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PITT-02-6-042

February 22, 2006

Mr. Jim Colter (Code EV2/JLC)
Remedial Project Manager
Engineering Field Activity, Northeast
Naval Facilities Engineering Command
10 Industrial Highway, MS#82
Lester, Pennsylvania 19113

Reference: CLEAN Contract No. N62472-03-D-0057
Contract Task Order 0002

Subject: Explanation of Significant Differences (ESD)
Site 1 - Former Drum Marshalling Area and Dry Wells
NWIRP Bethpage, New York

Dear Mr. Colter:

Please find enclosed two copies of the subject report and CD for your review. This submittal represents a draft version of the document required to modify the 1995 Soil ROD for Bethpage and is based on several options that were identified in a meeting held at EFANE last fall. As such, the ROD modification described in the document is preliminary and we expect that the remedy may be revised by the Navy prior to presenting it to the regulators or public. It is also our understanding that this portion of the Bethpage work is being placed on hold until at least this summer. Please notify us when you are prepared to proceed with this work.

If you have questions or need additional information, please call me at (412) 921- 8375.

Sincerely,

A handwritten signature in black ink, appearing to read 'David D. Brayack', written over a printed name and title.

David D. Brayack
Project Manager

cc: Mr. R. Boucher (Navy) w/o attachment
Mr. J. Trepanowski (TtNUS)
File: N9845

**Explanation of Significant
Differences**
for
**Site 1 – Former Drum Marshalling
Area**

**Naval Weapons
Industrial Reserve Plant**
Bethpage, New York



**Engineering Field Activity Northeast
Naval Facilities Engineering Command**

March 2006

ACRONYM LIST

AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DCA	1,2-Dichloroethane
DCE	1,2-Dichloroethene
ECL	Environmental Conservation Law
ESD	Explanation of Significant Differences
EFANE	Engineering Field Activity Northeast
FOST	Finding of Suitability to Transfer
GOCO	Government-owned contractor-operated
IAS	Initial Assessment Study
IR	Installation Restoration
mg/kg	milligram per kilogram
NAVFAC	Naval Facilities Engineering Command
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NWIRP	Naval Weapons Industrial Reserve Plant
NYSDEC	New York State Department of Environmental Conservation
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	Tetrachloroethene
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
TAGM	Technical and Administrative Guidance Memorandum
TBC	To Be Considered
TCA	1,1,1-Trichloroethane
TCLP	Toxic Characteristic Leaching Procedure
TIC	Tentatively identified compound
TCE	Trichloroethene
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

1.0 INTRODUCTION TO THE SITE AND STATEMENT OF PURPOSE

Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage is located in east-central Nassau County, Long Island, New York, approximately 30 miles east of New York City, see Figure 1-1. The plant was used from the 1940s to 1998 by Northrop Grumman to manufacture aircraft for the United States Department of Navy. As a result of these operations, solvents/volatile organic compounds (VOCs) were found to impact both site soils and groundwater. The solvents/VOCs in soil acted as a continuing source of groundwater contamination, and VOC-contaminated groundwater migrated off site and impacted downgradient public water supplies. In addition, polychlorinated biphenyls (PCBs), pesticides, polynuclear aromatic hydrocarbons (PAHs), and metals were detected in site soils at concentrations that represent a threat to human health through direct contact and fugitive dust emissions.

A Remedial Investigation (RI) and Feasibility Study for the facility originally investigated three sites, as follows.

- Installation Restoration (IR) Site 1 – Former Drum Marshalling Area
- IR Site 2 – Recharge Basin Area
- IR site 3 – Salvage Storage Area

A Record of Decision (ROD) was signed by the Navy and New York State Department of Environmental Conservation (NYSDEC) on May 25, 1995 to address soil contamination at NWIRP Bethpage IR Sites 1, 2, and 3, as well as impacts to a downgradient public water supply system (Soil ROD). Because of multiple sources of regional groundwater contamination, including non-Navy sources, a separate ROD was developed and then signed by the Navy on April 13, 2003 to address the Navy's portion of the onsite and offsite groundwater contamination.

This Explanation of Significant Differences (ESD) documents a change to the ROD for soil remediation at NWIRP Bethpage Site 1 and results from evaluation of data collected at Site 1 after the Soil ROD was signed. During pre-design investigations, PCB contamination was found in soils at depths of 65 feet below ground surface, including saturated soils below the water table. The Soil ROD had anticipated that PCB contamination would not extend below 2 feet below ground surface. Based on the new data, if the Soil ROD had been implemented, 69,000 cubic yards of contaminated soil would need to be excavated and disposed off site from Site 1 at an estimated cost of \$52,000,000. The Soil ROD had estimated 1,400 cubic yards of PCB-contaminated soil to be excavated and disposed off site at an estimated cost of \$4,500,000.

This ESD also incorporates several areas of contamination identified after the Soil ROD that are in close proximity to Site 1 and contain similar contaminants at similar depths. These areas are as follows:

- Drywell/Area of Concern (AOC) 34-07
- Drywell/AOC 20-08
- AOC 23 – Former Above Ground Storage Tanks
- AOC 30 – Storage Sheds
- AOC 35 – Former Sludge Drying Beds

Drywells/AOCs 34-07 and 20-08 were part of a storm water management system. PCB fluids are suspected to have entered the system through floor drains and entered underlying soils through permeable well bottoms. Northrop Grumman conducted a soil removal action at these dry wells, but confirmation testing found that PCB-impacted soils remain at depth near and below the water table.

AOC 23 – Former Above Ground Storage Tanks, AOC 30 – Storage Sheds, and AOC 35 – Former Sludge Drying Beds are three related areas adjacent to Site 1. AOCs 23 and 35 were used for sanitary waste treatment and included solids settling and dewatering activities, respectively. Sanitary wastewater from Plant No. 3 was discharged to AOC 23, which was used to separate solid and liquid wastes. The liquids from AOC 23 were discharged into a series of cesspools located throughout Site 1. The solids from AOC 23 were collected and dewatered at AOC 35. Based on the distribution of contamination throughout this area, non-sanitary wastes may have also entered these units. The exact use of AOC 30 is uncertain, but based on proximity and the type of contaminants found at the AOC, its use was likely related to AOC 23 and 35 operations.

Remedial activities at IR Sites 2 and 3 were conducted in accordance with the Soil ROD and are complete. Active remediation of the solvent/VOC-contaminated soils at Site 1 and the downgradient public water supply are also complete. Natural flushing of VOCs from soils at Sites 1, 2, and 3 are ongoing.

This ESD was developed in accordance with NYSDEC Technical Assistance Guidance Memorandum (TAGM) 4059 – “Making Changes to Selected Remedies” and United States Environmental Protection Agency’s (USEPA) A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents. The lead agency for implementing the ROD is the Engineering Field Activity Northeast (EFANE) Naval Facilities Engineering Command (NAVFAC). The supporting agencies are USEPA and NYSDEC.

