BROADWATER

ONSHORE FACILITIES

RESOURCE REPORTS

FOR A

PROJECT TO CONSTRUCT AND OPERATE A

LIQUEFIED NATURAL GAS RECEIVING TERMINAL

IN

LONG ISLAND SOUND

LONG ISLAND, NEW YORK

UNITED STATES OF AMERICA

January 2006

PUBLIC

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List of Acronyms and Abbreviations

ACP	Atlantic Coastal Plain
EFH	Essential fish habitat
ERP	Emergency Response Plan
FERC	Federal Energy Regulatory Commission
FSRU	Floating Storage Regasification Unit
HMP	Harbor Management Plan
IGTS	Iroquois Gas Transmission System
LNG	liquefied natural gas
LWRP	Local Waterfront Revitalization Program
LZ	Littoral Zone
MLW	mean low water
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NOAA Fisheries	National Oceanic and Atmospheric Administration's Fisheries Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NYSDEC	New York State Department of Environmental Conservation
NYSDOS	New York State Department of State
OPRHP	(New York State) Office of Parks, Recreation and Historic Preservation
SCFWH	significant coastal fish and wildlife habitat
SFA	Sustainable Fisheries Act
TMDL	Total Maximum Daily Load
USCG	United States Coast Guard
USDA	United States Department of Agriculture

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USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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1. RESOURCE REPORT 1 – GENERAL PROJECT DESCRIPTION

Broadwater Energy, a joint venture between TCPL USA LNG, Inc., and Shell Broadwater Holdings LLC, is filing an application with the Federal Energy Regulatory Commission (FERC) seeking all of the necessary authorizations pursuant to the Natural Gas Act to construct and operate a marine liquefied natural gas (LNG) terminal and connecting pipeline for the import, storage, regasification, and transportation of natural gas. The Broadwater LNG Project (the Project) will increase the availability of natural gas to the New York and Connecticut markets through an interconnection with the Iroquois Gas Transmission System (IGTS). The FERC application for the Project requires the submittal of 13 Resource Reports, with each report evaluating Project effects on a particular aspect of the environment.

This report describes the facilities, construction schedules, permits, and regulations for the onshore components of the Project. While the primary components of the Project will be located offshore in Long Island Sound, both temporary and permanent onshore facilities will be required during construction and operation of the Project. To the extent practicable, Broadwater proposes to use existing facilities to avoid or minimize any additional environmental impact associated with the onshore facilities. As such, these Resource Reports focus on possible waterfront facility locations associated with the Project that have the potential to result in environmental impacts.

Nine Resource Reports have been prepared for the potential onshore facilities. Resource Reports that are not required or otherwise do not apply are Resource Report Nos. 5 (Socioeconomics), 10 (Alternatives), 12 (PCB Contamination), and 13 (Engineering Design and Materials). Resource Report 5 does not apply because the onshore facilities are not "significant aboveground facilities" (*see* FERC's Guidance Manual for Environmental Report Preparation). Resource Report 10 is not included as a stand-alone report because only two alternatives have been identified, each of which is evaluated for impacts throughout this document. The "no action" alternative is fully evaluated in the comprehensive Resource Report 10 for the offshore components of the Project. Resource Report 11 has limited applicability because the onshore facilities will have a negligible impact on the safety and reliability of the LNG facilities; however, the issue of onshore facility security is addressed. Resource Report 12 is not applicable because the onshore facilities do not involve replacement or abandonment "of facilities determined to have PCBs in excess of 50 parts per million in pipeline liquids." Resource Report 13 applies only to the engineering and design of LNG facilities.

1.1 PROJECT DESCRIPTION

1.1.1 Temporary Onshore Facilities

Broadwater will utilize concrete-coated pipe for its proposed subsea pipeline. The concrete weight coating will be applied to the pipe at an existing off-site concrete coating plant at a location to be determined during detailed design. Companies capable of applying concrete weight coating for this Project from existing coating plant facilities

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include Bayou Companies, with locations in Louisiana, and Bredero Shaw, with locations throughout North America. No environmental impacts from the use of these existing temporary facilities for concrete coating purposes are anticipated.

Following completion of concrete coating, the pipe will be transported via rail to an existing port lay-down and storage area with adequate land-to-sea transfer capabilities, likely in the Port of New York/New Jersey. The actual location of the storage area will be determined during detailed design. A space of approximately 10 acres will be required to store the approximately 3,000 forty-foot nominal length joints of concrete weight coated line pipe for the Project. The use of an existing facility eliminates potential environmental impacts associated with establishing a new site for temporary storage of the pipe. From the storage area, the pipe will be loaded onto barges, transported to the project area, and directly offloaded to the laybarge. No pipe storage areas will be needed on lands adjacent to Long Island Sound. Upon selection of the temporary pipeyard, Broadwater will notify FERC and obtain appropriate clearances as needed.

During the course of construction, the contractor will need temporary space on the shore of Long Island Sound, primarily for shuttling personnel and supplies to the Project site. The only waterfront facility required to support construction activities will be a dock. Based on the amount of existing dockage available in Port Jefferson, Broadwater believes that existing facilities are adequate and that no new waterfront facilities will be needed. The contractor may require the use of an onshore office and warehouse facilities to support offshore activities during construction. The selected contractor will identify these locations prior to construction. However, based on the adequacy of existing office and warehouse space, Broadwater does not anticipate the need to construct new facilities to support temporary construction needs.

1.1.2 Permanent Onshore Facilities

Although installation of the Floating Storage and Regasification Unit (FSRU) and connecting pipeline is not scheduled to begin until 2009, Broadwater has identified two locations on Long Island—Greenport and Port Jefferson—that can provide the facilities needed to support operation of the Project. Either one or both facilities could be used to support Broadwater operations. The location of each of the considered Long Island facilities is shown on Figures 1-1 and 1-2. Greenport is located on the north fork of Long Island, and Port Jefferson is located southwest of the Project area on the north shore of Long Island. Permanent onshore facilities will include office space, warehousing, and waterfront access. Broadwater anticipates leasing existing facilities for these purposes, and no land acquisition is proposed. These facilities will be located within existing marine facilities that are operated by others.

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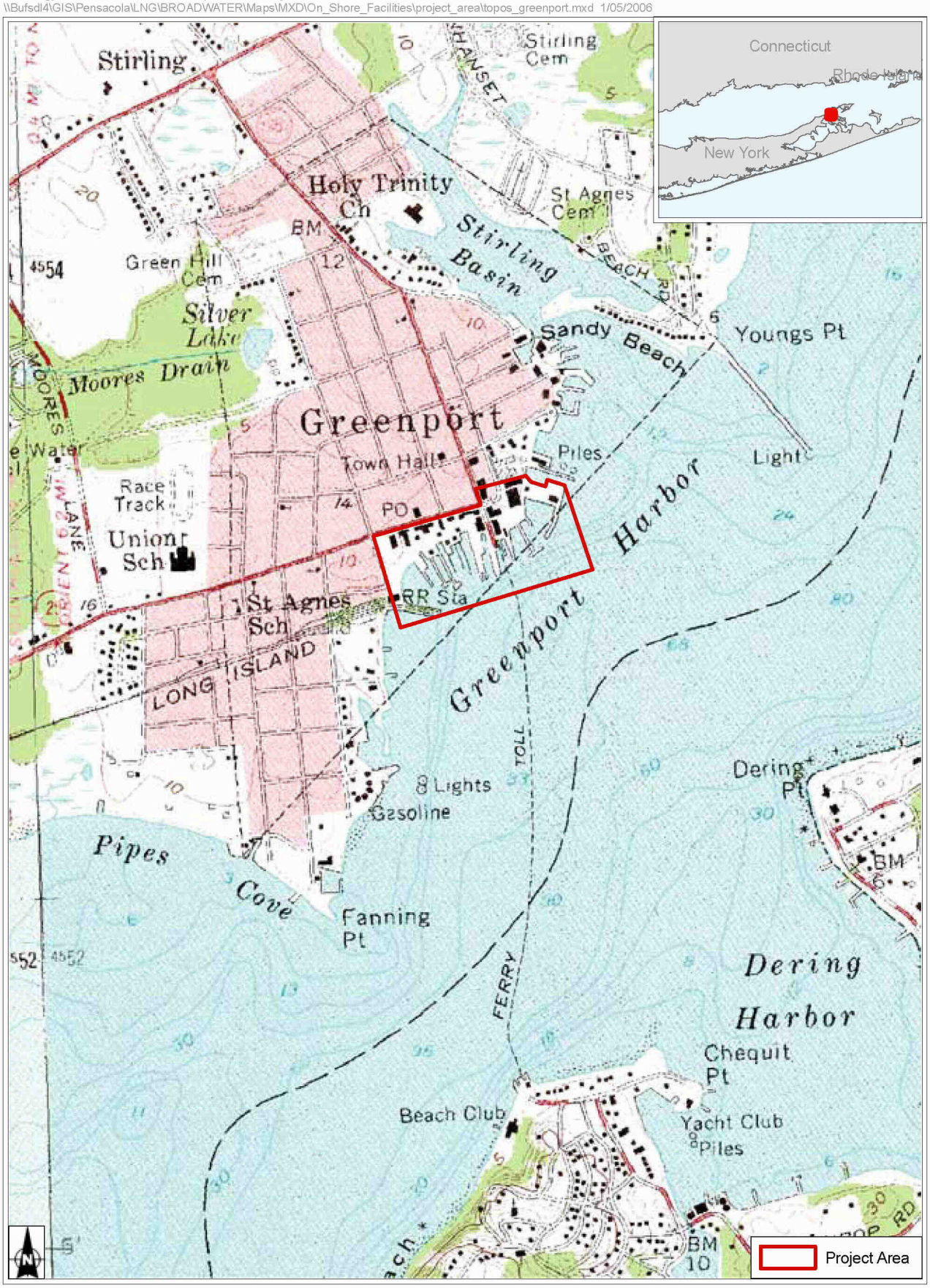

Source: USGS Greenport, 1956; Southold, 1956.

Figure 1-1 Proposed Onshore Facility Location Greenport, New York

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Source: USGS Port Jefferson, 1967.

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Miles

Figure 1-2 Proposed Onshore Facility Location
Port Jefferson, New York

The office and warehousing facilities do not require waterfront access and thus will likely be established in existing facilities in general proximity to the waterfront facilities, but not necessarily co-located with the waterfront facilities. The office space will need to accommodate approximately six to ten people, with conference and training facilities available on-site. The office will also function as the emergency response and communications center for the Project. Warehousing will be needed for spare parts, specialist tools, and equipment storage and handling. Broadwater expects that the location of these will be finalized following the selection of a specific waterfront facility.

The use of existing facilities for office and warehouse space avoids environmental impacts.

The most critical components of the onshore facilities are the requisite waterfront access, which will allow waterborne transport to the FSRU from shore. As noted below, Broadwater anticipates that these needs will be met by existing facilities that require only minor modifications. The primary purpose of the waterfront facilities will be for tug mooring, personnel transfer, and materials transfer, each of which is described below. To maintain adequate security, the facility will have gated access with security controls in place and it will be manned at all times.

1.1.2.1 Waterfront Facilities

Tugs. The waterfront facility will require berthing for up to four tugs (30 m long by 10 m beam by 4 m draft). Since the tugs can be moored side by side, the minimum water frontage needed for the facility is estimated at less than 100 m. The waterfront facility will require a small workshop (10 m by 10 m with forklift access) for routine tugboat maintenance. The tugs will be fueled directly from road tankers; no bulk storage of fuel will be required. Indicative tugboat specifications are described in Resource Report No. 11, Safety and Security, Section 11.4.2.2.

Personnel Transfer. Crew changes on the FSRU will typically occur on a weekly basis. The waterfront facility will require a waiting room area and safe boarding access to a crew boat.

Materials Transfer. Material handling at the waterfront facility will involve the transfer of spare parts, consumables, and containerized liquids (aqueous ammonia and mercaptan) to tugboats, supply boats, or barges. To support material transfer operations, the waterfront facility will require dockside cranes capable of transferring 20-foot containers and palletized equipment. The nominal lifting capacity of the crane will be approximately 30 metric tons. Much of the liquid transfer will utilize 20-foot isotanks to facilitate the safe handling and transfer of materials.

The waterfront facility will require semi-trailer truck access for 20-foot trailers, with drive-through capability. Additional truck access will be required to facilitate the direct transfer of skips and drummed waste from the supply vessels or tugs. The waterfront facility will be equipped to provide security inspection and secure storage of all materials

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being transferred offshore. A minimal amount of space will be needed to provide staging of equipment and materials being transferred to and from the FSRU.

To ensure that only authorized personnel, equipment, and supplies are transferred from shore to the FSRU, a security system will be implemented, including the inspection of credentials and/or goods, secure waiting areas and storage, secure moorings for supply craft/tugs, physical security monitoring during shore facility operations.

1.2 FACILITY MODIFICATION

Broadwater anticipates leasing all onshore facilities, using existing facilities to the extent practicable. Therefore, construction related to Project activities will be limited to aspects that may not be considered part of normal marine facility operations. Given the need to maintain a secure facility, a security fence and inspection station will likely need to be constructed for Broadwater's use. In addition, a security checkpoint/guard station may need to be constructed at the facility entrance. Any proposed construction will occur on previously disturbed land; no greenfield development will be required and no dredging at the existing facilities to accommodate Broadwater tugs is anticipated.

1.3 PROPOSED OPERATION AND MAINTENANCE

All onshore operation and maintenance will be completed by the site owner/operators, with no activities specifically proposed by Broadwater.

1.4 COMMUNICATION SYSTEMS AND COORDINATION CAPABILITIES

The onshore facilities will include voice and data communication capabilities, linking to the FSRU equipment detailed in Resource Report 13, Appendix 13.10. Data transfer may include real-time monitoring of the FSRU systems, but remote operation of the facility is not proposed as the FSRU will be continually manned. The main components of the communications system located onshore will include the following:

- Radio and telephone links to the FSRU;
- Direct link telecommunications with United States Coast Guard (USCG) and Emergency Services;
- VHF radio for contact with support vessels;
- Access to satellite phone links for contact with support vessels and LNG carriers;
- Data link with desktop applications and data transfer, including Information Management Systems, Training Systems, Integrated Business Management System, Maintenance Management System, and a Hydrocarbon Accounting System;

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- Videoconference capabilities; and

- A manpower tracking system to identify all personnel in transit to or from or onboard the FSRU.

Reliable communications between the shore and FSRU are essential, and redundant systems will be incorporated within the design to achieve the required level of service.

The onshore facility will also be used as a Coordination Center in the event of an incident involving Broadwater that requires implementation of an Emergency Response. This requires additional landline phone communications to be available for specific use in an emergency.

In addition to communication capabilities, relevant information held on board the FSRU will be replicated at the onshore facility for use in an emergency. This will include drawings, manuals, personnel details, and emergency contact information.

1.5 FUTURE EXPANSION

Currently, there are no plans for future expansion of the onshore facilities proposed by Broadwater. If future expansion is warranted, separate authorizations by involved regulatory agencies may be required, and these would be obtained, as required, prior to expansion.

1.6 PERMITS AND REGULATORY REQUIREMENTS

The construction (if any), operation, and maintenance of the onshore facilities will be performed in accordance with applicable federal and state permit requirements and environmental guidelines. Since the use of existing facilities is proposed for all onshore facilities, and with uses consistent with current uses, Broadwater does not anticipate that any permits will be required specific to the onshore facilities. However, if permits are required, the site operators will be required to comply with federal, state, and local laws and regulations to the extent that such compliance does not conflict with or is inconsistent with any FERC authorizations.

1.7 AFFECTED LANDOWNERS

Broadwater does not propose the acquisition of any land as part of this Project. All onshore facilities will be leased. As the Project moves forward, Broadwater will negotiate use agreements with operators/owners for use of specific parcels to support the Project.

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2. RESOURCE REPORT 2 – WATER USE AND QUALITY

Resource Report 2 describes water use and quality, potential environmental impacts, and mitigation associated with the proposed onshore components of the Project. The report also describes the groundwaters and surface waters that may directly or indirectly be affected by construction and operation of the proposed onshore facilities.

2.1 GROUNDWATER RESOURCES

The groundwater resources present on Long Island include many sole-source aquifers, which are recharged by rainwater and often supply the drinking water for local residents that are not serviced by public water systems. In the area of Port Jefferson New York, the Upper Glacial/Magothy aquifer is the local groundwater source for several hundred thousand residents with private drinking water wells. In Greenport, New York, and other areas on the North Fork of Long Island, groundwater is the sole source of drinking water, but the supply is vulnerable to saltwater intrusion and upcoming in response to heavy pumping. The fresh groundwater reservoir on the North Fork consists of four principal freshwater flow systems, which are referred to as Long Island mainland, Cutchogue, Greenport, and Orient (USGS 2002).

