background in groundwater (arsenic, benzo(a)pyrene, manganese, and lead), arsenic and benzo(a)pyrene concentrations are below drinking water standards, and there is no current or proposed primary drinking water standard for manganese. For lead, no risks were identified based upon exposure to lead in groundwater. Further, although these chemicals were detected in groundwater samples collected from the RDA, these chemicals may not be associated with the RDA site at all (naturally occurring or are common in developed areas).

The Navy has concluded that the most appropriate remedy for the site, is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.

12. **Comment from Barbara Johnson, North Weymouth Resident.** To be done: RDA-6: As a long standing past member of the RAB I firmly believe that all of the rubble should be removed from the RDA and disposed at a hazardous waste disposal area off site. Too many PCB's and other contaminates are polluters of Weymouth's drinking water from this site via Old Swamp River. The removal should take place before any building can be done on the base.

Navy Response: Please refer to the Navy's Response to Mr. Cotter's comment (Section 3.2, comment number 6).

13. **Comment from Marie Feely, Weymouth Resident.** My preference for toxic clean up of air base would be RDA - 6.

Navy Response: Please refer to the Navy's response in Section 3.2, comment number 11.

14. **Comment from K. Newman, Weymouth Resident** RDA - 6 is needed for air base clean up nothing else is acceptable.

Navy Response: Please refer to the Navy's response in Section 3.2, comment number 11.

15. **Comment from J. Rakers, Weymouth Resident.** RDA - 6 level of clean up is needed on the air base.

Navy Response: Please refer to the Navy's response in Section 3.2, comment number 11.

16. **Comment from David Wilmot, Abington Resident.** Being a member of a growing group of citizens with serious health concerns in neighborhoods surrounding the former air station, my question will be surmised in a statement concerning my disagreement with the Navy's proposed remediation method.

The Rubble Disposal Area Superfund Site is a former dumping ground located beside and in Wetlands, directly adjacent to Old Swamp River, a water way that runs North through the base, and discharges into

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

Whitman's Pond in Weymouth. Whitman's Pond is the city of Weymouth's secondary drinking water source.

The Navy admits that they have four substances of concern, that have been found in the Rubble Disposal Area.

The concerns in the Rubble Disposal Area, were established by concentrations of these substances being heavier in the RDA than Baseline Sample Testing that was done. The four substances; PCB's, Arsenic, Lead and Benzo(a)Pyrene, are four of the eight top substances that the Federal Center for Disease Control's Toxic Disease Registry has labeled as Priority Toxins. Since this priority toxin listing is made up of 278 substances, I would have assumed, having four of the top eight of these substances in elevated levels at this former dump, would make it subject to a full and complete cleanup.

I would also have assumed, that presence of these four toxins with a direct migratory path to the City of Weymouth's Secondary drinking water supply, would mandate a complete cleanup being done. I would like to hear the Navy's position on its BRAC responsibilities to our town's public health.

As the State Department of Public Health continues their efforts to find out why children in South Weymouth have developed Arsenic Poisoning, I believe the leaching of admittedly high concentrations of Arsenic from this landfill, directly into Old Swamp River would provide an interesting avenue of exploration for the State Health scientists. Much effort has been given to studies of Great Pond, but what of South Cove in Whitman's Pond, where the remainder of the drinking water in Weymouth is pumped from. The Navy and United States Government should afford our citizens the most comprehensive Public Health efforts available to them. To do less, when known contaminants from the former base, can be proved to be migrating offsite with proper testing methods, would seem to me to be criminal.

A Habitat Study of Whitman's Pond, completed by Beta Group in 2001 for the City of Weymouth, cited elevated levels of Lead, Iron and Manganese, Arsenic and Beryllium in the pond sediments. Given the limited uses of Beryllium, I would have high suspicions of off base migration of pollutants. Per this document, Beryllium is used in "numerous military activities, including aircraft construction, rocket propellants and jet fuel. This would assumedly be a direct link to SWNAS pollutant migration off site. Please provide other possibilities for this toxin's presence in Whitman's Pond. Why has the Navy consistently refused to test wells outside the base. We insist the Navy take responsibility for past environmental degradation done to our communities.

The Navy's preferred method of cleanup is the 1.6 million option presented in their pamphlet, which would consist of a removal action of some of the PCB-contaminated wetland soil, and construction of a cap over the remaining contaminants. Unfortunately, I believe historically and again in this case, that money concerns are prioritized above Public Health concerns. I don't believe the Navy preferred cleanup route is just to the people of our towns.

Anything less than Option 6 (Complete Offsite Removal) undermines the Public Health of our towns.

Removing All contaminated fill and disposing it offsite is projected to cost 11.3 million. This might sound like a lot of money, but compared to the money now spent on exploding chronic disease in our nation, it's chump change, an ounce of prevention.

As stated above, I belong to a growing group of local citizens who have reason to believe that the Navy should be responsible to protect the Public Health of former Host Communities. My children's future health could easily depend on this, I've little doubt that Rockland and Weymouth's children depend on this as well.

The Environmental Protection Agency has recently announced that Maximum Contaminant Levels (MCL) devised for the protection of Public Health, do not afford protection to children. Children are now believed to be ten times as susceptible, to contaminants, than the adults these MCL's were devised by. We insist that the health of our children be protected. As, thus far, 56 diagnosed cases of Multiple Sclerosis around

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

the base(40 within 1 mile), have been substantiated, we must insist for the health of our children, that the Navy adhere to the most stringent clean up standards at this site. Anything less than complete cleanup is unacceptable. As we continue to delve further into the health of our neighborhoods, it is becoming increasingly evident that we have been saddled with a heavy health burden here. We insist on the Navy showing proper regard for the health of our children. The RDA Option 6 is the only way to show that regard.

Navy Response: Please refer to the Navy's response to your verbal comment recorded during the RDA public hearing on February 27, 2003 (Section 3.1, comment number 1), and your written comment submitted with Liz Tomolillo (Section 3.2, comment number 8). Regarding costs, cost is only one factor that resulted in the selection of Alternative RDA-5. There are several factors that the Navy is required to consider under CERCLA when selecting an appropriate remedial alternative for the site. Further, there are several technical reasons that support the selected remedial action. Please refer to Section 3.1, comment number 2.

17. **Comment from Mary Parsons, Rockland Resident.** I am opposed to the Navy's preferred alternative RDA-5. I feel that in the long run, this alternative would be more costly than RDA-6. I would like to see all materials that were disposed of in the RDA and all PCB's and waste materials found in the adjacent wetlands permanently removed and disposed of at an offsite location and replaced by clean fill. By offsite location, I mean physically removed from the former NAS South Weymouth grounds and disposed of at an EPA and DEP approved licensed facility. I have serious concerns about capping this unlined CERCLA Site landfill. EPA has serious concerns about floodplain hazard in this area. I do not want to see this CERCLA Site combined with the West Gate Landfill Site and located at a new Site on the former NAS South Weymouth. I feel that removing all materials and disposing offsite, the Navy will save money, instead of having to fence the area from people using the Open Space. It will also save on 30 years of monitoring wells and gas vents.

This superfund site is geographically located in the Town of Rockland boundaries, and at some point in the future may come under the jurisdiction of the Town of Rockland. If the EPA signs off and the Navy goes forward with RDA-5, and this land is transferred to the South Shore Tri-Town Development Corporation, they will be subject to DEP regulations. I do not want to see another closed landfill with 30 years of monitoring in the Town of Rockland.

I am asking that the Navy do a much more extensive Ecological Risk Assessment, since mice containing PCB's were found. At the Public Hearing for Operable Units 2 and 9, Rick Sugatt of DEP informed the audience that the white footed mice that were tested had high levels of PCB's and were probably very sick. The Step 3 - Risk Characterization states, "This assessment further indicated no adverse effects on small birds or on larger animals, which are positioned higher on the food chain (e.g. fox, mink, and hawk)." What studies were done on hawks and other raptors (such as studies on reproductive organs and shells of newly hatched fledglings) to determine this? I hope this wasn't determined by using a mathematical equation. Natural Heritage and Endangered Species Program should be contacted since state listed rare species wander this area and will need protection from construction vehicles. Certain dirt roads that served the Navy as perimeter guard posts should be shut down to motor vehicles and equipment to avoid a negative impact on these rare species. The method and routes to be used for removal of hazardous waste should be made available to the public so as to diminish infractions by contractors of the routes to be used.

I would also request that the contents of the material that was disposed of in operable Units 2 and 9, rubble Disposal Area be analyzed for the environmental effects to humans, plants and animals of chemicals combining with other disposed chemicals and becoming more potent.

Since the RDA is situated on a medium yield aquifer, I feel that the core of the RDA and the aquifer should be tested for disposed solvents and other chemicals related to air use at the former NAS South Weymouth. Also the RDA is located adjacent to Old Swamp River, which feeds into Whitman's Pond, a drinking water source for the Town of Weymouth. Any chemical that is above background level should be remediated by the Navy (including manganese and iron above background levels).

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

Navy Response: Please refer to the Navy's responses to your comments recorded during the public hearing on February 27, 2003 (Section 3.1, comments numbers 3 and 8).

With regards to how the risks were determined, the risk assessment was indeed conducted using mathematical equations, but the equations are based on available literature reflecting scientific studies on the effects of PCBs on higher trophic receptors. Further, because of the recognized uncertainties in extrapolating the results of lab and field studies to specific sites elsewhere, extrapolations are applied with a liberal dose of conservatism. This results in food chain models (mathematical equations) that are considered to be protective in nature. Generally field studies are not conducted in ecological risk assessment unless conservative food chain models suggest potential significant risk. In this case, field studies on wildlife would likely yield little information given the many factors that would confound the ability to attribute any observed impacts to PCB exposure and specifically exposure to PCBs at the RDA.

With regards to flood concerns, the Navy will construct the cap such that it does not extend into the wetlands. Waste material in the wetlands will be excavated and placed on the disposal area prior to capping. In addition, rip-rap will be placed along the slopes of the RDA to protect against flooding.

18. **Comment from Mary Byram, Hingham Resident.** In their letter dated July 11, 2002 regarding the Draft Final Proposed Plan for the RDA, MADEP states in comment 3 "The statement indicating that potential risks were not predicted for human exposure to sediment or soil is misleading because, as explained in the Department's April 8, 2002 comments on the feasibility study report, the predicted risks to human health were based on an outdated, less conservative risk scenario than warranted by site conditions." The Navy's response to this, is "No response necessary. The feasibility study and remedial investigation report ... are final documents." If MADEP is suggesting that a more accurate risk scenario is warranted by site conditions, then why was it not incorporated into Draft Final Proposed Plan, as other comments have been? In light of the fact that MADEP twice made this comment, the Navy's statement that "Further, the Navy has considered the most restrictive exposure scenario..." fails to reassure me that the risks to human health could not have been more accurately predicted.

The Draft Final Feasibility Study for the Rubble Disposal Area at the South Weymouth Naval Air Station states in section 3.5.1 Overview of Site Conditions that the RDA "... is bounded on the east by a wooded and palustrine wetland, which slopes easterly from the edge of the landfill to Old Swamp River...". Please describe to me the method used for establishing the aerial extent of the RDA.

A walk along what is purported to be its eastern border, the edge of the wetland, raises serious questions about the accuracy of this delineation, especially as you follow this edge further south. Here it is apparent that the wetlands contain much more than vegetation. Huge chunks of concrete, scrap metal, and several 55-gallon drums in various states of decomposition are sticking up out of the wetland area, all well beyond the alleged "border" of the RDA. At least one of these drums in the wetlands contains a large quantity of an unknown solid substance. (see below for photos)

The Navy's assertion in its Proposed Plan for the RDA that "no tanks, transformers, or other large metallic objects have been observed at the site" may be judged an accurate statement only by virtue of the fact that the wetlands adjacent to the "site" have not been considered part of the RDA. Large metal drums are clearly observable in these wetlands, and their presence, along with that of the concrete, scrap metal, and other debris scattered in the wetland suggest not only that the eastern boundary of the RDA was inaccurately drawn, but that there may be much more buried here than is easily visible.

The existence of rotting metal drums in the wetlands is of particular concern, as these wetlands drain directly into Old Swamp River, a Class A drinking water supply for the town of Weymouth. Discovery of this material in an area outside of what has up to now been considered the boundary of the RDA indicates a need for further evaluation of both the aerial extent of the site and its contents. Further soil sampling and risk assessments are also clearly indicated.

The Proposed Plan for the RDA states on p. 5, under Step 3-Risk Characterization, "...suggests the

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

presence of PCBs in hydric soil in the wetland area poses a potential risk to small animals (e.g., mice). The assessment further indicated no adverse effects on small birds or on larger animals, which are positioned higher on the food chain (e.g., fox, mink, and hawk).” If PCBs become more concentrated in the tissue of fish the further up one moves on the food chain, please explain why the same would not hold true for animals which feed on mice.

The Navy has consistently refused to consider testing private wells offsite, asserting repeatedly that there is no evidence that contamination has migrated off the base. Please remember that the Navy also contends that “no tanks, transformers, or other large metallic objects have been observed at the site”. (See above, and attached photos that say otherwise).

I would hesitate to dismiss the possibility that contamination has migrated offsite. The flow of surface water and groundwater cannot be used to predict the flow of water in bedrock. For this reason the Department of Defense, at the request of the town of Hingham’s Health Department, authorized the testing of approximately one hundred private wells in Hingham after the closure of the Army’s facilities in Wompatuck State Park. Over thirty separate tests were conducted on each well, and the citizens came away secure in the knowledge that their water was safe to drink. The Citizens of Abington, Rockland, Weymouth and Hingham close to the Naval Air Station who draw their drinking water from private wells deserve the same consideration. I urge the Navy to follow the precedent set by the DOD in Hingham, and test the wells of any citizen within a mile of the base fence.

The incidence of cancers and non-cancerous diseases in the area surrounding the South Weymouth Naval Air Station is nothing less than alarming. Of fifty-seven documented cases of MS in the area, forty live within a mile of the base fence. I believe strongly that for whatever reason this may be, whether or not the staggering trail of dots that people are beginning to connect lead to the Navy’s doorstep, the Navy has a moral obligation to do all in their power to prevent this situation from growing any worse. While potential risks to human “receptors” (we call them husbands, wives, sons, and daughters) are calculated for individual chemicals, little is known about their collective and cumulative effects. It is entirely possible that chemicals present at a site (e.g., manganese, lead arsenic, and benzo(a)pyrene) individually exist at concentrations that pose no perceptible risk to humans, but their combination with each other, or with other substances found at the site may trigger a response of disease.

In addition, the Navy’s failure to adequately define the boundaries of the RDA, or to accurately describe its contents unfortunately casts suspicion on the balance of their findings as well as on the conclusions they have drawn from the data they did collect.

For these reasons, it is my opinion that the Navy needs to reconsider its preferred alternative (RDA-5) for remediation of Operable Units 2 and 9, the Rubble Disposal Area at the South Weymouth Naval Air Station. Removal of PCB-contaminated soil and capping the remainder of this landfill without the removal of every possible source of this contamination affords the public with less than optimal protection from the hidden hazards of this site.

By far the alternative that presents the least risk to public health over the long term is RDA-6. I strongly urge the Navy to remove all disposed materials at the RDA and soil and sediment containing PCBs and dispose of them offsite.

