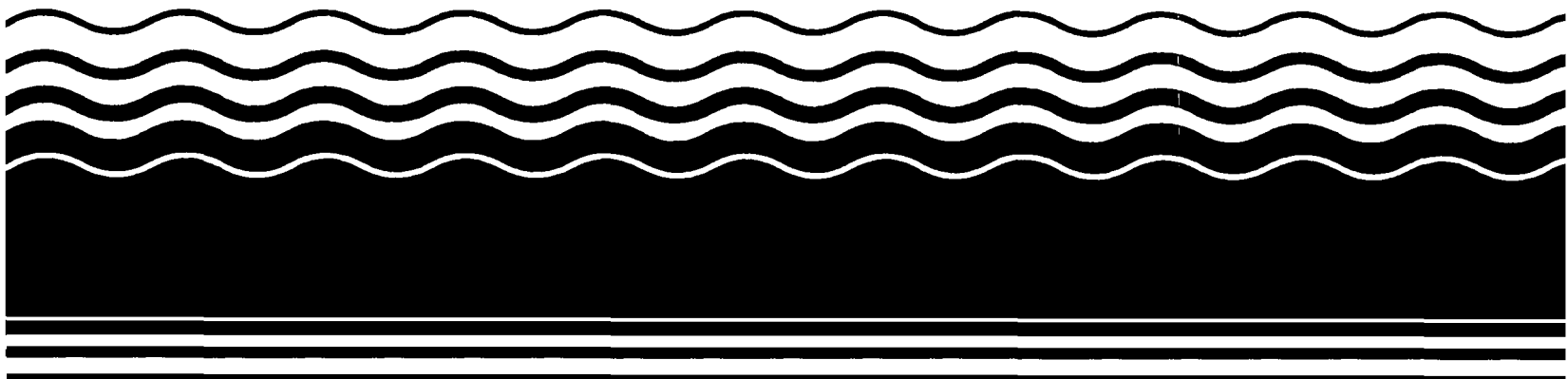


PB95-963707
EPA/ROD/R01-95/107
February 1996

**EPA Superfund
Record of Decision:**

**Davisville Naval Construction Battalion Center,
Sites 5 and 8, Davisville, RI
9/18/1995**



FINAL

**RECORD OF DECISION
SOILS OPERABLE UNIT**

**SITES 05 AND 08
FORMER NAVAL CONSTRUCTION BATTALION CENTER
DAVISVILLE, RHODE ISLAND**

RECORD OF DECISION
SOILS OPERABLE UNIT
Sites 05 and 08
Former Naval Construction Battalion Center
Davisville, Rhode Island

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RECORD OF DECISION
SOILS OPERABLE UNIT
Sites 05 and 08
Naval Construction Battalion Center
Davisville, Rhode Island

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DECLARATION FOR THE RECORD OF DECISION
SOILS OPERABLE UNIT
Sites 05 and 08
Naval Construction Battalion Center
Davisville, Rhode Island

SITE NAME AND LOCATION

Site 05 - Transformer Oil Disposal Area
Site 08 - Defense Property Disposal Office (DPDO) Film Processing Disposal Area
Former Naval Construction Battalion Center (NCBC)
Davisville, Rhode Island

STATEMENT OF BASIS AND PURPOSE

This decision document presents the no action decision for the soils operable unit at Site 05 - Transformer Oil Disposal Area and Site 08 - Defense Property Disposal Office (DPDO) Film Processing Disposal Area, developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based upon the contents of the administrative record file for Sites 05 and 08. The administrative record is available at the former Naval Construction Battalion Center Administrative Building (Building 404), located on Davisville Road in North Kingstown, Rhode Island.

The Rhode Island Department of Environmental Management (RIDEM) concurs with the no action decision for the soils operable unit.

DESCRIPTION OF THE REMEDY

For Site 05 and 08, the selected remedy for the soils operable unit is no further action.

DECLARATION

The Department of the Navy and the United States Environmental Protection Agency (US EPA) with the concurrence of RIDEM have determined that no remedial actions are necessary with respect to the soils operable unit at Sites 05 and 08 to ensure protection of human health and the environment. Pursuant to Section 121(c) of CERCLA, 42 U.S.C. 9621(c) and Section 300.430(f)(4)(ii) of the NCP, since this no action decision does not result in hazardous substances, pollutants or contaminants remaining at the sites above levels that allow for unlimited use and unrestricted exposure, a five-year review of this action is not required.

The foregoing represents the selection of a remedial action by the Department of the Navy and the U.S. Environmental Protection Agency, with concurrence of the Rhode Island Department of Environmental Management. Concur and recommend for immediate implementation:

U.S. Department of the Navy

By:  PE.
Philip S. Otis

Date: 12 September 1995

Title: Philip S. Otis, P.E.
BRAC Environmental Coordinator
Northern Division - Naval Facilities Engineering Command
Lester, Pennsylvania

The foregoing represents the selection of a remedial action by the Department of the Navy and the U.S. Environmental Protection Agency. with concurrence of the Rhode Island Department of Environmental Management.

U.S. Environmental Protection Agency

By: Linda M. Murphy Date: Sept 18 1995
Linda M. Murphy

Title: Linda M. Murphy
Director, Waste Management Division, US EPA, Region I

DECISION SUMMARY

I. SITE NAME, LOCATION AND DESCRIPTION

The former U.S. Naval Construction Battalion Center (NCBC) Davisville is a National Priorities List (NPL) site. There are currently 12 areas of contamination (AOCs) and four study areas (SAs) within NCBC Davisville that are under investigation. This Record of Decision (ROD) addresses Site 05 - Transformer Oil Disposal Area and Site 08 - Defense Property Disposal Office (DPDO) Film Processing Disposal Area.

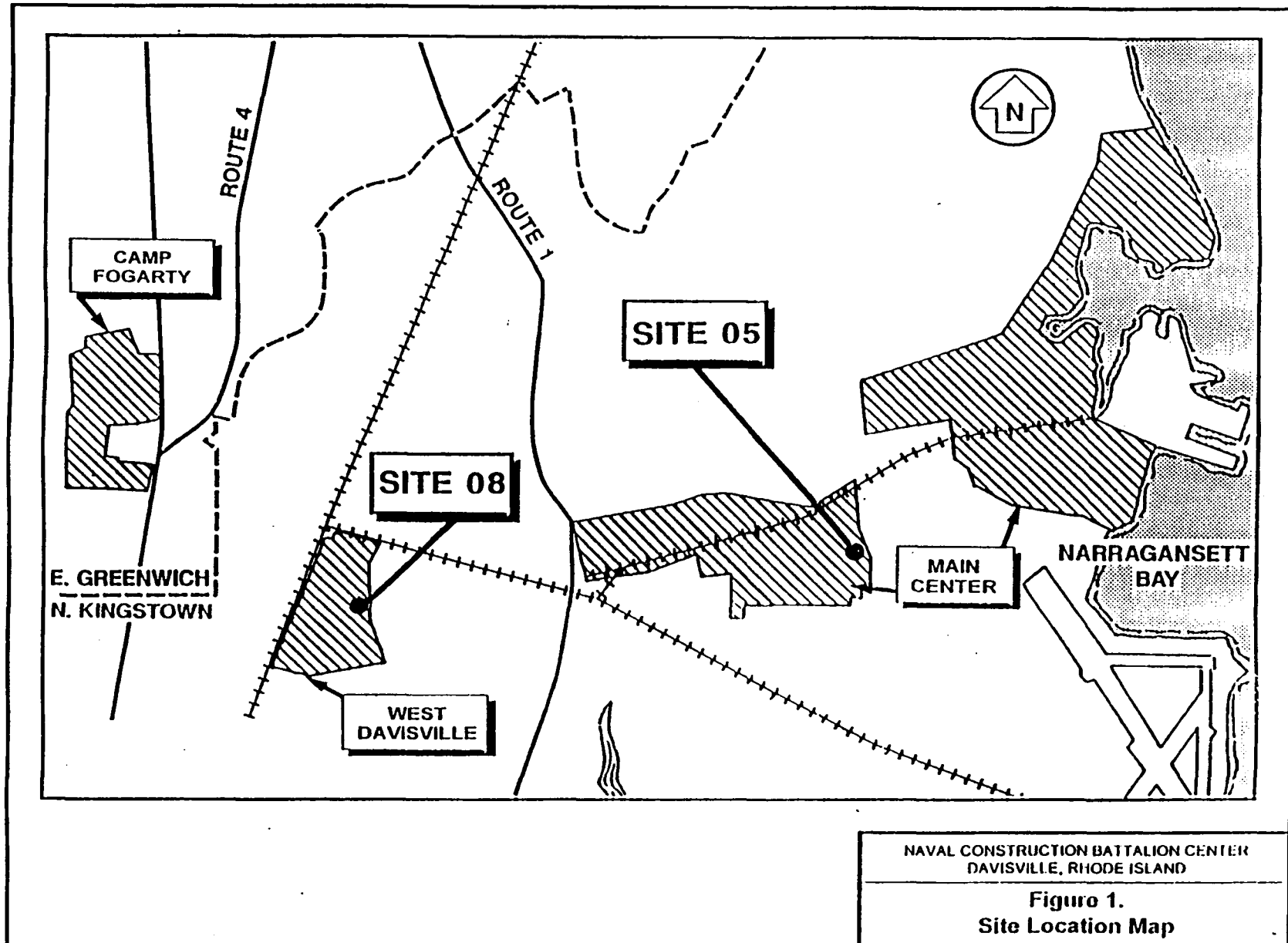
NCBC Davisville is located in the town of North Kingstown, Rhode Island, approximately 18 miles south of Providence. A significant portion of the NCBC Davisville facility is located adjacent to Narragansett Bay. NCBC Davisville is composed of three areas including the Main Center, the West Davisville storage area, and Camp Fogarty, located approximately 4 miles west of NCBC Davisville. These areas are noted in Figure 1. Adjoining NCBC Davisville's boundary on the south is the decommissioned Naval Air Station Quonset Point that was declared excess to the Navy in April 1973.

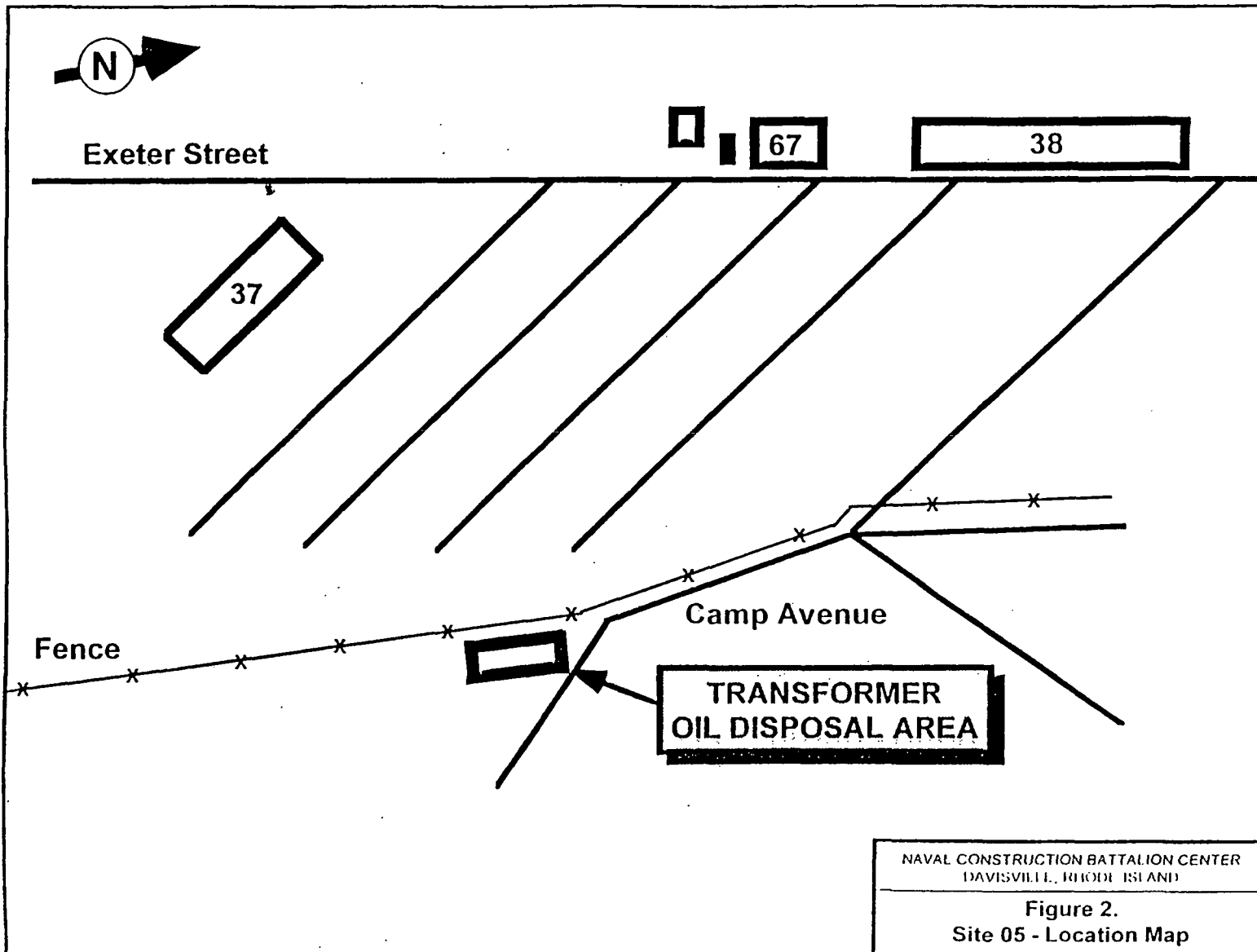
The history of NCBC Davisville is related to the history of Quonset Point. Quonset Point was the location of the first annual encampment of the Brigade Rhode Island Militia in 1893. During World War I, it was a campground for the mobilization and training of troops and later was the home of the Rhode Island National Guard. In the 1920s and 1930s it was a summer resort.

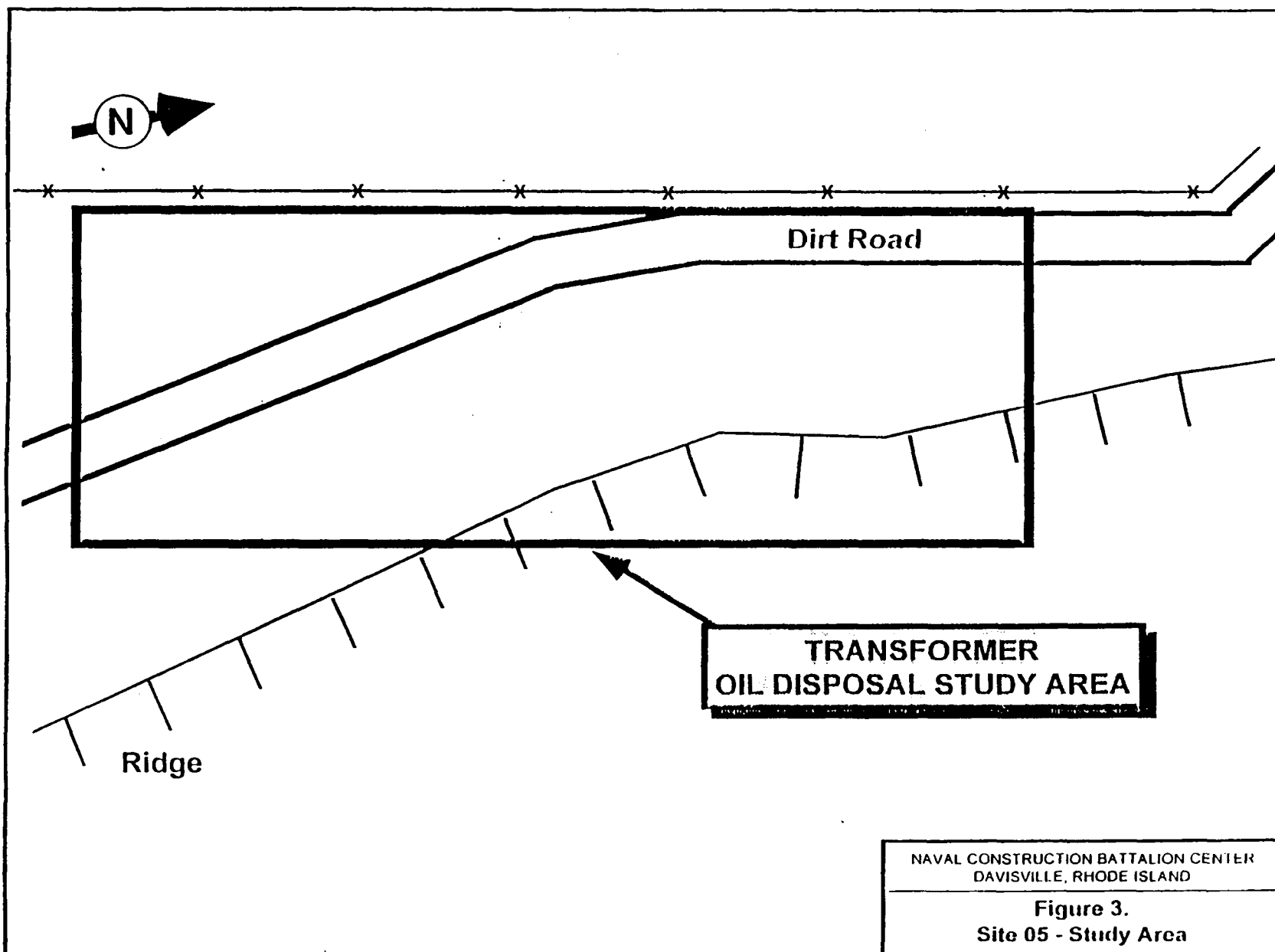
In 1939, Quonset Point was acquired by the Navy to establish a Naval Air Station (NAS), with construction beginning in 1940. By 1942, the operations at NAS Quonset Point had expanded into what is now called NCBC-Davisville. Land at Davisville adjacent to NAS Quonset Point was designated the Advanced Base Depot. Also in 1942, the Naval Construction Training Center (NCTC), known as Camp Endicott, was established to train the newly established construction battalions.

While NAS Quonset Point remained a site of Naval activity, Davisville was inactive between World War II and the Korean Conflict. In 1951 it became the Headquarters Construction Battalion Center (CBC). The CBC loaded ships and trained men for both the Korean and Vietnam Conflicts. In 1974, operations at Davisville were greatly reduced. In 1991, closure of NCBC Davisville was announced, and all operations at Davisville were phased down to lower staffing levels for Public Works, Maintenance, Security, and Navy Personnel. NCBC was officially closed on April 1, 1994. The portions of the facility in which Site 05 and Site 08 are located are set aside for economical industrial development under the Comprehensive Base Reuse Plan.

Site 05 is located in the Main Center of NCBC Davisville. It consists of a relatively flat, overgrown area to the east of Building 37 and adjacent to Camp Avenue (see Figures 2 and 3).







It is located outside of the fence line surrounding NCBC Davisville but within Navy property. A north-south ridge consisting of exposed shale bedrock and boulders is located on the eastern side of the site.

