APPENDIX L

CASE 10-T-0139

CULTURAL RESOURCES MANAGEMENT PLAN

(REDACTED)

ASTORIA HVDC CONVERTER STATION - SEGMENT 22

HARTGEN
archeological associates inc

SUPPLEMENTAL CULTURAL RESOURCES MANAGEMENT PLAN

Champlain Hudson Power Express HVDC Transmission Line Project
Astoria HVDC Converter Station (Segment 22)

Redacted for Public Disclosure

Lake Champlain to New York City
Borough of Queens, New York City

HAA 4268-83
SHPO 09PR03910

Submitted to:
KIEWIT ENGINEERING GROUP INC.
10055 Trainstation Circle
Lone Tree, CO 80124

Prepared by:
Hartgen Archeological Associates, Inc.

1744 Washington Avenue Ext.
Rensselaer, New York 12144
p +1 518 283 0534
f +1 518 283 6276
e hartgen@hartgen.com

www.hartgen.com

An ACRA Member Firm
www.acra-crm.org

January 2023

MANAGEMENT SUMMARY

SHPO Number:	*09PR03910*
Involved Agencies:	*U.S. Department of Energy, U.S. Army Corps of Engineers, NYSHPO*
Phase of survey:	*Cultural Resources Management Plan (Updated)*

LOCATION INFORMATION

Municipality:	*New York City, Borough of Queens*
County:	*County of Queens*

CULTURAL RESOURCE MANAGEMENT PLAN OVERVIEW

Objective:	*The purpose of this Supplemental Cultural Resources Management Plan is to synthesize data sets into one document, and to provide OPRHP/DPS contact information for identified roles within the original Cultural Resource Management Plan drafted by TRC in 2015 and finalized in 2021.* *The plan also proposes Programmatic Allowances and an Archeological Monitoring Plan to assist with ongoing review and compliance as stipulated in the Programmatic Agreement between DOE and NYSHPO in 2021.* *The current CRMP focuses on Segment 22, the northwestern tip of Queens where the Astoria Converter Station is proposed to be built.*
Report Authors:	*Matthew Kirk, MA RPA*
Date of Report:	*January 2023*

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LIST OF ACRONYMS

ACHP – Advisory Council on Historic Preservation
AMP – Archeological Monitoring Plan
APE – Area of Potential Effect
BMP – Best Practices Management Plan (2012)
CA – Consulting Archeologist
CHPE, LLC – Champlain Hudson Power Express, LLC
CRMP – Cultural Resources Management Plan
CRIS – Cultural Resource Inventory System (NYSHPO)
DOE – U.S. Department of Energy
GIS – Geographic Information System
GPS – Global Positioning System
Hartgen – Hartgen Archeological Associates, Inc.
HDD- horizontal directional drilling
HVAC – high-voltage alternating current
HVDC – high-voltage direct current
LOW –Limits of Work
MOA – Memorandum of Agreement
MP – mile post, railroad
MW – megawatt
NHPA – National Historic Preservation Act
NRE – National Register-eligible
NYAC – New York Archaeological Council
NYSHPO – New York State Historic Preservation Officer
NYSM – New York State Museum
OPRHP – Office of Parks, Recreation and Historic Preservation
PPO – Project Preservation Officer
ROW – Right-of-Way
TRC – TRC Companies, Inc

CULTURAL RESOURCES MANAGEMENT PLAN

1 Introduction

Hartgen Archeological Associates, Inc. (Hartgen) has been retained to create a supplemental Cultural Resources Management Plan (CRMP) for the proposed Champlain Hudson Power Express (Project) located over multiple counties in New York. The current CRMP is focused on the HVDC converter station to be placed on the northwest tip of Queens along the East River in the Astoria section, on the former Poletti Generating Facility parcel currently owned by ConEdison.

The Project has received approvals by the U.S. Department of Energy (DOE) and the U.S. Army Corps of Engineers, with consultation from the NYSHPO. The goal of the CRMP is to provide a framework for managing potential impacts to known, relevant historical properties and archeological sites (determined to be eligible for or listed in the National Register of Historic Places). Site discovered during construction activities will also be managed in the Supplemental CRMP's framework. In addition, this management plan will create a comprehensive framework for identifying and undertaking additional archeological work that may be required prior to and during the construction of the Project.

TRC Companies, Inc. (TRC) created a draft comprehensive Management Plan in 2015, finalized in 2021 to include three additional reports. This management plan is referred to throughout the current document (Appendix 1), with this document serving to fully incorporate all the relevant information for Phase I of construction into one succinct document. In the event of a conflict between this document and that provided in Appendix 1, the CRMP (2021) will prevail.

This plan was enacted to comply with Section 106 of the National Historical Preservation Act and will be reviewed by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) as well as the aforementioned federal agencies. This plan was established according to the New York Archaeological Council's *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections* (1994), which are endorsed by OPRHP.

The *Programmatic Agreement Among The U.S. Department of Energy, And The New York State Historic Preservation Officer For Managing Historic Properties That May Be Affected By Authorizing The Construction, Operation, Connection And Maintenance Of The Champlain Hudson Power Express HVDC Transmission Line Project* (Programmatic Agreement), executed in 2021, stipulates completion of a Cultural Resources Management Plan (CRMP) to create procedures for the consideration and management of historic properties within the Champlain Hudson Power Express HVDC Transmission Line Project (Project).

Stipulation IV(B) within the Programmatic Agreement specifies the CRMP will be applied in lieu of Section 106 implementing regulations 36 CFR Part 800.4 – 800.6 to satisfy requirements of compliance with Section 106 of the National Historic Preservation Act (16 U.S.C. 470) related to identification of historic properties (36 CFR Part 800 800.4), assessment of adverse effects (36 CFR Part 800 800.5), and resolution of adverse effects (36 CFR Part 800.6).

This Supplemental CRMP has been developed in response to Programmatic Agreement Stipulation IV(B) and Stipulation II(C)(8 – 11 and 19). In 2015, TRC completed the *Champlain Hudson Power Express HVDC Transmission Line Project Cultural Resources Management Plan* which was revised in 2021 . This document provided detailed procedures for unanticipated discoveries, monitoring during construction-related ground disturbance, and monitoring during post-construction operations; all stipulations of the CRMP (2021) remain applicable.

Current design and engineering requirements indicate effects to historic and landscape resources may also require consideration throughout project execution; this Supplemental CRMP supports streamlined coordination and consultation with NYSHPO through agreement on programmatic allowances and treatments. This Supplemental CRMP provides structure and process for implementing requirements of the Programmatic Agreement and the CRMP (2021).