Navy Response: *The RDA site studied during the RI and evaluated in the FS includes OUs 2 and 9, which are the former disposal area and the adjacent wetlands. Therefore, the selected remedy documented in this ROD is inclusive of the disposal area and wetlands.*

Regarding the human health risk assessment (HHRA) completed for the RDA, the assessment methodology and results have been approved and accepted by EPA. The assessment was conducted in accordance with scientifically acceptable risk assessment practices and current EPA guidance. In accordance with these practices and guidance, the HHRA followed a four step process:

- *Data Evaluation - involves reviewing the compounds detected in various media and identifying chemicals of potential concern (COPCs) to be evaluated in the risk assessment.*

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

- *Exposure Assessment* – evaluates the magnitude and frequency of potential exposure to COPCs.
- *Toxicity Assessment* – evaluates the relationship between the magnitude of exposure (dose) and the occurrence of specific health effects (response) for each COPC.
- *Risk Characterization* – combines the results of the exposure assessment and the toxicity assessment to derive pathway-specific estimates of potential risk. The estimates for each exposure pathway are then summed to give the total risk estimates for each receptor. These risk levels are compared with risk criteria established by EPA.

As part of the Exposure Step, the Navy identified potential exposure routes and potential human receptors based on characteristics of the site and surrounding area. Although the ultimate reuse of the RDA had not been determined, the Navy evaluated the most restrictive possible use of the site, which is a resident living on the RDA. The risk assessment ultimately showed that potential risks were not present based on human exposure to soil, sediment, or surface water. Although potential risks were estimated for a hypothetical future resident ingesting groundwater from beneath the site containing arsenic, benzo(a)pyrene, and manganese, the Navy, EPA, and MADEP have determined that groundwater cleanup is not necessary because (1) arsenic and benzo(a)pyrene concentrations are below drinking water standards, (2) because there is no current or proposed primary drinking water standard for manganese (which is generally categorized with iron as a source of staining in sinks or laundry and not as a potential source of toxicity), and (3) the risk assessment was highly conservative which tends to overestimate potential risks.

With respect to the PCBs found at the RDA, the remedial action selected for the site includes the removal of PCB-impacted soil from the wetlands. This soil will be removed to protect small mammals in the vicinity of the site. Regarding higher trophic level mammals, conservative food chain modeling to higher trophic-level birds and mammals indicates that risks to higher-level predators are below regulatory risk thresholds. Please refer to Section 7 of Tetra Tech NUS/ENSR's report, "Phase II Remedial Investigation, Rubble Disposal Area, NAS South Weymouth", dated January 2001, available at the information repositories for NAS South Weymouth, for additional information.

As described in Section 2.3 Tetra Tech NUS/ENSR's report, "Feasibility Study, Rubble Disposal Area, NAS South Weymouth", dated March 2003, the horizontal extent of the disposal area was estimated based on visual observations made during subsurface investigations conducted at the site (described further below). These observations provide evidence of where the majority of the debris was located during the 1990, 1996, and 1999 field programs. Miscellaneous debris was also observed along the downslope edges of the RDA and in the wetland itself. As part of the selected remedy, all this debris will be either placed on the disposal area prior to capping or disposed offsite. No debris will be visible at the RDA or wetland area following landfill closure. Any drums or drum fragments observed during debris removal in the wetland area will be disposed of as appropriate. Further, the selected remedy includes long-term groundwater monitoring to assess groundwater conditions and monitor the continued effectiveness of the selected remedy.

As part of the Remedial Investigations (Phases I and II), the Navy has conducted numerous subsurface investigations (soil borings and test pits) and geophysical surveys to delineate the extent and characterize the material that comprises the fill within the RDA. Although it is impractical to view and characterize all materials within the RDA, the Navy and their professional consultants are confident that sufficient information has been collected over the past decade to sufficiently describe the chemical and physical characteristics of the RDA and select an appropriate remedy. Relative to large buried equipment, the Navy has continually studied the RDA for objects over the last decade and has not identified any indications of tanks, transformers or other large metallic objects at the RDA.

As described in the Navy's response to Section 3.1, comment number 1, areas to be investigated are typically identified based on historic site uses and activities, Navy records, known or suspected areas of potential contaminant releases (e.g., an underground fuel storage tank), analytical data, or reported observations from the community (e.g., iron precipitation in French Stream). These areas are further

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

investigated through surface and subsurface explorations, geophysical surveys, ecological surveys, and/or the collection of soil, sediment, groundwater, and surface water samples for laboratory analysis to identify and delineate the extent of potential impacts. Human health and ecological risk assessments are then conducted using site-specific data to determine whether the "site" poses potential risks to human health and the environment, which may warrant remediation and cleanup under the federal and state programs.

The Navy has identified 9 CERCLA sites, approximately 30 MCP sites, and over 100 EBS sites at NAS South Weymouth that are either currently being investigated, in the process of being remediated or have been closed in accordance with applicable state and federal regulations. To date, none of the data collected from NAS South Weymouth indicates that any contamination has migrated off the base in to the surrounding communities. Therefore, no sampling beyond the base perimeter by the Navy has been required. However, if, through its ongoing programs, the Navy identifies offsite contaminant migration from Navy sources on the property, the Navy will ensure that it is cleaned up in accordance with applicable state and federal laws and regulations.

Further, ATSDR has conducted well surveys of the area and has distributed reports and presented detail at public meetings. The Navy suggests that questions related to ATSDR's work be directed towards ATSDR for a more thorough discussion.

In summary, the results of numerous studies conducted at the RDA have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary. In addition, to ensure the continued protectiveness of the selected remedy, long-term monitoring of groundwater and surface water will be conducted as part of landfill closure activities. Further inorganic and SVOCs detected in groundwater samples collected from the RDA may not be associated with the RDA site at all (naturally occurring or are common in developed areas). Therefore, the removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.

19. **Comment from Harvey Welch, Weymouth Resident.** I believe 'Alternative RDA 6 Remove all disposed materials at RDA and soil and sediment containing, PCBs and Dispose off-site', is the only way you can be sure that all the contaminated soil can positively be removed. This is the only way that can insure, no contamination will be spread from the site!

***Navy Response:** The Navy has conducted several investigations to determine the nature and extent of potential contamination, and to adequately characterize the physical and ecological settings of the RDA. These investigations were done in accordance with CERCLA, the NCP, and the MCP. The EPA and MADEP have been involved in each step of the evaluation process. Further, the Navy has identified 9 CERCLA sites, approximately 30 MCP sites, and over 100 EBS sites at NAS South Weymouth that are either currently being investigated, in the process of being remediated or have been closed in accordance with applicable state and federal regulations. To date, none of the data collected from NAS South Weymouth indicates that any contamination has migrated off the base in to the surrounding communities. However, if, through its ongoing programs, the Navy identifies offsite contaminant migration from Navy sources on the property, the Navy will ensure that it is cleaned up in accordance with applicable state and federal laws and regulations.*

The Navy has studied and evaluated the RDA as required under Superfund guidance. The results of these studies have concluded that a remedial action is necessary to remove PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary. Based upon an evaluation of the NCP criteria and several technical reasons (please refer to Section 3.1, comment number 2), the Navy has concluded that the most appropriate remedy for the site is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.

20. **Comment from Linda May Ellis, Rockland Resident.** I encourage the Navy to choose Alternative RDA-6 - Remove all disposed materials at the RDA and soil and sediment containing PCBs and dispose off-

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

site.

This is the only solution that makes sense. The rest are just patch-up situations.

Navy Response: *The Navy is committed to investigating and cleaning up environmental items at NAS South Weymouth, and has been conducting cleanup activities at NAS South Weymouth in accordance with applicable federal and state regulations. Based upon an evaluation of the NCP criteria and several technical reasons (please refer to Section 3.1, comment number 2), the Navy has concluded that the most appropriate remedy for the site is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.*

21. **Comment from Ken Hayes, South Weymouth Resident and RAB Member.** The preferred alternative proposed by the Navy as RD-5 is an unacceptable alternative and this is why:

The disposal area is part of the wetland area that feeds the old Swamp River. We know that PCB's have been found at this landfill; and there might be a link to beryllium, found in the sediments of Weymouth's Whitman's Pond and in the land fill. Water from the disposal area feeds into Whitman's Pond - down the old Swamp River - which is part of Weymouth's potable water supply. The capping of this disposal area would not address the seasonal vertical movement of water in the landfill and the possible release of unknown compounds to the ground water and hydric soils underlying the disposal area and surrounding wetlands that feed the Swamp River.

The only alternative the Navy has looked at that would satisfy me and the town's people I've talked with, including several town councilors is RDA-6 removal off site of all disposed of materials and contaminated soil and sediment from the rubble disposal area. Without this alternative the headwaters of the old Swamp River will always be suspect as to what chemistry from the landfill may be in the river that feeds our drinking water.

In Summary: Alternative RDA-6 - removal of all disposed materials at the RDA and soil and sediment containing contamination and dispose off-site. This is Weymouth's only alternative to assure old Swamp River's headwaters be protected from future possible releases of chemistry into Weymouth's drinking water. The disposal area should be allowed to revert back to the wetland it once was.

Navy Response: *Please refer to the Navy's response to Section 3.2, comment number 10.*

22. **Comment from Michael W. Morrissey, Massachusetts State Senator.** I am writing to you in regard to the Navy's withdrawal from the South Weymouth Naval Air Station located in the towns of Weymouth, Rockland and Abington Massachusetts. Of particular concern to myself and a great many of my constituents is the issue of the clean up of Operable Units 2 and 9, Rubble Disposal Areas which are located in the town of Rockland. It is my understanding that the Navy has decided to choose Alternative number 5 of the 7 possible Alternatives for clean up of these sites, which would be to remove soil and sediment containing PCB's dispose of them offsite and construct a soil cover on the site.

I am asking you to please consider using Alternative number 6 instead of number 5. Alternative number 6 calls for the removal of all disposed material, removal of soil and sediment containing PCB's and dispose of that material off site.

There are several reasons why I ask you to consider using Alternative number 6. First, this site will be a capped landfill located in an area that is intended to become a public recreation area, which will no doubt draw many children. The safety of children playing in that area is of serious concern to me. Second, this RDA site sits on the banks of the Swamp River, which is a drinking water supply to the towns in the area. There is a canoe ramp that is proposed to located on this river, which would also allow children to access the site. Next, by leaving this site it will create a fourth landfill for the Town of Rockland, which is a small town. There have been PCB's found in the wetlands and lead arsenic, manganese and benzo-(a)pyrene. Finally by removing all contaminates from the area it will be a permanent solution rather then leaving the issue to be debated between the Town of Rockland and the

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

Navy for years to come.

Navy Response: *The future transfer, ownership, and reuse of the RDA are the subject of ongoing discussions between the Navy, the reuse authority, and the prospective developer. Despite some uncertainties associated with the precise levels of responsibility after property transfer, the Navy is clearly required and committed to proceed with most appropriate remedy for the RDA as per Superfund guidance. The Navy selected Alternative RDA-5 (which includes capping the former disposal area) over alternatives which did not include a cap because it has determined that preventing physical hazards associated with exposed debris on the surface of the landfill, controlling erosion and surface water runoffs, and preventing deposition of sediments from the upland portion of the site into the adjacent wetlands would be an appropriate response action for the RDA.*

The soil cover will be designed to allow for active and passive recreation, and will also include geotextiles to prevent burrowing animals from contacting the landfill materials. All visible debris in the adjacent wetlands will be removed for placement on the landfill prior to capping, or transportation offsite. No debris will be visible following remedy completion.

Based upon the human health risk assessment performed for the RDA as part of the RI (Phase I and II), potential risks were not identified based on human exposure to soil, sediment, or surface water. Although potential risks were estimated for a hypothetical future resident ingesting groundwater from beneath the site containing arsenic, benzo(a)pyrene, and manganese, the Navy, EPA, and MADEP have determined that groundwater cleanup is not necessary because (1) arsenic and benzo(a)pyrene concentrations are below drinking water standards, (2) because there is no current or proposed primary drinking water standard for manganese (which is generally categorized with iron as a source of staining in sinks or laundry and not as a potential source of toxicity), and (3) the risk assessment was highly conservative which tends to overestimate potential risks. The Navy concluded that if, in the future, the groundwater beneath the site were to be used as a drinking water supply, routine groundwater treatment using standard municipal treatment technologies (e.g., precipitation and filtration) would be necessary to meet other federal and state drinking water and aesthetic (e.g., taste and odor) standards. No risks were estimated based upon human exposure to lead.

The ecological portion of the risk assessment did identify potential adverse effects to small mammals based on the presence of PCBs in hydric soil. Therefore, the Navy and EPA jointly developed a cleanup goal for PCBs that would be protective of ecological receptors, and selected a remedial alternative that included the excavation and offsite disposal of this PCB-impacted material. Once this soil is removed, the potential risks to the small mammals will no longer be realized.

As stated in the Navy's response to Mr. Cotter's comment (Section 3.2, comment number 6), based on available groundwater and surface water data, potential contaminant migration from the RDA does not appear to be occurring. Factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution, would result in sufficient attenuation such that contamination is unlikely to reach Whitman's Pond, or would reach the pond at levels below detection limits of most analytical methods. The alternative selected for the RDA includes the use of a permeable soil cover material that would promote the continued aeration of the landfill and underlying groundwater which would decrease the potential for metals and other inorganic chemicals to impact the groundwater or surface water quality in the future. The alternative selected for the RDA includes long-term monitoring of groundwater and surface water as a component of landfill closure to allow for continued assessment of the adequacy, reliability, and long-term effectiveness of this alternative.

Further, the presence of inorganic chemicals and SVOCs may not be exclusively associated with the RDA. For example, arsenic, lead, and manganese are naturally occurring chemicals, and the SVOCs detected are ubiquitous in developed areas.

23. **Comment from Beth Sortin, Abington Resident.** The Navy will be living up to its reputation if Operable Units 2 and 9, Rubble Disposal Areas are not removed.

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

Acknowledgment of responsibility is only a start.

It is alarming that the Environmental Protection Agency and the Department of Environmental Protection disagree with the timing and insufficient information completed. And it is most alarming that a local resident photographed a metal chemical barrel laying on the surface of the Rubble Disposal Area. The labeling of the barrel states: DSA 400-76-C-1197, Jefferson Chemical Co. Houston, TX 77052; Instructions for use - temperature of use, Warning - regarding vomiting; freeze and storage.

Why was this debris not mentioned? How many other barrels are there? What has leaked and for how long?

Testimony of local, long-term residence suggests that the South Weymouth Base RDA was used beyond four years. Were there any the dumping records kept by the Navy or trucking facilities?

I would like to see further Ecological Analysis such as ornithological shell samples from birds such as robins and possibly common prey birds. Also, I would like to see further Human Health Risk Assessment on combinations of chemicals found on the site such as PCB's, anti-freeze and other chemicals of concern.

I would like to see Natural Heritage directly involved in the Wetland cleanup and overview of the Species of Concern.

Alternative RDA-6 should be provided. Pursuit of Alternative RDA-6 is the only way to know for sure that all sources of contamination would be removed. It is the only alternative that would provide us with the protection we need.

There are far too many illnesses around the south Weymouth Naval Air Station for this to be neglected.

