A. INTRODUCTION

This attachment summarizes the Visual Resource Assessment, which evaluates the Proposed Action's potential for visual impacts on the surrounding area, including local scenic or visual resources and locally significant open space located within a one-half-mile of the Proposed Action (Study Area).

Since the underground distribution exit feeders associated with the Proposed Action do not have the potential for visual impacts, these components were excluded from the Visual Resources Assessment. C&R work will include pole replacements and installations that will be no more than 10 feet taller than existing poles in the area, will be installed in-line with existing poles, and will be completed in areas where overhead electrical infrastructure exists. Therefore, the C&R work will not result in significant adverse visual impacts and was excluded from the Visual Resources Assessment. Although the determination of visual impact was limited to the equipment of the proposed Substation expansion, the existing substation equipment was factored into the GIS-based analysis and photo-simulations.

B. METHODOLOGY

To determine visual impacts of the Proposed Action on resources within the Study Area, photographs were taken from four predetermined viewing locations, based on GIS-analysis, that illustrate existing conditions, prior to construction of the Proposed Action (See Figure D-1 – Viewshed Analysis Map). The analysis, which used publicly available USGS 2014 LiDAR information, analyzed the visibility of a hypothetical 95-foot tall structure within the Substation Site, which is the same height as the existing poles currently within the Substation, and slightly shorter than the 115-foot steel transmission tower located adjacent to the Substation. The largest structures proposed for installation are the temporary 70-foot transmission by-pass poles (that will be approximately 56.5 feet to 61 feet in height and will be removed at the completion of construction) and the 40-foot lightning masts. By demonstrating whether a 95-foot structure located at the Substation would not be visible at certain locations, it could be determined that smaller structures would also not be visible. The analysis then identified cultural resource properties, medical facilities, religious institutions, and single-family residential properties, within a half-mile radius of the Substation that would have some visibility of the 95-foot on-site structures, and possibly visibility of the smaller structures to be installed.

The selection of the viewing locations and visual impact analysis are were also based on guidance contained within the New York State Department of Environmental Conservation (NYSDEC) Visual Impact Assessment Methodology, "Assessing and Mitigating Visual Impacts," (DEP-00-2). Visibility of the Proposed Action was confirmed by a field visit that was completed on November 30, 2017, when trees were defoliated to provide a more accurate assessment. During the site visit, photographs were collected at the four selected publicly accessible viewing locations. Figure D-1 depicts the location and direction of the four selected viewing locations. Computer-generated photo simulations of the Substation (see Figure D-2) were then prepared using 3D-modeling software to model existing conditions, and proposed conditions after construction at each of the four viewing locations.

NYSDEC GUIDANCE

NYSDEC developed a methodology for assessing and mitigating visual impacts (DEP-00-2). While this policy was developed for NYSDEC's review of actions, the methodology and impact assessment criteria established by the policy are comprehensive and can be used by other State and local agencies to assess potential impacts.

According to DEP-00-2, a "visual impact" occurs when "the mitigating[1] effects of perspective" do not reduce the visibility of an object to insignificant levels. While beauty does not play a role in whether there is a "visual impact," it does play a role as to whether there is an "aesthetic impact":

> *Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a project proposal, should not be a threshold for decision-making. Instead, a project, by virtue of its visibility, must clearly interfere with or reduce the public's enjoyment and/or appreciation of the appearance of an inventoried resource. (DEP-00-2, p. 9)*

The "mitigating effects of perspective" are important to understand in the assessment of visual impact. While objects such as a substation equipment may be visible over a long distance, "atmospheric perspective," which DEP-00-2 describes as the "reduction in intensity of colors and the contrast between light and dark as the distance of the objects from the observer increases," and which is a product of the natural particles within the atmosphere that scatter light, serves to minimize the significance of the object in the overall viewshed. A second factor that reduces the potential for impact is the overall character of the surrounding landscape, including existing vegetation, buildings, and topography. The effects of distance and contextual topography typically reduce the visibility of existing or proposed substation equipment to insignificant levels.

Thus, while the elements of the Proposed Action may be visible within a viewshed, mere visibility is not a threshold of significance. The significance of the visibility is dependent on several factors: the perceived beauty, presence of any designated historic or scenic resources within the viewshed of the project; distance; general characteristics of the surrounding landscape; and the extent to which the visibility of the Proposed Action interferes with the public's enjoyment or appreciation of the resource. A significant adverse visual impact will only occur when the effects of design, distance, and intervening topography and vegetation do not minimize the visibility of an object, and the visibility significantly detracts from the public's enjoyment of a resource.

