HERA
POWER LINK

ARTICLE VII APPLICATION

OCTOBER 11, 2023

SUBMITTED TO:
NY PUBLIC SERVICE COMMISSION
EMPIRE STATE PLAZA AGENCY, BLDG 3A
ALBANY, NY 12223

CASE 22-T-0547
VOLUME 2 OF 2

TABLE OF CONTENTS

APPENDICES

HERA POWER LINK

ANBARIC DEVELOPMENT PARTNERS, LLC

APPENDIX A

Wetland Delineation Report

HERA
POWER LINK

WETLAND EVALUATION

NOVEMBER 2022

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MATRIXNEWORLD
Engineering Progress

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

The applicant, Anbaric Development Partners, LLC, proposes Hera Power Link, an electrical transmission facility that will connect offshore wind areas (WEA) in the Atlantic Ocean (federal waters, or the exclusive economic zone [EEZ]) to the New York Independent System Operator's (NYISO) Zone J. The Facility will connect in Brooklyn with either Con Edison's existing Gowanus Substation or the proposed Brooklyn Clean Energy Hub (BCEH). (Figures 1A-1C and 2, Appendix A).

The HERA Power Link Project (Project) is a proposed transmission system that will import power produced within offshore wind facilities in areas leased in federal waters of the Atlantic Ocean (WEAs) into the transmission system serving New York City within New York Independent System Operator's (NYISO) Zone J of the New York Control Area.

The Project will collect and transmit up to 1,200 megawatts (MW) of power from one or more offshore collection platforms (OCP) located in federal waters and transmit it to a point of interconnection (POI) located at either the Con Edison Brooklyn Gowanus Substation (Preferred POI) or the proposed Brooklyn Clean Energy Hub (BCEH) (Alternate POI), if available. A portion of the Project (Facility) will lie within New York State, as described below.

Approximately 12.9 miles (11.2 nautical miles) of two HVDC submarine cables and an associated fiber optic cable (collectively, "HVDC Submarine Cable System") buried beneath the seabed of New York State waters of the Upper and Lower New York Bay, with landfall on the eastern shore of Staten Island (Figures 2.0-1 and 2.0-2).

Transition of the HVDC system from submerged cables to upland cables at the Converter Station site utilizing horizontal direction drill (HDD) technology performed from land. The HDD transition is approximately 1,200 ft long and will consist of two bores. Two permanent upland underground transition vaults and one fiber optic vault will be installed in the upland, where the HVDC Submarine Cable System will be spliced into an HVDC Land Cable System. The operation will require construction of temporary nearshore containment structure(s) at the offshore end (exit pit) of the HDD operation.

Up to several hundred feet of a HVDC Land Cable System connecting the transition vaults to the Converter Station and consisting of two underground HVDC cables and one fiber optic cable (collectively, "HVDC Upland Cable System").

A Converter Station proposed at 200 Edgewater Street on the eastern shore of Staten Island, where an existing industrial facility will be redeveloped to install a Converter Station using HVDC technology to convert power from HVDC to HVAC.

Up to several hundred feet of four HVAC, tri-core underground cables with associated fiber optic cable ("HVAC Land Cable System") linking the Converter Station to four upland underground transition vaults and one fiber optic vault.

Transition of the HVAC system from upland cables at the Converter Station site to submerged cables Upper New York Bay utilizing horizontal direction drill (HDD) technology performed from land. The HDD transition is approximately 1,200 ft long and will consist of four bores. The operation will require temporary nearshore containment structure(s) at the offshore end (exit pit) of the HDD operation.

Approximately 4.6 miles (4.0 nautical miles) of four HVAC tri-core submarine cables and an associated fiber optic cable (collectively, "HVAC Submarine Cable System") buried beneath the seabed of New York State waters within the Upper New York Bay, with landfall on the western shoreline of Brooklyn at 4100 1st Avenue (Brooklyn Landing).

Transition of the HVAC system from submerged cables in Upper New York Bay to upland cables at the Brooklyn Landing Site utilizing horizontal direction drill (HDD) technology performed from land. The HDD transition is approximately 1,200 ft long and will consist of four bores. Four permanent upland underground transition vaults and one fiber optic vault will be installed in the upland, where the HVAC Submarine Cable System will be spliced into the HVAC Land Cable System. The operation will require construction of temporary nearshore containment structure(s) at the offshore end (exit pit) of the HDD operation.