2 Project Information

The Project involves the construction of approximately 339 miles of a high voltage direct current underground and underwater transmission line, running from Montréal, Canada to Queens, New York. This transmission line will bring 1,250 megawatts of hydropower to replace the use of fossil fuels, reducing carbon emissions and helping achieve renewable and clean energy in New York State. This proposed project will provide enough power for more than 1 million homes in New York State. Installation of this transmission line will occur primarily beneath the ground within roadway and railroad right of way. Direct impacts to streams and waterbodies are avoided through means such as attaching to existing infrastructure (bridges and culverts) or incorporating the use of horizontal directional drilling (HDD).

Several archeological reports by Hartgen and TRC examined and detailed the sensitivity and potential of the APE. These resources have been utilized in the creation of the Cultural Resource Management Plan.

The bolded reports include portions of the most current Project (Segment 22) and provide relevant background information.

- Hartgen. 2010a. Pre-Phase IA Archaeological Screening: Champlain Hudson Power Express.
- **Hartgen. 2010b. Phase IA Literature Review and Archeological Sensitivity Assessment: Champlain-Hudson Power Express.**
- Hartgen. 2012. Phase IB Archaeological Field Reconnaissance and Phase II Archaeological Site Evaluation: Champlain Hudson Power Express, Canadian Pacific Railway Segment.
- Hartgen. 2013a. GIS Analysis: Archeological Sites within APE Archeological Sites Intersected by a 50-ft wide Construction Corridor Along the November 2012 CHPE/TDI Centerline.
- Hartgen. 2013b. GIS Analysis NRHP Properties within APE National Register of Historic Place Eligible (NRE) and Listed (NRL) Properties Intersected by a 50-ft wide Construction Corridor along the November 2012 CHPE/TDI Centerline.
- Hartgen. 2013c. GIS Analysis Underwater Resources within APE Underwater Anomalies and Sites within Lake Champlain and the Hudson River Intersected by a 50-ft wide Construction Corridor along the November 2012 CHPE/TDI Centerline.
- TRC. 2020a. Phase IA Archeological Assessment of Champlain-Hudson Alternative Routes, New York.
- **TRC. 2020b. Phase IA Archeological Assessment of Champlain Hudson Astoria Converter Station and Astoria Preferred Alternative Route, Boroughs of Queens, New York.**
- TRC. 2020c. Phase IA Archeological Assessment of Champlain-Hudson Power Express Project, Harlem Rail Yard Preferred Alternative, Boroughs of Queens, New York.
- TRC. 2021. Phase IA Archaeological Assessment of the Champlain-Hudson New Scotland Converter Station, New Scotland, Albany County, New York.
- TRC. 2022. Phase IA Archaeological Survey letter for the Stony Point Horizontal Directional Drill (HDD), Stony Point, Rockland County, New York.

2.1 Description of the Project

The area of potential effects (APE) includes portions of the Project that will be directly altered by the proposed undertaking. The overall APE encompasses 339 linear miles; the width of the APE varies. For the overall cable route, the Project is divided into 14 Packages with their associated Environmental Management and Construction Plan (EM&CP) submittals (Table 1).

Table 1. CHPE Packages, routes, and locations.

EM&CP Construction Segment	EM&CP Design Packages	Location Description	Segment Length (miles)	Anticipated EM&CP Filing with DPS	Anticipated Start of Construction
OVERLAND SEGMENTS					
1, 2	1A/1B	Putnam to Dresden/ Dresden to Whitehall	17.6	April 15, 2022	November 2023
3	1C/2	Whitehall to Fort Ann Fort Ann to Kingsbury	20.8	December 2022	May 2023
4, 5	3	Kingsbury to Milton	26.5	January 2023	June 2023
6	4A	Milton to Ballston	10.2	February 2023	July 2023
7	4B	Ballston to Schenectady/Rotterdam	9.6	February 2023	July 2023
8	5A	Rotterdam to Bethlehem	16.99	November 2022	March 2023
9	5B	Selkirk Rail Yard Bypass	5.31	November 2022	May 2023
10	6	Ravena to Catskill	20.9	November 2022	May 2023
11	7A	Catskill to Germantown	8.6	November 2022	May 2023
12	7B	Stony Point to Haverstraw	7.6	December 2022	May 2023
13, 14, 15	8	Queens	2.13	December 2022	June 2023
Laydown Yards EM&CP	3,4B,5B,6	Fort Edward, Bethlehem, Coxsackie	N/A	November 11, 2022	February 2023
22	TBD	Converter Station, Astoria Complex, (Queens)	N/A	March 2023	June 2023
MARINE SEGMENTS					
16	9	Transitional HDD (Stony Point)	N/A	September 29, 2022	January 2023
17	10	Lake Champlain	~96	February 2023	June 2023
18	11	3 Transitional HDDs (Putnam, Catskill, Clarkstown)	N/A	May 2023	August 2023
19	12	Upper Hudson River	~67.5	May 2023	August 2023
20	13	Lower Hudson River	~21.6	February 2023	June 2023
21	14	Harlem River	~6.3	November 2023	May 2024
23	TBD	Astoria Rainey Cable HVAC System, (Queens)	~3.5	April 2023	July 2023

Changes in the APE, including those necessary to avoid known historic and archaeological resources, may be required to accommodate project implementation. Changes to the APE will follow methodology outlined in the CRMP (2021). The CRMP states: *If the corridor is changed or if a construction zone wider than 55 feet (terrestrial) or 50 feet (in-water) is required to build the Project, then the APE will be adjusted accordingly. All additional efforts to identify, assess, and manage cultural resources shall use the same guidance as that stipulated in the CRMP. It shall be the responsibility of the PPO and his/her designee to work with the appropriately trained archaeologist to ensure that survey and assessment of new APE construction areas is completed before construction takes place* (TRC 2021). Changes in the APE and associated survey and reporting will be provided to Signatories of the Programmatic Agreement in conjunction with annual reporting requirements (Section 3.6 Reporting Requirements).

3 Converter Station

The cable route will terminate at a proposed converter station within the former Charles Poletti Power Plant. Most of the former complex has been razed, and according to TRC's (2020a) report, the plant was built on made-land created after 1898.

3.1 Site Evolution

The substation will be sited on a narrow channel that once separated Berrien Island from the mainland in Queens. That channel was filled by 1920 for dockage and wharfage activities. The island once had an overall elevation of nearly 40 feet above sea level. Upon the construction of the Astoria Light & Power Company complex (later the Charles Poletti Power Plant) following World War II, the former island was levelled even with the filled portions of the property. As such, there is little to no archeological potential in the substation location.

