

FINAL
ENVIRONMENTAL CONDITION
OF PROPERTY
SHEPHERD OF THE SEA CHAPEL AND BUILDING 1004

NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT

JULY 2014

ACRONYMS

ABC	Atomic, Biological, and Chemical	NFRAP	No Further Remedial Action Planned
ACM	Asbestos-Containing Material	NHL	National Historic Landmark
AOC	Area of Concern	NMFS	National Marine Fisheries Service
AST	Aboveground Storage Tank	NRCS	U.S. Department of Agriculture Natural Resources Conservation Services
ASTM	American Society for Testing and Materials		
BA	Biological Assessment	NRHP	National Register of Historic Places
bgs	below ground surface	NOAA	National Oceanic and Atmospheric Administration
BO	Biological Opinion	NOV	Notice of Violation
CAP	Central Accumulation Point	NPDES	National Pollutant Discharge Elimination System
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NPL	National Priorities List
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System	OVS	Oil/Water Separator
CES/CEV	Civil Engineering Squad/Environmental Restoration Element	PA	Preliminary Assessment
CONSENT	Superfund Consent Decrees	PAH	Polycyclic Aromatic Hydrocarbon
CORRACTS	Corrective Action Report	PCB	Polychlorinated Biphenyl
CPCS	Contaminated or Potentially Contaminated Sites	pCi/L	Picocuries per liter
CRC	Control and Reporting Center	POL	Petroleum, Oil, and Lubricants
CRP	Compliance Restoration Program	ppm	Parts Per Million
CSCC	Connecticut State Climate Center	RAATS	RCRA Administrative Action Tracking System
CTGS	Connecticut Geological Survey	RAM	Radioactive Material
CTDEP	Connecticut Department of Environmental Protection	RCRA	Resource Conservation and Recovery Act
CTSDADB	Connecticut Site Discovery and Assessment Database	RCRIS	Resource Conservation and Recovery Information System
DoD	Department of Defense	RI	Remedial Investigation
ECP	Environmental Condition of Property	ROD	Record of Decision
EDR	Environmental Data Resources, Inc.	RS	Radar Site
EPA	Environmental Protection Agency	SA	Site Assessment
		SAP	Satellite Accumulation Point
		SARA	Superfund Amendments and Reauthorization Act
		SHPO	State Historic Preservation Officer
		SI	Site Inspection
ERNS	Emergency Response Notification System	SPILLS	Emergency Response Database
°F	degrees Fahrenheit	SQG	Small Quantity Generator
FEMA	Federal Emergency Management Agency	SUBASENLON	Submarine Base New London
FINDS	Facility Index System	SWF/LF	Solid Waste Facilities/Landfills
FTTS	FIFRA/TSCA Tracking System	TCP	Traditional Cultural Property
FUDS	Formerly Used Defense Site	TPH	Total Petroleum Hydrocarbons
HM	Hazardous Materials	TRIS	Toxic Chemical Release Inventory System
HQ	Headquarters	TSCA	Toxic Substances Control Act
HW	Hazardous Waste	TSD	Treatment, Storage, or Disposal
ICIS	Integrated Compliance Information System	USN	U.S. Navy
IPM	Integrated Pest Management	USC	United States Code
IR	Installation Restoration	USEPA	U.S. Environmental Protection Agency
LBP	Lead-based Paint	USFWS	U.S. Fish and Wildlife Service
LUST	Leaking Underground Storage Tank	USGS	U.S. Geological Survey
msl	Mean Sea Level	UST	Underground Storage Tank
NA	Not Applicable or Not Available	VCP	Voluntary Cleanup Program
NFA	No Further Action	VOC	Volatile Organic Compound
		WWTF	Wastewater Treatment Facility

FINAL

**ENVIRONMENTAL
CONDITION OF PROPERTY**

**SHEPHERD OF THE SEA CHAPEL AND BUILDING
1004**

**NAVAL SUBMARINE BASE NEW LONDON
GROTON, CONNECTICUT**

JULY 2014

NAVFAC MID Atlantic
Environmental Business Line
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Norfolk, Virginia 23511-3095

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TABLE OF CONTENTS

<i>EXECUTIVE SUMMARY</i>	<i>ES-1</i>
<i>1.0 INTRODUCTION</i>	<i>1-1</i>
1.1 Purpose of the Environmental Condition of Property.....	<i>1-1</i>
1.2 Boundaries of the Subject Property and Survey Area.....	<i>1-2</i>
<i>2.0 SURVEY METHODOLOGY</i>	<i>2-1</i>
2.1 Approach and Rationale	<i>2-1</i>
2.2 Documents Reviewed	<i>2-1</i>
2.3 Property Inspections	<i>2-3</i>
2.4 Personnel Interviews	<i>2-3</i>
<i>3.0 FINDINGS FOR THE SUBJECT PROPERTY</i>	<i>3-1</i>
3.1 History and Current Use	<i>3-1</i>
3.2 Environmental Setting	<i>3-2</i>
3.3 Hazardous Substances	<i>3-5</i>
3.4 Disclosure Items.....	<i>3-10</i>
<i>4.0 FINDINGS FOR ADJACENT PROPERTIES</i>	<i>4-1</i>
4.1 Historical and Current Land Use	<i>4-1</i>
4.2 Regulatory Records Review	<i>4-3</i>
<i>5.0 REGULATORY COMPLIANCE ISSUES</i>	<i>5-1</i>
5.1 Compliance and Liability Issues	<i>5-1</i>
<i>6.0 CONCLUSIONS</i>	<i>6-1</i>
<i>7.0 CERTIFICATION OF THE ENVIRONMENTAL CONDITION OF PROPERTY</i> ...	<i>7-1</i>

APPENDICES

APPENDIX A.	TERMS
APPENDIX B.	REFERENCES
APPENDIX C.	HISTORICAL AERIAL PHOTOGRAPHS AND MAPS
APPENDIX D.	STATE AND FEDERAL DATABASE SEARCH RESULTS
APPENDIX E.	SITE PHOTOGRAPHS
APPENDIX F.	LIST OF PREPARERS
APPENDIX G.	LEASE & LICENSE INFORMATION
APPENDIX H.	RELEVANT DOCUMENTS
APPENDIX I.	WORK PLAN AND HEALTH & SAFETY PLAN

LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
<i>Table 2-1. Review of Historical Maps, Topographic Maps, and Aerial Photographs</i>	<i>2-2</i>
<i>Table 2-2. Interviewed Personnel.....</i>	<i>2-4</i>
<i>Table 3-1. Current Buildings on the Subject Property.....</i>	<i>3-2</i>
<i>Table 3-2. UST Inventory</i>	<i>3-7</i>
<i>Table 3-3. AST Inventory.....</i>	<i>3-8</i>
<i>Table 3-4. Current Oil Water Separators.....</i>	<i>3-8</i>
<i>Table 3-5. Federally Listed Threatened and Endangered Species in New London, Connecticut</i>	<i>3-15</i>
<i>Table 4-1. Review of Historical Topographic Maps and Aerial Photographs – Adjacent Properties.....</i>	<i>4-2</i>
<i>Table 4-2. Federal and State Database Summary</i>	<i>4-3</i>

LIST OF FIGURES

<u>FIGURE</u>	<u>PAGE</u>
<i>Figure 1-1. Location Map.....</i>	<i>1-3</i>
<i>Figure 1-2. Site Map and Surroundings.....</i>	<i>1-4</i>
<i>Figure 1-3. Site Map</i>	<i>1-5</i>
<i>Figure 3-1. Topographic Map</i>	<i>3-4</i>

EXECUTIVE SUMMARY

Environmental Resources Management, Inc. (ERM) under subcontract to Michael Baker Corp. (Baker), through Naval Facilities Engineering Command (NAVFAC) Atlantic Contract N62470-10-D-3000, was tasked to conduct an Environmental Condition of Property (ECP) assessment for the Shepherd of the Sea Chapel (Building 1001), the Navy Housing Community Center (Building 1004), and approximately 13.5 acres associated with the two buildings, hereinafter referred to as the “Subject Property” (see Figures 1-1 and 1-2). This ECP also documents the environmental condition of adjacent areas within 100 feet of the property boundaries.

The Subject Property, covering approximately 13.5 acres is located in the town of Groton, New London County, Connecticut, in a residential area, Nautilus Park III, off Gungywamp Road. The Chapel was constructed in 1966 to house religious services for Submarine Base New London (SUBASENLON) personnel and Nautilus Park III residents. The Navy Housing Community Center was constructed in 1975 as a community center for the Nautilus Park III family housing area. The two buildings share a driveway and parking lot. The Subject Property, and the family housing area it supported, is off-base, approximately 0.6 mile southeast of the SUBASENLON boundary.

Because of high maintenance costs mostly associated with heating the facility, the Chapel closed on 24 February 2012. The Community Center has been vacant since 2010. SUBASENLON is planning to dispose of the Shepherd of the Sea Chapel, Building 1004, and the associated 13.5 acres. The Subject Property is bordered to the north by Gungywamp Road and the Barnum School, the east by residential housing, the west by the Navy Exchange Dolphin Mart, and the south by undeveloped wood land and Beaverdam Brook. This ECP is being conducted to document the nature, magnitude, and extent of environmental contamination related to the Subject Property in support of real estate decisions, to determine the risk of exposure to any environmental contaminants by the property recipients, and to inform grantees of environmental conditions, restrictions, and land use controls associated with the real property.

This ECP was conducted in compliance with American Society for Testing and Materials (ASTM) Standard Practice for Conducting Environmental Baseline Surveys (ASTM Standard D 6008-96(2005)), ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Standard E 1527-05(2005))¹, Department of the Navy Environmental Policy Memorandum 06-06: Streamlined Environmental Procedures Applicable to Non-BRAC Real Estate Actions (July 5, 2006), and applicable federal, state, and local laws and regulations. The ECP team used the following approach to survey the Subject Property: review of available documents from federal, state, and local sources; interviews of persons knowledgeable about the Subject Property; and a visual inspection of the property and surrounding areas.

¹ An updated ASTM Standard for Phase I Environmental Site Assessments (ASTM E1527-13) was published on November 6, 2013; however, the standard has not yet been officially adopted by the US EPA. Changes in the standard will not affect the conclusions of this ECP.

1.0 INTRODUCTION

1.1 PURPOSE OF THE ENVIRONMENTAL CONDITION OF PROPERTY

Environmental Resources Management, Inc. (ERM) under subcontract to Michael Baker Corp. (Baker), through Naval Facilities Engineering Command (NAVFAC) Atlantic Contract N62470-10-D-3000, was tasked to conduct an Environmental Condition of Property (ECP) assessment for the Shepherd of the Sea Chapel (Building 1001), the Navy Housing Community Center (Building 1004), and approximately 13.5 acres associated with the two buildings, hereinafter referred to as the “Subject Property” (see Figure 1-1). This ECP also documents the environmental condition of adjacent areas within 100 feet of the Subject Property boundaries.