HVAC Land Cable System buried beneath public roadways and ROWs from the Transition Vaults to the POI. The route from the transition vaults to the Preferred POI (Gowanus Substation)is approximately 1.2 miles.

The HVAC Land Cable Route from the transition vaults to the Alternate POI with proposed Brooklyn Clean Energy Hub, if available, is approximately 5.8 miles.

The components of the Land Cable Systems (HVDC and HVAC) will be installed underground in duct banks and conduits, while the Submarine Cable Systems (HVDC and HVAC) will be directly buried in the seabed. Transitions from upland to submerged cables will be installed underground via HDD technology.

The Submarine Cable System lands in Brooklyn at 4100 First Avenue (Lot 1, Block 715). This property is owned by the New York City Department of Small Business Services (NYC SBS); the approximate coordinates at the end of the pier are 40.657553°, -74.018787°. From this landfall location, the Land Cable System will be routed to Gowanus Substation at the terminus of 2nd Avenue at 26th Street (Lot 3, Block 653), primarily beneath existing paved public roads, or the proposed CEH at the terminus of Gold Street. Both routes were included in the wetland field evaluation. Note that neither the Gowanus Substation (that is already constructed) nor the proposed CEH site (construction by others) were included in the scope of this evaluation. Following are the approximate coordinates along the route of the utility line:

40.654894°, -74.014501°	intersection of 1st Avenue and 42nd Street
40.656610°, -74.012714°	intersection of 1st Avenue and 39th Street
40.655306°, -74.010501°	intersection of 39th Street and 2nd Avenue
40.661508°, -74.003985°	2nd Avenue at the existing Con Edison Gowanus Substation
40.660905°, -74.004646°	intersection of 2nd Avenue and 29th Street
40.658247°, -74.000327°	intersection of 29th Street and 4th Avenue
40.684393°, -74.978402°	intersection of 4th Avenue and Atlantic Avenue
40.689079°, -74.990489°	intersection of Atlantic Avenue and Boerum Place
40.691994°, -74.988971°	intersection of Boerum Place and Adams Street
40.700015°, -74.988309°	intersection of Adams Street and Sands Street
40.699755°, -74.982961°	intersection of Sands Street and Gold Street
40.705144°, -74.982439°	Gold Street at the proposed Con Edison Clean Energy Hub

Wetland field evaluations were conducted by qualified Matrix environmental scientists on October 27 and 28, 2022 for the Submarine Cable Landing, Land Cable Route, and Substation sites in Brooklyn, and on November 2, 2022, at the Staten Island portion of the project site. This report has been prepared to document and present the presence/absence of wetlands. The procedures used for this study were conducted in accordance with the "Corps of Engineers Wetlands Delineation Manual",[1] the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region",[2] and the New York State Department of Environmental Conservation (NYSDEC) "New York State Freshwater Wetlands Delineation Manual".[3] Figures depicting the general site location on copies of a USGS 7.5' Topographic Series quadrangle, local road map, Natural Resources Conservation Service (NRCS) soil survey maps, the US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, and New York State Regulated Freshwater and Tidal Wetlands maps are in Appendix A. The Federal Emergency Management Agency's (FEMA) Effective Flood Insurance Rate Maps (FIRM) for Staten Island and Brooklyn are in Appendix B. Photographs of the Project Sites (i.e., the Staten Island Converter Station, Submarine Cable System landing site, Gowanus Substation, and proposed CEH) are in Appendix C. Preparer's qualifications are in Appendix D

2.0 WETLAND REGULATIONS

Tidal and freshwater wetlands in the State of New York are regulated pursuant to each of the regulatory programs summarized below.

- U.S. Army Corps of Engineers

[1] Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
[2] U.S. Army Corps of Engineers. (2012). "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)", ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
[3] NYSDEC. (July 1995). "Freshwater Wetlands Delineation Manual". Browne, Steve, et al.

The U.S. Army Corps of Engineers (Corps) has regulatory jurisdiction over the discharge of dredged or fill material and placement of structures into Waters of the United States including adjacent wetlands, pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. In the absence of wetlands, the limit of Corps jurisdiction is the high tide line in tidal areas and the ordinary high water mark in non-tidal areas.