Navy Response: *Regarding the contents of the RDA, the Navy has conducted numerous subsurface investigations and geophysical surveys to delineate the extent and characterize the material that comprises the fill within the RDA. Although it is impossible to view and characterize all materials within the RDA, the Navy and their professional consultants are confident that sufficient information has been collected over the past decade to sufficiently describe the chemical and physical characteristics of the RDA and select an appropriate remedy. As part of the selected remedy, debris observed in the wetland will be either placed on the landfill prior to capping or disposed offsite. No debris will be visible at the RDA or wetland area following landfill closure. Any drums or drum fragments observed during debris removal in the wetland area will be disposed of as appropriate. The selected remedy includes long-term groundwater monitoring to assess groundwater conditions and monitor the continued effectiveness of the selected remedy. Further, based on Navy records, the RDA was used for 4 years between 1959 and 1962, and for a short period in 1978. The Navy is not aware of any disposal activities that have occurred at the RDA since 1978.*

During these investigations, and in accordance with CERCLA and the NCP, the Navy identified applicable or relevant and appropriate requirements (ARARs). These ARARs include those requirements necessary to protect endangered species from harm during and after remedial action, and to protect and restore the wetlands in the vicinity of the site. Please refer to Appendix F for the ARARs associated with the selected remedy.

Regarding higher tropic level mammals, conservative food chain modeling to higher trophic-level birds and mammals indicates that risks to higher-level predators are below regulatory risk thresholds. Further, removal of PCB-impacted hydric soils will eliminate risks to small mammals. Please refer to Section 7 of Tetra Tech NUS/ENSR's report, "Phase II Remedial Investigation, Rubble Disposal Area, NAS South Weymouth", dated January 2001, available at the information repositories for NAS South Weymouth, for additional information. Field studies are generally not conducted in ecological risk assessment unless conservative food chain models suggest potential significant risk. In this case, field studies on wildlife

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

would likely yield little information given the many factors that would confound the ability to attribute any observed impacts to PCB exposure and specifically exposure to PCBs at the RDA.

A human health risk assessment was performed for the chemicals detected at the RDA as part of the RI (Phase I and II). Potential risks were evaluated in an additive fashion – i.e., the risks based on exposure to each chemical were added to evaluate the overall risk at the site. This assessment showed that potential risks were not identified based on human exposure to soil, sediment, or surface water. Although potential risks were estimated for a hypothetical future resident ingesting groundwater from beneath the site containing arsenic, benzo(a)pyrene, and manganese, the Navy, EPA, and MADEP have determined that groundwater cleanup is not necessary because (1) arsenic and benzo(a)pyrene concentrations are below drinking water standards, (2) because there is no current or proposed primary drinking water standard for manganese (which is generally categorized with iron as a source of staining in sinks or laundry and not as a potential source of toxicity), and (3) the risk assessment was highly conservative which tends to overestimate potential risks. The Navy concluded that if, in the future, the groundwater beneath the site were to be used as a drinking water supply, routine groundwater treatment using standard municipal treatment technologies (e.g., precipitation and filtration) would be necessary to meet other federal and state drinking water and aesthetic (e.g., taste and odor) standards. No risks were estimated based upon human exposure to lead.

There are also several technical reasons that support the selected remedy. The results of numerous studies conducted at the RDA have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary. The selected remedial action includes the removal of PCB-impacted material. Of the chemicals detected above laboratory detection limits or above background in groundwater (arsenic, benzo(a)pyrene, manganese, and lead), arsenic and benzo(a)pyrene concentrations are below drinking water standards, and there is no current or proposed primary drinking water standard for manganese. For lead, no risks were identified based upon exposure to lead in groundwater. Further, although these chemicals were detected in groundwater samples collected from the RDA, these chemicals may not be associated with the RDA site at all (naturally occurring or are common in developed areas). Therefore, the removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.

24. **Comment from Paul M. Mooney, Chairman Town of Rockland Board of Health.** The Rockland Board of Health Members at their regular schedule meeting on March 24, 2003 voted to send a letter endorsing the Alternative RDA-6: Remove all Disposed Materials at the RDA and Soil and Sediment Containing PCBs and Dispose Off-site.

The Board is aware of the health concerns surrounding the families living near the air base. We welcome any comments you might have, but please put Alternative RDA-6 into effect so this will help out the people in the immediate area of the landfill.

Navy Response: There are several factors that the Navy must consider in its assessment of alternatives under CERCLA and the NCP. Therefore, a detailed analysis was performed on the alternatives developed for the RDA using the NCP criteria prior to rendering a final remedial decision. Based upon an evaluation of the NCP criteria and several technical reasons (please refer to Section 3.1, comment number 2), the Navy has concluded that the most appropriate remedy for the site is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.

25. **Comment from Phillip F. Sortin, Abington Resident and RAB Member.** Cleaning the environmental hazards caused by the Navy should be a top priority of the Navy. Our country rebuilds nations that have been ravaged by war and dictators to the tune of billions of dollars while attempting to gloss over responsibility to the tax payer's citizens that live in the area of the SWNAS. The proposed plan to clean up a small area of PCBs and cap the rest is not acceptable especially in light of citizen testimony given at the hearing on the landfill. Photographic evidence shows a fifty-five gallon drum from a Texas chemical company covered by debris. Where there is one barrel there are more. Metal detectors will miss drums

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

obscured by concrete with rebar and monitoring wells would only see ruptured drums. Capping the site will not prevent other drums from bursting and leaking toxic substances in the future.

One of the abutters to the site gave testimony that contradicts the Navy's end of use date which points to the fact that no valid records exist for the site.

Given the facts stated I insist the Navy do the right thing for the communities and use option six of the proposed clean up actions. I believe it's a small price to pay for the future of our union and its taxpayers.

Navy response: Please refer to Navy's response to Section 3.2, comment number 23.

26. **Comment from Donald J. Cann, Chairman Rockland Open Space Committee.** On behalf of the Rockland Open Space Committee, I am writing regarding the proposal to remove PCB-contaminated soil, cap, and restrict access to approximately four acres of open space at the former Naval Air Station within the Rockland Open Space area. This proposal is not acceptable to the committee as it renders the property in question unusable as open space and would violate the approved open space zoning concept for the base. It also permits the foreign objects and toxic substances to remain, posing continuing dangers to the water, soil, and air and, thus, to living creatures. The committee believes that the site needs maximum cleanup because of its proximity to the aquifer which requires protection under the base Zoning Plan. Our understanding is that the site is located partially on wetlands into which contaminated materials would leach.

It is anticipated that people of all ages will be making use of the open space areas at the base. It is unreasonable to expect that children will not be attracted to a "restricted" area that is surrounded by open space to which access is permitted. We are very concerned that liability for maintaining an attractive nuisance may attach if this area is not thoroughly cleaned and left open. In fact, the concept of "restricted open space" is oxy-moronic. Land which is to be obtained via a "Public Benefit Conveyance" is not a public benefit if it is not clean and usable. In addition, if the property in which the Rubble Disposal Area is to remain is in the perimeter where the Town of Rockland has permitting authority, we believe that the contents of the site would have to be removed entirely without a permit from the Town.

Clearly, the only acceptable alternative proposed is RDA-6 in which all disposed materials and soil and sediment are removed and taken off-site. The removal of open space from the open space area designated for the citizens of Rockland is not in keeping with the re-use plan as proposed. There has been no proposal to provide compensatory property to replace that which will be restricted and designated as hazardous.

Alternative RDA-5 is not an acceptable proposal for the treatment of the areas in question. The land, as it was originally acquired by the Navy, did not contain the materials and substances put there by the Navy and it should be returned to a state that does not contain those materials and substances.

Navy Response: The future transfer, ownership, and reuse of the RDA are the subject of ongoing discussions between the Navy, the reuse authority, and the prospective developer. Despite some uncertainties associated with precise levels of responsibility after property transfer, the Navy is clearly required and committed to proceed with most appropriate remedy for the RDA as per Superfund guidance. The Navy selected Alternative RDA-5 (which includes capping the former disposal area) over alternatives which did not include a cap because it has determined that preventing physical hazards associated with exposed debris on the surface of the landfill, controlling erosion and surface water runoffs, and preventing deposition of sediments from the upland portion of the site into the adjacent wetlands would be an appropriate response action for the RDA. The requirement for a fence and related signs was included as an added, optional level of protection. The use of these components should be consistent with reuse plans for the area. Current discussions reveal the proposed future use of the majority of RDA as open space. Therefore, the Navy will ensure that the soil cover will be designed to allow for active and passive recreation. Design component details will be provided in the design documents for the RDA.

Further, based upon the human health risk assessment performed for the RDA as part of the RI (Phase

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

I and II), potential risks were not identified based on human exposure to soil, sediment, or surface water. Although potential risks were estimated for a hypothetical future resident ingesting groundwater from beneath the site containing arsenic, benzo(a)pyrene, and manganese, the Navy, EPA, and MADEP have determined that groundwater cleanup is not necessary because (1) arsenic and benzo(a)pyrene concentrations are below drinking water standards, (2) because there is no current or proposed primary drinking water standard for manganese (which is generally categorized with iron as a source of staining in sinks or laundry and not as a potential source of toxicity), and (3) the risk assessment was highly conservative which tends to overestimate potential risks. The Navy concluded that if, in the future, the groundwater beneath the site were to be used as a drinking water supply, routine groundwater treatment using standard municipal treatment technologies (e.g., precipitation and filtration) would be necessary to meet other federal and state drinking water and aesthetic (e.g., taste and odor) standards. The ecological portion of the risk assessment did identify potential adverse effects to small mammals based on the presence of PCBs in hydric soil. Therefore, the Navy and EPA jointly developed a cleanup goal for PCBs that would be protective of ecological receptors, and selected a remedial alternative that included the excavation and offsite disposal of this PCB-impacted material. Once this soil is removed, the potential risks to the small mammals will no longer be realized.

27. Comment from David M. Madden, Mayor Town of Weymouth. The following are comments the Town of Weymouth would like to become included in the official record for the Rubble Disposal Area (RDA).

1. According to your Proposed Plan Pamphlet, there were no predicted human health risks, however, in your proposed plan (Alternative RDA-5), a fence and signage will be constructed around the entire site (approx. 4 acres) to warn trespassers away. This parcel of land is located within the delineated Public Benefit Conveyance (PBC) area, and therefore will remain as "open space" and could be utilized for such things as public parks. Why is a fence and signage required, and how could a fenced in parcel of land be defined as "open space" or land available for public use a? Could the Navy install thicker soil cover, and a geotextile membrane, to enable the property to remain accessible for public use and still allow for zero risk to human health and safety?
2. PCB contaminated soils have reached the adjacent wetland by some mechanism. You have proposed to install a soil cap over the site to meet the State regulations for closing a landfill. Will this cap effectively stop migration of any other possible PCB contaminated soils? Would you consider additional design investigation for constructing an impermeable barrier such as a concrete retaining wall to further add in preventing any contaminants from entering the wetland?
3. Your plan will require monitoring, and site maintenance in perpetuity. If thirty years (3) into the future, elevated levels of contaminations are discovered, will the federal government still have funding to conduct cleanup activities, or will the Town of Rockland be forced to bear the burden of the cost?
4. During the public hearing the general comments from the public and the regulators were not in favor of your existing proposed plan. Will the comments that you receive, actually change the planned activities that the Navy will conduct?
5. We believe that implementation of institutional controls in the form of restrictive covenants (that restrict the use of groundwater beneath the site for human consumption, and restrict certain activities on the surface of the site), are essential in protecting human health and safety. It is imperative that these covenants be implemented in a fashion that is permanent and well defined.

Navy Response: *The Navy will respond to your questions in order, as presented in your comment letter.*

1. *Although no risks were identified relative to the exposed debris, the Navy selected Alternative RDA-5 (which includes capping the former disposal area) because it was determined that preventing physical hazards associated with exposed debris on the surface of the landfill, controlling erosion and surface water runoffs, and preventing deposition of sediments from the upland portion of the site into the adjacent wetlands would be an appropriate response action for the RDA. The requirement for a fence*

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

and related signs was included as an added, optional level of protection. The use of these components should be consistent with reuse plans for the area.

Current discussions reveal the proposed future use of the majority of RDA as open space. Therefore, the Navy will ensure that the soil cover will be designed to allow for active and passive recreation.

In addition, the Navy will include the use of geotextiles to minimize the potential for burrowing animals to contact disposed materials. These design component details will be refined during the remedial design and implementation process to the extent necessary to comply with engineering standards and state requirements and approvals.

2. *The PCB-impacted material from the wetlands will be excavated and disposed offsite. Following the completion of the excavation, the Navy will collect post-excavation samples from the wetlands for PCB analysis. This data will be used to determine whether the cleanup level has been achieved or whether additional excavation of PCB-impacted material is warranted. In addition, soil samples will be collected for PCB analysis from the upland area adjacent to the PCB excavation prior to capping the landfill. This data will be used to determine whether the elevated PCB concentrations detected in hydric soil resulted from soil erosion from the surface of the landfill. By capping the landfill, erosion and deposition of landfill material into the adjacent wetlands would be eliminated.*
3. *It is important to note that under CERCLA, if a remedy selected in a ROD is found to be ineffective at achieving the remedial objectives for the site, then an evaluation of others options is warranted. This is typically done for the 5-year review, but may also be done during the long-term monitoring program. CERCLA provides for making changes to the selected remedy through a Memorandum to the Site File (for insignificant changes) or through implementation of an Explanation of Significant Differences (ESD) or ROD Amendment (for significant and fundamental changes). If a remedy that is implemented under CERCLA becomes ineffective, EPA will require corrective action to repair the in-place system, or will consider requiring the consideration of alternate remedies. As the lead agency for all investigation and cleanup programs ongoing at NAS South Weymouth, the Navy has the obligation under CERCLA to continue to evaluate the protectiveness of the selected remedy. However, the Navy may arrange, by contract or otherwise, for another party (ies) to carry out these responsibilities.*
4. *As described in the Navy's response to Section 3.1, comment number 2, there are several factors that the Navy must consider in its assessment of alternatives under CERCLA and the NCP. The NCP evaluation criteria are grouped, in order of priority, into the following three categories: (1) threshold criteria, (2) primary balancing criteria, and (3) modifying criteria. The threshold criteria (overall protection of human health and the environment and compliance with ARARs) must be met in order for the alternatives to be eligible for selection. Once the threshold criteria is met, the primary balancing criteria (long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short term effectiveness, implementability, and cost) are used to evaluate, compare, and weigh the advantages and disadvantages of each alternative. Finally, the modifying criteria (state acceptance and community acceptance) are considered. Although the modifying criteria is important in the evaluation process, it does not necessarily outweigh the threshold and primary balancing criteria that have been met. A detailed analysis was performed on the alternatives developed for the RDA using all nine NCP criteria prior to rendering a final remedial decision. After reviewing the input from the community and giving all of the alternatives careful consideration, the Navy has concluded that the most appropriate remedy for the site, is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.*
5. *The Navy agrees that the implementation of institutional controls are essential components to ensure protection of human health, and has therefore included these controls as a component of the selected remedy.*

28. Comment from James M. Cunningham, RAB Co-chairman, Weymouth resident. This letter is to

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

confirm the fact that today I spoke with you on the telephone, and requested an extension of the comment period for the proposed plan for the Rubble Disposal Areas at the South Weymouth Naval Air Station, and that you approved a fifteen day extension for the receipt of comments from all interested parties. I do know that other groups and individuals, including the Whitman's Pond Association, intend to submit comments.