The ESD will become part of the administrative record file for NWIRP Bethpage. The administrative record is maintained by EFANE. An information repository is located at the Bethpage Public Library, 47

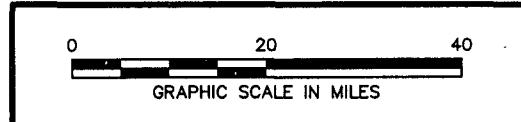
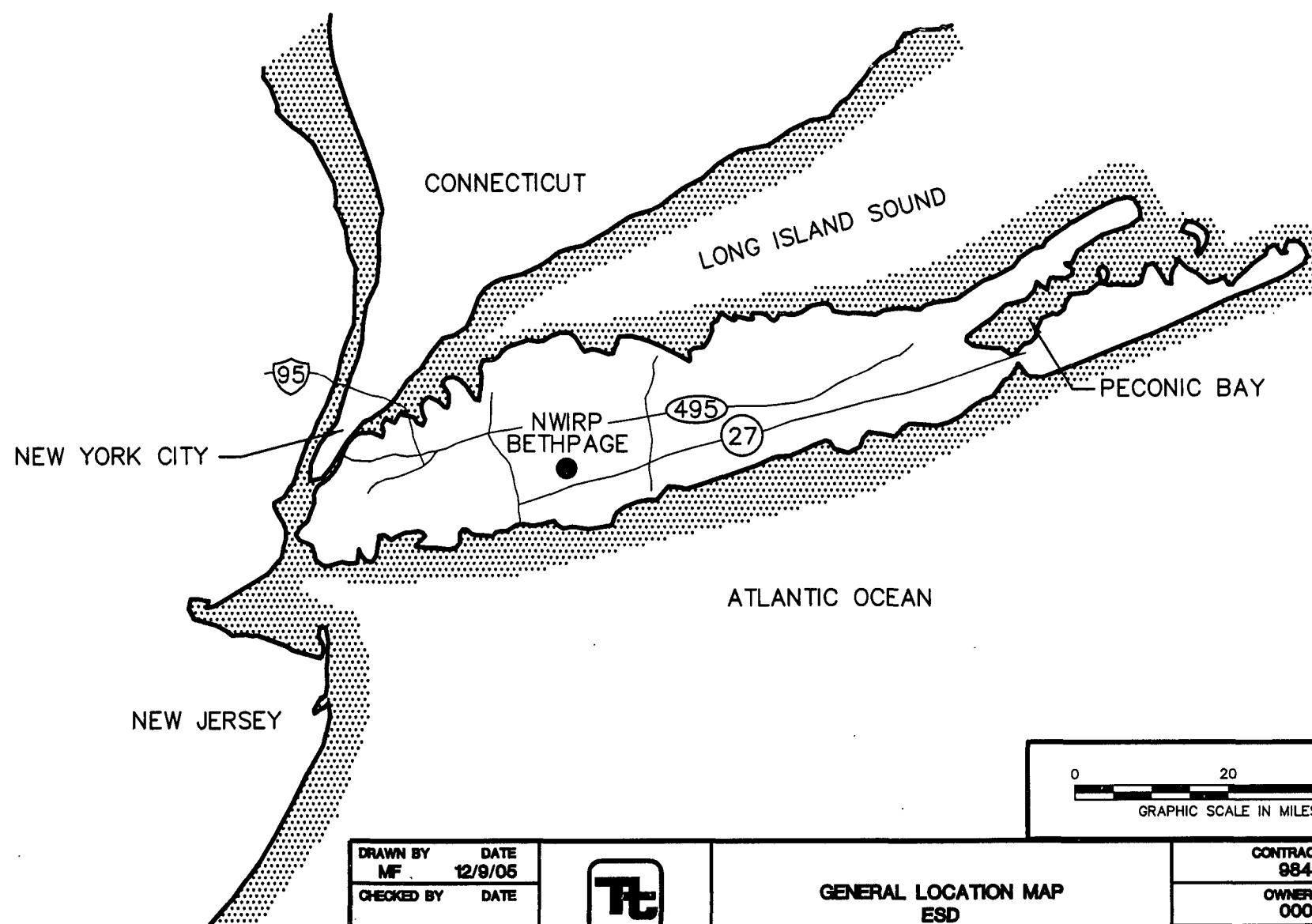
Powell Avenue, Bethpage, New York 11714. Hours of operations are Monday to Friday 9 am to 9 pm, Saturday 9:30 am to 5:30 pm, and Sunday 1 to 9 pm.

Information is also available on line at the following address:

<http://nwirp-bethpage.adminrecord.org/customer/ttnus/bethpage/index.html>

User Name: bethpage

Current password: colter



DRAWN BY MF	DATE 12/9/05
CHECKED BY	DATE
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SCALE AS NOTED	



GENERAL LOCATION MAP
ESD
NWIRP BETHPAGE
BETHPAGE, NEW YORK

CONTRACT NO. 9845	
OWNER NO. 0002	
APPROVED BY	DATE
DRAWING NO. FIGURE 1-1	REV. 0

2.0 SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

NWIRP Bethpage was established in 1933. Since its inception, the primary mission for the facility has been the research, prototyping, testing, design engineering, fabrication, and primary assembly of military aircraft. The facilities at NWIRP Bethpage included four plants (Nos. 3, 5, 17, and 20) that were used for assembly and prototype testing, and Plant No. 10 that contained a group of quality control laboratories. NWIRP Bethpage is bordered to the north, west, and south by property owned or formerly owned by Northrop Grumman Corporation that covered approximately 605 acres, and on the east by a residential neighborhood (Figure 2-1).

Until 1998, the Navy's property totaled approximately 109.5 acres and was a Government-Owned Contractor Operated (GOCO) facility that was operated by Northrop Grumman. In 1998, Northrop Grumman ended operations at NWIRP Bethpage. In December 2002, 4.5 acres of the facility (Plant No. 20) and the Plant No. 5 building were transferred to Nassau County for economic redevelopment. Similarly in 2003, the Navy issued a Finding of Suitability to Transfer (FOST) for approximately 96 acres of the facility for which all necessary remedial actions were complete. The Navy would retain 9 acres of the property within which remedial actions are ongoing. The retained 9-acre parcel includes IR Sites 1 and 4 (AOC 22), Drywells/AOCs 34-07 and 20-08, and AOCs 23, 30, and 35, as well as interconnecting property.

Site 1 (the main focus of this ESD) includes the area east of Plant No. 3 that was used for drum marshalling activities. Two dry wells (20-08 and 34-07) and three other AOCs are also being addressed by this ESD. (Figure 2-2). Site 2/AOC 22 is being addressed under separate action.

Site 1 was used from the early 1950s to 1978 as a storage area for drums containing liquid wastes. Drum storage occurred on a cinder-covered area over a cesspool leach field that was used to discharge sanitary wastewater. In 1978, the drum storage area was moved to a 100- by 100-foot concrete pad located just south of the cinder covered leach field. In 1982, the drum storage area was moved to IR Site 3. Chlorinated solvents trichloroethene (TCE) and tetrachloroethene (PCE) and chromium, cadmium, and cyanide wastes were stored at Site 1 from the early 1950s through 1974. In addition, this area has been used as a storage area for various types of equipment and heavy materials, including transformers. Approximately 200 to 300 drums were stored within the limits of Site 1 at any given time during operation. Reportedly, all drums of waste previously stored at Site 1 were taken off site by a private contractor for treatment and disposal.

An Initial Assessment Study (IAS) conducted at NWIRP Bethpage in June 1985 consisting of review of historical records and aerial photographs, field inspections, and personnel interviews identified three sites, including Site 1, as posing potential threats to human health or the environment due to

contamination from past hazardous waste operations. The IAS recommended performing a Confirmation Study involving sampling and monitoring to either confirm or refute the presence of suspected contamination and to better define the extent of any problems that may exist.

An RI field program was conducted at IR Sites 1, 2, and 3 in 1991 that consisted of collecting surface and subsurface soil samples and installing and sampling temporary monitoring wells and shallow and intermediate depth groundwater monitoring wells. Soil and groundwater samples were analyzed for VOCs, semi-volatile organic compounds, and inorganic constituents. A limited number of soil samples were also analyzed for PCBs and pesticides. PCE, TCE, PCBs, pesticides, cadmium, chromium, mercury, lead, and cyanide were detected at elevated concentrations in surface soil. Subsurface soil testing found PCE, TCE, arsenic, and cyanide at elevated concentrations. PCE, TCE, 1,1,1-trichloroethane (TCA), 1,2-dichloroethane (DCA), and 1,2-dichloroethene (DCE) were detected in groundwater samples at elevated concentrations. DCA and DCE can either be found as impurities in PCE and TCE and/or represent degradation products of PCE and TCE.

PCBs were identified as tentatively identified compounds (TICs) in many of the soil samples tested during the RI. Because of the regulatory concern with PCBs, the RI recommended that additional PCB sampling be conducted during a Phase 2 RI in order to quantify the nature and extent of the PCBs.