The Subject Property, covering approximately 13.5 acres is located within the town of Groton, Connecticut, in a family housing area, Nautilus Park III, off Gungywamp Road. The Chapel was constructed in 1966 to house religious services for Submarine Base New London (SUBASENLON) personnel and Nautilus Park III residents. The Navy Housing Community Center was constructed in 1975 as a community center for the Nautilus Park III family housing area. The two buildings share a driveway and parking lot (see Figure 1-2). Both facilities are currently vacant and have not been used since at least 2010.

SUBASENLON is planning to dispose of the Shepherd of the Sea Chapel, Building 1004 and the associated 13.5 acres. The Subject Property is bordered to the north by Gungywamp Road and the Barnum School, the east by residential housing, the west by the Navy Exchange building, and the south by undeveloped wood land and Beaverdam Brook. This ECP is being conducted to document the nature, magnitude, and extent of environmental contamination related to the Subject Property. The objective of the ECP Report is to document the environmental conditions of the Subject Property in support of real estate decisions, to determine the risk of exposure to any environmental contaminants by the property recipients, and to inform grantees of environmental conditions, restrictions, and land use controls associated with the real property.

This ECP contains seven sections and nine appendices as follows: Section 1 presents the purpose of this ECP and an introduction to the Subject Property. Section 2 presents the methodology used in preparing this ECP. Sections 3 and 4 present findings for the Subject Property and adjacent properties, respectively. Section 5 discusses issues related to regulatory compliance and Section 6 presents the conclusions of the ECP. Certifications of this ECP can be found in Section 7.

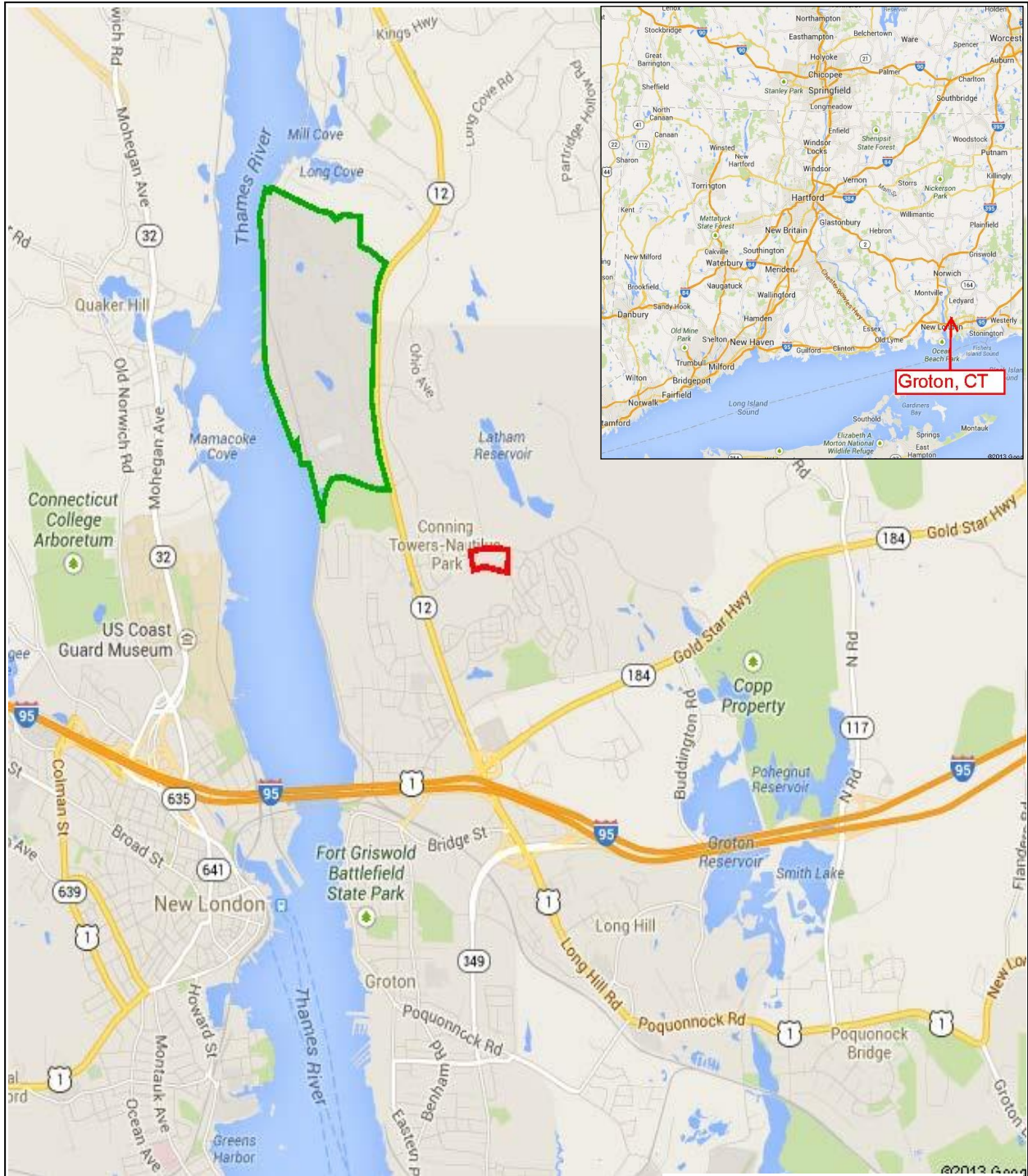
Appendix A lists terms used in this document and their definitions. Appendix B lists the references that were used in preparing this report. Appendix C includes historical aerial photographs and topographic maps. State and federal environmental database search results are provided in Appendix D. Photographs taken of the subject property during the ECP site visit are shown in Appendix E. Appendix F lists the preparers of this ECP Report. Appendix G presents available lease information and property descriptions evaluated in this ECP and Appendix H presents additional relevant documents. Appendix I presents the work plan and health & safety plan for this ECP.

1.2 BOUNDARIES OF THE SUBJECT PROPERTY AND SURVEY AREA

The survey area for this ECP consists of the real property constituting the Subject Property (see Section 1.1). The Subject Property is located in Groton, Connecticut, as shown in Figures 1-1 and 1-2.

The Subject Property has been improved with two buildings, the Shepherd of the Sea Chapel and a Community Center (see Figure 1-2). The buildings share a parking lot and driveway off Gungywamp Road.

According to U.S. Geological Survey (USGS) topographic maps, the Subject Property is located within the Uncasville Target Quads. Based on a reference point at the center of the Subject Property, it is located at latitude 41° 22' 54.12" North and longitude 72° 4' 4.08" West. All available legal property descriptions for the parcels constituting the Subject Property are found in Appendix G. On 14 August 1962, the U.S. Government acquired 109.72 acres of land from the State of Connecticut (Property Record Number 180026). The Subject Property acreage was included in this acquisition.



- Subject Property Approximate Boundary
- SUBASENLON Approximate Boundary



Figure 1-1. Location Map
 Shepherd of the Sea Chapel and Building 1004
 Groton, Connecticut

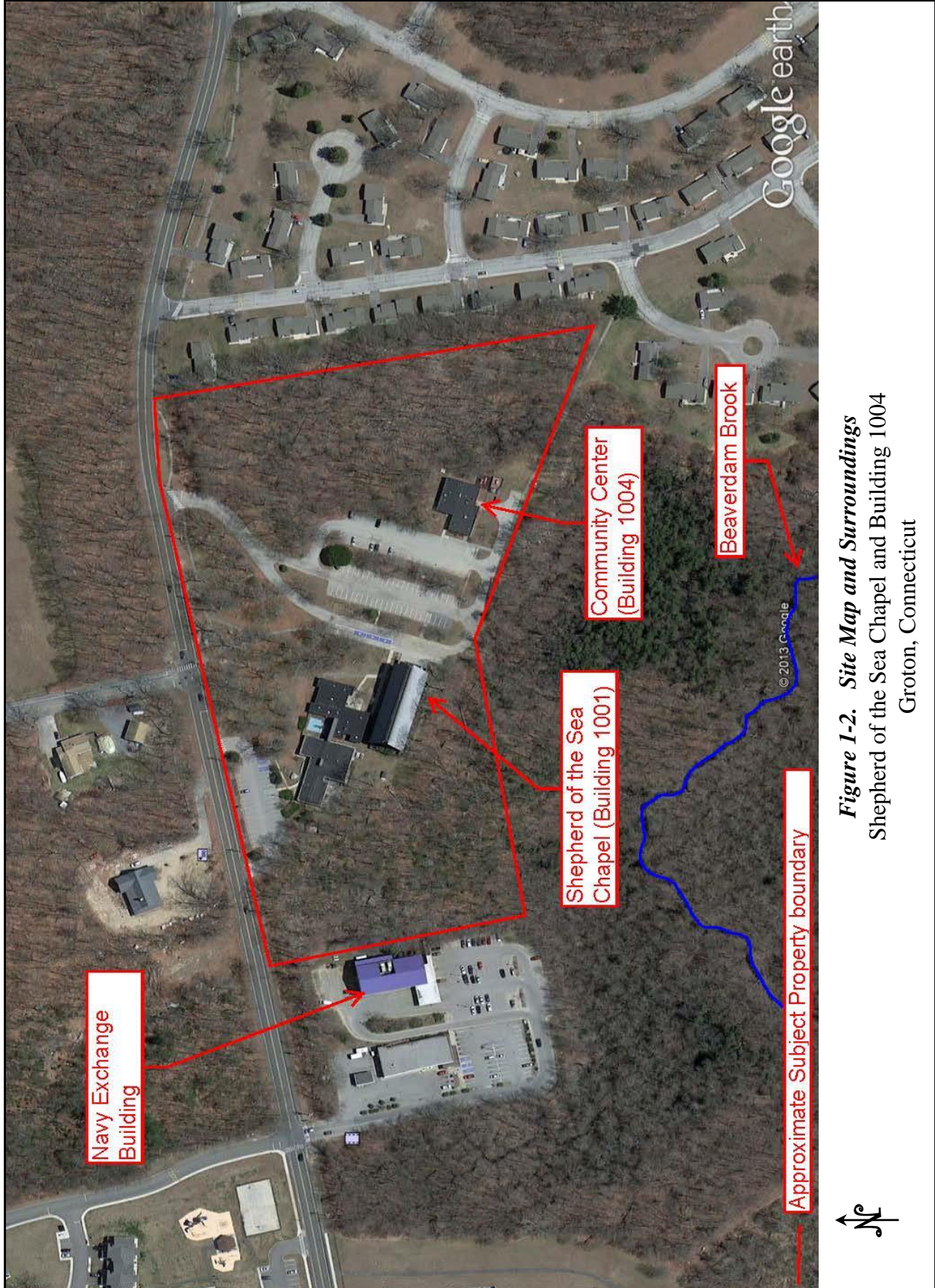
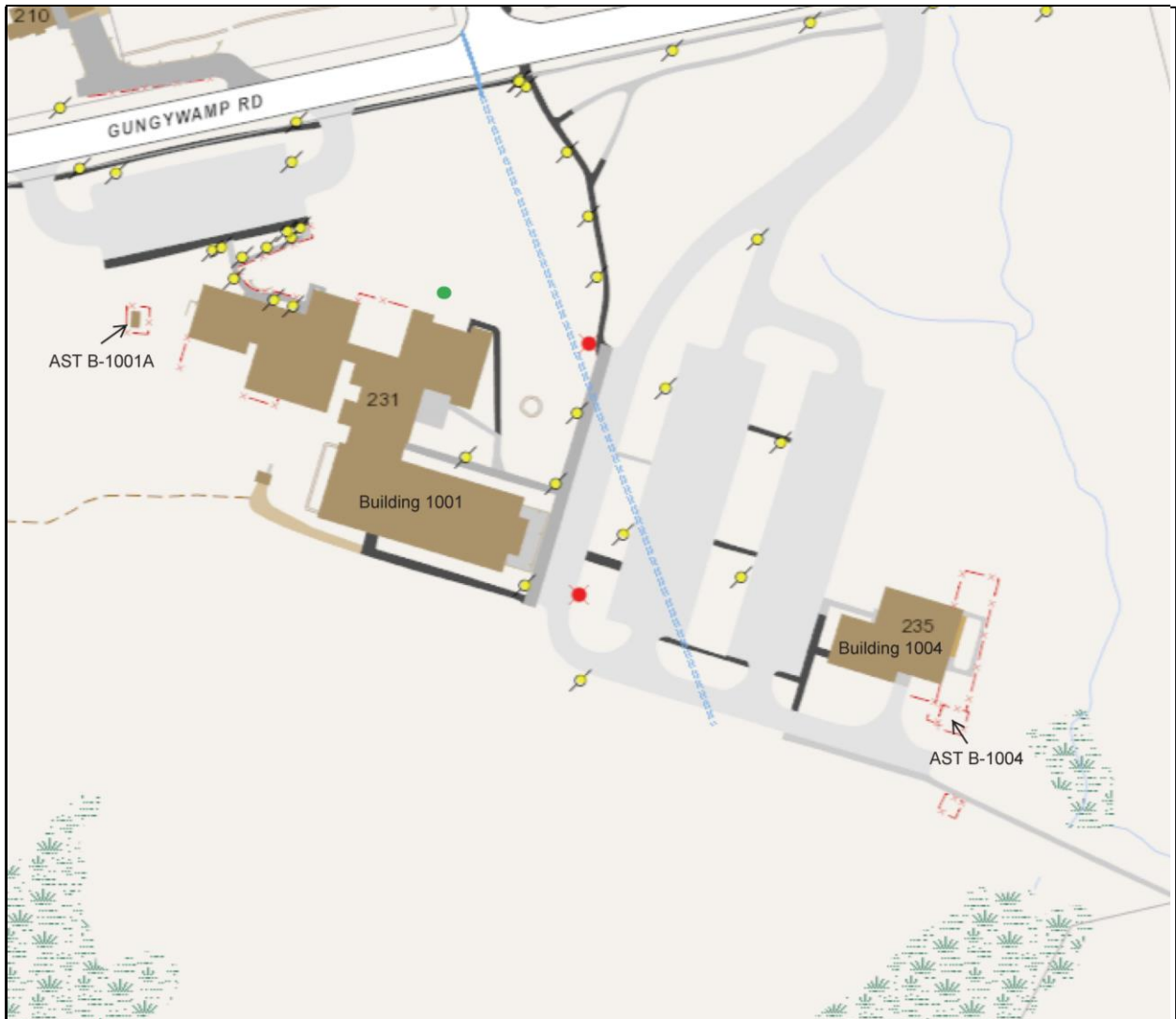