Site 08 is a flat, grass-covered area to the east of Building 314 at West Davisville (see Figures 4 and 5). The site, approximately 80 feet by 40 feet in area, was likely to have received runoff from a reported waste disposal area. A 10-foot wide asphalt road passes through the center of the site. A fence delineating the NCBC Davisville property line forms the eastern border of the site and Building 314 forms the western border of the site.

A more complete description of the sites can be found in the Site 05 - Transformer Oil Disposal Area Data Transmittal Report (TRC, 1993) and in the Site 08 - DPDO Film Processing Disposal Area Remedial Investigation Report (TRC, 1994).

II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

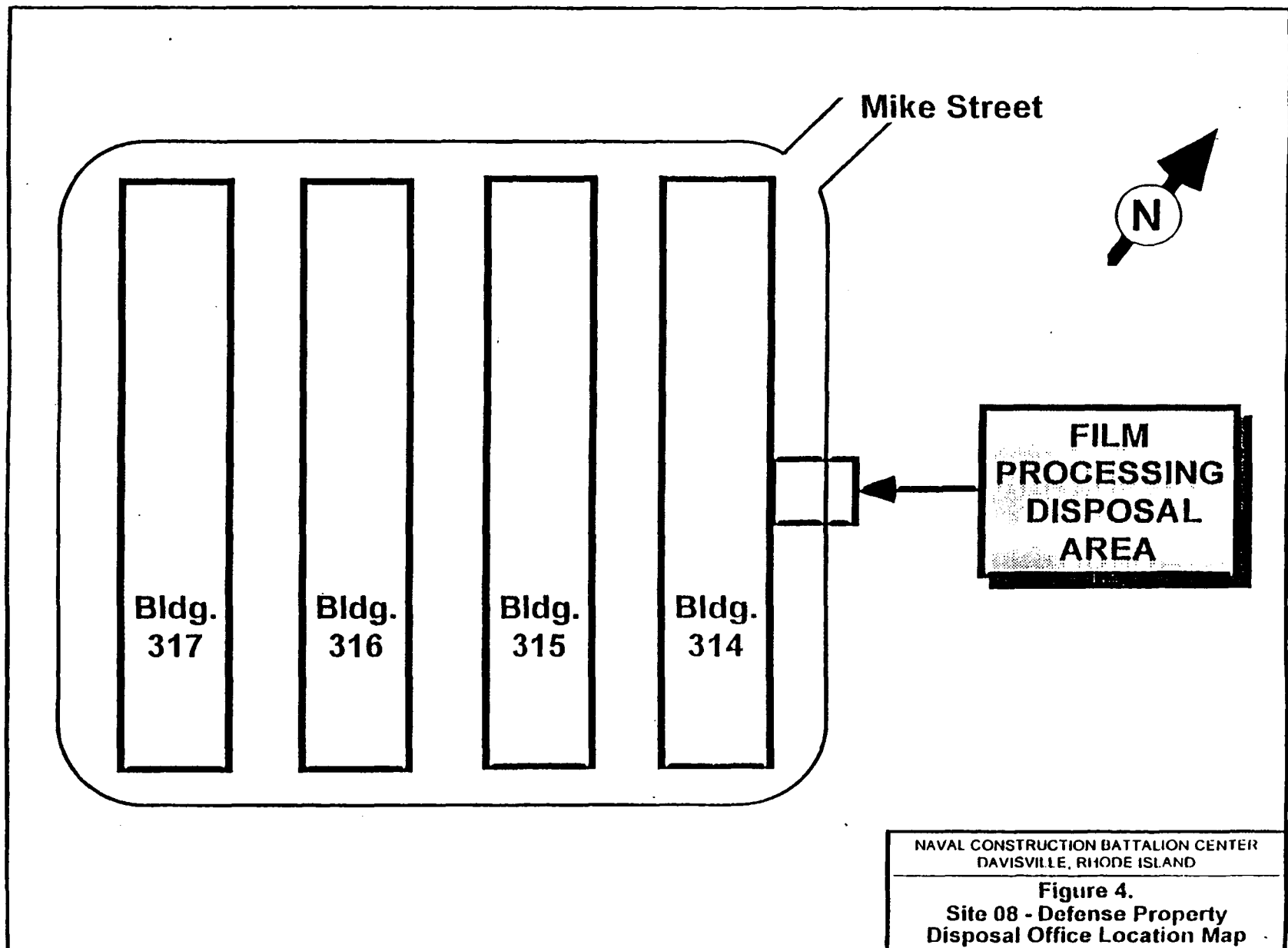
A. SITE USE AND RESPONSE HISTORY

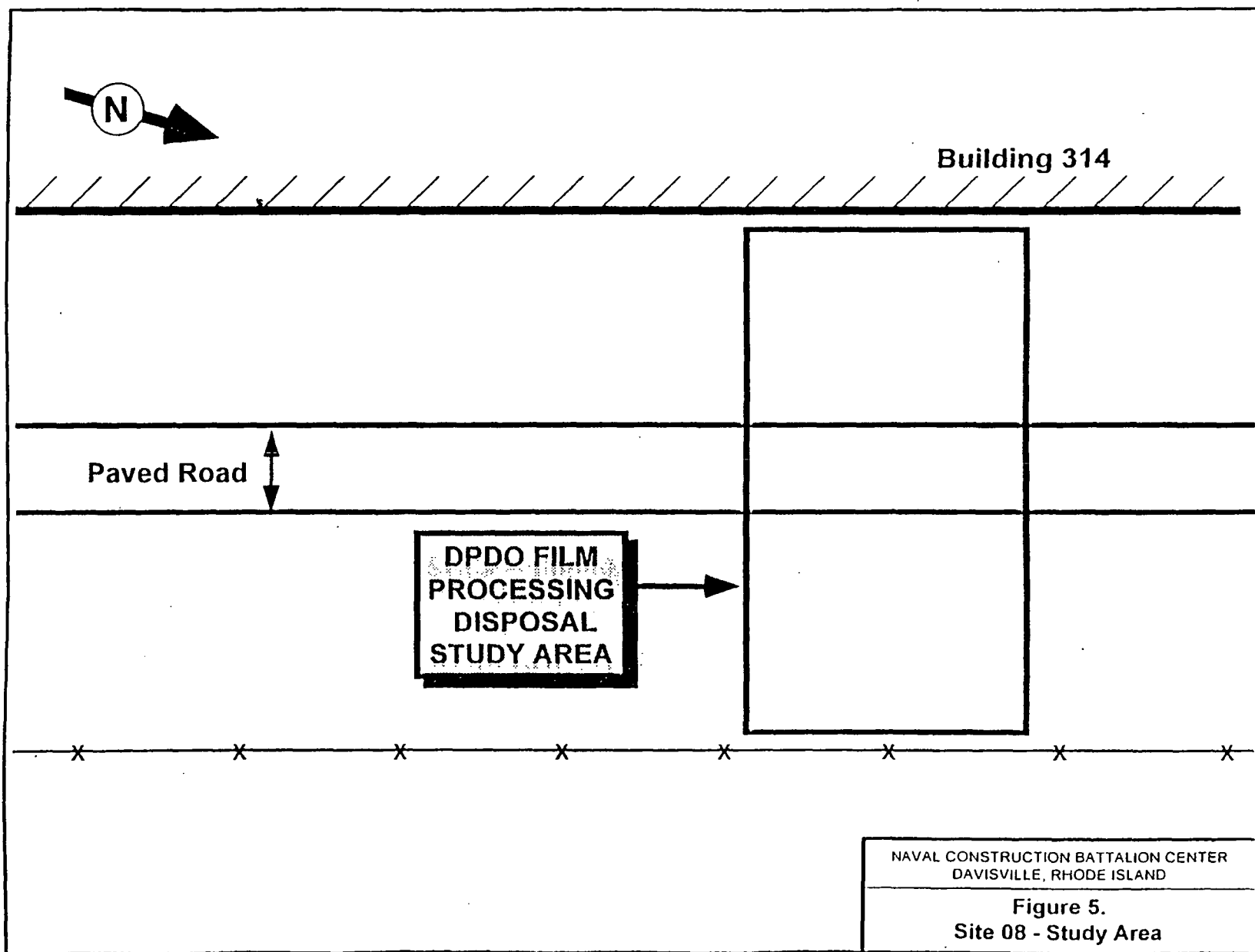
Site 05

Site 05 is located adjacent to an area historically used for storage of materials and equipment awaiting shipment but is located outside of the fence line surrounding the NCBC Davisville facility. In 1968 or 1969, approximately 30 gallons of transformer oil containing polychlorinated biphenyls (PCBs) were reportedly disposed of on the ground within an identified 1,500 square foot site area. In October 1984, Navy personnel collected a surface soil sample from the area which indicated the presence of PCBs at 6 parts per million (ppm). No removal or remedial response actions have been conducted at the site.

Site 08

For a six-month period during 1973, the Defense Property Disposal Office (DPDO) recovered silver from photographic wastes. This silver recovery operation was operated as a batch system with a 15- to 20-gallon capacity. Waste liquids from this recovery process were reportedly discharged during rainfall events onto the pavement outside of Building 314 and were allowed to drain from the pavement. The waste liquids which were generated consisted of photographic compounds, such as sodium thiosulfate and hydroquinone, and liquids containing small concentrations of formaldehyde, acetic acid, potassium hydroxide and sulfuric acid. No information on the disposal frequency or total discharge was available from interviews or record searches; however, the amounts were reportedly small. No removal or remedial response actions have been conducted at the site.





A detailed description of the site use and response histories can be found in the Site 05 - Transformer Oil Disposal Area Data Transmittal Report, pp. 2-3 (TRC, 1993) and in the Site 08 - DPDO Film Processing Disposal Area Remedial Investigation Report, Section 1.2 (TRC, 1994).

B. ENFORCEMENT HISTORY

In response to the environmental contamination which has occurred as a result of the use, handling, storage, or disposal of hazardous materials at numerous military installations across the United States, the Department of Defense (DOD) has initiated investigations and cleanup activities under the Installation Restoration (IR) Program. The IR Program parallels the Superfund program and is conducted in several stages, including:

1. Identification of potential hazardous waste sites;
2. Confirmation of the presence of hazardous materials at the site;
3. Determination of the type and extent of contamination;
4. Evaluation of alternatives for cleanup of the site;
5. Proposal of a cleanup remedy;
6. Selection of a remedy; and
7. Implementation of the remedy for the cleanup of the site.

As a part of the IR Program, an Initial Assessment Study (IAS) was completed in 1984, detailing historical hazardous material usage and waste disposal practices at NCBC Davisville. Following the IAS, a Confirmation Study (CS) was conducted and included environmental sampling and analysis to verify the presence of contamination at the sites.

On November 21, 1989, NCBC Davisville was placed on the US EPA's National Priorities List. The investigations and cleanup of Sites 05 and 08 at NCBC Davisville are funded through the Base Realignment and Closure (BRAC) account.

In March 1992, a Federal Facility Agreement (FFA) was entered into by the U.S. Navy, the U.S. Environmental Protection Agency (US EPA) and the Rhode Island Department of Environmental Management (RIDEM) for the cleanup of hazardous substances pursuant to CERCLA. The FFA sets forth the roles and responsibilities of each agency, contains deadlines for investigation and cleanup of the hazardous waste sites, and establishes a mechanism to resolve disputes between the agencies.

III. COMMUNITY PARTICIPATION

The community has been concerned and involved in the site investigation and remediation process at NCBC Davisville. The Navy has kept the community and other interested parties apprised of site activities through informational meetings (Technical Review Committee (TRC) meetings and

Restoration Advisory Board (RAB) meetings which involve community representatives), press releases and public meetings.

In April 1989, the Navy held a public information meeting at NCBC Davisville prior to the start of the Remedial Investigation and Feasibility Study (RI/FS) in order to present a status report and fact sheet to the community. In May 1989, the Navy released a Community Relations Plan which outlined a program to address community concerns and to keep citizens informed about and involved in remedy selection and other remedial activities.

In August 1994, the Navy issued a Proposed Plan for Sites 05 and 08 which proposed limited action in the form of site use restrictions for future use of both sites. A public information meeting was held on August 16, 1994 to present the Proposed Plan and solicit public comments on the proposed action. However, based on the Navy's consideration of public comments on the Proposed Plan, the Navy is performing a comprehensive basewide ground water inorganic background study to define ground water chemistry upgradient of the facility and to determine the background levels of inorganic constituents in the ground water, prior to determining if site use restrictions with respect to ground water are required. Therefore, the Navy has separated Sites 05 and 08 into two operable units, one for soils and one for ground water, and is currently proposing No Action with respect to the soils operable unit at Sites 05 and 08. Ground water beneath Sites 05 and 08 will be evaluated under the basewide ground water study. A ROD will be issued for the ground water after completion of the RI/FS process.

The Administrative Record is available for public review at the former Naval Construction Battalion Center Administrative Building (Building 404) located on Davisville Road in North Kingstown, Rhode Island. An Information Repository is maintained at the North Kingstown Free Library in North Kingstown, Rhode Island. The Navy published a notice and brief analysis of the Proposed Plan on May 19, 1995 in the Providence Journal Bulletin and on May 25, 1995 in the North Kingstown Standard Times and made the plan available to the public at the North Kingstown Free Library. A Fact Sheet announcing the availability of the Proposed Plan was also mailed out to members of the Restoration Advisory Board and to the community members that have been on the general mailing list. A Proposed Plan was mailed to any Fact Sheet recipient who requested a copy of the Proposed Plan.

On May 31, 1995, the Navy held an informational meeting to discuss the results of the field investigations and to present the Navy's Proposed Plan. Also during this meeting, representatives from the Navy, EA Engineering, Science, and Technology, TRC Environmental Corporation, US EPA, and RIDEM were available to answer questions from the public about Sites 05 and 08 as well as the proposed No Action alternative. Immediately following the informational meeting on May 31, 1995, the Navy held a public hearing to accept formal comments on the Proposed Plan. A transcript of this hearing is included in the attached Responsiveness Summary. From May 23, 1995, to June 21, 1995, the Navy held a 30-day public comment period to accept public comment on the No Action recommendation presented in the Proposed Plan and on any other documents previously released to the public.

IV. SCOPE AND ROLE OF RESPONSE ACTION

Based upon the risk assessments conducted for Sites 05 and 08 soils, which are discussed in more detail in the following sections, the Navy has determined that no CERCLA remedial action is required at the Sites 5 and 8 soils operable unit. The levels of contaminants in the soils do not pose an unacceptable risk to human health and the environment.

V. SUMMARY OF SITE CHARACTERISTICS

The Site 05 - Transformer Oil Disposal Area Data Transmittal Report (TRC, 1993) contains an overview of the site investigations conducted at Site 05. A summary of the site investigations conducted at Site 08 is presented in the Executive Summary of the Site 08 - DPDO Film Processing Disposal Area Remedial Investigation Report (TRC, 1994). The significant findings of the site investigations are summarized below.