A Phase 2 RI was conducted between October 1992 and June 1993. The soil testing program conducted during the Phase 2 RI found wide-spread low-level PCB contamination of surface soils at Site 1. The majority of the contaminated soils contained PCBs at concentrations of 10 mg/kg or less. However, soils at two locations contained PCBs at concentrations greater than 10 mg/kg. One area is near the southwestern portion of Site 1 (30 mg/kg PCBs) and the other area is along the western edge of Site 1 (1,470 mg/kg PCBs). The vertical extents of PCB- and metal-contaminated soils were estimated to be limited to a maximum depth of 2 feet and 7 feet below ground surface, respectively. The PCB contamination and the majority of the metal contamination were found to only represent a direct contact risk to onsite personnel. Some of the metal contamination (arsenic) could also represent a potential threat to groundwater.

In addition to the PCB- and metal-contamination, wide-spread moderate-level VOC contamination was present across the site and extended vertically to the water table (approximately 55 feet below ground surface). The VOC-contaminated soils were identified as one of several sources of a 2000 plus-acre VOC-contaminated groundwater plume that extended to a depth of 700 feet below ground surface and affected public water supplies.

In 1994, a Feasibility Study was prepared that developed and evaluated alternatives for remediating soil and groundwater contamination. The Feasibility Study addressed no action, containment options (onsite capping and offsite landfilling) and treatment options (offsite incineration, chemical fixation, insitu vapor extraction, soil washing, and onsite low temperature thermal stripping). The alternatives considered future use of the site (residential versus industrial), short-term versus long-term compliance with Applicable or Relevant and Appropriate Requirements (ARARs).

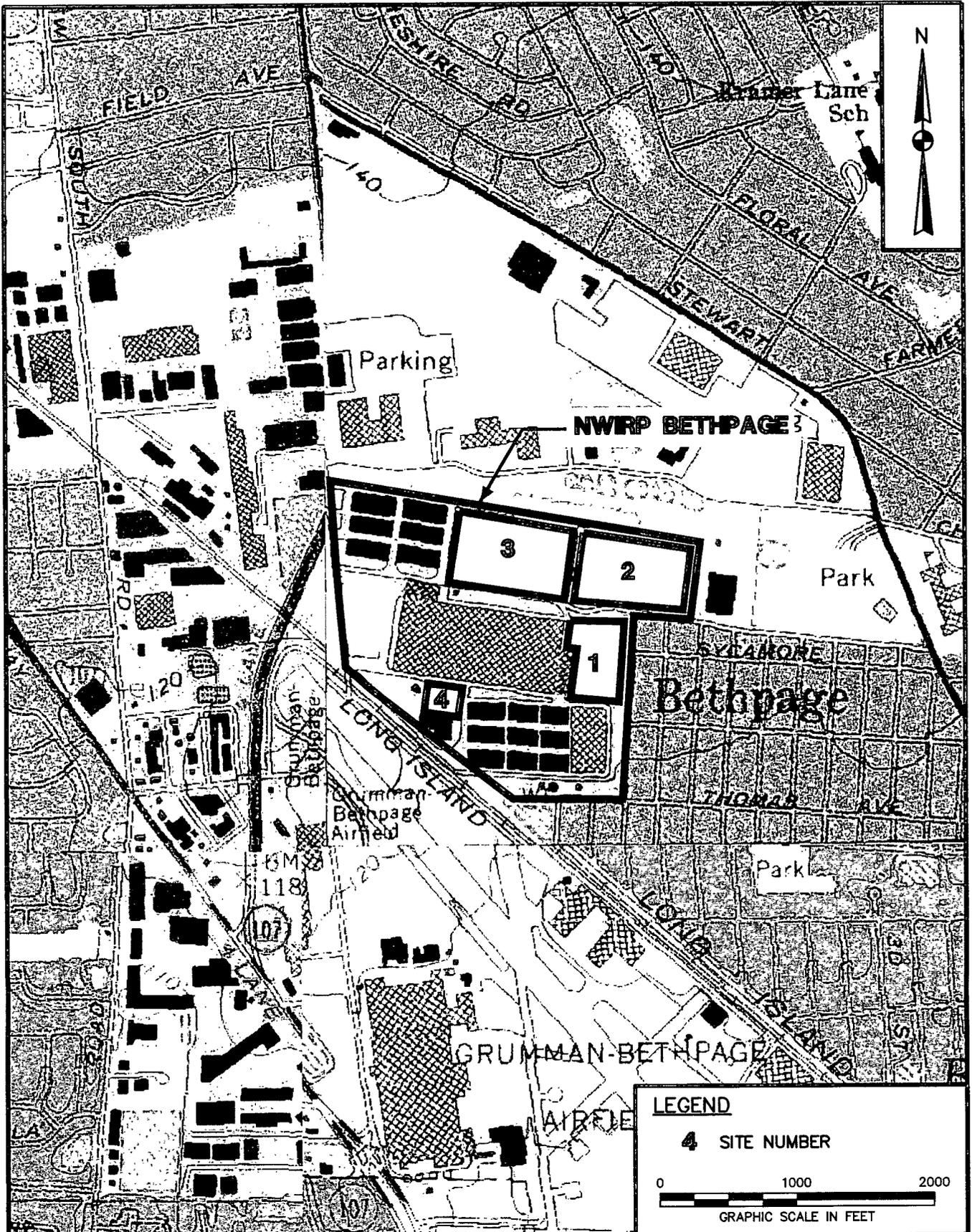
In late 1994, a Proposed Remedial Action Plan to address onsite soil contamination and limited groundwater contamination was prepared and issued for public comment. Because several parties were involved in the regional groundwater contamination and groundwater investigations were continuing, the Plan only addressed limited groundwater actions.

In May 1995, the Soil ROD was signed that identified remedial actions for soils at Sites 1, 2, and 3 at NWIRP Bethpage. The remedy selected for the onsite soils at NWIRP Bethpage was developed in accordance with the New York State Environmental Conservation Law (ECL) and is consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986.

Remedial activities identified in the Soil ROD for Site 1 contaminated soils are as follows:

- 600 cubic yards of arsenic-contaminated soil to be treated and landfilled off site.
- 300 cubic yards of PCB-contaminated soil to be excavated and treated off site (PCB concentrations greater than 500 mg/kg).
- 1,100 cubic yards of PCB-contaminated soil to be excavated and landfilled off site (PCB concentrations greater than 10 mg/kg and less than 500 mg/kg).
- 87,000 cubic yards of VOC-contaminated soil to undergo insitu vapor extraction.
- 28,400 cubic yards of VOC-contaminated soil to undergo natural flushing.
- Permeable 6-inch cover over 1.5 acres of residual contaminated soils and corresponding deed restrictions. Residual soil contamination consists of metal, VOC, PAH, and PCB at concentrations greater than TAGM 4046.

The estimated cost for remedial actions at Sites 1, 2, and 3 was approximately \$10,900,000, of which approximately \$4,500,000 was associated with remediation of PCB- and metals-contaminated soils at Site 1. Remedial activities at Sites 2 and 3, including excavation/offsite disposal of PCB-contaminated soils and placement of a permeable cover, are complete. Also, insitu vapor extraction treatment of VOC-contaminated soils at Site 1 is complete, and natural flushing of residual VOC-contaminated soils at Sites 1, 2, and 3 is ongoing.