Figure 1-2. Site Map and Surroundings
 Shepherd of the Sea Chapel and Building 1004
 Groton, Connecticut



Source: Town of Groton GIS Mapper

Legend:

- Sewer Lift Station
- Light Pole
- Fire Hydrant
- - - Storm Sewer Line
- Wetland



Figure 1-3. Site Map
 Shepherd of the Sea Chapel and Building 1004
 Groton, Connecticut

2.0 SURVEY METHODOLOGY

2.1 APPROACH AND RATIONALE

This ECP was conducted in compliance with Navy policy requirements, including Department of the Navy Environmental Policy Memorandum 06-06: Streamlined Environmental Procedures Applicable to Non-BRAC Real Estate Actions (July 5, 2006), and in general accordance with the American Society for Testing and Materials (ASTM) Standard D 6008-96, *Standard Practice for Conducting Environmental Baseline Surveys*, ASTM Standard E 1527-05 (see footnote 1) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, and applicable federal, state, and local laws and regulations. The ECP team used the following approach to survey the Subject Property: review available documents from Federal, state, and local sources; interview persons knowledgeable about the Subject Property; and visually inspect the Subject Property and surrounding areas. Terms used in this document and their definitions are provided in Appendix A.

2.2 DOCUMENTS REVIEWED

The ECP team examined all relevant environmental documents made available by SUBASENLON. These documents include architectural surveys, tank inventories, Installation Restoration (IR) Program documents, lead-based paint surveys, ACM surveys, Integrated Natural Resources Management Plan, and prior ECPs conducted in the vicinity of the Subject Property. A complete list of the documents used to prepare this ECP is provided in Appendix B.

A review of historical aerial photographs and USGS topographic maps is included in Table 2-1 and Table 4-1. Aerial photographs and topographic maps are found in Appendix C. In addition, searches of available, relevant State and Federal environmental databases (e.g., leaking underground storage tank [LUST] lists, emergency spill response reports, and hazardous waste generation files) were conducted to determine which sites in the surrounding area have the

potential to affect the Subject Property. Results of the Federal and State environmental database searches are provided in Appendix D.

Table 2-1. Review of Historical Maps, Topographic Maps, and Aerial Photographs

Historical Aerial / Topographic Map	Date	Scale	Source	Details Observed
Topographic Map	1893	1:62,500	EDR	The topographic map does not show any buildings or structures on, or in the vicinity of the Subject Property.
Topographic Map	1947	1:25,000	EDR	The topographic map does not show any buildings or structures on, or in the vicinity of the Subject Property. Gungywamp Road is present in its current configuration.
Topographic Map	1958	1:24,000	EDR	The topographic map does not show any buildings or structures on, or in the vicinity of the Subject Property.
Topographic Map	1970	1:24,000	EDR	The topographic map shows the Shepherd of the Sea Chapel and the driveway/parking lot associated with it. Building 1004 is not present.
Topographic Map	1984	1:24,000	EDR	The topographic map remains unchanged since 1970; Building 1004 is not shown on the 1984 topographic map.
Aerial Photograph	1934	1:500	EDR	The 1934 aerial shows the Subject Property as undeveloped, wooded land. Gungywamp Road is present in its current configuration.
Aerial Photograph	1941	1:750	EDR	The 1941 aerial shows the Subject Property as undeveloped, wooded land.
Aerial Photograph	1957	1:500	EDR	The 1957 aerial shows the Subject Property as undeveloped, wooded land.
Aerial Photograph	1959	1:1,000	EDR	The 1959 aerial shows the Subject Property as undeveloped, wooded land.
Aerial Photograph	1970	1:500	EDR	The 1970 aerial shows the Shepherd of the Sea Chapel and the associated driveway and parking lot. Building 1004 has not been constructed.
Aerial Photograph	1974	1:500	EDR	The 1974 aerial shows no changes from the 1970 aerial photograph.
Aerial Photograph	1980	1:1,000	EDR	The 1980 aerial shows the Shepherd of the Sea Chapel as it was in the 1974 aerial except that Building 1004 has been constructed in its current configuration.
Aerial Photograph	1986	1:500	EDR	The 1986 aerial photograph shows no changes from the 1980 aerial photograph.
Aerial Photograph	1990	1:500	EDR	The 1990 aerial photograph shows no changes from the 1980 aerial photograph.
Aerial Photograph	1991	1:500	EDR	The 1991 aerial photograph shows no changes from the 1980 aerial photograph.
Aerial Photograph	1996	1:500	EDR	The 1996 aerial photograph shows an addition on the north side of the Shepherd of the Sea Chapel, as well as a new parking lot to the north of the Chapel is present. The rest of the Subject Property remains unchanged since 1991.
Aerial Photographs	2005, 2006, 2008, 2010, 2012	1:500	EDR	Subject aerial photographs show no changes from the 1996 aerial photograph.

Source: Environmental Data Resources, Inc. (EDR)

2.3 *PROPERTY INSPECTIONS*

An ECP Checklist inspection was performed by Public Works Environmental personnel on Building 1004 in August 2011 and on Building 1001 in March 2012. The Checklists were updated by the ECP team during preparation of this 2013 ECP. Copies of these Checklists are included in Appendix H.

A visual survey of the Subject Property was conducted on 6 November 2013. The survey covered all buildings and areas of potential environmental significance on-site and within 100 feet of the Subject Property's boundaries. SUBASENLON staff provided the ECP team access to each building and provided information on building history, hazardous substance storage, waste generation and disposal practices, and known releases.

Adjacent properties (within 100 feet of the Subject Property boundary) were visually inspected during the same time period. Any unusual objects (e.g., stained soils or stressed vegetation) were examined further. A complete set of photographs taken during the visual survey is provided in Appendix E.

2.4 *PERSONNEL INTERVIEWS*

The ECP team conducted formal and informal interviews with available personnel from SUBASENLON regarding potential environmental issues at the Subject Property. Interviewees provided information with respect to historical activities conducted at the Subject Property, with particular emphasis on prior operational use of facilities which could pose potential environmental concerns. The interviews conducted during this ECP did not identify any significant environmental issues. Persons contacted and interviewed as part of this investigation include the following:

Table 2-2. Interviewed Personnel

Name	Title or Area of Responsibility (within SUBASENLON)	Years on Site	Date Interviewed
Tracey McKenzie	NEPA, IR, Natural Resources, and Cultural Resources Manager	3	6 November 2013
Jason Billings	Utilities Manager	1.5	6 November 2013
Rich Massad	Asbestos, Lead-Based Paint, and Drinking Water Manager	33	6 November 2013
Minerva Beard	Real Estate Manager	10	6 November 2013
Dave Valley	Tank Manager	3	6 November 2013
Michelle Schukoske	Balfour Beatty	4	15 November 2013

3.0 FINDINGS FOR THE SUBJECT PROPERTY

3.1 HISTORY AND CURRENT USE

The following historical information on the Subject Property was obtained both through a review of available documentation and from personnel interviews. Historical information from aerial photograph reviews is presented in Table 2-1. Table 3-1 presents the building number, description/function, size, and year of construction for all buildings on the Subject Property.

In 1962, the U.S. Government acquired 109.72 acres of vacant land from the State of Connecticut. The 13.5 acres comprising the Subject Property were included in this acquisition.