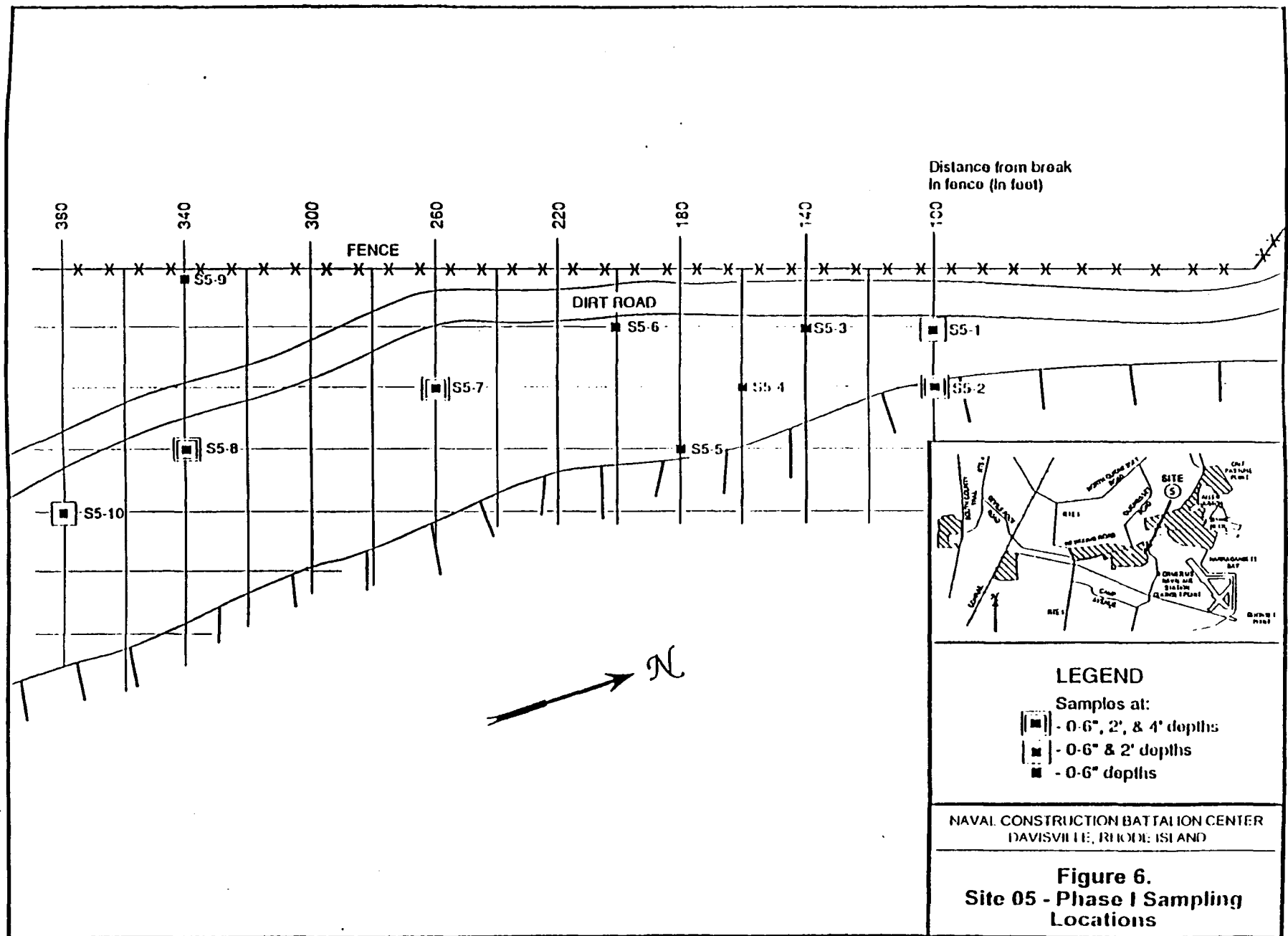
Site 05

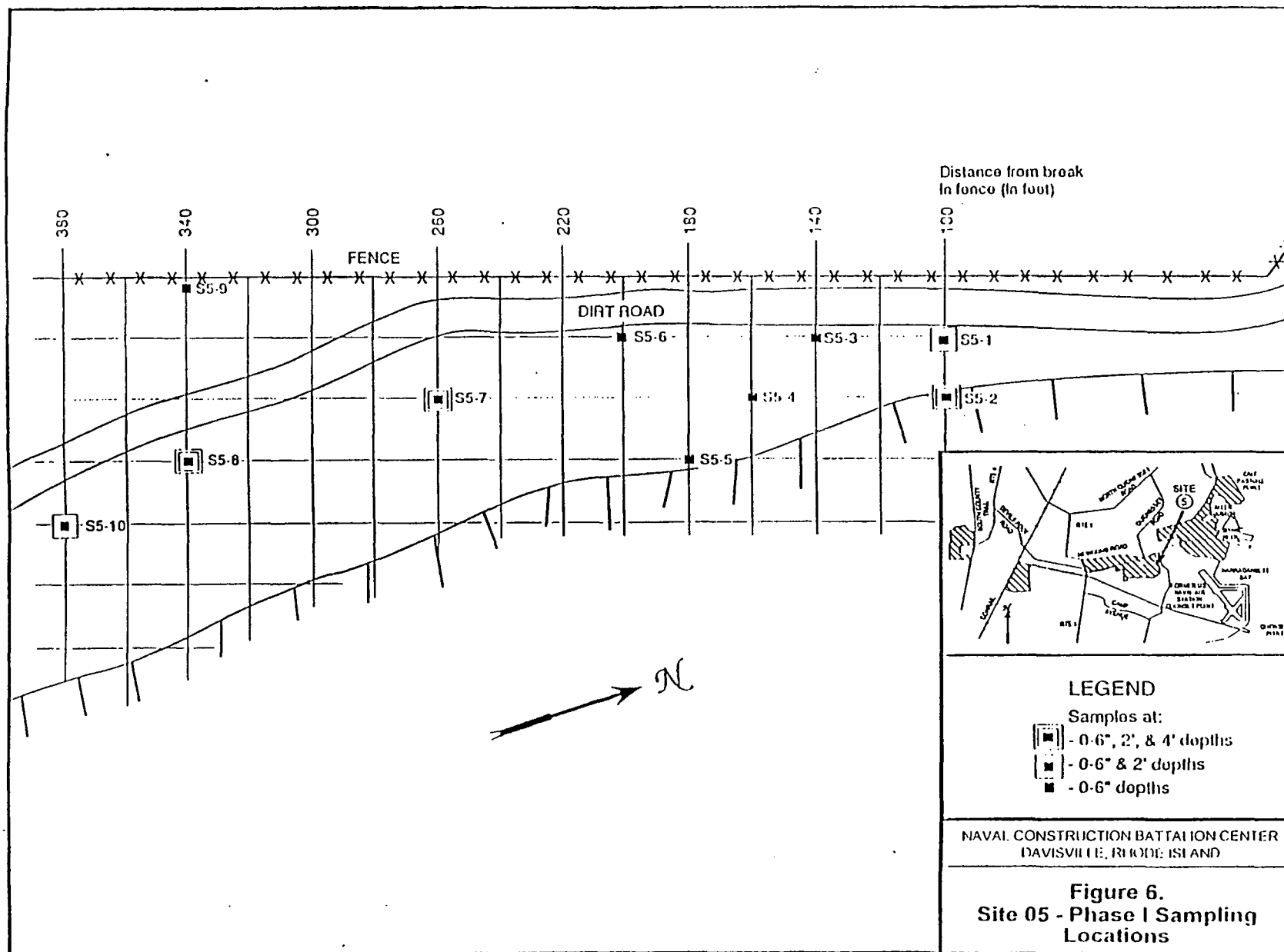
In October 1984, Navy personnel collected a surface soil sample from Site 05 which indicated the presence of PCBs at 6 parts per million (ppm). As part of the Confirmation Study, 22 soil samples were collected in March 1985 and March 1986 from the reported disposal area. The laboratory analyses detected the presence of pesticides in the samples, but did not detect PCBs.

A Phase I Remedial Investigation (RI) was conducted at Site 05 in 1989 to define the nature and extent of contamination in the site soils. The Phase I RI included the collection and analysis of surface and subsurface soil samples. Low concentrations of volatile organic compounds (VOCs) were detected sporadically across the site in both surface and subsurface soils. Polynuclear aromatic hydrocarbon (PAHs) compounds were detected at concentrations of up to 4.3 ppm in surface soils but were detected in only one subsurface soil sample. The presence of these PAH compounds may be attributable to a weathered asphalt layer which is present over the surface of the site. Pesticides were present in both surface and subsurface soil samples at concentrations ranging from 0.022 ppm to 3.3 ppm and PCBs were detected in only one soil sample at a concentration of 0.33 ppm. Inorganics were detected in both surface and subsurface soils at concentrations exceeding facility background concentrations. Figure 6 presents the Phase I RI sample locations. For a detailed assessment of the Phase I RI investigation refer to Volume I of the Draft Final Phase I Remedial Investigation Report (TRC, 1991), which is included in the Administrative Record.

An additional round of surface and subsurface soil sampling was conducted in March 1993 to confirm the Phase I RI results. The March 1993 sample locations are provided in Figure 7. VOCs were detected at low concentrations in surface soils but were not detected in subsurface soils. Care was taken during this round of sampling to eliminate asphalt fragments from the soil

samples. As a result, no PAHs were detected in the site soils. The pesticides DDE and DDT were detected in both surface and subsurface soils, but PCBs were not detected in any of the samples. Inorganics were present at concentrations exceeding facility background concentrations.





A detailed assessment of the March 1993 sampling round is provided in the Site 05 - Transformer Oil Disposal Area Data Transmittal Report (TRC, 1993) which is included in the Administrative Record.

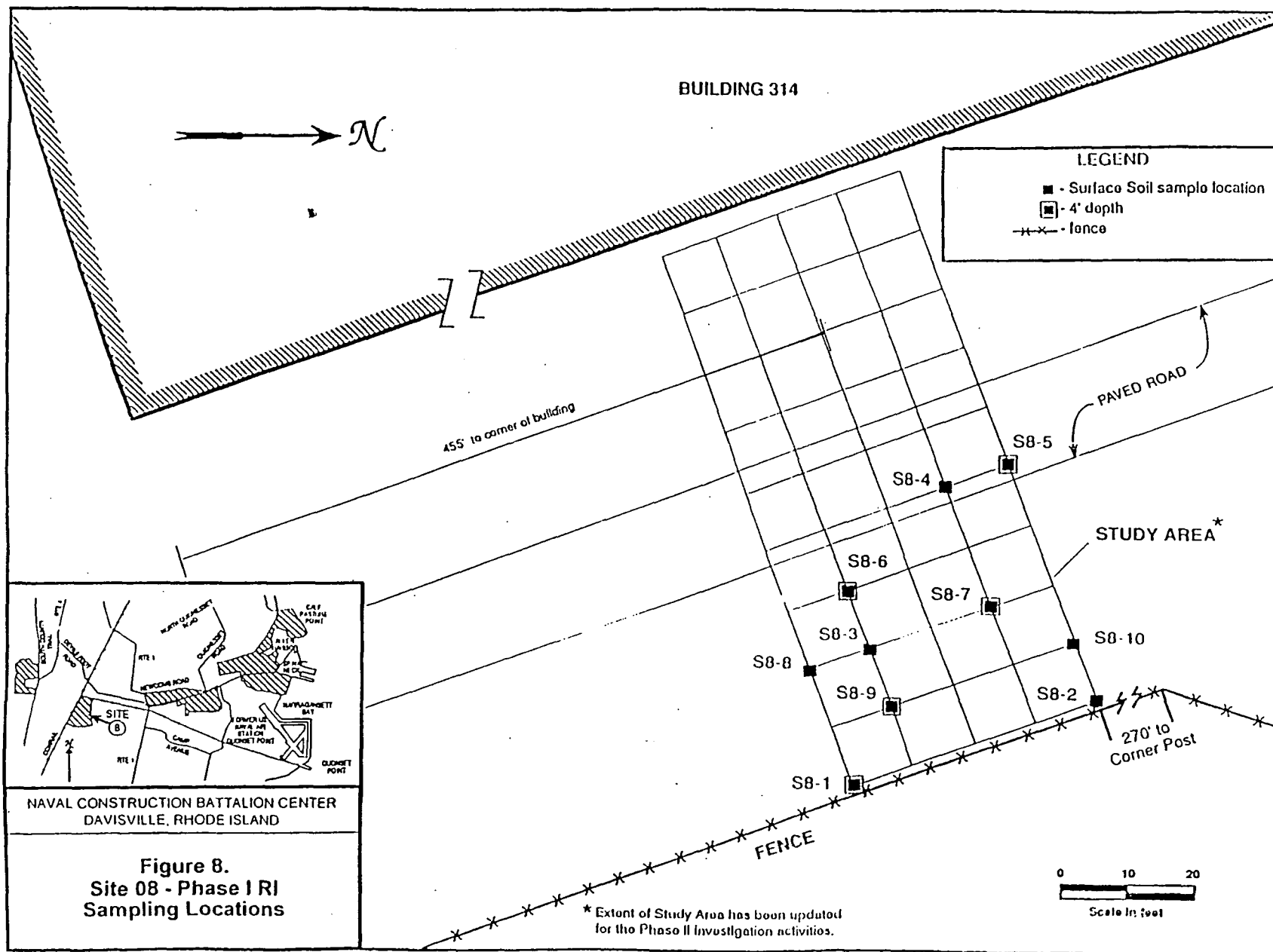
Site 08

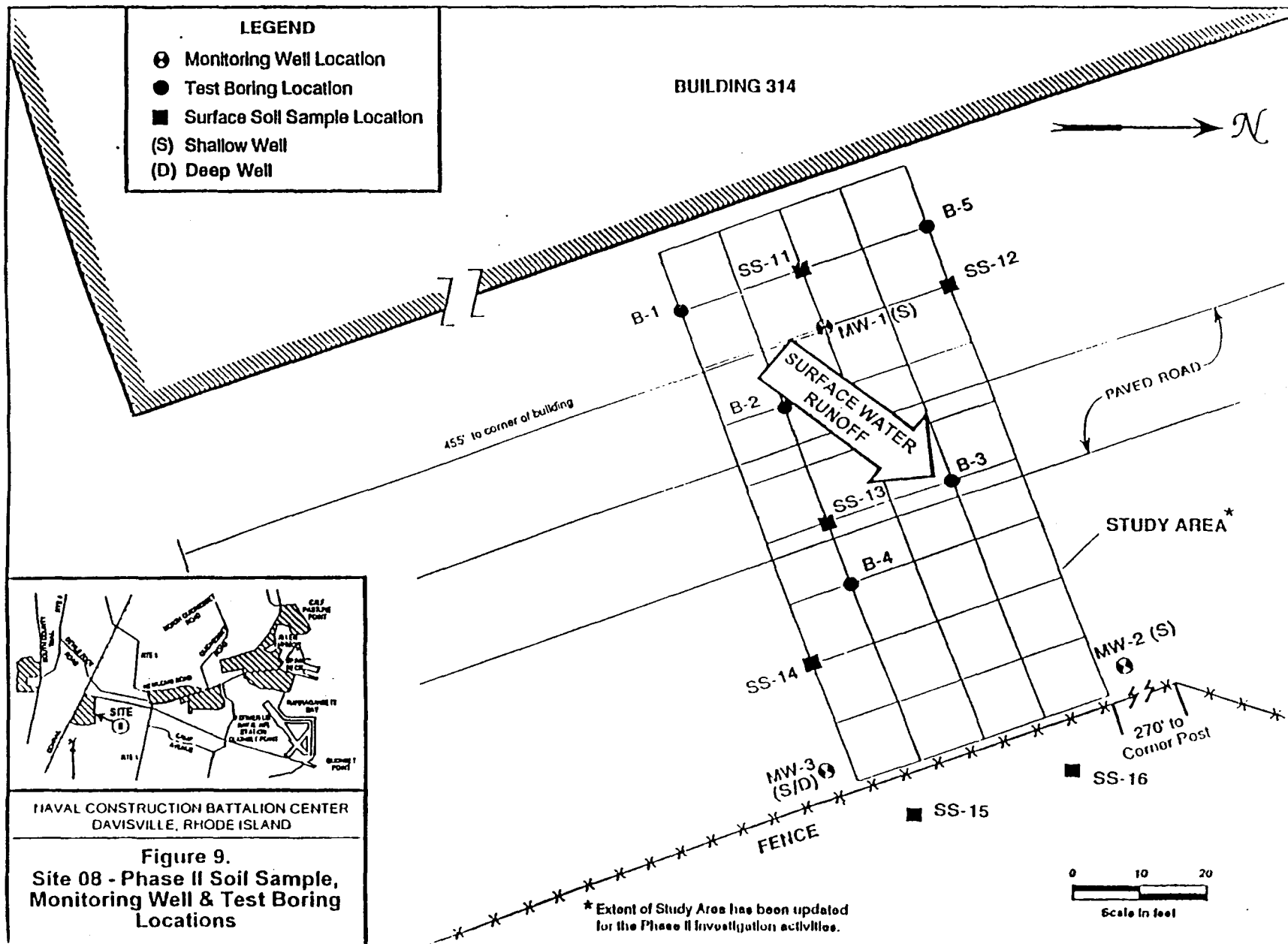
A Confirmation Study (CS) including environmental surface soil sampling was conducted at Site 08 from 1985 to 1986 to identify the presence of contamination at the site. During the first sampling round of the CS in 1985, a single composite surface soil sample was collected. The analytical results indicated that silver was present at a concentration (0.15 ppm) similar to naturally occurring levels in the soil. A grab surface soil sample was collected in March 1986 as part of the second CS sampling round and was analyzed for full US EPA Priority Pollutants. The results of the laboratory analysis indicated no elevated levels of US EPA Priority Pollutants. The Priority Pollutants are the compounds or elements listed as the Toxic Pollutants list under the Federal Water Pollution Control Act, 44 FR 44502, July 30, 1979 as amended in 46 FR 2266, January 8, 1981, and 46 FR 10724, February 4, 1981.

The Navy conducted two phases of RI field activities at Site 08 in 1989 and 1993. The Phase I RI included the collection and analysis of surface soil and subsurface soil samples while the Phase II RI included the collection and analysis of soil gas, surface soil, subsurface soil, and ground water samples. Phase I RI and Phase II RI sample locations are provided in Figures 8 and 9, respectively. The results of these analyses identified the presence of low concentrations of VOCs, PAHs, phthalates, pesticides, and PCBs in soils across the site. Thirteen inorganics were detected at levels exceeding facility background concentrations in either the Phase I or Phase II RI. Silver was detected in only one of ten samples at a concentration of 28 ppm in the Phase I RI and in only one of fifteen samples at a concentration of 0.47 ppm in the Phase II RI. When the sample location which exhibited the 28 ppm silver level was resampled during the Phase II RI, silver was not detected at that location. These results indicate that silver, a potential contaminant associated with the historic on-site silver recovery process, is not present at consistently high levels throughout the site soil and that its identification at an elevated level during the Phase I RI was not representative of a hot spot of soil contamination. The one sample of silver above ecological screening levels, but below human health screening levels may be viewed as an anomaly, since 23 of the other 25 samples did not contain detectable silver levels and the other detected concentration of silver was below both ecological and human health screening levels.

Sampling of the ground water indicated the presence of low concentrations of VOCs and a semivolatile organic compound (SVOC), bis(2-ethylhexyl)phthalate. Several inorganic analytes were also detected in the ground water. Ground water at Site 08 will be addressed within a separate operable unit after completion of the basewide ground water inorganic background study.

For a detailed assessment of the Phase I and Phase II RI investigations, refer to the Site 08 -DPDO Film Processing Disposal Area Remedial Investigation Report, Volume I (TRC, 1994).





VI. SUMMARY OF SITE RISKS

A Human Health Risk Assessment was conducted for Sites 05 and 08 in 1991 on the basis of the Phase I RI results, and was presented as Volume II of the Draft Final Phase I Remedial Investigation Report (TRC, 1991). During the supplemental sampling conducted at Site 05, contaminant levels were less than those detected during the Phase I RI (as described in more detail below). Since the estimated risks associated with exposure to the most contaminated portion of the site would not be affected by the inclusion of the supplemental sampling data, a revised HHRA was not prepared for Site 05. However, a revised Human Health Risk Assessment was conducted for Site 08 which incorporated the Phase II RI results and updated exposure assumptions. This revised HHRA is presented in the DPDO Film Processing Disposal Area Remedial Investigation Report, Volume II - Human Health Risk Assessment (TRC, 1993). An addendum to the HHRA is included in Appendix I of Volume I of the Site 08 -DPDO Film Processing Disposal Area Remedial Investigation Report (TRC, 1994). A facility wide Ecological Risk Assessment (ERA) was conducted as part of the Phase II RI and is presented as Volume III of the Draft Final Remedial Investigation Technical Report (TRC, 1994). A site-specific ERA was conducted in May 1995, entitled Draft Final Ecological Risk Assessment for Sites 05 and 08. These reports are available for review at the Information Repository at the North Kingstown Free Library.

The risk assessments were conducted to estimate the probability and magnitude of potential adverse human health effects from exposure to constituents associated with site use. The Human Health Risk Assessment followed a four step process: 1) constituent identification, which identified those hazardous substances which, given the specifics of the site, were of significant concern; 2) exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure; 3) toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances, and 4) risk characterization, which integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the site, including carcinogenic and non-carcinogenic risks. Ecological risks were assessed based on an evaluation of potential receptors at Site 05 and Site 08, and the detected levels and bioavailability of contaminants in environmental media. Risks to terrestrial populations were characterized based on site-specific biological observations and surface soil data. Risks to aquatic populations were not assessed because of the absence of surface water at both Site 05 and Site 08. A "weight of evidence" approach was used in which information generated from exposure and ecological effects assessments, field observations and a hazard quotient evaluation are evaluated together to provide an overall indication of the ecological risk posed by the contamination found at these sites.

Specific details on the Human Health Risk Assessment and Ecological Risk Assessment conducted for Sites 05 and 08 are provided by site below.

Site 05

The constituents of potential concern selected for evaluation in the human health risk assessment of exposures to soils at Site 05 are listed in Table A-1 found in Appendix A of this Record of Decision. These constituents of potential concern were identified through an evaluation of the data for surface soils and subsurface soils sampled at the site and constitute a representative subset of the 51 constituents identified at the site during the Phase I Remedial Investigation. The constituents of potential concern were selected to represent potential site-related hazards based on constituent type, toxicity, concentration, frequency of detection, and mobility and persistence in the environment. No additional contaminants were detected during the supplemental sampling at Site 05 and detected contaminant levels were below the maximum levels detected during the Phase I RI. A summary of the range of concentrations in each media, including the supplemental sampling results, is provided in Table A-2 of this Record of Decision, while a summary of the health effects associated with each of the constituents of potential concern can be found in Appendix B of Volume II of the Draft Final Phase I Remedial Investigation Report (TRC, 1991).