[1] DEP-00-2 uses the term "mitigating" or "mitigation" to refer to design parameters that avoid or reduce potential visibility of a project. This should not be confused with the use of the term "mitigation" with respect to mitigation of significant adverse environmental impacts as required by the State Environmental Quality Review Act (SEQRA).

C. EXISTING CONDITIONS

STUDY AREA

The Study Area for visual resources is within a one-half-mile of the Substation. Although scenic or aesthetic resources within five miles were identified on the Full Environmental Assessment Form, the one-half-mile Study Area was determined to be appropriate as Substation structures and poles are not discernable beyond a distance of one-half mile based on field observations, the viewshed analysis map, narrow profile of the new poles, and the photo simulations. Currently the visibility of the Substation is limited from locations beyond the boundaries of the Substation, given the limited topographic change of the Study Area, the limited vertical profile of the existing equipment, and ubiquitous development in the Study Area.

Views of the existing Substation equipment and equipment within the proposed expansion area will vary throughout the Study Area as a function of topography, vegetation, and built structures.

EXISTING CONDITIONS

LAND USE

Land uses immediately adjacent to the expansion area include the Substation, Powerhouse Road and the Long Island Expressway (LIE) highway corridor to the north, Long Island Rail Road (LIRR) corridor to the east, single-family residential to the south, and National Grid-owned property to the west. LIPA operates an overhead 138kV transmission line that exits the Substation from the north. An existing 115-foot tall steel transmission tower associated with this overhead transmission line is located immediately north of the Substation and within the National Grid property. Currently there are 95-foot tall wood poles within the Substation. A more detailed description of land use is provided in Attachment B: “Land Use.”

TOPOGRAPHY

The topography at the Substation is generally flat and gently slopes approximately one foot down from east to west. The expansion area has slightly greater slopes, with an approximate 5 to 6 foot change in elevation sloping downward from north to south.

The surrounding topography is also relatively flat. The highest elevation within the Study Area is located northwest of the Substation at approximately 180 feet AMSL, which is about 35 feet higher in elevation that the expansion area and Substation. The lowest elevation within the Study Area is located in a residential area south of Northern State Parkway and east of Roslyn Road to the southeast of the Substation, with an elevation of approximately 118 feet AMSL, which is about 27 feet lower than the Substation.

VEGETATION

Vegetation consisting of both evergreen and deciduous trees, and shrubs are located immediately north, east, and south of the Substation, which result in limited to no visibility of the expansion area. At the southern boundary of the expansion area, a mature oak tree that currently provides a visual buffer will be removed; however, 12 to 14-foot evergreen screen trees are proposed to be installed just north of the existing southern property fence, and to the south of the Substation perimeter fence at the completion of construction.

INVENTORY OF RESOURCES

An inventory of sensitive aesthetic and visual resources was prepared following the guidance in NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (DEP-00-2, July 31, 2000). The NYSDEC's Program Policy identifies 15 categories of aesthetic and natural resources of statewide significance, which have been recognized through either national or state designations. An inventory of visual resources designated by the NYSDEC within the Study Area is identified below.

STATE/NATIONAL REGISTER OF HISTORIC PLACES

Four (4) properties were identified as eligible for listing in the State or National Register of Historic Places; and three (3) properties were listed on the State or National Register of Historic Places, as summarized in Table 1 below.