- NYSDEC Freshwater Wetlands

  Freshwater wetlands are regulated under the Freshwater Wetlands Act (Environmental Conservation Law Article 24) and the Freshwater Wetlands Permit Requirements (6 NYCRR Part 663). The Freshwater Wetlands Act required NYSDEC to map all regulated wetlands larger than 12.4 acres or those smaller than 12.4 acres that are determined to have unusual local importance. The definition of a wetland at 6 NYCRR 662.1 states that two or more areas of land or water may be considered a single wetland for regulatory purposes if they are no more than 50 meters (165 feet) apart and are determined by the Commissioner to function as a unit, or to be dependent upon each other in providing one or more of the following benefits: flood/storm control; wildlife habitat; protection of subsurface water resources; pollution treatment; erosion control; sources of nutrients for fish. An "adjacent area" (buffer) of 100 feet from the wetland boundary is also regulated under the Act.

- NYSDEC Tidal Wetlands

  Tidal wetlands are regulated under the Tidal Wetlands Act (Environmental Conservation Law Article 25) and the Tidal Wetlands Land Use Regulations (6 NYCRR Part 661). NYSDEC mapped all tidal wetlands in 1974, which are identified on New York State Official Tidal Wetlands Inventory maps. In New York City, an "adjacent area" (buffer) of up to 150 feet from the wetland boundary is also regulated under the Act. This width of the adjacent area can be reduced under several circumstances. For example, the adjacent area will stop at the seaward edge of a lawfully and presently existing (since August 20, 1977) functional structure such as a paved road, bulkhead, sea wall or rip-rap wall that is a minimum of 100 feet in length. The adjacent area will stop at the elevation contour of 10 feet above mean sea level, unless that contour crosses the seaward face of a bluff, cliff, or eroding hill, in which case the crest of the bluff, cliff or hill forms the limit of the adjacent area.

3.0 METHODOLOGY

The wetland evaluation for this study was conducted in accordance with the "Corps of Engineers Wetlands Delineation Manual"[4] (Federal Manual) and the "Regional Supplement to the Corps of

[4] Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Engineers Wetland Delineation Manual: Northcentral and Northeast Region"[5] (Regional Supplement). These documents provide mandatory technical criteria, field indicators, and recommended delineation methods to determine whether an area is a jurisdictional wetland and to delineate the upper boundary of these wetland communities. To satisfy the legal definition of jurisdictional wetlands under normal circumstances, all three technical parameters listed below must be satisfied.

3.1 Soils

Wetland classification requires the presence of hydric soils. The National Technical Committee for Hydric Soils defines hydric soil as "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Most hydric soils exhibit characteristic morphologies that result from repeated periods of saturation or inundation that last more than a few days. Saturation or inundation, when combined with microbial activity in the soil, causes the depletion of oxygen. Prolonged anaerobic conditions promote certain biogeochemical processes, such as the accumulation of organic matter and the reduction, translocation, or accumulation of iron and other reducible elements. These processes result in distinctive characteristics that persist in the soil during both wet and dry period, making them useful for identifying hydric soils in the field[6]. Criteria for identifying hydric soils in the field are contained in Field Indicators of Hydric Soils in the United States[7].

3.2 Vegetation

To be classified as a wetland, more than 50 percent of the dominant species from all strata must be categorized as hydrophytic, with a regional wetland indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL). Hydrophytic vegetation is defined as macrophytic plant life that has adapted to grow in water, soil, or on any other substrate that is at least periodically deficient in oxygen because of excessive water content. Indicator statuses referenced in this document are from the State of New York 2016 Wetland Plant List[8].

3.3 Hydrology

To be classified as a wetland, a site must have wetland hydrology. This criterion is satisfied when there is saturation to the surface or inundation at some point in time during an average rainfall year. Wetland hydrology is present when there are 14 or more consecutive days of flooding, ponding,

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[5] U.S. Army Corps of Engineers. (2011). "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)", ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[6] Federal Register. July 13, 1994. "Changes in Hydric Soils of the United States". Washington, D.C.

[7] United States Department of Agriculture, Natural Resources Conservation Service. 2016. "Field Indicators of Hydric Soils in the United States, Version 8.0". L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

[8] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. "The National Wetland Plant List: 2016 wetland ratings". Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

and/or a water table 12 inches or less from the surface during the growing season. Areas that have hydrophytic vegetation and hydric soils generally also have wetland hydrology unless the hydrologic regime has changed due to natural events or human activities. Field indicators of wetland hydrology are provided in the Regional Supplement.

It should be noted that there are numerous indicators used to determine the presence of hydric soils and hydrology criteria for freshwater wetlands delineation. These additional indicators are presented in the Regional Supplement. Furthermore, if a site is considered disturbed (e.g., farmed, recent tree harvesting, removal of soil, etc.), then jurisdictional wetlands may be present without one or more of the three criteria having a positive indicator. For example, if such a site exhibits wetland hydrology and hydric soils, but is not dominated by hydrophytic vegetation, the area can be classified as a wetland, under specific circumstances.