Potential human health risks associated with exposure to the contaminants of concern were estimated quantitatively or qualitatively through the development of several hypothetical exposure pathways. These pathways were developed to reflect the potential for exposure to hazardous substances based on the present uses, potential future uses, and location of the site. Base worker exposure and trespassing were the two current land use scenarios evaluated in the risk assessment. Future land uses which were considered plausible during the development of the risk assessment include residential use of the site and on-site construction activities. The following is a brief summary of the exposure scenarios evaluated in the risk assessment. A more thorough description of these scenarios can be found in Section 4.3 of Volume II of the Draft Final Phase I Remedial Investigation Report (TRC, 1991), which presents risk analyses for all of the sites investigated under the Phase I RI at NCBC Davisville.

Under the current trespassing scenario, it was assumed that children aged 9 to 18 years and living within the immediate vicinity of the site may be exposed to constituents while trespassing on the site. Exposure was assumed to occur through incidental ingestion of and dermal contact with surface soil at a frequency of 39 days per year (i.e., approximately one day per week during the spring, summer, and fall) for a period of 10 years. A soil ingestion rate of 100 mg of soil per day and a dermal contact rate of 500 mg of soil/day were used to evaluate these two pathways, respectively.

Under the current base worker scenario, it was assumed that an adult working at the facility 40 hours per week, 50 weeks per year, may be exposed to constituents while at the site. Based on the current lack of site development and the physical location of the area between a fenceline and a rocky ridge, future site development options would be limited and daily site use under current or future conditions would be unlikely. Therefore, exposure was assumed to occur through incidental ingestion of and dermal contact with surface soil at a frequency of 78 days per year (i.e., two days per week for 39 weeks during the spring, summer, and fall). A soil ingestion rate

of 100 mg of soil per day and a dermal contact rate of 500 mg of soil/day were used to evaluate these two pathways, respectively.

Under the future residential use scenario, risks to children and adults were evaluated separately. Children (aged 0 to 6 years) and youth/adults (aged 7 to 70 years) were assumed to receive exposures to constituents in surface soil through incidental ingestion and dermal contact. Residents were assumed to be exposed to surface soils for a life-time of 70 years. It should be noted that US EPA generally assumes an exposure duration of 30 years for a resident as a reasonable maximum estimate. The Navy assumed a 70 year exposure, which is relatively more conservative, and therefore, revisions to the original risk assessment were not required by US EPA. The frequency of exposure to the surface soils was based on information from US EPA guidance and an analysis of the climate and likely activity patterns in the NCBC Davisville area. The three US EPA guidance documents used for this evaluation include: 1) Supplemental Risk Assessment Guidance for the Superfund Program, Draft Final, US EPA 901/5-89/001; 2) Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final, US EPA 540/1-89/003; and 3) Risk Assessment Guidance for Superfund, Volume II, Environmental Evaluation Manual, Interim Final, US EPA 540/1-89/001. It was assumed that a small child would spend five days per week outdoors during the summer season (13 weeks) and three days per week during the spring and fall months (26 weeks) for a total of 143 days of potential exposure per year. It was assumed that the youth/adult would spend two days per week outdoors in contact with the soil during the spring, summer, and fall (39 weeks) for a total of 78 days per year. The duration of exposure was 6 years for the small child and 64 years (age 6 to 70) for the youth/adult. Soil ingestion rates of 200 mg/day for the small child and 100 mg/day for the youth/adult and a dermal contact rate of 500 mg/day were used to evaluate these two pathways, respectively.

Under the future construction scenario, it was assumed that construction workers involved in routine excavation work would be exposed to site constituents through incidental ingestion of and dermal contact with site subsurface soils. Exposure was assumed to occur for 10 days per year over 30 years. A soil ingestion rate of 100 mg of soil per day and a dermal contact rate of 500 mg of soil/day were used to evaluate these two pathways, respectively.

For each exposure pathway and land use evaluated, an average (previously referred to in the Phase I RI as "most probable case") and a reasonable maximum exposure estimate (RME, previously referred to in the Phase I RI as "worst-case") was generated for each constituent of potential concern corresponding to exposure to the average (geometric mean) and the maximum concentrations detected in the relevant medium during the Phase I RI. As previously discussed, the maximum contaminant levels detected during supplemental sampling were less than those detected during the Phase I RI. Therefore, the estimated RME risks would not be affected by inclusion of the supplemental sampling data. It should be noted that the US EPA prefers the use of the arithmetic mean in exposure assessments; however, since the risks associated with the maximum soil concentrations were within US EPA's acceptable risk range, US EPA did not require the Navy to recalculate the mean chemical concentrations.

Excess lifetime cancer risks were determined for each exposure pathway by multiplying the exposure level by the constituent-specific cancer slope factor. Cancer slope factors have been developed by US EPA from epidemiological or animal studies to reflect a conservative "upper bound" of the risk posed by potentially carcinogenic constituents. That is, the true risk is unlikely to be greater than the risk predicted. The resulting risk estimates are expressed in scientific notation as a probability (e.g. 1×10^{-6} for 1/1,000,000) and indicate (using this example), that an average individual is not likely to have greater than a one in a million chance of developing cancer over 70 years as a result of site-related exposure as defined to the constituent at the stated concentration. Current US EPA practice considers carcinogenic risks to be additive when assessing exposure to a mixture of constituents.

The hazard index (HI) was also calculated for each pathway as US EPA's measure of the potential for non-carcinogenic health effects. The HI is a sum of the constituent-specific hazard quotients (HQs) which are calculated by dividing the exposure level by the reference dose (RfD) or other suitable benchmark for non-carcinogenic health effects for an individual constituent. RfDs have been developed by US EPA to protect sensitive individuals over the course of a lifetime and they reflect a daily exposure level that is likely to be without an appreciable risk of an adverse health effect. RfDs are derived from epidemiological or animal studies and incorporate uncertainty factors to provide margins of safety between the RfD and the observed effect level. The hazard quotient is often expressed as a single value (e.g. 0.3) indicating the ratio of the stated exposure as defined to the reference dose value (in this example, the exposure as characterized is approximately one third of the target exposure level for the given constituent). The hazard quotient should only be considered additive for constituents that have the same or similar toxic endpoint (for example, the hazard quotient for a constituent known to produce liver damage should not be added to a second constituent whose toxic endpoint is kidney damage). Separate calculations were performed for acute and chronic effects.

Risk estimates were evaluated using US EPA's established target risk range for Superfund cleanups (i.e., cancer risk range of 10^{-6} to 10^{-4}) and target HI value (i.e., HI less than or equal to 1). A conservative approach was taken where risks from all exposure pathways and all constituents were summed to yield the total site risk for a given receptor. The risk estimates for the Site 05 soils operable unit were within or below the target risk range and below the HI value of 1. All risk summary tables referenced below present risk estimates as they were presented in Volume II of the Draft Final Phase I Remedial Investigation Report (TRC, 1991).

Table A-3 depicts the carcinogenic and non-carcinogenic risk summary for exposures to constituents of potential concern in soil under current trespassing at the site. Both the average and RME estimates of total risk fell below or within the target cancer risk range for Superfund cleanups established by US EPA (i.e., 10^{-6} to 10^{-4}) and below US EPA's target HI value of 1.0.

Table A-4 depicts the carcinogenic and non-carcinogenic risk summary for exposures to constituents of potential concern in surface soil under the base worker scenario. Both the average

and RME estimates of total risk fell within the target cancer risk range for Superfund cleanups established by US EPA (i.e., 10^{-6} to 10^{-4}) and below US EPA's target HI value of 1.0.

Table A-5 depicts the carcinogenic and non-carcinogenic risk summary for exposures to constituents of potential concern in surface soil under the future residential use scenario. Both the average and RME estimates of total risk fell within the target cancer risk range for Superfund cleanups established by US EPA (i.e., 10^{-6} to 10^{-4}) and below US EPA's target HI value of 1.0 for both small children and adults.

Table A-6 depicts the carcinogenic and non-carcinogenic risk summary for exposures to constituents of potential concern in subsurface soil under the future construction scenario. Both the average and RME estimates of total risk fell below the target cancer risk range for Superfund cleanups established by US EPA (i.e., 10^{-6} to 10^{-4}) and below US EPA's target HI value of 1.0.

Lead, a soil contaminant of concern for which no toxicity values are available, was evaluated qualitatively. While US EPA has not identified any slope factors for lead, it considers lead a "B2" - probable human carcinogen. Despite the toxicity associated with lead, concentrations of lead in Site 05 soils are not extremely elevated. The average lead concentration in surface soil (62 ppm based on the arithmetic mean) falls within the Rhode Island Rules and Regulations for Lead Poisoning Prevention (as amended October 1994) definition of lead -free soils (defined as having a concentration of less than 150 ppm).

The Navy also evaluated potential ecological risks associated with Site 05. This was done by identifying organisms (receptors) representative of those potentially present at the site, determining the degree to which they are potentially exposed to site-related chemicals, and quantifying the potential effects of this exposure. The ecological receptors identified for risk assessment were shrews (representative of small mammals), rabbits (representative of medium-sized mammals), robins (representative of songbirds), and hawks (representative of raptors). Ecological risks are quantified by comparing chemical concentrations onsite (represented by modeled chemical dose) with the concentration of each chemical not likely to be associated with harmful effects for a particular receptor (toxicity reference value). The result of this comparison is a hazard quotient (HQ), which is calculated as the ratio of the chemical dose to the toxicity reference value (TRV):

$$HQ = \frac{\text{Chemical Dose}}{TRV}$$

HQ values greater than 1.0 indicate that the TRV is exceeded, while values below 1.0 reflect a non-exceedance. In general, the greater the exceedance the greater the concern for potential risks. At Site 05, HQ calculations exceeded 1.0 for shrews exposed to lead (HQ = 4.28) and the pesticide DDT (HQ = 1.04). Therefore, there is a slight potential for ecological risks to small mammals due to the presence of lead and, to a much lesser extent, DDT. HQs for rabbits, robins, and hawks were

than 1.0 for all chemicals. Therefore, songbirds, medium-sized mammals, and raptors are not expected to be at unacceptable risks due to exposure to chemicals at Site 05.

To evaluate the potential for adverse effects resulting from combined chemical exposures, HQs were summed for those chemicals having similar effects on a receptor. The resulting sum is referred to as a hazard index (HI). If the HI was less than or equal to 1.0, cumulative exposure was judged unlikely to result in an adverse effect. If the HI was greater than 1.0 for a particular receptor, cumulative exposure could potentially result in adverse effects to the particular biological population represented by that receptor. HI calculations were performed for two groups of chemicals: metals and polynuclear aromatic hydrocarbons (PAHs). HI calculations indicated potential risks to small mammals such as shrews (HI = 4.24), largely the result of lead concentrations. Risks to other receptors are not expected since HIs were less than 1.0 for metals and PAHs.

Although HQ and HI calculations exceeded 1.0 for shrews, the potential for adverse population effects to shrews and other small mammals within Site 05 should result in minimal effects on the small mammal population and the biological community as a whole, due to the small size of Site 05 relative to the size of the ecosystem as a whole.

Based on the human health and ecological risk assessments conducted for Site 05, the levels of contaminants in the soils at Site 05 do not pose an unacceptable risk to human health or the environment.

Site 08

The constituents of potential concern selected for evaluation in the risk assessment for Site 08 soils are listed in Table A-7 found in Appendix A of this Record of Decision. These constituents of potential concern were identified through an evaluation of the data for surface soils and subsurface soils and constitute a representative subset of the 44 constituents identified at the site during the Phase I and Phase II RIs. While risks were initially evaluated on the basis of the Phase I RI results, the risk assessment was revised to incorporate both Phase I and Phase II RI results as well as the Comprehensive Base Reuse Plan and revised risk analysis procedures. The constituents of potential concern were selected to represent potential site-related hazards based on constituent type, toxicity, concentration, frequency of detection, and mobility and persistence in the environment. A summary of the range of concentrations in surface soils and subsurface soils is provided in Table A-8 of this Record of Decision, while a summary of the health effects associated with each of the constituents of potential concern can be found in Appendix B of the DPDO Film Processing Disposal Area Remedial Investigation Report, Volume II - Human Health Risk Assessment (TRC, 1993).

Potential human health effects associated with exposure to the contaminants of concern were estimated quantitatively or qualitatively through the development of several hypothetical exposure pathways. These pathways were developed to reflect the potential for exposure to hazardous substances based on the present uses, potential future uses, and location of the site. Base worker

and trespassing were the two current land use scenarios evaluated in the risk assessment. Future land uses which were considered plausible during the development of the risk assessment include residential use of the site, on-site construction activities, and commercial/industrial site use. The following is a brief summary of the soil exposure scenarios evaluated in the risk assessment. Exposures to ground water were evaluated under the current base worker and future residential exposure scenarios but are not presented herein since they are not relevant to the soils operable unit. A more thorough description of these scenarios can be found in Section 4.1 of the DPDO Film Processing Disposal Area Remedial Investigation Report, Volume II - Human Health Risk Assessment (TRC, 1993).

Under the current trespassing scenario, it was assumed that children aged 9 to 18 years and living within the immediate vicinity of the site may be exposed to constituents while trespassing on the site. Exposure was assumed to occur through incidental ingestion of and dermal contact with surface soil at a frequency of 39 days per year (i.e., approximately one day per week during the spring, summer, and fall) for a period of 10 years. A soil ingestion rate of 100 mg of soil per day and a dermal contact rate of 500 mg of soil per day were used to evaluate these two pathways, respectively.

Under the current base worker and future commercial/industrial worker scenario, it was assumed that an adult working at the facility 40 hours per week, 50 weeks per year, may be exposed to constituents while at the site. Exposure was assumed to occur through incidental ingestion of and dermal contact with surface soil at a frequency of 250 days per year for 25 years. A soil ingestion rate of 50 mg of soil per day and a dermal contact rate of 500 mg of soil per day were used to evaluate these two pathways, respectively.

Under the future residential use scenario, risks to children and adults were evaluated separately. Children (aged 0 to 6 years) and youth/adults (aged 7 to 30 years) were assumed to receive exposures to constituents in surface and subsurface soils through incidental ingestion and dermal contact. Residents were assumed to be exposed to these constituents 350 days/year for a period of 30 years. Soil ingestion rates of 200 mg/day for the small child and 100 mg/day for the youth/adult and a dermal contact rate of 500 mg/day were used to evaluate these two pathways.

Under the future construction scenario, it was assumed that construction workers involved in excavation work would be exposed to site constituents through incidental ingestion of and dermal contact with site subsurface soils, and inhalation of suspended subsurface particles. Exposure was assumed to occur for 250 days for a 1 year period. A soil ingestion rate of 480 mg of soil per day, a dermal contact rate of 1,000 mg of soil per day, and a particle inhalation rate of 20 cubic meters per day were used to evaluate these three pathways, respectively.

For each exposure pathway and land use evaluated, an average and a reasonable maximum exposure estimate (RME) were generated for each constituent of potential concern corresponding to exposure to the average (geometric mean) and the maximum concentrations detected in the relevant medium. It should be noted that the US EPA prefers the use of the arithmetic mean in

exposure assessments but since the risk estimates were below risk levels of concern at the maximum concentrations, US EPA did not require the average values to be recalculated. All risk summary tables referenced below present risk estimates as they were presented in Volume II of the DPDO Film Processing Disposal Area Remedial Investigation Report, Volume II - Human Health Risk Assessment (TRC, 1993).

Like the risk assessment performed for Site 05, with respect to Site 08, excess lifetime cancer risks were determined for each exposure pathway by multiplying the exposure level by the constituent-specific cancer slope factor.

Risk estimates were evaluated using US EPA's established target risk range for Superfund cleanups (i.e., cancer risk range of 10^{-6} to 10^{-4}) and target HI value (i.e., HI less than or equal to 1). A conservative approach was taken where risks from all exposure pathways and all constituents were summed to yield the total site risk for a given receptor. The risk estimates for the Site 08 soils operable unit were within or below the target risk range and below the HI value of 1.

Table A-9 depicts the carcinogenic and non-carcinogenic risk summary for exposures to constituents of potential concern in surface soil under current trespassing at the site. Both the average and RME estimates of total risk fell below the target cancer risk range for Superfund cleanups established by US EPA (i.e., 10^{-6} to 10^{-4}) and below US EPA's target HI value of 1.0.

Table A-10 depicts the carcinogenic and non-carcinogenic risk summary for exposures to constituents of potential concern in surface soil under the current base worker scenario. Both the average and RME estimates of total risk associated with exposures to soil fell below or within the target cancer risk range for Superfund cleanups established by US EPA (i.e., 10^{-6} to 10^{-4}) and below US EPA's target HI value of 1.0.

Table A-11 depicts the carcinogenic and non-carcinogenic risk summary for exposures to constituents of potential concern in surface soil and subsurface soil under the future residential use scenario. For exposure to site soils, both the average and RME estimates of total risk fell within the target cancer risk range for Superfund cleanups established by US EPA (i.e., 10^{-6} to 10^{-4}) and below US EPA's target HI value of 1.0 for both small children and adults.

Table A-12 depicts the carcinogenic and non-carcinogenic risk summary for exposures to constituents of potential concern in subsurface soil under the future construction scenario. Both the average and RME estimates of total risk fell below the target cancer risk range for Superfund cleanups established by US EPA (i.e., 10^{-6} to 10^{-4}) and below US EPA's target HI value of 1.0.

For lead, a soil contaminant of concern for which no toxicity values are available, a qualitative assessment was conducted with regard to its potential carcinogenic and oral non-cancer effects. Although lead is quantitatively evaluated in the non-cancer inhalation assessment, exclusion of this inorganic from the other evaluations may underestimate risk to some degree. While US EPA has

not identified any slope factors for lead, it considers lead a "B2" - probable human carcinogen. Despite the toxicity associated with lead, concentrations of lead in Site 08 soils are not extremely elevated. The average lead concentration in surface soil (31 ppm based on the arithmetic mean) falls within the Rhode Island Rules and Regulations for Lead Poisoning Prevention (as amended October 1994) definition of lead -free soils (defined as having a concentration of less than 150 ppm).

The Navy also evaluated potential ecological risks at Site 08, based on HQ and HI calculations for shrews, rabbits, robins, and hawks. HQ calculations exceeded 1.0 for shrews exposed to lead (HQ = 1.86), indicating a slight potential for risks to small mammals. HQs were less than 1.0 for rabbits, robins, and hawks. Therefore, songbirds, medium-sized mammals, and raptors are not expected to be at unacceptable risk as a result of chemical exposure at Site 08.

HI calculations were performed for two groups of chemicals: metals and PAHs. HI calculations indicated potential risks to small mammals such as shrews (HI = 2.05), largely the result of lead concentrations. Risks to other receptors are not expected since HIs were less than 1.0 for metals and PAHs.

Human disturbance in the form of fencing, paved roads, and periodic mowing reduce the value of habitat at Site 08. Although HQ and HI calculations exceeded 1.0 for shrews, the potential for adverse effects to shrews and other small mammals within Site 08 should result in minimal effects on the small mammal population and the biological community as a whole, due to the small size of Site 08 relative to the size and habitat quality of the overall ecosystem.

Based on the human health and ecological risk assessments conducted for Site 08, the levels of contaminants in the soils at Site 08 do not pose an unacceptable risk to human health or the environment.

