Major Modification of the Part 373 Permit – Removal of Sites 1, 9, and 10A and Agricultural Outlease Parcel and Statement of Basis for Site 10A and Agricultural Outlease Parcel

Naval Weapons Industrial Reserve Plant

Calverton, New York

Engineering Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62472-03-D-0057

Contract Task Order 004

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MAJOR MODIFICATION OF THE PART 373 PERMIT REMOVAL OF SITES 1, 9, AND 10A AND AGRICULTURAL OUTLEASE PARCEL AND STATEMENT OF BASIS FOR SITE 10A AND AGRICULTURAL OUTLEASE PARCEL

NAVAL WEAPONS INDUSTRIAL RESERVE PLANT CALVERTON, NEW YORK

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Engineering Field Activity Northeast
Environmental Branch (Code EV2)
Naval Facilities Engineering Command
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Lester, Pennsylvania 19113-2090

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ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFB	CF Braun Engineering Corporation
CNC	Calverton National Cemetery
ECM	Electronic Countermeasures
EFANE	Engineering Field Activity Northeast
EI	Environmental Indicator
EPA	United States Environmental Protection Agency
FFS	Focused Feasibility Study
GOCO	government owned/contractor operated
HNUS	Halliburton NUS Corporation
IR	Installation Restoration
Navy	United States Navy
NCP	National Contingency Plan
NG	Northrop Grumman Aerospace Corporation
NWIRP	Naval Weapons Industrial Reserve Plant
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
POL	petroleum, oils, and lubricants
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
ROD	Record of Decision
SCDHS	Suffolk County Department of Health Services
SI	Site Investigation
SVOC	semivolatile organic compound
SWMU	Solid Waste Management Unit
TBC	To Be Considered
TCA	1,1,1-trichloroethane
TtFW	Tetra Tech FW, Inc.
TtNUS	Tetra Tech NUS, Inc.

UNITEC	Universe Technologies, Inc.
UST	underground storage tank
VOC	volatile organic compound

1.0 INTRODUCTION

This report has been prepared in accordance to 6 New York Code of Rules and Regulations (NYCRR) 373-1.7(b) and 621.13 to support a request for a major modification of the existing Part 373 Permit for the former Naval Weapons Industrial Reserve Plant (NWIRP) located in Calverton, Suffolk County, New York. Specifically, it is the intent to provide relevant information to the Commissioner demonstrating that there are no releases of hazardous waste or hazardous constituents that pose a threat to human health or the environment emanating from the following Solid Waste Management Units (SWMUs): Landfills – Northeast Pond Disposal Area and Miscellaneous – Electronic Countermeasures (ECM) Area, both located in Parcel D; and Treatment Facility – Jet Fuel Systems Laboratory located in Parcel C. These SWMUs are also referred to as Navy Installation Restoration (IR) Sites 1, 9, and 10A, respectively. Accordingly, the Navy is requesting that the SWMUs listed above be removed from the Part 373 Permit for NWIRP Calverton, New York. The location of NWIRP Calverton is shown on Figure 1-1, and SWMU locations are shown on Figure 1-2. Although not listed as an IR Site nor as a SWMU on the current Part 373 Permit, the Agricultural Outlease Parcel is being included as an area of concern that was identified as having a potential for the release of hazardous constituents which was discovered during an environmental audit conducted as part of the closure process for NWIRP Calverton. As such, the Agricultural Outlease Parcel is considered to be part of the requirements contained within the Part 373 Permit for NWIRP Calverton.

In order to remove these SWMUs from the existing Permit, a major permit modification application must be reviewed and approved by the New York State Department of Environmental Conservation (NYSDEC). The support for any such major modification is typically presented and discussed in what is termed a Statement of Basis. This Statement of Basis will demonstrate to the NYSDEC that the requirements for corrective action pursuant to the Resource Conservation and Recovery Act (RCRA) have been addressed for Site 10A and the Agricultural Outlease Parcel. This includes the identification of SWMUs, a compendium of all engineering studies and remedial investigations completed, a description of corrective actions implemented, and a description of residual contamination, if any, that remains on site. It has been determined that no corrective measures are needed at Site 9.

As the former NWIRP Calverton is also a New York State Superfund site, it is important to note that a Record of Decision (ROD) for Site 1 pursuant to New York State's Superfund Program was signed on September 2, 2002. The ROD describes remedial actions that were undertaken by the Navy at Site 1. This report provides a brief summary of the remedial action requirements contained in the ROD and a summary of the results of the remedial actions completed at Site 1.

It is further important to note that a Site Investigation (SI) was implemented by the Navy upon discovery of the existence of hazardous materials at the Agricultural Outlease Parcel. After completion of the SI, it was confirmed that hazardous materials were released into the environment from various areas from within the Agricultural Outlease Parcel. The SI was successful in delineating the extent of contamination. Accordingly, the Navy immediately implemented the equivalent of a time-critical removal action as defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Work plans for soil excavation and disposal as well as post remedial confirmation sampling were prepared and submitted to the NYSDEC for review. Upon receipt of concurrence by NYSDEC, the Navy implemented both work plans.

Section 2.0 of this document provides an overview of the former NWIRP Calverton facility, including descriptions of Sites 1, 9, and 10A and the Agricultural Outlease Parcel. Descriptions of the remedial investigations conducted at these sites are presented in Section 3.0. Section 4.0 describes the corrective actions undertaken at Sites 1 and 10A and the Agricultural Outlease Parcel. Section 5.0 presents the conclusions and requests a major modification of the existing Part 373 Permit to remove these sites. Section 6.0 includes the Certification of Completion for Site 1.

Relevant reference documents including environmental investigation and remediation reports can be found at http://nwirp-calverton.adminrecord.org/customer/ttnus/calverton/index.html.