LEGEND

4 SITE NUMBER

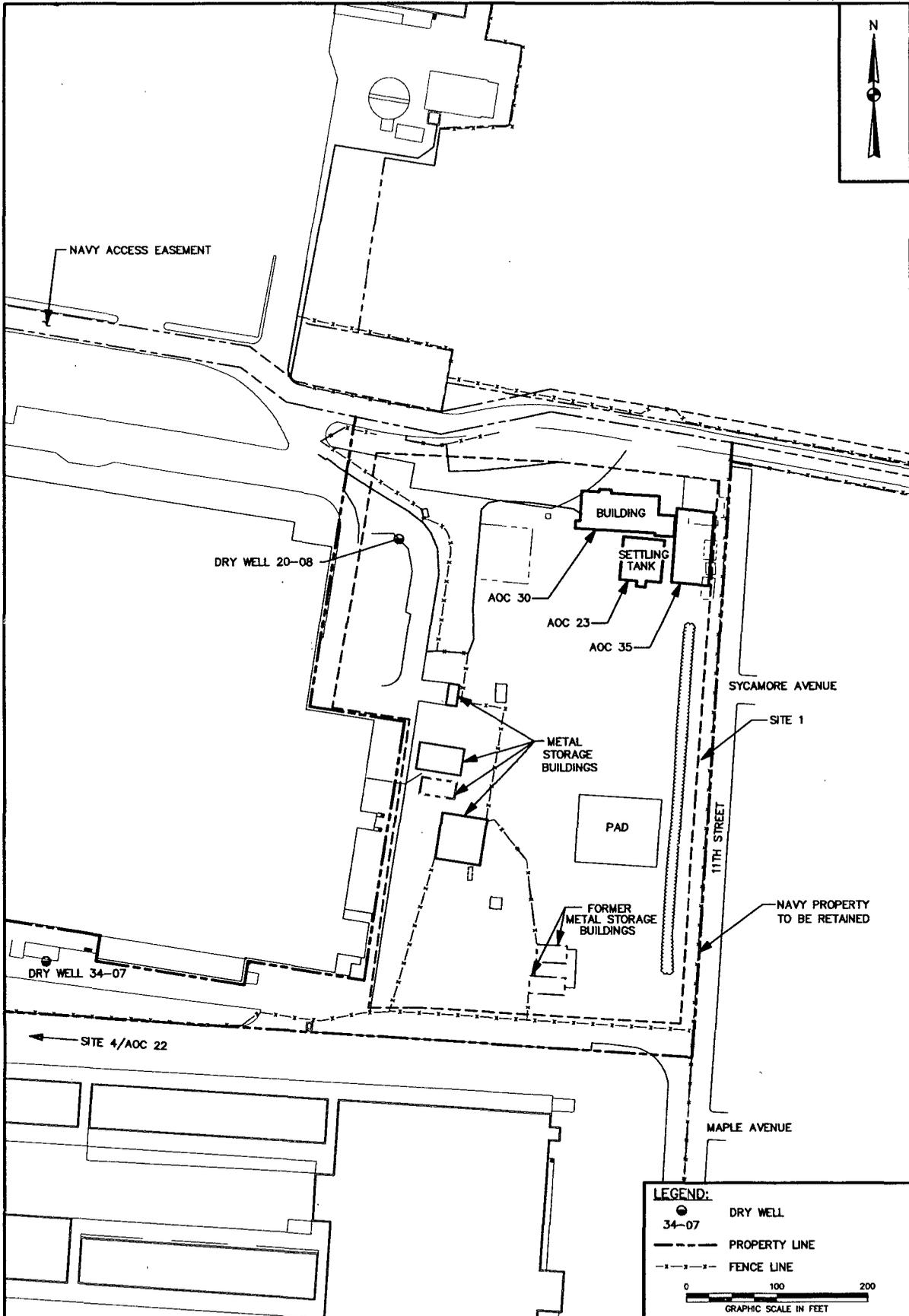
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SITE LOCATION MAP
ESD
NWRP BETHPAGE
BETHPAGE, NEW YORK

CONTRACT NO. 9845	
OWNER NO. 0002	
APPROVED BY	DATE
DRAWING NO. FIGURE 2-1	REV. 0



LEGEND:

- DRY WELL
- 34-07
- - - - - PROPERTY LINE
- · - · - · - FENCE LINE

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GRAPHIC SCALE IN FEET

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SITE 1 LAYOUT MAP
ESD
NWFP BETHPAGE
BETHPAGE, NEW YORK

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FIGURE 2-2	0

3.0 DESCRIPTION OF THE SIGNIFICANT DIFFERENCE AND THE BASIS FOR THE DIFFERENCES

During post-Soil ROD remedial design activities, several rounds of soil testing were conducted at Site 1. Each round found that the extent of PCB contamination was more extensive. The results of a 1995 soil investigation indicated that the vertical extent of PCB-contaminated soils at Site 1 was at least 12 feet below ground surface and that the PCBs were laterally more extensive than anticipated. In addition, this testing found that the volume of arsenic-contaminated soils was insignificant, but found cadmium- and chromium-contaminated soils. Arsenic was not a chemical normally used at the facility, but cadmium and chromium were normally found in the plating operations at the facility.

A field investigation conducted in 1996 found that PCB-contaminated soils extend to at least 50 feet below ground surface, the approximate depth of groundwater. Subsequent testing found PCB-contaminated soil to a depth of 63 feet below ground surface, below the water table. The PCB contamination is not expected to be significantly greater than 65 feet below ground surface. Also, based on a review of historical practices at the site, the cesspools at the site represent a potential conduit from the ground surface to a depth of 16 feet. In addition, soil contamination may be present underneath a paved area between the Soil ROD Site 1 boundary and the Plant No. 3 building. As a result, the boundary of Site 1 is being expanded under this ESD to the west to near Plant No. 3. Additional investigation will be required in this area prior to finalizing an excavation plan.

In 1998, Northrop Grumman conducted environmental investigations underneath and around Plant No. 3 to identify potentially contaminated soils. During this investigation, Northrop Grumman excavated and disposed off site contaminated soils from sites underneath and near Plant No. 3. For the majority of these sites, the Northrop Grumman activities represented final actions. However, for several sites, additional action was required. The additional sites were located outside Plant No. 3 and were either in close proximity to Site 1 or the nature and extent of contamination was similar to that found at Site 1. Because of this, the Navy agreed to address these additional areas under the IR Program with Site 1.

AOC 23 - Former Above Ground Storage Tanks, AOC 30 - Storage Sheds, and AOC 35 - Former Sludge Drying Bed are located adjacent to the northern edge of Site 1. Soil in these AOCs was found to be contaminated with metals, PAHs, and PCBs. Contamination is expected to be limited to the shallow soils. To address these AOCs, this ESD is expanding the boundary of Site 1 to the north. Additional investigation will be required in this area prior to finalizing an excavation plan.

Two dry wells (20-08 and 34-07) were found by Northrop Grumman to be contaminated with PCBs. Northrop Grumman delineated the majority of the dry well contamination, and excavated PCB-

contaminated soils to a depth of approximately 28 feet below ground surface. Confirmation testing found that PCB-contaminated soils remained beyond the extent of the excavation, to a depth of approximately 65 feet below ground surface. Because of the proximity of these dry wells to Site 1, similar contaminants and concentrations, and similar depths, this ESD is expanding the boundary of Site 1 to the west to include these two dry wells.

Based on the results of pre-design testing conducted after the Soil ROD and incorporation of five AOCs into Site 1, there is a significant difference between the extent and volume of contaminated soils as determined during the Soil ROD and the current estimate. In addition, the Soil ROD assumed that the Navy would continue to own the property and Northrop Grumman would continue to operate the property. Northrop Grumman no longer operates the property, and the Navy plans to transfer the property for economic redevelopment. Comparisons of the extent and volume estimates are as follows.

Area/Type of Contamination	Soil ROD Estimate	Current Estimate
Arsenic-contaminated soil requiring offsite disposal; TCLP results greater than 5.0 mg/l	600 CY	0 CY
Cadmium- and chromium-contaminated soil; TCLP results greater than 1.0 and 5.0 mg/l, respectively	0 CY	240 CY
Site 1 – PCB-contaminated soil with concentrations greater than 10 mg/kg.	1,400 CY	69,900 CY
Dry Wells 20-08 and 34-07 - PCB-contaminated soil with concentrations greater than 10 mg/kg.	0 CY	8,200 CY
Other residual soil contamination - metals, pesticides, PAHs, and PCBs concentrations greater than TAGM 4046 levels.	1.5 acres	5.9 acres

TCLP: Toxic characteristic leaching procedure

TAGM: Technical Assistance Guidance Memorandum

Based on the revised estimates of the volumes of PCB-contaminated soil, the Navy has determined that it would not be practical or cost effective to fully implement the remedy as identified in the Soil ROD for Site 1 contaminated soil. Rather, the Navy is proposing a remedy in this ESD that is similar in scope to that envisioned in Soil ROD.