The Shepherd of the Sea Chapel, Building number 1001, constructed in 1966, originally consisted of the chapel proper and an attached religious education building. An addition to the north end of the building was constructed in 1992, expanding the total space of the Chapel to its current 23,356 square feet. Because of high maintenance costs mostly associated with heating the facility, the Chapel closed on 24 February 2012, and religious services were relocated to the SUBASENLON. The Shepherd of the Sea Chapel has been recommended for listing in the National Register of Historic Places (NRHP); however, due to its age, it will not be technically eligible for listing in the NRHP until 2016 (ARS 2012).

Building 1004, the Navy Housing Community Center, was constructed in 1975, and occupies 5,421 square feet. The Community Center was part of a Private Public Venture (PPV) between the Navy and Balfour Beatty for five years (August 2005 to July 2010), whereby the real property was owned by the Navy, while the facility was managed by Balfour Beatty. This facility has been vacant since Balfour Beatty returned it to the Navy in 2010.

Table 3-1. Current Buildings on the Subject Property

Building / Facility Number	Building / Facility Name	Year Built	Area (Sq. Ft.)	Use
1001	Shepherd of the Sea Chapel	1966; Addition in 1992	23,356	Provided worship services and religious education and other special programs for Navy personnel and families.
1004	Community Center	1975	5,421	Provided a community center for off-base family housing residents.

Source: ECP 2013.

3.2 ENVIRONMENTAL SETTING

The following sections describe the environmental setting of the Subject Property and include information on climate, topography, geology, soils, surface water/wetlands, and groundwater. [Note: Environmental setting information specific to the Subject Property is generally unavailable, and unless otherwise noted, regional information is provided].

3.2.1 Climate

Generally, Connecticut has a temperate climate, with mild winters and warm summers, as a result of its location abutting the Atlantic Ocean. Prolonged droughts and widespread floods in this area are infrequent. Measurable precipitation falls on an average of one day in three, with the yearly total approximating 120 days. Periods of five days or more of successive daily precipitation occur a few times during most years. Most snowfall occurs in January and February; but December and March snowstorms are common. Precipitation averages 49 inches per year (CSCC 2013).

Connecticut lies in the “prevailing westerly” belt of generally eastward air movement which encircles the globe in middle latitudes. A large number of storm centers and air-mass fronts pass near or over Connecticut during a year. Three types of air affect this State:

- Cold, dry air pouring down from sub-arctic North America;
- Warm, moist air from the Gulf of Mexico and subtropical waters of the Atlantic; and
- Cool, damp air moving in from the North Atlantic.

Because the flow of air is usually from continental areas, Connecticut is more influenced by the first two types than by the third. The third type of air is often associated with severe winter storms popularly known as “northeasters”. These storms generate strong winds and heavy rain or snow (CSCC 2013).

3.2.2 *Topography*

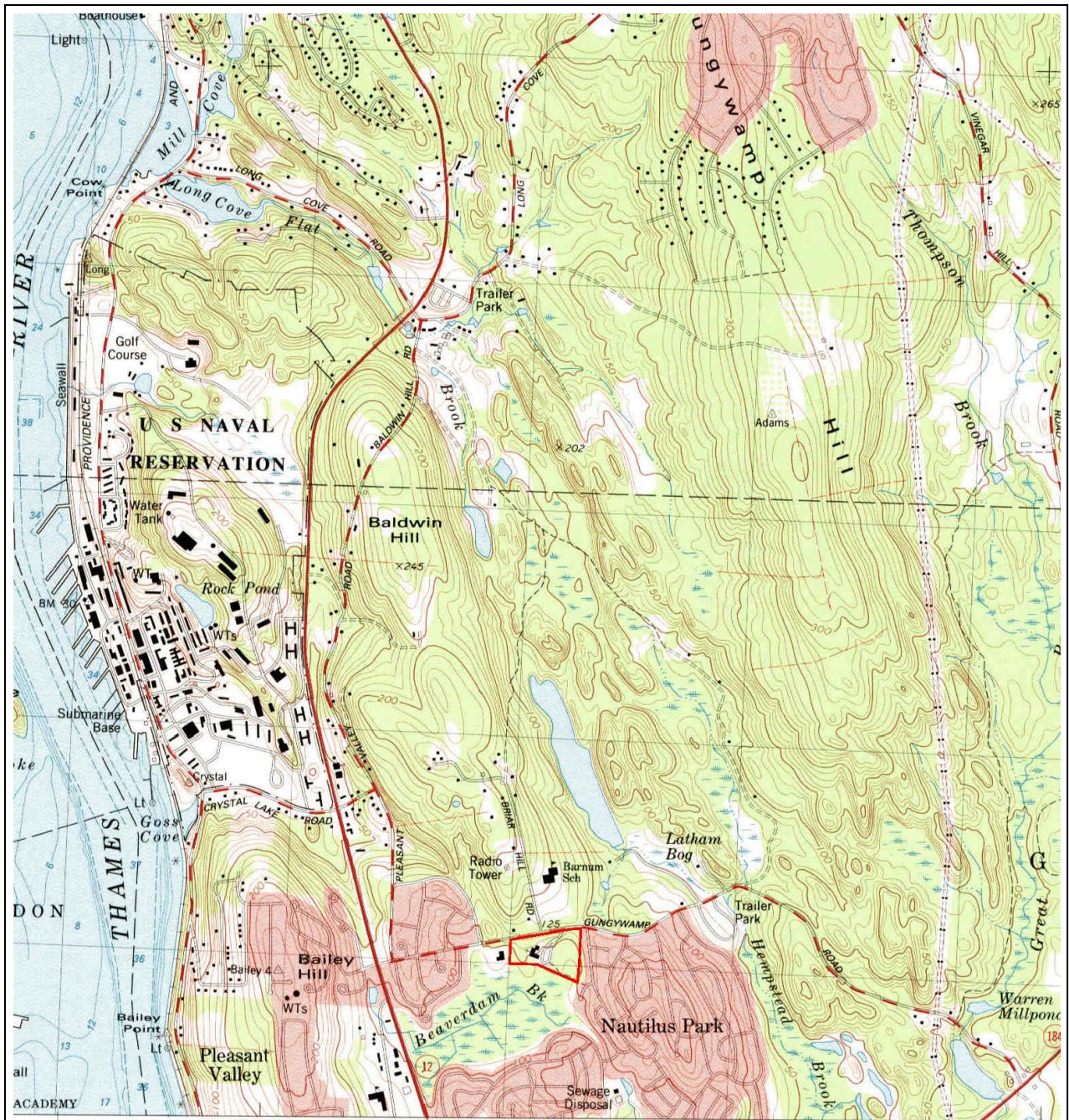
The Subject Property is located at an elevation ranging from approximately 90 to 120 feet above mean sea level (msl) and slopes towards the south-southwest (see Figure 3-1). The Subject Property is covered with approximately 3.5 acres of paved impervious areas. The remaining approximately 10 acres is undeveloped, partially wooded land and wetland. Beaverdam Brook and the Beaverdam Brook wetland are located to the south of the subject property and flows westerly to the Thames River, approximately one mile west of the Subject Property and another wetland occurs east of and within the Subject Property boundary (GMI 2000). This other wetland is actually part of the Beaverdam Brook/Wetland complex.

3.2.3 *Geology*

The Subject Property is underlain by the Mamacoke Formation, which consists of inter-layered light to dark gray, medium-grained gneiss and Potter Hill Granite Gneiss, a light-pink to gray, tan weathering, fine- to medium-grained, well-foliated granitic gneiss (CTGS 1985).

3.2.4 *Soils*

Soils at the Subject Property consist of Timakwa muck and Narragansett silt loam. The Timakwa soil is classified as a muck soil, and is created from woody organic material over sandy and gravelly glaciofluvial deposits. It is a very poorly drained soil with very slow infiltration rates, and is classified as a hydric soil. The Narragansett soil is classified as a silt loam and is well drained with moderate infiltration rates. The Narragansett soil is classified as a partially hydric soil (NRCS 2013, EDR 2013b). A hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part and is one indicator of wetland conditions.



— Approximate Subject
Property Boundary



Figure 3-1. Topographic Map
Shepherd of the Sea Chapel and Building 1004
Groton, Connecticut

Target Quad: Uncasville, CT (1984), Series 7.5

3.2.5 *Surface Water*

No ponds, rivers, or standing water were observed on the Subject Property at the time of the site visit. Storm water flows across paved areas on the Subject Property to an outfall at the southern end of the parking lot. Beaverdam Brook and the Beaverdam Brook wetland occur south of the Subject Property (Figure 1-3 and Appendix H) (INRMP 2008). A forested wetland with an intermittent stream is located east of Building 1004 (Figure 1-3 and Appendix H) and is part of the larger Beaverdam Wetland.

The eastern and southern portions of the Subject Property are located within a 500-year flood plain (FEMA 2013, ECP 2013). A copy of the flood plain map is included in Appendix H.

3.2.6 *Groundwater*

Hydrogeological studies conducted at or in the vicinity of the Subject Property were not identified during the conduct of this ECP. There are no wells on the Subject Property; document reviews did not identify any water wells within one mile of the Subject Property (EDRb 2013). Based on a review of topographic maps, which show the Subject Property at an elevation of 90 to 120 feet msl and Beaverdam Brook to the south at an elevation of 80 feet msl, it is assumed that depth to groundwater ranges from 10 to 40 feet below ground surface.

3.3 *HAZARDOUS SUBSTANCES*

The ECP team conducted records search, personnel interviews, and a visual inspection of each building and the surrounding areas to identify evidence of storage, disposal, or release of hazardous substances. Areas of concern within the Subject Property are discussed in the following sections.

3.3.1 *Hazardous Materials and Petroleum Substances*

Document reviews, the site inspection and interviews with personnel knowledgeable on the Subject Property did not uncover evidence of current or historic hazardous or bulk petroleum substance storage areas, other than those discussed in Section 3.3.5, on the Subject Property. No use or storage would be likely due to the current and historical use of the Subject Property.

3.3.2 *Release History*

The Subject Property inspection, document reviews, and interviews did not identify the occurrence of any historical or current spills at the Subject Property. Due to the current and historical nature of activities at the Subject Property, it is unlikely that significant releases would have occurred.

3.3.3 *Hazardous and Petroleum Wastes*

The ECP did not uncover evidence of any current or historical hazardous waste storage or releases. This property was not listed in any Federal Database as a registered generator of hazardous waste (EDR 2010b). No use or storage would be likely due to the current and historical use of the Subject Property.

3.3.4 *Installation Restoration Program (IR) Sites*

The DoD's IR Program is the basis for response actions at DoD facilities under the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

According to installation personnel interviewed, there are no current or historic IR sites on the Subject Property.

3.3.5 *Storage Tanks and Pipelines*

3.3.5.1 *Fuel Pipelines*

Document reviews and interviews uncovered no evidence of current or historic petroleum, oil, and lubricants (POL) pipelines at the Subject Property.