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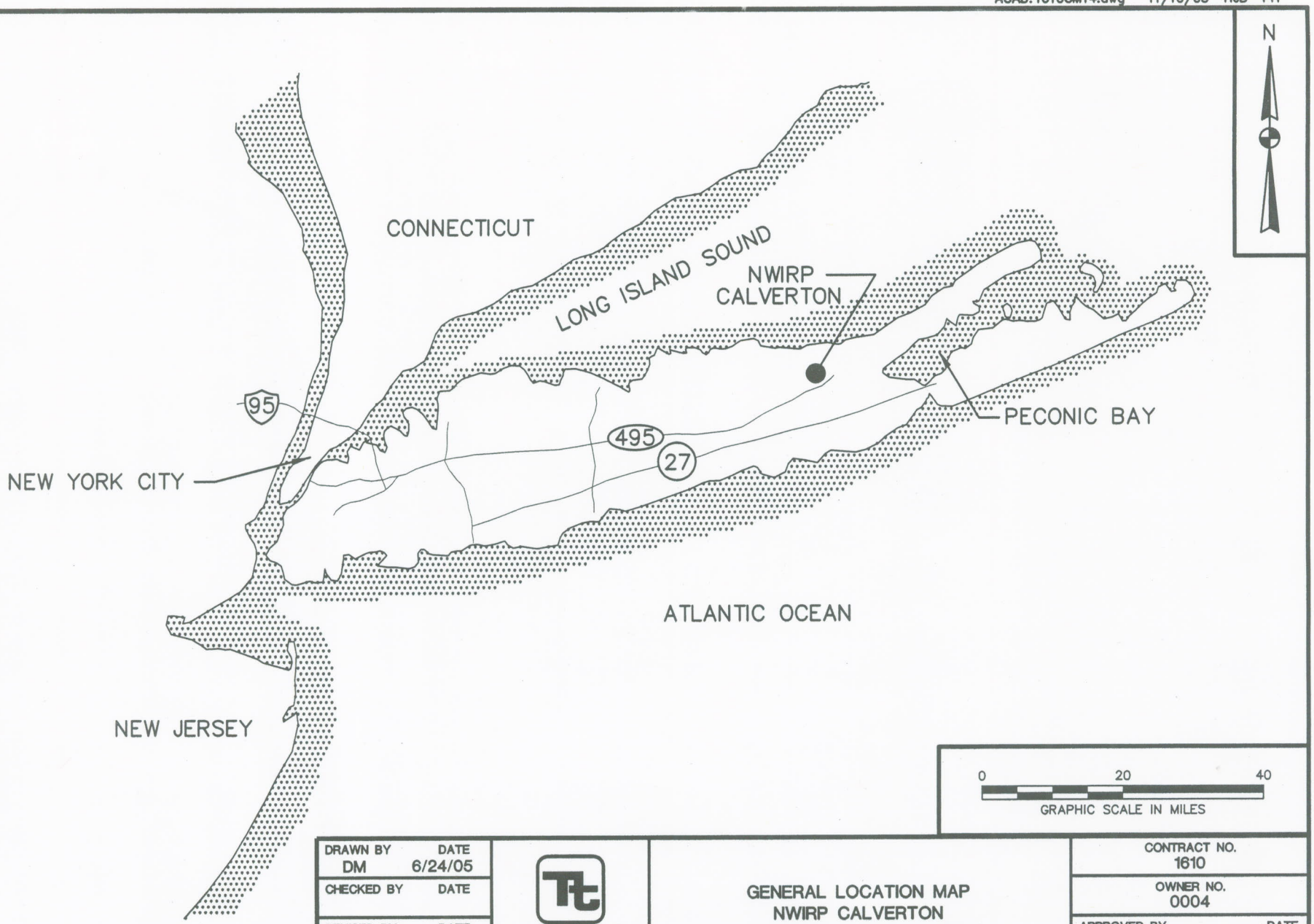

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CHECKED BY DATE			OWNER NO. 0004
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SCALE AS NOTED			DRAWING NO. FIGURE 1-1 REV. 0

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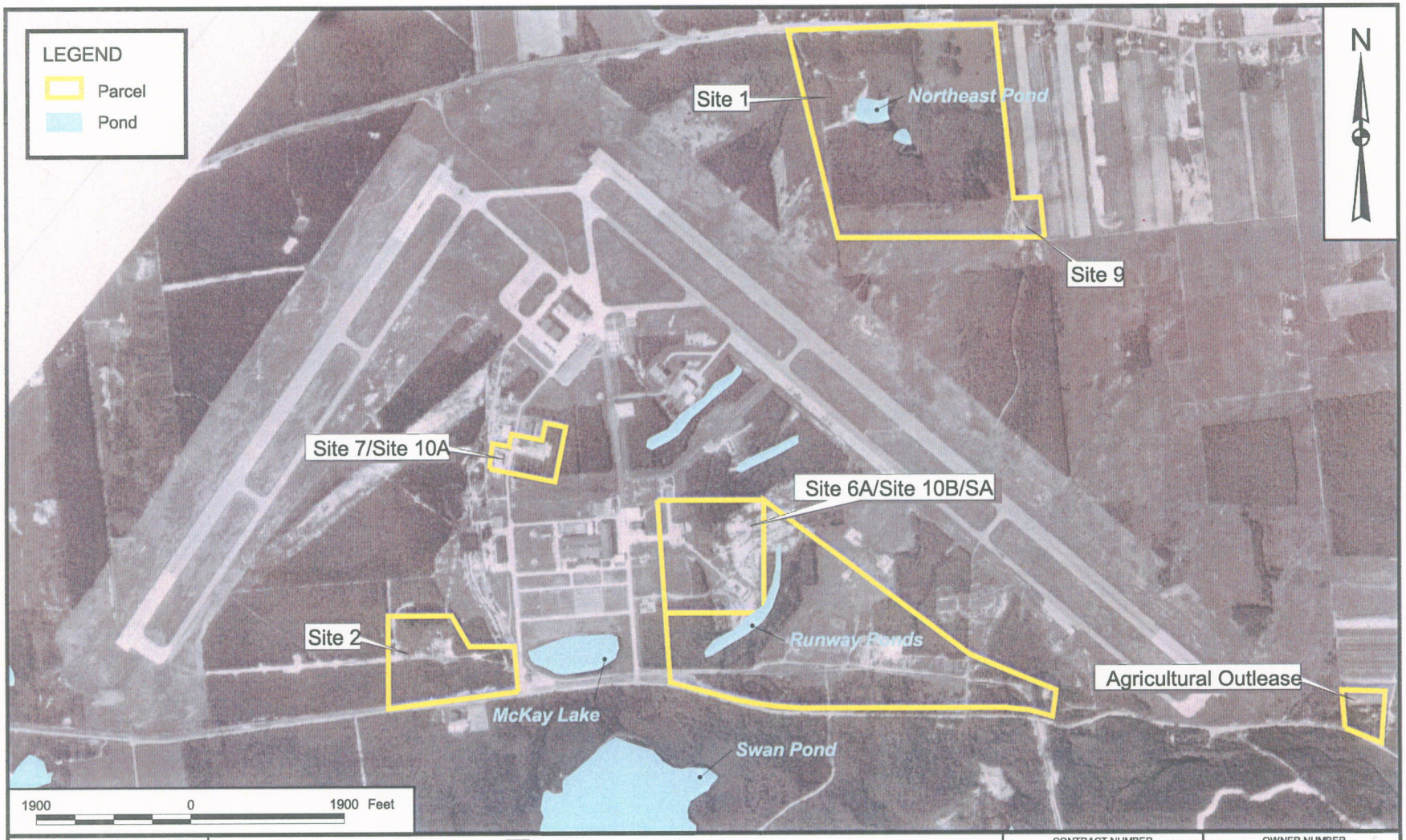

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CHECKED BY: K. TURNBULL — DATE: 11/16/05	SITE LOCATION MAP NWIRP CALVERTON, NEW YORK	APPROVED BY: — DATE: —	
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SCALE: AS NOTED		DRAWING NO.: FIGURE 1 - 2	REV: 0

P:\GIS\NWIRP_CALVERTON\PH2_REMEDIAL_INVESTIGATION.APR SITE LOCATION MAP 11/16/05 AJ

2.0 FACILITY AND SITE DESCRIPTIONS

This section provides a general overview of the former NWIRP Calverton facility and descriptions of Sites 1, 9, and 10A and the Agricultural Outlease Parcel.