2.1.1 Public and Private Water Wells

In Suffolk County and adjacent areas, over 500 public water systems rely on more than 1,500 different groundwater-supplied wells. The regional aquifer systems on Long Island have been extensively investigated and assessed. Extensive groundwater resource management and protection efforts have evolved in response to Long Island's unique geological setting and hydrogeological characteristics. Concern for the drinking water supply on Long Island stems from its susceptibility to contamination from physical changes in the recharge zone (e.g., erosion) as well as chemical contamination from surrounding areas (e.g., landfills or clean-up areas). In the area of Broadwater's proposed onshore facilities, drinking water is provided from public water wells. The areas of Greenport and Port Jefferson, New York, are highly developed and many of the industrial facilities require public water supplies since it is a more reliable water source than a private well.

2.1.2 Groundwater Impact and Mitigation

Construction activities have the potential to adversely affect groundwater and public and private water wells, especially if groundwater withdrawals are expected and surface contours are changed that could alter drainage patterns and increase erosion potential. No significant construction activities are planned for the Greenport or Port Jefferson sites to accommodate the Broadwater Project. For safety and security purposes, perimeter fencing will likely be installed around the facility. These activities are not expected to have any impact on groundwater or private and public water supplies. Therefore, mitigation associated with potential impacts is not needed.

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2.2 SURFACE WATER RESOURCES

Both Greenport and Port Jefferson are coastal towns situated on water bodies. Greenport is located on the south side of Long Island's North Fork and is situated on Peconic Bay, which has an outlet to the Atlantic Ocean. Port Jefferson is located in the north shore of Long Island and is situated on Port Jefferson Harbor, a Long Island Sound embayment. Both surface waters are classified by the New York State Department of Environmental Conservation (NYSDEC) as Class SA water. The best use of Class SA waters is shellfishing for market purposes and primary and secondary contact recreation and fishing. These waters are also suitable for fish propagation and survival. Both Peconic Bay and Port Jefferson Harbor are utilized for these purposes and support many maritime industries, including boat building, oystering, and commercial fishing. Aside from the saline harbor waters, there are no other surface water courses that flow through or near the proposed onshore facility locations.

2.2.1 Contaminated Sediments

Sediment contamination is often caused by underlying problems in industrialized harbor areas such as non-permitted discharges of waste materials and inappropriate runoff into the open water environment from operations that occur on the surrounding shorelines. This contamination can be caused by illegal dumping of waste materials and improper management of waste collection. In Greenport and Port Jefferson, many maritime facilities operate in the shoreline areas, especially those associated with boat building and boat maintenance operations in support of the local recreational and commercial fishing industries.

Several investigative sampling events have occurred in Port Jefferson Harbor to examine and quantify existing sediment contamination. The National Status and Trends program reported previously that metals concentrations in the sediments of Port Jefferson Harbor were low. However, recent sampling performed by the State University of New York at Stony Brook (Breslin 1999) indicates that the concentrations of metals in the harbor's sediments exhibit high spatial variability, and the elevated levels present in sediments in the inner harbor are comparable to the levels found in the sediments of harbors along the more urbanized western north shore of Long Island. These elevated contaminant levels have been attributed to remobilization by dredging activities in the harbor and anthropogenic sources within the southern portions of the harbor that contribute to the contaminant load.

Investigative sampling has also been performed in Peconic Bay and the surrounding estuary. The contamination in this area is from sources other than those identified for Port Jefferson Harbor. Storm water runoff and inadequate sewage treatment have been underlying problems for this estuary system. Storm water runoff containing pathogens and other pollutants have caused the closure of shellfish beds and precluded the harvesting of shellfish in Shelter Island Sound. Several improvements have been mandated and funded by New York State for this area, including improvements to the local wastewater treatment plant and reducing sources of storm water pollution and discharges of nitrogen.

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2.2.2 Water Quality

Water quality in the area of the proposed onshore facilities can be characterized by its designated use or use impairment. The waters of Long Island Sound have been included on the New York State 2004 Section 303 (d) List of Impaired Waters requiring a total maximum daily load (TMDL) for several different categories, or parts as they are referred to in the guidance. Impaired waters are those in which specific designated uses are not fully supported for that water body. The use impairments listed for Long Island Sound and the surrounding drainage basin (encompassing both the Greenport and Port Jefferson locations) include Part 1 - Individual Waterbody Segments with Impairments Requiring TMDL Development; Part 2 - Multiple Segment/Categorical Waterbody Impairments Requiring TMDL Development; Part 2c - Waters Impaired by Shellfishing; Part 3a - Waterbody Segments Requiring Verification of Impairment; and Part 3b - Waterbody Segments with Impairment Requiring Verification of Cause/Pollutant.

2.2.3 Sensitive Water Bodies

Sensitive water bodies located near the proposed onshore facilities include Port Jefferson Harbor and its immediate connection to Long Island Sound and Peconic Bay, which is an important estuary. These water bodies have the potential to contain threatened or endangered species and critical habitat. Peconic Bay has also been identified by NYSDEC as an estuary management area and has received funding to promote initiatives to improve water quality and eliminate sources impacting local water quality.

Long Island Sound was established as an Estuary of National Significance in 1987 and encompasses a watershed of over 45,000 square kilometers. Peconic Bay was established as an Estuary of National Significance in 1992 and encompasses a watershed of 1,187 square kilometers

2.2.4 Water Body Construction and Mitigation Procedures

Although sediment contamination and sensitive water bodies exist in the area surrounding the proposed onshore facilities, no activities are planned for the Greenport or Port Jefferson sites that would involve in-water construction with the potential to disturb sediment or impact water resources and water quality. The proposed shore-based facilities will utilize existing facilities. Therefore, water quality impacts from construction or operation of the proposed onshore facilities are not expected and mitigation activities are not necessary.

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3. RESOURCE REPORT 3 – FISH, VEGETATION, AND WILDLIFE

Resource Report 3 describes the existing conditions related to fish, vegetation, and wildlife; potential impacts on those resources; and mitigation associated with components of the proposed onshore facilities. The following discussion describes the existing conditions in the vicinity of the proposed onshore facilities (Section 3.1) and potential impacts and mitigation (Section 3.2)

3.1 EXISTING CONDITIONS

3.1.1 Greenport

3.1.1.1 Vegetation and Wildlife

The Greenport location under consideration is currently developed and used for docking, industrial, and commercial purposes. The property is underlain entirely by urban land, which is soil that has been modified by filling to accommodate large industrial and housing installations. Existing vegetation at the site is limited to scattered individual tree plantings and minimal herbaceous vegetation growing through fill material. The majority of the terrestrial portion of the site is occupied by existing facilities and bare fill. The property includes multiple docks that extend into Greenport Harbor. Any wildlife that may utilize the site are expected to be transient, or adapted to the existing level of industrial development and use as a docking facility. Wildlife is expected to preferentially use other undeveloped sites nearby.

3.1.1.2 Wetlands

A review of the NYSDEC Freshwater Wetland Maps, NYSDEC Tidal Wetland maps, and National Wetland Inventory (NWI) maps was conducted for the Greenport site (*see* Figures 3-1, 3-2, and 3-3). No NYSDEC freshwater wetlands or NWI wetlands within terrestrial areas are depicted within or adjacent to the site. Tidal wetlands are depicted for portions of the site that lie within Greenport Harbor. Wetlands characterized as Littoral Zone (LZ) are depicted on NYSDEC Tidal Wetland Maps for the Greenport site. Littoral Zone is defined as land under tidal water that is not characterized as a marsh, salt meadow, coastal shoal, bar, flat, or formerly connected tidal wetland and is less than 6 feet deep at mean low water (MLW) (6NYCRR Part 661.4). On NWI mapping, the same area is characterized as estuarine, intertidal, unconsolidated shore with sand substrate that is irregularly flooded (E2US2P) and estuarine, subtidal area with an unconsolidated bottom (E1UBL).

3.1.1.3 Essential Fish Habitat

Essential fish habitat (EFH) is defined under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (PL 94-265), as amended by the Sustainable Fisheries Act (SFA) of 1996 (PL 104-267), as "those waters and substrate necessary to fish for spawning, breeding, and feeding or growth to maturity."

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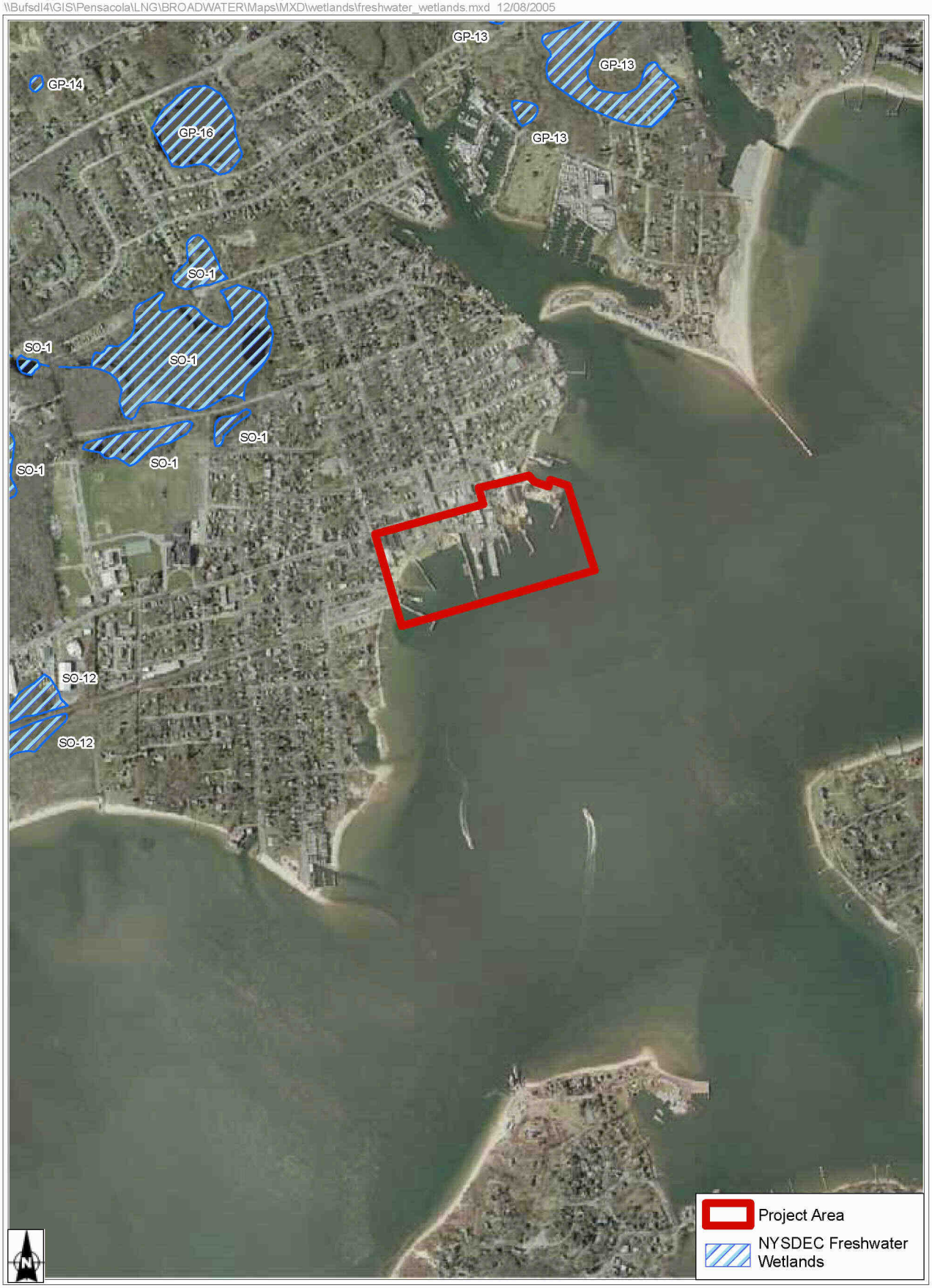

Source: NYS Digital Orthoimagery Program, 2004; NYSDEC.

0 0.125 0.25 0.5
Miles

Figure 3-1 NYSDEC Freshwater Wetlands Greenport, New York

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Source: NYS Digital Orthoimagery Program, 2004; NYSDEC, 1978.

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Figure 3-2 NYSDEC Tidal Wetlands Greenport, New York

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Source: NYS Digital Orthoimagery Program, 2004; USFWS.

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Figure 3-3 NWI Wetlands
Greenport, New York

EFH designations have been defined by the National Oceanic and Atmospheric Administration's Fisheries Service (NOAA Fisheries) for specific life stages based on their occurrence in tidal freshwater, estuarine waters (i.e., mixing/brackish salinity zone), and marine waters (i.e., seawater salinity zone). This information is provided in the *Guide to Essential Fish Habitat Designations in the Northeastern United States* (NOAA Fisheries http://www.nero.noaa.gov/ro/doc/webintro.html). A summary of the 10-minute latitude by 10-minute longitude blocks and a summary of the species for which EFH has been designated within or adjacent to the proposed Greenport site are provided on Figure 3-4.

EFH has been designated for 15 species in the portion of Greenport Harbor that is adjacent to the proposed Greenport site (*see* Table 3-1). Seven species have designated EFH for every life stage, including Atlantic mackerel, cobia, king mackerel, red hake, Spanish mackerel, windowpane flounder, and winter flounder.

Table 3-1 Species with Identified EFH in the Vicinity of the Greenport Site

Species	Eggs	Larvae	Juvenile	Adult
Atlantic mackerel (*Scomber scombrus*)	X	X	X	X
Atlantic salmon (*Salmo salar*)			X	X
Atlantic sea herring (*Clupea harengus)*	X	X		
Black sea bass (*Centropristus striata*)			X	
Bluefish (*Pomatomus saltatrix*)	X	X		
Cobia (*Rachycentron canadum*)	X	X	X	X
King mackerel (*Scomberomorus cavalla*)	X	X	X	X
Pollock (*Pollachius virens*)			X	X
Red hake (*Urophycis chuss*)	X	X	X	X
Sand tiger shark (*Odontaspis taurus*)		X		
Scup (*Stenotomus chrysops*)	X	X	X	
Spanish mackerel (*Scomberomorus maculatus*)	X	X	X	X
Summer flounder (*Paralicthys dentatus*)			X	X
Windowpane flounder (*Scopthalmus aquosus*)	X	X	X	X
Winter flounder (*Pleuronectes americanus*)	X	X	X	X

3.1.1.4 Significant Coastal Fish and Wildlife Habitat

The New York State Department of State (NYSDOS) designates and maps significant coastal fish and wildlife habitat (SCFWH) areas within the state based on recommendations from NYSDEC. The United States Fish and Wildlife Service (USFWS) has designated regionally significant habitats and habitat complexes in need of protection in the estuaries in and around Long Island. NYSDOS-designated and USFWS-designated SCFWH sites in the vicinity of the Greenport site are indicated on Figure 3-5. No SCFWH sites are indicated within or immediately adjacent to the