Under the revised remedy proposed in this ESD, excavation and offsite disposal of shallow contaminated soil and deed notifications remain the same. Also, natural flushing of VOC-contaminated soil would continue. Because of anticipated new land use, the permeable cover would be increased from 6 inches

thick (Soil ROD) to 2 feet thick under this ESD. However, excavation and offsite disposal of deep contaminated soils (greater than 4 feet below ground surface) would not be conducted. Rather, these soils would be addressed through an enhanced surface barrier and restrictions on future activities at the site.

The proposed remedy consists of the following components:

- Characterization and excavation of the upper 2 feet of soil at the site. Based on the test results, the soils with contaminant concentrations greater than NYSDEC TAGM 4046 (metals, pesticides, PAHs, and PCBs) will be disposed off site or used to backfill the 2- to 4-foot PCB excavation. Soils that meet TAGM levels 4046 may be reused on site as part of the 2-foot permeable cover. Soils that are classified as hazardous waste will be disposed off site.
- Excavation and offsite disposal of PCB-contaminated soils (greater than 10 mg/kg) at a depth of 2 to 4 feet below ground surface.
- Backfilling/regrading the area to form a 2-foot-thick permeable cover.
- Placement of deed restriction/notifications of the area that identify the cover, land use controls, and the nature and extent of residual contamination at the site.

Specific comparisons of the original remedy, with implications associated with post-ROD data, and the current proposed changes are discussed below, (see Figures 3-1 and 3-2).

Metals-, Pesticide-, and PAH-contaminated Soil: The Soil ROD remedy identified 300 cubic yards of arsenic-contaminated soil that could potentially impact groundwater. Subsequent testing found that the volume of arsenic-contaminated soil is insignificant, but that 240 cubic yards of cadmium- and chromium-contaminated soil are present and could potentially impact groundwater at concentrations greater than drinking water standards. Groundwater testing identified limited cadmium- and chromium-contaminated groundwater in the area of the cadmium- and chromium-contaminated soil, but did not find evidence of migration. In addition, even if the metals contamination in soil migrated to groundwater, there are no downgradient groundwater receptors that could be impacted by these metals. Public water supplies are downgradient of the site, but because of the limited mobility of the metals, future impact is not anticipated.

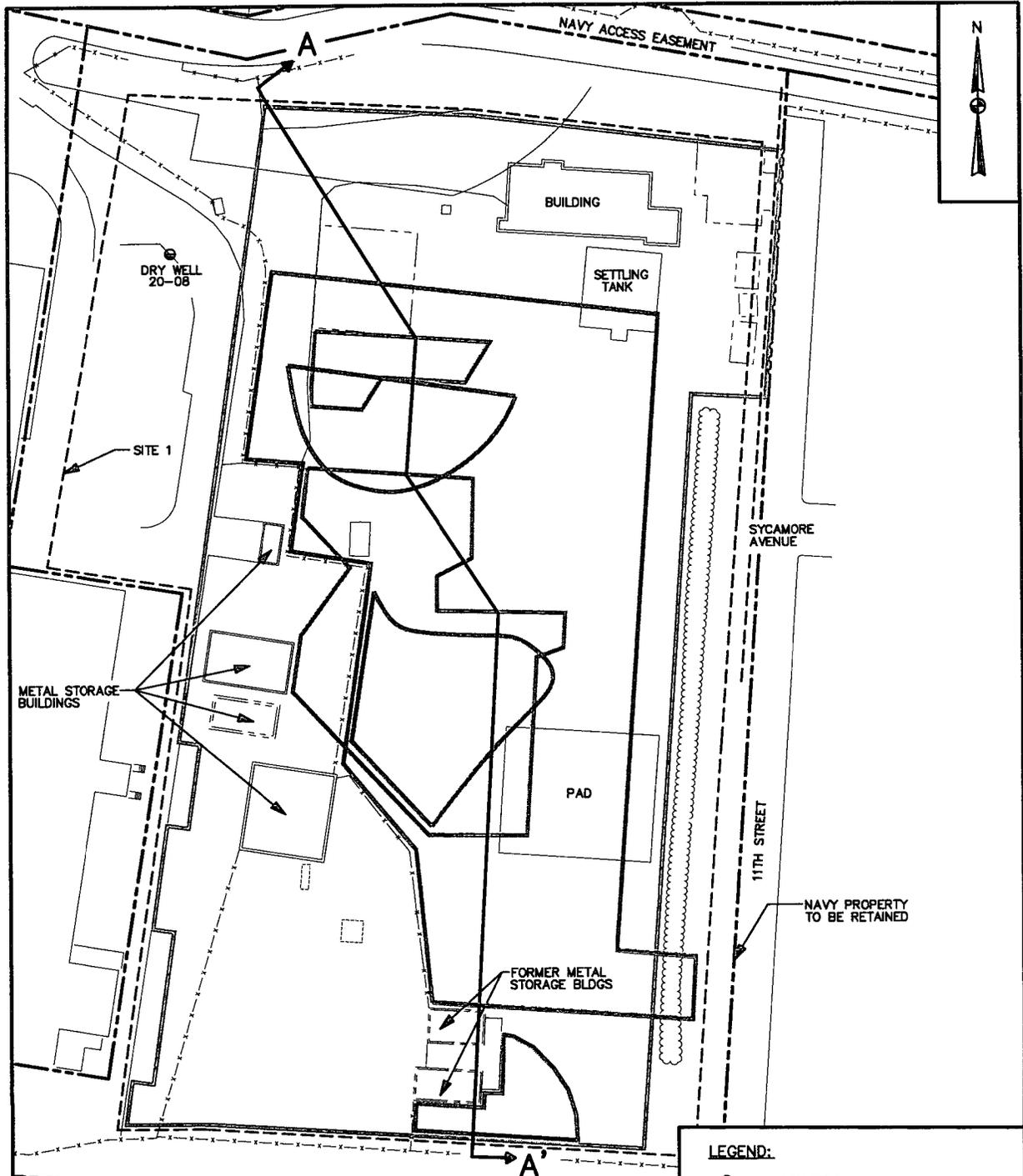
The proposed remedy is to leave the metals-, pesticide-, and PAH-contaminated soil below 2 feet in place. These contaminants are not very mobile and would slowly stabilize, degrade, or otherwise attenuate. These contaminants were identified in the Soil ROD to be present over a 1.5-acre area and could represent a direct contact threat to onsite receptors. Because of the anticipated land use at the time of the Soil ROD as a staging area for Plant No. 3 operations, the Soil ROD specified a 6-inch thick permeable cover in order to minimize impact to Northrop Grumman activities. Under the current

anticipated land use as a parking lot, a 2-foot-thick permeable cover over 5.9 acres is now proposed. Deed restrictions/notifications and land use controls would protect personnel that could potentially contact the contamination in the future.

PCB-contaminated Soil: The Soil ROD remedy identified 1,400 cubic yards of PCB-contaminated soil (with concentrations greater than 10 mg/kg) in the upper 7 feet at the site to be excavated and treated and/or disposed off site. Based on current data and the approach presented in the Soil ROD, the estimated volume of PCB-contaminated soil for excavation and offsite treatment/disposal would be 78,100 cubic yards and the excavation would extend to a depth of approximately 65 feet below ground surface. The revised remedy proposed by this ESD would excavate PCB-contaminated soil (with concentrations greater than 10 mg/kg) to a maximum depth of 4 feet below ground surface. Deed restrictions/notifications and land use controls would be used to protect personnel that could potentially contact the PCB-contaminated soil in the future.

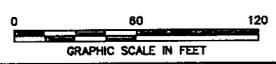
Under both the Soil ROD remedy and the revised ESD remedy, PCB-contaminated soil with PCB concentrations less than 10 mg/kg would remain on site to be addressed with a soil cover, deed restrictions/notifications, and land use controls.

The estimated cost for implementing the ESD is \$10,000,000.