Table 1

State/National Register of Eligible/Listed Sites within One-Half-Mile

NYSOPRHP Unique Site No. (USN)	Site/Property	Date of Eligibility / Listing Determination	Location/Comments
05902.000529	Roslyn LIRR Station	Eligible Date: Not Available	Orchard Street, Roslyn Heights, NY; 0.44 miles north of the Substation
05902.000532	Heights Elementary School	Eligible: 06/19/2015	240 Willow Street, Roslyn Heights, NY; 0.43 miles north of the Substation
05902.000534	Theodore Searing Valentine House	Eligible Date: Not Available	204 Warner Avenue, Roslyn Heights, NY; 0.54 miles north-northwest of the Substation
05910.000007	Willets-Auchincloss House, 1905	Eligible: 09/27/2017	480 Old Westbury Road, Roslyn Heights, NY; 0.30 miles east of Proposed Distribution Exit Feeder A
05910.000008	Mackay Estate Gatelodge	State: 01/18/1991 National: 03/14/1991	Northern corner of Roslyn Road and Harbor Hill Road; 0.40 miles north of proposed Distribution Exit Feeder A
05973.000198	One Railroad Avenue	National: 10/02/1986	1 Railroad Avenue, Roslyn Heights, NY; 0.40 miles northwest of proposed Distribution Exit Feeder A
05902.000530	Roslyn House (Eastman House)	State: 09/07/1990 National: 06/07/1990	69 Roslyn Road, Roslyn Heights, NY; 0.30 mile north of proposed Distribution Exit Feeder A

NEW YORK STATE PARKS

No State Parks as defined by Parks, Recreation and Historic Preservation Law §3.09 were identified within the Study Area.[1]

HERITAGE AREAS

The Long Island North Shore State Heritage Area (LINSHA) is defined as the entire north shore of Long Island, from Great Neck to Orient Point, with its southern boundary generally following the Long Island Expressway. In 2006, the New York Office of Parks, Recreation, and Historic Preservation (OPRHP) received and approved the LINSHA Management Plan. The Study Area is not located within the LINSHA.

NEW YORK STATE FOREST PRESERVE

All lands within the State Forest Preserve (New York State Constitution Article XIV) are located within the boundaries of the Adirondack and Catskill Parks in northern New York State. Thus, the Study Area is not located within State Forest Preserve lands. [2]

NATIONAL WILDLIFE REFUGES

No National Wildlife Refuges (NWR) are located within the Study Area.[3]

STATE GAME REFUGES AND STATE WILDLIFE MANAGEMENT AREAS

No State Game Refuges and State Wildlife Management Areas (WMA) are located within the Study Area.[4]

NATIONAL NATURAL LANDMARKS

No National Natural Landmarks (defined by 36 CFR Part 62) are located within the Study Area.[5]

NATIONAL PARK SYSTEM RECREATION AREAS, SEASHORES, FORESTS

No National Parks (as defined by 16 USC 1c) are located within the Study Area.[6]

RIVERS DESIGNATED AS NATIONAL OR STATE WILD, SCENIC, OR RECREATIONAL

There are no National Wild, Scenic, or Recreational (16 USC Chapter 28) rivers within the Study Area.[7]

---

[1] Source: http://parks.ny.gov/regions/long-island/default.aspx; posted as of 12/18/2018.

[2] Source: http://www.dec.ny.gov/lands/4960.html; posted as of 12/18/2018.

[3] Source: http://www.fws.gov/refuges/; posted as of 12/18/2018.

[4] Source: https://www.dec.ny.gov/outdoor/7768.html; posted as of 12/18/2018.

[5] Source: https://www.nps.gov/subjects/nnlandmarks/state.htm?State=NY; posted as of 12/18/2018.

[6] Source: https://www.nps.gov/state/ny/index.htm; posted as of 12/18/2018.

[7] Sources: https://www.nps.gov/subjects/rivers/nationwide-rivers-inventory.htm; posted as of 12/18/2018.

SITES, AREAS, LAKES, RESERVOIRS, OR HIGHWAYS DESIGNATED OR ELIGIBLE FOR DESIGNATION AS SCENIC

Resources identified in Article 49 of the ECL include Scenic Byways (under the purview of New York State Department of Transportation [NYSDOT]), parkways (designated by the OPRHP), and other areas designated by NYSDEC. The Northern State Parkway, approximately 0.11 miles south of the expansion area, is a NYSDOT-designated Scenic Parkway.

SCENIC AREAS OF STATEWIDE SIGNIFICANCE

In July 1993, the New York State Department of State designated six Scenic Areas of Statewide Significance in the Hudson River Valley as part of its implementation of the State's Coastal Management Program. In 2010, nine areas totaling more than 25,000 acres on Long Island's East End within the Town and Village of East Hampton were designated as the East Hampton Scenic Areas of Statewide Significance. Neither the Hudson River Valley nor the East Hampton Scenic Areas of Statewide Significance are within the Study Area.[1]

STATE OR FEDERALLY DESIGNATED TRAILS

There are no federally designated trails (as defined by 16 USC Chapter 27) located within the Study Area.[2]

STATE NATURE AND HISTORIC PRESERVATION AREAS

There are no State Nature or Historic Preservation Areas located within the Study Area.[3]

PALISADES PARK

Palisades Park is not located within the Study Area.