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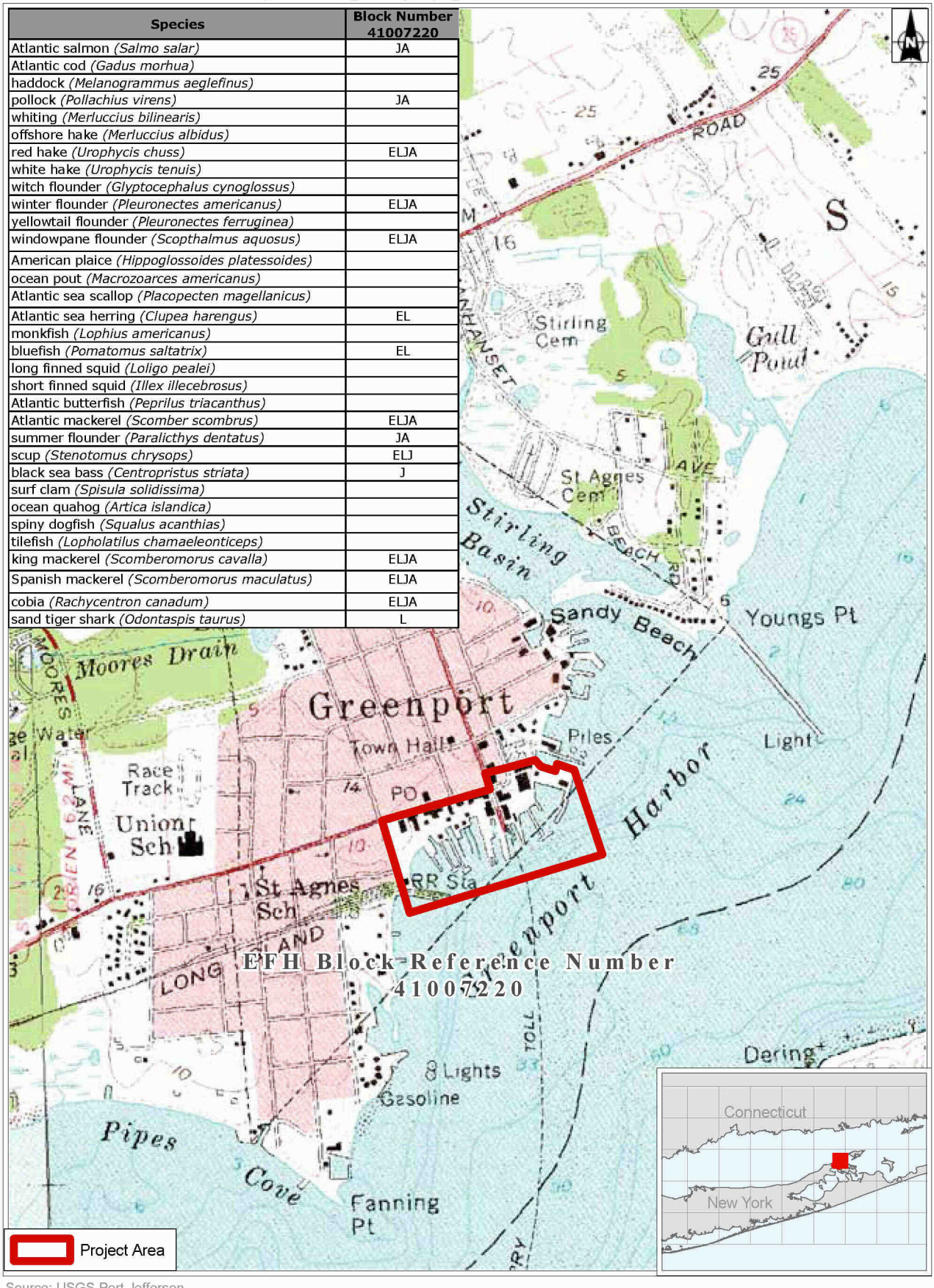
Species	Block Number 41007220
Atlantic salmon *(Salmo salar)*	JA
Atlantic cod *(Gadus morhua)*	
haddock *(Melanogrammus aeglefinus)*	
pollock *(Pollachius virens)*	JA
whiting *(Merluccius bilinearis)*	
offshore hake *(Merluccius albidus)*	
red hake *(Urophycis chuss)*	ELJA
white hake *(Urophycis tenuis)*	
witch flounder *(Glyptocephalus cynoglossus)*	
winter flounder *(Pleuronectes americanus)*	ELJA
yellowtail flounder *(Pleuronectes ferruginea)*	
windowpane flounder *(Scopthalmus aquosus)*	ELJA
American plaice *(Hippoglossoides platessoides)*	
ocean pout *(Macrozoarces americanus)*	
Atlantic sea scallop *(Placopecten magellanicus)*	
Atlantic sea herring *(Clupea harengus)*	EL
monkfish *(Lophius americanus)*	
bluefish *(Pomatomus saltatrix)*	EL
long finned squid *(Loligo pealei)*	
short finned squid *(Illex illecebrosus)*	
Atlantic butterfish *(Peprilus triacanthus)*	
Atlantic mackerel *(Scomber scombrus)*	ELJA
summer flounder *(Paralicthys dentatus)*	JA
scup *(Stenotomus chrysops)*	ELJ
black sea bass *(Centropristus striata)*	J
surf clam *(Spisula solidissima)*	
ocean quahog *(Artica islandica)*	
spiny dogfish *(Squalus acanthias)*	
tilefish *(Lopholatilus chamaeleonticeps)*	
king mackerel *(Scomberomorus cavalla)*	ELJA
Spanish mackerel *(Scomberomorus maculatus)*	ELJA
cobia *(Rachycentron canadum)*	ELJA
sand tiger shark *(Odontaspis taurus)*	L



Source: USGS Port Jefferson, Greenport, Southold Quads.

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Miles

Figure 3-4 Essential Fish Habitats Greenport, New York

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Source: NYS Digital Orthoimagery Program, 2004.

Figure 3-5 Significant Habitat Greenport, New York

Greenport site. The USFWS has designated Orient Harbor and the chain of islands extending northeast between Long Island Sound and Block Island Sound (the Orient Point- Island Complex) and the bays east of Shelter Island (the Shelter Island-Harbor Bays Complex) as SCFWH. These areas lie northeast and southeast of Greenport Harbor, respectively. NYSDOS-designated SCFWH areas are included within these USFWS areas but are not as extensive.

3.1.1.5 Threatened and Endangered Species

Information regarding the presence of endangered or threatened species, species of special concern, and the existence of critical or significant habitats on or in the vicinity of the Project area was requested from USFWS, NOAA Fisheries, and NYSDEC's New York State Natural Heritage Program (*see* Appendix A). As of the date of this filing, no response has been received.

3.1.2 Port Jefferson

3.1.2.1 Vegetation and Wildlife

The Port Jefferson location under consideration is currently developed and used for docking, industrial, and commercial purposes. The property is underlain entirely by urban land, which is soil that has been modified by filling to accommodate large industrial and housing installations. Existing vegetation at the site includes scattered tree plantings and maintained lawn. The terrestrial portion of the site is occupied by existing industrial and commercial facilities, boat storage facilities, and associated parking. The property includes multiple docks and piers that extend into Port Jefferson Harbor, and in some areas the shoreline is bulkheaded. Any wildlife that may utilize the site is expected to be transient, or adapted to the existing level of industrial development and use. Wildlife is expected to preferentially use medium density residential areas and undeveloped areas around Port Jefferson Harbor when seeking terrestrial or shoreline habitats.

3.1.2.2 Wetlands

A review of the NYSDEC Freshwater Wetland maps, NYSDEC Tidal Wetland maps, and NWI maps was conducted for the Port Jefferson site (*see* Figures 3-6, 3-7, and 3-8). No NYSDEC freshwater wetlands or NWI wetlands within terrestrial areas are indicated within or adjacent to the site. Tidal wetlands are indicated for portions of the site that lie within Port Jefferson Harbor. Wetlands characterized as LZ and Coastal Shoals, Bars, and Mudflats (SM) are indicated on NYSDEC Tidal Wetland maps adjacent to the Port Jefferson site. On NWI mapping, the same areas are characterized as estuarine, intertidal flats subjected to regular tidal inundation (E2FLN) and estuarine, subtidal area with an unconsolidated bottom (E1UBL).

3.1.2.3 Essential Fish Habitat

A summary of the 10-minute latitude by 10-minute longitude blocks and a summary of the species for which EFH has been designated within or adjacent to the proposed Port Jefferson site are provided on Figure 3-9.

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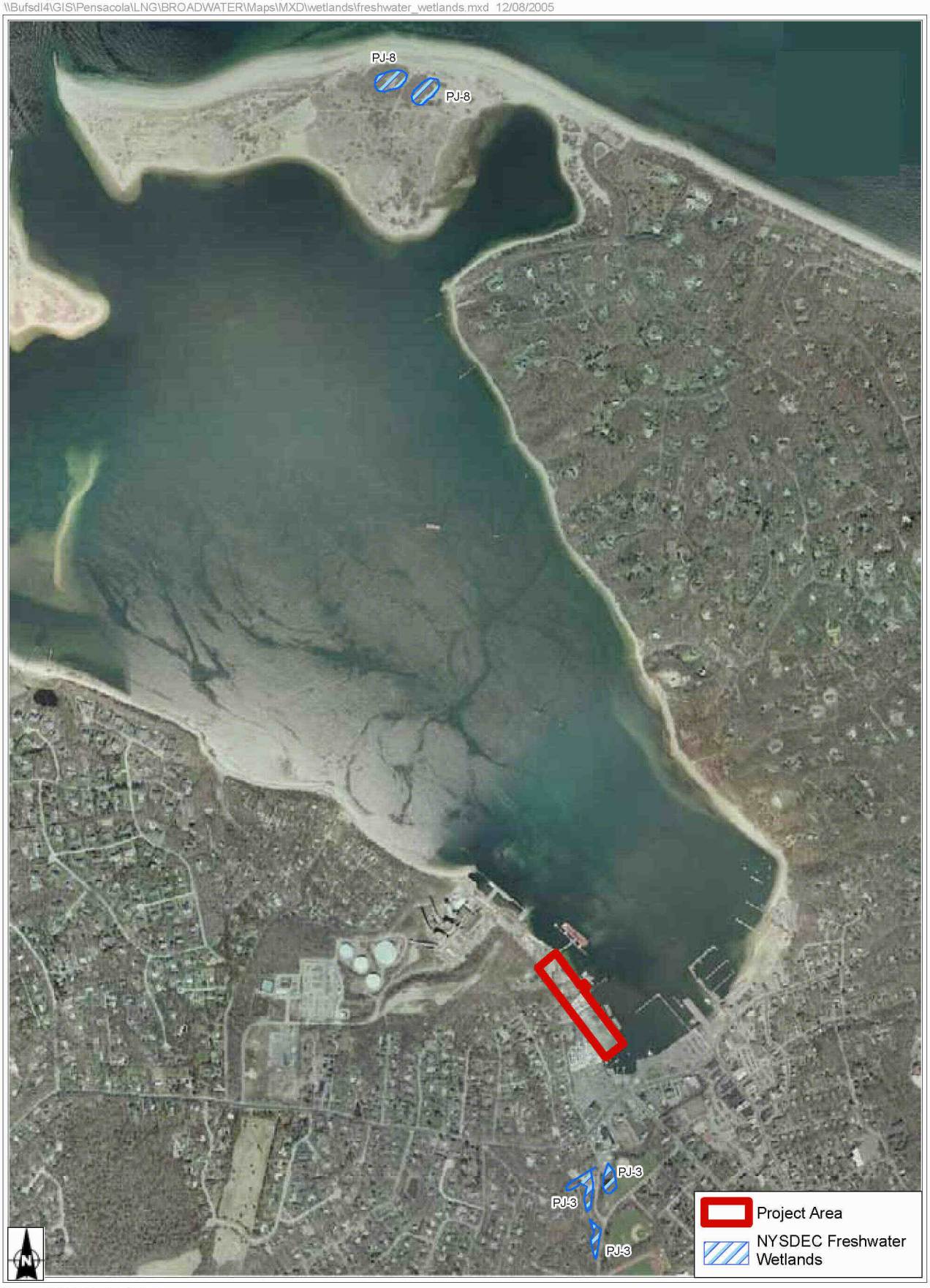

Source: NYS Digital Orthoimagery Program, 2004; NYSDEC.

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Miles

Figure 3-6 NYSDEC Freshwater Wetlands Port Jefferson, New York

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Source: NYS Digital Orthoimagery Program, 2004; NYSDEC, 1978.

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Figure 3-7 NYSDEC Tidal Wetlands Port Jefferson, New York

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Source: NYS Digital Orthoimagery Program, 2004; USFWS.

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Figure 3-8 NWI Wetlands
Port Jefferson, New York

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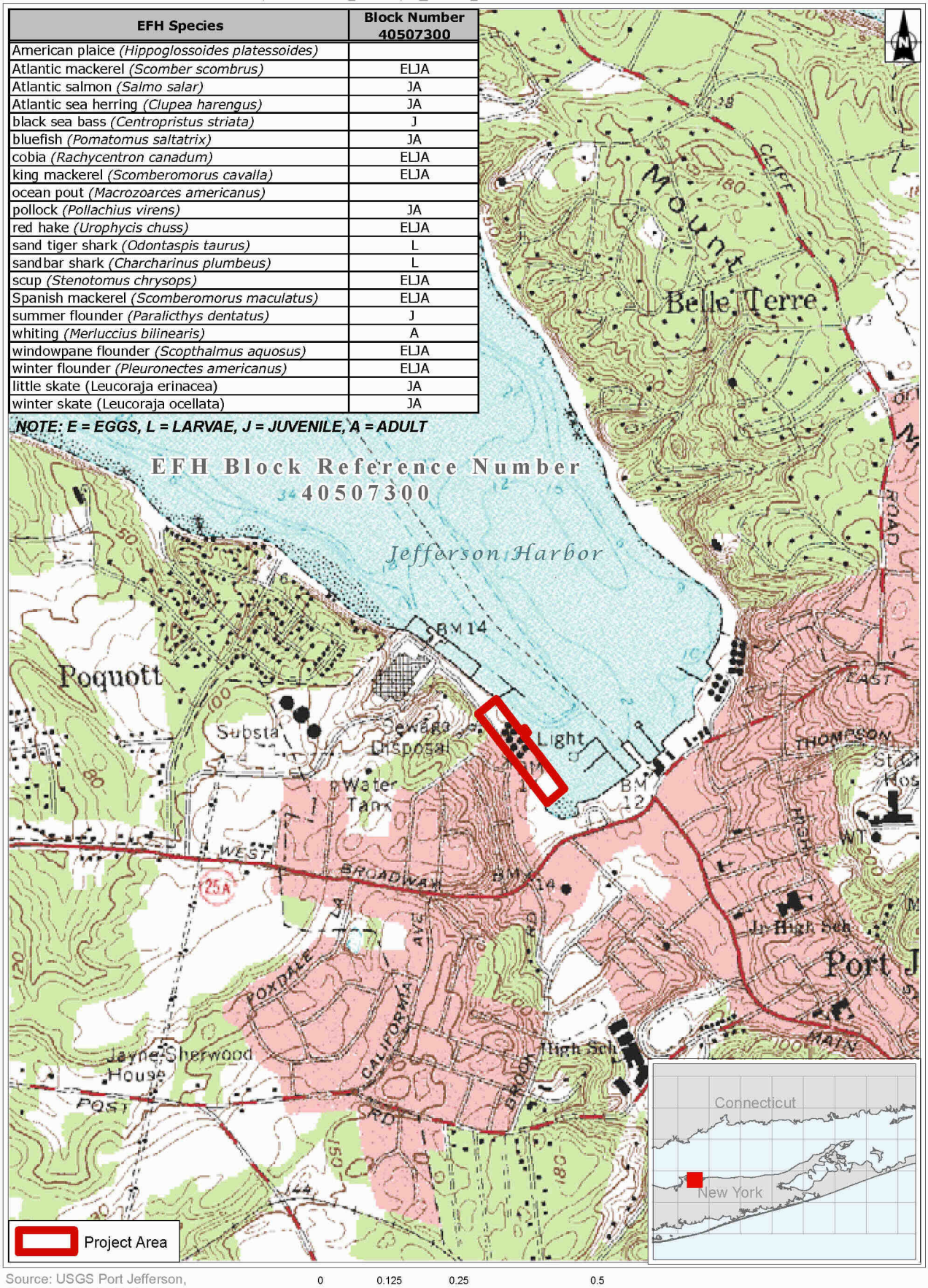
EFH Species	Block Number 40507300
American plaice *(Hippoglossoides platessoides)*	
Atlantic mackerel *(Scomber scombrus)*	ELJA
Atlantic salmon *(Salmo salar)*	JA
Atlantic sea herring *(Clupea harengus)*	JA
black sea bass *(Centropristus striata)*	J
bluefish *(Pomatomus saltatrix)*	JA
cobia *(Rachycentron canadum)*	ELJA
king mackerel *(Scomberomorus cavalla)*	ELJA
ocean pout *(Macrozoarces americanus)*	
pollock *(Pollachius virens)*	JA
red hake *(Urophycis chuss)*	ELJA
sand tiger shark *(Odontaspis taurus)*	L
sandbar shark *(Charcharinus plumbeus)*	L
scup *(Stenotomus chrysops)*	ELJA
Spanish mackerel *(Scomberomorus maculatus)*	ELJA
summer flounder *(Paralicthys dentatus)*	J
whiting *(Merluccius bilinearis)*	A
windowpane flounder *(Scopthalmus aquosus)*	ELJA
winter flounder *(Pleuronectes americanus)*	ELJA
little skate (Leucoraja erinacea)	JA
winter skate (Leucoraja ocellata)	JA

NOTE: E = EGGS, L = LARVAE, J = JUVENILE, A = ADULT



Source: USGS Port Jefferson, Greenport, Southold Quads.

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Miles

Figure 3-9 Essential Fish Habitats Port Jefferson, New York

EFH has been designated for 19 species in the portion of Port Jefferson Harbor adjacent to the Port Jefferson site (*see* Table 3-2). Eight species have been designated EFH for every life stage, including Atlantic mackerel, cobia, king mackerel, red hake, scup, Spanish mackerel, windowpane flounder, and winter flounder.

Table 3-2 Species with Identified EFH within the Vicinity of the Port Jefferson Site

Species	Eggs	Larvae	Juvenile	Adult
Atlantic mackerel (*Scomber scombrus*)	X	X	X	X
Atlantic salmon (*Salmo salar*)			X	X
Atlantic sea herring (*Clupea harengus)*			X	X
Black sea bass (*Centropristus striata*)			X	
Bluefish (*Pomatomus saltatrix*)			X	X
Cobia (*Rachycentron canadum*)	X	X	X	X
King mackerel (*Scomberomorus cavalla*)	X	X	X	X
Pollock (*Pollachius virens*)			X	X
Red hake (*Urophycis chuss*)	X	X	X	X
Sand tiger shark (*Odontaspis taurus*)		X		
Sandbar shark *(Charcharinus plumbeus)*		X		
Scup (*Stenotomus chrysops*)	X	X	X	X
Spanish mackerel (*Scomberomorus maculatus*)	X	X	X	X
Summer flounder (*Paralicthys dentatus*)			X	
Whiting *(Merluccius bilinearis)*				X
Windowpane flounder (*Scopthalmus aquosus*)	X	X	X	X
Winter flounder (*Pleuronectes americanus*)	X	X	X	X
Little skate (*Leucoraja erinacea*)			X	X
Winter skate (*Leucoraja ocellata*)			X	X

3.1.2.4 Significant Coastal Fish and Wildlife Habitat

NYSDOS-designated and USFWS-designated SCFWH sites in the vicinity of the Port Jefferson site are identified on Figure 3-10. The Port Jefferson site lies entirely within a large USFWS-designated SCFWH area that extends from Stony Brook Harbor to Mount Sinai Harbor (the Port Jefferson-Stony Brook Harbor Complex), and the corresponding NYSDOS-designated SCFWH area (Port Jefferson Harbor) covers all but the southernmost portion of the Port Jefferson site.

