



National Grid
40 Sylvan Road
Waltham, Massachusetts 02451

Former Gloucester Gas Light
Company
Manufactured Gas Plant
Harbor Loop
Gloucester, Massachusetts
RTN 3-25126

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Expanded Environmental Notification Form



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SECTION 3

EXISTING CONDITIONS



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1. PROJECT SITE DESCRIPTION

1.1 Project Site & Land Use Description

The project area is located along a heavily used, industrial and commercial waterfront area of Gloucester Inner Harbor. The properties within the Site and its surroundings are zoned by the City of Gloucester for marine industrial use. As described in Section 1, the Project Area consists of several properties in the Gloucester Harbor Loop area (see Figure 1 & 2):

1. The National Grid property associated with the former Gloucester Gas Light Company (GGLC) Manufactured Gas Plant (MGP) (19 Harbor Loop);
2. a portion of a United States Coast Guard (USCG) station (17 Harbor Loop);
3. Solomon Jacobs Park and associated parking areas owned by the City of Gloucester (19A and 19R Harbor Loop);
4. a portion of the property owned by Maritime Gloucester (23 Harbor Loop); and
5. portions of Gloucester Inner Harbor adjacent to the above properties, comprising about 5 acres, including portions of the entrance channel (i.e., Federal Navigation Channel).

The USCG station is active, and includes a three-story brick building used for operations, a concrete wharf and two floats, which are used to dock emergency response and support vessels. A granite block seawall separates the USCG property from the harbor.

Solomon Jacobs Park is a municipal park restricted to day-use for activities such as dog walking and harbor viewing. In addition, public access to the waterfront is provided via the Public Boat Landing, which consists of a metal gangway and floating docks. A granite block seawall separates the City of Gloucester property from the harbor. There is an adjacent municipally owned parcel that serves as bituminous parking for Solomon Jacobs Park.

The National Grid property at 19 Harbor Loop contains a two-story building, partly supported on a granite block seawall, and currently leased as commercial and office space. Tenants include an art gallery, a publishing company, a financial consultant, and the Gloucester Harbormaster. Property access to the water is provided via an access ramp and landing attached to a wooden pier, a portion of which is located adjacent to the Solomon Jacobs Park property. The seaward edge of the access ramp and landing are marked by a granite block seawall separating the National Grid property from the harbor. The Gloucester Harbormaster uses the pier and adjacent floating docks owned by the City of Gloucester as a base of operations.

The Maritime Gloucester parcel includes a nonprofit educational facility on the property. The property includes access to Gloucester Inner Harbor via a main pier, floating docks, and two smaller hauling piers. A granite block seawall is located at the landward edge of the Maritime Gloucester main pier where the pier decking meets the upland property. An active marine



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railway is also located on the property, which is listed on the Assets of the Commonwealth as a historic property and may be eligible for listing on the National Register of Historic Places.

2. INTERTIDAL & SUBSURFACE CONDITIONS

Gloucester Inner Harbor, including the Project Area, was surveyed for various aquatic biological resources that might be present in this type of marine setting, and which could affect the Project design and/or implementation. Such resources can include Submerged Aquatic Vegetation (SAV), shellfish habitat, Essential Fish Habitat (EFH) and federally threatened and endangered species (T&E species). A detailed summary of the findings of this investigation is provided in Appendix H: Biological Evaluation. The understanding of any such potential habitats and species within the Project Area is a critical element of successful project design, permitting and implementation. Some of the biological resources are relevant to mitigation at the state level (SAV and shellfish), and EFH and T&E species typically require consultation at the federal level.

In general, the subsurface investigation largely confirmed earlier conclusions, showing a general lack of SAV, limited (but present) shellfish resources, and a lack of T&E species. While EFH is noted as present, there are no Habitat Areas of Particular Concern (HAPC) within this area. Intertidal habitats in the Inner Harbor are highly modified from their original conditions with extensive historical alterations to create the State Fish Pier, and much of the shoreline armored with manmade structures. Because of these modifications, the remaining coastal and intertidal substrates in the Inner Harbor are limited to patches of sand associated with beaches and patches of mud accompanying remnant tidal flats and salt marsh, which only occur on the southwest portion of the Inner Harbor, outside the Project Area. The benthic zones (seafloor) of the Inner Harbor were confirmed to be primarily unconsolidated, soft mud (silt-clay) over a flat harbor bottom, with the fine grain size of the sediment typically indicative of low current and wave activity in the area. Benthic habitat for shellfish in the Inner Harbor is considered degraded due to chemical contamination and oxygen-poor sediments.