LEGEND:

- ⊙ 34-07 DRY WELL
- — — — — PROPERTY LINE
- x-x-x-x- FENCE LINE
- ESD LIMIT OF SURFACE EXCAVATION AND COVER (0 TO 2 FT)
- ESD LIMIT OF 2 TO 4 FT EXCAVATION AND BACKFILL
- SOIL ROD ESTIMATED LIMIT OF SOIL COVER
- SOIL ROD ESTIMATED LIMIT OF ARSENIC CONTAMINATION (1 TO 7 FT)
- SOIL ROD ESTIMATED LIMIT OF PCB CONTAMINATION (0 TO 2 FT)



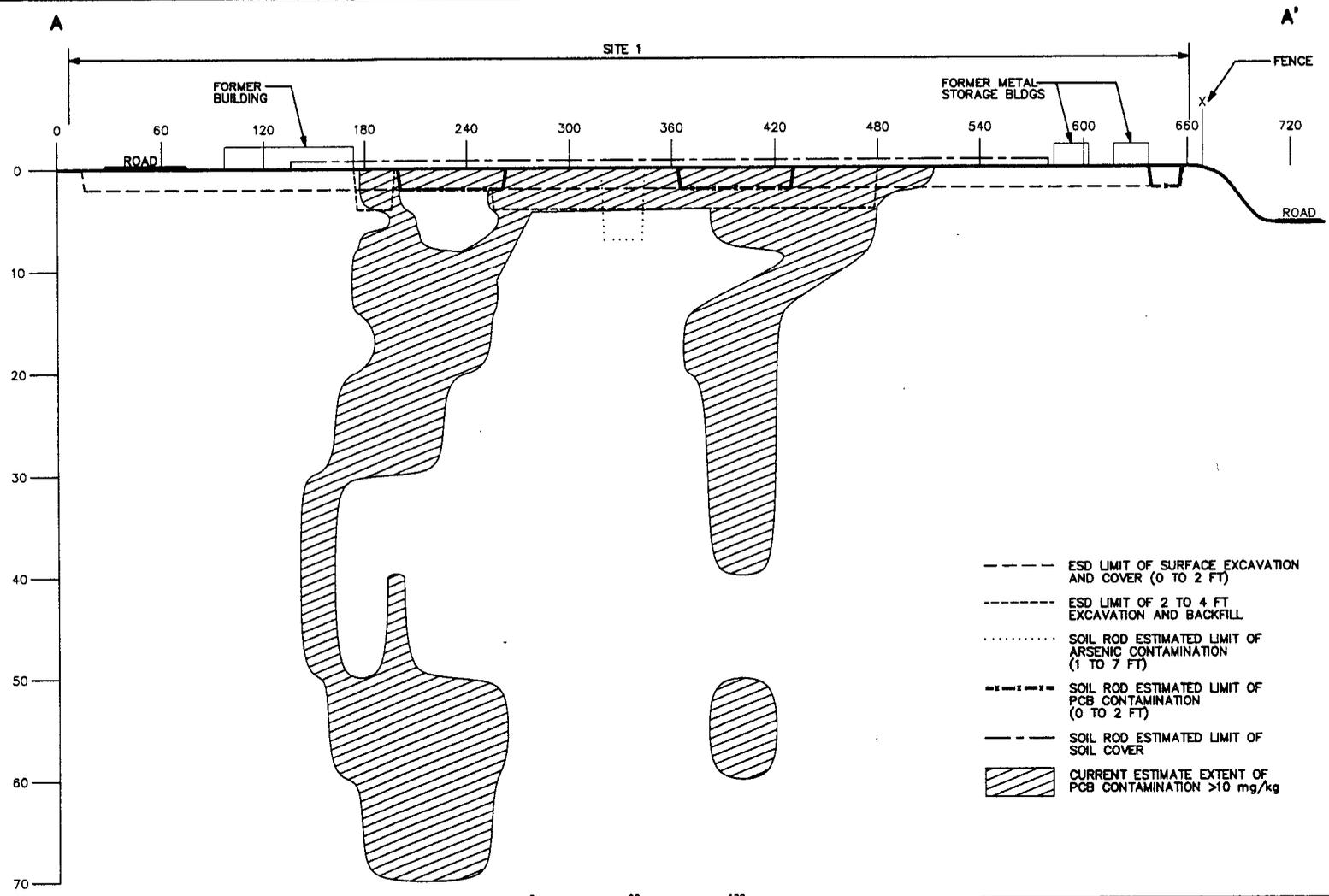
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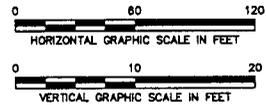
COMPARISON OF CURRENT ESD PROPOSED EXCAVATION VERSUS SOIL ROD ESTIMATED EXTENT OF CONTAMINATION
ESD
NWFP BETHPAGE
BETHPAGE, NEW YORK

CONTRACT NO. 9845	
OWNER NO. 0002	
APPROVED BY	DATE
DRAWING NO. FIGURE 3-1	REV. 0

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- ESD LIMIT OF SURFACE EXCAVATION AND COVER (0 TO 2 FT)
- ESD LIMIT OF 2 TO 4 FT EXCAVATION AND BACKFILL
- SOIL ROD ESTIMATED LIMIT OF ARSENIC CONTAMINATION (1 TO 7 FT)
- · - · - · SOIL ROD ESTIMATED LIMIT OF PCB CONTAMINATION (0 TO 2 FT)
- SOIL ROD ESTIMATED LIMIT OF SOIL COVER
- CURRENT ESTIMATE EXTENT OF PCB CONTAMINATION >10 mg/kg



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CROSS SECTION A - A'
ESD
NWRFP BETHPAGE
BETHPAGE, NEW YORK

CONTRACT NO. 9845	
OWNER NO. 0002	
APPROVED BY	DATE
DRAWING NO. FIGURE 3-2	REV. 0

4.0 SCHEDULING AND SOURCES FOR MORE INFORMATION

The ESD will become part of the administrative record file for NWIRP Bethpage. The administrative record is maintained by EFANE. An information repository is located at the Bethpage Public Library, 47 Powell Avenue, Bethpage, New York 11714. Hours of operations are Monday to Friday 9 am to 9 pm, Saturday 9:30 am to 5:30 pm, and Sunday 1 to 9 pm.

Information is also available on line at the following address:

<http://nwirp-bethpage.adminrecord.org/customer/ttnus/bethpage/index.html>

User Name: bethpage
Current password: colter

In addition, the Navy has published a notice describing the ESD and the availability of the administrative record file in a local newspaper and provided information to community Restoration Advisory Board (RAB) members. A public meeting to discuss with ESD was held on _____ at the Bethpage Community Center, Bethpage New York. A public comment period was held from _____ to _____.

Comments received on the ESD and responses are presented in Attachment 1.

For additional information, contact:

Mr. James Colter (Code EV2/JLC)
Remedial Project Manager
Engineering Field Activity Northeast
Naval Facilities Engineering Command
10 Industrial Highway, MS#32
Lester, Pennsylvania 19113

610.595.0567, ext 163
james.colter@navy.mil

5.0 STATUTORY DETERMINATIONS

The modified remedy satisfies the statutory requirements of CERCLA Section 121, and to the extent practicable, the National Oil and Hazardous Substances Pollution Control Plan (NCP). The modified remedy is protective of human health and the environment, complies with federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost effective, and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable. The modified remedy also satisfies the statutory preference for treatment as a principal element.

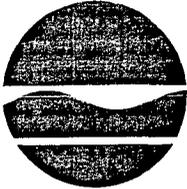
Because the modified remedy will result in contaminants remaining on site at concentrations that do not allow for unlimited use and unrestricted exposure, a statutory review will be conducted once every 5 years. This review will ensure that the remedy continues to provide adequate protection of human health and the environment over time.