The island, formerly about 12 acres in extent, was likely utilized in precontact times and was initially settled in the late 17th century. Captain Thomas Lawrence initially received the patent to the island from the colonial governor in 1665, but he likely never lived on the island or used it. Timothy Wood sems to have been the first full-time farmer of the island, using it as part of his larger estate on the mainland. He eventually sold the island to Cornelius Berrien in 1712, for whom the island has since been known. The Berrien family sold the island and hundreds of adjacent acres to Edward Woolsey in 1853. He sold the island to Consolidated Gas and Astoria Light, Heat, and Power company in 1898 to create the world's largest gas manufacturing plant at the time (Vollo 2010:69).

Despite some contrary second-hand accounts, there is little evidence the island was ever occupied year-round. Maps from the late 18th century through the 20th century did not render any houses or other developments on the island (Figure 1 and Figure 2).

Figure 1. The 1797 map of Newtown, Queens County by William Stewart (NY State Archives Digital Collections). The blue star indicates the approximate location of the converter station.

Figure 2. Survey of Lands Under Water for William, C.F. Theodore, and Albert Steinway, 1871 (NY State Archives Digital Collections). The blue star indicates the approximate location of the converter station.

3.2 Geotechnical Data

Recent geotechnical borings on site reveal a fairly complex geomorphological evolution of the parcel. In all, 18 test bores were drilled through the sediment to the underlying bedrock between 35 and 80 feet below the current ground surface. The generalized stratigraphy includes a thin cover material of gravel, beneath which is "fill" varying between about 9 to 27 feet in thickness. Some test bores found clay underneath the fill in a fairly substantial layer, between 6 and 12 feet thick. One test bore encountered organic silt with sand, roots, and shell fragments beneath the fill about 13.5 feet thick. At and below modern sea level are various sand layers nearly 21 feet in depth. Above the weathered schist bedrock is clay and silt with some interspersed gravel deposits. Even in the northeast portion of the site, presumed to be closest to the former Berrien Island, fill was encountered between 10 and 12 feet in depth (GZA GeoEnvironmental of New York 2022).

3.3 Converter Station Components

The Station will include an AC yard enclosed by a retaining wall. Inside the yard will be six different structures with foundations, as well as a relay enclosure and AC filter area. To the east of the yard will be an additional storage enclosure and a drainage basin excavated to 9 feet in elevation. To the south of the yard, the converter building will be constructed with various transformer areas, a diesel generating station, service building, HVAC room, and various other appurtenances (Figure 3). The converter station foundation will utilize driven H-piles on a shallow pad foundation.

Final finished elevation is targeted at 15 feet for most of these components. Like the AC yard, the converter station area will require three retaining walls around its perimeter. In all, between four to six feet of additional fill will be necessary to achieve the overall proposed grade. The whole of the area will also include several surrounding access roads (Figure 4).

The site will be cleared, and existing structures demolished. The existing grade will be flattened to an elevation that will meet the existing perimeter of the site. There is expected to be some level of soil contamination which will require sediment removal and remediation of the contaminated material.

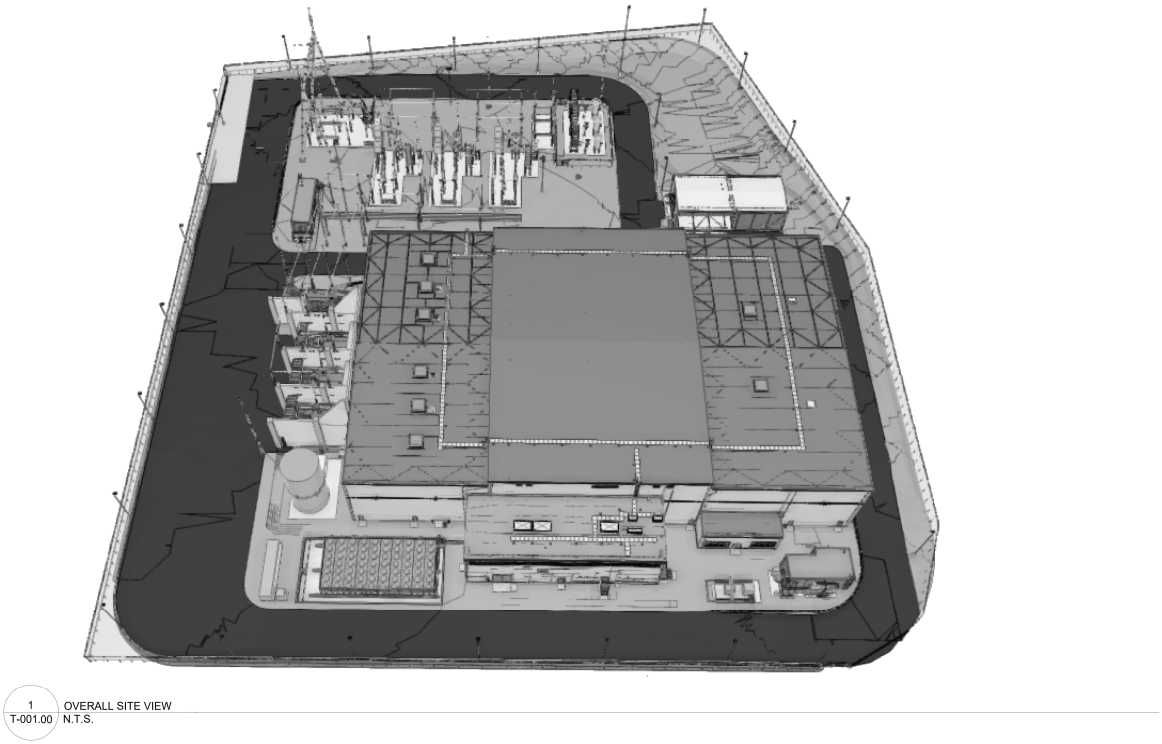

Figure 3. Isometric illustration of the proposed converter station.