2.1 FACILITY LOCATION AND DESCRIPTION

The Navy's Calverton facility is located in Suffolk County on Long Island, approximately 70 miles east of New York City. Formerly engaged in the manufacture of aircraft parts and subassemblies, the Calverton facility has phased out all of its manufacturing process operations, and the former operator of the facility, the Northrop Grumman Corporation, vacated the property in February 1996. Since that time, all of the property contained within the perimeter fence, with the exception of four noncontiguous parcels of land totaling approximately 350 acres that are being retained by the Navy to continue the IR Program, have been conveyed to the town of Riverhead. There are currently no operational activities being conducted on the Navy's 350 acres. Provided below is a description of each parcel and the IR sites contained within each area:

Parcel	IR Sites	Latitude	Longitude
Parcel A	Fire Training Area (IR Site 2)	N 40° 54' 26"	W 72° 48' 08"
Parcel B1	Fuel Calibration Area (IR Site 6A)	N 40° 54' 38"	W 72° 47' 25"
	Engine Test House (IR Site 10B)		
Parcel B2	Southern Area	N 40° 54' 28"	W 72° 47' 05"
Parcel C	Fuel Depot Area (IR Site 7)	N 40° 54' 51"	W 72° 47' 54"
	Jet Fuel Systems Lab (IR Site 10A)		
Parcel D	Northeast Pond Disposal Area (IR Site 1)	N 40° 55' 29"	W 72° 46' 52"
	Electronic Countermeasures Area (IR Site 9)		

The Navy is requesting to modify the Part 373 Permit to remove Sites 1, 9, and 10A so that a portion of Parcel C and all of Parcel D can be conveyed to the Town of Riverhead.

There are no longer any process-type operations being conducted at the Calverton facility that could generate hazardous waste nor are there any requirements for storage of hazardous materials on the Navy's property. Similarly, there will be no hazardous materials brought onto the Calverton property that are to be used as part of any process-type operations. Also, the Navy will not be operating a hazardous waste storage area that would require to be permitted pursuant to 6 NYCRR Part 373. Rather, all wastes that are generated as a result of the continuation of the Navy's IR Program will be managed at each Parcel location for which a corrective action is taking place. As such, these Parcels should be considered as less than 90 day storage areas that are exempt from 6 NYCRR Part 373 Permit requirements.

General descriptions of the Navy IR sites included in this report are provided below.

2.2 SITE 1 – NORTHEAST POND DISPOSAL AREA

Site 1 is located in Parcel D near the northeast corner of the former NWIRP Calverton facility approximately 1,000 feet south of Middle County Road (State Route 25) and 0.95 mile east of the north gate. The site was used primarily for the disposal of demolition debris, such as concrete, brick, wood, and other construction materials. Other materials reportedly disposed include aircraft sections, junked aircraft assembly tooling, office materials and furniture, pallets, and paint cans. The disposal area was approximately 2 acres in size and bordered a natural pond (Northeast Pond) (Photo 2-1).

Northeast Pond was glacially formed and covers approximately 2.3 acres. The pond has no outlet. The center of the pond is covered by a thick marsh growth that forms an island. The pond and disposal area are mostly surrounded by woodlands.

In 1984, a final soil cover was placed over the disposal area, and the area has been inactive since then. By the end of 2004, all landfill wastes, contaminated soil, and contaminated sediment were removed and disposed off site and site restoration activities had been completed.

2.3 SITE 9 – ECM AREA

The ECM Area is located near Site 1 in Parcel D. This area was constructed in the early 1970s and was most recently used for testing and evaluating electronic equipment. No manufacturing occurred at this site. However, 1,1,1-trichloroethane (TCA) was used as a cleaning agent. Workers reported that fresh TCA was stored in a 55-gallon drum on the east side of the building and that waste TCA was placed in a shallow pan outside of the east door of the building and allowed to evaporate. The workers reported that approximately 10 gallons of year were used in the laboratory operations. Some of the chemical may have leaked onto the soils and into the groundwater. The former ECM building has been demolished (Photo 2-2).

The property fence line is located east of the ECM Area. Beyond the fence line was a sod farm where a portion of the property nearest the ECM was selected for an experimental program for growing sod using municipal waste compost to amend the natural soils and provide nutrients. As part of the experimental program, a series of monitoring wells were installed and monitored by the Suffolk County Department of Health Services (SCDHS). TCA was detected a concentration of 190 µg/L at the well furthest from the ECM Area. Samples from monitoring wells located closer to the site exhibited lower concentrations.

In 1999, the ownership of the property adjacent to the ECM Area changed, and the property is now used for sand mining operations. The topography has been significantly changed with some areas being used as a borrow pit and other areas used for stockpiling of soils.

2.4 SITE 10A – JET FUEL SYSTEMS LABORATORY

This laboratory, which was constructed in 1957, was located in Parcel C near the central portion of the former NWIRP Calverton facility and was used to test hydraulic equipment on aircraft. Solvents were used in the process, and similar solvents were detected in production wells adjacent to the site.

A concrete apron used for anchoring aircraft is located to the south of the building (Photo 2-3), and a vehicle parking lot is located to the east. Four cesspools are present east of the building. Three cesspools were used for sanitary waste, and one cesspool (northernmost) was used as a leaching chamber for contaminated fuel. To the north and west are woods and grass. Several aboveground and underground fuel storage tanks are also located to the west. These tanks have been addressed under separate actions.

2.5 AGRICULTURAL OUTLEASE PARCEL

The Agricultural Outlease Parcel covers an area of 5.77 acres located within the Southeast Buffer Zone. The subject property is located east of the former NWIRP Calverton fenced area and north of River Road. The subject property was part of a 44.7-acre parcel of land that the Navy had leased to a local farmer until 1996. The parcel consisted of agricultural land plus a cluster of agricultural buildings. The Navy transferred most of Zone II, including most of the formerly out-leased agricultural land east of the fenced area, to the NYSDEC in 1997 for conservation and public recreation. However, the Navy had identified several areas within the cluster of agricultural buildings as requiring environmental investigation. The Navy therefore retained the cluster of agricultural buildings and surrounding property (Agricultural Outlease Parcel) until they could be adequately investigated and any necessary environmental cleanup could be performed.