3. CULTURAL (HISTORICAL AND ARCHAEOLOGICAL) RESOURCES

The Burnham’s Marine Railway on the Maritime Gloucester property (MHC No. GLO.939, 1340 and 1341) and the Granite Wharves located on the Maritime Gloucester property, City-owned property and National Grid property are recorded in the Inventory of the Historic and Archaeological Assets of the Commonwealth (MHC Inventory) and may meet the criteria of eligibility (36 CFR 60) for listing in the National Register of Historic Places as an individual property. A historic and archaeological resources survey was conducted to identify historic properties within the Project’s Area of Potential Effects (APE) and make recommendations about potential Project effects on properties that are listed or eligible for listing in the National and/or State Registers.

The results of the historic and archaeological resources survey found that the marine railway and the Granite Wharves contribute to the significance of the Gloucester Harbor Area (GLO.AU), (along with several other properties within Harbor Loop), which is also included in the MHC



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Inventory. The Gloucester Harbor Area has been evaluated by the MHC as potentially eligible for listing in the National Register as a historic district.

While there are no listed or inventoried archaeological sites within the Project APE, the Project's near and off-shore dredging area contains one unidentified shipwreck first charted in 1975 and confirmed by NOAA in 2003 using side scan sonar during their geophysical survey (NOAA Survey No. H11277) of Gloucester Harbor. An archaeological reconnaissance survey was conducted to identify archaeologically sensitive terrestrial and underwater areas that may be present in the Project's APE. The survey identified the presence of one charted shipwreck of unknown origin within the marine area in a location that may not have been dredged within the last 50 years. Section 4: Impacts of Proposed Project provides a discussion of Project impacts and Section 5: Mitigation of Impacts provides a discussion on proposed mitigation for impacts to the cultural, historical and archaeological resources. Also see Management Summary within the Historic and Archaeological Reconnaissance Surveys prepared by The Public Archaeology Laboratory, Inc. (PAL) within Appendix F for a summary of historic and archaeological reconnaissance surveys performed.

4. WETLANDS PROTECTION ACT JURISDICTIONAL RESOURCE AREAS

The Project Area and Remediation Support Area are located in and adjacent to Gloucester Inner Harbor. Various coastal resources are regulated under state, federal, and local laws and regulations. Therefore, Coastal Resource Areas within the Project Area, as defined under state regulations, were identified and assessed as part of the study to determine existing conditions and establish potential impacts associated with the proposed remediation activities. Applicable Buffer Zones for the Coastal Resource Areas have been delineated under both state and local regulations. The existing Coastal Resource Areas and associated Buffer Zones are shown on Figures 4A and 4C and are further described below.

Federal jurisdictional areas, defined as "Waters of the United States", are entirely contained within the state resource boundaries. For the purposes of this project, the relevant definition under 40 CFR 230.3(s) is "All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide". The landward jurisdictional limits are the mean high water (MHW) in tidal waters. As a Federal jurisdictional area, the resource is not directly relevant to this MEPA documentation. However, this definition of regulated area is relevant to future permitting under Section 10 of the Rivers and Harbors Act and Section 404 of the Federal Clean Water Act, as administered by the Army Corps of Engineers (ACOE). ACOE jurisdiction over Waters of the United States overlaps with state regulations from Land Under the Ocean to the Top of Bank, which is also demarked by the MHW.

4.1 Coastal Resource Areas

Based on definitions of Coastal Resource Areas as provided in MA Wetlands Protection Act (310 CMR 10.21 through 10.37), the following Coastal Resource Areas are located within the Project Area and remediation support area boundaries:





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- Designated Port Area;
- Land Under the Ocean (in Designated Port Area);
- Coastal Beach (in Designated Port Area);
- Coastal Bank;
- Land Containing Shellfish;
- Land Subject to Coastal Storm Flowage,
- Buffer Zone (not a resource area, but a protected zone extending from resource area(s)).

Descriptions of each of these Coastal Resource Areas within the Project Area are provided in the following sections.

4.1.1 Designated Port Area

Designated Port Area is defined in 310 CMR 10.26(2) as:

Designated Port Areas means those areas designated in 301 CMR 25.00 of the Coastal Zone Management Regulations.