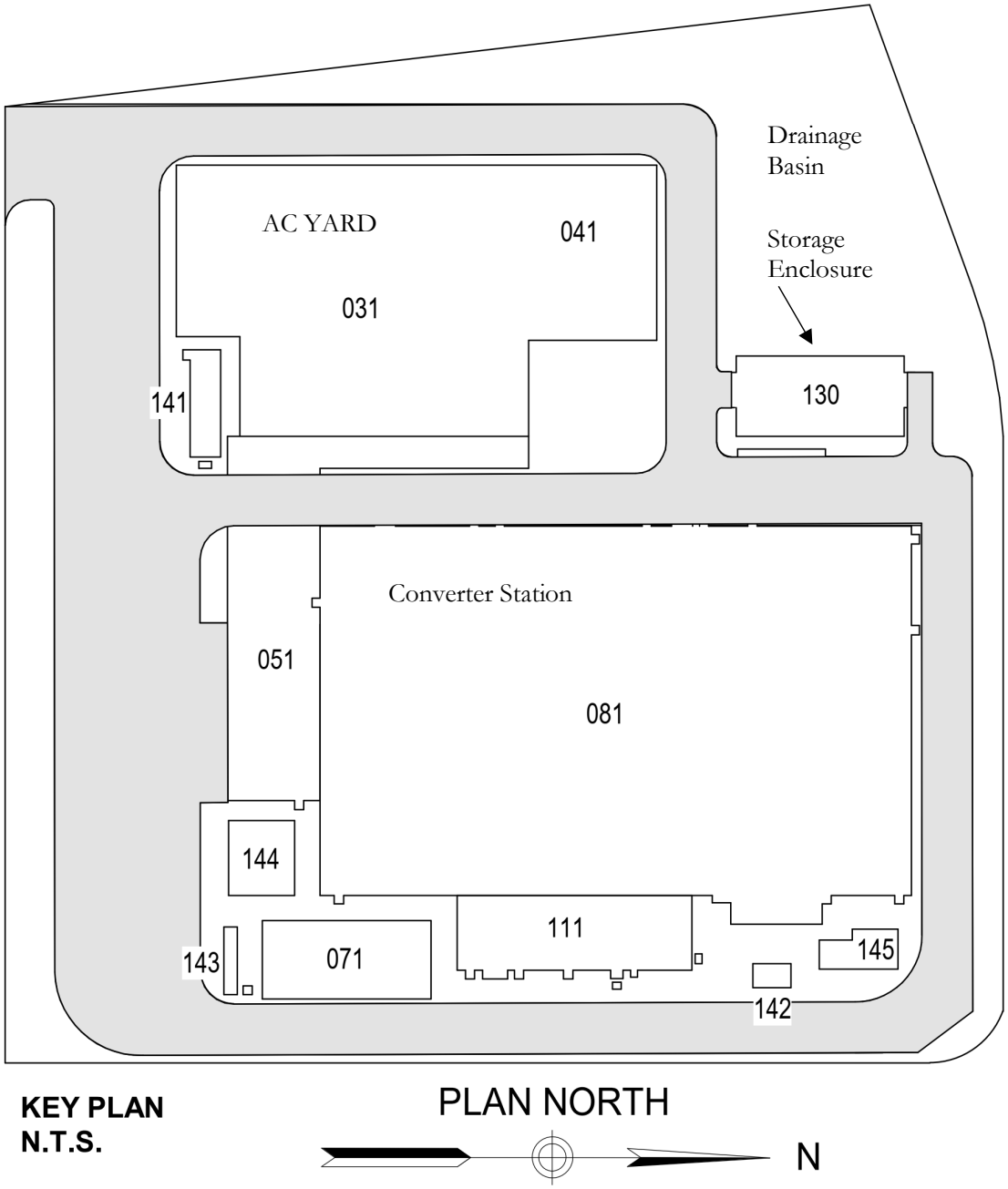

Figure 4. Plan of the proposed HVDC Converter Station.

3.4 Archeological Sites within the Converter Station Parcel

There is one archeological site in the vicinity of the proposed converter station: NYSM Site 4539 (Table 2). The site is described as precontact shell heaps or kitchen midden. Its NR status is undetermined.

Table 2. Archeological Resources within the Proposed Converter Station Parcel.

Resource	Description	Status	Impact
NYSM Site 4539	Precontact shell heaps or kitchen midden.	Undetermined.	None anticipated.

3.5 Construction Timeline

The construction timeline is November 2022 to December 2025 for the entire project.

4 Cultural Resource Management Plan

4.1 Objective

It is the objective of this CRMP to demonstrate a comprehensive plan for the encounter of cultural resources during the construction and installation of the transmission line, as well as the various other components affiliated with the line.

TRC created a CRMP for the permitting process, with an overall permitting CRMP created in 2015, and subsequent revisions and addenda in 2021. The plan provides guidance for those monitoring activities not indicated in the CRMP (2021) which specifically addressed previously identified sites within or along the permitted route, and also dealt with unanticipated discoveries when an archeologist is not present.

No areas of monitoring have been previously identified in the current segment of the Project. This current report serves as the Supplemental CRMP for the now planned construction activities, tasked with synthesizing the previously reported data into one document and identifying roles and points of contact for communication ease.

4.2 Heritage Areas, Special Events, and Other Resources

As part of the Section 106 process, the federal agency solicited comment and feedback from Tribal Nations that have expressed an interest in the regions in which the Project is to be constructed. As part of that endeavor, no traditional cultural properties were identified within or immediately adjacent to the Project. No other heritage areas or special events have been identified within this segment of the Project. The Certificate Holder, and its assignees, continues to solicit information from the public and other stakeholders to identify such areas, should they exist. No heritage areas, special events or other resources have been identified for this package by other stakeholders.

4.3 Project Preservation Officer (PPO)

Hartgen will act as the Consulting Archeologist (CA) for the purpose of this effort. The CA will work closely with the Project Preservation Officer (PPO); the PPO or their designee will be present for all ground disturbing activities, and will have "stop-work" authority. The PPO will be part of the prime construction management team, Kiewit Corporation, currently Ashley L. Bushey.

It is the responsibility of the CA to train this individual as a PPO and to provide a hands-on workshop for construction personnel, as designated by the PPO. The PPO and the construction team should have an understanding of cultural resources present in different areas, as well as understanding the potential for unknown cultural deposits. It is the responsibility of the PPO to implement the CRMP and ensure that requirements and conditions of the CRMP are met. Table 3 includes the necessary contact information.

The PPO will have the authority to cease excavation or construction work. In the event of encountering cultural materials or human remains, it is the responsibility of the PPO or their designee to halt construction activities and contact and coordinate with the CA to visit the location of the discoveries as quickly as possible. Unanticipated discoveries, such as human remains, will follow the protocols that were developed by OPRHP

in 2021 in consultation and coordination with the state's Tribal entities. These protocols supersede previous iterations presented in the BMP, original CRMP, and other related documents and plans (Appendix 2).

In the event of these discoveries, the CA will have up to three workdays to document and recover cultural material from the APE before the construction continues. The CA, in consultation with the PPO and the NYSHPO, may request additional archeological field assistance to complete the necessary work in a timely manner. It is the responsibility of the PPO to work with the appropriately trained archeologists to ensure that the survey and assessment of any change in the APE is completed prior to construction taking place.

4.4 Identification of Historic Properties

Changes in the APE or modifications to work proposed within the APE will prompt review of the subject location(s) for historic properties. The review will include archeological survey as specified in the CRMP (2021) in addition to completion of a files search that will include previous survey data through New York CRIS, and which may be supplemented with local assessor records, historic topographic maps, historic aerial images, Sanborn Fire Insurance and other historic maps, and other resources as available.