3.3.5.2 *Underground Storage Tanks (USTs)*

Documents reviewed indicated USTs were installed at both the Shepherd of the Sea Chapel and Building 1004. According to site plans reviewed, an UST for heating oil was installed at the Chapel in January 1966 during building construction. Although no removal

documentation was uncovered for the Chapel UST, a cover letter dated 13 June 1989 was obtained from the Connecticut Department of Environmental Protection (CTDEP) for soil sampling results taken from the excavation of multiple USTs removed, including a UST at the Shepherd of the Sea Chapel. Sampling results were not included in the letter obtained (see Appendix H). Documentation was also found describing a new UST installation in January 1989 in the same location as the 1966 UST. According to documents reviewed, the UST at the Chapel installed in 1989 was removed in November 1997, and replaced with an aboveground storage tank (AST). Documents reviewed also showed an UST at Building 1004, installed in 1975 during building construction, was removed in November 1997 and replaced with an AST.

Removal documentation does not state the condition of the tanks during removal or if petroleum staining was observed on the soil surrounding the tanks (ECP 2013). Documents obtained from a request submitted to the Connecticut Department of Energy and Environmental Protection (CT DEEP) by SUBASENLON for UST information on file resulted in the soil sampling letter mentioned above and multiple correspondence requesting an extension to the “Usage Deadline” and “Removal Deadline” imposed by the CTDEP. Actual removal documentation as well as the soil sampling results were not available for review (see Appendix H for documents pertaining to the USTs).

Table 3-2. UST Inventory

Facility Number	UST ID Number	Date Installed	Product	Capacity (gal)	Container Material	Comments
1001	CH-1001-1	January 1966	#2 Fuel oil	5,000	Steel, unlined	Removal documents do not exist for this tank. Documents reviewed indicate tank number CH-1001-1 was removed circa end of 1988 prior to January 1989. It appears tank 1001-2 replaced tank 1001-1.
1001	CH-1001-2	January 1989	#2 Fuel oil	5,000	Double walled steel	UST Removed in November 1997
1004	CH-1004	March 1975	#2 Fuel oil	2,000	Double walled steel	UST Removed in November 1997

Sources: ECP 2013, USTINV1998.

3.3.5.3 Aboveground Storage Tanks (ASTs)

ASTs containing fuel oil are located at both buildings for on-site heating. The AST at the Shepherd of the Sea Chapel is 2,000 gallons, and the AST at Building 1004 is approximately 500 gallons (the AST is unlabeled and no documents regarding this AST were available). Both are double walled steel tanks with leak detection systems. According to installation personnel

interviewed during the site visit, no ASTs other than the ones currently present have been located at the Subject Property. Document reviews and interviews conducted during the ECP site visit did not identify any historic releases from ASTs. During the site visit, fuel and trash was observed inside the fill port of the AST at the Chapel (see Appendix E for site visit photographs). No evidence of spills, leaks, or overfills were observed at any of the ASTs during the ECP site visit (ECP 2013).

Table 3-3. AST Inventory

Facility Number	AST ID Number	Date Installed	Product	Capacity (gal)	Container Material	Comments
1001	B-1001A	November 1997	Fuel Oil	2,000	Double-walled steel	An overfill alarm and leak detection system was powered; however did not appear to be in working condition during the ECP site visit.
1004	B-1004	November 1997	Fuel Oil	Approximately 500	Double-walled steel	An overfill alarm and leak detection system was not powered and did not appear to be in working condition during the ECP site visit. Document reviews and personnel interviewed were not aware of the presence of this AST. Actual capacity was undocumented and the tank was not labeled.

Source: ECP 2013

3.3.5.4 POL Operations Area

The site visit, document reviews, and personnel interviews did not uncover evidence of any POL Operations currently or historically on the Subject Property.

3.3.6 Oil/Water Separators (OWS)

There is a grease trap in the kitchen at the Shepherd of the Sea Chapel inside a concrete pit. According to installation personnel, this grease trap is currently inactive; however, it is clean, in good condition, and functional.

Document reviews and personnel interviewed did not identify any historic releases from the grease trap. No evidence of spills or leaks from the grease trap was observed during the ECP site visit.

Table 3-4. Current Oil Water Separators

Associated Facility Number	Date Installed	Container Capacity (gal)	Status	Comments
1001	unknown	40	Inactive	Grease trap, inactive since 2007.

Source: ECP 2013

3.3.7 *Pesticides*

DoD Instruction (DODI) 4150.07 requires that military installations record, and archive pesticide application data. Limited routine applications of pesticides are performed throughout the Subject Property by contracted pesticide applicators. There is no pesticide storage on the Subject Property.

3.3.8 *Medical/Biohazardous Waste*

The ECP did not uncover evidence of any medical or biohazardous waste generation currently or historically on the Subject Property.

3.3.9 *Ordnance*

Ordnance is not stored or used on the Subject Property. This ECP did not uncover evidence of any historical use or storage of munitions, demolition ranges, impact areas, or ordnance disposal or treatment areas on the Subject Property.

3.3.10 *Radioactive Waste*

Interviews with Subject Property personnel indicated that maintenance and/or manipulation of radioactive material (RAM) sources are not conducted on the Subject Property. This ECP did not uncover evidence of current or historic RAM waste disposal on the Subject Property.

3.3.11 *Solid Waste*

Solid waste at the Subject Property was collected and disposed of by a private company which transports solid waste off-site for disposal in a permitted landfill. No solid waste is currently generated at the Subject Property since both buildings are inactive. No evidence of current or historic on-site landfills or other solid waste disposal areas was identified during the conduct of this ECP. Minor debris, consisting of bottles and cans, a mattress and a box spring, was observed in the undeveloped portions of the Subject Property.

3.3.12 *Wastewater Treatment, Collection, and Discharge*

Sanitary sewage generated at the Subject Property was disposed through the Town of Groton municipal sanitary sewage system. Two lift stations were identified on the Subject Property. According to facility personnel, the U.S. Navy owns and maintains the sewer lines on the property.

3.3.13 *Fire Training Areas*

This ECP did not uncover evidence or records indicating fire training activities have ever been conducted on the Subject Property.

3.4 *DISCLOSURE ITEMS*

Disclosure items are conditions that are not regulated under CERCLA, but which may affect use of the Site. These conditions or substances include drinking water quality, asbestos, polychlorinated biphenyls (PCBs), radon, and lead-based paint (LBP).

3.4.1 *Drinking Water Quality*

The groundwater at the Subject Property is not a source of potable water. The Subject Property is supplied with municipal public water from the City of Groton (Groton Utilities) (DWQMP 2013). No issues were identified with respect to past or present potable water at the Subject Property.

3.4.2 *Asbestos*

Sites must remove asbestos-containing material (ACM) likely to release airborne asbestos fibers that cannot be reliably maintained, repaired, or isolated. All facilities must be monitored closely to ensure ACM does not become airborne. In addition, each site must develop a written management and operating plan to carry out the objectives of facility asbestos management. Prior to property disposal, all available information regarding the existence, extent, and condition of ACM must be incorporated in an ECP and provided to the transferee.

An ACM survey was conducted on both the Chapel and Building 1004 in 1995 (ACMS 1995). According to this survey, ACM was confirmed present in both buildings. The inspection report is presented in Appendix H. No management plan or abatement plan was identified but there is evidence abatement activities were initiated:

- Based on observations during the site walkthrough, some areas previously identified as containing ACM appeared abated.
- A document referencing air sampling during abatement activities in the Shepherd of the Sea boiler room from June 2007 was reviewed. The document indicated the surrounding area and air were not contaminated during abatement (AAAS 2007). An asbestos abatement report from this activity is not available; however, according to installation personnel, disposal records are available (not available for review during ECP site visit).
- An asbestos abatement notification form was submitted to the State of Connecticut Department of Public Health indicating removal activities of approximately 52.5 square feet of asbestos piping insulation would likely take place during May 2007 (see Appendix H). No follow on documentation was available for review.
- A freedom of information request (FOI) was submitted to the Connecticut Department of Public Health requesting any information on file regarding asbestos activities performed at either the Chapel or Building 1004. An email response received on 5 March 2014 indicated no records were identified for either property (see Appendix H for copies of the correspondence).

3.4.3 Polychlorinated Biphenyls (PCBs)

PCBs were used in electrical equipment, primarily capacitors and transformers, because they are electrically nonconductive and stable at high temperatures. PCBs persist in the environment, accumulate in organisms, and concentrate in the food chain.

The disposal of these compounds is regulated under the Toxic Substances Control Act (TSCA), which banned the manufacture and distribution of PCBs. By Federal definition, PCB equipment contains 500 parts per million (ppm) or more of PCBs, whereas PCB-contaminated equipment contains PCB concentrations of more than 50 ppm but less than 500 ppm. USEPA regulates, under TSCA, the removal and disposal of all sources of PCBs containing 50 ppm of PCBs or more.

The ECP uncovered no evidence of a PCB survey of the Subject Property. Potential PCB-containing light ballasts were identified in both the Chapel and Building 1004 during the ECP site visit. Document reviews and interviews uncovered no evidence of historic releases of PCB-contaminated materials on the Subject Property. All electrical utility equipment (i.e., pad and pole-mounted transformers) are owned, operated, and maintained by the City of Groton Utilities. ‘No PCB’ decals were observed on the transformers.

3.4.4 Radon

Radon is a naturally occurring, colorless, and odorless radioactive gas that is produced by the radioactive decay of naturally occurring uranium. Uranium decays to radium and then to radon. Radon that is present in soil can enter a building through small spaces and openings and can accumulate in enclosed areas, such as basements.

The most recent DoD policy is the DoD memorandum, *Asbestos, Lead-based Paint and Radon Policies at BRAC Properties* (October 31, 1994). This policy states that in accordance with 26 United States Code (USC) 2661 to 2671, DoD will conduct a study to determine radon levels in a representative sample of its buildings. DoD has applied USEPA guidelines for residential structures (i.e., an average radon concentration of 4 picocuries per liter [pCi/L]) with regard to remedial actions.

Document reviews and interviews uncovered no evidence of a radon survey having been conducted on the Subject Property. According to the EDR report, out of a sample of 113 homes in Groton, 96 (89.4%) had indoor air below 4 pCi/L.

3.4.5 *Lead-Based Paint (LBP)*

In 1973, the Consumer Products Safety Commission (CPSC) established a maximum lead content in paint of 0.5 percent by weight in a dry film of paint newly applied. In 1978, the CPSC lowered the allowable lead level in paint to 0.06 percent.

A LBP Survey was conducted at Building 1004 in 1997 (LBPS 1997). This survey identified LBP in two rooms in the facility. The ECP did not uncover evidence of a LBP survey at the Chapel, or a LBP Management Plan for Building 1004. In general, during the ECP Site visit, the paint on the building's interior walls, ceilings, and floors was observed to be in good condition.