Thank you for extending this comment period.

Navy Response: *The Navy agreed to extend the comment period by 15 days, and accepted comments dated or post-marked no later than April 10, 2003.*

29. **Comment from Michael Smart, Weymouth Town Councilor District Six, Weymouth Resident.** Please accept this letter as my formal comment on the Proposed Plan for the Rubble Disposal area, located at the former Naval Air Station in south Weymouth, Massachusetts.

On February 27, 2003, the Navy held a public meeting to discuss their proposed cleanup approach for the Rubble Disposal Area. At this meeting, the Navy provided a literature hand out and a slide presentation outlining the chemicals that were found in the RDA, as well as, a proposed remedy for the site. The cleanup proposal, which was recommended by the Navy, deals solely with the removal of the polychlorinated biphenyl (PCB), the construction of a soil cover on the former disposal area, and long term monitoring and institutional controls.

Plan RDA-5 is not sufficient to completely eliminate the risk of human contact with the remaining chemicals left behind in the rubble disposal area such as lead, manganese, benzo (A) pyrene, and arsenic. The potential for these remaining chemicals to further contaminate the Old Swamp River, which contributes to the Town of Weymouth's secondary water supply, is a valid reason to require that all of the dangerous chemicals, that were not present before the Naval Air Base came to Weymouth, be completely removed.

In the Navy's proposed cleanup method, RDA-5, it is stated that this method would minimize the impacts solely to the adjacent wetland area. This clearly is not reassuring to the residents who drink Weymouth water and those who live nearby in the Tri-Town area. Further, the recommendation of installing monitoring devices and institutional controls in the RDA area leads me to believe that the United State Navy expects that there will be future problems with contaminants at this site.

It is my request that the Navy consider the proposal plan numbered, RDA-6 in the Navy's Proposal Plan booklet dated February 2003, as the method of cleanup for the Rubbish disposal Area. This plan would completely remove all infected material from the RDA and dispose of it at an off site location. This would certainly eliminate all risk of human and ecological contact with contaminants from the site.

Navy Response: *Please refer to the Navy's response to Section 3.2, comment number 10. With respect to risks associated with lead, arsenic, benzo(a)pyrene, and manganese, the human health risk assessment did not indicate potential risks to humans based on exposure to lead. The results of the Integrated Exposure Uptake Biokinetic (IEUBK) model (used to evaluate exposure to lead) showed that 99.9% of the exposed population would have blood lead levels below 10 ug/dL (this equals 10 micrograms of lead per deciliter of blood, which equals 100 parts per billion). This is better than the Center for Disease Control guideline, which states that 95% of a population should have blood lead levels below 10 ug/dL. Although potential risks were estimated for a hypothetical future resident ingesting groundwater from beneath the site containing arsenic, benzo(a)pyrene, and manganese, the Navy, EPA, and MADEP have determined that groundwater cleanup is not necessary because (1) arsenic and benzo(a)pyrene concentrations are below drinking water standards, (2) because there is no current or proposed primary drinking water standard for manganese (which is generally categorized with iron as a source of staining in sinks or laundry and not as a potential source of toxicity), and (3) the risk assessment was highly conservative which tends to overestimate potential risks. The Navy concluded that if, in the future, the groundwater beneath the site were to be used as a drinking water supply, routine groundwater treatment*

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

using standard municipal treatment technologies (e.g., precipitation and filtration) would be necessary to meet other federal and state drinking water and aesthetic (e.g., taste and odor) standards.

Further, the presence of inorganic chemicals and semi-volatile organic compounds (SVOCs) may not be exclusively associated with the RDA (please refer to Section 3.1, comment number 1). For example, arsenic, lead, and manganese are naturally occurring chemicals, and the SVOCs detected are ubiquitous in developed areas. The removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.

The long-term monitoring of surface water and groundwater, included as components of the selected remedy, are required by state landfill closure regulations. Further, the institutional controls for aquifer and land use are included to ensure continued protection of human health and the environment, as well as to maintain cap integrity. The use of these components allows for the continued assessment of the adequacy, reliability and long-term effectiveness of the alternatives.

30. **Comment from Verna H. Hayes, South Weymouth Resident and RAB Member.** Whether the USN Air Station is "developed" (meaning turning it into a tax paying entity) or (Cleaned up enough for long-term usage by human beings.)

Should ONLY depend upon human ability to cleanse an environment for the continued health and prosperity of its most affected people surrounding the Air Station - Clean - Air, Land, and Water!

Must use Alternative RDA-6

Navy Response: The Navy is committed to investigating and cleaning up environmental items at NAS South Weymouth. Since the mid-1980s, the Navy has been conducting, and continues to conduct, numerous environmental investigation and/or cleanup activities at NAS South Weymouth. These activities have been conducted under either the federal Superfund program, in accordance with CERCLA and the NCP, or the state program, in accordance with MCP. In addition, the Navy initiated an environmental baseline survey to further identify potential areas warranting investigation and cleanup that were not already covered under the federal or state programs. There are several factors that the Navy must consider in its assessment of alternatives under CERCLA and the NCP. Based upon an evaluation of the NCP criteria and several technical reasons (please refer to Section 3.1, comment number 2), the Navy has concluded that the most appropriate remedy for the site is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls

31. **Comment from Robert Casimiro, East Weymouth Resident.** I am in favor of RDA6; Remove all Disposed Material at the RDA and Sediment Containing PCBs and Dispose Off Site.

We get some of our drinking water from Whitman's Pond, which is fed by the Old Swamp River, which is part of the watershed of the South Weymouth Naval Air Station.

We believe the only way to safeguard the health of our residents is for all of this material to be removed from the site.

Navy Response: Please refer to the Navy's response to Section 3.2, comment number 10.

32. **Comment from Betty Gibbons, Hingham Resident.** I feel the Navy's proposed cleanup approach for the Rubble Disposal Area at the former South Weymouth Naval Air Station, Alternative RDA-5, would not adequately alleviate the potential risk to human health or the environment.

Many individuals who live within a close proximity to the base have experienced significant health problems. Although no studies confirm these illnesses were caused by contamination on this site, one can only surmise.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

I strongly urge the Navy to perform a complete and thorough cleanup of the South Weymouth Naval Air Base and return this property back to the communities in the condition in which it was received.

Navy Response: Please refer to the Navy's response to Section 3.1, comment number 1.

33. **Comment from James M. Cunningham, Community Co-Chairman SWNAS-RAB.** As the Community Co-Chairman of the South Weymouth Naval Air Station Restoration Advisory Board (RAB), I have spoken with the RAB members, and the majority endorse **Alternative RDA-6: Remove All Disposed Materials at the RDA and Soil and Sediment Containing PCBs and Dispose Off-site**, rather than Alternative RDA-5, as proposed.

I. It makes no sense to remove a small portion of contaminated wetland soil and cap the bulk of the RDA material, when at high water the Old Swamp River washes under the RDA in places, and will leach out contaminants into the river. The Old Swamp River is a primary source of potable water for the Town of Weymouth, Old Swamp River flows directly into the South Cove of Whitman's Pond, and up to one-half of the town's water is pumped directly from there to the drinking water reservoir.

The RDA constitutes an unknown risk to Weymouth's water supply. Mice caught in the area were found to have excessively higher levels of PCBs than test borings should indicate, therefore leading to the possible conclusion that PCBs, and possibly other contaminants, are lodged in and under the rubble of the RDA. It is highly likely that these small animals can move about in the interstices between pieces of rubble in places not evaluated through test boring, and it is certain that groundwater and maybe surface water washes into these spaces, and then into the river. There is no easy way to isolate the wetland from the river during high water flows. The RDA lies within the Aquifer Protection District (Medium Yield). According to the "Zoning and Land Use By-Laws for the Naval Air Station South Weymouth", dated March 24, 1998, no landfills are allowed within a water resources protection overlay district (WPD), which is the location of the RDA as shown on Exhibit B, Water Resources Overlay Map. Therefore, by prior agreement, the Department of Defense (DoD) should remove the RDA in its entirety.

II. If Alternative RDA-5 were adopted, the cap above the RDA would not be consistent with open space, as is the intention for this area of the base. Also, the fence around the capped area would restrict wildlife habitat, and provide an attractive nuisance to children playing in the area. Also, it is unknown what types of contaminants could leach out from the RDA and affect people and wildlife in the nearby area.

Alternative RDA-5 requires continuous monitoring for many years. During that time, if undiscovered contaminants were to surface, the cost of opening the landfill and removing the contamination could easily exceed the present cost of total removal. Certainly, close monitoring for several years will prove to be an increasing expense, which could be eliminated in advance by performing Alternative RDA-6. Under Alternative RDA-5, the soil cover could be eroded by heavy rain, and surface water would then wash exposed contaminants into the river. It is entirely possible, even though the initial cost may be less, that Alternative RDA-5 may prove to be more expensive than Alternative RDA-6. The cost of RDA-6 is now known, and funds are more likely to be available now than in the future. It makes more sense to deal with the problem now, once and for all, rather than exposing all parties to continuing expense and possible ecological disaster.

Pictures of the RDA shown at the public hearing show that very little vegetation has grown on this landfill; this leaves us to speculate that the reason for this is that the area is so heavily polluted that not much can grow there. After the cap is in place, the concept of open space will be defeated. It is highly unlikely that only 54 cubic yards of contaminated soil is present in the wetlands near the RDA. Recent photographs taken by concerned citizens show previously unknown chemical drums rusting into the water. Since the RDA was a landfill, it is quite possible that more than 54 cubic yards of soil may be found to be contaminated. All should be removed.

III. In conclusion, the members of the RAB are very interested in protecting the natural ecology of the Naval Air Station, especially water. In order to insure that the RDA does not continue to threaten the Old

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

Swamp River and Weymouth's drinking water, as well as restoring the RDA to its former woodland/wetland open space, all the rubble and contaminants at the RDA should be removed and disposed of off-site, as outline in alternative RDA-6.

Navy Response: *Please refer to Navy's response to Section 3.1, comment number 6. Concerns regarding the potential for small animals to come into contact with disposed materials will be addressed through the use of geotextiles. Based upon current discussions, the majority of the RDA is proposed for future use as open space. Therefore, the Navy will design the soil cover to allow for active and passive recreation. This is a design detail that will be refined during the remedial design and implementation process to the extent necessary to comply with engineering standards and state requirements and approvals. With respect to the fence, the requirement for a fence and related signs was included as an added, optional level of protection. These components are not required on a risk basis. The use of these components would be consistent with reuse plans for the area. Further, although it may not have been clear from the slides used during the presentation, the surface of the RDA is indeed vegetated with grass, trees, and shrubs. Although the RDA would need to be cleared of vegetation and clean fill would be brought in for grading prior to cap construction, final cover stabilization would consist of seeding the surface of the landfill to provide a continuous vegetative mat across the site.*

34. **Comment from Gerald DelPrete, Chairman, Rockland Conservation Commission.** The Rockland Conservation Commission voted at our March 27, 2003 meeting to recommend the "Alternative RDA-6: Remove All Disposed Materials at the RDA and Soil and Sediment Containing PCB's and Dispose of Off-Site". The Board requests you file this recommendation as the Board's official position on this matter.

Navy Response: *As described in the Navy's response to Section 3.1, comment number 2, there are several factors that the Navy must consider in its assessment of alternatives under CERCLA and the NCP. Therefore, a detailed analysis was performed on the alternatives developed for the RDA using the NCP criteria prior to rendering a final remedial decision. Based upon the analysis performed and several technical reasons (please refer to Section 3.1, comment number 2), the Navy has concluded that the most appropriate remedy for the site, is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.*

35. **Comment from Mike Bromberg, Rockland Resident.** The following are my comments on the Proposed Plan for the RDA.

In light of the fact that the RDA sits on the banks of Swamp River, a Class A drinking water supply for the Town of Weymouth and the fact that the RDA is in an Open Space zoned district which will lure thousands of children of all ages to play in the surrounding recreational fields, trails, picnic areas and a canoe launch less than 100 feet away, and in light of the fact that the Navy really is clueless of knowing exactly what is contained in the RDA that may present a potential environmental, human health or ecological problem at any time:

I urge and request that the Navy choose Alternative RDA-6: Remove All Disposed Materials at the RDA and Soil and Sediment Containing PCB's and Dispose Off-site.

I do believe that the Navy should thoroughly investigate the RDA to a point where they can GUARANTEE that there will be no Human health risk. I believe our communities, with all the health concerns currently surrounding the SWNAS, deserve more from the Navy than a prediction that there will be no human health risk.

This comment from the DEP to the Navy in a letter dated July 11, 2002 regarding the RDA is very concerning to me. It states

"The statement indicating that potential risks were not predicted for human exposure to sediment or soil is misleading because as explained in the Department's April 8, 2002 comments on the feasibility study report, the predicted risks to human health were based on an out-dated, less conservative risk scenario than warranted by site conditions".

This is an alarming issue that will be reviewed more thoroughly.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

I hope the Navy, in their PREDICTIONS of risks to human health, is using the latest, most conservative risk scenarios to protect the health of their neighbors of 60 years and the generations of children that will be using this area for their recreational needs for years to come.

Toxicity Assessment-As stated in the Proposed Plan on page 3, "possible harmful effects from exposure to the individual chemicals of potential concerns are evaluated.-----The Navy should also look into the possible harmful effects from exposure to a combination of these chemicals of potential concern? This should be evaluated as well.

Please use the unofficial reports that transformers, transformer components, or transformer fluids were disposed of at the RDA as OFFICIAL reports that they were disposed of at the RDA. The PCB's found at the site are consistent with the type of PCB's found in transformers. Please have someone do the math. Otherwise explain how the PCB's got there.

The Navy is correct to say that no tanks, transformers, or other large metallic objects have been observed at the site, if of course they were only looking to see if any were sticking out of the tall grass and shrubs.

What the Navy did not mention is the fact that there are radiators, aircraft debris, a large electric motor, an intact 55 gallon drum with writing on it saying Texas Chemical, another 55 gallon drum with a solidified unknown in it, and a host of other rusting drums sitting at the waters edge of the RDA as I and others have witnessed. How can the Navy miss these objects in their RI?

Why was this information not in the Proposed Plan so the public could properly comment?

PCB's – The Navy has estimated the total volume of soil containing PCB's at 54 cubic yards at the RDA. Prior estimates by the Navy after testing, have historically underestimated the amounts of soil containing PCB's. For example: In RIA-8, the Navy estimated there would be 8-10 cubic yards of soil containing PCB's that needed to be removed. In reality, the Navy actually removed 210 cubic yards of soil containing PCB's at the site and needs to do more testing. That being said, especially because there was no soil for PCB's done up gradient from the wetland edge, the Navy may very well be off the mark again.

Four chemicals – I believe the Navy should have included in the Proposed Plan, just how high were the chemicals found to be above background levels and why they might be that high. For example, the very large hit of manganese. Also please explain the human health risk of a child exposed to the "expected residual levels" of the base-wide applications of pesticides. Do background levels of pesticides found on the base necessarily mean they are not a health risk to children?

Ecological Risks – The Ecological Risk assessment is seemingly misleading because the Navy did not actually test the receptors evaluated in this assessment other than mice, which had high concentrations of PCB's. To better evaluate and take the guesswork out of the Navy's estimations, I believe the Navy should directly include tissue testing in their lab studies of small mammals, rabbits, earthworms, plants and wetland life and invertebrates in contact with surface water and sediment at the RDA. This would leave us with a more accurate assessment.