Port Jefferson Harbor has been designated as a SCFWH area due to its importance to fish and wildlife throughout the year. Most of Port Jefferson Harbor ranges from 6 to 30 feet in depth at mean low water level, with maximum depths of over 50 feet. This area has a

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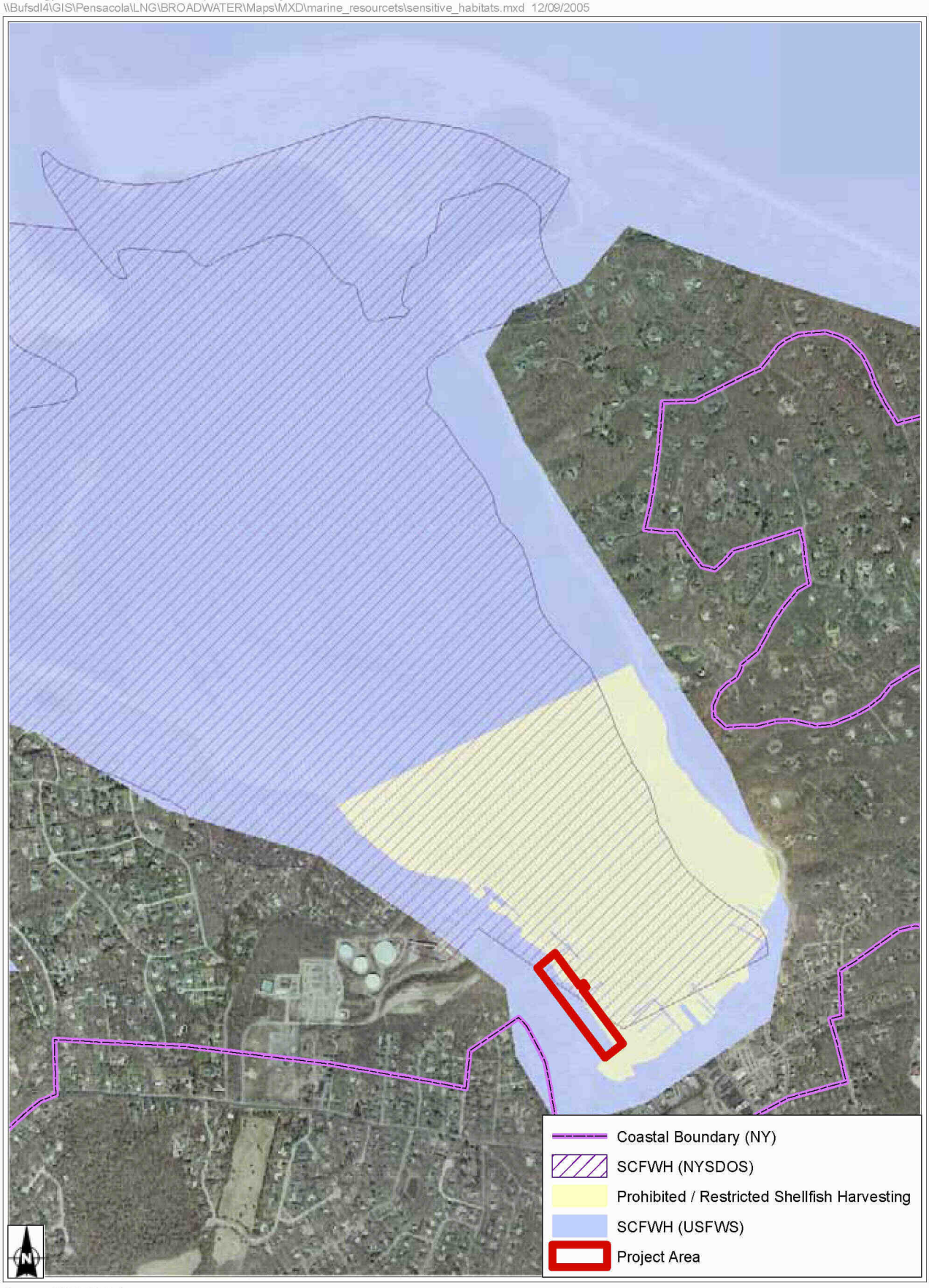

Source: NYS Digital Orthoimagery Program, 2004.

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Figure 3-10 Significant Habitat Port Jefferson, New York

tidal fluctuation of approximately 7 feet. The salt marshes and tidal flats that border and empty into Port Jefferson Harbor are important for maintaining the biological productivity of this ecosystem.

Port Jefferson Harbor is an important waterfowl wintering area from November to March and hosts concentrations of waterfowl during spring and fall migrations. In addition, Port Jefferson Harbor is a productive area for marine finfish, shellfish, and crustaceans. The bay serves as a nursery and feeding area for multiple fish species. From April through November, the harbor serves as a spawning and nursery area for scup, bluefish, Atlantic silverside, menhaden, northern puffer, striped bass, and blackfish. Winter flounder are present in the harbor throughout the year, spawning during the winter months (January-March). Port Jefferson Harbor receives moderate recreational fishing pressure of county-level significance from late winter through fall. Port Jefferson Harbor also is an important potential shellfish producing area, but shellfish harvesting is prohibited or restricted in much of the harbor, including the area surrounding the Port Jefferson site. Concentrations of lobster within the area support a productive commercial and recreational fishery of county-level significance from late March to early August. Port Jefferson Harbor and nearby portions of Long Island Sound also may be important habitat for juveniles of the endangered Kemp's Ridley sea turtle, especially during the late summer and fall.

3.1.2.5 Threatened and Endangered Species

Information regarding the presence of endangered or threatened species, species of special concern, and the existence of critical or significant habitats on or in the vicinity of the Project area was requested from USFWS, NOAA Fisheries, and NYSDEC's New York State Natural Heritage Program (*see* Appendix A). As of the date of this filing, no response has been received.

3.2 CONSTRUCTION AND OPERATION IMPACTS AND MITIGATION

Construction activities have minimal potential to affect fish, vegetation, and wildlife, including threatened and endangered species through habitat disturbance. Broadwater will avoid impacts by utilizing existing facilities to the extent practicable. Broadwater proposes no construction activities at the Greenport site or the Port Jefferson site except for the installation of security fencing and a security check-point at the facility entrance for the purposes of safety and security. Installation of these facilities is not expected to result in impacts on fish, vegetation, or wildlife. Broadwater will use erosion control devices and construction practices to minimize potential erosion impacts on wetlands and water bodies resulting from fence installation activities. Only an insignificant amount of vegetation may need to be removed during installation of the fencing. Any wildlife that currently uses the site are adapted to urban areas and likely acclimated to activities of this nature at the site and in the surrounding residential areas.

Wildlife that uses the site may be temporarily displaced during installation of the fencing, but it is expected that use of the site by wildlife will continue following completion of the installation.

BW000564

Operation of the onshore facility is not expected to result in impacts on fish, vegetation, or wildlife. Operation of the facility will require berthing for tugs and space to facilitate the transfer of material and personnel. Broadwater proposes to use existing facilities that are already in use for these activities. While some minimal increase in boat traffic from tug activity will occur, both the Greenport and the Port Jefferson harbors are extensively used for commercial and recreational vessel traffic.

BW000565

4. RESOURCE REPORT 4 – CULTURAL RESOURCES

Resource Report 4 describes the general historic background, the existing cultural resources, and mitigation associated with the proposed onshore facilities components.

4.1 EXISTING CONDITIONS

4.1.1 Greenport

4.1.1.1 Historic Background

At the time of the arrival of the first Europeans, Suffolk County was inhabited by the Nissaquage, Setauket, Corchaug, Secataug, Patchogue, Schinecoc, and Mountauk tribes (Furman 1874:32-33). In the beginning of the seventeen century, the Dutch established a colony that included Suffolk County to capitalize on the fur trade (Ellis et al. 1967:19-20). However, England interfered with the activities of the Dutch and eventually seized the colony by force in 1664 (Ellis et al. 1967:28; Prime 1845:61).

Greenport was settled in 1682. At that time, it was comprised of two settlements, Stirling and Green Hill. Suffolk County was organized on November 1, 1683, under an act to divide the province of New York into shires and counties (Thompson 1962 V II:3). With the passing of the Revolutionary War, the county became the possession of the United States.

Throughout the eighteenth century, the settlers on the north shore of Long Island played an increasingly important role in the coastal trade. Starting in the 1730s, small landing spots were established in the sheltered harbors. Fertilizer and merchandise were brought from the mainland, and the north shore provided timber and agricultural products. By the end of the century, the north shore was dotted with small villages and farms (Gabriel 1921:124-125).

Beginning around 1800, Suffolk County began exporting large quantities of firewood to New York City (Warner et al. 1975:95). In 1831, Stirling and Green Hill merged and adopted the name Greenport. The Village of Greenport was incorporated in 1838 (Disturnell 1843:190). In 1844, the commute from Greenport to New York City was reduced from a few days to a few hours when the Long Island Railroad began operations. This expanded the local markets and initiated a new era in agricultural development, especially the cultivation of potatoes and vegetables (Gabriel 1921:57-58). Steamers at Greenport provided a connection between Boston and New York City (Gabriel 1921: 57-58).

By 1843 Greenport had approximately 700 inhabitants, largely occupied with seafaring trades (Disturnell 1843:190). This era was the golden age of whaling on Long Island. By 1847 Greenport was home to 12 whalers (Gabriel 1921:69). D.D. Wells built the first menhaden oil factory on the Atlantic coast near Greenport in 1850. The fish-derived oils

BW000566

were used for painting, tanning, and the dilution of more expensive oils. The by-products of fish oil production were then sold as fertilizer (Gabriel 1921:80). By the 1870s the fish oil industry had expanded, and Greenport was one of the top three oils centers on Long Island. The introduction of numerous steamers at the end of the nineteenth century led to a consolidation of the factories, resulting in a virtual monopoly under the American Fisheries Company. The company established four factories, one of which was located at Promised Land, Long Island, and the fleet often wintered in Greenport (Gabriel 1921:83-87).

With the decline of the whaling industry in the late nineteenth century, many whalers turned to cod and bluefish. At that time 20 smacks (fishing vessels) were harbored in Greenport (Gabriel 1921:83-87). By the early twentieth century, traditional nautical enterprises underwent a dramatic decline. Whaling off of Long Island ended, and sailing ships were replaced with steamers, which could not be made locally. In addition, the increasing amounts of roadways and railroads supplanted the ships in the task of transporting agricultural products. These industries were replaced by summer tourists, and shipbuilders applied their skills to building and repairing yachts and recreational vessels (Gabriel 1921:130-131).

4.1.1.2 Known Cultural Resources

The proposed location does not contain resources listed or eligible for listing in the National Register of Historic Places (NRHP) or known archaeological sites. However, two sites listed on the NRHP—the Greenport Railroad Station (90NR01923) and the Greenport Village Historic District (90NR01922)—are directly adjacent to the proposed location from the west and north, respectively.

4.1.1.3 Archaeological Sensitivity

The United States Department of Agriculture (USDA) SSURGO and STATSGO databases identifies the soil series of the property as Urban land. Urban land is soil that has been modified by disturbance of the natural layers with additions of fill material several feet thick to accommodate large industrial and housing installations. In many locations, the fill ranges from 3 to more than 12 feet thick and consists of gravely sandy loam to gravely loam in texture. The texture can vary since this material is often comprised of fill or borrow material brought in from other areas and is often not consistent with the native soil type.

The shoreline of the parcel has been modified by piers, bulkheads, slips, loading platforms, etc. The Greenport parcel is highly developed and is used for docking, shipbuilding, and commercial activities. Given the severe land alterations and the absence of natural surfaces at the Greenport location, it is not likely to contain archaeological resources eligible for NRHP listing.

BW000567

4.1.2 Port Jefferson

4.1.2.1 Historic Background

At the time of the arrival of the first Europeans, Suffolk County was inhabited by the Nissaquage, Setauket, Corchaug, Secataug, Patchogue, Schinecoc, and Mountauk tribes. The Setauket were the original inhabitants of Port Jefferson (Furman 1874:32-33). In the beginning of the seventeen century, the Dutch established a colony that included Suffolk County to capitalize on the fur trade (Ellis et al. 1967:19-20). However, England interfered with the activities of the Dutch and eventually seized the colony by force in 1664 (Ellis et al. 1967:28; Prime 1845:61).

Suffolk County was organized on November 1, 1683, under an act to divide the province of New York into shires and counties (Thompson 1962 V II:3). With the passing of the Revolutionary War, the county became the possession of the United States. Following the war, coastal trade flourished and the increase in whaling and coastal trade spurred the development of a shipbuilding industry. With a sheltered deepwater harbor and large stores of oak and locust, Port Jefferson was among the first on Long Island to build and launch ships (Gabriel 1921:125-126). At the height of its shipbuilding industry, Port Jefferson was producing numerous three-masted ships of the line (Gabriel 1921:128-129).

By 1843 Port Jefferson had 300 residents, 50 houses, hotels, and stores (Disturnell 1843:330). In 1844, the commute from Port Jefferson to New York City was reduced from a few days to a few hours when the Long Island Railroad began operations. This expanded the local markets and initiated a new era in agricultural development, especially the cultivation of potatoes and vegetables (Gabriel 1921: 57-58). The railroad stimulated the growth of the eastern villages on Long Island, which in turn created further need for steamer transportation to the mainland. In 1873 regular ferry service was established between Port Jefferson and Bridgeport, Connecticut (Gabriel 1921:129-130).

The 1840s were the golden age of whaling on Long Island. D.D. Wells built the first menhaden oil factory on the Atlantic coast on the north shore of Long Island in 1850. The fish-derived oils were used for painting, tanning, and the dilution of more expensive oils. The by-products of fish oil production were then sold as fertilizer (Gabriel 1921:80). Initially, small factories dotted the beaches of northern Long Island. However, the introduction of numerous steamers at the end of the nineteenth century led to a consolidation of the factories, resulting in a virtual monopoly under the American Fisheries Company. The company established four factories, one of which was located at Promised Land, Long Island.

By the beginning of the twentieth century, the commercial whaling and fishing industries on the north shore has declined. In the twentieth century, tourism and the building of yachts and recreational vessels became the principal industries of the area (Gabriel 1921: 69, 83-87, 130-131).

BW000568

4.1.2.2 Known Cultural Resources

The proposed location does not contain resources listed or eligible for listing in the NRHP or known archaeological sites. However, two sites listed on the NRHP—Bayles Shipyard (99NR01545) and the Port Jefferson Village Historic District (02NR04918)—are located immediately east and southeast of the Port Jefferson location, respectively.

4.1.2.3 Archaeological Sensitivity

The Port Jefferson site is underlain by disturbed soils of the Urban land series (*see* Section 4.1.1.3). The site is currently developed and used for docking, industrial, and commercial purposes. It contains a marina, a boat storage yard, and an aggregate yard. The property is underlain entirely by Urban land (see above) and does not contain natural surfaces. All of the shoreline at this location has been modified; much of the shoreline consists of steel sheet piling driven into the bottom and contains piers and bulkheads.

A 1976 United States Geological Survey (USGS) topographic map indicates that the proposed area contained a fuel tank farm; the tanks have since been removed.

Due to severe land alterations and the absence of natural surfaces at the Port Jefferson site, it is unlikely to contain significant archaeological resources.

4.2 CONSTRUCTION AND OPERATION IMPACTS AND MITIGATION

Broadwater does not intend to perform construction activities at the Greenport or Port Jefferson sites, with the exception of installing security fencing around the site and a security check-point at the facility entrance. This construction is not expected to result in impacts on archaeological resources because such resources are unlikely to exist at either location.

Broadwater also does not intend to conduct demolition or alteration of existing structures. The proposed activities at both sites—berthing of tugs, storage of materials and equipment, loading and unloading, craneage, and transfer of crews—is consistent with activities that have taken place at both sites during the twentieth and twenty-first centuries and, in fact, represent a traditional land use.

No Broadwater-related activities will take place in the NRHP-listed districts.

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) has been consulted under Section 106 of the 1966 National Historic Preservation Act, as amended (*see* Appendix B). The OPRHP will make a determination as to the potential effects of the onshore activities on cultural resources.

BW000569

5 RESOURCE REPORT 5 – SOCIOECONOMICS

This report does not apply, because the onshore facilities are not "significant aboveground facilities". *See* FERC's Guidance Manual for Environmental Report Preparation.