As shown on the Gloucester Inner Harbor Designated Port Area (DPA) map produced by the Massachusetts office of Coastal Zone Management in March 2011, the Gloucester DPA comprises much of Gloucester Inner Harbor, as well as the upland areas between Rogers Street, Harbor Loop, Main Street, and East Main Street and the shoreline. Therefore, the entire Project Area and Remediation Support Area lies within the Gloucester DPA and comprises approximately 163,000 square feet of the upland area and approximately 439,500 square feet of the marine area as shown on Figure 2.

Jurisdictional resource areas, except for the citation of the definition in each relevant section, will be described in terms of their location with the DPA and performance standards relative to those resources within the DPA.

4.1.2 Land Under the Ocean

Land Under the Ocean is defined in 310 CMR 10.25(2) as:

Land extending from the mean low water line seaward to the boundary of the municipalities jurisdiction and includes land under estuaries.

The marine Project Area is located within Gloucester Inner Harbor. Mean Low Water (MLW) is identified as elevation -3.79 ft NGVD29 at the Project Area and the municipalities' boundary coincides with the marine boundary of the Commonwealth (M.G.L.A. 42 § 1). Based on the above definition, the marine portion of the Project Area includes approximately 322,000 square



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feet of Land Under the Ocean and the Remediation Support Area includes approximately 54,600 square feet of Land Under the Ocean. Land Under the Ocean is shown on Figures 4A and 4C.

4.1.3 Coastal Beach

Coastal Beach is defined in 310 CMR 10.27(2) as:

Unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes Tidal Flats. Coastal Beaches extend from the mean low water line landward to the dune line, coastal bank line, or seaward edge of existing man-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.

The Coastal Beach at the Project Area is characterized by sandy, vegetated sediment, consisting mostly of gravel- to cobble-sized material and occasional miscellaneous debris. The seaward edge of the Coastal Beach is defined by the MLW line. The landward edge of the Coastal Beach (i.e., the Coastal Bank line) at this Project Area is defined by the seaward edge of existing man-made structures (i.e., the seawalls and rip-rap slopes that form the shoreline for the upland portion of the Project Area). Based on the above definitions, Coastal Beach is located on the USCG, National Grid, and Maritime Gloucester properties along the base of the seawalls and rip-rap slope as shown on Figures 4B and 4C. The area of Coastal Beach within the marine area of the Project Area is approximately 4,200 square feet and is expected to change slightly over time as sediment moves. Approximately 1,400 square feet of Coastal Beach have also been delineated within the marine portion of the Remediation Support Area at the National Grid substation.

In addition to Coastal Beach, areas of Land Subject to Tidal Action have also been identified within the Project Area and the marine portion of the Remediation Support Area. Land Subject to Tidal Action is defined as land subject to the periodic rise and fall of a coastal water body, including spring tides. Within the project area, it includes the area between the Top of Coastal Bank and MLLW lines at all the properties; in addition, the man-made rip-rap slopes at the USCG, Maritime Gloucester and Remediation Support Area properties have also been classified as Land Subject to Tidal Action. Land Subject to Tidal Action is included with Coastal Beaches in the WPA Regulations (310 CMR 10.27). There are no separate performance standards for Land Subject to Tidal Action; therefore, these areas are discussed within the Coastal Beach sections of this document.

4.1.4 Coastal Banks

Coastal Banks are defined in 310 CMR 10.30(2) as:

The seaward face or side of any elevated landform, other than a coastal dune, which lies at the landward edge of a Coastal Beach, land subject to tidal action, or other wetland.

The seaward edge, or toe, of the Coastal Bank begins at the landward edge of the Coastal Beach as discussed in Subsection 1.1.3. In addition to the seawalls at all the properties within the



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Project Area, areas of Coastal Bank have been identified at the USCG and Maritime Gloucester properties as shown on Figure 4B, and at the Remediation Support Area as shown on Figure 4C. The top of Coastal Bank follows the top of the existing seawalls or rip-rap slopes and is shown on the aforementioned figures. The length of the Top of Coastal Bank within the Project Area is approximately 360 linear feet, and the length of Top of Coastal Bank at the substation is approximately 120 linear feet.

4.1.5 Land Containing Shellfish

Land Containing Shellfish is defined in 310 CMR 10.34(2) as:

Land under the ocean, tidal flats, rocky intertidal shores, salt marshes and land under salt ponds when any such land contains shellfish.