The buildings included an abandoned farm house, storage sheds, and garages. Potentially hazardous materials stored in the buildings included pesticides, fertilizer, lead-acid batteries, and miscellaneous flammable or toxic liquids. Two underground storage tanks (USTs) and an aboveground storage tank were also located at the site. By the end of November 2001, all buildings, waste, storage tanks, and contaminated soil had been removed from the area (Photo 2-4).

Photo 2-1
Northeast Pond Disposal Area (Site 1)

The landfill was excavated from the approximate area shown in yellow as part of a remedial action completed in 2004.

Photo 2-2
Former ECM Area (Site 9)

Photo 2-3
Jet Fuel Systems Laboratory (Site 10A)
Building 230 (Northrop Grumman Building 06-11)

Photo 2-4
Agricultural Outlease Parcel

Location of Former Cluster of Outbuildings
Looking North into Area Formerly Between Buildings 259, 260, 261, 265, and 266

3.0 REMEDIAL INVESTIGATIONS

This section describes the environmental investigations conducted at Site 1 – Northeast Pond Disposal Area, Site 9 – ECM Area, Site 10A – Jet Fuel Systems Laboratory, and the Agricultural Outlease parcel. An evaluation of the vapor intrusion pathway is also included.

3.1 SITE 1 – NORTHEAST POND DISPOSAL AREA

3.1.1 Site Investigation

In 1991 and 1992, an SI was conducted at several sites, including Site 1 (HNUS Environmental, 1992). The investigation consisted of collecting a limited number of soil and groundwater samples to determine whether contamination was present. The investigation found soil contaminated with metals.

3.1.2 RCRA Facility Investigation

A RCRA Facility Investigation (RFI) was conducted in 1994 and 1995 to delineate the nature and extent of contamination (HNUS, 1995a). Six soil borings and 28 test pits were used to define the vertical extent of waste material and to collect soil samples for chemical analysis. In general, volatile organic compounds (VOCs) were detected sporadically and at relatively low concentrations in the soil and fill material. Semivolatile organic compounds (SVOCs), including polynuclear aromatic hydrocarbons (PAHs), pesticides, and polychlorinated biphenyls (PCBs) were detected throughout the fill material. Elevated levels of chromium, copper, lead, nickel, silver, and zinc were detected in portions of the fill material. A buried drum was discovered and was removed as an interim action. Chemical constituents in the overlying cover soil were generally at acceptable concentrations for the anticipated uses of the site. The areal extent of the fill material was estimated to be 1.6 acres. At an average depth of 8 feet, the volume of the fill was estimated to be 21,000 cubic yards.

Four monitoring wells were installed, and two rounds of groundwater sampling were conducted. Pesticides, PCB, and several metals were detected at concentrations above state and federal drinking water standards and/or state groundwater quality standards. However, it was suspected that the detected chemicals resulted from fill intrusion into the wells and did not reflect mobile groundwater contamination.

Four surface water and eight sediment samples were collected from Northeast Pond. Similar chemicals to those found in the waste materials were detected in the pond. However, the detected concentrations were much lower. In addition, low levels of pesticides were detected. Because the highest chemical concentrations were detected immediately adjacent to the landfill, it was concluded that the majority of the

chemical migration to the pond occurred by erosion. The horizontal extent of contamination was estimated to be 0.4 acre. Based on the concentrations of chemicals measured, it was determined that ecological impacts were possible.

3.1.3 Phase 2 RCRA Facility Investigation

The Phase 2 RFI was conducted in 1997 to fill data gaps (TtNUS, 2002a). Test pits were excavated in the location of a possible former trench located west of Site 1 to determine whether disposal activities had occurred there. No waste was encountered.

Three temporary monitoring wells were installed downgradient of the buried drum that was encountered and removed during the 1994/1995 RFI. Groundwater samples were collected at two depths and analyzed for VOCs, which were not detected.

One intermediate depth monitoring well was installed in the landfill, and two shallow monitoring wells were installed downgradient of the landfill. Two rounds of groundwater samples were collected from all permanent wells using a low-flow sampling method and analyzed for VOCs, SVOCs, pesticides, PCBs, and metals. The Phase 2 results confirmed that many of the chemicals detected during the RFI were false positives. However, two VOCs, manganese, and thallium were still detected at concentrations greater than state groundwater quality standards. The VOC concentrations were approximately 20 percent greater than drinking water criteria. Manganese is commonly found in groundwater in the area. Thallium was detected in upgradient and downgradient monitoring wells at similar concentrations, was not detected in soil, surface water, or sediment samples, and was not expected to be site related.

Pond sediment samples were collected at deeper depths than during the RFI and analyzed for SVOCs, pesticides, PCBs, and metals. The types of chemicals found in the deeper sediment samples were generally similar to those found in the sediment samples collected during the RFI. In most cases, the concentrations decreased with depth.

A benthic survey conducted on the pond sediments did not find evidence of adverse impacts from site contaminants.

3.1.4 Evaluation of Soil Vapor Intrusion

There are no buildings at Site 1, and all waste and associated contamination have been removed. Therefore, there are no VOCs in soil or groundwater that could vaporize and migrate into a building.

3.2 SITE 9 – ECM AREA

3.2.1 RCRA Facility Assessment

The initial RCRA Facility Assessment (RFA) (HNUS, 1995b) was conducted in 1994 and 1995 at the request of the SCDHS because the ECM Area could be a potential source of contamination detected in off-site county wells at the sod farm. Testing conducted during the RFA did not detect TCA in any soil samples collected on site. However, TCA was detected in groundwater samples collected from the off-site county wells. Based on these results, installation and sampling of additional monitoring wells were proposed as part of an RFA Addendum to more accurately assess the groundwater quality between the former ECM building and the county wells.

Six temporary and two new permanent monitoring wells were installed on site as part of the RFA Addendum investigation (CFB, 1997). Samples were collected from these wells and two existing county wells. The most pervasive chemical detected was TCA. TCA was detected in samples from five of the six temporary wells and the two new permanent wells. No positive detections of TCA or other volatile organics were noted in either of the samples collected from the off-site county wells.

Based on the use of TCA at the site, the detection of TCA in on-site and off-site groundwater, and the reported direction of groundwater flow to the northeast, the ECM Area operation was a likely source of the observed groundwater contamination. However, based on the concentration distribution with higher TCA concentrations observed off site and hydraulically downgradient than on site, it was concluded that the ECM Area was not a continuing source of groundwater contamination. This conclusion was further supported by the absence of TCA contamination in soils near the suspected source of contamination. It was determined that the nature and extent of off-site TCA contamination needed to be better defined.

3.2.2 Phase 2 Extended Site Investigation

The Phase 2 Extended SI, which is analogous to a Phase 2 RFA, was conducted in 2000 to determine the nature and extent of off-site groundwater contamination (TtNUS, 2000). Eleven temporary groundwater monitoring wells were installed on the property adjacent to the ECM Area. Groundwater samples were collected from two or more depths in these wells. Groundwater samples were also collected from two existing monitoring wells previously installed at Site 9.