VII. DESCRIPTION OF THE "NO ACTION" ALTERNATIVE

The preferred alternative for the soils operable unit at Sites 05 and 08 is No Action. No construction or monitoring activities will be undertaken.

VIII. DOCUMENTATION OF NO SIGNIFICANT CHANGES

On May 23, 1995, the Proposed Plan for the soils operable unit at Sites 05 and 08 was released. The plan proposed No Action with respect to soils at Sites 05 and 08. Since the no action decision presented herein is identical to the Proposed Plan, no significant changes need to be addressed.

IX. STATE ROLE

The State of Rhode Island Department of Environmental Management (RIDEM) has reviewed the Proposed Plan and has indicated its support for the selected remedy. As a party to the FFA, Rhode Island concurs with the selected remedy for Sites 05 and 08. A copy of the letter of concurrence is attached as Appendix C.

APPENDIX A
RISK ASSESSMENT SUMMARY
SOILS OPERABLE UNIT

Site 05 - Transformer Oil Disposal Area
Site 08 - DPDO Film Processing Disposal Area
NCBC - Davisville, Rhode Island

TABLE A-1
 CONSTITUENTS OF POTENTIAL CONCERN
 SITE 05 - TRANSFORMER OIL DISPOSAL AREA

<u>Surface Soils</u>	<u>Subsurface Soils</u>
Volatiles	Volatiles
Chloroform	Carbon tetrachloride
Methylene Chloride	Chloroform
Acetone	Methylene Chloride
	Acetone
Semivolatiles	Semivolatiles
Acenaphthene	Benzo(a)anthracene
Anthracene	Benzo(a)pyrene
Benzo(a)anthracene	Benzo(b)/Benzo(k)fluoranthene
Benzo(a)pyrene	Chrysene
Benzo(b)/Benzo(k)fluoranthene	Fluoranthene
Benzo(g,h,i)perylene	Phenanthrene
bis(2-Ethylhexyl)phthalate	Pyrene
Chrysene	
Fluoranthene	
Fluorene	
Indeno(1,2,3-cd)pyrene	Pesticides/PCBs
Phenanthrene	4,4'-DDT
Pyrene	
Benzoic acid	Inorganics
	Beryllium
Pesticides/PCBs	Manganese
4,4'-DDT	Nickel
4,4'-DDE	
4,4'-DDD	
PCB-1248	
Inorganics	
Arsenic	
Beryllium	
Chromium	
Lead	
Manganese	
Nickel	
Vanadium	

TABLE A-2
RANGE OF CONCENTRATIONS FOR CONSTITUENTS OF POTENTIAL CONCERN
SITE 05 - TRANSFORMER OIL DISPOSAL AREA

Chemical Detected	<u>Surface Soils</u>		<u>Subsurface Soils</u>	
	Detection Frequency	Concentration Range (ppm)	Detection Frequency	Concentration Range (ppm)
Volatiles				
Carbon tetrachloride			1 / 10	0.006 - 0.036
Chloroform	2 / 17	0.001 - 0.003	2 / 10	0.002 - 0.003
Methylene Chloride	6 / 17	0.01 - 0.14	1 / 10	0.063 - 0.063
Acetone	11 / 17	0.006 - 0.14	8 / 10	0.028 - 0.073
Semivolatiles				
Acenaphthene	2 / 17	0.062 - 0.110		
Anthracene	3 / 17	0.039 - 0.123		
Benzo(a)anthracene	6 / 17	0.087 - 0.713	1 / 10	0.063 - 0.063
Benzo(a)pyrene	5 / 17	0.11 - 0.723	1 / 10	0.059 - 0.059
Benzo(b)/Benzo(k)fluoranthene	5 / 17	0.23 - 3.0	1 / 10	0.19 - 0.19
Benzo(g,h,i)perylene	2 / 17	0.072 - 0.32		
bis 2-Ethylhexyl)phthalate	7 / 17	0.074 - 0.16		
Chrysene	8 / 17	0.1 - 1.63	1 / 10	0.16 - 0.16
Fluoranthene	7 / 17	0.14 - 5.633	1 / 10	0.66 - 0.66
Fluorene	2 / 17	0.055 - 0.034		
Indeno(1,2,3-cd)pyrene	2 / 17	0.085 - 0.335		
Phenanthrene	6 / 17	0.14 - 1.636	1 / 10	0.24 - 0.24
Pyrene	8 / 17	0.08 - 3.633	1 / 10	0.34 - 0.34
Benzoic acid	7 / 17	0.13 - 0.79		
Pesticides/PCBs				
4,4'-DDT	14 / 17	0.022 - 3.3	2 / 10	0.013 - 0.044
4,4'-DDE	12 / 17	0.0037 - 0.46		
4,4'-DDD	5 / 17	0.023 - 0.14		
PCB-1248	1 / 17	0.33 - 0.33		
Inorganics				
Arsenic	17 / 17	0.64 - 6.7		
Beryllium	17 / 17	0.17 - 1.4	10 / 10	0.45 - 1.5
Chromium	17 / 17	5.2 - 71.2		
Lead	17 / 17	5.1 - 303		
Manganese	17 / 17	64.9 - 265	10 / 10	108 - 565
Nickel	17 / 17	4.8 - 29.1	9 / 10	10.3 - 24.9
Vanadium	17 / 17	6.4 - 42.9		

5.

	Average			RME		
	Total HI		Total Cancer Risk	Total HI		Total Cancer Risk
	Acute	Chronic		Acute	Chronic	
Soil ^(a)	0.0006	0.003	8×10^{-7}	0.002	0.009	3×10^{-6}
Incidental Ingestion of Soil	0.0005	0.003	7×10^{-7}	0.002	0.008	3×10^{-6}
Dermal Contact with Soil	0.00003	0.0002	1×10^{-7}	0.00008	0.001	6×10^{-7}

(a) Subsurface soil.

TABLE A-1
SUMMARY OF RISK ESTIMATES
BASE WORKER (CURRENT) - ADULT
SITE 05 - TRANSFORMER OIL DISPOSAL AREA

	Average			RME		
	Total IH		Total Cancer Risk	Total IH		Total Cancer Risk
	Acute	Chronic		Acute	Chronic	
Soil ^(a)	0.0004	0.005	4×10^{-6}	0.001	0.01	1×10^{-5}
Incidental Ingestion of Soil	0.0004	0.004	3×10^{-6}	0.001	0.01	1×10^{-5}
Dermal Contact with Soil	0.00002	0.0003	6×10^{-7}	0.00005	0.001	3×10^{-6}

(a) Subsurface soil.

TABLE A-5
SUMMARY OF RISK ESTIMATES
RESIDENTIAL (FUTURE) — CHILD AND ADULT
SITE 05 — TRANSFORMER OIL DISPOSAL AREA

	Average					RME				
	Total III				Total Cancer Risk Lifetime	Total III				Total Cancer Risk Lifetime
	Child		Adult			Child		Adult		
	Acute	Chronic	Acute	Chronic		Acute	Chronic	Acute	Chronic	
Soil ^(a)	0.003	0.07	0.0004	0.005	2×10^{-5}	0.01	0.2	0.001	0.01	8×10^{-5}
Incidental Ingestion of Soil	0.003	0.07	0.0004	0.004	2×10^{-5}	0.01	0.2	0.001	0.01	7×10^{-5}
Dermal Contact with Soil	0.00008	0.003	0.00002	0.0003	2×10^{-6}	0.0003	0.01	0.00006	0.001	1×10^{-5}

(a) Surface soil.

TABLE A-6
SUMMARY OF RISK ESTIMATES
CONSTRUCTION WORKER (FUTURE) – ADULT
SITE 05 – TRANSFORMER OIL DISPOSAL AREA

	Average			RME		
	Total HI		Total Cancer Risk	Total HI		Total Cancer Risk
	Acute	Chronic		Acute	Chronic	
Soil ^(a)	0.0002	0.0001	3×10^{-7}	0.0004	0.0003	2×10^{-7}
Incidental Ingestion of Soil	0.0002	0.0001	2×10^{-7}	0.0004	0.0003	2×10^{-7}
Dermal Contact with Soil	0.00001	0.000009	4×10^{-8}	0.00002	0.00002	3×10^{-8}

(a) Subsurface soil.

TABLE A-7
 CONSTITUENTS OF POTENTIAL CONCERN
 SITE 08 - DPDO FILM PROCESSING DISPOSAL AREA

<u>Surface Soils</u>	<u>Subsurface Soils</u>
Volatiles	Volatiles
Acetone	Chloroform
Chloroform	Methylene chloride
Methylene chloride	
Semivolatiles	Semivolatiles
Benzo(a)anthracene	Benzo(b)/Benzo(k)fluoranthene
Benzo(a)pyrene	bis(2-Ethylhexyl)phthalate
Benzo(b)/Benzo(k)fluoranthene	Chrysene
Benzo(g,h,i)perylene	Fluoranthene
bis(2-Ethylhexyl)phthalate	Phenanthrene
Chrysene	Pyrene
Dibenzo(a,h)anthracene	Benzoic acid
Fluoranthene	
Indeno(1,2,3-cd)pyrene	Pesticides/PCBs
Phenanthrene	PCB-1260
Pyrene	
Benzoic acid	Inorganics
	Arsenic
Pesticides/PCBs	Beryllium
4,4'-DDT	Chromium
PCB-1260	Cyanide
	Lead
Inorganics	Nickel
Arsenic	
Beryllium	
Chromium	
Cyanide	
Lead	
Nickel	

TABLE A-8
RANGE OF CONCENTRATIONS FOR CONSTITUENTS OF POTENTIAL CONCERN
SITE 08 - DPDO FILM PROCESSING DISPOSAL AREA

Chemical Detected	<u>Surface Soils</u>		<u>Subsurface Soils</u>	
	Detection Frequency	Concentration Range (ppm)	Detection Frequency	Concentration Range (ppm)
Volatiles				
Acetone	2 / 24	0.075 - 0.089		
Chloroform	4 / 24	0.001 - 0.003	1 / 12	0.001 - 0.001
Methylene Chloride	5 / 24	0.004 - 0.007	1 / 12	0.005 - 0.006
Semivolatiles				
Benzo(a)anthracene	10 / 24	0.045 - 0.41		
Benzo(a)pyrene	10 / 24	0.047 - 0.33		
Benzo(b)fluoranthene	10 / 24	0.086 - 0.65	2 / 12	0.034 - 0.55
Benzo(g,h,i)perylene	4 / 24	0.038 - 0.19		
cis-2-Ethynoxyanthralate	10 / 24	0.04 - 0.29	4 / 12	0.12 - 0.47
Chrysene	10 / 24	0.065 - 0.50	1 / 12	0.042 - 0.042
Dibenz(a,h)anthracene	2 / 24	0.14 - 0.19		
Fluoranthene	10 / 24	0.093 - 0.57	1 / 12	0.046 - 0.046
Indeno(1,2,3-cd)pyrene	5 / 24	0.04 - 0.20		
Phenanthrene	9 / 24	0.046 - 0.11	1 / 12	0.17 - 0.17
Pyrene	11 / 24	0.081 - 0.48	1 / 12	0.057 - 0.057
Benzoic acid	4 / 10	0.049 - 0.13	1 / 5	0.045 - 0.045
Pesticides/PCBs				
4,4'-DDT	2 / 24	0.0029 - 0.029		
PCB-1260	8 / 24	0.02 - 0.45	1 / 12	0.023 - 0.023
Inorganics				
Aluminum				
Arsenic	24 / 24	0.51 - 2.6	10 / 12	0.36 - 0.84
Barium				
Beryllium	24 / 24	0.29 - 1.4	11 / 12	0.34 - 1.4
Chromium	24 / 24	2.5 - 15.5	12 / 12	1.4 - 11.6
Cobalt				
Copper				
Cyanide	2 / 24	0.23 - 0.39	1 / 12	0.4 - 0.4
Lead	18 / 24	6.8 - 171	8 / 12	2.6 - 13.4
Nickel	18 / 24	2.2 - 30.8	4 / 12	2.4 - 5.8
Manganese				
Vanadium				

TABLE A-9
SUMMARY OF RISK ESTIMATES
TRESPASSING (CURRENT) – YOUTH AGED 9 TO 18 YEARS
SITE 08 – DPDO FILM PROCESSING DISPOSAL AREA

	Average		RME	
	Total HI	Total Cancer Risk	Total HI	Total Cancer Risk
SOIL (a)	0.0008	5×10^{-7}	0.002	1×10^{-6}
Incidental Ingestion of Soil	0.0008	4×10^{-7}	0.002	9×10^{-7}
Dermal Contact with Soil	0.000002	6×10^{-8}	0.000007	2×10^{-7}

(a) Surface Soil

TABLE A-10
SUMMARY OF RISK ESTIMATES
BASE WORKER (CURRENT) – ADULT
COMMERCIAL/INDUSTRIAL WORKER (FUTURE) – ADULT
SITE 08 – DPDO FILM PROCESSING DISPOSAL AREA

	Average		RME	
	Total HI	Total Cancer Risk	Total HI	Total Cancer Risk
SOIL (a)	0.002	3×10^{-6}	0.005	7×10^{-6}
Incidental Ingestion of Soil	0.002	2×10^{-6}	0.005	5×10^{-6}
Dermal Contact with Soil	0.00001	7×10^{-7}	0.00003	2×10^{-6}

(a) Surface Soil

TABLE A-11
SUMMARY OF RISK ESTIMATES
RESIDENTIAL (FUTURE) – CHILD & ADULT
SITE 08 – DPDO FILM PROCESSING DISPOSAL AREA

	Average				RME			
	Total HI		Total Cancer Risk		Total HI		Total Cancer Risk	
	Child	Adult	Child	Adult	Child	Adult	Child	Adult
SOIL (a)	0.04	0.004	1×10^{-5}	7×10^{-6}	0.1	0.02	3×10^{-5}	1×10^{-5}
Incidental Ingestion of Soil	0.04	0.004	1×10^{-5}	6×10^{-6}	0.1	0.02	3×10^{-5}	1×10^{-5}
Dermal Contact with Soil	0.00009	0.00005	1×10^{-6}	1×10^{-6}	0.0002	0.00005	3×10^{-6}	2×10^{-6}

(a) Surface and Subsurface Soils (0 – 10 feet)

TABLE A-12
SUMMARY OF RISK ESTIMATES
CONSTRUCTION WORKER (FUTURE) – ADULT
SITE 08 – DPDO FILM PROCESSING DISPOSAL AREA

	Average		RME	
	Total HI	Total Cancer Risk	Total HI	Total Cancer Risk
SOIL (a)	0.01	5×10^{-7}	0.02	8×10^{-7}
Incidental Ingestion of Soil	0.01	5×10^{-7}	0.02	8×10^{-7}
Dermal Contact with Soil	0.00001	3×10^{-8}	0.00001	3×10^{-8}
Inhalation of Particulates	0.00001	6×10^{-10}	0.00002	1×10^{-9}

(a) Subsurface Soil (2 – 10 feet)

APPENDIX B
RESPONSIVENESS SUMMARY
SOILS OPERABLE UNIT

Site 05 - Transformer Oil Disposal Area
Site 08 - DPDO Film Processing Disposal Area
NCBC - Davisville, Rhode Island

APPENDIX B

RESPONSIVENESS SUMMARY FOR THE RECORD OF DECISION

Soils Operable Unit

Sites 05 and 08

NCBC - Davisville, Rhode Island

The purpose of this Responsiveness Summary is to review public response to the Proposed Plan for no action with respect to the soils operable unit at Sites 05 and 08 at the former Naval Construction Battalion Center in Davisville, Rhode Island. In addition, it documents the Navy's consideration of public comments during the decision-making process and provides answers to any major comments raised during the public comment period.

The Responsiveness Summary is divided into the following sections:

- Overview - This section briefly describes the remedial alternative recommended within the Proposed Plan, and any impacts on the Proposed Plan due to public comment.
- Background on Community Involvement - This section provides a summary of community interest in the proposed remedy and identifies key public issues. It also describes community relations activities conducted with respect to the area of concern.
- Summary of Major Questions and Comments - This section summarizes verbal and written comments received during the public meeting and public comment period, respectively.
- Remedial Design/Remedial Action Concerns - This section describes public concerns which are directly related to design and implementation of the selected remedial alternative.

OVERVIEW

In the Proposed Plan issued for public comment in May 1995, the Navy proposed a No Action alternative for the soils at Sites 05 and 08. The preferred alternative was selected in coordination with the US EPA and RIDEM. No written or verbal comments were received on the preferred no action alternative.

Public comments received on a previous Proposed Plan for Sites 05 and 08, however, influenced the current selected no action alternative for soils at Sites 05 and 08. In August 1994, the Navy issued a Proposed Plan for Sites 05 and 08 which proposed limited action in the form of site use restrictions for future use of both sites. A public informational meeting was held on August 16, 1994 to present the Proposed Plan and solicit public comments on the proposed action. Based on the Navy's consideration of public comments received on the August 1994 Proposed Plan, the Navy separated Sites 05 and 08 into two operable units, one for soils and one for ground water, which led to the development of the current Proposed Plan for the soils operable unit. Since comments

received on the August 1994 Proposed Plan have not been previously addressed. responses to verbal and written comments received on the July 1994 Proposed Plan are addressed herein.

BACKGROUND ON COMMUNITY INVOLVEMENT

Throughout the remedial investigation activities, the Navy, RIDEM, and US EPA have been directly involved through proposal and project review and comments. Periodic meetings have been held to maintain open lines of communication and to keep all parties abreast of current activities.

Local input to the selection of the preferred remedy has come primarily through informational meetings including Technical Review Committee (TRC) meetings and Restoration Advisory Board (RAB) meetings which involve community representatives, press releases and public meetings. In April 1989, the Navy held a public information meeting prior to the start of the Remedial Investigation and Feasibility Study activities in order to present a status report and fact sheet to the community. In May 1989, the Navy released a Community Relations Plan, which outlined a program to address community concerns and to keep citizens informed and involved in remedy selection and other remedial activities. Throughout the site investigation process, the Navy has maintained a mailing list of interested local parties.

As stated in the previous section, a Proposed Plan for Sites 05 and 08 was originally issued in August 1994. Based on public concerns regarding the degree of protection offered by the proposed remedy as well as potential impacts of the remedy on property transfer, the Navy divided the site into two operable units, one addressing soil and one addressing ground water.

A Fact Sheet announcing the availability of the Proposed Plan for the soils operable unit was mailed out to members of the RAB and to the community members on the general mailing list. A copy of the soils operable unit Proposed Plan was mailed to any Fact Sheet recipient who requested it. Notices of the availability of the Proposed Plan appeared in the Providence Journal Bulletin on 19 May 1995 and in the North Kingstown Standard Times on 25 May 1991. The notices summarized the site investigation process and the preferred no action alternative. The announcements also identified the time and location of a public meeting to be held to discuss the proposed action, the location of the administrative record and information repository, the length of the public comment period, and the address to which written comments could be sent.

