Bluestone Wind Project

Case No. 16-F-0559

1001.20 Exhibit 20

Cultural Resources

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EXHIBIT 20 CULTURAL RESOURCES

Consistent with 16 NYCRR § 1001.20 and the New York State Office of Parks, Recreation, and Historic Preservation's (NYSOPRHP) *Guidelines for Wind Farm Development Cultural Resources Survey Work* (the "SHPO Wind Guidelines") (NYSOPRHP, 2006), the Applicant consulted with the NYSOPRHP to develop the scope and methodology for cultural resources studies for the Facility. To date, formal consultation with NYSOPRHP has included initiating Facility review and consultation through NYSOPRHP's Cultural Resources Information System (CRIS) website, submission of technical reports/work plans, and submission of follow-up cultural resource survey reports. These submissions are described in greater detail below.

(a) Archaeological Resources

(1) Summary of Impacts and Avoidance/Minimization Measures

A Phase 1B archaeological survey was conducted which identified 22 archaeological resources: 20 potentially Pre-Contact Native American stone landscape features (SLF)[1] sites consisting of 66 individual SLFs, one Pre-Contact Native American lithic scatter, and one historic-period farmstead. The 20 the SLF sites and the historic-period farmstead are unevaluated with regard to the State/National Register of Historic Places (S/NRHP) while the Pre-Contact lithic scatter is recommended not eligible for the S/NRHP (i.e., non-significant). The archaeological resources identified during the Phase 1B survey are summarized in Table 20-1 of this Exhibit and are discussed in detail in the Phase 1B Archaeological Survey report, which is included in this Application as Appendix CC.

The locations of the 20 SLF sites were shared with the Applicant and their design engineers who redesigned the Facility to avoid impacts to these features where possible. Following these avoidance and minimization measures, the Applicant was able to avoid 19 of the 20 SLF sites entirely and minimize impacts to the single remaining site, Site JL-3. As a result, 62 of the 66 individual SLFs have been avoided. The historic-period farmstead site has been avoided as well.

The locations of the specific SLFs in question have been provided to the Facility design team which is currently assessing options for avoiding or minimizing impacts to the features. This process is ongoing and will continue to include consultation with SHPO and the stakeholders identified in the Phase IB Archaeological Survey Report and

[1] SLFs are a type of cultural feature made from stacked, aligned, modified, or otherwise culturally significant stones. These features, once attributed entirely to historic-period agricultural land clearance, have recently been recognized throughout the eastern United States as being potentially of Native American origin and may be considered sacred or otherwise significant.

below. As discussed above, the Applicant has already initiated consultation with these groups, and if impacts to Site JL-3 cannot be avoided, they will be consulted to assess the need for and appropriate scope of any proposed mitigation.

The mapped locations of all significant archaeological sites within approximately 200 feet (61 meters) of proposed Facility-related impacts will be identified as "Environmentally Sensitive Areas," or similar, on Facility construction drawings and marked in the field by construction fencing with signs that restrict access. These areas will be regarded as off-limits but will not be identified as archaeological sites in order to protect the resources via discretion and confidentiality. These measures should be adequate to ensure that impacts to archaeological resources are avoided/minimized.

If any additional potentially significant archaeological resources are subsequently identified within the Area of Potential Effects (APE) for Direct Effects, the Applicant will attempt to relocate the Facility components to avoid impacts to these resources. If the impacts cannot be avoided, then a Phase 2 archaeological site investigation (in consultation with NYSOPRHP) will be conducted. However, since the Facility layout is being intentionally sited to avoid impacts to significant archaeological resources, it is anticipated that no additional Phase 2 site investigations will be necessary.

If unanticipated archaeological resources are encountered during construction, the Facility's Unanticipated Cultural Resources Discovery Protocol (hereinafter "Unanticipated Discovery Plan") will include provisions to stop all work in the vicinity of the archaeological finds until those resources can be evaluated and documented by a Registered Professional Archaeologist (RPA). The Unanticipated Discovery Plan is included in this Application as Appendix AA.

With the adoption of these measures, the proposed Bluestone Wind Facility is not anticipated to impact any significant archaeological resources except for four SLFs which may be impacted at Site JL-3 (see additional discussion below).