3.4.6 *Historical and Cultural Resources*

Historic structures, archaeological sites, and traditional cultural properties (TCPs) are afforded protection under the National Historic Preservation Act of 1966 as amended, (16 USC 470). Federal agencies are required to identify, assess, and protect historic structures, TCPs, and archaeological resources under their jurisdiction, control, or affected by the agencies actions. Cultural resources must be protected from any actions that may adversely affect them. Specifically, all sites are required to conduct an inventory of their resources and manage the resources in accordance with National Environmental Policy Act, Native American Graves Protection & Repatriation Act, American Indian Religious Freedom Act, Archaeological Resource Protection Act, Archeological and Historic Preservation Act, and the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Treatment. All installations are to avoid undertakings to the extent possible that may adversely affect these resources and must consult with the State Historic Preservation Officer, Tribal Historic Preservation Officer, Native American governmental representatives, and other affected parties. The installations Integrated Cultural Resources Management Plan (ICRMP) includes standard operating procedures to be followed during installation activities which may affect historical and cultural resources.

According to an Architectural Resources Survey performed in 2012, the Shepherd of the Sea Chapel is eligible for listing on the NRHP in 2016 due to its A-frame church construction

and as a representative of a post-World War II trend towards Modernist construction in both religious and military facilities (ARS 2012). The same survey determined Building 1004 does not have any historical significance and is not eligible for the NRHP.

3.4.7 *Natural Resources*

Threatened and endangered species and their habitats are afforded protection under Section 7(a)(2) of the Endangered Species Act of 1973 (PL 93-205, 16 USC 1531), which requires every federal agency to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. Any plant or animal species, or its habitat, listed as threatened or endangered (50 CFR 424.02) must therefore be protected from any actions that may threaten their continued existence. DoD Instruction 4715.3 and Environmental Conservation Programs specify procedures for compliance with the Endangered Species Act. Specifically, all sites are required to conduct an inventory for threatened and endangered species and to undertake no action that may affect them or their habitat without consulting with either the U.S. Fish and Wildlife Service (USFWS) (for terrestrial and fresh water species) or with the National Marine Fisheries Service (NMFS) for marine species.

As a minimum, sites must maintain an accurate map of the location of all known listed species based on the results of biological inventories. The USFWS and state Natural Heritage Offices will provide names of listed species known to occur in the vicinity of an action area. However, on-the-ground reconnaissance surveys must be conducted to determine the actual presence of listed species. When any action is proposed that may affect a listed species, the unit must consult either with the USFWS or the NMFS. Consultation may be completed informally via telephone call with a written concurrence from the USFWS or NMFS that the proposed action will have no effect on a listed species. More commonly, formal consultation under Section 7 of the Endangered Species Act will be required. If so, a formal Biological Assessment (BA) must be prepared by the unit outlining its proposed action and anticipated effects, if any, on the species. After review by the USFWS or NMFS, they will issue a Biological Opinion (BO) that will specify if the proposed action may proceed. If the proposed action will, in the opinion of the USFWS or NMFS, not jeopardize a threatened or endangered species or designated critical

habitat, the project may proceed. If it will jeopardize a threatened or endangered species or its designated critical habitat, the project may only proceed if it is modified so as to not jeopardize the species or its habitat. In some cases, the BO will permit a “taking” of a specified number of individuals of a listed species from an area or habitat.

Table 3-5 below lists federally listed threatened and endangered species found in New London County. The CT DEEP has a longer list of threatened and endangered species known to exist in New London County, Connecticut (included in Appendix H). An Integrated Natural Resources Management Plan (INRMP) was reviewed during the ECP. According to the INRMP, there are no threatened and endangered species known to occur on the SUBASENLON or the housing areas, including the Subject Property; although Golden Alexander (*Zizia aptera*), a State listed endangered species, was historically found in the Beaverdam Brook wetland south and east of the Subject Property (INRMP 2008).

Table 3-5. Federally Listed Threatened and Endangered Species in New London, Connecticut

Common Name	Scientific Name	Federal Status
Flowering Plants		
Small whorled pogonia	<i>Isotria medeoloides</i>	T
Sandplain gerardia	<i>Agalinis acuta</i>	E
Birds		
Piping plover	<i>Charadrius melodus</i>	T
Roseate tern	<i>Sterna dougallii dougallii</i>	E
Reptiles		
Green sea turtle	<i>Chelonia mydas</i>	T
Leatherback sea turtle	<i>Dermochelys coriacea</i>	E
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E

Source: USFWS 2013
 Status: E – Endangered; T – Threatened;

Due to the location of the Subject Property, sea turtles would not be found on the Subject Property. The Piping Plover (*Charadrius melodus*) is a small sand-colored, sparrow-sized shorebird that nests and feeds along coastal sand and gravel beaches. Roseate terns (*Sterna dougallii dougallii*) nest in colonies on sand/gravel beaches or pebbly/rocky offshore islands along the coast, and are rarely seen inland (USFWS 2013). Because of the nesting and feeding habits of the two birds, it is unlikely that either would be found on the Subject Property.

Sandplain gerardia (*Agnalinis acuta*) occurs on dry, sandy, short grass plains, roadsides, and openings in oak scrub. The soils supporting *A. acuta* are nutrient-poor, usually acidic, and excessively drained (USFWS 2013). These features are not found on the Subject Property; therefore it is unlikely that *A. acuta* would be found on the Subject Property.

The Small Whorled Pogonia (*Isotria medeoloides*) grows in older hardwood stands of beech, birch, maple, oak, and hickory that have an open understory. It prefers acidic soils with a thick layer of dead leaves, often on slopes near small streams. These conditions are present in the undeveloped areas of the Subject Property (USFWS 2013).

4.0 FINDINGS FOR ADJACENT PROPERTIES

4.1 HISTORICAL AND CURRENT LAND USE

Document reviews, visual surveys, and interviews with appropriate personnel were conducted to document current and historic land uses of properties within 100 feet of the Subject Property boundaries.

4.1.1 Aerial Photographs and Maps

Historical aerial photographs and topographs were provided by Environmental Data Resources, Inc. (EDR). Table 4-1 includes a description of historic land use of properties within 100 feet of the Subject Property boundaries. Aerial photographs and topographic maps listed in this table are provided in Appendix C.

Available documentation suggests that the Subject Property and immediate surrounding areas were undeveloped wooded land until the late 1950s/early 1960s. The adjacent residential housing developments were constructed in the 1960s, and have grown and been redeveloped throughout the years.

Table 4-1. Review of Historical Topographic Maps and Aerial Photographs – Adjacent Properties

Source	Date	Scale	Source	Details Observed
Topographic Map	1893	1:62,500	EDR	The topographic map does not show any buildings or structures in the vicinity of the Subject Property. SUBASENLON is present to the northwest of the Subject Property.
Topographic Map	1947	1:25,000	EDR	The topographic map does not show any buildings or structures in the vicinity of the Subject Property. Gungywamp Road is present in its current configuration.
Topographic Map	1958	1:24,000	EDR	The topographic map does not show any buildings or structures in the vicinity of the Subject Property.
Topographic Map	1970	1:24,000	EDR	The topographic map shows residential development to the west of the Subject Property. The roadways within Nautilus Park III, to the east of the Subject Property, are shown, but no structures are shown in the area.
Topographic Map	1984	1:24,000	EDR	The topographic map shows the Barnum School to the north and Nautilus Park III to the east of the Subject Property.
Aerial Photograph	1934	1:500	EDR	The 1934 aerial shows the adjacent properties as undeveloped, wooded land. Gungywamp Road and Briar Hill Road are present in their current configuration.
Aerial Photograph	1941	1:750	EDR	The 1941 aerial shows the adjacent properties as undeveloped, wooded land.
Aerial Photograph	1957	1:500	EDR	The 1957 aerial shows the adjacent properties as undeveloped, wooded land.
Aerial Photograph	1959	1:1,000	EDR	The 1959 aerial shows the adjacent properties as undeveloped, wooded land.
Aerial Photograph	1970	1:500	EDR	The 1970 aerial shows residential development to the east, west, and south, and the Barnum School to the north of the Subject Property.
Aerial Photograph	1974	1:500	EDR	The 1974 aerial shows the Navy Exchange building to the west of the Subject Property.
Aerial Photograph	1980	1:1,000	EDR	The 1980 aerial shows no changes from the 1974 aerial photograph.
Aerial Photograph	1986	1:500	EDR	The 1986 aerial shows an addition to the Navy exchange building to the west of the Subject Property.
Aerial Photograph	1990	1:500	EDR	The 1990 aerial photograph shows no changes from the 1986 aerial photograph.
Aerial Photograph	1991	1:500	EDR	The 1991 aerial photograph shows no changes from the 1986 aerial photograph.
Aerial Photograph	1996	1:500	EDR	The 1996 aerial photograph shows no changes from the 1986 aerial photograph.
Aerial Photograph	2005	1:500	EDR	The 2005 aerial photograph shows no changes from the 1986 aerial photograph.
Aerial Photograph	2006	1:500	EDR	The 2006 aerial photograph shows the residential development to the west of the Subject Property has been cleared. All structures have been demolished and the roadways have been removed.
Aerial Photograph	2008	1:500	EDR	The 2008 aerial photograph shows a new residential development to the west of the Subject Property.
Aerial Photograph	2010	1:500	EDR	The 2010 aerial photograph shows no changes from the 2008 aerial photograph.
Aerial Photograph	2012	1:500	EDR	The 2012 aerial photograph shows no changes from the 2008 aerial photograph.

¹ USGS Topographic Maps and Aerial Photograph were provided by Environmental Data Resources, Inc. (EDR)

4.1.2 Information from Interviews and Inspections/Record Reviews

Interviews and the site inspection conducted, as well as records obtained during the site visit, identified no potential areas of environmental concern within 100 feet of the Subject Property boundaries (ECP 2013).

4.2 REGULATORY RECORDS REVIEW

As part of the regulatory records review, an environmental database review was conducted for the Subject Property by EDR. The EDR report includes a review of Federal and state databases for environmental information within a minimum search distance of the Subject Property as specified by ASTM Standard E 1527. The database review for the Subject Property was conducted on 04 November 2013. A summary of the information obtained from the EDR report is outlined in Table 4-2.