Based on the Phase 2 SI sampling results, TCA and its breakdown products were not present at the site or in downgradient areas at concentrations that exceeded federal or state drinking water standards. The likely fate of the historic TCA and related contamination was natural degradation via either biological or chemical reactions.

Based on the absence of contamination, no further action is recommended nor warranted at Site 9.

3.2.3 Evaluation of Soil Vapor Intrusion

There are no buildings at Site 9. Therefore, there are no VOCs in soil or groundwater that could vaporize and migrate into a building.

3.3 SITE 10A – JET FUEL SYSTEMS LABORATORY

3.3.1 RCRA Facility Assessment

An RFA was conducted at Site 10A in 1994 and 1995 to investigate the leach field and cesspools located east of the building (HNUS, 1995b). Four soil gas samples were collected around the cesspool area, and two soil samples were collected at the groundwater interface. This testing only found evidence of trace levels of solvents in the area. In addition, water from adjacent production wells contained low levels of solvents; however, a treatment system was in place to remove contaminants prior to distribution throughout the facility. These wells are currently being treated and monitored by the local water district. There was also some visual evidence that petroleum products may be present. The RFA concluded that the Site 10A area was potentially contaminated with fuel or fuel/oil-related products and that further investigation of soil and groundwater was warranted.

An RFA Addendum field investigation was conducted in 1995 (CFB, 1997). Additional soil samples were collected at the soil/groundwater interface from five soil boring locations east of the building near the cesspools and leaching field. Significant petroleum contamination was not detected in this area.

3.3.2 Northrop Grumman Site Assessment

Northrop Grumman conducted a Phase I/II Site Assessment in 1995 and 1996 that included the Site 10A area. During the Phase I investigation, Northrop Grumman identified seven area of environmental concern at Site 10A (NG, 1995). During the Phase II field activities, Northrop Grumman collected 11 soil samples from seven soil borings associated with five of the areas of environmental concern (NG, 1996). Chemical concentrations in most samples were less than cleanup objectives. Trace levels of solvents and fuel were observed at one location near the cesspool, and fuel type constituents, as high as 110 mg/kg (2-methylnaphthalene), were observed underneath the building.

Northrop Grumman installed seven permanent monitoring wells at upgradient and downgradient locations to characterize groundwater quality associated with the area. However, based on location, data from only two wells were considered relevant to the Site 10A evaluation. Freon 113 at a concentration of

1,100 µg/L was measured in a sample from one downgradient monitoring well. Other chemicals detected at this location at concentrations greater than groundwater standards included ethylbenzene, methylene chloride, 1,2,4-trichlorobenzene, and xylenes.

3.3.3 Phase 2 RCRA Facility Investigation

The Navy conducted a Phase 2 RFI in 1997 to fill data gaps (CFB, 1998; TtNUS, 2003). Eleven soil borings were installed below the laboratory building, around the building, and near the cesspools and leaching chamber. Soil samples were collected at the soil/groundwater interface to determine whether or not a free product layer was present at the site. Petroleum compounds were not detected in the subsurface soil samples, indicating that the petroleum products found near the cesspool during the Phase II Site Assessment were not widespread. Based on the presence of a concrete, asphalt, and gravel cover at the site, surface conditions were considered to be acceptable for anticipated uses of the site. There is currently no risk from soil beneath the building because there are no receptors or exposure pathways. The presence of residual compounds beneath the building will be noted in the deed transfer documents.

Seventeen temporary monitoring wells were installed to determine whether groundwater contaminated with fuels or solvents was present near the Jet Fuel Systems Laboratory. Another purpose was to determine the horizontal and vertical extent of the groundwater contaminated with Freon that was detected during Northrop Grumman Corporation's Phase II Site Assessment. Groundwater samples were collected at two or more depths in each monitoring well. Chemical analysis found only limited, non-continuous, and low concentrations of solvents in the groundwater around the laboratory. Except for Freon 11 and trichloroethene detected near one monitoring well, 1,1-dichloroethene, trans-1,2-dichloroethene, and xylenes were infrequently detected at concentrations greater than groundwater standards. However, the maximum concentrations were only slightly greater than groundwater criteria. The downgradient contamination from Freon and trichloroethene is currently being addressed as part of the corrective measures implemented for Site 7 – Fuel Depot, which is also located in Parcel C and downgradient of Site 10A. The corrective measures for Site 7 include air sparging/soil vapor extraction and chemical oxidation using ozone injection.

3.3.4 Evaluation of Soil Vapor Intrusion

Based on the sampling conducted at Site 10A, significant concentrations of chlorinated VOCs have not been detected in soil or groundwater beneath the building or within 100 feet of the building. Concentrations of non-chlorinated petroleum-related VOCs have been detected beneath the building slab, and lower concentrations of similar compounds have been detected outside and within 100 feet of the building. According to draft guidance on vapor intrusion published by the New York State Department of Health (NYSDOH), Site 10A would be a low priority site because chlorinated VOCs are not present in

soil or groundwater (NYSDEC, 2004). This guidance also states that, at a minimum, a vapor intrusion investigation at a site identified through the process described in this policy as having the potential for vapor intrusion issues will involve soil-gas sampling between any remaining on-site sources of VOCs and the nearest occupied structures. However, in 2004, the NYSDEC, NYSDOH, United States Environmental Protection Agency (EPA), and SCDHS conducted a vapor intrusion evaluation consisting of soil gas and indoor air sampling at IR Site 7 located immediately adjacent to Site 10A. That evaluation, presented in a report entitled "RCRA Corrective Action Environmental Indicator (EI) RCRIS Code (CA275) Current Human Exposures Under Control," concluded that there were some low levels of contaminants present in soil gas, indoor air, and occasionally in ambient air. However, staff at all four agencies have reviewed the data and have concluded that the detected contaminants are at insignificant levels, are at levels considered to be representative of background concentrations for the area, or are believed to be present largely due to building operations. Accordingly, the agencies have determined that, under current contaminant conditions and building use, soil gas is not currently having a significant impact on the indoor air quality of buildings and no complete exposure pathway exists at this time.

The Navy contends that the conclusions reached by the agencies for Site 7 described above also hold true for Site 10A located immediately adjacent to Site 7. Those conclusions being that there may or may not be some low level contaminants present in soil gas beneath Building 230 but due to the building's vacant status, there is no complete exposure pathway that exists at this time. In accordance with Sections 3.2.7(a) and 3.6 of the NYSDOH Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated February 2005, the Navy will include language in the appropriate transfer documents that provides notice to potential owners and states that no redevelopment is to occur without prior consultation with NYSDEC and/or NYSDOH.