Matrix reviewed several background resources prior to conducting the on-site investigation. These are as follows:

The **NRCS soil survey map for Richmond County, New York** (Figure 3, Appendix A) identifies five soil map units on the Staten Island parcels (Table 1). None of these soils are rated as hydric.
The **NRCS soil survey map for Kings County, New York** (Figures 4A and 4B, Appendix A) identifies eight soil map units along the utility line route through Brooklyn (Table 2). None of these soils are rated as hydric.
The **USFWS NWI mapping** does not identify any wetlands within the Staten Island parcels (Figure 5, Appendix A). The adjacent Upper New York Bay is identified as estuarine, subtidal, unconsolidated bottom habitat (E1UBL). No wetlands are mapped along the utility route in Brooklyn. Gowanus Bay (where the utility line makes landfall and at the Gowanus Substation) and the East River (at the proposed Con Edison Clean Energy Hub) are identified as E1UBL habitat (Figure 6, Appendix A).

Table 1 - Soils Mapped on the Staten Island Parcels

Mapping Unit	Mapping Unit Symbol	Approximate Percent of the Site	Drainage Class
Greenbelt-Urban land complex, 8-15% slopes	GUC	36	Well drained (Greenbelt) Not ranked (Urban Land)
Urban land-Greenbelt complex, 8-15% slopes	UGC	1	Not ranked (Urban Land) Well drained (Greenbelt)
Urban land-Greenbelt complex, 15-25% slopes	UGD	1	Not ranked (Urban Land) Well drained (Greenbelt)
Urban land, reclaimed substratum, 0-3% slopes	UrA	44	Not ranked
Urban land, till substratum, 3-8% slopes	UtB	18	Not ranked

Source: United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, Richmond County, NY.

Table 2 - Soils Mapped along the Proposed Brooklyn Utility Line Routes

Mapping Unit	Mapping Unit Symbol	Approximate Percent of the Site	Drainage Class
Urban land, reclaimed substratum, 0-3% slopes	UrA	32	Not ranked
Urban land, sandy substratum, 0-3% slopes	UsA	8	Not ranked
Urban land, till substratum, 0-3% slopes	UtA	11	Not ranked
Urban land-Greenbelt complex, 0-3% slopes	UGA	5	Not ranked (Urban Land) Well drained (Greenbelt)
Urban land-Greenbelt complex, 3-8% slopes	UGB	25	Not ranked (Urban Land) Well drained (Greenbelt)
Urban land, till substratum, 3-8% slopes	UtB	16	Not ranked
Urban land-Greenbelt complex, 3-8% slopes, low impervious surface	UGBI	3	Not ranked (Urban Land) Well drained (Greenbelt)
Urban land-Greenbelt complex, 3-8% slopes, low impervious surface	UGCI	1	Not ranked (Urban Land) Well drained (Greenbelt)

Source: United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, Kings County, NY.

The **NYSDEC's Environmental Resource Mapper** on-line database layer for state regulated freshwater wetlands does not depict any freshwater wetlands on the Staten Island parcels (Figure 7, Appendix A) or along the either of the proposed utility line routes in Brooklyn (Figures 8A and 8B, Appendix A).

The **NYS Geographic Information Gateway On-line Database Layer for Tidal Wetlands** does not depict any tidal wetlands on the Staten Island parcel (Figure 7, Appendix A) or along either of the proposed utility line routes in Brooklyn (Figures 8A and 8B, Appendix A). The Gowanus Bay and East River are classified as Littoral Zone (LZ).

The **FEMA Effective FIRM for Richmond County** (Appendix B) depicts the entirety of Lot 140, Block 2820 in Staten Island as within the 100-year floodplain of Upper New York Bay. Lot 59, Block 2827 in Staten Island is almost entirely out of the 100-year floodplain. The only portion in the floodplain is the frontage along Edgewater Street.

The **FEMA Effective FIRM for Kings County** (Appendix B) depicts the majority of the both of the proposed utility line routes in Brooklyn as being outside of any 100-year floodplain. The southern end of the proposed routes, in the vicinity of the Brooklyn Marine Terminal, is mostly within a 100-year floodplain from the point where the utility line makes landfall at the Con Edison Gowanus Substation. The northern terminus of the proposed utility line route at Gold Street (at the proposed CEH) is also depicted as being within a 100-year floodplain of the East River.