BOND ACT PROPERTIES PURCHASED UNDER EXCEPTIONAL SCENIC BEAUTY OR OPEN SPACE CATEGORY

No Bond Act properties purchased under exceptional scenic beauty or open space category are located within the Study Area.[4]

LOCALLY SIGNIFICANT RESOURCES

Public Parks

One (1) Town of North Hempstead-owned and operated park has been identified within the Study Area. Shepherd Lane Playground, located at the corner of Shepherd Lane and Snapdragon Lane is 0.32 miles southeast of the Substation.

Schools

---

[1] Source: http://www.dos.ny.gov/opd/programs/consistency/scenicass.html; posted as of 12/18/2018.

[2] Sources: http://www.nrtdatabase.org/ and http://www.dec.ny.gov/outdoor/45415.html; posted as of 12/18/2018.

[3] Source: https://parks.ny.gov/environment/nature-centers/ and https://parks.ny.gov/shpo/online-tools/; posted as of 12/18/2018.

[4] Source: http://archive.nassaucountyny.gov/EnvironmentalBondActMap.html; posted as of 12/18/2018.

Four (4) schools were identified within the Study Area, as summarized in Table 2 below.

Table 2

Local Schools within One-Half-Mile of the Substation

Resource	Location	Approximate Relative Distance
Heights School	240 Willow Street Roslyn Heights, NY	0.38 miles north of the Substation
Roslyn High School	475 Round Hill Road Roslyn Heights, NY	0.50 miles northeast of the Substation
East Hills School	400 Round Hill Rd Roslyn Heights, NY	0.45 miles northeast of the Substation
Roslyn Middle School	374 Locust Lane Roslyn Heights, NY	0.40 miles east of the Substation

Religious Institutions

Six (6) religious institutions were identified within the Study Area, as summarized in Table 3 below.

Table 3

Local Religious Institutions within One-Half -Mile of the Substation

Resource	Location	Approximate Relative Distance
The Roslyn Synagogue	257 Garden Street Roslyn Heights, NY	0.46 miles north of the Substation
Friendship Missionary Baptist Church	56 Orchard Street Roslyn Heights, NY	0.45 miles north of the Substation
Salem AME Church	109 Roslyn Road Roslyn Heights, NY	0.42 miles north/north-east of the Substation
Chabad of Roslyn	75 Powerhouse Road Roslyn Heights, NY	0.05 miles north of the Substation
Temple Beth Sholom	401 Roslyn Road Roslyn Heights, NY	0.23 miles east of the Substation
Temple Sinai of Roslyn	425 Roslyn Road Roslyn Heights, NY	0.46 miles southeast of the Substation

New York State Open Space Conservation Plan

In September 2014 NYSDEC and OPRHP released the *Draft 2014 State Open Space Conservation Plan*, which is the draft of the mandated 3-year revision of the 2009 Statewide plan for open space acquisition and protection. Goals of the plan include protection and enhancement of scenic, historic, and cultural resources readily identifiable as valued parts of the common heritage of New York's citizens.

D. POTENTIAL IMPACTS OF THE PROPOSED SUBSTATION EXPANSION

IMPACT ANALYSIS

The Proposed Action will consist of the installation of proposed equipment that will be similar in appearance and height to the existing Substation equipment. The maximum height of permanent equipment to be installed within the expansion area will include 40-foot tall lightning masts; and transformers, circuit breakers and bus work that will be a maximum of 24 feet in height. Temporary equipment to be installed will include nine (9) 65-70 foot temporary wood transmission bypass poles (that will be approximately 56.5 feet to 61 feet in height). All of these proposed structures are shorter than the existing 95-foot transmission poles located within the Substation and the 115-foot transmission tower located adjacent to the Substation.

Photo simulations were prepared to evaluate the visual impact from four determined viewing locations based on the GIS-based viewshed analysis conducted. Each of the photo simulations include three views: one showing existing conditions; one showing proposed permanent conditions in photorealistic materials, and; one showing the proposed conditions including the temporary transmission bypass in photorealistic conditions.