3.4 AGRICULTURAL OUTLEASE PARCEL

3.4.1 Site Investigation

An SI was conducted from June through August 1999 and June through July 2000 (TtNUS, 2001). The SI included removal of potentially hazardous materials, structures, and USTs and collection of soil and groundwater samples.

Materials identified as potentially hazardous were removed from the buildings, characterized, packaged, and transported off site for disposal. All buildings were demolished, and the materials were shipped off site for disposal. Farm implements and metal debris were transported off site for recycling.

Two 500-gallon steel USTs were removed and transported off site for recycling. A soil sample was collected from each excavation and analyzed for VOCs, SVOCs, gasoline range organics, and diesel

range organics. Analytical data and site observations from the UST excavation samples showed no evidence of a release or contamination associated with the storage tanks.

Fourteen surface soil samples were collected from or beneath the floors of eight buildings where potentially hazardous materials were stored. The samples were collected at biased locations based on the presence of stained or cracked surfaces and analyzed for SVOCs, pesticides, PCBs, metals, and cyanide. Four subsurface soil samples were collected downgradient of areas where hazardous materials may have impacted this medium. There were no significant detections of VOCs, SVOCs, PCBs, or cyanide in soil. Pesticides and metals were detected in individual soil samples at concentrations above NYSDEC clean-up objectives or background (for metals). However, the average concentrations were below the clean-up objectives or within the background range. In addition, there were no unacceptable risks to human health under a recreational use scenario. However, the SI recommended a limited soil excavation to address three buildings where elevated concentrations of pesticides were noted.

Four groundwater samples were collected from temporary wells co-located with the subsurface soil samples. The groundwater samples were analyzed for VOCs, SVOCs, pesticides, PCBs, metals, and cyanide. Based on a comparison of the data to federal drinking water standards and NYSDEC water quality standards, VOCs, SVOCs, pesticides, PCBs, or cyanide were not present at significant concentrations. However, the concentrations of several metals were greater than NYSDEC water quality standards. These samples were not filtered and were highly turbid. Consequently, permanent monitoring wells were installed, and groundwater samples were collected using low-flow methods and analyzed for metals. The concentrations of all metals were less than the NYSDEC water quality standards. Therefore, it was concluded that groundwater had not been adversely affected by site activities.

3.4.2 Evaluation of Soil Vapor Intrusion

All structures have been removed from the Agricultural Outlease Parcel, and VOCs were not a contaminant of concern in soil or groundwater. Therefore, there are no VOCs in soil or groundwater that could vaporize and migrate into a building.

4.0 CORRECTIVE MEASURES

This section describes the corrective measures implemented at Site 1 – Northeast Pond Disposal Area, Site 10A – Jet Fuel Systems Laboratory, and the Agricultural Outlease Parcel. Based on the results of the investigations described in Section 3.0, no corrective measures are required at Site 9 – ECM Area.

4.1 SITE 1 – NORTHEAST POND DISPOSAL AREA

Following the Phase 2 RFI discussed in Section 3.1.3, a Focused Feasibility Study (FFS) that evaluated corrective measures alternatives was conducted and completed in February 2002 (TtNUS, 2002a). The FFS presented three alternatives for the remediation of waste and contaminated soil and sediment at Site 1. Following application of the nine criteria listed in the National Contingency Plan (NCP), the Navy selected Alternative 3 – Excavation and Off-Site Disposal for the waste, soil, and sediment. Surface water contamination detected in Northeast Pond was believed to only be associated with contaminated sediment and did not represent a separate contaminated medium. Therefore, remediation of contaminated sediment would also address contaminated surface water. Throughout the remedial investigation phase, groundwater samples were collected and found to contain little or no site-related chemicals. During implementation of the selected alternative, pre- and post-construction samples were collected to determine whether groundwater conditions had changed as a result of excavation activities. The selected remedy was documented in a CERCLA ROD (Navy, 2002).

Alternative 3 was developed as an off-site disposal alternative to eliminate potential risks to human health and the environment from the fill material, contaminated soil, and contaminated sediment. These materials were excavated and transported to a permitted off-site disposal facility. Approximately 50,000 cubic yards of fill material and soil were excavated and disposed off site (TtFW, 2004). Material that had the potential to be classified as a hazardous waste, based on testing during the RFI, was sampled and analyzed for the Toxicity Characteristic. None of the excavated material was classified as a hazardous waste. The excavated landfill area was not backfilled but was returned to approximate pre-fill conditions and revegetated.

Contaminated sediment was removed to an estimated average depth of 2 feet between the toe of the east face of the landfill and the Northeast Pond island. Approximately 1,500 cubic yards of sediment were removed, leaving behind a deeper wetland (TtFW, 2004). After sediment removal, the slope of the shore below the water line was reconstructed to be no steeper than 3H:1V. A shelf was also constructed below the water line to provide a breeding area for amphibians. Sedimentation controls were implemented to reduce the re-suspension of contaminated sediment during dredging. The wetland will be allowed to naturally revegetate.

Dust suppression, run-on and runoff controls, and other erosion and sediment controls were implemented as necessary to protect human health and the environment during construction (TtFW, 2004). No institutional controls for land use were required because all landfill material, contaminated soil, and contaminated sediment were removed from the site. Post-construction groundwater monitoring conducted following removal of the landfill confirmed that groundwater was not adversely impacted by excavation activities.

The following evaluation profiles the performance of the remedy against the nine criteria that the NYSDEC State Superfund group used to evaluate the efficacy of a remedy:

- Overall Protection of Human Health and the Environment: The corrective measure selected provides adequate protection of human health and the environment by removing fill materials, contaminated soil, and contaminated sediment. This reduced the potential for contaminants to enter the human exposure pathway through ingestion and dermal contact. This also protects ecological receptors. This corrective measure also protected human health and the environment by verifying that groundwater contaminant concentrations were less than levels of concern after the source was removed.

- Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) and To Be Considered (TBC) Criteria: The selected corrective measure removed soil and sediment contaminants to levels at or below target cleanup levels. Alternative 3 met all of the ARARs presented in the FFS and ROD.

- Long-Term Effectiveness and Permanence: Waste materials, contaminated soil, and contaminated sediment were permanently removed from the site. These materials were also the potential sources of groundwater and surface water contamination. Because of the absence of detections of chemicals of concern in post-construction sampling, groundwater use restrictions are not needed.

- Reduction of Toxicity, Mobility, or Volume through Treatment: The selected corrective measure did not include treatment to reduce the toxicity, mobility, or volume of hazardous substances at the site.

- Short-Term Effectiveness: Adverse impacts to the community were not encountered during implementation of Alternative 3. Dust control measures were implemented, as necessary, throughout the construction activities. Water was applied to work areas, haul roads, and access roads as often as required to prevent excessive dust emissions. Worker exposure to the contaminated media was controlled by the use of appropriate personal protective equipment, engineering controls, and

compliance with a site-specific Health and Safety Plan and Occupational Safety and Health Administration regulations. Removal of the contaminated sediment had a short-term impact on the wetland area of Northeast Pond; however, the wetland is expected to naturally reestablish. Erosion controls were provided during excavation, sediment removal, and other construction activities to prevent additional contamination of the pond during implementation.