BW000570

6 RESOURCE REPORT 6 – GEOLOGY

This section describes the geological characteristics, resources, hazards, environmental consequences, and mitigation associated with the proposed onshore components of the Project.

6.1 GEOLOGIC SETTING OF LONG ISLAND

Both the Greenport and Port Jefferson sites are located within the Atlantic Coastal Plain (ACP) physiographic province, which stretches from Cape Cod south to the Yucatan Peninsula. The ACP is characterized as a flat, low-lying seaward-thickening wedge of Cretaceous-age and younger sediments that gently slope toward the sea. The ACP is part of a continuous surface that extends offshore into the waters that surround Long Island. The underwater section comprises the continental shelf. Most of the Long Island coast consists of glacial outwash (sand and gravel deposited by melt-water streams in front of the end moraine) and is marked by a sinuous ridge or terminal moraine comprised of till, gravel, sand, and clay that extends throughout western Long Island and across Staten Island.

6.2 BLASTING

Blasting will not be required for any component of the proposed Broadwater onshore facilities. Therefore, potential impacts from these activities are not discussed.

6.3 MINERAL RESOURCES

Long Island is not an area with extensive mineral resource operations. Sand deposits offshore on the inner shelf, south of Long Island, have been used in the past for beach-nourishment projects, but land-based mineral resources are not plentiful in this region. The areas of the two proposed onshore facilities do not contain any known active mineral resource removal operations or resource deposits. Therefore, the use and operation of the onshore facilities is not expected to hinder or impact any mining or mineral resource removal activities.

6.4 GEOLOGIC HAZARDS

Potential geologic hazards generally include ground failure caused by unstable soils (liquefaction), karst terrain (unexpected formation of sinkholes), seismicity (earthquakes), volcanism, or consequences of human activities (e.g., mining, blasting, construction, etc.). Problems associated with karst terrain, volcanism, and human activities are not a concern for this region and are not considered for this project. The only relevant potential geologic hazard for this area is seismicity, which will be addressed during the final selection, planning, and design of onshore facilities in accordance with relevant national, state, and local codes for seismic design.

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6.4.1 Seismicity

Earthquake activity is common in the eastern United States, although the likelihood of a damaging earthquake occurring in the area of the proposed onshore facilities is very low. As noted in Section 6.1, the proposed onshore portions of the Project are located within the ACP physiographic province, which is a region of generally low seismicity marked by several distinct areas of higher activity. These higher activity areas can be correlated to unique specific structures or zones that are not found in the area of the proposed onshore facilities and are not typical of the entire ACP.

6.4.2 Avoidance and Minimization of Adverse Effects

In general, no components of the onshore facilities will be susceptible to damage from existing geologic hazards or seismic effects that could, in turn, result in environmental impacts. Therefore, existing geology and potential geologic hazards are not a concern for the proposed onshore facilities.

6.5 PALEONTOLOGICAL RESOURCES

There are no areas of paleontological significance in the Project area.

BW000572

7. RESOURCE REPORT 7 – SOILS

This section describes the existing soil conditions at the potential onshore facility locations, as well as mitigation associated with the proposed onshore components of the Project.

7.1 DESCRIPTION OF SOILS

The soil association and soil series description was compiled from information in the USDA SSURGO and STATSGO databases. A brief description of the soil association and soil series underlying the proposed onshore Project components is described below, as are soil characteristics and potential limitations.

The soil type present at both the Greenport and Port Jefferson locations is Ur, which is the urban land soil series. Urban land is soil that has been modified by disturbance of the natural layers with additions of fill material several feet thick to accommodate large industrial and housing installations. In many locations, the fill ranges from 3 feet (1 m) to more than 12 feet (4 m) thick, and from gravely sandy loam to gravely loam in texture. The texture can vary since this material is often comprised of fill or borrow material brought in from other areas and is often not consistent with the native soil type. The erosion hazard for this material is slight to moderate, depending on the texture.

At both the Greenport and Port Jefferson sites, the shorefront areas have been utilized for commercial and industrial purposes in the past and were most likely filled in with non-native materials to accommodate the use of heavy equipment and to stabilize and protect the nearshore and pier areas from erosion.

7.2 IMPACTS AND MITIGATION

The proposed onshore facilities are expected to have minimal impacts on soil resources. All areas proposed for use have been previously disturbed and are currently paved. As necessary, Broadwater will adhere to erosion control and site stabilization standards set forth in the FERC Plan and Procedures during the minimal construction activities that may be required to provide site security (i.e., perimeter fencing and inspection station).

BW000573

8. RESOURCE REPORT 8 – LAND USE, RECREATION AND AESTHETICS

Section 8 describes existing conditions with respect to land use, recreation, and aesthetics at the Greenport and Port Jefferson locations. In addition, this section describes anticipated impacts and mitigation measures that may be necessary as a result of the Project.

8.1 LAND REQUIREMENTS

Broadwater has identified two locations on Long Island that can provide the needed facilities to support the operation of the Project: a waterfront site in the village of Greenport, and a waterfront site in the village of Port Jefferson (*see* Figures 1-1 and 1-2). The village of Greenport is located in the town of Southold, on the north fork of Long Island, and Port Jefferson is located in the town of Brookhaven, on the north shore of Long Island. The permanent onshore facilities will include land required for office space, warehousing, and a waterfront facility. Broadwater expects to lease all onshore facility space; no fee simple land acquisition is proposed.

8.1.1 Temporary Facilities

8.1.1.1 Greenport

No temporary facilities are required or proposed for the Greenport site.

8.1.1.2 Port Jefferson

The existing waterfront and docking facilities located at the proposed Port Jefferson site are adequate to address the needs for temporary facilities related to construction of the Project. As such, no new additional facilities will be constructed and, therefore, no related environmental impacts are anticipated.

8.1.2 Permanent Facilities

8.1.2.1 Greenport

As discussed in Section 1.1.2, permanent onshore facilities such as office space, warehousing, and a waterfront facility are required. Leasing of all needed onshore facility space is anticipated; no land acquisition is proposed. The intended use of the facilities for these purposes is expected to be the same as their current use.

8.1.2.2 Port Jefferson

The facilities proposed for Port Jefferson are essentially the same in scope as those proposed for the Greenport site.

BW000574

8.2 EXISTING CONDITIONS

8.2.1 Land Ownership

Broadwater intends to contract with private local marina operators and tugboat operators for use of onshore and docking facilities. It is expected that local tugboat operators will coordinate with owners of local marinas to make lease arrangements for necessary space at these facilities. Therefore, the existing ownership of land parcels will not change.

8.2.2 Land Use

8.2.2.1 Greenport

The village of Greenport covers an area of 0.96 square mile (2.5 km^2) along the southern coast of the north fork of Long Island. Greenport is bounded to the north, east, and west by the town of Southold. To the south are the towns of Shelter Island and the village of Dering Harbor. In 2000, Greenport had a population of 2,048 (U.S. Bureau of the Census 2005).

Greenport has been a strategic commercial fishing port since the early part of the nineteenth century. Although the current local economy relies less on the waterfront's traditional use as a commercial fishing/maritime center and more on waterfront-related tourism and recreational uses, land use patterns in Greenport still reflect land use and development oriented toward traditional water-dependent uses. The village has identified plans and programs geared toward the efficient use the waterfront for water-dependent uses (U.S. Office of Ocean and Coastal Resource Management 1996).

The specific parcels proposed for permanent facilities in Greenport fall within areas designated as Waterfront Area 1 and Waterfront Area 2, which include the following mix of land uses: marine commercial (9.2 acres [56.9%]), vacant disturbed abandoned (2.8 acres [17.2 %]), institutional (0.39 acres [2.4%]) and commercial (3.8 acres [23.5%]) (*see* Figure 8-1). The surrounding uses include commercial and marine commercial to the north, village residential to the west and south, and open water (Greenport Harbor) to the east (U.S. Office of Ocean and Coastal Resource Management 1996). In addition, the proposed onshore facilities are located in an area designated as marine commercial under the Village of Greenport's future land use map. According to the Village of Greenport's Local Waterfront Revitalization Program (LWRP), marine commercial uses in Waterfront Areas 1 and 2 currently include a variety of water-dependent businesses and activities, including but not limited to: retail and wholesale seafood product manufacturers; facilities for offloading fish from commercial vessels; dockage for transient vessels; and marine supply facilities (U.S. Office of Ocean and Coastal Resource Management 1996). Based on the existing usage within Greenport's Waterfront Areas 1 and 2, the proposed Project-related activities are expected to be consistent and compatible with the existing land use patterns in the area.

BW000575

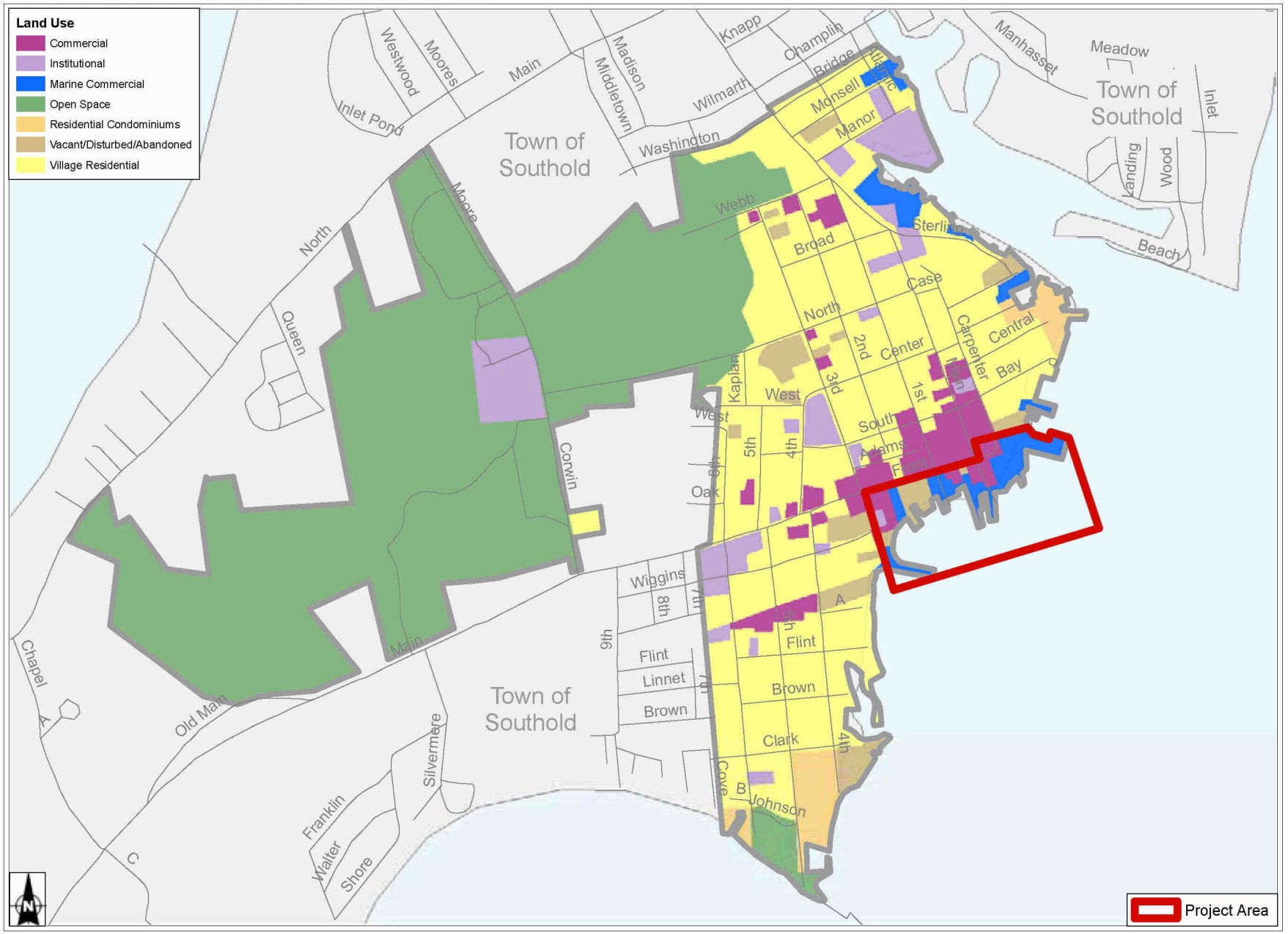

Figure 8-1 Greenport Land Use

8.2.2.2 Port Jefferson

The village of Port Jefferson covers an area of 3.05 square miles (7.9 km^2) along the northern shore of Long Island. In 2000, Port Jefferson had a population of 7,837 (U.S. Bureau of the Census 2005). The parcels proposed for permanent facilities in Port Jefferson have a current land use designation of Industrial (4.6 acres [100%]) (*see* Figure 8-2).

The land uses adjacent to the proposed Project site include a mix of industrial uses to the north and west (Key Span Power Plant), medium- to high-density residential use to the north and southwest, and open water (Port Jefferson Harbor) to the east.

Port Jefferson's waterfront area is also known as its downtown. This area is comprised of a mix of land uses, including waterfront, industry, government, commercial, and residential. The village has developed over recent years and has begun to take on a tourist center character, revolving around the Port Jefferson ferry terminal, restaurants, and shopping centers. According to the *Port Jefferson Harbor Complex Harbor Management Plan* (Village of Port Jefferson 1999), there has been a slow transition of Port Jefferson Harbor from a mostly industrial waterfront to one characterized by a mix of land uses, including recreational, commercial, industrial, and residential, which has resulted in conflicts and congestion within the harbor. Despite this, however, the proposed usage of properties by Broadwater for Project-related activities is allowable and encouraged under the Village's and Town's planning documents (Village of Port Jefferson 1999) and will be consistent and compatible with existing land use patterns in the area.

8.2.3 Existing Zoning

8.2.3.1 Greenport

The Greenport site is currently primarily zoned W-C: Waterfront Commercial, with a small portion being zoned C-R: Retail Commercial (*see* Figure 8-3). Other zoning designation adjacent to the proposed site include R-A and R-B2 (Residential) to the east and west, and C-1 (Central Commercial) to the south. The W-C zoning designation allows for uses supporting water-dependent uses such as marinas and docks. Therefore, the facilities proposed in support of the Project will be consistent with existing zoning (U.S. Office of Ocean and Coastal Resource Management 1996).

8.2.3.2 Port Jefferson

The Port Jefferson site is currently zoned primarily as M-W: Marina Waterfront (*see* Figure 8-4). The M-W zoning designation allows for uses supporting water-dependent uses such as marinas and docks. Other surrounding zoning includes C-G (General Commercial) to the south and R-2: (One- and Two-Family Residential) to the west and east (Suffolk County Planning Department 1997). Therefore, the facilities proposed in support of the Project will be consistent with existing zoning.

BW000577

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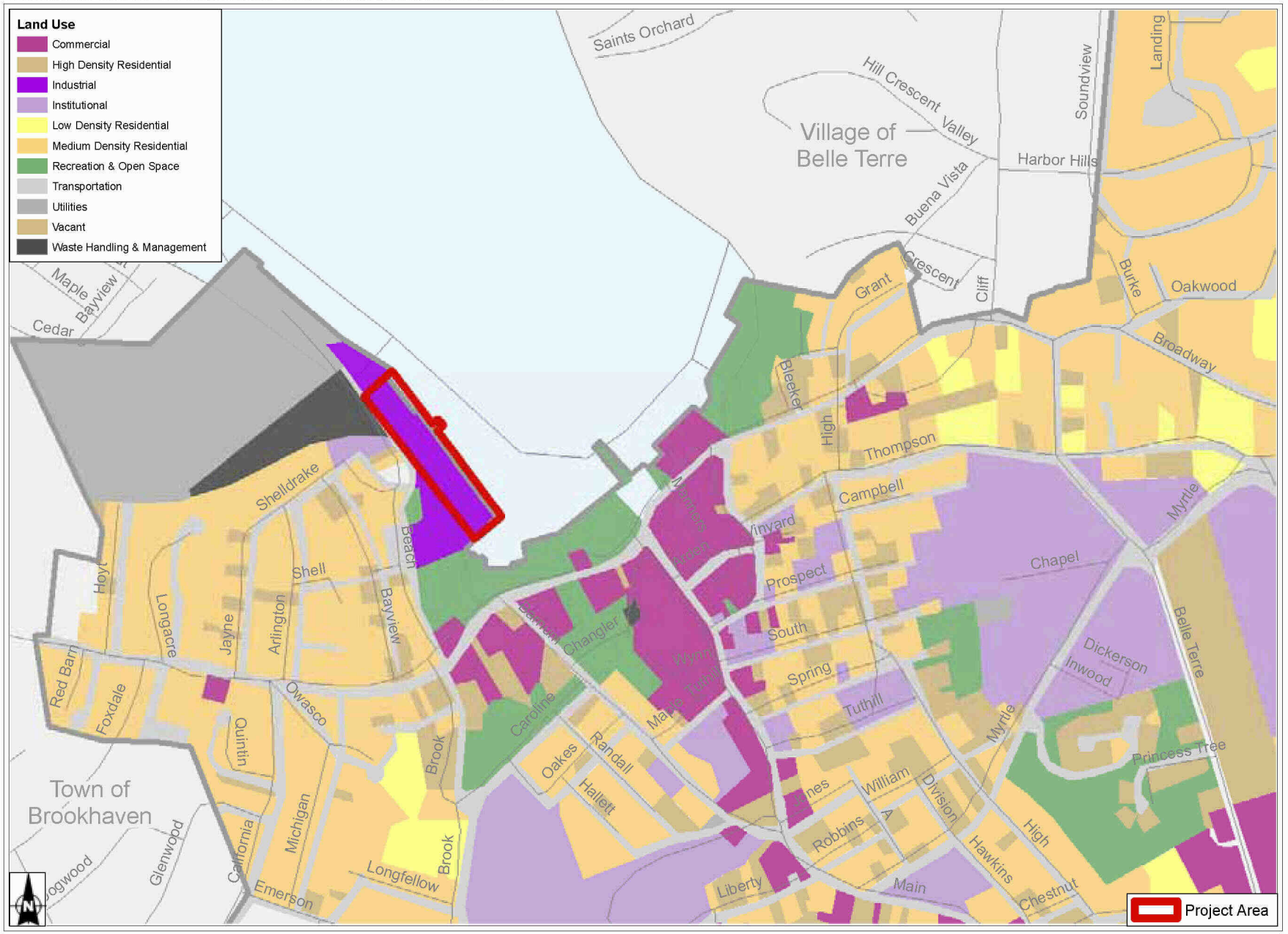

Source: Suffolk County Planning Department, 2003.