Viewing Location 1 is a view looking north from North Court, a residential area located approximately 200+ feet south of the expansion area. The existing Substation equipment is partially visible through the existing buffer tree branches and is moderately obscured from sight. Similar to existing conditions, the proposed conditions will be partially visible through existing vegetation, and the proposed vegetative buffer. Although the temporary transmission bypass poles will be visible, they are shorter than the existing poles within the Substation, and they will be removed at the completion of construction in or around April 2021.

Viewing Location 2 is a view looking west from 140 Parkside Drive, a residential area located approximately 220+ feet east of the expansion area. Similar to *Viewing Location 1*, the majority of the existing Substation equipment is obscured by the existing fence and vegetation, with the exception of the existing 95-foot tall wood poles and a 115-foot steel transmission tower. The upper half of the temporary poles are visible in the simulated view. Although the temporary transmission bypass poles will be visible, they are shorter than existing poles within the Substation, and they will be removed at the completion of construction in or around April 2021.

Viewing Location 3 is a view looking south from 1 Expressway Plaza, adjacent to Chabad of Roslyn, a synagogue located approximately 470+ feet north of the expansion area. Due to the distance, an approximate 10-foot change in elevation below the expansion area, the Substation

and the existing vegetated buffers, the Substation is not visible, with the exception of the existing 95-foot wood poles. Additionally, the 115-foot steel transmission tower that is located in the immediate vicinity of the Substation is visible. The photo simulations illustrate that the temporary transmission bypass poles will be shorter than the existing poles and existing 115-foot steel transmission tower and does not significantly change the view in the immediate vicinity of the Substation.

Viewing Location 4 is a view looking west from Temple Beth Sholom located at 401 Roslyn Road, approximately 1,350+ feet east of the expansion area. As shown in the photo simulations the entire existing view and simulated view are entirely obstructed due to the distance, existing vegetation, and existing buildings,

As demonstrated by the photo simulations, potential visibility of the substation equipment installations is limited from locations beyond the Substation in all directions given the generally flat topography of the area, the limited vertical profile of the permanent equipment, the existing and proposed vegetation, and the development of the surrounding area. Although the temporary transmission bypass poles are visible in 3 of the 4 viewing locations, they will be shorter in height than existing poles at the Substation as well as the transmission tower located in the vicinity of the Substation. Further, the transmission bypass poles will be removed after the construction of the Proposed Action has been completed in or around April 2021.

Given that the proposed permanent substation equipment will be similar in height and appearance to existing substation equipment, it is consistent with the character of the existing Substation and will not result in any change to land use or significant change in visual character from the Study Area.

The results of the field visit, visual impact assessment, and photo simulations indicate that the identified visual resources have intervening vegetation, topography and/or structures that obstruct views of the proposed equipment installations. The proposed equipment was either indiscernible or not visible at all from the resources inventoried above. Based on this analysis, the proposed equipment installations will not result in significant adverse impacts to visual resources.

E. CONCLUSION

Based on the guidance of DEC-00-2, visibility of the Substation equipment installations is not considered a significant adverse impact.

The Substation is currently developed and the proposed permanent equipment installations within the expansion area and Substation will consist of equipment that is of similar height and appearance to the existing Substation equipment. Proposed Substation equipment will be a maximum of 40-feet in height, with the exception of the temporary transmission bypass which will range from approximately 56.5 to 61 feet in height; however, all proposed equipment will be shorter than the existing 95-foot wood poles that are within the existing Substation, and the 115-foot height transmission tower located north of the Substation. Further, the Substation equipment installations be consistent with the current character and land use of the immediate area, as the immediate area is currently utilized as a Substation and adjacent properties include the National Grid facility and LIRR tracks.

Based on the results of the field visit, visual impact assessment, and the photo simulations; the proposed Substation equipment installations will not result in significant adverse impacts on the visual character of the Study Area, as defined in the visual assessment. Additionally, the proposed Substation equipment installations will not significantly impair the visual landscape as experienced from any scenic or aesthetic resources and will not interfere with or reduce the public's, or area residents', enjoyment or appreciation of the appearance of any inventoried scenic, open space, or other resource. Thus, there will be no significant adverse visual impacts as a result of the Proposed Action.