Properties are typically considered to hold historic potential when they meet or exceed 50 years of age. The Project may elect to consider the historic potential of properties approaching this age threshold to accommodate anticipated construction horizons. The Project will complete a survey evaluation for properties that meet or exceed the age threshold for historic potential, have no existing determination of NRHP eligibility or a determination ten or more years old, and may be affected by project activities. The evaluation will be completed by a cultural resource specialist who meets or exceeds the Secretary of the Interior's Professional Qualification Standards (SOI Standards) in a discipline appropriate for the subject site; archeological sites will be evaluated by professionals who meet or exceed the SOI Standards in the area of archeology; architectural and landscape sites will be evaluated by professionals who meet or exceed the SOI Standards in the area of Architectural History. Survey evaluations will be subject to quality assurance review by a professional other than the author(s) who meets or exceeds applicable SOI Standards. Survey information will be input into the New York CRIS system prior to submission of annual reports on January 10 of each calendar year this agreement is in effect.

4.5 Barriers and Other Protective Measures

No additional protective measure with respect to cultural resources have been identified or requested by stakeholders for Segment 22 of the Project. If portions of the Project are altered, additional assessment, which may include desktop review, pedestrian survey, and/or archeological shovel tests, will be required to determine the presence or absence of cultural resources. Should cultural resources be identified, the Certificate Holder will avoid these resources if possible. Protective measures may include installation of temporary fencing and/or site delineation on Facility maps. Should an archeological site be impacted by Project activities, mitigation will include notification procedures and data recovery as stipulated in the Section 4.0 of the CRMP (2021), and/or other treatment measures determined through consultation with NYSHPO, Tribal Nations, and consulting parties.

4.6 Reporting Requirements

The CRMP (2021) establishes a requirement for annual reporting concerning activities conducted under the CRMP: *The PPO will prepare an annual report to the DOE and NYSHPO (and any of the other signatory or consulting parties listed in the Programmatic Agreement), which summarizes activities conducted under this CRMP on an annual basis for as long as this CRMP is in effect (i.e., through post-construction monitoring). The report will be completed and submitted on or before January 10 of each year. The CRMP may be updated and/or revised as appropriate to improve its implementation so long as concurrence is reached by the parties involved is achieved. The annual report will include a summary of all historic properties and archaeological resources that may have been encountered during construction and how they were treated. Post-construction reports will identify which cultural resources were monitored and provide a summary of resource conditions and whether looting or other forms of ground disturbance were noted* (TRC 2021).

The PPO will establish and maintain:

- A system of tracking archeological monitoring reports;
- Application of Program Comments, Exemptions, or Program Alternatives;
- Application of Programmatic Allowances;
- Implementation of Treatment Measures;
- Potential changes to APE;
- Annual report that summarizes the above items stipulated by the CRMP (2021).

4.7 Programmatic Allowances

Activities considered Programmatic Allowances are not exempt from archeological monitoring and remain subject to unanticipated discovery protocols, including stop-work provisions, as contained in the CRMP (2021).

Programmatic Allowances include actions where historic properties will not be affected or effects to historic properties hold limited potential to diminish historic integrity. Where Programmatic Allowance(s) are applicable, the action will not require independent consultation with the State Historic Preservation Office (SHPO).

Application of Programmatic Allowances requires review by Project Preservation Officer (PPO). The PPO must complete:

- Memorandum to file containing a verbal description of work proposed, and a verbal description and map of the geographic area of the proposed work;
- Summary of file search and/or literature review conducted to identify potential historic properties,
- Description of historic properties affected (if any);
- Justification for the application of one or more Programmatic Allowances.

The Project will maintain a tracking system of memoranda applying Programmatic Allowances, which will be communicated to NYSHPO and the Programmatic Agreement signatories in an annual report.

In addition to the Programmatic Allowances contained in this document, the Project may include application of relevant Section 106 Program Comments and program alternatives including but not limited to:

- Program Comment for Actions Affecting Post-1945 Concrete and Steel Bridges *(Federal Register, Vol. 77, No. 222, November 16, 2012*)

  https://www.achp.gov/sites/default/files/program_comments/2017-01/program%20comment%20concrete%20and%20steel%20bridges.pdf
- Program Comment to Exempt Consideration of Effects to Rail Properties within Rail Rights-of-Way *(Federal Register Vol. 84, No. 125, June 28, 2019)*

  https://www.govinfo.gov/content/pkg/FR-2019-06-28/pdf/2019-13779.pdf
- Advisory Council on Historic Preservation (ACHP) Exemption Regarding Historic Preservation Review Process for Effect to the Interstate Highway System *(Federal Register Vol 70, No. 46, March 10, 2005)*

  https://www.achp.gov/sites/default/files/exemptions/2017-01/final_interstate_exemption_notice.pdf

4.7.1 Transportation Facilities

A. Resurfacing existing roadways and/or replacement in-kind of highway signals, signage, or appurtenances when approved by the owner of the transportation facility.

B. Replacement in-kind of railroad signals, crossing materials, and other railroad features or appurtenances when approved by the owner of the transportation facility.

C. Installation of utility attachments on bridges in areas with existing utility attachments.

4.7.2 Ground Disturbing Activities

A. Ground disturbing activities within areas of documented previous disturbance.

B. Ground disturbing activities within non-historic and non-contributing properties or features when no vertical improvements are proposed. Vertical improvements may consist of, but are not limited to, buildings, structures, and other form of infrastructure with height above ground and constructed by the project.

C. Ground disturbing activities within historic and contributing properties when action is discrete (including but not limited to edges of agricultural fields, wooded areas, lawns, or curbs), where no contributing or potentially contributing buildings, structures, objects, sites, or features are present (including but not limited to slate sidewalks, hitching posts, carriage steps, mature trees, fences, retaining walls, and other landscaping dating to the historic period of 50 years or more in age).

4.7.3 Temporary Staging and Temporary Facilities

A. Temporary staging or stockpiling within existing parking areas.

B. Temporary staging or stockpiling within transportation rights of way.

C. Temporary staging or stockpiling within areas with documented previous ground disturbance when the ground is returned to pre-construction appearance, including contours and vegetation.

D. Installation of temporary construction support facilities when the ground is returned to pre-construction appearance, including contours and vegetation.

E. Location of temporary construction trailers not requiring a foundation or pad.

4.7.4 Utilities, Lighting, and Maintenance Facilities

A. Installation of underground utilities using directional bore drilling or similar method.

B. Replacement, repair, and/or maintenance of existing underground utilities in-kind when work occurs within the existing utility footprint.