Risk Analysis – Risk Analysis is based on the Navy estimating the amount of chemical in soil, aquatic media, plant or animal tissue.

Again, the Navy historically does not have a good track record for estimating PCB's in soil. Therefore the Risk Analysis is likely not to be accurate. In reality, the Assessment is likely to have adverse effects on animals higher in the food chain. Please put more effort in finding the factual results and less effort in estimating results.

Attached is a historic wetland map of SWNAS from 1940. On it you will see that a portion of the RDA has filled the wetlands along the banks of Swamp River. Because the landfill rests atop of wetlands and inside a floodplain, in my opinion, using Alternative # 5 (capping the landfill) would not be effective due to the fluctuating ground and surface water levels beneath it. This is most likely the reason why PCB's are in

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

the wetlands in the first place. The Navy should prove to the communities that this would not be the case or otherwise they should choose Alternative #6.

The RDA also rests atop of a medium yield aquifer, which is a potential drinking water supply or may be used to irrigate recreational fields. In the zoning and land use bylaws for the SWNAS, a medium yield aquifer is protected by an Aquifer Protection District. According to the bylaw, a landfill is a prohibited use in the Aquifer Protection District. Bylaw is attached.

DEP comment letter on July 11, 2002 to the Navy states, "Alternatives that involve removal or relocation of the site (RDA-6 and RDA-7) provide superior protection of human health and the environment and superior long-term effectiveness compared to other alternatives (which do not entail complete removal of the site)". ---Please give this comment more consideration.

Alternative # 5 undermines the project as being a model project for the rest of the Commonwealth as requested by the Secretary of Environmental Affairs. Picnics areas, canoe launches and trails abutting capped landfills would not be considered part of a model project for future development practices in the Commonwealth.

The Town of Rockland does not need the burden of chasing the US Navy for the next 200 years to repair problems associated with a 4 acre capped landfill, including being a permanent security guard to thwart children from digging, catching amphibians, chasing balls etc in the RDA.

Burrowing animals in the landfill would deem the cap ineffective by allowing rainwater to wash contaminates into the groundwater and into Swamp River.

Alternative # 6 is more cost effective in the long term with no cost of maintenance, mowing, erosion repairs, monitoring, etc. It is better investment for our tax dollar not only financially, but for peace of mind for parents knowing their children will be safe from toxic contaminates in an area that will be used for recreational purposes and for citizens of Weymouth who will be assured that there are no toxic contaminates leaching into their drinking water supply from the base.

History shows us the slow pace of remedial work at SWNAS and that it is caused by a lack of funding and the time it takes to appropriate funding to clean-up the base, which is the reason for the Navy's desire for an Early Transfer. This is while there is a Navy presence and an established BRAC team.

In the near future when the Navy and the BRAC team is not present and there are problems at the RDA that may affect human health and the drinking water supply, it may takes years and years for the Navy to retain funding to remedy the problem. In the meantime our children's health is at risk and the contamination of the drinking water supply is at risk. We cannot afford these risks as we wait years for the Navy to remedy the problem. Guarantee us there will be no risks by removing the landfill.

Also, the Navy should complete its testing of the feeder stream just south of the RDA which originates from the East Mat and address any problems with it before it begins any remedial work on the RDA. This feeder stream is associated and connected with the floodplain and wetlands abutting the RDA.

Again, I urge and request the Navy not to gamble with our lives and to choose Alternative # 6.

Navy Response: As described in the Navy's response to Section 3.2, comment number 18, all methodologies used in the human health risk assessment complied with scientifically acceptable risk assessment practices and current EPA guidance, which estimates the risks from each chemical individually. However, the estimates for each exposure pathway are then summed to give the total risk estimates for each receptor. These risk levels are compared with risk criteria established by EPA.

Both the human health and ecological risk assessments use assumptions that have uncertainties associated with them. Some level of uncertainty is introduced into the risk characterization process every time an assumption is made. In conducting a risk assessment under CERCLA and the MCP, the methodology dictates that assumptions err on the side of overestimating potential exposure and toxicity.

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

Such estimates may be useful for regulatory decision-making, but do not provide a realistic estimate of potential health impacts. The effect of using numerous assumptions that each overestimate potential exposure and toxicity is to exaggerate estimates of potential human risk. Despite this overestimation, no risks were estimated for humans being exposed to soil, sediment, or surface water.

Regarding the ecological risk assessment, sediment, surface water, and surface soil samples collected during the RI (Phases I and II) were used to evaluate ecological risks. Further, in an effort to reduce site-specific uncertainties in the ecological risk assessment, biological tissue samples were collected from upland, wetland, and riverine portions of the RDA. In addition, terrestrial invertebrate samples, small mammal samples, amphibian samples and fish samples were collected. Please refer to Section 7 of Tetra Tech NUS/ENSR's report, "Phase II Remedial Investigation, Rubble Disposal Area, NAS South Weymouth", dated January 2001, for additional information regarding the ecological risk assessment.

The horizontal extent of the former disposal area at the RDA was estimated based on visual observations of where the majority of the debris was located during the 1990, 1996, and 1999 field programs. Miscellaneous debris was also observed along the downslope edges of the RDA and in the adjacent wetlands. As part of the selected remedy, this debris will be either placed on the landfill prior to capping or disposed offsite. No debris will be visible at the RDA or within the wetlands following landfill closure. Any drums or drum fragments observed during debris removal in the wetland area will be disposed of as appropriate. Further, the selected remedy includes long-term groundwater monitoring to assess groundwater conditions and monitor the continued effectiveness of the selected remedy.

Numerous subsurface investigations and geophysical surveys to delineate the extent and characterize the material that comprises the fill within the RDA have been conducted. Although it is impractical to view and characterize all material that comprises the RDA, the Navy and their professional consultants are confident that sufficient information has been collected over the past decade to sufficiently describe the chemical and physical characteristics of the RDA and select an appropriate remedy. As stated in the Navy's response to Mr. Cotter's comment (Section 3.2, comment number 6), based on available groundwater and surface water data, potential contaminant migration from the RDA does not appear to be occurring. Factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution, would result in sufficient attenuation such that contamination is unlikely to reach Whitman's Pond, or would reach the pond at levels below detection limits of most analytical methods. The alternative selected for the RDA includes the use of a permeable soil cover material that would promote the continued aeration of the landfill and underlying groundwater which would decrease the potential for metals and other inorganic chemicals to impact the groundwater or surface water quality in the future. Further, the alternative selected for the RDA includes long-term monitoring of groundwater and surface water as a component of landfill closure to allow for continued assessment of the adequacy, reliability, and long-term effectiveness of this alternative.

The PCB-impacted material from the wetlands will be excavated and disposed offsite. Following the completion of the excavation, the Navy will collect post-excavation samples from the wetlands for PCB analysis. This data will be used to determine whether the cleanup level has been achieved or whether additional excavation of PCB-impacted material is warranted. In addition, soil samples will be collected for PCB analysis from the upland area adjacent to the PCB excavation prior to capping the landfill. This data will be used to determine whether the elevated PCB concentrations detected in hydric soil resulted from soil erosion from the surface of the landfill. By capping the landfill, erosion and deposition of landfill material into the adjacent wetlands would be eliminated.

In order to determine whether a chemical detected at the RDA was possibly due to disposal at the site, chemical concentrations detected at the RDA were compared to background conditions. When discussing pesticides, none of the data collected for the RDA suggested the presence of elevated pesticide concentrations. That is to say, based on the data collected, pesticides were not likely disposed at the RDA since pesticide concentrations were consistent with background conditions for NAS South Weymouth.

The eastern edge of the former disposal area is located immediately adjacent to the wetland area, which

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

is also the boundary of the 100-year floodplain of Old Swamp River. As such, the Navy will construct the cap such that it does not extend into the wetlands. To accomplish this, some material from the former disposal area in the vicinity of the eastern edge of the footprint would be excavated and placed on top of the landfill, which will also be covered by the soil cap. Further, riprap will be placed along the slopes of the RDA to protect against 100-year floods. In addition, the Navy will include the use of geotextiles to minimize the potential for burrowing animals to contact disposed materials. These design component details will be refined during the remedial design and implementation process to the extent necessary to comply with engineering standards and state requirements and approvals.

With regards to the use of site groundwater for irrigation purposes, existing groundwater data for the RDA indicates that active remediation (e.g., a pump and treat system) is not necessary to address site groundwater. This decision has been confirmed by EPA and MADEP. As described in the Navy's response to Section 3.1, comment number 2, there are several factors that the Navy must consider in its assessment of alternatives under CERCLA and the NCP. Therefore, in accordance with CERCLA and these NCP, a detailed analysis was performed on the alternatives developed for the RDA using nine NCP criteria prior to rendering a final remedial decision. After reviewing the input from the community and giving all of the alternatives careful consideration, the Navy has concluded that the most appropriate remedy for the site, when considering all nine NCP criteria, is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls. Further, there are several technical reasons that support the selected remedy. Please refer to Section 3.1, comment number 2.

36. **Correspondence from United States Senator John F. Kerry regarding a letter received from Mike Bromberg.** I am forwarding to you a copy of a letter from Mr. Mike Bromberg concerning his request for assistance in looking into the Navy's proposal for the Naval Air Station at South Weymouth Massachusetts.

It is the desire of this office to be responsive to all inquiries and communications. I respectfully ask for your assistance in resolving the issues outlined in the attached correspondence.

Please convey a copy of your response to the issues raised in Mr. Bromberg's letter to Meaghan F. Hohl of my Boston Office.

Comment from Mike Bromberg, Rockland Resident, to United States Senator John Kerry. This letter is in regards to the Proposed Plan for Operable Units 2 and 9, Rubble Disposal Areas, Naval Air Station South Weymouth. Rubble Disposal Area – RDA. It is a 4 acre Superfund Site that is open to public comment. The comment period was extended until April 11, 2003. The Navy provided 7 alternatives for a clean-up approach to comment on. The Navy has chosen Alternative #5: which is Remove Soil and Sediment Containing PCB's, Dispose offsite and Construct a Soil Cover over the site.

I encourage you ask the Navy to consider Alternative RDA#6: Remove All Disposed Material at the RDA and Soil and Sediment Containing PCB's and Dispose Off-site, for the following reasons,

- 1) It is a Superfund Site in Rockland. Rockland is a small town already containing 2 landfills. The Navy decided to leave Rockland with a third landfill called the Small Landfill. The RDA would be the fourth capped landfill for the town if the Navy is allowed to leave it.
- 2) The Navy filled in wetlands abutting Swamp River to create this 4 acre landfill.
- 3) The RDA sits on the banks of Swamp River.
- 4) Swamp River is a Class A drinking water supply to the Town of Weymouth.
- 5) The Navy has chosen to leave our community with a capped 4 acre landfill with unknown toxic contamination lying beneath it.
- 6) The RDA site is in an Open Space Zoned District, which will lure thousands of children to use the recreational fields, picnic areas, trails and a canoe launch planned in and around the landfill.
- 7) The canoe ramp will be built within 100 feet of this capped landfill, which leaves the potential for

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

- kids to access the landfill from the water.
- 8) The Navy has found PCBs in the wetlands and lead, arsenic, manganese and benzo-(a)pyrene in the groundwater. All unhealthy contaminants.
 - 9) The Navy has not yet completed its Base-wide Watershed Assessment to determine all the effects of contamination on the Base.
 - 10) The Navy has not disclosed the fact that there are 55 gallon drums decaying on the banks of the RDA.
 - 11) The Navy's Alternative # 5-Capping option- I don't believe that capping the landfill can prevent further contamination of the groundwater where the landfill sits inside a wetland and floodplain with fluctuating ground and surface water levels beneath it. Contaminates will still be drawn to the water.
 - 13) The RDA sits atop of a Medium Yield Aquifer, which is a potential drinking water supply or could be used to irrigate recreational fields. The South Shore Tri-Town Development Corp. is seeking all alternatives to provide a water source to the Redevelopment of the Base. Difficult to use the aquifer with a Superfund site resting directly atop of it with unknown disposed materials in it.
 - 14) The Re-Use Plan zoning bylaws require an Aquifer Protection District for any potential medium or high yield aquifer.
 - 15) A capped landfill is not permitted in an Aquifer Protection District in the Re-Use bylaws.
 - 16) Our communities do not want a capped landfill on permanently protected open space.
 - 17) If the Navy uses Alternative #5 and there are problems with the RDA after the Navy is gone, we have no guarantee when the Navy will be back to correct the problems. Our communities do not want to wait while the Navy looks to have funds appropriated for additional remedial work in the future while at risk is our children's health and Weymouth's drinking water supply.
 - 18) The Navy should return the land in the same condition as it acquired it.
 - 19) What parent would allow their children to use the open space and recreation fields knowing they could be at risk of endangering their health.
 - 20) What parent would gamble their children's health on the Navy (predicting) there will be no health risks associated with the RDA after it is capped? We now need guarantees, not predictions.
 - 21) Rather than removing the RDA, the Navy wants to put institutional controls in place at the RDA and the aquifer beneath it.
 - 22) There are unofficial reports that transformers, their components and their fluids were disposed of in the RDA. The Navy estimates there will be 54 cubic yards of PCB contaminated wetland soil to remove.
 - 23) DEP comment letter on July 11, 2002 to the Navy states "Alternatives that involve removal or relocation of the site (RDA-6 and RDA-7) provide superior protection of human health and the environment and superior long-term effectiveness compared to other alternatives (which do not entail complete removal of the site).

Lastly, at this time there are several Health Studies by the Mass. Dept of Health in the process. The studies are concerning the high amount of diseases, mostly a MS cluster, cancer, etc. surrounding the Naval Air Station. I received a call just this morning that another abutter of the base was diagnosed with MS yesterday. That brings the count of people with MS around the base to 57 in just a couple of months search by private citizens. This is very alarming.

I ask for you help in asking the Navy to remove this landfill and dispose of offsite. I believe it is an injustice to our communities to let the Navy walk away from the base leaving capped landfills that will jeopardize the health of our children and the drinking water supply to the Town of Weymouth.

Navy Response: *The Navy is committed to investigating and cleaning up environmental items at NAS South Weymouth. Since the mid-1980s, the Navy has been conducting, and continues to conduct, numerous environmental investigation and/or cleanup activities at NAS South Weymouth. These activities have been conducted under either the federal Superfund program, in accordance with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), or the state cleanup program, in accordance with the Massachusetts Contingency Plan (MCP). In addition, the Navy initiated an*

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

environmental baseline survey (EBS) to further identify potential areas warranting investigation and cleanup that were not already covered under the federal or state programs.

In accordance with federal and state cleanup program guidance, areas to be investigated are typically identified based on historic site uses and activities, Navy records, known or suspected areas of potential contaminant releases (e.g., an underground fuel storage tank), analytical data, or reported observations from the community (e.g., iron precipitation in French Stream). These areas are further investigated through surface and subsurface explorations, geophysical surveys, ecological surveys, and/or the collection of soil, sediment, groundwater, and surface water samples for laboratory analysis to identify and delineate the extent of potential impacts. Human health and ecological risk assessments are then conducted using site-specific data to determine whether the "site" poses potential risks to human health and the environment, which may warrant remediation and cleanup under the federal and state programs.