Table 4-2. Federal and State Database Summary

Database	Radius Searched (miles)	Sites Found
<u>FEDERAL DATABASES</u>		
National Priorities List (NPL)		
The NPL is USEPA’s list of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking score, be chosen as a state’s top priority site, or meet three specific criteria set jointly by the U.S. Department of Health and Human Services and USEPA in order to become an NPL site.	1.0	0
Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)		
The CERCLIS list contains sites which are either proposed for or on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relation’s activities or events at the site, financial funding information for the events, and unrestricted enforcement activities.	0.5	0
CERCLIS-No Further Remedial Action Planned (NFRAP)		
NFRAP sites are sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.	0.5	0
Corrective Action Report (CORRACTS)		
Treatment, storage, and disposal facilities subject to corrective action under RCRA.	1.0	1

Database	Radius Searched (miles)	Sites Found
<p>Resource Conservation and Recovery Act Information System – Treatment, Storage, or Disposal Facilities (RCRA – TSD) USEPA’s RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA facilities database is a compilation by USEPA of facilities, which report generation, storage, transportation, treatment, or disposal of hazardous waste. RCRA TSDs are facilities, which treat, store and/or dispose of hazardous waste.</p>	0.5	0
<p>Resource Conservation and Recovery Act Information System (RCRIS) RCRA Small Quantity Generators (SQG) are facilities which generate less than 1,000 kg/month of non-acutely hazardous waste. RCRA Large Quantity Generators (LQG) are facilities, which generate at least 1,000 kg/month of non-acutely hazardous waste (or 1 kg/month of acutely hazardous waste).</p>	0.25	0
<p>Engineering Controls (ENG CONTROLS) The ENG CONTROLS database provides a listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to eliminate pathways for regulated substances to enter environmental media or affect human health.</p>	0.5	0
<p>Institutional Controls (INST CONTROL) A listing of sites with INST CONTROL in place. INST CONTROL include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.</p>	0.5	0
<p>Department of Defense (DoD) This data set consists of federally owned lands or lands administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.</p>	1.0	1
<p>Formerly Used Defense (FUDS) The listing includes locations of FUDS properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.</p>	1.0	0
<p>BROWNFIELDS Brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments are included in this listing. Targeted Brownfields Assessments (TBA) - USEPA’s BAs program is designed to help states, tribes, and municipalities-especially those without USEPA Brownfields Assessment Demonstration Pilots-minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, the USEPA provides funding and/or technical assistance for environmental assessments at brown-fields sites throughout the country. TBA supplement and work with other efforts under USEPA’s Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the USEPA. USEPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use USEPA funds provided through the BCRLF cooperative agreement for specified brownfields-related cleanup activities.</p>	0.5	0
<p>Record of Decision (ROD) The ROD database is a federally maintained database that identifies NPL (Superfund) sites at which a permanent remedy that has been mandated.</p>	1.0	0
<p>Open Dump Inventory (ODI) An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.</p>	0.5	0

Database	Radius Searched (miles)	Sites Found
<p>The Toxic Chemical Release Inventory System (TRIS) TRIS is USEPA’s list of facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313.</p>	TP	0
<p>Toxic Substances Control Act (TSCA) TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.</p>	TP	0
<p>Federal Insecticide Fungicide Rodenticide Act (FIFRA)/TSCA Tracking System (FTTS) FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA, and Emergency Planning and Community Right-to-Know Act (EPCRA) over the previous five years.</p>	TP	0
<p>HIST FTTS HIST FTTS tracks inspection and enforcement cases for activities related to FIFRA, TSCA, and Emergency Planning and Community Right-to-Know Act (EPCRA) for all 10 EPA regions. This tracking system includes records which have been closed out by the EPA and may not be included in the FTTS database. This database is no longer updated.</p>	TP	0
<p>PCB Activity Database (PADS) PADS is USEPA’s list of generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify USEPA of such activities.</p>	TP	0
<p>Facility Index System (FINDS) FINDS contains both facility information and “pointers” to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA and TSCA Enforcement System); FTTS; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA; Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); and TRIS.</p>	TP	0
<p>RCRA Administrative Action Tracking System (RAATS) RAATS contains records based on enforcement actions issued under RCRA that pertain to major violators and includes administrative and civil actions brought by the USEPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. USEPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.</p>	TP	0
STATE DATABASES		
<p>Connecticut Site Discovery and Assessment Database (CT SDADB) CT SDADB is the state equivalent of CERCLIS.</p>	0.5	2
<p>Connecticut Leaking Underground Storage Tank (CT LUST) CT LUST incident reports contain an inventory of reporting leaking underground storage tank incidents. The data come from the Department of Environmental Protection’s Leaking Underground Storage Tank List.</p>	0.5	14
<p>Connecticut Voluntary Remediation Program (CT VCP) CT VCP is an elective process for property owners who wish to expedite the remediation of polluted property, thus enabling them the advantage of a remediated site should they ever decide to sell the property.</p>	0.5	1

Database	Radius Searched (miles)	Sites Found
<p>Connecticut Contaminated or Potentially Contaminated Sites (CT CPCS) A list of Contaminated or Potentially Contaminated Sites within Connecticut. This list represents the "Hazardous Waste Facilities," as defined in Section 22a-134f of the Connecticut General Statutes (CGS). The list contains the following types of sites: Sites listed on the Inventory of Hazardous Waste Disposal Sites; Sites subject to the Property Transfer Act; Sites at which underground storage tanks are known to have leaked; Sites at which hazardous waste subject to the RCRA; Sites that are included in EPA's (CERCLIS); Sites that are the subject of an order issued by the Commissioner of DEP that requires investigation and remediation of a potential or known source of pollution; and Sites that have entered into one of the Department's Voluntary Remediation Programs.</p>	0.5	6

4.2.1 Federal Records

4.2.1.1 National Priorities List (NPL)

The NPL database is a subset of the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and is EPA's list of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program. To be included on the NPL, a site must either meet or surpass a predetermined hazard ranking score, be chosen as a state's top priority site, or meet all three of the following criteria: (1) the U.S. Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure; (2) EPA determines that the site represents a significant threat; and (3) EPA determines that remedial action is more cost effective than removal action.

The database review did not identify any current, proposed, or delisted NPL sites within a 1.0 mile search radius.

4.2.1.2 Comprehensive Environmental Response, Compensation and Liability Act Information Systems (CERCLIS)

The CERCLIS list is a compilation of sites which EPA has investigated or is currently investigating for a release or a threatened release of hazardous substances pursuant to CERCLA. CERCLIS contains sites, which are either proposed to be or are already on the NPL and sites that are in the screening and assessment phase for possible inclusion on the NPL.

The database did not find any CERCLIS listings within 0.5 mile of the Subject Property.

4.2.1.3 *No Further Remedial Action Planned (NFRAP)*

As of February 1995, CERCLIS sites designated “No Further Remedial Action Planned” (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation: no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift unintended barriers to redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of EPA’s Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

The database search did not identify any NFRAP sites within a search radius of 0.5 mile.

4.2.1.4 *Corrective Action Report (CORRACTS)*

EPA’s CORRACTS Program identifies hazardous waste handlers with RCRA corrective action activity. The CORRACTS database identified one (1) property, U.S. Naval Submarine Base New London, within 1.0 mile of the Subject Property. This listing is a superfund site and is listed on the National Priorities List (NPL) due to ship building and repair activities. A Preliminary Assessment-Plus (PA-Plus) was conducted at the Submarine Base, which identified contamination at the sub base. Contaminated groundwater migration is under control, and additional cleanup activities are on-going. Due to the distance from the Subject Property and the down gradient location in relation to the Subject Property, it is unlikely this listing will have a negative impact at the Subject Property.

4.2.1.5 *Resource Conservation and Recovery Information Systems (RCRIS)*

EPA’s RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRIS database is a compilation by EPA of reporting facilities that generate, store, transport, treat, or dispose of hazardous waste.

The database search did not identify any RCRA treatment, storage, or disposal (TSD) sites, or RCRA SQG or LQG within a search radius of 0.5 mile from the Subject Property.

4.2.1.6 Engineering Controls (ENG CONTROLS)

The ENG CONTROLS database provides a listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods that eliminate pathways for regulated substances to enter environmental media or affect human health.

The ENG CONTROLS database did not identify any sites within a search radius of 0.5 mile.

4.2.1.7 Department of Defense Sites (DoD)

The DoD database identifies federally owned or administered lands of greater than or equal to 640 acres that are administered by the Department of Defense.

The DoD database identified one (1) property, U.S. Naval Submarine Base New London, within 1.0 mile of the Subject Property.

4.2.1.8 Formerly Used Defense Sites (FUDS)

The FUDS database identifies properties that were formerly used as defense sites and the Army Corps of Engineers is currently working on or will take necessary cleanup actions. The FUDS database did not find any locations with a 1.5 mile radius of the Subject Property.

4.2.1.9 Records of Decision – Federal (ROD)

The ROD database is a federally maintained database that identifies NPL (Superfund) sites at which a permanent remedy has been mandated. The ROD database search did not find any locations within a 1.0 mile radius of the Subject Property.

4.2.1.10 Toxic Chemical Release Inventory System (TRIS)

TRIS is EPA's list of facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313. The TRIS database search did not identify any locations within a 1.0 mile radius of the Subject Property.

4.2.1.11 Federal Insecticide Fungicide Rodenticide Act (FIFRA) / Toxic Substances Control Act (TSCA) Tracking System (FTTS)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and the Emergency Planning and Community Right-to-Know Act (EPCRA) over the previous five years.

The FTTS database search did not identify any listings near the Subject Property.

4.2.1.12 Facility Index System (FINDS)

The FINDS database may contain facility information, but most often identifies other databases in which the Subject Property is listed. The search did not identify any facilities in the vicinity of the Subject Property.

4.2.2 State Records

4.2.2.1 Connecticut Site Discovery and Assessment Database (CT SDADB)

The CT SDADB list is the state equivalent of CERCLIS. There were two (2) CT SDADB listings identified within a search radius of 0.5 mile of the Subject Property. Both listings reference service stations, located over 0.3 mile from the Subject Property, which had leaked fuel oil in the late 1990s. Cleanup activities and tank removal occurred at each listing. Due to the nature of fuel oil leaks, the distance to the Subject Property, and the down gradient location in reference to the Subject Property, it is unlikely that these listings will have a negative impact at the Subject Property.

4.2.2.2 *Leaking Underground Storage Tank Listing (LUST)*

The LUST database contains an inventory of reported leaking underground storage tanks in the state. The LUST database search results identified 14 LUST sites within a 0.5 mile radius of the Subject Property. Eleven (11) of the fourteen (14) LUST sites are associated with heating oil tanks at residences in the off-base military housing, identified during tank removal. The EDR report states that the cases are not considered to be LUST cases, and zero gallons of fuel were spilled (EDR2013b). Due to the listings referencing no spills and that these listings are not LUST sites, it is unlikely that these listings will have a negative impact at the Subject Property.

The remaining three (3) LUST cases are associated with gas/service stations, located 0.3 to 0.4 mile from the Subject Property. All three of these LUST cases are closed. Due to the closed status, the distance from the Subject Property, and the down gradient locations in relation to the Subject Property, it is unlikely that these listings will have a negative impact at the Subject Property.

4.2.2.3 *Voluntary Cleanup Program (VCP)*

CT VCP is an elective process for property owners who wish to expedite the remediation of polluted property, thus enabling them the advantage of a remediated site should they ever decide to sell the property. The VCP database identified one (1) site within 0.5 mile of the Subject Property.