C. Installation, replacement, or upgrade to lighting within transportation rights of way and/or at Project locations requiring routine maintenance.

D. Establishing maintenance facilities within Project easements or right of way no more than 10-feet high with a footprint no more than 120 square feet when facility is not located within a State Register of Historic Places (SRHP) or National Register of Historic Places (NRHP) historic district.

4.7.5 Pre-Construction Due Diligence and Testing

A. Conducting geotechnical testing, hazardous materials sampling, seismic or vibration testing or monitoring, or drill samples.

B. Wetland testing and delineation.

C. Wildlife surveys and inventories.

D. Property line and ownership verification surveys.

E. Utility location surveys.

4.7.6 Hazard and Hazardous Waste Removal

A. Removal of debris related to weather or storm damage, or present as a result of modern dumping.
B. Hazardous waste removal.

4.7.7 Environmentally Sensitive Area (ESA) Protection and Mitigation

A. Installation of temporary fencing to protect areas of cultural, biological, or other environmentally sensitive area from the effects of construction.
B. Obtaining credits in/from and existing wetland mitigation bank.
C. Vegetation or landscaping to support habitat mitigation when the subject action affects less than one-half acre and does not occur within an archeologically sensitive area, as defined by the Supplemental CRMP.

4.7.8 Drainage Improvements

A. Erosion control measures including placement of best management practices, rip rap within non-historic channels, and emergency erosion control measures.
B. Re-grading or re-establishing existing drainage channels.
C. Temporary drainage systems including culvert placement and grading, provided the area is returned to pre-construction appearance.
D. Replacement or up-sizing corrugated metal pipe (CMP), concrete box culvert (CBC), reinforced concrete pipe (RCP), and plastic pipe culverts where no architectural headwalls or wingwalls are present or where these features, if present, will remain in place.

4.7.9 Signage and Surveillance

A. Installation, maintenance, repair, or removal of security systems.
B. Installation of signage not located within a NRHP district.
C. Replacement of existing signs; including within a NRHP district when replacement is in-kind and at the same location as the sign to be replaced.
D. Maintenance, repair, or removal of signage.
E. Installation of less than 100 linear feet of security fence within Project easements or right of way when not located within a SRHP or NRHP historic district.

4.7.10 Easements and Right of Way

A. Acquisition of easements or right of way from non-historic properties and when not located within a State Register of Historic Places (SRHP) or National Register of Historic Places (NRHP) historic district.
B. Acquisition of easements or right of way for subterranean activities when no surface rights or access is conferred.

4.8 Treatment Measures

When Project actions do not qualify as Programmatic Allowances, the Project will complete an evaluation of the potential for actions to diminish the historic integrity of historic or archeological resources, as defined in 36 CFR Part 800.5(a)(1). The Project may reference applicable National Register Bulletins, published by the National Park Service, to support the evaluation. Project actions found to diminish integrity as defined in 36 CFR Part 800.5(a)(1) will require Treatment Measures. The Project will complete a memorandum documenting eligibility of the resource(s), application of the criteria of adverse effect, avoidance measures considered, efforts to minimize the effect, coordination with property owner(s) or local government(s) in selection of Treatment

Measures if applicable, and rationale for application of the selected Treatment Measure, if applicable. A separate Memorandum of Agreement (MOA) will not be required when one or more of the following Treatment Measures are selected. If the Project action is determined not to diminish integrity, further action will not be required.

The Project will maintain a tracking system of memoranda and Treatment Measures, which will be communicated to NYSHPO and the Programmatic Agreement signatories in the annual report.

This section will not apply to designated National Historic Landmark properties, as consultation with the Department of the Interior is required (36 CFR Part 800.10), generally conducted via consultation with the National Park Service.

4.8.1 Data Recovery

Data recovery and reporting is the preferred mitigation for archeological sites. Implementation of this Treatment Measure will follow protocol contained in CRMP (2021) Section 4.0 Project Effects and Management Measures. Additional details concerning data recovery for resources identified during archeological monitoring, or that are unanticipated discoveries, are outlined below.

4.8.2 Certified Local Government or Historic Preservation Board/Commission Priority Project Sponsorship

The Project crosses through several Certified Local Government (CLGs) jurisdictions. CLG programs are divisions of municipal or county governments which create and implement local-level historic preservation planning and programming. Many CLGs maintain a formal historic preservation plan containing goals and priority projects for preservation activities within their jurisdiction. Whether or not a CLG maintains a formal historic preservation plan, all are required to maintain a system of identification and documentation of historic properties, sometimes referred to as historic survey. Communities may also maintain a Historic Preservation Board, Commission, or similar entity and choose not to become a CLG. Each program will formally or informally document preservation priorities within their jurisdictions, often identifying lack of funding as a significant barrier to implementation.

Site-specific mitigation often has limited value to advance historic preservation in a community. To create broader impact to the historic properties and the communities they serve, the Project may coordinate with CLGs or Historic Preservation Boards/Commissions to sponsor one or more of the priority projects identified within that entity's jurisdiction and not necessarily within the Project APE.

Example projects include, but are not limited to, historic surveys, State or National Register Nominations, historic context documentation, completion (or update) of a strategic preservation plan, completion of a strategic historic survey plan, archaeological or architectural history field schools, historic preservation technical trainings or workshops, workshops related to historic preservation tax credits, and more.

New York CLGs are listed on the NYSHPO website at: https://parks.ny.gov/shpo/certified-local-governments/listing.aspx

4.8.3 Digital Photography Package

Prior to implementation of the work necessitating implementation of Treatment Measures, a digital photography package will be prepared by an individual meeting the Secretary of the Interior's Professional Qualification Standards. The photography package will include images demonstrating the property in its setting and context, images showing each exterior building elevation, images showing the spatial relationships of building(s) and features of the site, and appropriate detail images. A map showing photograph locations and view direction will be included. A photography log will be included containing photograph numbers, cardinal direction viewpoint, historic resource name and number (if applicable), street address (if applicable), city or

town, county, state, and image description. The digital photography package will follow the National Park Service photography standards for the National Register of Historic Places:

https://www.nps.gov/subjects/nationalregister/upload/Photo_Policy_update_2013_05_15_508.pdf

Copies of the photography package on archival CD will be provided to NYSHPO, local Historic Preservation Boards or Commissions, and/or interested local or state repositories. One set of archivally produced, archivally labelled photographs will be provided to the NYSHPO.