A public meeting was held on May 31, 1995, at 7:00 p.m. at the Administrative Building (Building 404) located at the former Naval Construction Battalion Center in Davisville, Rhode Island. The site investigations concerning Sites 05 and 08 as well as the proposed no action alternative for the soils operable unit were discussed. Representatives at the meeting included: Phil Otis, BRAC Environmental Coordinator, U.S. Navy Northern Division; Nicholas A. Lanney, representing EA Engineering, Science, and Technology, Inc.; Jean M. Oliva, representing TRC Environmental Corporation (TRC); Christine Williams, Remedial Program Manager, US EPA-Region I; Judith Graham, Project Manager, RIDEM. The informational meeting was immediately followed by a public hearing, at which public comments for the record were solicited.

SUMMARY OF MAJOR QUESTIONS AND COMMENTS

While no verbal comments were received during the public hearing held on May 31, 1995 for the soils operable unit, one verbal comment was received during the public hearing held for the previous Proposed Plan on August 16, 1994. Copies of the transcripts of the May 31, 1995 and August 16, 1994 public hearings, including the verbal comment, are included as Attachments A and B, respectively, to this Responsiveness Summary.

No written comments on the preferred no action alternative for the soils operable unit were received during the 30-day public comment period from May 23, 1995 to June 21, 1995. Three sets of written comments on the previous Proposed Plan were received during the public comment period which ran from August 8, 1994 to October 21, 1994.

Presented below is a summary of the comments received during the comment period on the August 1994 Proposed Plan and the Navy's responses to those comments.

CITIZEN COMMENTS

Verbal comments were received from a citizen of North Kingstown, Rhode Island, while written comments were received from a citizen of Barrington, Rhode Island.

Verbal Comments

Comment 1: A careful evaluation should be made of certain sites at NCBC Davisville and in the general surrounding area that historically have had uses that are not commonly known, and that may affect future development.

Response: The Navy has identified potential areas of contamination within the former NCBC Davisville facility through extensive background investigations which have included interviews with former employees and file searches. Other sites in the general vicinity of the former NCBC Davisville facility have also been the subject of environmental investigations which are under the review of the US EPA and/or RIDEM.

Written Comments

Comment 1: A 30-day extension was requested to allow the opportunity to further review the information contained within the Information Repository.

Response: A 45-day extension was granted by the Navy, extending the public comment period from September 6, 1994 to October 21, 1994. No additional written comments were received during the extended public comment period. The Navy will also keep the public informed of the results of the 5-year reviews with press releases and fact sheets mailed out to the general public and with a fact sheet kept at the information repository and in the Administrative Record.

Comment 2: The August 1994 Proposed Plan stated that manganese drove the noncarcinogenic hazard index ratio value of 3 for ground water ingestion, which exceeds the acceptable unity value of 1. It also stated that the presence of manganese may be due to the geologic formation rather than site related conditions. Why is ground water use being restricted if the geologic formation is responsible for the detected level of manganese. This restriction could place an unnecessary burden on the industrial property purchaser.

Response: *At the time of the August 1994 Proposed Plan, the Navy could not state with certainty that the presence of manganese was due to geologic conditions. However, in response to this comment and other public comments, the Navy is conducting additional investigations of background ground water quality to determine if the presence of manganese in the ground water at Site 08 as well as at other sites undergoing investigation can be attributable to natural conditions. The need for implementation of site use restrictions will be re-evaluated based on those results and the proposed remedial action with respect to ground water will be presented within a separate Proposed Plan at a later date.*

Comment 3: The August 1994 Proposed Plan states that "low concentrations of VOCs and a semivolatile organic compound (SVOC), bis(2-ethylhexyl)phthalate, were detected in ground water samples. Several inorganic analytes were also detected in ground water. The detected concentrations of these compounds and inorganic analytes did not exceed established State of Rhode Island ground water quality standards or federal Maximum Contaminant Levels (MCLs)." If State and federal standards were not exceeded, how can it be explained that there is a risk with the ground water and that restriction of ground water use is required?

Response: *Manganese was detected at levels ranging from 361 parts per billion (ppb) to 1,300 ppb in ground water samples collected at Site 08. The text referred to the fact that no enforceable Primary Maximum Contaminant Levels (MCLs) were exceeded (there is no Primary MCL for manganese). A Secondary Maximum Contaminant Level (SMCL) of 50 ppb has been established for manganese. SMCLs are federal non-enforceable levels which were established to limit contaminants in drinking water which may affect the aesthetic qualities and the public's acceptance (e.g., taste and odor). This standard is not based on toxicity, however. Therefore, a toxicity-based standard has not been established for manganese and the risk assessment process was used to determine if manganese in the ground water poses a potential human health risk.*

TOWN OF NORTH KINGSTOWN COMMENTS

Written Comments

Comment 1: After reviewing the Proposed Plan and background material, the Town does not believe that sufficient information has been presented to affirm that the "Limited Action" alternative is acceptable as presented. North Kingstown objects to the proposed plan for the following reasons:

1. The Proposed Plan distributed to the public fails to demonstrate that the development and screening of remedial action technologies were considered. There is no discussion in the proposed plan regarding the various remedial action technologies which were considered for Sites 05 and 08. A comprehensive evaluation of various potential clean-up options would be particularly helpful from the Town's perspective in determining whether the "Limited Action" alternative is the most appropriate. The plan should clearly document the basis on which the "Limited Action" alternative is chosen.

Response: When the risk assessment provides the basis for concluding that the conditions at a site pose no current or potential threat to human health or the environment, the Navy may determine that its authority under CERCLA Sections 104 or 106 to undertake a remedial action to ensure adequate protection need not be invoked. Therefore, for the no action recommendation for the soils operable unit, no consideration of potential clean-up options was required. If the results of additional ground water monitoring indicate that Limited Action in the form of site use restrictions is still appropriate with respect to the ground water operable unit, the basis on which the Limited Action alternative was chosen, including other clean-up options considered, will be demonstrated.

2. The Proposed Plan fails to describe the proposed five year review for these sites. Although the Plan indicates that a five year review will be incorporated into the Record of Decision, the implications of the five year review are not explained. Could the five year review lead to a reconsideration of the "Limited Action" alternative and on what basis? For example, if the deed restrictions result in the property being unmarketable, would the "Limited Action" alternative be reconsidered? In addition, how is the public notified of the results of the five year review?

Response: Five year reviews are not required for a no action decision. If a remedial action which requires a five-year review is proposed for the ground water operable unit, the Proposed Plan will describe the five year review. In general, as defined in the Federal Facility Agreement, a five year review consists of a review of a remedial action at least every five years after the initiation of the selected action to assure that human health and the environment are being protected by the remedial action. If, upon such review, it is concluded that additional work is appropriate at the site, the Navy is required to implement such additional work. Five year reviews are required for a remedial action which results in any hazardous substance, pollutant, or contaminant remaining at the site at levels exceeding those which would allow for unrestricted use of the site. As stated in OSWER Directive 9355.7-02FS1, Structure and

Components of Five-Year Reviews: the five-year review report will be made available to the public through the administrative record file for the site. The Navy will also keep the public informed of the results of the five year reviews with press releases and fact sheets mailed out to the general public and with a fact sheet kept at the information repository and in the administrative record.

3. The Health Risk Assessment bases its conclusions and recommended action of the future use of the site being limited to industrial/commercial. The future use is based on the Base Reuse Plan. In order to determine what would be an acceptable future level of risk, it is important to know the difference in risk associated with industrial/commercial development relative to other types of land use. How is the health risk associated with industrial/commercial land use defined? Associated or support uses such as day care may be desirable in an industrial area. Has the risk associated with such activities been considered?

Response: The current no action Proposed Plan for the soils operable unit is based on the determination that soils do not pose unacceptable risks to human health, even under a future residential use scenario. Therefore, the soils would not be expected to pose unacceptable risks under a day care site use scenario, which would involve shorter exposure periods. The risks associated with exposures to site ground water will be re-evaluated pending the results of the additional ground water monitoring being conducted at the former NCBC Davisville facility.

4. The Proposed Plan does not include continued environmental monitoring for these sites. In particular, Site 08 lies in West Davisville proximate to the Hunt Aquifer and as such it is critical that the movement of contaminants through the ground water be monitored. While the Hunt Wellhead Delineation Study prepared by GZA, Inc. for the Town of North Kingstown shows that this site is outside of a wellhead area, it is important to realize that the ground water modeling effort includes a proposed well site. The actual location of a future well may change thus changing the wellhead line and possibly the movement of contaminants off this site. Also, the area west of Site 08 includes a number of private wells. Only with monitoring contaminant movement will there be some assurance of protection for these wells.

Response: The soils at Sites 05 and 08 have been determined to pose no current or potential threats to human health or the environment. Therefore, under the no action alternative for the soils operable unit, no continued monitoring of the soil is necessary. As stated in the Proposed Plan, ground water will be addressed within separate operable unit. This comment

will be considered in the development of a revised Proposed Plan for the ground water operable unit.

5. Finally, given the proximity of these sites to residential areas, the Navy owes the community a stronger effort in reaching out to the community and presenting convincing evidence that the proposed plan for Sites 05 and 08 will ensure protection of public health and the environment for future uses of these sites.

Response: The lack of public comment received on the No Action Proposed Plan for the soils operable unit indicated that sufficient evidence of protectiveness was provided to the public. The additional ground water monitoring being conducted by the Navy will further define ground water quality and will provide additional evidence to support a Proposed Plan for the ground water operable unit. The Navy will continue to involve the public in its decision-making processes through the publication of Fact Sheets, the involvement of the public in Restoration Advisory Board meetings, and the announcement of the availability of Proposed Plans, public comment periods and public meeting dates in local newspapers.

NARRAGANSETT INDIAN TRIBE COMMENTS

Written Comments

Comment 1: The approach proposed for the sites can be summarized as follows: allow the remaining low levels of contamination to remain and protect the public by applying deed restrictions on the future use of the property. Various criteria were listed in the plan against which this proposal was tested. The Narragansett Indian Tribe asserts that an important criterion has not been applied, that is, the inhibiting effect this approach will have on the disposal of the property.

For the Tribe in particular, we have had preliminary indications from the BIA that any residual contamination will prohibit taking the land into Trust for the Tribe. Also, the land to be taken into Trust must be clear of any encumbrances. Since we have requested the parcel which includes Site 08, carrying out the proposed plan will have the effect of blocking the Tribe from acquiring the site. If this approach reflects a general DOD policy towards remediation, it will have an impact on the applications of all tribes at decommissioned DOD facilities.

We would point out that concerns about acquiring property with residual contamination may not be limited to the Federal Government through the BIA, but

any potential mortgage lender on property owner, governmental or private. Thus the "feasible" solution may leave the Navy with a "white elephant" and no buyers.

The Tribe is further concerned that the proposed use of prohibitive deed restrictions was not anticipated in the Federal Facilities Agreement signed by the Secretary of the Navy and the US EPA Regional Administrator in March of 1992. CERCLA Title 42 USC *9620(h), referenced in Section 36 of that Agreement, requires that deed covenants treat only disclosure, notification and responsibility for future clean up activities. The use of deed restrictions controlling future land use, as the navy proposes, seems an attempt to expand the use of deed restrictions beyond the scope of their intended use as expressed in the statute and by inference in the Federal Facilities Agreement.

We have been in contact with representatives from the BIA for their assessment of the proposed plan, but with vacations and other delays they have not yet been able to respond to us. We therefore ask for an extension of the comment period, and a delay in issuing the Record of Decision, until these parties can be heard from.

Response: *The Proposed Plan for the soils operable unit does not include deed restrictions since soils at Sites 05 and 08 do not pose unacceptable risks to human health or the environment. The need for implementing deed restrictions to limit future use of the ground water will be re-evaluated pending the results of additional ground water investigations being conducted at the facility. While the Navy is aware of the potential impacts of deed restrictions on property transfer, at times the most practicable alternative is the implementation of site use restrictions based on the balancing of trade-offs among alternatives that is conducted during the remedy selection process. At these sites the Navy is continuing site investigations on the ground water and has not implemented any site use restrictions.*

With respect to the suitability of employing deed restrictions as part of a remedial action, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) [40 CFR 300] provides the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants including procedures for undertaking response action pursuant to CERCLA, as required by Section 105 of CERCLA. Section 300.430(a)(1)(iii)(C) of the NCP states that, in developing appropriate remedial alternatives, "US EPA expects to use institutional controls such as water use and deed restrictions to supplement engineering controls as appropriate for short- and long-term management to prevent or limit exposure to hazardous substances, pollutants, or contaminants. Institutional controls may be used during the conduct of the remedial investigation feasibility

study (RI/FS) and implementation of the remedial action and, where necessary, as a component of the completed remedy. The use of institutional controls shall not substitute for active response measures (e.g., treatment and/or containment of source material, restoration of ground waters to their beneficial uses) as the sole remedy unless such active measures are determined not to be practicable, based on the balancing of trade-offs among alternatives that is conducted during the remedy selection process." Any future proposed use of deed restrictions will be based on the results of a remedy selection process conducted in accordance with the NCP, as described above.

A 45-day extension to the public comment period (from September 6, 1994 to October 21, 1994) was granted.

REMEDIAL DESIGN/REMEDIAL ACTION CONCERNS

No remedial action concerns were raised with respect to the no action remedy for the soils operable unit for Sites 05 and 08, as described in the May 1995 Proposed Plan.

The remedial action concerns voiced during the August 8, 1994 to October 21, 1994 public comment period on the August 1994 Proposed Plan are summarized below. The specific comments and Navy responses were provided in the previous section. The public concerns were mainly related to:

- Impacts of the implementation of deed restrictions on future transfer and use of the property as well as the suitability of the use of deed restrictions given the wording of the Federal Facilities Agreement and the section of CERCLA (42 USC 9620(h)) which describes the application of CERCLA to the transfer of properties by Federal Agencies.
- The degree to which other potential remedial actions were considered.
- Impacts of a five-year review on future site use.
- Potential development of the sites as day-care facilities, which could result in exposures of the site to children, which was not considered under the commercial/industrial site use risk assessment scenario.
- The lack of continued ground water monitoring.

**ATTACHMENT A TO
APPENDIX B
TRANSCRIPTION OF PUBLIC HEARING
HELD MAY 31, 1995
SOILS OPERABLE UNIT
Site 05 - Transformer Oil Disposal Area
Site 08 - DPDO Film Processing Disposal Area
NCBC - Davisville, Rhode Island**

1 STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

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5 PROCEEDINGS AT HEARING IN RE: *

*

6 PROPOSED PLAN SITE 05 - TRANSFORMER *

OIL DISPOSAL AREA and SITE 08 - *

7 DEFENSE PROPERTY DISPOSAL OFFICE, *

FILM PROCESSING DISPOSAL AREA *

8 * * * * *

9

10 Naval Construction Battalion
Center

11 Building 404

12 Davisville, Rhode Island

31 May 1995

13 6:45 p.m.

14 BEFORE: Philip Otis, BRAC Environmental Coordinator
15 Nicholas A. Lanney, EA Engineering, Science and
Technology, Inc.

16 Jean M. Oliva, TRC Environmental Corporation

Christine Williams, Remedial Program Manager

Judith Graham

17 Richard Gottlieb, Rhode Island Department of
18 Environmental Management

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20

21

ORIGINAL

22

23 ALLIED COURT REPORTERS, INC.

115 PHENIX AVENUE

CRANSTON, RHODE ISLAND 02920

24

(401) 946-5500

(PUBLIC HEARING COMMENT COMMENCED)

MR. OTIS: We would now like to start the informal public hearing for the proposed remedial action for Site 05, Transformer Oil Disposal Area, and Site 08, the Film Processing Disposal Area.

First, we will call the names of those of who you who signed on the register. When you are called, please stand up, and state your name and address, and your affiliation prior to your comment. Please speak clearly and slowly for the benefit of our stenographer.

If anyone who has not signed up would like to speak, raise your hand after the registered speakers are finished, and we will call on you individually.

Are there any persons who would like to make a comment?

(PAUSE)

MR. OTIS: There being no response, written public comments will be accepted through June 21. Following that date, the Navy will prepare the Record of Decision document including the Responsiveness Summary. It is that record that the recorded decision will be finalized in August, and as mentioned earlier its finalization and availability

1 will be announced and placed in your local newspapers.

2 (HEARING CLOSED 7:40 P.M.)

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C-E-R-T-I-F-I-C-A-T-E

I, BRENDA D. P. HANNA, do hereby certify that the foregoing is a true, accurate and complete transcript of my notes taken at the above-entitled hearing. IN WITNESS WHEREOF, I have hereunto set my hand this 31st day of May, 1995.

Brenda D. P. Hanna Notary Public
BRENDA D. P. HANNA, NOTARY PUBLIC/
CERTIFIED COURT REPORTER

IN RE: Proposed Plan for Site 05, Transformer Oil Disposal Area and Site 08, Defense Property Disposal Office, Film Processing Disposal Area
DATE: 31 May 1995

**ATTACHMENT B TO
APPENDIX B
TRANSCRIPTION OF PUBLIC HEARING
HELD AUGUST 16, 1994
Site 05 - Transformer Oil Disposal Area
Site 08 - DPDO Film Processing Disposal Area
NCBC - Davisville, Rhode Island**

1 STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
2 NAVAL CONSTRUCTION BATTALION CENTER
3 DAVISVILLE, RHODE ISLAND
4 PUBLIC MEETING

5 RE: SITE 05 - TRANSFORMER OIL DISPOSAL AREA
6 SITE 08 - DEFENSE PROPERTY DISPOSAL OFFICE (DPDO)
7 FILM PROCESSING DISPOSAL AREA

8 DATE: August 16, 1994
9 TIME: 7:00
10 PLACE: Naval Construction Battalion Center
11 Davisville, Rhode Island

12
13 PRESENT:

14 Leo Tomasetti, Public Affairs Officer
15 Robert Krivinskas, Remedial Project Manager
16 Robert C. Smith, TRC Environmental Corporation
17 Jean M. Oliva, TRC Environmental Corporation
18 Christine Williams, Remedial Program Manager, USEPA
19 Richard Gottlieb, Project Manager, RIDEM

20
21 ALLIED COURT REPORTERS
22 115 PHENIX AVENUE
23 CRANSTON, RHODE ISLAND 02920
24 (401) 946-5500

ORIGINAL

1 (HEARING COMMENCED AT 7:00 p.m.)

2 MR. TOMASETTI: Is there anybody that would
3 like to ask any questions, please raise your hand?

4 MS. NEUBERT: My name is Marguerite Neubert,
5 N-E-U-B-E-R-T. I have no specific question now
6 because during the discussion period that followed the
7 presentation, it seems that my basic concern is about
8 parcels of land that are just outside the area of
9 Section 8 that's under discussion tonight, but because
10 everyone is here because of their concern about the
11 use of the property and the possible contaminants in
12 certain parts of these properties, I am requesting
13 that a very careful evaluation be made of certain
14 sites that historically have had uses that are not
15 commonly known, that may affect the future
16 development, that the appearance of the property now
17 may look as though investigation is not particularly
18 needed, but as a person who intends to spend the rest
19 of my life in this area, with whatever development
20 does occur, I will be happy, if the investigation of
21 these various sites is done carefully and thoroughly
22 so that we don't have questions when the work is
23 completed and the okay is given. I have no other
24 specific comment at this time. Thank you.