6.0 AUTHORIZING SIGNATURES

Naval Facilities Engineering Command

Concurrence:

NEW YORK STATE
DEPARTMENT OF



ENVIRONMENTAL
CONSERVATION

Highlights In This Update

**1. Public Availability
Session
June 8, 2006**

Bethpage Community Center
Grumman Road
Bethpage
5:30- 9:00pm

**2. Current Reports can be
found in the
Main Document
Repository**

Bethpage Public Library
Powell Avenue
Bethpage, NY 11714

And

3. Document Website
[www.dec.state.ny.us/website/
der/projects/reg1/](http://www.dec.state.ny.us/website/der/projects/reg1/)

**4. For More Information
on the Former Grumman
Settling Ponds (Bethpage
Community Park) Site:**

NYSDEC Central Office
625 Broadway
Albany, NY 12233-7015
Att: Steven M. Scharf, P.E.
Project Engineer
(518) 402-9620
1-800-342-9296

NYSDOH
547 River Street
Troy, NY 12180
Attn: Trevor Wescott
(518) 402-7880
1-800-458-1158
Extension 27880

June 2006

**Public Availability Session, Remedial Investigation and
Feasibility Study, Bethpage Community Park
Operable Unit 3: Former Grumman Settling Ponds**

NOTICE OF A PUBLIC AVAILABILITY SESSION: Bethpage Community Center, June 8, 2006 from 5:30 to 9:00 P.M. Representatives from the New York State Department of Environmental Conservation (NYSDEC), the Nassau County Department of Health and Northrop Grumman Corporation will be present to discuss the remedial investigation and feasibility study (RI/FS) work plan and the overall site information available to date at the June 8th availability session.

An availability session is a gathering of program personnel and members of the public in a casual setting, without a formal presentation or agenda. Various representatives will be on hand with copies of the RI/FS work plan, reports, maps and other material to answer your questions and hear your concerns. A fact sheet and a contact list will also be distributed to attendees. You may drop in at any time between 5:30 and 9:00 p.m.

The Bethpage Community Park, located on Stewart Avenue, Bethpage in Nassau County has been undergoing a remedial investigation for environmental contamination from former site activities conducted by its previous owner, the former Grumman Aircraft Engineering Corporation, now known as the Northrop Grumman Corporation (Northrop Grumman). The NYSDEC is sending this public notice as an update on activities related to the site. There have been three significant actions in recent months:

1. The Northrop Grumman Corporation has entered into an RI/FS order on consent for the Bethpage Community Park, or Operable Unit 3 (OU 3), also known as the "Former Grumman Settling Ponds."
2. The work plan for the RI/FS has been approved; and
3. The field work for the RI/FS is now ongoing.

SITE DESCRIPTION: The 18-acre Bethpage Community Park is located in Bethpage, NY, on the west side of Stewart Avenue near Cherry Avenue. The Park is currently owned by the Town of Oyster Bay and includes a swimming pool, an ice-skating rink, a baseball field, tennis courts, playgrounds, picnic areas, a recharge basin and a parking lot.

SITE HISTORY: Grumman Aerospace (now Northrop Grumman) donated the land for the Park to the Town of Oyster Bay in 1962. Prior to this, Grumman Aerospace used portions of the site as sludge drying areas, or settling ponds, to dispose of liquid wastes. The sludge came from the solids settled out of the liquid waste. Once dried, the sludge was removed and sent offsite for landfill disposal. A portion of the site was also used for fire control training.

Prior to Northrop Grumman's investigation of the Bethpage Community Park, limited environmental investigations within the park found that contamination for surface soils were either non-detect or detected at trace level concentrations that were all lower than the current cleanup levels. Northrop Grumman notified the NYSDEC and the New York State Department of Health (NYSDOH) in early 2002 of elevated levels of PCBs found as a result of several rounds of testing in 1999 - 2001 on a Northrop Grumman access road immediately south of the park. As a follow-up to the access road sampling, Northrop Grumman proposed, and eventually implemented, additional investigation of surface and subsurface soil inside the Bethpage Community Park. The results of this testing, and the ongoing RI/FS, are described in more detail in the next sections.

RECENT SITE DEVELOPMENTS: Northrop Grumman entered into an order on consent with the NYSDEC to complete the RI/FS for both the onsite and offsite issues related to the Bethpage Community Park, also known as Operable Unit 3 or OU3, of the Northrop Grumman site. Northrop Grumman is now completing the investigation that has been ongoing to characterize the lateral and vertical extent of any potential impacts from site-related contamination. The RI/FS work plan has been approved, and fieldwork, which includes soil, groundwater and soil gas sampling, started April 10, 2006.

The Town of Oyster Bay entered into an order on consent to do an Interim Remedial Measure (IRM). An IRM(s) is usually implemented at a site so that discrete corrective actions can take place while the overall site investigation, remediation, and decision making process, moves forward. The Town of Oyster Bay IRM public availability session, will be presented separately, on June 14, 2006 at the Bethpage Community Library. The Town elected to enter into an IRM in order to proceed with their plans to construct the proposed new ice rink in the Bethpage Community Park. The data generated by the town will also be incorporated in the Northrop Grumman remedial program.

INITIAL INVESTIGATION SUMMARY REPORT:

Northrop Grumman finalized a second report entitled "Bethpage Community Park, Investigation Sampling Program, Field Report, December 2003." This report is available at the document repository and on-line at www.dec.state.ny.us/website/der/projects/reg1/. The report summarizes all the work that Northrop Grumman has done prior to starting the current round of field work.

1. Northrop Grumman Park Sampling Program to Date and Additional Testing Now Underway-

Northrop Grumman's first round of soil sampling took place in March 2002. Soil push-probe samples were collected from 60 locations at varying depths. Northrop Grumman collected a second round of soil samples in May 2003. This included more than 200 soil samples from soil borings within the park and groundwater samples from newly installed groundwater monitoring wells. Additional soil sampling is now underway

2. Surface Samples - Most of the surface soil samples for the first and second rounds of soil sampling were either non-detect, or less than one part per million (ppm) for PCBs, the value set by NYSDEC to remediate PCBs in a residential setting. Chromium was also found in some surface soil samples at concentrations below the levels of health concern. Special attention was focused on testing in bare areas because people are more likely to come into contact with the soil in these areas than in areas that are well grassed.

3. Samples at Depth - The at-depth soil sampling to date indicates about one in ten of the deeper (at least 8 feet) soil push-probe samples had levels of PCBs and some metals, particularly chromium, which exceed recommended soil

cleanup objectives. These particular contaminants in subsurface soil are not an immediate exposure concern because people will not come into contact with them under most circumstances due to their depth below the surface.

4. Groundwater Sampling- Newly installed groundwater monitoring wells on the downgradient (south) side of the Bethpage Community Park have detected volatile organic compounds in groundwater. Additional groundwater testing will be done south of the Bethpage Community Park by installing temporary wells to determine the extent of impacted groundwater. It is important to note that all public water in the vicinity of the former Grumman and U.S. Navy Bethpage facility and the surrounding community is from the Bethpage Water District (BWD). These supplies are routinely monitored and treated, if necessary, to ensure that drinking water distributed to the public meets federal, state, and county requirements.

5. Soil Gas Sampling: As part of the RI/FS field work, the NYSDEC now requires sampling for soil gas be included in the investigation. Soil gas results from volatile organic compounds migrating through soil pore space. This sampling will occur along Stewart Avenue, Sycamore Avenue and the Robert Plan Building (former Grumman Plant 24). The results of this testing will be evaluated to determine what the next course of action will be.

SAMPLING AT OFF-SITE PROPERTIES NEAR THE PARK:

Soil samples were collected in 1995 from eleven residential yards southwest of the park and tested for PCBs. PCBs were either not detectable or less than the one ppm cleanup value used by DEC to remediate PCBs in a residential setting. More recently, based on the findings of sampling on the access road and the park, additional homes that included all the homes to the south of the Northrop Grumman Access road were sampled in 2002 and 2003 by the NYSDEC, NYSDOH and the NCDH. The results indicated that three homes adjacent to Stewart Avenue exhibited surface soil concentrations that need to be addressed under the upcoming remedial program. Sampling results were sent to the property owners. The agencies will continue, as necessary, to identify and test any offsite locations that require additional investigation. Information gathered from the investigative phase will be used to screen remedial alternatives for the Bethpage Community Park.

Citizen Participation Planning- The public will be kept informed and involved as investigations are conducted, alternatives are evaluated and remediation gets underway. Northrop Grumman has prepared a Citizen Participation Plan, included in the RI/FS Work Plan, which outlines steps and procedures that will be followed.