Table 20-1. Summary of Archaeological Sites Identified During the Phase 1B Survey

Site Name	Description	Potential Impacts	Avoidance Measures
Pre-Contact Period site			
Sky Lake (SUBi-3225)	Small lithic Scatter, 2 artifacts	Intersection improvement	None (not potentially eligible)
Historic-Period Site			
A. Weidman (SUBi-3226)	Cellar hole, barn foundation, well; no artifacts collected	None – adjacent to collection line and access road	None – no impacts
Stone Landscape Feature Sites			

BG-1	One feature	None - avoided by Facility design	None – no impacts
BG-2	One feature	None - avoided by Facility design	None – no impacts
JL-1	Two features	None - avoided by Facility design	None – no impacts
JL-2	One feature	None - avoided by Facility design	None – no impacts
JL-3	39 features	Up to 4 features potentially impacted	35 features avoided; impacts to remaining 4 features will be minimized and/or mitigated to the extent practicable
JL-4	Five features	None - avoided by Facility design	None – no impacts
JL-5	One feature	None - avoided by Facility design	None – no impacts
JL-6	One feature	None - avoided by Facility design	None – no impacts
NF-1	One feature	None - avoided by Facility design	None – no impacts
NF-2	One feature	None - avoided by Facility design	None – no impacts
NF-3	One feature	None - avoided by Facility design	None – no impacts
NF-4	One feature	None - avoided by Facility design	None – no impacts
NF-5	One feature	None - avoided by Facility design	None – no impacts
NF-6	Two features	None - avoided by Facility design	None – no impacts
NF-7	One feature	None - avoided by Facility design	None – no impacts
NF-8	One feature	None - avoided by Facility design	None – no impacts
NF-9	One feature	None - avoided by Facility design	None – no impacts
NF-10	One feature	None - avoided by Facility design	None – no impacts
NF-11	Two features	None - avoided by Facility design	None – no impacts
NF-12	One feature	None - avoided by Facility design	None – no impacts

To facilitate a discussion regarding the SLF sites, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) submitted a memorandum (EDR, 2018b) on August 3, 2018 to representatives from the Oneida Indian Nation (Jesse Bergevin), Oneida Nation of Wisconsin (Corina Williams), Tuscarora Nation (Bryan Printup), Stockbridge-Munsee Band of the Mohican Nation of Wisconsin (Bonney Hartley), Delaware Nation (Kim Penrod), Delaware Tribe of Indians (Susan Bachor), NYSOPRHP (Philip Perazio and Erin Czernecki), New York State Department of Public Service (NYSDPS; Andrew Davis), and New York State Department of Environmental Conservation (NYSDEC; David Witt and Charles Vandrei). This memorandum contained summary information regarding the sites and an invitation to visit a selection of these sites on August 23, 2018. This site visit

was arranged to facilitate discussions regarding the sites and features, as well as avoidance, treatment, and mitigation options. Due to the confidentiality of these sites' locations, this memorandum (Appendix BB of this Application) has been provided under confidential cover to appropriate state agencies and selected stakeholders.

The site visit was conducted on August 23, 2018 as planned with participants including Jesse Bergevin (Oneida Indian Nation), Andrew Davis (NYSDPS), Nina Versaggi (Public Archaeology Facility at Binghamton University [PAF]), Dylan Pelton (PAF), Lisa Oliver (Fisher Associates), Valeria Teran (Bluestone Wind, LLC), Patrick Heaton (EDR), and Matthew Victor Weiss (EDR). A total of four sites were visited. Following the visit, participants reviewed the diversity of SLFs found at the four sites and discussed their possible origin and what measures may be taken to avoid or mitigate impacts to the SLFs, with particular focus on the four features that will potentially be impacted at Site JL-3. Possible avoidance and/or mitigation/treatment options for the four potentially impacted features at Site JL-3 are currently being assessed in consultation with NYSOPRHP and consulting parties.

(2) Phase 1A Archaeological Resources Study

The Applicant initiated formal consultation with NYSOPRHP via the CRIS website on March 22, 2017, with a follow-up meeting on March 30, 2017 between NYSOPRHP, EDR, and the Applicant. Prior to this meeting, EDR spoke with the Oneida Indian Nation regarding the Facility. Representatives of the Oneida Indian Nation informed EDR that ceremonial stone landscapes may be located within the Archaeological Study Area[2] and expressed their preference that these sites be described as "man-made" (due to the difficulty in definitively identifying their cultural affiliation) and be treated as culturally significant, and that the Facility be designed to avoid impacting these features. During the March 30, 2017 meeting, NYSOPRHP also noted that SLFs could be present within the Facility and noted their preference that an effort be made to differentiate between those related to Native American activity and those related to Euro-American activity.

On August 22, 2017, the Applicant submitted the Public Scoping Statement (PSS) for the proposed Facility to the NYSOPRHP via the CRIS website. NYSOPRHP responded to this submission on September 20, 2017 and requested that archaeological and historic architectural survey work plans be prepared and submitted for the Facility (Perazio, 2017).

On February 8, 2018, the Delaware Nation (Penrod, 2018) responded to a visual resources outreach request for the Facility (EDR, 2018a), stating in part:

[2] The Archaeological Study Area is an approximately 33-square mile (86-square km) polygon around the APE for Direct Effects which served as the limits for all analysis associated with the archaeological landscape model presented in the Phase IA Archaeological Survey & Fieldwork Plan.