The site, identified as “Groton Mobil Xtramart,” entered the VCP program in June 2005, and is currently undergoing cleanup activities. Due to the down gradient location in relation to the Subject Property, it is unlikely that this listing will have a negative impact at the Subject Property.

4.2.2.4 *Contaminated or Potentially Contaminated Sites (CPCS)*

The CPCS database is a list of Contaminated or Potentially Contaminated Sites within Connecticut, which includes Inventory of Hazardous Waste Disposal Sites, Property Transfer Act, leaking underground storage tanks, hazardous waste subject to RCRA, CERCLIS, the

subject of an order issued by the Commissioner of DEP that requires investigation and remediation of a potential or known source of pollution, and Voluntary Remediation Programs.

The CPCS database identified six (6) sites within a half mile of the Subject Property. Four (4) of the six listings refer to LUST cases (heating oil) in the housing areas around the Subject Property. The remaining two listings refer to tank removals at gas stations, located greater than 0.4 mile from the Subject Property. Due to the nature heating oil leaks, the distance from the Subject Property, and the down gradient location in relation to the Subject Property, it is unlikely that these listings will have a negative impact at the Subject Property.

4.2.3 “Orphan” Sites

EDR’s search of local and federal environmental databases identified twenty-three (23) orphan sites with incomplete address information. These sites are referred to as “orphan sites” because they cannot be accurately located on a map.

Of these twenty-three orphan sites, sixteen (16) are listed in the Manifest Database. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a treatment, storage, and disposal facility. These sites are service stations which transport used oil and automotive fluids off-site. Due to the nature of the sites, and distances from the Subject Property greater than a half mile, it is unlikely that these listings will have a negative impact at the Subject Property.

Of the remaining seven (7) orphan sites, four (4) are located over a 1 mile away from the Subject Property and are unlikely to negatively impact the Subject Property.

The exact location of the orphan site listed as “A&G Tile” is unknown; however, the road the site is on is approximately 0.85 mile from the Subject Property. The listing is from a 1989 LUST case, which has been closed. Due to the age, the closed status, and the distance from the Subject Property, it is unlikely that this listing will have a negative impact on the Subject Property.

The remaining orphan sites are listed as “U.S. Naval Sub Base” and “Navy Base.” Both of these locations refer to U.S. Naval SUBASENLON, with the closest property boundary

located approximately 0.68 mile northwest of the Subject Property. These listings are filed under the Hazardous Waste Site (HWS), Oil and Chemical Spill Database (SPILLS), SDADB, CPCS, and LUST databases. The LUST case was opened in 1990 and has been closed. The CPCS listing referenced the LUST case. The SPILLS database referenced a 0.25 gallon spill of gasoline from a vehicle in 1997, and has been closed. The HWS database lists the site as registered on the National Priorities List (NPL) in 1990, and having acid/base, industrial, waste oil, landfill, UST, and SPILL wastes. Due to the age, closed statuses, types of spills, the distance to the Subject Property, and the down gradient location in relation to the Subject Property, it is unlikely that these listings will have a negative impact at the Subject Property.

5.0 *REGULATORY COMPLIANCE ISSUES*

5.1 *COMPLIANCE AND LIABILITY ISSUES*

The scope of an ECP does not include a comprehensive compliance audit. However, an ECP does include an overview of regulatory compliance (included as part of the physical property inspection, records reviews, and personnel interviews) with an emphasis on identifying compliance issues that could result in (or have resulted in) a release to the environment and thus, impact future liability. No such compliance issues were identified on the Subject Property during the conduct of this ECP.

1 **6.0** **CONCLUSIONS**

2 The ECP did not identify areas of documented or potential environmental contamination
3 or concern which would constitute an impediment to the proposed disposal of the property by the
4 Department of the Navy. As noted in Section 3.3.5.2, records documenting the removal and
5 closure of the UST installed in 1966 at the Shepherd of the Sea Chapel were not available for
6 review; however, available records indicate this tank was removed and a new tank was installed
7 at the same location in 1989. Because removal of this UST occurred prior to 1989, it is unlikely
8 that contamination from this UST, if any, would remain at this location.

9 Removal records for the USTs removed in 1997 did not indicate the condition of the
10 tanks during removal; however, because of the date of removal, it is unlikely that contaminated
11 soils, if any, would have been allowed to remain in place after removal.

12 As noted in Section 3.4.2, records documenting an ACM survey from 1995 and
13 documents referencing air sampling during abatement activities in June 2007 were reviewed.
14 However, documents relating to asbestos abatement activities were not available for review, yet
15 visual inspection during the ECP revealed evidence that asbestos abatement had occurred. Since
16 the 1995 ACM survey is out-of-date, it may not be used to support decisions regarding the
17 presence or disposition of ACM.

7.0 CERTIFICATION OF THE ENVIRONMENTAL CONDITION OF PROPERTY

I certify that the Environmental Condition of Property Report for the Shepherd of the Sea Chapel, Building 1004, and the associated 13.5 acres of land, Groton, Connecticut dated July 2014 and its enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. The information contained within the Environmental Condition of Property Report for the Shepherd of the Sea Chapel and Building 1004 dated July 2014 and its enclosures is, to the best of my knowledge and belief, true, accurate and complete and accurately reflects the property's condition as of 6 November 2013 based upon my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information.

Certified by: _____ Date: _____

Larry Ward
Program Manager
Environmental Resources Management

APPENDIX A

TERMS

TERMS

Acquisition—Any authorized method of obtaining control of, and responsibility for, real property or an interest in real property by purchase, condemnation, donation, exchange, leasing, licenses, permits, and/or recapture. An acquisition may be a temporary or permanent interest in real property and includes interagency transfers of real property accountability from other Federal Government agencies.

Adjacent Properties—Those properties contiguous to the boundaries of the site within 100 feet.

Aquifer—Rock or sediment that is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.

CERCLA—Comprehensive Environmental Response, Compensation, and Liability Act, as amended.

CERCLIS—Comprehensive Environmental Response, Compensation, and Liability Information System. A list of sites by USEPA that have been or are currently being investigated by USEPA for potential hazardous contamination and for possible inclusion on the NPL.

Disposal by Deed—A conveyance of fee or any easement interest in real property.

Due Diligence—The process of inquiring into the environmental characteristics or other conditions of a parcel of commercial real estate, usually in connection with a commercial real estate transaction. The degree and type of due diligence will vary for different properties and differing purposes.

ERNS—Emergency Response Notification System is a database maintained by USEPA to track information on releases of hazardous substances.

Hazardous Substance—This term has the meaning provided in CERCLA, 42 USC 9601(14), but for the purpose of the ECP, specifically includes petroleum products, oil, and lubricant.

Hazardous Waste Contaminated Sites—Sites on which a release has occurred or is suspected to have occurred and that has been reported to a government entity. The release may be attributable to any hazardous substance, hazardous waste, or petroleum products.

Hazardous Waste—RCRA defined a hazardous waste in 42 USC, Section 6901, as “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.”

Innocent Landowner Defense—A defense to CERCLA liability provided in 42 USC, Sections 9601(35) and 9607(b)(3). “All appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice” by the involved party is one of the requirements that must be met to qualify for this defense.

NFRAP—The No Further Remedial Action Planned list contains sites removed from the CERCLIS database because, following an initial investigation, no contamination was found, the contamination was removed quickly, or the contamination was not serious enough to require NPL consideration.

NPL—The National Priorities List is compiled by USEPA pursuant to CERCLA 42 USC, Section 9605(a)(8)(b), of properties with the highest priority for cleanup based on USEPA's hazard ranking system.

RCRIS-LG—Resource Conservation and Recovery Information System-Large Quantity Generators is a database maintained by USEPA to track facilities that generate more than 1,000 kilograms (kg) of hazardous waste per month or meet other criteria.

RCRIS-SG—Resource Conservation and Recovery Information System-Small Quantity Generators is a database maintained by USEPA to track facilities that generate between 100 and 1,000 kg of hazardous waste per month or meet other criteria.

RCRIS-TSD—Resource Conservation and Recovery Information System-Treatment, Storage, and Disposal Facilities is a database maintained by USEPA to track these types of facilities.

Real Property—Land; present possessory interest in land; surface water and groundwater within boundaries of such land; structures, fixtures, and other improvements on land; or other interest or future interest in land.

Release—Any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from a source area into groundwater, surface water, surface soils, or subsurface soils.

Remediate—Process of restoring contaminated soil and/or water resources to an established set of standards.

Water Table—The surface between the zone of saturation and the zone of aeration; that surface of a body of unconfined groundwater at which the pressure is equal to that of the atmosphere.

APPENDIX B

REFERENCES

REFERENCES

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APPENDIX C

HISTORICAL AERIAL PHOTOGRAPHS AND MAPS

HISTORICAL AERIAL PHOTOGRAPH AND TOPOGRAPHIC MAP INDEX

Aerial Photos:

1934 Aerial Photograph; Scale: 1"=500'; Flight Date: April 9, 1934
1941 Aerial Photograph; Scale: 1"=750'; Flight Date: October 9, 1941
1957 Aerial Photograph; Scale: 1"=500'; Flight Date: April 10, 1957
1959 Aerial Photograph; Scale: 1"=1,000'; Flight Date: October 29, 1959
1970 Aerial Photograph; Scale: 1"=500'; Flight Date: March 1, 1970
1974 Aerial Photograph; Scale: 1"=500'; Flight Date: February 24, 1974
1980 Aerial Photograph; Scale: 1"=1,000'; Flight Date: March 19, 1980
1986 Aerial Photograph; Scale: 1"=500'; Flight Date: March 23, 1986
1990 Aerial Photograph; Scale: 1"=500'; Flight Date: March 26, 1990
1991 Aerial Photograph; Scale: 1"=500'; DOQQ – acq. date: April 12, 1991
1996 Aerial Photograph; Scale: 1"=500'; Flight Date: April 15, 1996
2005 Aerial Photograph; Scale: 1"=500'; Flight Year: 2005
2006 Aerial Photograph; Scale: 1"=500'; Flight Year: 2006
2008 Aerial Photograph; Scale: 1"=500'; Flight Year: 2008
2010 Aerial Photograph; Scale: 1"=500'; Flight Year: 2010
2012 Aerial Photograph; Scale: 1"=500'; Flight Year: 2012

EDR Historical Topographic Map Report:

1893 Topographic Map, Uncasville Quadrangle
1947 Topographic Map, Uncasville Quadrangle
1958 Topographic Map, Uncasville Quadrangle
1970 Topographic Map, Uncasville Quadrangle
1984 Topographic Map, Uncasville Quadrangle

APPENDIX D

STATE AND FEDERAL DATABASE SEARCH RESULTS

APPENDIX E
PHOTOGRAPHS

APPENDIX F

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LIST OF PREPARERS

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APPENDIX G

LEASE AND LICENSE INFORMATION

APPENDIX H

RELEVANT DOCUMENTS

APPENDIX I

WORK PLAN AND HEALTH & SAFETY PLAN