Figure 8-2 Port Jefferson Land Use

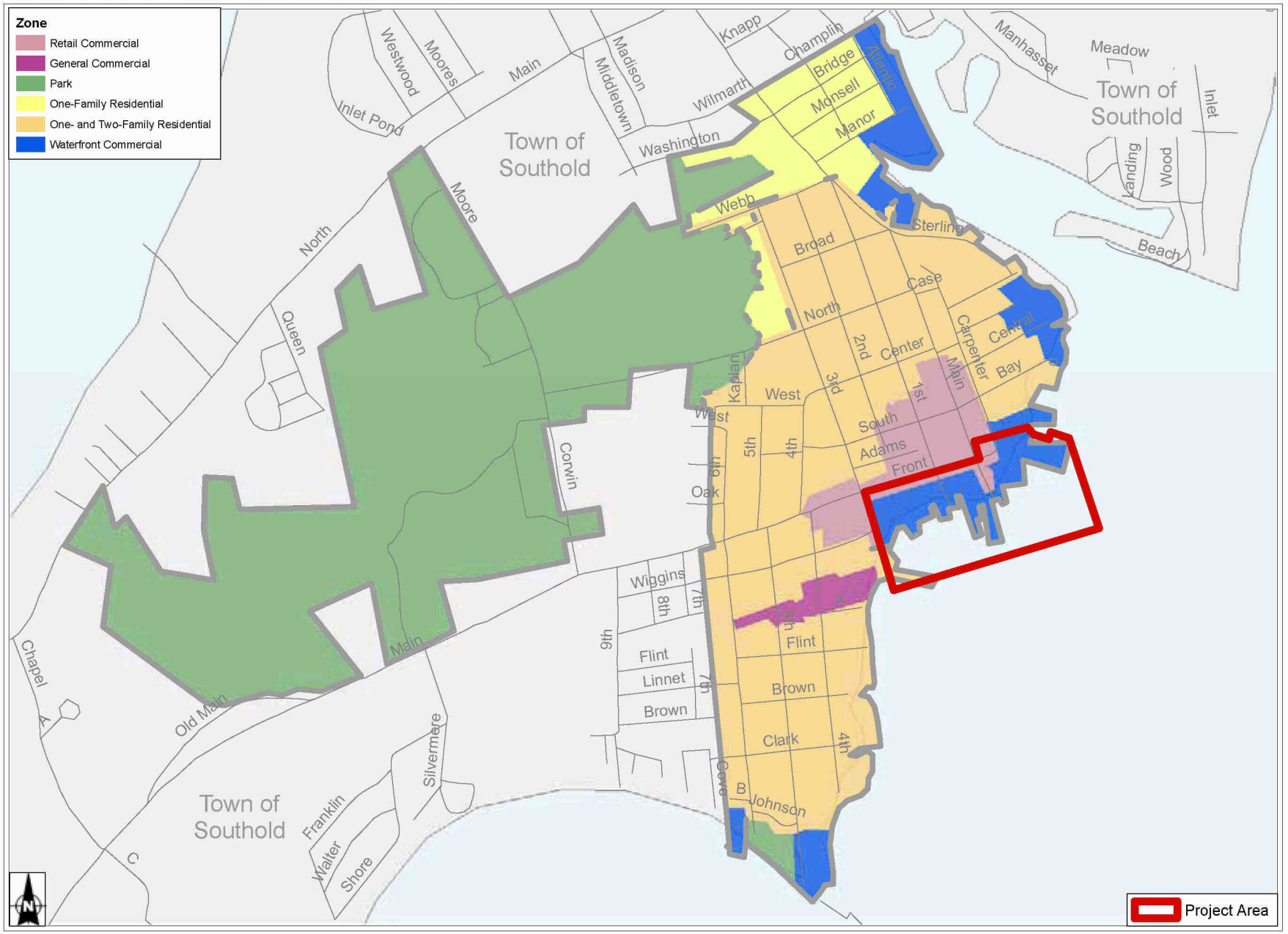

Figure 8-3 Greenport Zoning

© Ecology & Environment, Inc. GIS Department Project #002003.TA06.10
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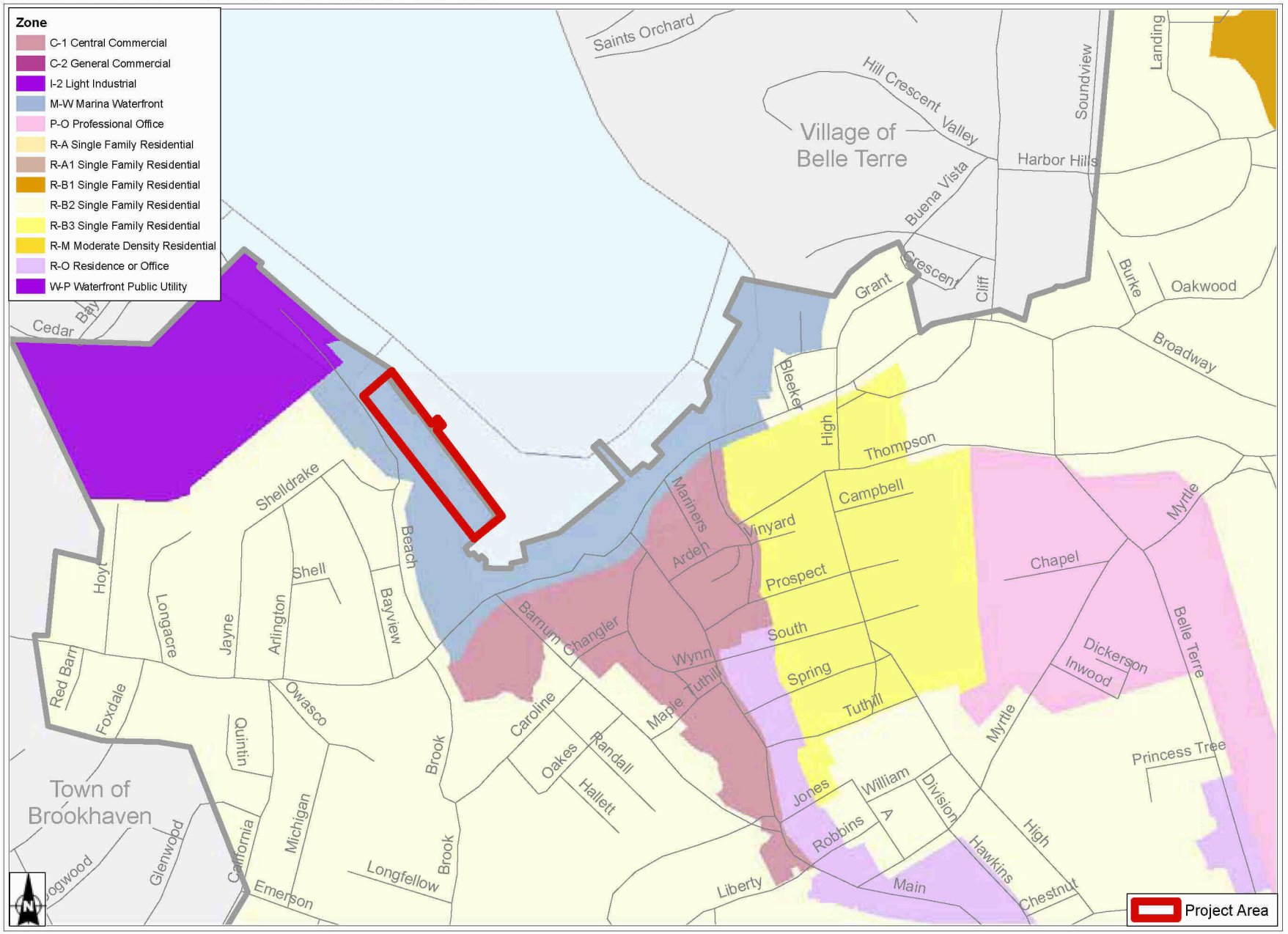

Source: Suffolk County Planning Department, 1997.

0 0.05 0.1 0.2
Miles

Figure 8-4 Port Jefferson Zoning

8.3 PUBLIC LAND, RECREATION, AND OTHER DESIGNATED AREAS

8.3.1 Public or Conservation Land

The proposed sites in both Greenport and Port Jefferson are not specially designated public or conservation lands, nor are there public or conservation lands within 0.25 mile (0.4 km) of the proposed sites.

8.3.2 Natural, Recreational, or Scenic Land

The proposed sites in both Greenport and Port Jefferson are not designated natural, recreational, or scenic lands, nor are there any designated natural, recreational, or scenic lands within 0.25 mile (0.4 km) of the proposed sites. A small municipal waterfront park is located approximately 0.41 mile south of the proposed Greenport site.

8.3.3 Coastal Zone Management Areas

Broadwater is in the process of preparing a coastal zone consistency determination to be filed with the NYSDOS. As a part of that effort, the proposed onshore facilities in both Greenport and Port Jefferson will be assessed for consistency with the applicable policies of the approved LWRP and Long Island Sound Comprehensive Management Plan.

8.3.3.1 Greenport

The proposed site for Project facilities in the village of Greenport is located within the Long Island Sound Coastal Zone Management Area, as well as within the boundaries of the Village of Greenport's state and federally approved LWRP. The Greenport LWRP provides the regulatory framework by which projects such as this are reviewed for consistency. The goals of the Greenport LWRP are to protect and maintain water-dependent uses, revitalize underutilized waterfront areas, strengthen Greenport as a commercial fishing seaport, provide for public access to the waterfront, and enhance the village as a commercial and business center (U.S. Office of Ocean and Coastal Resource Management 1996). Because the proposed Project waterfront facilities will be used for the marine transfer of people, equipment, and FSRU support vessels, the use is a water-dependent use consistent with the Greenport LWRP.

8.3.3.2 Port Jefferson

The proposed site for permanent Project facilities in Port Jefferson is located within the Long Island Sound Coastal Zone Management Area. According to the NYSDOS, Port Jefferson does not have an approved LWRP (Kennedy 2005). Port Jefferson does have a current Harbor Management Plan (HMP), which is maintained by local municipalities bordering the harbor complex. The Port Jefferson HMP provides a comprehensive environmental, ecological, and natural resources evaluation of the harbor and identifies existing sources of impacts on sensitive harbor resources. The HMP is also used as a planning tool for the bordering municipalities to guide future development within the HMP area. Port Jefferson's HMP also provides information on land use and ecological resources in the planning area. Although the majority of the proposed site consists of marine commercial/industrial shoreline type parcels, sensitive ecological resources

BW000581

include large bluffs occurring in various locations adjacent to Port Jefferson Harbor shoreline and adjacent to portions of the Project area.

The Port Jefferson HMP also states that because the amount of commercial waterfront is limited and concentrated in specific areas, priority for development should be given to water-dependent and water enhanced uses in these areas in order to provide the greatest economic benefits. In the Harbor Issues and Recommendations section of the HMP, Harbor Objective No. 1 states that the existing uses in lower Port Jefferson Harbor (in the area of the proposed Broadwater onshore facility), such as "boatyard dockage facilities, transshipment and oil transfer facilities, and marinas," are of "vital importance to the economic vitality and historic character of the Village of Port Jefferson and should be enhanced," in a manner consistent with the protection of natural resources in the area spanning Port Jefferson Harbor. The proposed use of onshore facilities in this location by Broadwater will be consistent and compatible with this key recommendation as stipulated in the Port Jefferson HMP.

8.3.4 Proposed Development Projects

There are no known proposed development projects in either Port Jefferson or Greenport that conflict with Broadwater's proposed plan to lease property at the sites identified for use as marine facilities.

8.4 VISUAL RESOURCES/AESTHETICS

Since there are no proposed changes to existing facilities and all necessary temporary and permanent structures will be leased, there are no anticipated changes to the aesthetics of the areas proposed for use as onshore facilities. As identified in Section 1, some additional craneage may be required at the onshore facility. However, based on current waterfront usage, the addition of a crane would be consistent with the existing uses of both the Greenport and Port Jefferson sites.

8.5 IMPACTS AND MITIGATION

Construction Impacts and Mitigation

Broadwater proposes to utilize existing infrastructure at either or both of the Greenport and Port Jefferson sites for both temporary and permanent facilities. Thus, there will be no major construction impacts or mitigation necessary at either location. The only potential construction may involve minor retrofitting of office or warehouse facilities and the addition of necessary security fences, inspection gates, and a security/guard station. As stated in Section 1.2, any construction will occur on previously disturbed land, and no greenfield development will be required.

Operations Impacts and Mitigation

All onshore operations and maintenance will be completed by the site owners/operators, with no activities specifically proposed by Broadwater. There may be a slight increase in both land and water traffic, but given the industrial nature of the site area, it is not anticipated to be significant or outside of the existing usage of the area.

BW000582

8.6 AGENCY AND LANDOWNER CONSULTATION

Sections 1.5 and 1.6 provide a discussion on permits, regulatory requirements, and effects on landowners. Because there will be no significant construction, and operations and maintenance of the onshore facilities will be performed in accordance with applicable federal and state permit requirements and environmental guidelines, Broadwater does not anticipate the need for specific agency consultation. Broadwater and the site operators under contract will monitor this situation, and agency consultation and/or permits will be obtained if deemed necessary.

Broadwater is not proposing any land acquisition as part of the Project. It is Broadwater's intention to contract with local tugboat operators who will coordinate with local marina owners to make lease arrangements for the necessary facilities.

BW000583

9. RESOURCE REPORT 9 – AIR AND NOISE QUALITY

As discussed in Section 1.1, temporary onshore facilities used during construction for the milling, concrete-coating, and temporary storage of pipe will consist of existing facilities located outside the Project area. Within the Project area, existing facilities will be utilized to provide temporary dock, office, and warehouse space for construction contractors.

It is Broadwater's intent to locate the permanent onshore facility in either Greenport or Port Jefferson. Permanent onshore facilities will utilize existing office and warehouse space and docks. The permanent onshore facility will not require any new stationary emission sources, and no compression facilities will be installed. Routine material deliveries will be made via truck to the permanent onshore facility.

9.1 EXISTING AIR AND NOISE QUALITY

Ambient air quality conditions are presented in Section 9.2 of Resource Report No. 9 (Air and Noise Quality) for the LNG terminal. In summary, the region is designated as in nonattainment for the 8-hour and 1-hour ozone standards and as in nonattainment for the $PM_{2.5}$ standard.

Existing noise quality at the Port Jefferson site is consistent with low to occasionally moderate use of waterfront facilities by small to medium vessels. The nearby Port Jefferson power plant receives fuel oil via large tanker vessels, which unload at a dock dedicated to the power plant. Existing noise quality at Greenport is typical for a mixed-use waterfront area in a small town/urban location.

9.2 IMPACTS ON AIR AND NOISE QUALITY

The permanent onshore facilities will not include compression equipment or any other pipeline-related equipment that will generate stationary source air emissions. The delivery and haul-out of fuel and materials will result in a small increase in truck traffic at the waterfront site (estimated at approximately two trucks per day). Fuel for refueling tugboats will be delivered by tanker trucks directly to the tugboats; it is estimated that this will require no more than one delivery per day. No intermediate storage tanks will be used for this operation. Material transfer at the waterfront facilities will also generate approximately one additional truck trip per day.