1 MR. TOMASETTI: Thank you, Mrs. Neubert.
2 Any other comments from anyone else? Thank you very
3 much for coming. This concludes tonight's program.
4 (HEARING ADJOURNED AT 3:00 p.m.)
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APPENDIX C
RIDEM LETTER OF CONCURRENCE
SOILS OPERABLE UNIT

Site 05 - Transformer Oil Disposal Area
Site 08 - DPDO Film Processing Disposal Area
NCBC - Davisville, Rhode Island

C E R T I F I C A T E

I hereby certify that I am expressly
approved as a person qualified and authorized to take
depositions pursuant to the Rules of Civil Procedure
of the Superior Court, especially but without
restrictions thereto, under Rule 30 (e) of said rules;
that the witness was first sworn by me; that the
transcript contains a true record of proceedings.

IN WITNESS WHEREOF, I have hereunto set my
hand this 12th day of August, 1994


PATRICIA A. QUIRK
NOTARY PUBLIC/CERTIFIED SHORTHAND REPORTER



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
Associate Director for Air, Solid Waste & Hazardous Materials
291 Promenade Street
Providence, R.I. 02908-5767

13 September 1995

Mr. Phil Otis, P.E., Remedial Program Manager
US Department of the Navy
NAVFACENGCOM- Northern Division
Code 1823, Mail Stop #82
10 Industrial Highway
Lester, PA 19113-2090

RE: Record of Decision: Soils Operable Unit
Site 05 - Transformer Oil Disposal Area and
Site 08 - DPDO Film Processing Area
Naval Construction Battalion Center, Davisville Rhode Island

Dear Mr. Otis:

On 23 March 1992, the State of Rhode Island entered into a Federal Facilities Agreement with the Department of the Navy and the Environmental Protection Agency. In accordance with Section 17.3 of said agreement, the State of Rhode Island offers its concurrence with the selected remedy of No Further Action for soils at the above referenced Installation/Restoration (IR) sites. As detailed in the August 1995 Record of Decision, groundwater at Site 05, the Transformer Oil Disposal Area, and Site 08, the DPDO Film Processing Area, will be addressed under the Base-wide Groundwater Study and will culminate in a separate Record of Decision for the groundwater beneath these sites.

The Department will continue in its endeavor to assist the Navy in expediting the studies and clean-up of the base and looks forward to a rapid resolution to the environmental problems currently associated with the Naval Construction Battalion Center.

Sincerely,

James W. Fester, P.E., Associate Director for Air, Solid Waste and Hazardous Materials
Department of Environmental Management

P. Otis

13 September 1995

Page Two

cc: Warren Angell, Supervising Engineer, DEM/DSR
Claude Cote, Esq., Legal Counsel, DEM
John DeVillars, EPA Region I
Terrence Gray, Chief, DEM/DSR
Timothy Keeney, Director, DEM
Linda Murphy, EPA Region I
Mary Sanderson, EPA Region I

Final

**Administrative Record Index
Installation Restoration Program Sites 5 and 8
Naval Construction Battalion Center
Davisville, Rhode Island**

Contract No. 62472-92-D-1296

Contract Task Order No. 0015

Prepared for

Naval Facilities Engineering Command
Northern Division
10 Industrial Highway
Lester, Pennsylvania 19113-2090

Prepared by

EA Engineering, Science, and Technology
2 Commercial Street
Sharon, Massachusetts 03067
(617) 784-1767

September 1995

Project No. 296 0015

**NAVAL CONSTRUCTION BATTALION CENTER
DAVISVILLE, RHODE ISLAND
SITES 5 AND 8**

INTRODUCTION

This document is the Index to the Administrative Record developed for Sites 5 and 8 at the Naval Construction Battalion Center (NCBC), Davisville pursuant to requirements in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

On 21 November 1989, NCBC was placed on the U.S. Environmental Protection Agency's (US EPA) National Priorities List (NPL), a compilation of national priority sites among the known sites with releases or threatened releases of hazardous substances, pollutants, or contaminants. A Federal Facilities Agreement for NCBC Davisville was signed on 23 March 1992.

The materials contained herein were considered or relied upon in selecting the appropriate response actions for these two sites. The documents listed in the index are either site-specific documents/correspondence or are guidance documents used in selection of the response action. All other guidance documents are incorporated by reference and are available for review as part of US EPA's Compendium of Guidance Documents maintained by US EPA Region I at its Boston office.

The Administrative Record is set up in sections that follow the stages of the Navy's Installation Restoration (IR) Program and the Administrative Record Index. Each section has the documents and correspondence pertaining to that phase of the IR Program.

In addition to this Administrative Record, an Information Repository is maintained at the North Kingstown Free Public Library at North Kingstown, Rhode Island.

**ADMINISTRATIVE RECORD INDEX
INSTALLATION RESTORATION PROGRAM SITES 5 AND 8**

1000 SITE IDENTIFICATION

1100 Initial Assessment Reports: Preliminary Assessment

- 1101 - "Initial Assessment Study of Naval Construction Battalion Center." Naval Energy and Environmental Support Activity. September 1984.

1200 Verification Step/Confirmation Study

- 1201 - "Field Sampling Plan. Naval Construction Battalion Center. Davisville, Rhode Island." TRC Environmental Consultants, Inc.. 7 March 1985.
- 1202 - "Site Safety Plan. Naval Construction Battalion Center. Davisville, Rhode Island." TRC Environmental Consultants, Inc.. 7 March 1985.
- 1203 - "Executive Summary, Verification Step. Confirmation Study, Naval Construction Battalion Center. Davisville, Rhode Island." TRC Environmental Consultants, Inc.
- 1204 - "Draft Report. Verification Step. Confirmation Study, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc., 11 July 1986.
- 1205 - "Final Report. Verification Step. Confirmation Study, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc., 27 February 1987.

2000 REMEDIAL INVESTIGATION

2100 Phase I Work Plan

- 2101 - "RI/FS Work Plan. Naval Construction Battalion Center. Davisville, Rhode Island." TRC Environmental Consultants, Inc.. September 1988.

- 2102 - "RI/FS Work Plan (Revision 2), Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc.. August 1989.

2200 Phase I Remedial Investigation

- 2201 - "Draft Final Report Remedial Investigation (Volume 1), Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc., May 1991.
- 2202 - "Draft Final Report Remedial Investigation (Appendices A-H), Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc., May 1991.
- 2203 - "Draft Final Report Remedial Investigation (Appendices I-J), Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc., May 1991.
- 2204 - "Draft Final Report, Risk Assessment (Volume II), Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc., May 1991.
- 2205 - "Draft Final Report, Risk Assessment (Appendices A-D), Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc., May 1991.
- 2206 - "Addendum No. 1: Response to Comments - Draft Phase I Remedial Investigation and Risk Assessment Report, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Corporation, Inc., January 1993.
- 2207 - "Final Report, Risk Assessment (Volume II), Revision No. 1 - Addendum, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., January 1993.
- 2208 - "Final Report, Geophysical Investigations and Soil Gas Survey Summary Report. Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., undated.

2300 Phase I Remedial Investigation Correspondence

- 2301 - Letter to Mr. Russell Fish, Northern Division, from Ms. Carol Cody, US EPA, re: Identifying questions and/or concerns during US EPA's review dated 10 August 1991.
- 2302 - Letter to Mr. Russell Fish, Northern Division, from Ms. Carol Keating, US EPA, re: Request to review Phase I RI data, dated 14 January 1991.
- 2303 - Letter to Mr. Francisco LaGreca, Northern Division, from Ms. Linda Wofford, RIDEM, Division of Air and Hazardous Materials, re: Preliminary review of NCBC Draft Remedial Investigation, dated 29 July 1991.
- 2304 - Letter to Mr. Francisco LaGreca, Northern Division, from Ms. Carol Keating, US EPA, re: Comments on Draft Remedial Investigation (RI) Report, dated 2 August 1991.
- 2305 - Letter to Mr. Francisco LaGreca, Northern Division, from Ms. Linda Wofford, RIDEM, Division of Air and Hazardous Material, re: Comments on Volume II (Risk Assessment) of the Remedial Investigation, dated 21 October 1991.
- 2306 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Robert Smith, TRC, re: Addendum No. 1 to the Draft Remedial Investigation, dated 18 January 1993.
- 2307 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Draft Phase I Remedial Investigation, Addendum No. 1, dated 5 March 1993.
- 2308 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Michael Daly, US EPA, re: Phase I Remedial Investigation Addendum No. 1, Responses to Comments, dated 8 March 1993.

2400 Phase II RI/FS Work Plan

- 2401 - "Draft Report: Phase II RI/FS Work Plan, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., February 1992.

- 2402 - "Phase II RI/FS Work Plan, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Corporation, Inc., August 1992.
- 2403 - "Draft Report - Scope of Work, RI/FS Activities, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Corporation, Inc., December 1992.
- 2404 - "Draft Final - Scope of Work, RI/FS Activities, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., April 1993.
- 2405 - "Final - Scope of Work, RI/FS Activities, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., October 1993.

2500 Phase II Remedial Investigation Work Plan Correspondence

- 2501 - Letter to Mr. Francisco LaGreca. Northern Division, from Ms. Linda Wofford, RIDEM, Division of Air and Hazardous Materials, re: Comments on Draft Phase II RI/FS Work Plan, dated 26 March 1992.
- 2502 - Letter with attachment to Mr. Robert Smith, TRC Environmental Consultants, from Mr. F. LaGreca, Northern Division, re: US EPA Comments of 30 March 1992 on the Draft Phase II RI/FS Work Plan for NCBC Davisville, dated 1 April 1992.
- 2503 - Letter to Mr. Francisco LaGreca. Northern Division, from Mr. Robert Smith, TRC Environmental Consultants, Inc. re: Response to Review Comments, Draft Phase II, dated 15 May 1992.
- 2504 - Letter to Mr. Francisco LaGreca. Northern Division, from Mr. Michael Daly, US EPA, re: US EPA Comments on Draft Phase II RI/FS Work Plan, dated 10 June 1992.
- 2505 - Letter to Mr. Francisco LaGreca. Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Draft Phase II RI/FS Work Plan, dated 24 June 1992.

- 2506 - Letter to Mr. Francisco LaGreca, Northern Division, from Mr. Michael Daly, US EPA, re: Identifying remaining Navy responses to US EPA on Phase II RI/FS Work Plan, dated 15 July 1992.
- 2507 - Letter to Mr. Francisco LaGreca, Northern Division, from Mr. Robert Smith, TRC Environmental Consultants, re: Responses to US EPA and RIDEM Phase II RI Comments, dated 20 July 1992.
- 2508 - Letter to Mr. Francisco LaGreca, Northern Division, from Mr. Robert Smith, TRC Environmental Consultants, re: Submission of Final Phase II RI/FS Work Plan and Responses to Additional US EPA and RIDEM Phase II RI/FS Comments, dated 11 August 1992.
- 2509 - Letter to Mr. Francisco LaGreca, Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Concurrence with Phase II RI Work Plan - Final, dated 4 September 1992.
- 2510 - Letter to Mr. Francisco LaGreca, Northern Division, from Mr. Michael Daly, US EPA, re: Phase II RI/FS Work Plan, dated 14 September 1992.
- 2511 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Michael Daly, US EPA, re: Draft Scope of Work RI/FS Activities, dated 4 February 1993.
- 2512 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Draft Scope of Work RI/FS Activities, dated 5 February 1993.
- 2513 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Comments on Draft Final Scope of Work, RI/FS Activities, dated 20 April 1993.
- 2514 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Approval of Phase II RI Work Plan Modifications, dated 8 June 1993.

2600 Data Transmittal Report - Site 5

- 2601 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Robert Smith, TRC Environmental Corporation, re: Data Transmittal Report, Site 05, Transformer Oil Disposal Area, dated 30 September 1993.
- 2602 - "Data Transmittal Report - Transformer Oil Disposal Area (Site 05), Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., November 1993.
- 2603 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Robert Smith, TRC Environmental Corporation, re: Data Transmittal Report, Transformer Oil Disposal Area, dated 29 December 1993.
- 2604 - Letter to Ms. Marilyn Powers, Northern Division, from Ms. Judith Graham, RIDEM, re: Comments on the Transformer Oil Disposal Area, Site 05, Data Transmittal Report, 30 March 1994.

2700 DPDO Film Processing Disposal Area Remedial Investigation

- 2701 - "Volume I - DPDO Film Processing Disposal Area Remedial Investigation Report, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., April 1993.
- 2702 - "Volume I - DPDO Film Processing Disposal Area Remedial Investigation Report, Appendices A-I, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., April 1993.
- 2703 - "Volume II - DPDO Film Processing Disposal Area Remedial Investigation Report: Human Health Risk Assessment, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., April 1993.
- 2704 - "Draft Final - Volume I - DPDO Film Processing Disposal Area Remedial Investigation Report: Technique Report, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., November 1993.

- 2705 - "Draft Final - Volume I - DPDO Film Processing Disposal Area Remedial Investigation Report: Appendices A-I, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Corporation, Inc., November 1993.
- 2706 - "Final Draft - Volume II - DPDO Film Processing Disposal Area Remedial Investigation Report: Human Health Risk Assessment Technical Report and Appendices A-C, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Corporation, Inc., May 1993.
- 2707 - "Final Draft - Volume I - DPDO Film Processing Disposal Area Remedial Investigation Report, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Corporation, Inc. May, 1994.

2800 DPDO Film Processing Disposal Area Remedial Investigation Correspondence

- 2801 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Michael Daly, US EPA, re: Comments on Draft Phase II Remedial Investigation Report, Site 8, dated 14 June 1993.
- 2802 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Comments on DPDO Film Processing Area, Site 08, Remedial Investigation Report - Volume I, Human Health Risk Assessment - Volume II, dated 6 July 1993.
- 2803 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Robert Smith, TRC Environmental, re: Response to Draft Phase II RI Report Comments, DPDO Film Processing Disposal Area, dated 3 September 1993.
- 2804 - Letter to Ms. Marilyn Powers, Northern Division, from Ms. Christine Williams, US EPA, re: Draft Final Remedial Investigation Report for Site 8, DPDO Film Processing Disposal Area, dated 14 February 1994.
- 2805 - Letter to Ms. Marilyn Powers, Northern Division, from Ms. Judith Graham, RIDEM, re: Comments on the Draft Final DPDO Film Processing Disposal area, Site 08 Remedial Investigation Report, 30 March 1994.

3000 ECOLOGICAL RISK ASSESSMENT

3100 Report

- 3101 - "Draft Ecological Risk Assessment for Sites 05 and 08. Naval Construction Battalion Center, Davisville, Rhode Island", EA Engineering, Science, and Technology, Inc., February 1994.
- 3102 - "Draft Final Ecological Risk Assessment for Sites 05 and 08. Naval Construction Battalion Center, Davisville, Rhode Island" EA Engineering, Science, and Technology, Inc., May 1995.

3900 Correspondence

- 3901 - Letter to Mr. Robert Krivinkas, Northern Division, from Mr. Richard Gottlieb, P.E., RIDEM, re: Comments on the Draft Ecological Risk Assessment for IR Sites 05 and 08, 20 March 1995.
- 3902 - Letter to Mr. Robert Krivinkas, Northern Division, from Ms. Christine Williams, US EPA, re: Comments on the Draft Ecological Risk Assessment for Sites 05 and 08, 21 March 1995.
- 3903 - Letter to Mr. Robert Krivinkas, Northern Division, from Dr. Stephen Storms, EA Engineering, Science, and Technology, Inc., re: Responses to US EPA Comments on the Draft Ecological Risk Assessment Report at Sites 05 and 08, 3 April 1995.
- 3904 - Letter Mr. Robert Krivinkas, Northern Division, from Dr. Stephen Storms, EA Engineering, Science, and Technology, Inc., re: Red-lined Revisions to the Draft Ecological Risk Assessment for Sites 05 and 08 - NCBC Davisville, RI., 20 April 1995.
- 3905 - Letter to Mr. Robert Krivinkas, Northern Division, from Dr. Stephen Storms, EA Engineering, Science, and Technology, Inc., re: Additional Red-lined Revisions to the Draft Ecological Risk Assessment for Sites 05 and 08 at NCBC Davisville, RI., 30 April 1995.
- 3906 - Letter to Mr. Robert Krivinkas, Northern Division, from Ms. Christine Williams, US EPA, re: Comments on the Redlined Version of the Draft Ecological Risk Assessment Report at Sites 05 and 08, Former Naval Construction Battalion Center, Davisville, Rhode Island, 12 May 1995.

4000 FEASIBILITY STUDY

4300 Report

- 4301 - "Draft Phase I Feasibility Study, Groups I (Sites 5, 6, 13), II (Site 8), III (Sites 12 and 14) and VI (Site 10) Sites, Naval Construction Battalion Center, Davisville, Rhode Island, dated 11 December 1992.
- 4302 - "Draft Final - Initial Screening of Alternatives (Groups I, II, III, and VI) Naval Construction Battalion Center, Davisville, Rhode Island, TRC Environmental Consultants, Inc., April 1993.

4400 Proposed Plan

- 4401 - "Draft Proposed Plan - Sites 05 and 08, Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Corporation, Inc., 23 March 1994.
- 4402 - "Draft Final Proposed Plan - Site 05 Transformer Oil Disposal Area and Site 08, DPDO Film Processing Disposal Area, U.S. Department of the Navy, Installation Restoration Program, NCBC-Davisville." 15 July 1994.
- 4403 - "Proposed Plan - Site 05 Transformer Oil Disposal Area and Site 08 DPDO Film Processing Disposal Area, U.S. Department of the Navy Installation Restoration Program, NCBC-Davisville, Rhode Island." 26 July 1994.
- 4404 - "Draft Proposed Plan, Soil Operable Unit, Site 05 - Transformer Oil Disposal Area, Site 08 - DPDO Film Processing Disposal Area." TRC Environmental Corporation, Inc., 2 February 1995.
- 4405 - Draft Final Proposed Plan (with Red-lined revisions) and Response to Regulator Comments to the Draft "Proposed Plan, Soil Operable Unit, Site 05 - Transformer Oil Disposal Area, Site 08 - Defense Property Disposal Office (DPDO) - Film Processing Disposal Area, Naval Construction Battalion Center, Davisville, Rhode Island," TRC Environmental Corporation, Inc., March 1995.

- 4406 - Response to US EPA Comments on the Draft Proposed Plan and Enclosed "Final Proposed Plan, Soil Operable Unit, Site 05 - Transformer Oil Disposal Area and Site 08 - Defense Property Disposal Office (DPDO) - Film Processing Disposal Area, U.S. Department of the Navy, Installation Restoration Program, Former Naval Construction Battalion Center, Davisville, Rhode Island", April 1995.
- 4407 - Final "Proposed Plan, Soil Operable Unit, Site 05 - Transformer Oil Disposal Area, Site 08 - Defense Property Disposal Office (DPDO) Film Processing Disposal Area, U.S. Department of the Navy, Installation Restoration Program, Former Naval Construction Battalion Center, Davisville, Rhode Island". May 1995.
- 4408 - Revised pages to the "Final Proposed Plan - IR Program Sites 05 and 08, NCBC Davisville, RI", 15 May 1995.