4.0 FIELD VERIFICATION

Staten Island

Lot 140, Block 2820 in Staten Island fronts on the Upper New York Bay and is currently developed with the Reynolds Shipyard. The shoreline is bulkheaded except for the southeastern portion, which consists of unvegetated stone, boulders, and concrete. Vegetation is limited to the periphery of the site. Species observed included black locust (*Robinia pseudoacacia,* FACU), red mulberry (*Morus rubra,* FACU), princess tree (*Paulownia tomentosa,* UPL), tree-of-Heaven (*Ailanthus altissima,* UPL), Japanese knotweed (*Reynoutria japonica,* FACU), common mugwort (*Artemisia vulgaris,* UPL), Japanese honeysuckle (*Lonicera japonica,* FACU), poison ivy (*Toxicodendron radicans,* FAC), common dandelion (*Taraxacum officinale,* FACU), Virginia creeper (*Parthenocissus quinquefolia,* FACU), smartweed (*Polygonum* sp.) and goldenrod (*Solidago* sp.).

Lot 59, Block 2827 is currently developed with warehouse/office space and associated parking. The rear of the lot contains an undeveloped forested area and a cleared contractor storage yard. The lot is located approximately 200 feet landward of the mean high water line of the Upper New York Bay. The topography rises significantly from the parking lot behind the warehouse structures to the contractor storage yard. Species observed in the undeveloped portion the lot included black locust, Norway maple (*Acer platanoides,* UPL), red maple (*Acer rubrum,* FAC), London planetree (*Platanus acerifolia,* NL), boxelder (*Acer negundo,* FAC), red mulberry, English ivy (*Hedera helix,* FACU), poison ivy, white snakeroot (*Ageratina altissima,* FACU), and garlic mustard (*Alliaria petiolata,* FACU).

Photographs of the lots are in Appendix C

No federally regulated wetlands were observed within the project limits. Upper New York Bay is a federally regulated water of the United States. The jurisdictional boundary is the spring high tide line.

No NYSDEC regulated freshwater wetlands or open waters were observed on or within 100 feet of the project limits. NYSDEC regulated tidal wetlands are limited to the Upper New York Bay, which is classified as LZ on the promulgated tidal wetland maps. The regulatory limit is the mean high water line. There is also a regulated adjacent area associated with Upper New York Bay that extends a maximum of 150 feet from the mean high water line.

Brooklyn

In Brooklyn, the proposed utility line will make landfall at a land pier extending into Gowanus Bay at 4100 First Avenue. The waterward portion of the pier supports various urban shrub and tree species, and open bare land areas, but was inaccessible for plant species observation during the wetland field evaluation. The remainder of the pier is subject to ongoing construction activities. The pier is surrounded by degraded concrete accessways and riprap. The shoreline is bulkheaded.

No wetlands were observed on the pier. Gowanus Bay is a federally regulated water of the United States. The jurisdictional boundary is the spring high tide line. No NYSDEC-regulated freshwater wetlands or open waters were observed on the pier. NYSDEC-regulated tidal wetlands are limited to the Gowanus Bay, which is classified as LZ on the promulgated tidal wetland maps. The regulatory limit is the mean high water line. There is also a regulated adjacent area associated with Gowanus Bay that extends a maximum of 150 feet from the mean high water line.

The proposed Land Cable Route occurs primarily along public roadways in urban areas where neither federal or state regulated wetlands were observed on or adjacent to the Route. At the point of interconnection with Con Edison's Gowanus Substation, interconnection is proximate to Gowanus Bay, a federally regulated water of the United States and a mapped NYSDEC tidal wetland (LZ).

The proposed Land Cable Route occurs primarily along public roadways in urban areas where neither federal or state regulated wetlands were observed on or adjacent to the Route. At the point of interconnection with the site where the proposed Clean Energy Hub will be constructed, the site is proximate to the East River; a federally regulated water of the United States and mapped NYSDEC tidal wetland (LZ).

Photographs are provided in Appendix C.

The discharge of dredged or fill material into and/or placement of structures in waters of the United States will require the prior review and approval of the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. Disturbance to wetlands and/or

wetland adjacent areas will also require the prior review and approval of NYSDEC pursuant to the Tidal Wetlands Act (Environmental Conservation Law Article 25).

It should be noted that the limits of regulated wetlands and waters of the United States as determined by this evaluation are subject to possible change until confirmation by regulatory agencies.