Four tugboats will be docked at the facility when they are not in use assisting LNG carriers in the Sound and at the FSRU. The tugboats will generate emissions during warm-up and departure from the facility, as well as during return and docking. These emissions have been quantified and are presented in Section 9.4.1 of Resource Report No. 9 (Air and Noise Quality) for the LNG terminal as part of the carrier transit and support tugs emissions estimate.

BW000584

The onshore facility will have no impact on existing noise quality. The expected number of truck deliveries per day to the facility (two) is not sufficient to cause a measurable increase in average noise levels. The proposed use of the site is consistent with existing use and does not constitute a significant change in level of activity at the facility. The tugboats will produce engine noise when arriving and departing the facility; this activity is consistent with the existing marine use of the site and is not expected to result in a significant change in activity level at the facility.

BW000585

10. RESOURCE REPORT 10 – ALTERNATIVES

Alternatives related to energy sources, energy conservation, and siting options for the LNG terminal are discussed in Resource Report No. 10 (Alternatives) for the LNG terminal. Based on previous analysis, Broadwater believes that the offshore location as proposed is the preferred alternative. This Onshore Facility Resource Report addresses the two alternative locations identified that could provide adequate onshore facilities to support the offshore LNG terminal.

BW000586

11. RESOURCE REPORT 11 – SAFETY AND RELIABILITY

Broadwater proposes to install a security fence and use security personnel to restrict access to the onshore waterfront facility. During the period of FSRU construction, a draft Support Base Security Vulnerability Assessment and a draft Support Base Security Plan will be developed. The assessment and plan will be developed with the same methodology used to develop the preliminary assessment and plan for the FSRU. The assessment and plan will be updated every six months and submitted in final form to the USCG before the support base commences operations. Broadwater will also develop an approved Materials Management Plan for the short-term storage and transfer of materials at the waterfront facility.

The timetable and process for development of Broadwater's formal Emergency Response Plan (ERP) are discussed in Resource Report No. 11 (Safety and Reliability), Section 11.6. Detailed plans for shore-based emergency response will be developed as part of the overall ERP development process.

Broadwater's shore-based office facilities will serve as an alternative emergency response command center in the unlikely event that the FSRU is unable to manage a specific emergency situation.

BW000587

12. RESOURCE REPORT 12 – PCB CONTAMINATION

Resource Report 12 is not applicable because the onshore facilities do not involve replacement or abandonment of facilities determined to have PCBs in excess of 50 parts per million in pipeline liquids.

BW000588

13. RESOURCE REPORT 13 – ENGINEERING DESIGN

Resource Report 13 is not applicable because the onshore facilities do not entail the engineering and design of an LNG terminal.

BW000589

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APPENDIX A

CORRESPONDENCE REGARDING THREATENED AND ENDANGERED SPECIES

BW000592

ecology and environment, inc.
International Specialists in the Environment
BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

January 5, 2006

Information Services
New York State Natural Heritage Program
NYSDEC
Wildlife Resources Center
625 Broadway 5th Floor
Albany, NY 12233-4757

Sara Allen-Mochrie
Ecology & Environment, Inc.
368 Pleasant View Drive
Lancaster, New York 14086

Dear Sir or Madam:

Ecology & Environment, Inc. is preparing the necessary resource reports on behalf of Broadwater Energy, a joint venture between TCPL USA NLG, Inc., and Shell Broadwater Holdings LLC, for filing an application with the Federal Energy Regulatory Commission (FERC). For this filing, Broadwater is seeking all of the necessary authorizations pursuant to the Natural Gas Act to construct and operate a marine liquefied natural gas (LNG) terminal and connecting pipeline for the import, storage, regasification, and transportation of natural gas. While the primary components of the Project will be located offshore in Long Island Sound, both temporary and permanent onshore facilities will be required during the construction and operation of the Project. To the extent possible, Broadwater is proposing to utilize existing facilities to avoid or minimize any additional environmental impact associated with the onshore facilities.

This information request is only intended to address the proposed onshore facilities. The site boundaries are noted on the enclosed topographic map for potential onshore areas located in Port Jefferson and Greenport, New York.

We request the New York State Natural Heritage Program identify federally and or state listed or candidate rare, threatened or endangered species; significant/critical terrestrial wildlife habitat; unique natural communities; or other significant features within 4 miles of the two proposed onshore areas. In addition to this information we request that you identify significant/critical surface water features, wetland environments, and aquatic biota that exist within 15 miles of the proposed onshore areas and significant/critical

fisheries areas that exist within 15 miles of the proposed onshore areas. These include resources associated with Long Island Sound.

NOAA Fisheries will also be contacted to find similar information regarding federally/state protected species and critical habitats.

If you have any questions regarding this data request, please feel free to contact me at 716-684-8060.

Sincerely,

Sara Allen-Mochrie
Senior Biologist
2006 Ecology & Environment, Inc.

ecology and environment, inc.
International Specialists in the Environment
BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

January 5, 2006

Assistant Regional Administrator
Attn: Mary Colligan
National Marine Fisheries Service
One Blackburn Drive
Gloucester, MA 01930

Sara Allen-Mochrie
Ecology & Environment, Inc.
368 Pleasant View Drive
Lancaster, New York 14086

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This information request is only intended to address the proposed onshore facilities. The site boundaries are noted on the enclosed topographic map for potential onshore areas located in Port Jefferson and Greenport, New York.

We request National Marine Fisheries Service identify federally and or state listed or candidate rare, threatened or endangered species; significant/critical habitat; unique natural communities; or other significant features within 2 miles of the two proposed onshore areas. In addition to this information we request that you identify significant/critical surface water features, and aquatic biota that exist within 5 miles of the proposed onshore areas and significant/critical fisheries areas that exist within 5 miles

of the proposed onshore areas. These include resources associated with Long Island Sound.

The New York State Natural Heritage Program and USFWS will also be contacted to find similar information regarding federally/state protected species and critical habitats.

If you have any questions regarding this data request, please feel free to contact me at 716-684-8060.

Sincerely,

Sara Allen-Mochrie
Senior Biologist
2006 Ecology & Environment, Inc.

ecology and environment, inc.
International Specialists in the Environment
BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
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January 5, 2006

Mr. David Stilwell
U. S. Department of the Interior
Fish and Wildlife Service
3817 Luker Road
Cortland, New York 13045

Sara Allen-Mochrie
Ecology & Environment, Inc.
368 Pleasant View Drive
Lancaster, New York 14086

Dear Sir or Madam:

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This information request is only intended to address the proposed onshore facilities. The site boundaries are noted on the enclosed topographic map for potential onshore areas located in Port Jefferson and Greenport, New York.

We request the USFWS identify federally and or state listed or candidate rare, threatened or endangered species; significant/critical terrestrial wildlife habitat; unique natural communities; or other significant features within 2 miles of the two proposed onshore areas. In addition to this information we request that you identify significant/critical surface water features, wetland environments, and aquatic biota that exist within 5 miles of the proposed onshore areas and significant/critical fisheries areas that exist within 5

miles of the proposed onshore areas. These include resources associated with Long Island Sound.

The National Marine Fisheries Service and New York State Natural Heritage Program will also be contacted to find similar information regarding protected species and critical habitats.

If you have any questions regarding this data request, please feel free to contact me at 716-684-8060.

Sincerely,

Sara Allen-Mochrie
Senior Biologist
2006 Ecology & Environment, Inc.

APPENDIX B

SECTION 106 CONSULTATION AND CORRESPONDENCE REGARDING ARCHAEOLOGICAL RESOURCES

BW000599

January 9, 2006

Douglas P. Mackey
New York State Office of Parks, Recreation,
and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island Resource Center
Delaware Avenue
Cohoes, NY 12047

Re: Broadwater LNG Project: Permanent Onshore Facilities in the village of Greenport, town of Southold, and Port Jefferson, town of Brookhaven, Suffolk County, New York; Section 106 Consultation. OPRHP No. 05PR00342. FERC Docket No. PF05-4-000

Dear Mr. Mackey:

The purpose of this letter is to initiate the Section 106 consultation in regard to the above-referenced project.

Proposed Action
Broadwater Energy, a joint venture between TCPL USA LNG, Inc., and Shell Broadwater Holdings LLC, is filing an applications with the Federal Energy Regulatory Commission (FERC) seeking all of the necessary authorizations pursuant to the Natural Gas Act to construct and operate a marine liquefied natural gas (LNG) terminal and connecting pipeline for the import, storage, regasification, and transportation of natural gas. As you are aware, Broadwater has been in consultation with your office for the construction and operation of the floating storage and regasification unit (FSRU) and interconnecting pipeline, having submitted draft survey/overview reports to your office for review and comment.

While the primary components of the Project will be located offshore in Long Island Sound, permanent onshore facilities will be required for the operation of the Project. These facilities will provide moorage for tugs and transfer of materials to and from the FSRU, as well as office space and warehousing capabilities. To the extent practicable, Broadwater is proposing to utilize existing facilities to avoid or minimize any additional environmental impacts associated with the onshore facilities.

The permanent onshore facilities will include office and warehousing space and a waterfront facility. Broadwater anticipates leasing all onshore facility space, and no land acquisition is being proposed.

The office and warehousing facilities do not require waterfront access and thus will be established in existing facilities in general proximity to the waterfront facilities, but not necessarily co-located with the waterfront facilities. The office space will need to accommodate approximately 6 to 10 people and provide on-site conference and training facilities. The office will also function as the emergency response and communications center for the Project. Warehousing will be needed for spare parts, specialist tools, and equipment storage and handling. Broadwater expects that the location of these facilities will be finalized following selection of a specific waterfront facility. The use of existing facilities for the office and warehouse facilities avoids environmental impacts.

The most critical of the onshore facilities, and that which has the most potential to result in environmental impacts, is the requisite waterfront facility, which will provide waterborne access to the LNG terminal in Long Island Sound from shore. The principal functions of the waterfront facility will be to provide mooring for tugs and facilitate the transfer of personnel and materials to and from the FSRU.

The waterfront facility will require berthing for up to four tugs (30 meters [m] long by 10 m beam by 4 m draft). Since the tugs can be moored side by side, the minimum water frontage needed for the facility is estimated to be less than 100 m. The waterfront facility will require a small workshop (10 m by 10 m, with forklift access) for routine tugboat maintenance. Fueling of the tugs will occur directly from road tankers, and no bulk storage of fuel will be required.

Crew changes on the LNG terminal will typically occur on a weekly basis. The waterfront facility will require a waiting room area and safe boarding access to the utility boat.

Materials handling at the waterfront facility will involve the transfer of spare parts, consumables, and containerized liquid to tugboats, supply boats, or barges. To support materials transfer, the waterfront facility will require dockside craneage capable of transferring 20-foot containers and palletized equipment. The nominal lifting capacity of the crane must be at least 30 metric tons.

To facilitate the transfer of materials, the waterfront facility will require semi-trailer truck access for 20-foot trailers, with drive-through capability. Additional truck access will be required to provide direct transfer of skips and drummed waste from the supply vessels or tugs. The waterfront facility will be equipped to provide security inspection and secure storage for all materials being transferred offshore.

Broadwater proposes to lease all onshore facilities, using existing facilities to the extent practicable. Given the need to maintain a secure facility, a security fence and inspection station will likely need to be constructed for Broadwater's use. In addition, a security check-point/guard station may need to be constructed at the facility entrance. All proposed construction will occur on previously disturbed land, and no greenfield development will be required.

At this time, there are no plans for future expansion of the onshore facilities proposed by Broadwater. If future expansion is warranted, separate authorizations by involved regulatory agencies may be required, and these would be obtained, as required, prior to expansion.

Broadwater has identified two general locations on Long Island that can provide the needed facilities to support operation of the Project: Greenport and Port Jefferson. Greenport is located

on the north fork of Long Island, and Port Jefferson is located on the north shore of Long Island. Only portions of these locations will be used for the proposed activities. The proposed locations and available photographs are presented as Attachments A and B.

Proposed Greenport Site
The site at Greenport identified as having adequate facilities to support the Broadwater Project encompasses approximately 15.1 acres of land. Broadwater would need only a small portion of this area. This area does not contain natural soils. The United States Department of Agriculture (USDA) SSURGO and STATSGO databases identifies the soil series of the property as Urban land. Urban land is soil that has been modified by disturbance of the natural layers with additions of fill material several feet thick to accommodate large industrial and housing installations. In many locations, the fill ranges from 3 to more than 12 feet thick and consists of gravely sandy loam to gravely loam in texture. The texture can vary since this material is often comprised of fill or borrow material brought in from other areas and is often not consistent with the native soil type.

The Greenport site is highly developed and is used for docking, shipbuilding, and commercial activities (see Attachment A). The shoreline of the parcel has been modified by piers, bulkheads, slips, loading platforms, etc. The proposed location does not contain resource listed or eligible for listing in the National Register of Historic Places (NRHP). However, two sites listed on the NRHP—the Greenport Railroad Station (90NR01923) and the Greenport Village Historic District (90NR01922)—are directly adjacent to the proposed site from the west and north, respectively.

Proposed Port Jefferson Site
The site at Port Jefferson identified as having adequate facilities to support the Broadwater Project encompasses approximately 5.4 acres of land (see Attachment B). As with the Greenport site, Broadwater would need only a small portion of this area. The site is currently developed and used for docking, industrial, and commercial purposes. It contains a marina, a boat storage yard, and an aggregate yard. The property is underlain entirely by Urban land (see above) and does not contain natural surfaces. All of the shoreline of this location has been modified. Much of the shoreline consists of steel sheet piling driven into the bottom and contains piers and bulkheads.

A 1967 United States Geological Survey topographic map indicates that the proposed area contained a fuel tank farm, and the tanks have since been removed (see Attachment B). The proposed location does not contain resources listed or eligible for listing in the NRHP. However, the NRHP-listed Bayles Shipyard (99NR01545) and the Port Jefferson Village Historic District (02NR04918) are immediately east and southeast of the Port Jefferson site, respectively.

There are no known archaeological resources at either of the proposed locations. Given the severe land alterations and the absence of natural surfaces at both locations, use of either area by Broadwater, including installation of the security fence and the security check-point/guard station, is not likely to affect archaeological resources eligible for NRHP listing. The proposed activities at both locations—berthing of tugs, storage of materials and equipment, loading and unloading, craneage, and transfer of crews—is consistent with traditional use of these facilities. Therefore, we believe that no additional archaeological evaluation of the two sites is merited and request concurrence from your office.

We request your comment on the proposed onshore sites under Section 106 of the 1966 National Historic Preservation Act, and ask that you to make recommendations pertaining to this action. If you have any questions or comments, please contact me at 716-684-8060.

Sincerely,

L Shmookler

Leonid Shmookler, RPA
Chief Archaeologist

Enclosure

Attachment A

Greenport, New York, Location

© Ecology & Environment, Inc. GIS Department Project #002003.TA06.10
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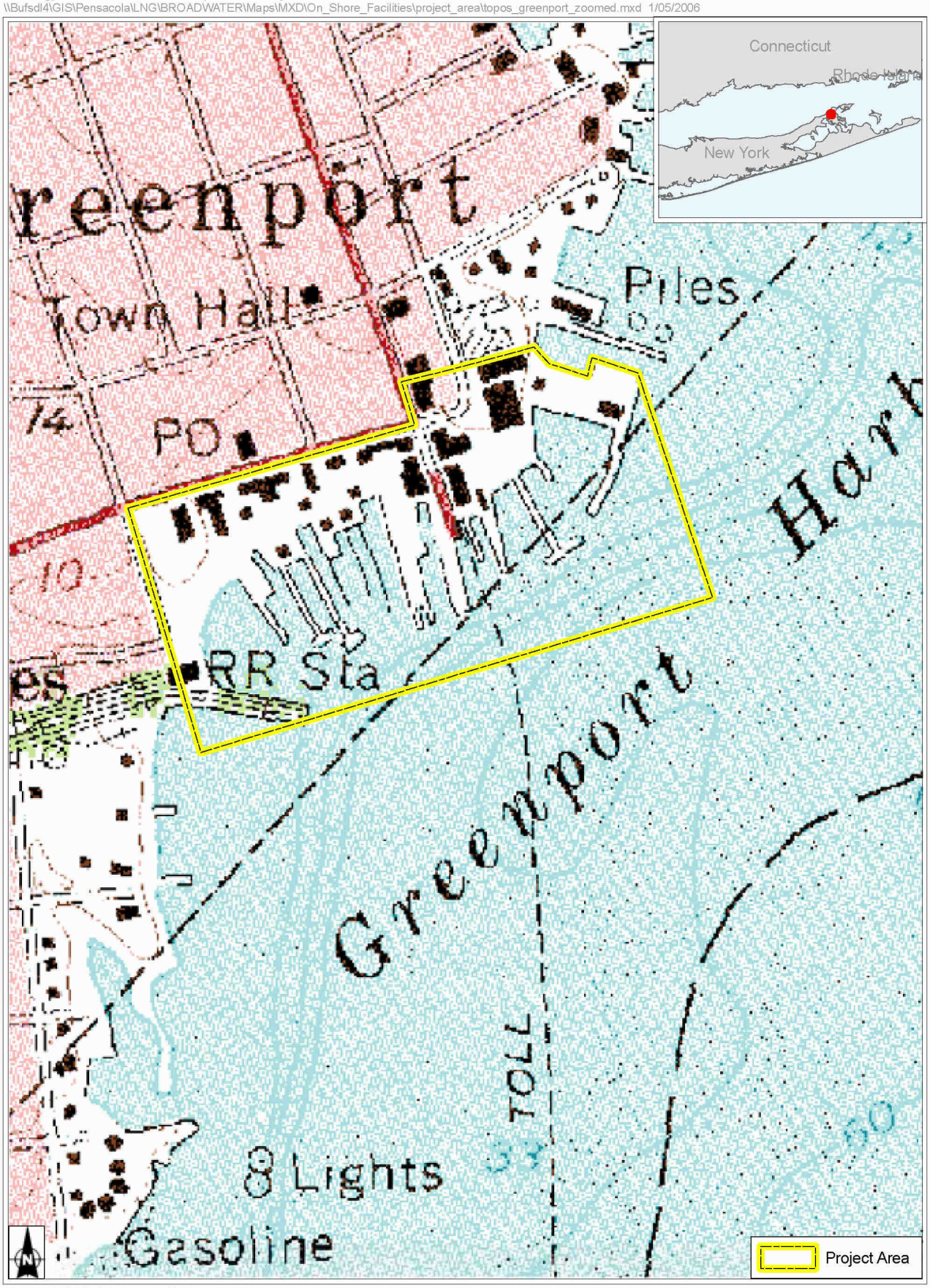

Source: USGS Greenport, 1956.