4900 Correspondence

- 4901 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Comments on Draft Phase I Feasibility Study, dated 25 January 1993.
- 4902 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Michael Daly, US EPA, re: Comments on the Draft Phase I Feasibility Study Report, Groups I, II, III, and VI Sites, dated 12 February 1993.
- 4903 - Letter to Marilyn Powers, Northern Division, from Jean Oliva, TRC Environmental Corporation, re: Draft Initial Screening of Alternatives, Group I, II, III, and IV Sites, NCBC-Davisville, dated 6 April 1993.
- 4904 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Jeffrey Crawford, RIDEM, Division of Air and Hazardous Materials, re: Response to RIDEM Comments on Draft Initial Screening of Alternatives, Groups I, II, III, and VI, dated 26 May 1993.
- 4905 - Letter to Ms. Marilyn Powers, Northern Division, from Mr. Michael Daly, US EPA, re: Comments on Draft Final Initial Screening of Alternatives (ISA) dated 27 July 1993.

- 4906 - Letter to Ms. Marilyn Powers. Northern Division. from Ms. Jean Oliva. TRC Environmental. re: Draft Response to Comments on the Draft Final Initial Screening of Alternatives Reports. Group I. II. III. and IV Sites. Group IV, V, and VII Sites. dated 20 September 1993.
- 4907 - Letter to Marilyn Powers. Northern Division, from Jean Oliva TRC Environmental Corporation. re: Response to Comments on Draft Final Initial Screening of Alternatives Report, Group I. II. III. IV. V, VI, and VII Sites. NCBC Davisville. dated 29 November 1993.
- 4908 - Letter to Ms. Marilyn Powers. Northern Division. from Ms. Christine Williams. US EPA. re: Comments on Draft Proposed Plan for Sites 05 and 08, dated 4 May 1994.
- 4909 - Letter to Mr. Robert Krivinskas. Northern Division from Ms. Christine Williams. US EPA. re: Additional Comments on Draft Proposed Plan for Sites 05 and 08. dated 17 June 1994.
- 4910 - Letter to Mr. Robert Krivinskas. Northern Division from Richard Gottlieb. RIDEM. re: Draft Proposed Plan for Sites 05 and 08 Naval Construction Battalion Center. Davisville. dated 23 June 1994.
- 4911 - Letter to Mr. Robert Krivinskas, Northern Division from Ms. Christine Williams. US EPA. re: Review IR Schedule for Naval Construction Battalion Center. Rhode Island. 13 July 1994.
- 4912 - Letter to Mr. Robert Krivinskas, Northern Division from Mr. Robert Smith, TRC Environmental Corporation. re: Enclosed copies of Draft Final Proposed Plan and a summary of US EPA Comments, 15 July 1994.
- 4913 - Letter to Mr. Robert Krivinskas. Northern Division from Ms. Christine Williams. US EPA. re: Partial Comments on Draft Final Proposed Plan for Sites 05 and 08. 22 July 1994.
- 4914 - Letter to Mr. Robert Krivinskas, Northern Division from Ms. Christine Williams. US EPA. re: Additional Comments on Draft Final Proposed Plan for Sites 05 and 08. 8 August 1994.

- 4915 - Letter to Mr. Robert Krivinskas, Northern Division from Mr. Richard Kerbel, North Kingstown, RI Town Manager, re: Comments on the Draft Proposed Plan for Sites 05 and 08. 27 August 1994.
- 4916 - Letter to Mr. Robert Krivinskas, Northern Division from Mr. Matthew Thomas, First Councilman, Narragansett Indian Tribe, re: Comments on the Draft Proposed Plan for Sites 05 and 08, 30 August 1994.
- 4917 - Letter to Mr. Robert Krivinskas, Northern Division from Ms. Frances McCazvey, Town of Barrington, RI. re: Comments on the Proposed Plan for Sites 05 and 08, and Request for Extension of Public Review Period. not dated.
- 4918 - Letter to Mr. Robert Krivinskas, Northern Division from Ms. Christine Williams, US EPA. re: Comments on the Proposed Remedial Action Plan for Sites 05 and 08, dated 2 February 1995. 10 March 1995.
- 4919 - Letter to Mr. Robert Krivinskas, Northern Division from Ms. Judith Graham, RIDEM. re: Comments on Draft Proposed Plan for Sites 05 and 08 with Enclosed Application for a variance from the RIDOH Environmental Lead Program. 10 March 1995.
- 4920 - Letter to Mr. Robert Krivinskas, Northern Division from Ms. Christine Williams, US EPA. re: Comments on the Redlined Proposed Remedial Action Plan for Sites 05 and 08 Soil Operable Unit. dated March 1995, 10 April 1995.
- 4921 - Letter to Mr. Jim Ballin, RIDOH from Mr. Nicholas Lanney, EA Engineering, Science, and Technology, Inc., re: Data submittal for a variance form RIDOH Lead Regulations, 6 April 1995.
- 4922 - Letter to Mr. Robert Krivinskas, Northern Division, from Mr. Richard Gottlieb, P.E., RIDEM, re: Proposed Remedial Action Plan for Soils Operable Unit, Site 05 - Transformer Oil Disposal Area and Site 08 - DPDO film Processing Disposal Area, Naval Construction Battalion Center, Davisville. Document submitted 24 March 1995, letter dated 17 April 1995.
- 4923 - Letter to Mr. Robert Krivinskas, Northern Division, from Dr. Robert Vanderslice, RIDOH. re: Application for a Variance. Sites 05 and 08. 21 April 1995.

- 4924 - Letter to Mr. Robert Krivinskas, Northern Division, from Ms. Christine Williams, US EPA, re: Comments on the Final Proposed Remedial Action Plan (PRAP) for Sites 5 and 8 Soil Operable Unit (OU), dated April 1995, at the former Naval Construction Battalion Center, RI., 28 April 1995.

5000 DECISION DOCUMENTS (PENDING)

5100 Record of Decision

- 5101 - Draft Record of Decision for a Remedial Action at Site 05 and 08, Naval Construction Battalion Center, Davisville, Rhode Island, August 1994.
- 5102 - "Draft Record of Decision, Soils Operable Unit, Sites 05 and 08, Former Naval Construction Battalion Center, Davisville, Rhode Island", TRC Environmental Corporation under contract with EA Engineering, Science, and Technology, Inc., May 1995.
- 5103 - "Draft Final Record of Decision, Soils Operable Unit, Sites 05 and 08, Former Naval Construction Battalion Center, Davisville, Rhode Island", TRC Environmental Corporation under contract with EA Engineering, Science, and Technology, Inc., July 1995.

5900 Correspondence

- 5901 - Letter to Mr. Robert Krivinskas, Northern Division from Ms. Christine Williams, US EPA, re: Comments on the Draft ROD for Sites 05 and 08 at Naval Construction Battalion Center, dated 13 June 1995.
- 5902 - Letter to Mr. Robert Krivinskas, Northern Division from Ms. Judith Graham, RIDEM, re: Record of Decision, Soils Operable Unit, Sites 05 and 08, Naval Construction Battalion Center, Davisville, dated 20 June 1995.
- 5903 - Letter to Mr. Phil Otis, Northern Division, from Ms. Christine Williams, US EPA, re: Comments on the Draft Final Record of Decision for Sites 5 & 8 at Naval Construction Battalion Center, RI. 4 August 1995.

- 5904 - Letter to Mr. Phil Otis, Northern Division, from Ms. Christine Williams. US EPA, re: Comments on the Red-lined Record of Decision for Sites 5 and 8 at Naval Construction Battalion Center, RI, 7 September 1995.

6000 NOT USED

7000 NOT USED

8000 PUBLIC PARTICIPATION

8100 Community Relations Plan

- 8101 - "Community Relations Plan. Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Consultants, Inc., May 1989.
- 8102 - "Draft - Community Relations Plan. Naval Construction Battalion Center, Davisville, Rhode Island." TRC Environmental Corporation, Inc., November 1993.
- 8103 - "Mailing List," NORTHDIV, 6 December 1993.
- 8104 - "Draft Community Relations Plan, Naval Construction Battalion Center, Davisville, Rhode Island", EA Engineering, Science, and Technology, Inc., May 1995.

8300 Meeting Transcripts

- 8301 - Technical Review Committee Meeting Minutes, 8 April 1988.
- 8302 - Technical Review Committee Meeting Minutes, 15 June 1988.
- 8303 - Technical Review Committee Meeting Minutes, 24 August 1988.
- 8304 - Technical Review Committee Meeting Minutes, 28 September 1988.
- 8305 - Technical Review Committee Meeting Minutes, 3 November 1988.
- 8306 - Technical Review Committee Meeting Minutes, 11 January 1989.
- 8307 - Technical Review Committee Meeting Minutes, 15 March 1989.

- 8308 - Technical Review Committee Meeting Minutes. 27 April 1989.
- 8309 - Technical Review Committee Meeting Minutes. 7 June 1989.
- 8310 - Technical Review Committee Meeting Minutes. 19 July 1989.
- 8311 - Technical Review Committee Meeting Minutes. 23 August 1989.
- 8312 - Technical Review Committee Meeting Minutes. 11 October 1989.
- 8313 - Technical Review Committee Meeting Minutes. 16 November 1989.
- 8314 - Technical Review Committee Meeting Minutes. 10 January 1990.
- 8315 - Technical Review Committee Meeting Minutes. 4 April 1990.
- 8316 - Technical Review Committee Meeting Minutes. 20 June 1990.
- 8317 - Technical Review Committee Meeting Minutes. 12 September 1990.
- 8318 - Technical Review Committee Meeting Minutes. 14 November 1990.
- 8319 - Technical Review Committee Meeting Minutes. 13 February 1991.
- 8320 - Technical Review Committee Meeting Minutes. 8 April 1991.
- 8321 - Technical Review Committee Meeting Minutes. 8 May 1991.
- 8322 - Technical Review Committee Meeting Minutes. 12 May 1991.
- 8323 - Technical Review Committee Meeting Minutes. 19 February 1992.
- 8324 - Technical Review Committee Meeting Minutes. 10 June 1992.
- 8325 - Technical Review Committee Meeting Minutes. 10 September 1992.
- 8326 - Technical Review Committee Meeting Minutes. 1 December 1992.

- 8327 - Technical Review Committee Meeting Minutes. 4 February 1993.
- 8328 - Technical Review Committee Meeting Minutes. 7 April 1993.
- 8329 - Technical Review Committee Meeting Minutes. 16 June 1993.
- 8330 - Technical Review Committee Meeting Minutes. 24 November 1993.
- 8331 - First Restoration Advisory Board Meeting Minutes. 1 December 1993.
- 8332 - Second Restoration Advisory Board Meeting Minutes. 26 January 1994.
- 8333 - Third Restoration Advisory Board Meeting Minutes. 16 February 1994.
- 8334 - Fourth Restoration Advisory Board Meeting (Presentation by Robert Johnson - no minutes recorded. 5 May 1994.
- 8335 - Fifth Restoration Advisory Board Meeting Minutes. 28 July 1994.
- 8336 - Sixth Restoration Advisory Board Meeting Minutes. 22 September 1994.
- 8337 - Seventh Restoration Advisory Board Meeting Minutes. 10 November 1994.
- 8338 - Eighth Restoration Advisory Board Meeting Minutes. 20 December 1994.
- 8339 - Ninth Restoration Advisory Board Meeting Minutes. 26 January 1995.
- 8340 - Tenth Restoration Advisory Board Meeting Minutes. 2 March 1995.
- 8341 - Eleventh Restoration Advisory Board Meeting Minutes. 20 April 1995.

8400 Fact Sheet/Press Releases

- 8401 - Fact Sheet No. 1, Installation Restoration Program Update. Naval Construction Battalion Center, Davisville, Rhode Island. November 1993.
- 8402 - Fact Sheet No. 2. Installation Restoration Program Update. Naval Construction Battalion Center. Davisville, Rhode Island. August 1994.
- 8403 - Public Meeting on Proposed Remedial Action Plan (Sites 05 and 08) at Naval Construction Battalion Center. Davisville, Rhode Island. *Providence Journal*, 8 August 1994.
- 8404 - Public Meeting on the Proposed Remedial Action Plan for Sites 05 and 08 at NCBC Davisville, RI. *The Standard-Times*. 11 August 1994.
- 8405 - Fact Sheet No. 3. Installation Restoration Program Update. Naval Construction Battalion Center. Davisville, Rhode Island. December 1994.
- 8406 - Fact Sheet No. 4. Installation Restoration Program. Modification to Federal Facility Agreement. March 1995.
- 8407 - Public Meeting on Proposed Remedial Action Plan (Sites 05 and 08) at the Naval Construction Battalion Center. Davisville, Rhode Island. *Providence Journal*, 19 May 1995.
- 8408 - Fact Sheet on the Proposed Plan for Site 05 - Transformer Oil Disposal Area and Site 08 - Defense Property Disposal Office (DPDO) Film Processing Disposal Area, Installation Restoration Program Update, Former Naval Construction Battalion Center. Davisville, Rhode Island. May 1995.

8900 Correspondence

- 8901 - Letter to Mr. Russell Fish, Northern Division, from US EPA, re: Suggested comments regarding community relations activities associated with the Remedial Investigation, dated 4 October 1990.
- 8902 - Letter to Mr. Paul Skowron, Town of North Kingstown, from S. Saltoun, Department of the Navy, re: Acknowledge participation in community relations interviews (RI/FS), distribution, received 14 April 1989.

- 8903 - Letter to Mr. Bob Driscoll, Chamber of Commerce, North Kingstown, from S. Saltoun, Department of the Navy, re: Briefing and tour of Davisville, received 14 April 1989.
- 8904 - Letter to Standard-Times, North Kingstown, from S. Saltoun, Department of the Navy, re: Briefing and tour of Davisville, received 17 April 1989.
- 8905 - Letter to Ms. Marilyn Powers, Northern Division, from Ms. Jean Oliva, TRC Environmental, re: Draft Final Fact Sheet, dated 5 November 1993.
- 8906 - Letter to Ms. Marilyn Powers, Northern Division, from Jean Oliva, TRC Environmental Corporation, re: Final Fact Sheet, No.1, dated 16 November 1993.
- 8907 - Letter to Mr. Robert Krivinskas, Northern Division, from Jean Oliva, TRC Environmental Corporation, re: Draft/Slide Presentation and Public Meeting Agenda Sites 05 and 08, 3 August 1994.
- 8908 - Letter to Mr. Robert Krivinskas, Northern Division, from Mr. Nicholas Lanney, P.E., EA Engineering, Science, and Technology, Inc., re: Draft Fact Sheet for the Proposed Plan for IR Program Sites 05 and 08, 17 April 1995.
- 8909 - Letter to Mr. Robert Krivinskas, Northern Division, from Ms. Christine Williams, US EPA, re: Comments on the Draft Fact Sheet for the Proposed Remedial Action Plan (PRAP) for Sites 5 and 8, 25 April 1995.
- 8910 - Draft Final (with Red-lined Revisions) Fact Sheet on the Proposed Plan for Site 05 - Transformer Oil Disposal Area and Site 08 - Defense Property Disposal Office (DPDO) Film Processing Disposal Area, May 1995.
- 8911 - Letter to Ms. Marilyn Powers, Northern Division, from Ms. Christine Williams, US EPA, re: Draft CRP dated November 1993, NCBC, 31 March 1994.
- 8912 - Letter to Mr. Robert Krivinskas, Northern Division, from Ms. Christine Williams, US EPA, re: Review of Proposed Changes to Draft CRP dated November 1993, NCBC, 9 March 1995.

- 8913 - Letter to Mr. Robert Krivinskas. Northern Division. from Ms. Christine Williams, US EPA. re: Review of Redlined CRP dated 16 May, NCBC. 14 June 1995.

9000 TECHNICAL SOURCES AND GUIDANCE DOCUMENTS

9100 State and Federal Guidance Manuals

- 9101 - Resource Conservation and Recovery Act (RCRA), 40 CFR 261. US EPA Regulations for Identifying Hazardous Waste.
- 9102 - "National Oil and Hazardous Substances Pollution Contingency Plan." Code of Federal Regulations (Title 40. Part 300), 1990.
- 9103 - U.S. Environmental Protection Agency. Community Relations in Superfund. A Handbook (Interim Version) (US EPA/540/G-88/002), June 1988.
- 9104 - U.S. Environmental Protection Agency. Office of Emergency and Remedial Response. Guidance on Remedial Actions for Superfund Sites with PCB Contamination (US EPA 540/G-90/007), August 1990.
- 9105 - U.S. Environmental Protection Agency. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended 17 October 1986.
- 9106 - U.S. Environmental Protection Agency. Office of Emergency and Remedial Response. Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) Interim Final (US EPA/540/G-89/004), OSWER Directive 9355.3-01, October 1988.
- 9107 - U.S. Environmental Protection Agency. Hazardous Waste Engineering Research Laboratory. Guide for Decontamination Buildings, Structures, and Equipment at Superfund Sites, March 1985.
- 9108 - Rhode Island Department of Environmental Management. Division of Groundwater and Industrial Sewage Disposal System. Rules and Regulations for Groundwater Quality, Code of Rhode Island Rules. Number 12-100-006. as amended July 1993.

- 9109 - Rhode Island Department of Health. Environmental Lead Program. Rules and Regulations for Lead Poisoning Prevention, [R23-24.6-PB], as amended October 1994.
- 9110 - Federal Toxic Substances Control Act (TSCA), (15 USC..§2601), 40 CFR 761.
- 9111 - U.S. Environmental Protection Agency. Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. OSWER Directive 9355.4-12.
- 9112 - U.S. Environmental Protection Agency. Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals), Interim. US EPA/540/R-92/003, December 1991.
- 9113 - Federal Safe Drinking Water Act (SDWA) (USC 300g), 40 CFR 141.11-141.16 and 141.60-141.63.
- 9114 - Federal Clean Water Act (CWA) (33 USC 1251-1376); Clean Water Act, Water Quality Criteria, Section 404 (40 CFR 230)

10000 COORDINATION WITH STATE AND FEDERAL AGENCIES

10100 Federal Facility Agreement

- 10101 - "Federal Facility Agreement Under CERCLA 120." US EPA, 23 March 1992.
- 10102 - Modification #1 to Section 14.12 of the Federal Facility Agreement, Deadlines and Schedules for Sites 1 - 15 and Calf Pasture Point Munitions Bunkers, 17 April 1995.
- ✱ 10103 - Consensus Statement for Deadlines and Schedule at Site 9, 1 August 1995.

11000 NATURAL RESOURCE TRUSTEES

11100 Notices and Responses

- 11101 - Letter to Mr. James Valenti, Northern Division, from Ms. Carol Cody, US EPA, re: Description of Federal Agencies designated as trustees, dated 18 December 1989.

11102 - Letter to Dr. Ken Finkelstein. NOAA from A.E. Haring.
Northern Division. re: Natural Resources Trustees. dated 17 May
1991.