The Navy has identified 9 CERCLA sites, approximately 30 MCP sites, and over 100 EBS sites at NAS South Weymouth that are either currently being investigated, are in the process of being remediated, or have been closed in accordance with applicable state and federal regulations. To date, none of the data collected from NAS South Weymouth indicates that any contamination has migrated off the base into the surrounding communities. However, if, through its ongoing programs, the Navy identifies offsite contaminant migration from Navy sources on the property, the Navy will ensure that it is cleaned up in accordance with applicable state and federal laws and regulations.

As part of the Remedial Investigations (Phases I and II), the Navy has conducted numerous subsurface investigations (soil borings and test pits) and geophysical surveys to delineate the extent and characterize the material that comprises the fill within the RDA. Although it is impractical to view and characterize all materials within the RDA, the Navy and their professional consultants are confident that sufficient information has been collected over the past decade to sufficiently describe the chemical and physical characteristics of the RDA and select an appropriate remedy. Relative to the comment regarding the potential for large buried equipment, the Navy has continually studied the RDA for objects over the last decade and has not identified any indications of tanks, transformers, or other large objects in the area.

For the most part, chemicals found at the RDA are at levels close to the laboratory detection limits and are either consistent with background conditions or consistent with expected residual levels due to previous base-wide activities (e.g., the routine application of pesticides and herbicides). There were some chemicals detected at the RDA above laboratory detection limits or background conditions, including PCBs in hydric soil, and arsenic, lead, manganese, and benzo(a)pyrene in groundwater. Therefore, in accordance with Superfund guidance, the Navy conducted a human health and ecological risk assessment to further evaluate potential risks from the levels of those chemicals detected.

Although the baseline human health portion of the risk assessment performed for the RDA identified potential risks for a future resident ingesting groundwater from beneath the site containing arsenic, benzo(a)pyrene, and manganese, the Navy, EPA, and MADEP have determined that groundwater cleanup is not necessary because (1) arsenic and benzo(a)pyrene concentrations are below drinking water standards, (2) there is no current or proposed primary drinking water standard for manganese (which is generally categorized with iron as a source of staining in sinks or laundry and not as a potential source of toxicity), and (3) the risk assessment was highly conservative which tends to overestimate potential risks. The Navy concluded that if, in the future, the groundwater beneath the site were to be used as a drinking water supply, only routine groundwater treatment using standard municipal treatment technologies (e.g., precipitation and filtration) would be necessary to meet other federal and state drinking water and aesthetic (e.g., taste and odor) standards. No risks were identified based upon the potential presence of lead in groundwater.

Further, the presence of inorganic chemicals and SVOCs may not be exclusively associated with the RDA. For example, arsenic, lead, and manganese are naturally occurring chemicals, and the SVOCs detected are ubiquitous in developed areas.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

The ecological risk assessment identified potential risks to small mammals based upon the presence of PCBs in hydric soil and small mammal tissue. This finding also resulted in the need to assess potential risks posed by PCB exposure to wildlife, including selected higher trophic-level birds and mammals (fox, mink, and hawk). Conservative food chain modeling to higher trophic-level birds and mammals indicated that risks to higher-level predators are below regulatory risk thresholds. Removal of PCB-impacted hydric soils will eliminate risks to small mammals.

Based on the human health and ecological risk assessments, gathered information relating to types of contaminants, environmental media of concern, and potential exposure pathways, remedial objectives were developed to mitigate, restore and/or prevent existing and future potential threats to human health and the environment. The remedial objectives for the RDA that were established during the FS, and expanded upon during the development of the Proposed Plan (based on discussions with EPA and MADEP) include:

- Minimize erosion and deposition of waste materials into the adjacent wetlands.*
- Eliminate or minimize the potential for small mammals to be exposed to PCBs present in hydric soil in the adjacent wetlands.*
- If capping is being considered, comply with Massachusetts solid waste landfill closure requirements.*
- Prevent or reduce human exposure to groundwater containing contaminant concentrations in excess of federal or more stringent state drinking water standards or posing potential risks to humans.*

As part of Tetra Tech NUS/ENSR's report, "Feasibility Study, Rubble Disposal Area, NAS South Weymouth", dated March 2003, the Navy developed a range of remedial alternatives for each remedial objective established for the RDA. CERCLA and the NCP set forth the process by which remedial alternatives are evaluated and selected. Section 121(b)(1) of CERCLA presents several factors that the Navy must consider in its assessment of alternatives. The NCP further builds on these mandates and articulates that nine evaluation criteria be used in assessing the individual remedial alternatives. Therefore, a detailed analysis was performed on the alternatives developed for the RDA using all nine NCP criteria prior to rendering a final remedial decision. As presented in the Proposed Plan and summarized in Section 6 of Tetra Tech NUS/ENSR's report titled "Feasibility Study, Rubble Disposal Area, NAS South Weymouth", dated March 2003, and Section 11 of this ROD, an evaluation of the first seven criteria reveals that the in-place capping alternatives (Alternatives RDA-3, RDA-4, and RDA-5) are the most appropriate remedies for the RDA. The capping alternatives are protective of human health and the environment, are compliant with ARARs, achieve long-term effectiveness and permanence, reduce toxicity/mobility/volume (through removal), achieve short-term effectiveness, can be implemented, and are cost effective. Further, the capping alternatives are conditionally supported by both EPA and MADEP, and are consistent with EPA Headquarters' expectations for landfills (per presumptive remedy guidance). Of the capping alternatives developed for the RDA, EPA and MADEP prefer RDA-5 because it includes excavation and offsite disposal of the PCB-impacted soil in the wetland; however, EPA conditionally supports this alternative. Please refer to Section 3.2 comment number 38 for EPA's statement regarding their conditional acceptance of the selected remedy.

The future transfer, ownership, and reuse of the RDA are the subject of ongoing discussions between the Navy, the reuse authority, and the prospective developer. Despite some uncertainties associated with the precise levels of responsibility after property transfer, the Navy is clearly required and committed to proceed with most appropriate remedy for the RDA. After reviewing the input from the community and giving all of the alternatives careful consideration (including Alternatives RDA-5 and RDA-6 in particular), the Navy has concluded that the most appropriate remedy for the site, when considering all nine NCP criteria, is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, long-term monitoring, and Institutional Controls.

The selected remedy includes the use of a permeable soil cover material that would promote the

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

continued aeration of the landfill and underlying groundwater through the infiltration of oxygen in fresh rain, as well as the permeation of oxygen from the atmosphere. Based upon the presence of metals and inorganic chemicals at the RDA, it is advantageous to maintain continued aeration of the landfill in order to encourage higher oxidation states. Metals and inorganics at higher oxidation states are less soluble in groundwater. Therefore, the continued aeration of the landfill would decrease the potential for metals and other inorganic chemicals to impact the groundwater or surface water quality in the future. The alternative selected for the RDA includes long-term monitoring of groundwater and surface water as a component of landfill closure to allow for continued assessment of the adequacy, reliability, and long-term effectiveness of this alternative. The Navy has begun preliminary conceptualization of the landfill design, and the Navy's professional design team, as well as EPA and MADEP participants, have endorsed the planned aeration-enhancing cover system.

Based on available groundwater and surface water data, potential contaminant migration from the RDA does not appear to be occurring. Further, potential contaminant migration to Weymouth's water supply (Whitman's Pond) is unlikely based on proximity (approximately 15,500 feet), low contaminant concentrations, and factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution. These factors would result in sufficient attenuation such that contamination is unlikely to reach Whitman's Pond, or would reach the pond at levels below detection limits of most analytical methods.

It is important to note that under CERCLA, if a remedy selected in a ROD is found to be ineffective at achieving the remedial objectives for the site, then an evaluation of other options is warranted. This is typically done for the 5-year review, but may also be done during the long-term monitoring program. If a remedy that is implemented under CERCLA becomes ineffective, EPA will require corrective action to repair the in-place system, or will consider requiring the consideration of alternate remedies. CERCLA provides for making changes to the selected remedy through a Memorandum to the Site File (for insignificant changes) or through implementation of an Explanation of Significant Differences (ESD) or ROD Amendment (for significant and fundamental changes). As the lead agency for all investigation and cleanup programs ongoing at NAS South Weymouth, the Navy has the obligation under CERCLA to continue to evaluate the protectiveness of the selected remedy. However, the Navy may arrange, by contract or otherwise, for another party (ies) to carry out these responsibilities.

In summary, the Navy has selected Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, long-term monitoring, and Institutional Controls, which is endorsed by EPA. The expected outcomes of this remedy include (1) minimizing erosion and deposition of waste materials into the adjacent wetlands; (2) eliminating the potential for small mammals to be exposed to PCBs present in hydric soil in the wetlands adjacent to the landfill through excavation and offsite disposal of PCB-impacted material; (3) closing the RDA in accordance with Massachusetts solid waste landfill closure requirements; and (4) preventing or reducing human exposure to groundwater containing contaminant concentrations in excess of federal or more stringent state drinking water standards or posing potential risks to humans through the implementation of institutional controls. The selected remedy would prevent physical hazards associated with exposed debris on the surface of the landfill, control erosion and surface water runoffs, and prevent deposition of sediments from the upland portion of the site into the adjacent wetlands would be an appropriate response action for the RDA.

37. **Comment from Lorraine A. Larrabee, President of Whitman's Pond Association.** As President of Whitman's Pond Association, along with a 100% vote from the Association's members who attended our March meeting, we take a firm stand in favor of Option #6 and consider Option #5 as being tenuous and totally unacceptable.

The following is an attempt to both exhibit my genuine concerns on this matter, and substantiate why Option #6 will support each of them, and why Option #5 belongs with the rest of the trash.

There should not be a doubt in anyone's mind as to the process used in removing the rubble from the Naval Base in South Weymouth – there's too much at stake! However, debates continue as to (a) whether the rubble should remain buried underground, once the U.S. Navy vacate the Base, Option #5,

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

or (b) whether all of the debris should be dug up and carted away, Option #6.

Any method other than Option #6, is an indication that Weymouth, Rockland and Abington are in danger of loss that can never be replaced. I'm sure you are aware of the serious Autoimmune system diseases within our Tri-town, which continue to multiply. Since they are suspected of being linked to the contamination at the Naval Base, there should be no question as to which option is required. – Option #6, of course. These serious health issues command thorough rubble removal process in attempt to safeguard future illness. It also assists in eliminating the gamble of health risk, which Option #5 represents.

To further complicate matters, Old Swamp River flows through a stretch of the Naval Base, and travels its path into the South Cove basin of the Pond. Water from South Cove is pumped to Great Pond, supplying Weymouth with approximately 40% to 45% of its drinking water. However, rubble buried underground the Base will remain a threat of contamination until it is totally removed, as Option #6 proposes. Option #5's proposal simply postpones the inevitable.

I'm sure the cost factor plays a huge role in it. However, wouldn't you think that even the slightest possibility of jeopardizing the health and welfare of both the Tri-Town residents and Whitman's Pond would take precedence over the cost issues involved to safeguard them?

Please keep in mind, water is at a premium – its availability continues to decrease. Many states have been stricken with severe drought conditions. Unfortunately, these conditions have worsened during this past year, and are predicted to continue in a negative direction. Isn't this reason enough to protect our precious water resources that Whitman's Pond provides?

I believe the testing that was recently done to determine the severity of contamination found, was only done on the Base. If so, those tests will not supply and support the complete information required to determine the extent of contamination and its derivatives that filter into Old Swamp River. Surface water and sediment testing downstream Old Swamp River, and also in areas of Old Swamp close to and adjacent to the Naval Base, should have been declared mandatory areas of testing. Also, research on prior studies of this River should have been declared mandatory as well.

Following are test results performed on Old Swamp by Beta group the year of 2001. Conditions on the water and sediment quality were evaluated at 11 sites within the Pond – Old Swamp River was one of those sites evaluated. It's remarkable, how consistent these results compared with studies done 20 years ago. Beta Group's findings on Old Swamp River were:

- Elevated levels of nitrogen (2nd highest of the 11 sites). This is the most significant factor of speeding up the eutrophication process in Old Swamp. High levels of nitrogen also contribute to rapid aging and impairment of water quality in the Pond.
- Elevated levels of phosphorous (highest of the 11 sites). This, also, is an indication of severe eutrophic conditions. To add, there were two studies performed during the 1980's; a diagnostic study of our Pond by DEQE in March, 1981, and a feasibility study of restoring our Pond by Metcalf & Eddy in May, 1983. Both studies found that phosphorous is the most significant detriment to our Pond's water quality: Approximately 60% of the total phosphorous entering the Pond comes from Old Swamp River.
- Low levels of PH (lowest of the 11 sites). This increases the solubility of heavy metals, to include Naval aircraft, oil drums etc., which create food for the invasive weeds, which then encourages weed growth, which then elevates levels of phosphorous and nitrogen. This vicious cycle worsens, since, as these weeds die and decay in the sediment, the dissolved oxygen continues to lower, which is detrimental in supporting fish populations and aquatic life. Also, it encourages the speed of eutrophication!
- Elevated levels of dissolved ions (twice the amount considered for good water quality) These levels have continued to increase (comparing it to the Metcalf studies of 1981), which is another indication of eutrophication and rapid aging.
- Elevated concentrations of lead, iron, and manganese (these 3 metals tested highest of the 11 sites). Lead levels were above chronic levels, which exceeded primary drinking water standards.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

This elevated level also causes stress to certain fish. Manganese and iron, however, pose no health risk to human and aquatic life. They do, however, change water color to a rusty appearance and also create a bad water taste.

- Elevated levels of Beryllium According to Beta Group's report, sources of beryllium include numerous military activities, i.e., aircraft construction, rocket propellants and jet fuels. This explains why levels of beryllium are high in Old Swamp River!! I don't know much about beryllium, other than it can be life-threatening. That's enough for me to know! Option #5 certainly won't prevent the beryllium laden silt from travelling downstream to our Pond, nor will Option #5's proposed "cap" over the disposal site. In fact, there are already signs of that this has been happening!

Another fact in support of Option #6 pertains to the listing of Old Swamp River as a Section 303d water body, with degraded water quality. Section 303d waters have been targeted by the DEP and EPA (two knowledgeable Environmental Agencies) to restore our River. I believe their educated decision will have a say in this matter? Do you think Option #5 will be a help or a hindrance in supporting their judgement call?

My interpretation of this Option #5 is similar to sweeping dirt under a rug: It's a sloppy "quick fix"; The dirt can't be seen, but you know it's still there.

So, what's your option? A "QUICK FIX" TO SAVE MONEY (OPTION #5) – or A THOROUGH JOB TO SAVE LIVES & WHITMAN'S POND ENVIRONMENTAL RESOURCES (OPTION #6)

I must admit that the more I write about this sad, sorry situation, Option 5 or Option 6, the more I question ones ability to recognize values such as those I've previously mentioned. Who knows, maybe I have them wrong. I thought a human life; a resourceful Pond and its secondary water supply; its recreational resources; and its fish and wildlife were considered to be values. I also thought these types of values could never be attached to a price tag. Maybe I have this wrong too; otherwise, why would there be an option #5 involved? It only serves to put all my "values" in jeopardy.