- Implementability: Alternative 3 has already been implemented.

- Cost: The capital cost of implementing Alternative 3 was approximately $9.1 million. There are no operation and maintenance costs.

- State Acceptance: The NYSDEC and NYSDOH concurred with the selected corrective measure.

- Community Acceptance: The SCDHS and citizens representing the local community were made aware of this proposed action at various Restoration Advisory Board (RAB) meetings conducted by the Navy and at a public meeting that was held at the Riverhead Town Hall on February 27, 2002. Both the SCDHS and local community concurred with the selected corrective measure.

Alternative 3 was selected because it provides adequate protection of human health and the environment, attains ARARs, and provided the best balance of tradeoffs with respect to the other evaluation criteria discussed above.

4.2 SITE 10A - JET FUEL SYSTEMS LABORATORY

The assessments and investigations discussed in Section 3.3 concluded that soil contaminated with non-chlorinated petroleum-related VOCs is present beneath the building slab. There is also a potential for vapor intrusion. However, there are no current receptors or exposure pathways. Therefore, land use restrictions will be imposed as an interim action and will be included in the deed transfer documents.

The first restriction will be for the floor of Building 230 to remain intact for the protection of human health from direct contact exposures. The draft restriction is as follows:

> Disturbance of Soils: The GRANTEE, its successors and assigns do hereby acknowledge that, according to Navy data, it is likely that soils contaminated with hydraulic fluid, resulting from a past release, exists beneath the floor slab of Building 230 and that the exact extent of the soil contamination has not been delineated. The GRANTEE, its successors and assigns do hereby further acknowledge that the floor of Building 230 is acting as a cap which will prevent direct contact exposure to contaminated soils and that the Navy and NYSDEC have determined that

this cap is protective of human health. As such, the GRANTEE, its heirs, successors and assigns shall first obtain the prior consultation and approval of the NYSDEC or its successor agency prior to taking any actions resulting in the disturbance of the floors of Building 230 due to the presence beneath the building of soils contaminated with petroleum hydrocarbons.

The second restriction will be for potential vapor intrusion issues. The draft restriction is as follows:

Vapor Intrusion: The GRANTEE, its successors and assigns do hereby covenant and agree that the reuse of the IR Site 10A Parcel will be for non-residential purposes and that currently, the sole building on the property (Building 230) is vacant. The GRANTEE further covenants and agrees, for itself, its successors and assigns, that prior to any reuse of Building 230, it shall be demonstrated to the NYSDEC that indoor air quality is acceptable for the intended reuse and that in order to prevent any future potential impacts to indoor air quality, any new structure(s) built on the IR Site 10A Parcel shall, if deemed necessary by the New York State Department of Environmental Conservation, include a sub-slab venting/depressurization system designed by an engineer licensed to practice in New York State.

4.3 AGRICULTURAL OUTLEASE AREA

The SI discussed in Section 3.4.1 concluded that soils beneath the concrete slabs for Buildings 260, 265, and 270 contained pesticide concentrations greater than NYSDEC clean-up objectives. A risk analysis concluded that the excess cancer risk from exposure to the pesticides was approximately 1E-06, which is within the acceptable range recommended by the EPA. However, because the contaminated areas were relatively small, the Navy subsequently decided to conduct a removal action to remove the contaminated soils. The removal action and confirmation soil sampling were conducted in accordance with work plans approved by NYSDEC. Details of the removal action are contained in the Construction Completion Report (TtNUS, 2002b).

The initial excavation consisted of the footprint of the three buildings plus 5 feet horizontal in all directions. The areas were excavated to a total depth of 2 feet. The excavations were also sloped up to a distance of approximately 5 feet from the surface from the building to address potential horizontal migration of contaminants. Excavation activities were extended outward near doorways of the buildings compared to the backs of the buildings. A total of approximately 159 tons of soil were transported off site for disposal. Following confirmation sampling and analysis, the Navy submitted the results to NYSDEC. The confirmation sampling results were satisfactory, and the excavations were considered complete and backfilled with clean soil from an off-site source.

In addition to the soil excavation, concrete slabs were excavated at Buildings 259 and 260. The slabs weighed approximately 28 tons are were taken to an off-site facility where they were crushed and recycled as construction aggregate.

Three new monitoring wells were installed downgradient of Buildings 260, 265, and 270. Groundwater samples were collected and analyzed for VOCs, SVOCs, pesticides, herbicides, PCBs, metals, and cyanide. There were no exceedances of NYSDEC groundwater standards or New York water quality standards for groundwater. Therefore, it was concluded that even though some chemicals previously stored in the buildings impacted underlying soils, these chemicals did not migrate to groundwater at unacceptable levels.

5.0 CONCLUSIONS

As stated in Section 1.0, the purpose of this Statement of Basis is to support a request for a major modification of the former NWIRP Calverton Facility Part 373 Permit in accordance with 6 NYCRR 373-1.7(b) and 621.13 to remove the SWMUs associated with IR Sites 1, 9, and 10A as well as the Agricultural Outlease Parcel. Towards that end, the Statement of Basis has demonstrated that all corrective action requirements identified in the Permit regarding these sites have been addressed. Furthermore, a description of the remedial activities undertaken by the Site 1 ROD and at the Agricultural Outlease Parcel have been included.

None of the sites subject to this Statement of Basis require additional investigation or remediation activities.

Although residual contamination is present beneath the building at Site 10A, there is no unacceptable risk because there are no current receptors or exposure pathways. The presence of residual compounds and the potential for vapor intrusion will be noted in the deed transfer documents. Consultation with NYSDEC will be required in the event of future subsurface intrusion activities or future redevelopment.

6.0 CERTIFICATION

CERTIFICATION OF COMPLETION

CLOSEOUT REPORT
FOR
EXCAVATION AND OFF-SITE DISPOSAL OF LANDFILL AT SITE 1
NORTHEAST POND DISPOSAL AREA
NWIRP CALVERTON, NEW YORK

OCTOBER 12, 2005

This document is the Certification of Completion for the Closeout Report for Excavation and Off-Site Disposal of Landfill at Site 1 - Northeast Pond Disposal Area for the Remedial Action conducted at the Northeast Pond Disposal Area (Site 1) located on Parcel D of the Naval Weapons Industrial Reserve Plant (NWIRP) in Calverton, located in Suffolk County, New York. The 6,000-acre NWIRP was formerly a government-owned/contractor operated (GOCO) facility that was operated by the Northrop Grumman Corporation. In September 1998, almost 3,000 acres of the NWIRP was transferred by deed, to the Town of Riverhead. Most of the remaining 3,000 acres of land was transferred to the New York State Department of Environmental Conservation (NYSDEC) and the Veteran's Administration in September 1999. Approximately 300 acres were retained by the Navy to continue environmental investigations. The NWIRP-Calverton facility is both a state Superfund site and a Resource Conservation and Recovery Act (RCRA) site.