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Proposed Onshore
Greenport, NY Facility

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Source: NYS Digital Orthoimagery Program, 2004.

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Proposed Onshore Greenport, NY Facility

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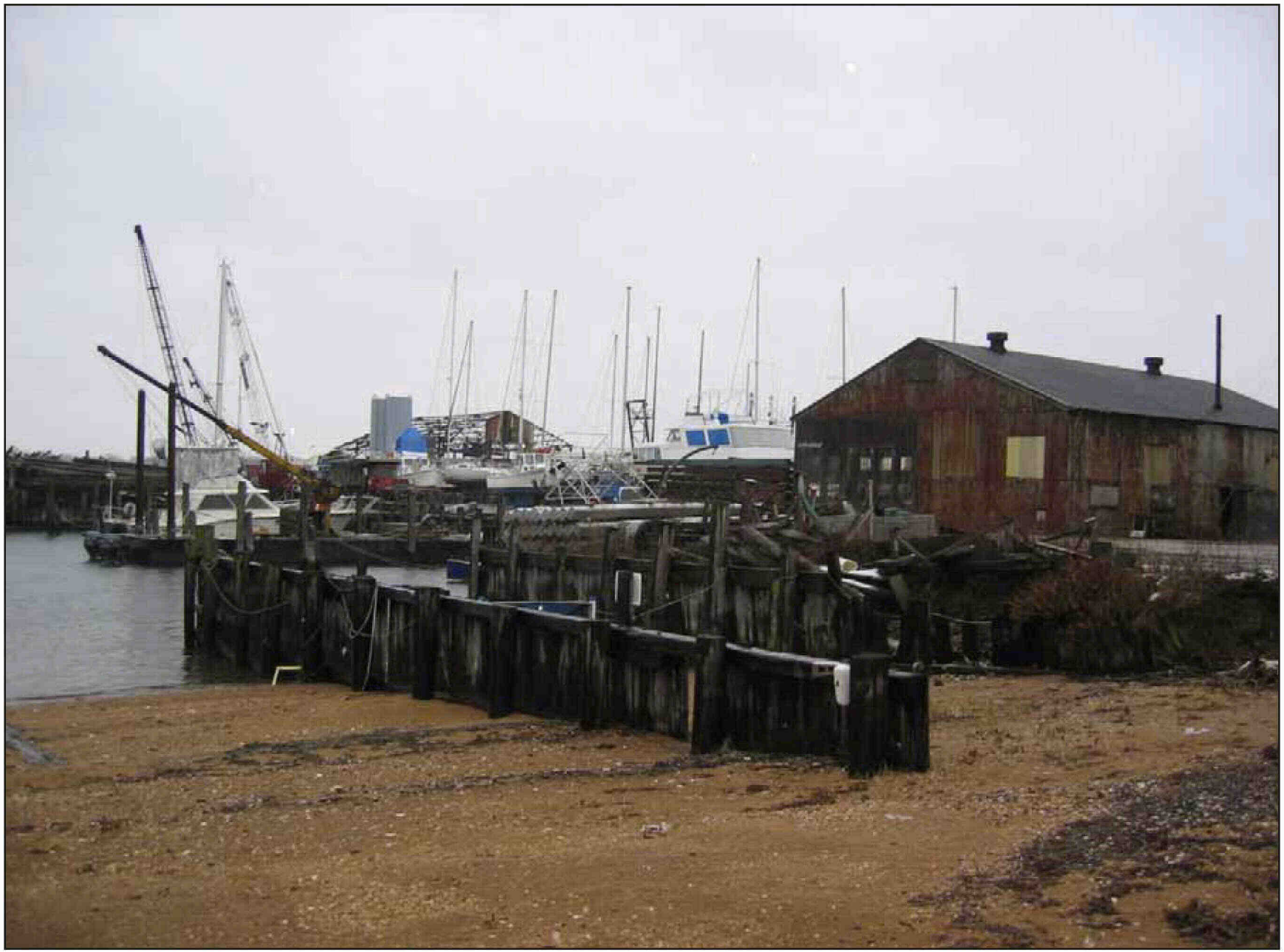

Attachment B

Port Jefferson, New York, Location

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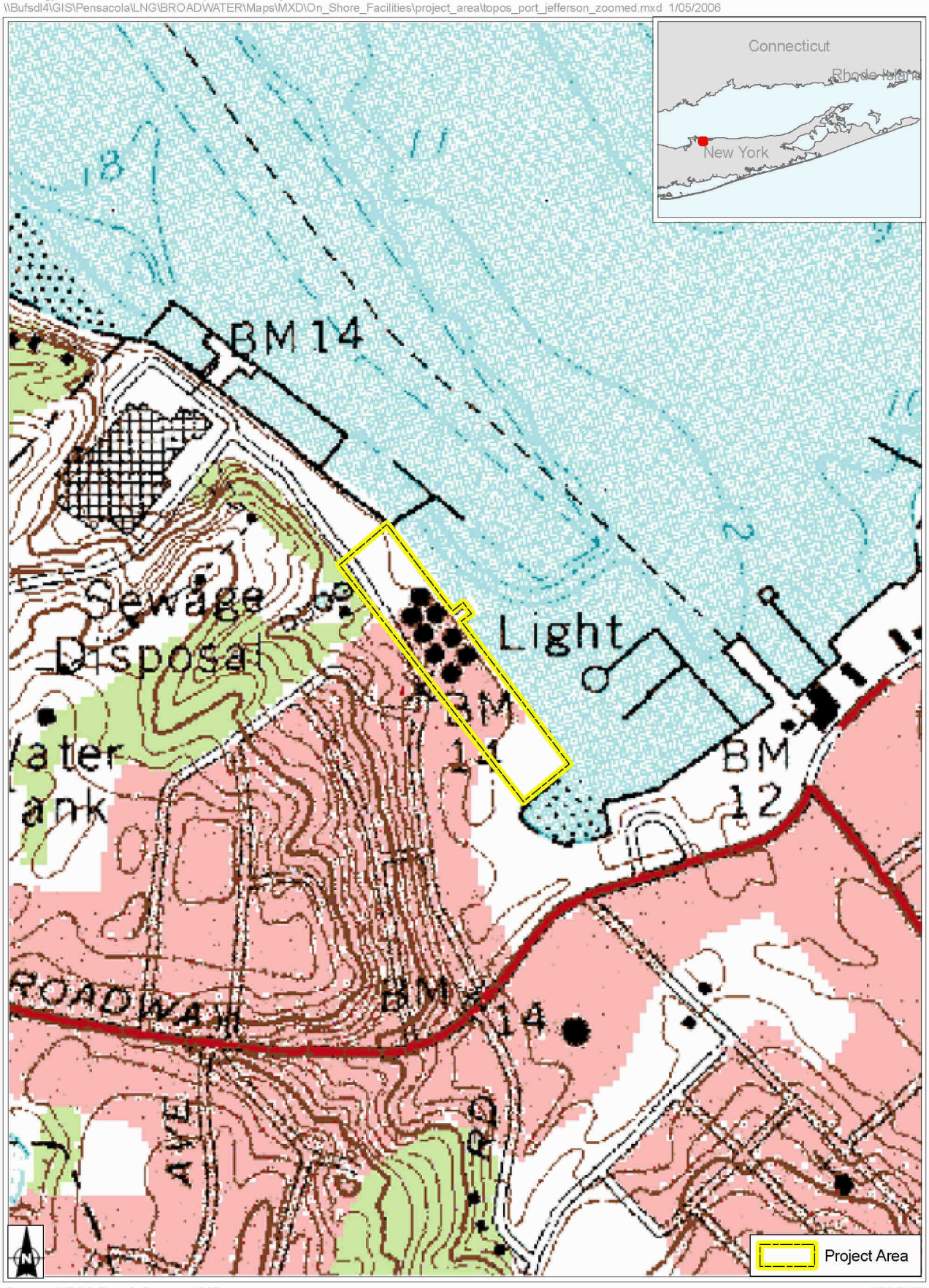

Source: USGS Port Jefferson, 1967.

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Proposed Onshore
Port Jefferson, NY Facility

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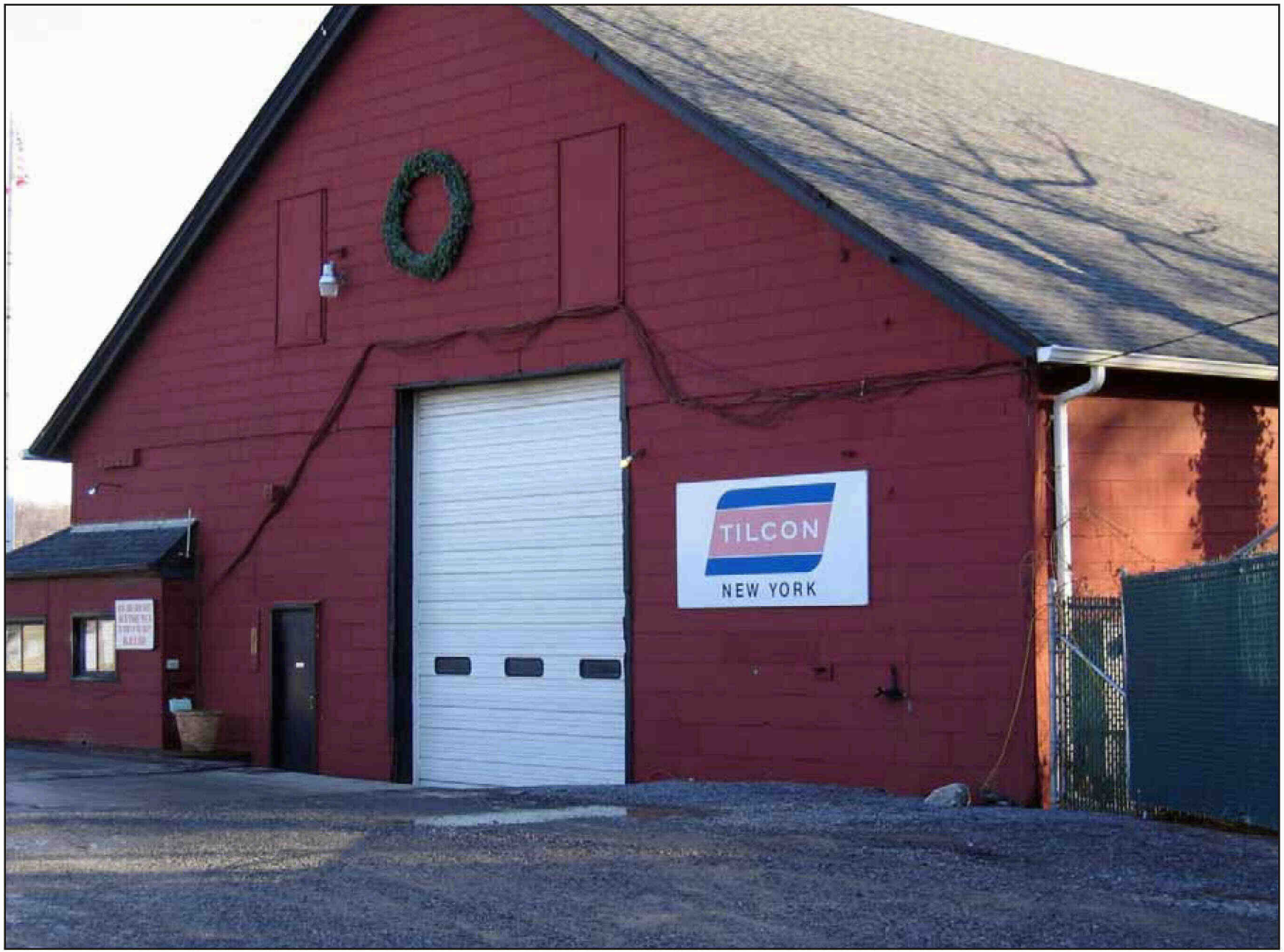
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NEW YORK

Correspondence Regarding
Archaeological Resources

ecology and environment, inc.
International Specialists in the Environment
BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

January 9, 2006

Poospatuck Indian Nation
Chief Harry Wallace,
P. O. Box 86
Mastic, NY 11950-0086

Re: Broadwater LNG Project: Permanent Onshore Facilities in the Village of Greenport, Town of Southold, and Port Jefferson, Town of Brookhaven, Suffolk County, New York; Section 106 Consultation.

Dear Chief Wallace:

Broadwater Energy, a joint venture between TCPL USA NLG, Inc., and Shell Broadwater Holdings LLC, is filing an applications with the Federal Energy Regulatory Commission (FERC) seeking all of the necessary authorizations pursuant to the Natural Gas Act to construct and operate a marine liquefied natural gas (LNG) terminal and connecting pipeline for the import, storage, regasification, and transportation of natural gas.

While the primary components of the Project will be located offshore in the Long Island Sound, permanent onshore facilities will be required for the operation of the Project, providing moorage for tugs and transfer of materials to and from the LNG terminal, as well as office space and warehousing capabilities. To the extent possible, Broadwater is proposing to utilize existing facilities to avoid or minimize any additional environmental impact associated with the onshore facilities.

The permanent onshore facilities will include office space, warehousing, and a waterfront facility. Broadwater anticipates leasing all onshore facility space, with no land acquisition proposed.

Crew changes on the LNG terminal will typically occur on a weekly basis. The water front facility will require a waiting room area and safe boarding access to utility boat.

Materials handling at the waterfront facility include spares consumables, and liquid containers transfer to tug boats, supply boats or barges. The support materials transfer; the waterfront facility will require dockside craneage capable of transferring 20 foot containers and palletized equipment. Normal lifting capacity of the crane would be 30 metric tons.

Broadwater proposes to lease all onshore facilities, using existing facilities to the extent possible. Given the need to maintain a secure facility, a security fence and inspection station will likely need to be constructed for Broadwater's use. Additionally, a security check-point/guard station may need to be constructed at the facility entrance.

Broadwater has identified two general locations on Long Island that can provide the needed facilities to support the operation of the Project: Greenport and Port Jefferson. Greenport (15.1 acres) is located on the North Fork of Long Island, and Port Jefferson (5.4 acres) is located on the North Shore of Long Island. Only portions of these locations will actually be used for the proposed activities.

recycled paper

Both parcels are highly developed, and are used for docking, shipbuilding, and commercial activities. Both properties are underlain entirely by Urban land and do not contain natural surfaces. The shoreline of both areas is modified. It is frequently created by steel sheet piling driven into the bottom, and contains piers and bulkheads.

There are no known archaeological resources at either location.

We would like to provide you with the opportunity to identify your concerns about properties of traditional religious or cultural importance that may be affected by this undertaking.
Enclosed for your convenience are topographic maps and aerial photographs.

If you have any questions, please contact us at 716-684-8060.

Sincerely,

LShmookler

Leonid Shmookler, RPA
E & E Chief Archaeologist

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International Specialists in the Environment
BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
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January 9, 2006

Shinnecock Indian Nation Tribal Council
Mr. Randy King, Chairman
P.O. Box 5006
Southamntpon, NY 11969

Re: Broadwater LNG Project: Permanent Onshore Facilities in the Village of Greenport, Town of Southold, and Port Jefferson, Town of Brookhaven, Suffolk County, New York; Section 106 Consultation.

Dear Mr. King:

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January 9, 2006

DELAWARE TRIBE OF INDIANS
Chief Joe Bricks,
220 N.W. Virginia Avenue
Bartlesville, OK 74003

Re: Broadwater LNG Project: Permanent Onshore Facilities in the Village of Greenport, Town of Southold, and Port Jefferson, Town of Brookhaven, Suffolk County, New York; Section 106 Consultation.

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