4.8.4 National Park Service Heritage Documentation (HABS/HAER/HALS)

Prior to implementation of the work necessitating implementation of Treatment Measures, the property subject to the work will be documented to National Park Service standards using the appropriate heritage documentation form: Historic American Building Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscape Survey (HALS). Work will be completed by a Cultural Resource Specialist who meets or exceeds the Secretary of the Interior's Professional Qualification Standards. The appropriate level of documentation (Level I, Level II, Level III) will be selected based on the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation, as published in the Federal Register July 21, 2003: https://www.National Park Service.gov/hdp/standards/standards_regs.pdf

The Project will follow HABS/HAER/HALS Standards & Guidelines published by National Park Service Heritage Documentation Programs. The Project will coordinate with the National Park Service Northeast Region to obtain an applicable HABS/HAER/HALS. The Project will complete comment resolution with the National Park Service Northeast Region and submit final documentation for transmittal to the Library of Congress.

4.8.5 Public Interpretation

Public interpretation will be designed and produced, which may include print or digital media, on-site or off-site signage, workshops or technical trainings, or other means of engaging and educating interested public regarding historic properties. If the public interpretation involves physical signage, installation will require agreements from the landowner accepting the sign(s) including responsibility for maintenance.

Completion of public interpretation as a Treatment Measure will be executed independent of the commitment to provide $5,000 in educational investment included in the CRMP (2021).

4.9 Property Owner Requests

The Project may accommodate property owner requests, including privately and publicly held properties, that may exceed Project needs or requirements. If a property owner request accommodated by the Project escalates permitting, consultation, or Treatment Measure requirements, the subject property owner will assume responsibility for associated costs.

5 Archeological Monitoring Methodology

5.1 Objective

The objective of the archeological monitoring is to identify and document archeological deposits that may be encountered in areas that were previously inaccessible for archeological survey or not considered during the initial resource assessment, specifically in those areas outside of the originally permitted route. The monitoring methodology is established to create an efficient and streamlined notification process and means to determine the potential eligibility of resources for inclusion on the National Register, and for the creation and adoption of timely and effective mitigation strategies.

5.2 Monitoring

The Consulting Archeologist will observe the contractor's excavations within designated areas as indicated by station numbers in the Supplement CRMPs. No such areas have been identified in the current segment. On the basis of such observations, the Consulting Archeologist may request a short-term cessation of work in the vicinity of a potential archeological site or find in order to record information or to evaluate exposed archeological deposits. The Consulting Archeologist may request the on-site supervisor for time to evaluate significant finds, deposits, or other archeological materials in an effort to assess their eligibility for the National Register.

The Consulting Archeologist may direct the Contractor's workers in the use of machinery on a very limited basis to assist in the exposure of material of archeological importance. This assistance will comprise work which would otherwise be done without archeological involvement, but where archeological direction can ensure that significant material is not disturbed.

The Consulting Archeologist will inspect excavation areas, soil profiles, backdirt piles, and will collect artifact and soil samples as appropriate. The Consulting Archeologist will map and document archeological deposits using field notes, photography, and measured scale drawings. The locations of archeological deposits will be mapped with a submeter GPS unit.

Archeological monitoring and associated site or find evaluation time will vary depending on the type of site or find encountered. Typical stop-work requests to complete archeological evaluation will be accommodated within one hour or less, often within fifteen minutes. Stop-work will be limited to an area within 50 feet of the potential archeological find; work may continue outside the area of the potential archeological find provided work occurs in an area not subject to archeological monitoring or an additional archeologist(s) is available to observe the work.

5.3 Notification

For archeological finds that may be National Register-eligible but cannot be adequately recorded during a short cessation of work (typically one hour or less per find) and cannot be otherwise avoided, the Consulting Archeologist will notify the on-site Supervisor and request a halt to construction activities near the find. The Consulting Archeologist shall notify the Project Preservation Officer (PPO), who shall in turn notify the NYSHPO, other stakeholders and Tribal Nations, as appropriate within 24 hours of the initial reporting of the finds, per the Certificate Conditions 110 and 111. During this time, work in the immediate vicinity of the find must halt and the area of concern fenced or otherwise protected from construction activities. Once the area is secured, activity adjacent to the find may continue during the consultation process. Per 36 CFR Part 800.13(b)(3), NYSHPO, other stakeholders and Tribal Nations will have 48 hours from the time of notification to respond.

5.4 Determination of Eligibility

The NYSHPO will make a determination of eligibility for the archeological resource based on the information provided by the Consulting Archeologist and PPO. The NYSHPO shall receive this information from electronic communications and respond within 48 hours, per 36 CFR Part 800.13(b)(3).

5.5 Determination of Effects, Mitigation Efforts and Dispute Resolution

It is expected that potential archeological finds will be located within a relatively narrow construction corridor with limited means for avoidance. When a site is determined eligible for inclusion on the National Register, avoidance is not possible, and continued construction requires disturbance of the site, the resulting Section 106 determination of effect will be Adverse Effect. Determinations of Adverse Effect require mitigation treatment to resolve; a separate Memorandum of Agreement will not be required when mitigation treatments contained within this document, or a Supplemental CRMP associated with the area of the subject archeological site, are selected. Dispute resolution among the parties will be guided by the 2021 CRMP.

5.5.1 Data Recovery Mitigation Strategy

Data recovery mitigation strategy will be outlined in a brief plan that provides guidance on the level of effort expected, square meters of excavation, sampling percentage, and number of anticipated feature excavations. The strategy will provide a schedule for the proposed recovery/documentation efforts, including options to expedite the process, which may include 10-hour working days and additional crew. The mitigation plan shall also include a protocol for artifact collection, processing, cataloging, analyses, and final curation of materials, as outlined in the CRMP (2021), Section 4.3. The data recovery plan will be provided to NYSHPO, Tribes, and other stakeholders prior to implementation; these parties will have up to 15 days to review and provide comment. Mitigation efforts can move forward as soon as NYSHPO approves the work plan. The PPO will notify the NYSHPO, Tribes, and other stakeholders of the completion of the fieldwork and that portion of the project shall be cleared to resume construction.

5.5.2 Alternative Archeological Mitigation

Alternative archeological mitigation efforts that contemplate non-traditional excavation and/or data recovery methods may be appropriate considering the circumstances. Numerous treatment methods may be selected including, but not limited to, off-site archeology, non-invasive archeology in the vicinity, and other appropriate strategies. Factors that may influence such decisions include the Project's constraints (in terms of construction corridor width and depth), weather and soil conditions, hazardous work environments, other health and safety concerns, and Project schedule.

6 Deliverables

6.1 Periodic Updates

The PPO in coordination and under the guidance of the CA will provide periodic (bimonthly) updates on the progress of cable installation via email to the stakeholders. The communication will include project progress, discussion of unanticipated cultural resources, and the schedule for future work.