Land Containing Shellfish potentially occupies the same physical areas as Land Under the Ocean that was defined in Subsection 1.1.2 as well as Coastal Beach and Land Subject to Tidal Action described in Subsection 1.1.4. The marine area of the Project Area includes approximately 386,000 square feet of Land Containing Shellfish and the Remediation Support Area includes approximately 53,500 square feet of Land Containing Shellfish. It should be noted that Land Containing Shellfish is listed as a resource area since there have been visual observations of shellfish in the proposed work area; however, 310 CMR 10.26 (1) states that the burden of proof of significance for Land Containing Shellfish within a DPA is on the issuing authority (i.e. Conservation Commission). Shellfish Growing Area Designations by the Massachusetts Department of Marine Fisheries currently indicate that all of Gloucester Harbor, and associated embayments and coves, and an area extending 3 miles into the ocean from Gloucester are currently classed as prohibited as a shellfish growing Area (Massachusetts Division of Marine Fisheries [MADMF] 2009); however, the City of Gloucester issues commercial and non-commercial permits for the harvesting of clams and seaworms.

4.1.6 Land Subject to Coastal Storm Flowage

Land Subject to Coastal Storm Flowage is defined in 310 CMR 10.04 as:

Land subject to an inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record, or storm of record, whichever is greater.

At the Project Area, Land Subject to Coastal Storm Flowage was determined based on 100-year flood information provided by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRMs) for the area including the Project Area. According to the FIRM, the 100-year flood elevation is 9 feet NAVD 88 (9.85' feet NGVD 29); however the flood zone in the Project Area is over-represented on the figures because the actual elevation (based on a recent topographical survey) is higher at locations depicted by FEMA's FIRM 100-year flood line. The area seaward of this elevation covers the majority of the Project Area and is shown on Figure 3.

The National Flood Hazard Layer (NFHL) is the digital, geospatial version of the flood hazard information (location and attributes for boundaries of flood insurance risk zones) shown on the





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published paper FIRMs. The NFHL data are derived from Flood Insurance Studies (FISs), previously published FIRMs, flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data where available. The NFHL, or 500-year flood zone, associated with the project extends throughout the entire Project Area and Remediation Support Area to well over a mile beyond the work limits (Figure 1D).

4.1.7 Buffer Zone

Buffer Zones are defined in 310 CMR 10.04 as:

That area of land extending 100 feet horizontally outward from the boundary of any area specified in 310 CMR 10.02(1)(a)

Coastal Resource Areas that were identified above in Subsection 1.1 and that are listed in 310 CMR 10.02(1)(a) as areas that have Buffer Zones include the following:

- Coastal Beach;
- Coastal Bank.

Buffer Zones extending 100 feet horizontally from the boundary of each of the Coastal Resource Areas listed above are shown on Figures 4A through 4C. Buffer Zones for both the Coastal Beach and Coastal Bank are located on the upland portion of the Project Area. Only a buffer zone for the Coastal Bank is located on the upland portion of the Remediation Support Area.

The Gloucester Wetlands Ordinance has overlapping jurisdictional Buffer Zones for the above-mentioned jurisdictional resource areas as defined in Marshlands-Chapter 12, Article 2, Section 12-11. Per the Gloucester Wetlands Ordinance, Buffer Zones extend 100 and 200 feet horizontally from the boundary of any resource area identified in Section 12-11(b)(1) and (2) which includes Coastal Beach and Coastal Bank, as discussed above, as well as Land Under the Ocean. Buffer Zones for Land Under the Ocean are located on both the upland portion of the Project Area as well as the remediation support area and are shown on Figures 4B and 4C.

5. COASTAL ZONE MANAGEMENT AREA

The entire Project Area is located with the designated Massachusetts Coastal Zone Management Area as defined under the Massachusetts Ocean Management Plan (OMP, October 2011). This plan has delegated authority under the Federal Coastal Zone Management Act enacting legislation and regulations. All federally authorized permitting and/or funded projects must have demonstrated “consistency” with the Massachusetts OMP.

6. CHAPTER 91 WATERWAYS

Chapter 91 regulates activities on coastal waterways, including construction, dredging and filling in tidelands. Within the Project Area there are two basic areas of geographical jurisdiction within which activities require Chapter 91 authorization:



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- Flowed Tidelands – areas within, on, over or under tidal waters seaward of the mean high water (MHW) shoreline (extending seaward to the state territorial jurisdiction); and
- Filled Tidelands – areas filled downgradient of the historic MHW line within Designated Port Areas (note: the entire Inner Harbor and Project Area is within a Designated Port Area).