With all respect to the U.S. Navy, the information that they are basing this serious decision on is totally insufficient and incomplete. I hope you agree, after reading this letter, that there's a great deal more to be considered --- some of which does not include facts and figures. However, I believe the U.S. Navy will not allow their honor to be challenged. So, I hope my faith in their integrity will find them doing the just job necessary to safeguard any possible harm, loss, or injury.

Navy Response: *The Navy is aware of the importance of Whitman's Pond as a key water supply resource, and shares the Association's concerns relative to preserving the health of that water supply. It is important, however, for the Association to recognize that the Navy has been diligently studying the property at NAS South Weymouth relative to potential contaminant releases for nearly 20 years. A substantial part of that study has been to test and monitor areas of the NAS property that are near Old Swamp River, which is one of the many surface water inputs into Whitman's Pond. From the Navy's study of the NAS property, there have been no indications that there are any Navy impacts (positive or negative) to Old Swamp River and/or Whitman's Pond.*

The Navy continues to be committed to investigating and cleaning up environmental items at NAS South Weymouth. Since the mid-1980s, the Navy has been conducting, and continues to conduct, numerous environmental investigation and/or cleanup activities at NAS South Weymouth. The Navy has identified 9 CERCLA sites, approximately 30 MCP sites, and over 100 EBS sites at NAS South Weymouth that are either currently being investigated, are in the process of being remediated, or have been closed in accordance with applicable state and federal regulations. To date, none of the data collected from NAS South Weymouth indicates that any contamination has migrated off the base into the surrounding communities. However, if, through its ongoing programs, the Navy identifies offsite contaminant migration from Navy sources on the property, the Navy will ensure that it is cleaned up in accordance with applicable state and federal laws and regulations.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

As stated in the Navy's response to Mr. Cotter's comment (Section 3.2, comment number 6), based on available groundwater and surface water data, potential contaminant migration from the RDA does not appear to be occurring. Factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution, reveal that there is a high level of attenuation and that little or no impacts to groundwater and surface water are present. Thus, debris at the RDA is not impacting Old Swamp River, which would be necessary if the debris (or contamination resulting from the debris) were to be in a position to reach Whitman's Pond.

With respect to iron, lead, manganese, and beryllium, based on several factors, it is not practical to associate the NAS property with the chemicals in Whitman's Pond. These factors include:

- (1) Iron, lead, manganese, and beryllium (as well as other common metals) are naturally occurring*
- (2) There are numerous potential sources of iron, lead, manganese and beryllium (as well as other common metals) along Old Swamp River between the NAS South Weymouth property and Whitman's Pond*
- (3) There is a very large distance and variation in subsurface soil between the NAS South Weymouth property and Whitman's Pond*

Similarly, it is not appropriate to associate nitrogen and phosphorous in Whitman's Pond with the NAS South Weymouth property. There are numerous potential sources of nitrogen and phosphorous along Old Swamp River between the NAS South Weymouth property and Whitman's Pond. Some typical sources of both nitrogen and phosphorous include municipal wastewater discharges, runoff from animal feedlots, and chemical fertilizers (Masters, 1991), and depend on factors such as land use, agricultural practices, fertilizer additions, topography, soil conservation practices (Viessman Jr. and Hammer, 1993).

The alternative selected for the RDA includes the use of a permeable soil cover material that would promote the continued aeration of the landfill and underlying groundwater that would decrease the potential for metals and other inorganic chemicals to impact the groundwater or surface water quality in the future. Further, the alternative selected for the RDA includes long-term monitoring of groundwater and surface water as a component of landfill closure to allow for continued assessment of the adequacy, reliability, and long-term effectiveness of this alternative.

38. Written Statement from the Environmental Protection Agency. EPA requests that the following be entered into the public record:

In our comments on the Proposed Plan for Operable Unit 2, Rubble Disposal Area (RDA), at the South Weymouth Naval Air Station National Priorities List Site (which comments we have presented in letters to the Navy dated July 15, 2002, November 26, 2002, January 13, 2003 and January 31, 2003), EPA has requested that the Navy:

- Perform a pre-remedial design investigation at the RDA site in order to develop data to support the chosen remedy and optimization of the design,
- Further characterize the disposal material to verify that the design will be adequate to its purpose,
- Expand and optimize the long-term monitoring network,
- Evaluate potential long-term impacts to the nearby GW-1 drinking water resource,
- Assess the potential for compromise of the cover by high surface-water levels and/or flood waters, and
- Determine whether the site is located within an active flood plain.

As we have explained, EPA does not agree that the Navy has sufficient information to complete a remedial design at this time. The Navy has responded that it will not perform the requested investigation work prior to the design phase because, in its view, such work is not necessary to support the conceptual designs of the remedial alternatives evaluated in the Feasibility Study Report. The Navy has also responded that there will be opportunities to gather and interpret additional data about the RDA site in the basewide watershed assessment, as well as in conjunction with site long-term monitoring.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

EPA disagrees with the Navy about the timing of the requested investigation work. However, we believe that the Navy has addressed our primary concern, by acknowledging its responsibility to adequately respond to any new data needs that arise as the remedial design advances, in order to ensure a remedy that is protective of human health and the environment. We continue to believe that a pre-design investigation would be the most efficient and focused (as well as cost-effective) means of obtaining the data needed to support a consensus for a final design. Therefore, EPA will agree with the final Proposed Plan with the caveat that we will be unable to concur with a final remedy for the RDA site until these issues, which have been raised repeatedly, are adequately addressed.

Navy Response: EPA presented their written statement at the public hearing on February 27, 2003. Therefore, please refer to Section 3.1, comment number 9 for the Navy's response.

39. **Comment from Jodi Purdy-Quinlan, Executive Director of the Fore River Watershed Association.** The Fore River Watershed Association is a 501 (C)(3) non-profit organization dedicated to making the Fore River Watershed clean, beautiful and accessible. We are concerned about the above-referenced project and would like to comment as part of the official record.

We respectfully encourage you to choose Alternative RDA #6- Remove All Disposed Material Offsite for this Superfund site for the following reasons:

- The Navy filled wetlands abutting Swamp River to create this 4 acre landfill;
- The RDA is located on the banks of Swamp River;
- Swamp River is a Class A drinking water supply to the Town of Weymouth;
- The Navy has found PCBs in the wetlands; lead, arsenic, manganese and benzo(a)pyrene in the groundwater;
- There have been several decaying drums containing unknown chemicals identified in the wetlands in the RDA;
- The RDA sits atop a Medium Yield Aquifer, which is a potential drinking water supply or a potential supply of irrigation water for recreational fields;
- Potential risk from transformers, their components and their fluids that were allegedly disposed of in the RDA;
- Potential risks to public if removal is not complete;
- Potential risks to public as this site is close by a proposed canoe launch;
- Potential risks to public as site is located within an Open Space Zone District;
- Potential risks to public as there is still a questions as to what lies beneath the RDA;
- There are too many unanswered questions given the fact the Navy has failed to complete its Basewide Watershed Assessment to determine all the effects of contamination on the Base;
- The capping option will not prevent further contamination of the groundwater;
- The Re-Use Plan zoning requires an Aquifer Protection District for any potential medium or high yield aquifer;
- The capping option is not permitted in an Aquifer Protection District;
- The capping option cannot guarantee future problems and the communities cannot guarantee when the Navy would correct the problem.

Navy Response: Please refer to the Navy's response to Mr. Bromberg's letter to Senator Kerry, Section 3.2, comment number 36.

40. **Comment from Philip Barber, South Weymouth Resident.** I agree with your choice of Alternative RDA-5 with which public opinion would agree. Some of the other alternatives would be satisfactory if the public were not involved.

Alternative RD 5 eliminates public fears.

Navy Response: The Navy appreciates Mr. Barber's support for the selected remedy.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

41. **Comment from Bill Murphy, Weymouth Resident.** Other than cost, what leads the Navy to choose RDA-5 over RDA-6.

How can RDA-5 ensure that no PCB's are missed?

Wouldn't RDA-6 drastically increase the chance of success and/or decrease the chance of error?

Navy Response: *The RDA site is subject to federal laws and regulations, specifically, CERCLA and the NCP, which set forth the process by which remedial alternatives are evaluated and selected. Section 121(b)(1) of CERCLA presents several factors that the Navy must consider in its assessment of alternatives. The NCP further builds on these mandates and articulates that nine evaluation criteria be used in assessing the individual remedial alternatives. These nine criteria include: (1) overall protection of human health and the environment, (2) compliance with ARARs, (3) long-term effectiveness and permanence, (4) reduction of toxicity, mobility, and volume of contaminants through treatment, (5) short-term effectiveness, (6) implementability, (7) cost, (8) state acceptance, and (9) community acceptance.*

A detailed analysis was performed on the alternatives developed for the RDA using all nine NCP criteria prior to rendering a final remedial decision. As presented in the Proposed Plan and summarized in Section 6 of Tetra Tech NUS/ENSR's report, "Feasibility Study, Rubble Disposal Area, NAS South Weymouth", dated March 2003, and Section 11 of this ROD, an evaluation of the first seven criteria reveals that the in-place capping alternatives (Alternatives RDA-3, RDA-4, and RDA-5) are the most appropriate remedies for the RDA. The capping alternatives are protective of human health and the environment, are compliant with ARARs, achieve long-term effectiveness and permanence, reduce toxicity/mobility/volume (through removal), achieve short-term effectiveness, can be implemented, and are cost effective. Further, the capping alternatives are conditionally supported by both EPA and MADEP, and are consistent with EPA Headquarters' expectations for landfills (per presumptive remedy guidance).

Of the capping alternatives developed for the RDA, EPA and MADEP prefer RDA-5 because it includes excavation and offsite disposal of the PCB-impacted soil in the wetland; however, EPA conditionally supports this alternative. Please refer to Section 3.2 comment number 38 for EPA's statement regarding their conditional acceptance of the selected remedy.

Following the completion of the PCB excavation, the Navy will collect post-excavation samples from the wetlands for PCB analysis. This data will be used to determine whether the cleanup level has been achieved or whether additional excavation of PCB-impacted material is warranted. In addition, soil samples will be collected for PCB analysis from the upland area adjacent to the PCB excavation prior to capping the landfill. This data will be used to determine whether the elevated PCB concentrations detected in hydric soil resulted from soil erosion from the surface of the landfill. By capping the landfill, erosion and deposition of landfill material into the adjacent wetlands would be eliminated.

There are also several technical reasons that support the selected remedy. The results of numerous studies conducted at the RDA have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary.

The selected remedial action includes the removal of PCB-impacted material. Of the chemicals detected above laboratory detection limits or above background in groundwater (arsenic, benzo(a)pyrene, manganese, and lead), arsenic and benzo(a)pyrene concentrations are below drinking water standards, and there is no current or proposed primary drinking water standard for manganese. For lead, no risks were identified based upon exposure to lead in groundwater. Further, although these chemicals were detected in groundwater samples collected from the RDA, these chemicals may not be associated with the RDA site at all (naturally occurring or are common in developed areas) Therefore, the removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.

Therefore, the Navy has concluded that the most appropriate remedy for the site, when considering all nine NCP criteria, is Alternative RDA-5: Excavation and Offsite Disposal of PCB Material, Permeable Soil Cap for Landfill Material, Long-Term Monitoring, and Institutional Controls.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

42. **Correspondence from United States Senator John F. Kerry regarding a letter received from Dave Wilmot.** I am forwarding to you a copy of a letter from Mr. Dave Wilmot concerning his request for assistance in looking into the Navy's proposal for the Naval Air Station at South Weymouth Massachusetts.

It is the desire of this office to be responsive to all inquiries and communications. I respectfully ask for your assistance in resolving the issues outlined in the attached correspondence.

Please convey a copy of your response to the issues raised in Mr. Wilmot's letter to Meaghan F. Hohl of my Boston Office.

Comment from Dave Wilmot, Abington Resident, to United States Senator John Kerry. My name is Dave Wilmot, I live in a neighborhood that abuts the former SWNAS. I have Multiple Sclerosis, as do at least 56 others in neighborhoods surrounding the base. 40 of us live within a mile of the base. These numbers may be the tip of the iceberg, we haven't really begun to canvass neighbors. All these people have come forward after reading of our growing concerns in the newspapers. Other neighbors are coming forward with diseases many in the scientific community believe also have an environmental factor in their manifestation.

I will quickly summarize some of our concerns. We believe the proposed "Early Transfer", and, beginning with the first FOST transfer parcels of land April 15th, does not afford our citizens protection from an unjust health burden being forced on us. We don't believe the need to rush into development before our health questions have been answered is just.

There are currently five Health Studies being conducted in our communities by the Massachusetts Department of Public Health.

The developers are currently operating without a valid Reuse Plan adopted by our towns. The local South Shore Tritown Development Corporation has taken on a new partner "Master Developer" Lennar Associates. Lennar Associates, due to current fiscal development conditions in the state, plans to add a large residential aspect to the redevelopment. These changes to plans have not been voted on by the populace. We are three years into water bans here in Abington. We have no sewerage expansion capabilities. Our schools are full, and cutting back. This firm from California shouldn't be talking residential at all this time. These lands were to be returned to us and developed for our best interests. I question whether our best interests are any kind of priority now.

These lands already found "Suitable For Transfer" in this FOST Process, have two poisoned streams running through them. Given the numbers of families touched by disease (Brain Cancer, Leukemia, MS, ALS...), living by these waterways as these streams come off the base, I find the transfer of any lands at this time irresponsible. Frenches Stream is lifeless as it flows into our neighborhoods. A sludge and heavy-metal filled channel flowing out of the base through our neighborhoods, and into the North River.

No testing of wells outside the base fence has been done. The Navy refuses to do it.

No promised Watershed Study has been provided.

We are currently working with Toxics Action Group, a non-profit organization that leads expertise to grassroots citizen group, in addressing Environmental Injustice. We will be applying for a State Tag Grant to assist us in the offsite testing we believe is necessary.

The Environmental Protection Agency (EPA) has just announced that they "now believe children to be ten times more susceptible to chemical toxins" than formerly considered. The health of our children is not being provided for, if the powers that be are not considering revisiting the testing that has been done, with the more stringent Maximum Contaminant Levels that the EPA is proposing.

The EPA has also just announced that the solvent TCE, which has been detected on the base, "is 60

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

times more toxic than previously thought to be". This again raises the issue of whether retesting is prudent.

We don't believe enough testing has been done. Just recently a Remedial Action on the base (RIA8) proved to require the removal of 210 cubic yards of PCB contaminated soils, when the Navy's initial testing has them projecting that the remedial action would only require the removal of 10 cubic yards of soil. Twenty One times more contamination than expected. What else is out there? A hangar on the base just became the 10th known Superfund site on the base. If Superfund sites are still being found, we don't believe sufficient testing has ever been done to protect our health, our children's health.

How are people, already sick, supposed to react when they read things like EPA's response to the Navy Draft Feasibility Study of the West Gate Landfill. How can the powers that be expect us not to be concerned when EPA says things like this to the Navy; (Page 2-11, Section 2.3.6) "In the last paragraph, please change the sentence 'Samples of surface water and sediment collected from Frenches Stream exhibited chemicals concentrations that were generally consistent with background condition with few exceptions.' To, reflect the fact that numerous inorganic chemicals exceed background in sediment and surface water. These chemicals include aluminum, antimony, barium, beryllium, iron, manganese, mercury, silver and zinc." How can we protect ourselves from such deliberate misrepresentations of the truth?