Hazardous materials were not known to have been purposely disposed in this area. However, it was reported that any of the following materials could have been present in the disposal area: petroleum, oils and lubricants (POL), asphalt paving materials, halogenated and non-halogenated solvents, and paint sludge. A buried drum was encountered during the RCRA Facility Investigation (RCRA FI) test pit program [Halliburton NUS Corporation (HNUS), 1995]. This drum and some contaminated soil were excavated, placed in an over-pack container, and disposed at an off-site location in the spring of 1995. Confirmation sampling was not conducted. No other remedial actions were conducted at Site 1 prior to the work performed by Tetra Tech FW, Inc. (TtFW).

The objective of the remedial actions at Site 1 was to remove and dispose 21,000 cubic yards of fill material and 1,315 cubic yards of sediment to an off-site, approved disposal facility. The majority of the excavation area was not to be backfilled but was to be returned to approximate pre-landfill conditions including re-vegetation.

Remedial construction activities at Site 1 were completed in several stages, beginning on June 18, 2002, with mobilization, and concluding on October 9, 2003 with completion of backfill placement. Site restoration activities were completed in April 2004. The stages of construction at Site 1 included mobilization, site preparation, sediment excavation, soil/debris excavation, waste staging, backfill, off-site transportation and disposal, site restoration, and demobilization.

Sediment excavation began on July 31, 2002, once the necessary erosion and sediment controls were placed, the staging area had been constructed, and the haul roads were upgraded. Sediments were excavated from the pond area and loaded onto a temporary sediment-drying pad that was constructed within the disposal area. An estimated 1,500 cubic yards of sediment was removed. However, after the initial removal of approximately 1,000 cubic yards, little distinction was made between sediment and soil. As a result of the remediation, the west side of the Northeast Pond has been increased by approximately one (1) acre from pre-remediation site conditions. In addition, a shallow shelf (less than three-feet deep)

has been created in an area that is suitable as a breeding habitat for amphibians, including salamanders that are present on site.

Disposal area excavation began after completion of the sediment removal activities. Material was excavated from the disposal area and loaded into off-road dump trucks for transportation to the staging area. The average depth of excavation was expected to be eight feet, which was based on the average depth of contamination that was reported in the Phase 2 Remedial Investigation and Focused Feasibility Study for Site 1 – Northeast Pond Disposal Area [Tetra Tech NUS, Inc. (TtNUS)]. The actual excavation depth was based on field screening results and visual monitoring that ranged up to 15 feet below ground surface.

Concrete, metal, rubber tires, construction debris and airplane parts were encountered throughout the area of excavation. These items were segregated to the greatest extent possible during excavation and later recycled.

Grimes Contracting of Montauk, New York was awarded a subcontract by TtFW for the transportation and disposal of soil and debris, concrete, and metal. Off-site disposal of stockpiled wastes occurred once the waste characterization results were received and reviewed by TtFW. The analytical data were transmitted to the disposal facility for approval prior to shipment. On August 23, 2002, the subcontract with Grimes Contracting was terminated due to failure to perform as required by the subcontract. Excavation, stockpiling and sampling activities continued until the Navy approved corrective actions and a new transportation and disposal subcontract was awarded.

Mill City Environmental of Lowell, Massachusetts was awarded the subcontract for the transportation and disposal of soil, debris and concrete on September 6, 2002 and off-site disposal was initiated on October 1, 2002. TtFW coordinated the recycling of scrap metal to Gershow Recycling facility in Coram, New York.

In late 2002, it was determined that additional volume of material, above and beyond what was originally scoped, would require removal. During the winter shutdown of 2002-2003, Engineering Field Activity, Northeast (EFANE) tasked and funded TtFW with the excavation and load-out of additional material. However, the transportation and disposal of this additional material was contracted to Universe Technologies, Inc. (UNITEC). The reasons for contracting for a new transportation and disposal provider was due to a policy change at EFANE.

The excavation of sediment, soil and debris resulted in disposal of 75,604.08 tons of non-hazardous soil and debris, the recycling of 251.17 tons of scrap metal and 351.51 tons of concrete.

Confirmation sampling was performed in the excavation area to determine if the remedial objectives for the site had been achieved. Confirmation sampling began once the field screening results and visual observations indicated that contaminated soils have been excavated to their horizontal and vertical extent. Following confirmation sampling, approximately 19,000 cubic yards of common borrow soil, certified clean soil from a virgin source, was imported from the Calverton National Cemetery (CNC) in Calverton, New York.

TtFW subcontracted the restoration of Site 1 to Meadville Land Services of Meadville, Pennsylvania. Site restoration activities were performed during the period of April 12, 2004 through April 23, 2004. Following a removal of the erosion controls and final grading of Site 1, Meadville Land Services prepared the soil for restoration. The restoration activities were conducted in accordance with the Final Grading Plan (Foster Wheeler Environmental Corporation, 2003) that was approved by the NYSDEC. The

October 12, 2005

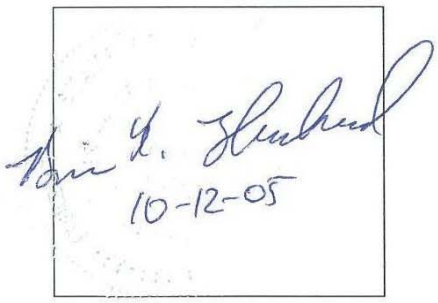
required fertilizer was mechanically applied throughout the area. One hundred and sixty-eight pounds of seed mixture was applied mechanically and by hand spreader throughout the area. Thirty-six month coconut double net erosion control blankets were installed throughout the entire disposal area to aid in soil stabilization during the germination process.

I conducted a site visit on August 5, 2004. The soil placement and erosion control matting appeared to be intact and stable with no significant evidence of erosion. Vegetation had started germinating throughout the planting area. However, due to the dryness and high temperature during the period of the site visit, no significant growth was observed. The pond was observed to contain very clear water and a substantial growth of aquatic plants on the southern portion of the pond.

Therefore, based on a review of the historical data, the Closeout Report for Excavation and Off-Site Disposal of Landfill at Site 1 - Northeast Pond Disposal Area for documentation, and the August 2004 site visit, I certify that the remedial construction for Site 1 was completed in accordance with the approved Final Work Plan for Excavation and Off-Site Disposal of Landfill at Site 1 – Northeast Pond Disposal Area and complies with the intent of the work specified in the design.

Brian K. Blanchard, PE
NYS Lic No. 082572

10-12-05
Date



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NOTE: Unauthorized alteration or addition to this report is a violation of Section 7209 of the New York State Education Law.

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