In essence for this project, the Chapter 91 regulated areas are all areas seaward of the historic MHW line (Figure 4A and Figure 4C). This regulated area for the Project includes the upland areas up to the MHW line, the seawall, previously constructed under Chapter 91 license and all seaward areas.

Section 5: Mitigation of Impacts describes the impacts and effects of the project within this area and Section 6: Anticipated Permits describes the Chapter 91 permit process and the ability of the project to comply with the applicable regulations for this permit.

7. WATER QUALITY

In Massachusetts, the MassDEP has established Water Quality Classifications for the surface waters. Gloucester Inner Harbor is located within an area designated as Class SB. Class SB waters are designated as a habitat for fish, other aquatic life and wildlife and for primary and secondary contact recreation. The Commonwealth’s goals for Class SB water are to provide suitable water quality to sustain shellfish harvesting with depuration (Restricted Shellfish Areas), and to maintain consistently good aesthetic value. As previously noted, all of Gloucester Harbor is within an area prohibited for shellfish growing by the Massachusetts Division of Marine Fisheries.

Water quality in Gloucester Harbor is imprinted by the past and present waterfront uses. Gloucester Harbor has five combined sewer overflow (CSO) discharges, with three that discharge to the Inner Harbor area (EPA NPDES Permit No. MA0100625), as well as several municipal separate stormwater discharges. The 2010 NPDES permit identifies the Inner Harbor as “Impaired” for aquatic life and shellfish harvesting due to degraded biota/habitat conditions, anoxic sediments (low dissolved oxygen), elevated fecal coliform bacteria, altered tidal circulation/flushing, dredging for navigational channels, and the CSO and stormwater discharges.

The Water Quality Certification (WQC) program (administered by MassDEP; see also Section 6) establishes procedures and criteria for the administration of Section 401 of the federal Clean Water Act. Any project which must obtain a Section 404 permit from the ACOE must also obtain a 401 WQC, in part to allow the state to determine through permitting that the project approved under Section 404 will not have an adverse effect on water quality. A certificate must be obtained from MassDEP for any project that proposes discharge of dredged or fill material, dredging and dredged material disposal activities in Waters of the Commonwealth and Waters of the United States within the Commonwealth.

Within the Project Area, Waters of the Commonwealth and Waters of the United States within the Commonwealth are synonymous. Resources jurisdictional under the WQC include the





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beaches, areas subject to tidal action and land below mean low water. See Section 4: Impacts of Proposed Project for a discussion about which activities require WQC permits and Section 5: Mitigation of Impacts for proposed mitigation and restoration measures.

RESOURCE AREA TYPE	DESCRIPTION OF SPECIFIC AREA	REGULATORY AUTHORITY
DESIGNATED PORT AREAS (DPA)	Entire Project Area is within DPA	MA Wetlands Protection Act (310 CMR 10.00) MA DEP
COASTAL BANK	National Grid seawall Maritime Gloucester seawall Solomon Jacobs Park seawall	MA Wetlands Protection Act (310 CMR 10.00) MA DEP
COASTAL BEACHES	Marginal areas along seawalls and Uplands on USCG, National Grid, and Maritime Gloucester Lands	MA Wetlands Protection Act (310 CMR 10.00) MA DEP
LAND UNDER OCEAN	Harbor area below Mean Low Water	MA Wetlands Protection Act (310 CMR 10.00) MA DEP
LAND SUBJECT TO COASTAL STORM FLOWAGE	Upland Areas	MA Wetlands Protection Act (310 CMR 10.00) MA DEP
BUFFER ZONE	Upland Areas (100 ft shoreward from Coastal Bank for MA WPA; 100-200 ft shoreward from WPA resources, Gloucester)	MA Wetlands Protection Act (310 CMR 10.00) MA DEP Gloucester Wetlands Ordinance
WATERS OF THE U.S. / NAVIGABLE WATERS OF THE U.S.	Areas below High Tide Line	Federal Clean Water Act, Section 404 Federal Rivers & Harbors Act, Section 10. Army Corps of Engineers Section
COASTAL ZONE MANAGEMENT AREA	Entire Project Area is within Coastal Zone Management Area	Federal Coastal Zone Management Act as implemented by MA Office of Coastal Zone Management (301 CMR 21.00)
NATIONAL REGISTER OF HISTORIC PLACES	Maritime Gloucester Marine Railway. Potential shipwreck area.	Federal National Historic Preservation Act, MA Historical Commission (36 CFR 800 and MGL, Chapter 9, sections 26-27C (950 CMR 70-71))