This "Early Transfer" through execution of a "Covenant Deferral Request" allows circumvention of the Cercla laws by the Navy. This postponement of total cleanup, can do nothing but jeopardize our citizens Public Health, and leave our struggling towns with future fiscal concerns.

Senator Kerry, we need your support. We will not accept the excess health burden proposed for us without our best efforts given to remedy that proposal. The remainder of this letter is composed of comments regarding the remediation of the Rubble Disposal Area Superfund Site. (This, another good example of fiscal concerns jeopardizing the Public Health.)

Comments submitted to the U.S. Navy to address their proposed method of remediation of Rubble Disposal Area (RDA) Superfund site on SWNAS.

Being a member of a growing group of citizens with serious health concerns in neighborhoods surrounding the former air station, my question will be surmised in a statement concerning my disagreement with the Navy's proposed remediation method.

The Rubble Disposal Area Superfund Site is a former dumping ground located beside and in Wetlands, directly adjacent to Old Swamp River, a water way that runs North through the base, and discharges into Whitman's Pond in Weymouth. Whitman's Pond is the city of Weymouths secondary drinking water source.

The Navy admits that they have four substances of concern, that have been found in the Rubble Disposal Area.

The concerns in the Rubble Disposal Area, were established by concentrations of these substances being heavier in the RDA than Baseline Sample Testing that was done. The four substances; PCB's, Arsenic, Lead and Benzo(a)Pyrene , are four of the eight top substances that the Federal Center for Disease Control's Toxic Disease Registry has labeled as Priority Toxins. Since this priority toxin listing is made up of 278 substances, I would have assumed, having four of the top eight of these substances in elevated levels at this former dump, would make it subject to a full and complete cleanup.

I would also have assumed, that presence of these four toxins with a direct migratory path to the City of Weymouth's Secondary drinking water supply, would mandate a complete cleanup being done. I would like to hear the Navy's position on its BRAC responsibilities to our towns public health.

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

As the State Department of Public Health continues their efforts to find out why children in South Weymouth have developed Arsenic Poisoning, I believe the leaching of admittedly high concentrations of Arsenic from this landfill, directly into Old Swamp River would provide an interesting avenue of exploration for the State Health scientists. Much effort has been given to studies of Great Pond, but what of South Cove in Whitmans Pond, where the remainder of the drinking water in Weymouth is pumped from. The Navy and United States Government should afford our citizens the most comprehensive Public Health efforts available to them. To do less, when known contaminants from the former base, can be proved to be migrating offsite with proper testing methods, would seem to me to be criminal.

A Habitat Study of Whitman's Pond, completed by Beta Group in 2001 for the City of Weymouth, cited elevated levels of Lead, Iron and Manganese, Arsenic and Beryllium in the pond sediments. Given the limited uses of Beryllium, I would have high suspicions of off base migration of pollutants. Per this document, Beryllium is used in "numerous military activities, including aircraft construction, rocket propellants and jet fuel. This would assumedly be a direct link to SWNAS pollutant migration off site. Please provide other possibilities for this toxins presence in Whitman's Pond. Why has the Navy consistently refused to test wells outside the base. We insist the Navy take responsibility for past environmental degradation done to our communities.

The Navy's preferred method of cleanup is the 1.6 million option presented in their pamphlet, which would consist of a removal action of some of the PCB-contaminated wetland soil, and construction of a cap over the remaining contaminants. Unfortunately, I believe historically and again in this case, that money concerns are prioritized above Public Health concerns. I don't believe the Navy preferred cleanup route is just to the people of our towns.

Anything less than Option 6 (Complete Offsite Removal) undermines the Public Health of our towns.

Removing All contaminated fill and disposing it offsite is projected to cost 11.3 million. This might sound like a lot of money, but compared to the money now spent on exploding chronic disease in our nation, it's chump change, an ounce of prevention.

As stated above, I belong to a growing group of local citizens who have reason to believe that the Navy should be responsible to protect the Public Health of former Host Communities. My children's future health could easily depend on this, I've little doubt that Rockland and Weymouth's children depend on this as well.

The Environmental Protection Agency has recently announced that Maximum Contaminant Levels(MCL) devised for the protection of Public Health, do not afford protection to children. Children are now believed to be ten times as susceptible, to contaminants, than the adults these MCL's were devised by. We insist that the health of our children be protected. As, thus far, 56 diagnosed cases of Multiple Sclerosis around the base(40 within 1 mile), have been substantiated, we must insist for the health of our children, that he Navy adhere to the most stringent clean up standards at this site. Anything less than complete cleanup is unacceptable. As we continue to delve further into the health of our neighborhoods, it is becoming increasingly evident that we have been saddled with a heavy health burden here. We insist on the Navy showing proper regard for the health of our children. The RDA Option 6 is the only way to show that regard.

Navy Response: *The Navy is committed to investigating and cleaning up environmental items at NAS South Weymouth. The protection of human health and the environment is the Navy's first priority. Since the mid-1980s, the Navy has been conducting, and continues to conduct, numerous environmental investigation and/or cleanup activities at NAS South Weymouth under the oversight of the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MADEP). These activities have been conducted under either the federal Superfund program, in accordance with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), or the state program, in accordance with the Massachusetts Contingency Plan (MCP). In addition, the Navy initiated an environmental baseline survey (EBS) to further identify potential areas warranting investigation and cleanup that were not already covered under the federal or state programs.*

Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary

In accordance with federal and state cleanup program guidance, areas to be investigated are typically identified based on historic site uses and activities, Navy records, known or suspected areas of potential contaminant releases (e.g., an underground fuel storage tank), analytical data, or reported observations from the community (e.g., iron precipitation in French Stream). These areas are further investigated through surface and subsurface explorations, geophysical surveys, ecological surveys, and/or the collection of soil, sediment, groundwater, and surface water samples for laboratory analysis to identify and delineate the extent of potential impacts. Human health and ecological risk assessments are then conducted using site-specific data to determine whether the "site" poses potential risks to human health and the environment, which may warrant remediation and cleanup under the federal and state programs.

The Navy has identified 9 CERCLA sites, approximately 30 MCP sites, and over 100 EBS sites at NAS South Weymouth that are either currently being investigated, are in the process of being remediated, or have been closed in accordance with applicable state and federal guidance. To date, none of the data collected from NAS South Weymouth indicates that any contamination has migrated off the base in to the surrounding communities. As a result, no sampling beyond the base perimeter by the Navy has been necessary. However, if, through its ongoing programs, the Navy identifies offsite contaminant migration from Navy sources on the property, the Navy will ensure that it is cleaned up in accordance with applicable state and federal laws and regulations. ATSDR has conducted well surveys of the area and has distributed reports and presented detail at public meetings of their findings.

In accordance with the federal base realignment and closure (BRAC) process, the Navy is to transfer the closed Base to the community as soon as feasible. Therefore, the Navy must proceed with the property transfers pursuant to the reuse and zoning plans that were approved by the towns of Weymouth, Abington, and Rockland, and enabled by the Governor in 1998 and that are still in effect. The recipient for the majority of the Navy's property at NAS South Weymouth, as approved by local and state agencies, is the SSTDTC.

The cited "FOST property" was comprised of the areas of NAS South Weymouth that, in accordance with CERCLA and the MCP, have been assessed and have not had adverse environmental impacts from past Navy operations (or areas where the Navy has completed the necessary restorations/mitigations). These "clean" areas were deemed to be suitable to transfer to SSTDTC to support the planned redevelopment and beneficial/economic reuse by the communities.

The FOST properties abut and do not contain the surface water bodies identified by the commentor (i.e., French Stream, Old Swamp River, and the "downstream watercourses" along the eastern extension of the Base). These streams (for which investigations are ongoing but have not shown imminent hazards to human health or the environment), are included in the property being considered for Early Transfer.

Regarding the concern for the master redeveloper's proposed changes to the existing Reuse Plan, the Navy understands that changes to the approved Reuse Plan would require the proponent (SSTDTC) to reopen public hearings in Weymouth, Abington, and Rockland, and to receive a two-thirds approval vote by each town. This process has not begun. Therefore, the Navy must and will proceed under the framework of the existing reuse/zoning plans. Comments regarding SSTDTC's/Lennar's plans for the post-transfer redevelopment, or the pace of redevelopment, with respect to the towns' capabilities/infrastructure/concerns can be directed to those corporations. If changes to the reuse plan/zoning did occur after transfer, then the new property owner would be responsible to ensure that the environmental conditions were suitable for the new redevelopment plans. The Navy would remain liable to return and address any currently undiscovered sources of contamination that were a result of past Navy activities.

"Early transfer" does not circumvent CERCLA laws. In fact, Section 120(h)(3)(C) of the CERCLA law specifically authorizes the transfer of property at which remedial actions are not yet completed, conditioned upon approval by the USEPA Regional Administrator with concurrence of the state governor.

The Navy has repeatedly emphasized to the public that early transfer with privatization would not stop

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

the environmental investigations/restorations at NAS South Weymouth. The new property owners would direct the investigations/restorations with continued oversight by the USEPA and MADEP. The USEPA and MADEP would require the new owners to meet the same cleanup standards to which the Navy has been held. Similarly, the Navy would not postpone the cleanup of the Base, although the current prioritization of sites might shift in some cases during the transition of the ongoing work to the new property owners. However, the Navy is continuing its work at many sites during this evaluation of the early transfer process. In the long run, early transfer with privatized cleanup could actually accelerate the investigations/restorations at NAS South Weymouth, and hence accelerate the return of economic benefits to the communities.

With regard to the frequency of autoimmune diseases in the area surrounding NAS South Weymouth, the Navy is of the understanding that the Massachusetts Department of Public Health is conducting regional studies to directly address these concerns.

With regard to French Stream, chemical concentrations were generally consistent with background concentrations with the exception of approximately 8 to 10 metals. Both the human health and ecological risk assessment performed as part of the RI for the West Gate Landfill did not identify unacceptable risks posed by these chemicals. Although no remedial action is warranted for French Stream surface water and sediment, French Stream will still be further evaluated by the Navy as part of the basewide watershed analysis.

With respect to the RDA, for the most part, chemicals found at the RDA are at levels close to the laboratory detection limits and are either consistent with background conditions or consistent with expected residual levels due to previous base-wide activities (e.g., the routine application of pesticides and herbicides). There were some chemicals detected at the RDA above laboratory detection limits or background conditions, including PCBs in hydric soil and arsenic, lead, manganese, and benzo(a)pyrene in groundwater. Therefore, in accordance with Superfund guidance, the Navy conducted a human health and ecological risk assessment to further evaluate potential risks from the levels of those chemicals detected.

Although the baseline human health portion of the risk assessment performed for the RDA identified potential risks for a future resident ingesting groundwater from beneath the site containing arsenic, benzo(a)pyrene, and manganese, the Navy, EPA, and MADEP have determined that groundwater cleanup is not necessary because (1) arsenic and benzo(a)pyrene concentrations are below drinking water standards, (2) there is no current or proposed primary drinking water standard for manganese (which is generally categorized with iron as a source of staining in sinks or laundry and not as a potential source of toxicity), and (3) the risk assessment was highly conservative which tends to overestimate potential risks. The Navy concluded that if, in the future, the groundwater beneath the site were to be used as a drinking water supply, routine groundwater treatment using standard municipal treatment technologies (e.g., precipitation and filtration) would be necessary to meet other federal and state drinking water and aesthetic (e.g., taste and odor) standards. No risks were identified based upon exposure to lead in groundwater. The results of the Integrated Exposure Uptake Biokinetic (IEUBK) model (used to evaluate exposure to lead) showed that 99.9% of the exposed population would have blood lead levels below 10 ug/dL (this equals 10 micrograms of lead per deciliter of blood, which equals 100 parts per billion). This is better than the Center for Disease Control guideline, which states that 95% of a population should have blood lead levels below 10 ug/dL.

The ecological portion of the risk assessment identified potential risks to small mammals based upon the presence of PCBs in hydric soil and small mammal tissue. Therefore, the Navy and EPA jointly developed a cleanup goal for PCBs that would be protective of ecological receptors, and selected a remedial alternative that included the excavation and offsite disposal of this PCB-impacted material. Once this soil is removed, the potential risks to the small mammals will no longer be realized.

The Navy has studied and evaluated the RDA as required under Superfund guidance. The results of this

**Record of Decision
Naval Air Station South Weymouth
Part 3: The Responsiveness Summary**

study have concluded that a remedial action is necessary to address PCBs in hydric soil in the wetlands adjacent to the RDA, and that no active cleanup of groundwater is necessary. Therefore, the Navy has concluded that the most appropriate remedy for the RDA is Alternative RDA-5, which includes the excavation and offsite disposal of PCB material, a permeable soil cap for the landfill, long-term monitoring, and institutional controls.

There are also several technical reasons to support the selected remedy.

- The remedial action for the RDA includes excavation to remove the potential risks identified (i.e., excavation and offsite disposal of PCBs in hydric soil in the wetland area adjacent to the RDA). Once this soil is removed, the potential risks to small mammals will no longer be realized.*
- Regarding the chemicals detected above laboratory detection limits or above background in groundwater (arsenic, benzo(a)pyrene, manganese, and lead), arsenic and benzo(a)pyrene concentrations are below drinking water standards, and there is no current or proposed primary drinking water standard for manganese. No risks from exposure to lead in groundwater were identified.*
- The presence of inorganic chemicals and SVOCs may not be exclusively associated with the RDA. For example, arsenic, lead, and manganese are naturally occurring chemicals, and the SVOCs detected are ubiquitous in developed areas. The removal of the entire disposal area may not be any more beneficial than capping the disposal area in-place.*

The Navy is aware of the importance of Whitman's Pond as a key water supply resource, and shares the public's concerns relative to preserving the health of that water supply. It is important, however, for the public to recognize that the Navy has been diligently studying the property at NAS South Weymouth relative to potential contaminant releases for nearly 20 years. A substantial part of that study has been to test and monitor areas of the NAS property that are near Old Swamp River, which is one of the many surface water inputs into Whitman's Pond. From the Navy's study of the NAS South Weymouth property, there have been no indications that there are any Navy impacts (positive or negative) to Old Swamp River and/or Whitman's Pond. Further, based on available groundwater and surface water data, potential contaminant migration from the RDA is not occurring. Potential contaminant migration to Weymouth's water supply (Whitman's Pond) is unlikely based on proximity (approximately 15,500 feet), low contaminant concentrations, and factors such as biodegradation, adsorption or binding to soil material, volatilization, and/or dilution. These factors would result in sufficient attenuation such that contamination is unlikely to reach Whitman's Pond, or would reach the pond at levels below detection limits of most analytical methods. With respect to beryllium, based on several factors, it is not practical to associate beryllium at the NAS property with beryllium in Whitman's Pond. These factors include (1) beryllium and other common metals are naturally occurring, (2) there are numerous sources of beryllium and other common metals along Old Swamp River between the NAS South Weymouth property and Whitman's Pond, (3) there is a very large distance and variation in subsurface soil between the NAS South Weymouth property and Whitman's Pond, which affects the sources and forms of beryllium present, and (4) beryllium contamination is not present at any of the sites studied by the Navy, including 9 CERCLA sites, approximately 30 MCP sites, and over 100 EBS sites. None of the data collected and analyzed from NAS South Weymouth have identified beryllium as a contaminant of concern that would warrant further assessment or remediation under CERCLA.