DOCUMENT REPOSITORIES: Documents related to the investigation and potential remediation of contamination at Bethpage Community Park will be made available at the Bethpage Public Library, Powell Avenue, Bethpage. Information related to the project can also be viewed on the NYSDEC website at: www.dec.state.ny.us/website/der/projects/reg1/

Bethpage Public Library
 Powell Avenue
 Bethpage, NY 11714
 (516) 931-3907
 Hours: M-F 9:30-9:00
 Sat 9:30-5:00
 (Karen Gruskin or Lois Lovisolo-Reference Librarians)

NYSDEC Region 1 Headquarters
 SUNY Campus
 Loop Road Building 40
 Stony Brook, NY 11790-2356
 Attn: Bill Fonda, Citizen
 Participation Specialist

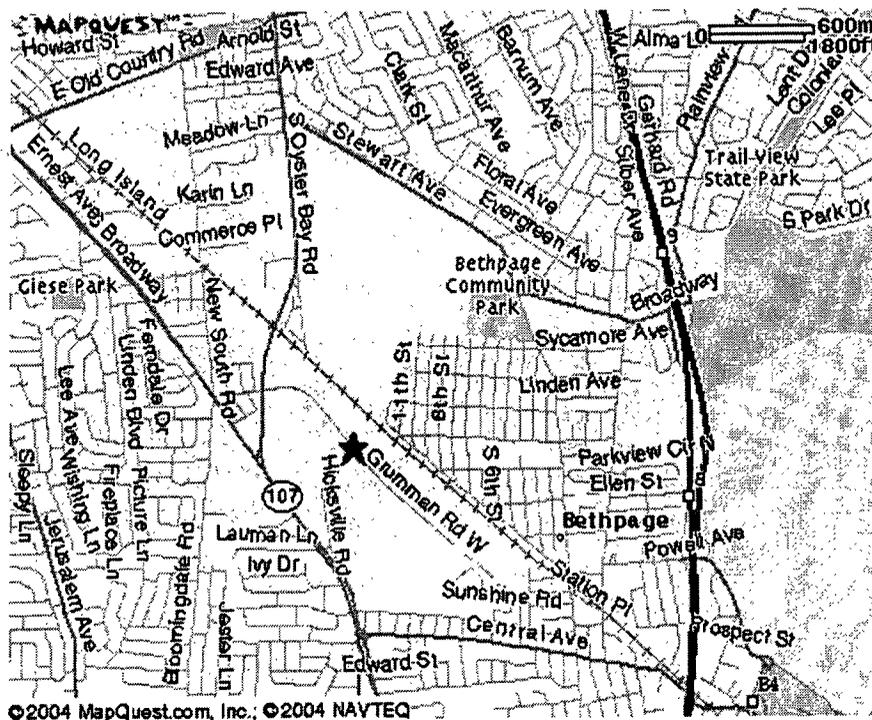
NYSDEC Central Office
 625 Broadway, 11th floor
 Albany, NY 12233-7015
 Attn: Steven M. Scharf, P.E.

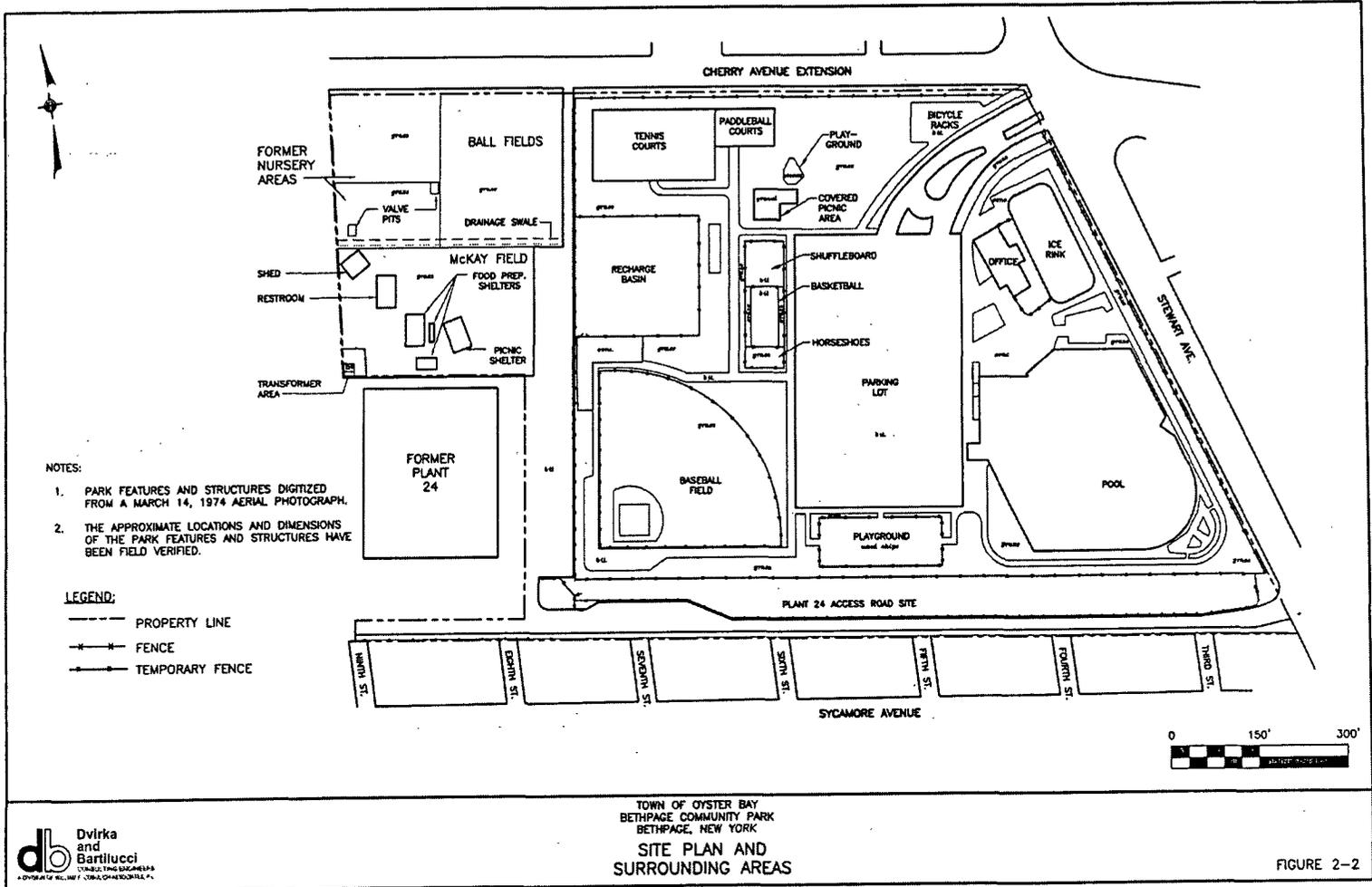
For More Information regarding this site please contact the following:

NYSDEC Concerns
 Steven M. Scharf, P.E.
 NYSDEC
 625 Broadway, 11th Floor
 Albany, NY 12233-7015
 (518) 402-9620

NYSDEC Concerns
 Bill Fonda
 NYSDEC-SUNY Campus
 Loop Road Building 40
 Stony Brook, NY 11790-2356
 (631) 444-0350

NYSDOH Concerns
 Trevor Wescott
 NYSDOH
 547 River Street
 Troy, NY 12180
 1-800-458-1158 Extension 2-7880





- NOTES:
1. PARK FEATURES AND STRUCTURES DIGITIZED FROM A MARCH 14, 1974 AERIAL PHOTOGRAPH.
 2. THE APPROXIMATE LOCATIONS AND DIMENSIONS OF THE PARK FEATURES AND STRUCTURES HAVE BEEN FIELD VERIFIED.

- LEGEND:
- PROPERTY LINE
 - - - FENCE
 - - - TEMPORARY FENCE

TOWN OF OYSTER BAY
 BETHPAGE COMMUNITY PARK
 BETHPAGE, NEW YORK
**SITE PLAN AND
 SURROUNDING AREAS**

db Dvirka
 and
 Barilucci
 CONSULTING ENGINEERS
 A DIVISION OF THE M. F. VON DER BRUNN CO., P.A.

FIGURE 2-2