6.2 Annual Report

The CA will provide an annual report detailing the activities completed under the CRMP (2021) and the supplemental CRMPs to the DOE and NYSHPO for as long as the CRMP (2021) is in effect. This report will be completed and submitted on or before January 10th each year. This report will include a summary of all historic properties and archeological resources that may have been encountered during construction and how they were treated. Post construction reports will identify which cultural resources were monitored and provide a summary of resource conditions and whether forms of disturbance were noted.

7 Communications

Through the many moving parts of this Project, efficient and immediate contact and consultation will be vital. The Project contacts are listed in the table below:

Table 3. Project Contacts.

Agency/Organization	Role	Contact person	Contact information
Kiewit Corporation	Project Preservation Officer	Ashley L. Bushey	Ashley.Bushey@Kiewit.com 802.349.6388
CHA Consulting, Inc.	Consulting Engineer	Chris Einstein	ceinstein@chacompanies.com 518.453.4505
U.S. Department of Energy	Stakeholder	Melissa Pauley	melissa.pauley@hq.doe.gov
U.S. Army Corps of Engineers	Stakeholder	Stephan Ryba	Stephan.a.ryba@usace.army.mil

Agency/Organization	Role	Contact person	Contact information
New York State Historic Preservation Office (NYSHPO)	Stakeholder	Nancy Herter	Nancy.herter@parks.ny.gov 518.268-2179
New York DPS	Stakeholder	Matthew Smith	matthew.smith@dps.ny.gov
Hartgen Archeological Associates	Consulting Archeologist	Matthew Kirk	mkirk@hargen.com 518.283.0534 518.300.5940
Transmission Developers Inc.	Applicants/Owner	Ayokunle "Kunle" Kafi, PE, CEM	Ayokunle.kafi@transmissiondevelopers.com 347.920.6550
Delaware Nation	Tribal Nation	Carissa Speck	(405) 247-2448, Ext. 1403 cspeck@delawarenation-nsn.go v
Delaware Tribe of Indians	Tribal Nation	Susan Bachor	610.761.7452 sbachor@delawaretribe.or g
Shinnecock Nation	Tribal Nation	Jeremy Dennis	631.283.6143 adminoffice@shinnecock.org jeremynative@gmail.com
St. Regis Mohawk Tribe	Tribal Nation	Darren Bonaparte	518.358.2272, ext. 2163 darren.bonaparte@srmt-nsn.go v
Stockbridge-Munsee Community	Tribal Nation	Jeff Bendremer	413.884.6029 thpo@mohican-nsn.gov
National Park Service	Stakeholder	William Griswold	978.970.5146 william_griswold@nps.go v
Advisory Council on Historic Preservation	Stakeholder	Stephanie Stevens	202.354.2102 stephanie_stephens@nps.gov

8 Summary of Archeological Recommendations

In accordance with previous assessment of the proposed Project it appears the majority of the converter station is to be placed in areas of made-land and relatively recent disturbances from a variety of sources (TRC 2020a, b). The very northeast portion of the parcel may have been part of Berrien Island but was later graded and disturbed for the construction of the Poletti power plant. NYSM Site 4539 is mapped within the converter station location. The site is likely mis-mapped as this area consists of made land created after about 1898, but the boundaries may have intended to include Berrien Island, but this speculative.

The Project will include the placement of an additional 4 to 6 feet of fill to achieve a final finished elevation of 15 feet, and that fill extends between 9 and 27 feet in depth. Project activities will not extend to a depth that might include natural or non-fill deposits. As such, no additional archeology or protective measures are recommended (Table 4).

Table 4. Archeological Resources and Recommendations at the Astoria HVDC Convertor Station.

Resource	Description	Status	Impact
NYSM Site 4539	Precontact shell heaps or kitchen midden.	Undetermined.	No additional archeology or protective measures are recommended.

9 Bibliography

GZA GeoEnvironmental of New York

2022 Champlain Hudson Power Express Astoria Converter Station Preliminary Geotechnical Engineering Report, Astoria Generating Station18-01 20th Avenue Astoria, New York, On file with Kiewit Engineering Group, Inc.

New York Archaeological Council (NYAC)

1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State*. NYAC, n.p.

TRC

2020a Phase IA Archaeological Assessment of the Champlain-Hudson Astoria Converter Station and Astoria Preferred Alternative Route, Borough of Queens, New York. Project Review: 09PR03910., On file at OPRHP, Peebles Island, New York.

2020b Phase IA Archaeological Assessment of the Champlain-Hudson Power Express Project, Harlem Rail Yard Preferred Alternative, Borough of Queens, New York. Project Review: 09PR03910., On file at OPRHP, Peebles Island, New York.

Vollo, Gary

2010 *Long Island City: Then & Now*. Greater Astoria Historical Society. Arcadia Publishing, Charleston, South Carolina.

Appendix 1: Champlain Hudson Power Express Cultural Resources Management Plan (TRC 2021)

THIS DOCUMENT IS CONSIDERED PRIVILEGED AND CONFIDENTIAL AND NOT INCLUDED

Appendix 2: SHPO Human Remains Protocol 2021

State Historic Preservation Office/
New York State Office of Parks, Recreation and Historic Preservation
Human Remains Discovery Protocol
(January 2021)

If human remains are encountered during construction or archaeological investigations, the New York State Historic Preservation Office (SHPO) recommends that the following protocol is implemented.

- Human remains shall be treated with dignity and respect. Should human remains or suspected human remains be encountered, work in the general area of the discovery shall stop immediately and the location shall be secured and protected from damage and disturbance.

- If skeletal remains are identified and the archaeologist is not able to conclusively determine if they are human, the remains and any associated materials shall be left in place. A qualified forensic anthropologist, bioarchaeologist or physical anthropologist shall assess the remains in situ to help determine if they are human.

- If the remains are determined to be human, law enforcement, the SHPO, the appropriate Indian Nations, and the involved state and federal agencies shall be notified immediately. If law enforcement determines that the burial site is not a criminal matter, no skeletal remains or associated materials shall be removed until appropriate consultation takes place.

- If human remains are determined to be Native American, they shall be left in place and protected from further disturbance until a plan for their avoidance or removal is developed. Please note that avoidance is the preferred option of the SHPO and the Indian Nations. The involved agency shall consult SHPO and the appropriate Indian Nations to develop a plan of action. Photographs of Native American human remains and associated materials should not be taken without consulting with the involved Indian Nations.

- If human remains are determined to be non-Native American, the remains shall be left in place and protected from further disturbance until a plan for their avoidance or removal is developed. Please note that avoidance is the preferred option of the SHPO. The involved agency shall consult SHPO and other appropriate parties to develop a plan of action.

- The SHPO recommends that burial information is not released to the public to protect burial sites from possible looting.