"Our main concerns at the Delaware Nation on these types of projects are as follows:

1. Keeping a 50-100 ft (at least) area of protection around known sites.
2. Maintaining the buffer area and not allowing heavy equipment to impact these areas. Compression is an issue of concern for us.
3. Protection of indigenous plants and/or re-introduction of the indigenous plants to the area is important to the Delaware Nation. Many of these are considered Traditional Cultural Properties for our people.
4. And if something is found, halting all work, contacting us within 48 hours and when work resumes discussion of a monitor if needed."

EDR prepared a Phase 1A Archaeological Resources Survey & Phase 1B Fieldwork Plan (included in this Application as Appendix CC), which was submitted through the CRIS website on March 21, 2018 and is summarized below. On March 29, 2018, NYSOPRHP provided a response, which concurred with the conclusions and recommendations of the Phase 1A Archaeological Resources Survey & Phase 1B Fieldwork Plan (Perazio, 2018). A copy of this NYSOPRHP correspondence can be found In the Phase 1B Archeological Survey Report included in Appendix Z of this Application.

The purpose of the Phase 1A Archaeological Resources Survey & Phase 1B Fieldwork Plan was to: 1) define the Facility's APE relative to archaeological resources based on the anticipated area of disturbance for Facility components; 2) determine whether previously identified archaeological resources were located in the APE; and, 3) propose a methodology to identify archaeological resources within the APE, evaluate their eligibility for the S/NRHP, and assess the potential effect of the Facility on those resources. Following review and approval of this work plan by NYSOPRHP, a Phase 1B archaeological survey was conducted following the methodology outlined in the fieldwork plan. The Phase 1A Archaeological Resources Survey & Phase 1B Fieldwork Plan was prepared by professionals who satisfy the qualification criteria per the Secretary of the Interior's Standards for archaeology (36 CFR Part 61) and in accordance with the *SHPO Wind Guidelines* (NYSOPRHP, 2006) and applicable portions of NYSOPRHP's *Phase 1 Archeological Report Format Requirements* (NYSOPRHP, 2005).

Relative to the potential for archaeological sites to be located within the Facility Site, the results of the Phase 1A Archaeological Resources Survey for the proposed Facility are summarized as follows:

- There are 17 previously reported archaeological sites located within, or within approximately 1 mile of, the Archaeological Study Area, which are summarized in Table 20-2.

Table 20-2. Archaeological Sites within 1 mi. (1.6 km) of the Archaeological Study Area

Site Number	Site Name	S/NRHP-Eligibility	Time Period	Site Type	Distance from Project
00712.000004	Millennium Pipeline-BRO-300	Undetermined	Unknown	Unknown	0 miles (within Archaeological Study Area)
00712.000005	Millennium Pipeline-BRO-181 Prehistoric (FLAKE)	Undetermined	Pre-Contact	Isolated flake	0 miles (within Archaeological Study Area)
00712.000006	Millennium Pipeline-BRO-301 Historic Stone Walls	Undetermined	Historic-Period	Stone walls	0 miles (within Archaeological Study Area)
00712.000007	Millennium Pipeline-BRO-303, Historic Foundation and Scatter	Undetermined	Historic-Period	Foundation & artifact scatter	0 miles (within Archaeological Study Area)
00712.000008	Millennium Pipeline-BRO-190, Historic Well	Undetermined	Historic-Period	Well	0 miles (within Archaeological Study Area)
00712.000032	Millennium Pipeline BRO-0603	Undetermined	Historic-Period	Slate quarry w/structure	0 miles (within Archaeological Study Area)
00712.000033	Millennium Pipeline BRO-0604 Slate Quarry	Undetermined	Historic-Period	Slate quarry	0 miles (within Archaeological Study Area)
00712.000037	NYBr213-Site 1	Undetermined	Pre-Contact	Lithic scatter	0 miles (within Archaeological Study Area)
00712.000055	URS Survey #16001	Not Eligible	Pre-Contact	Isolated artifact (unknown type)	0 miles (within Archaeological Study Area)
00712.000088	NYBr206-SP27 to SP30	Undetermined	Unknown	Stone Piles (unknown cultural affiliation)	0 miles (within Archaeological Study Area)
NYSM Area 2669	The Lee Site	Undetermined	Pre-Contact	Possible Paleoindian. Lithic artifacts (Pennsylvania Jasper)	0 miles (within Archaeological Study Area)
00712.000036	NYBr205-Site 1	Undetermined	Historic-Period	Foundation & artifact scatter	0.3 miles south
00716.000051	Millennium Pipeline-BRO-171, Historic Foundation	Undetermined	Historic-Period	Foundation & artifact scatter	0.6 miles west
NYSM 8407	--	Undetermined	Pre-Contact	Traces of occupation	0.8 mile southeast
NYSM 5351	NYSM 5351	Undetermined	Pre-Contact	Traces of occupation	0.9 miles southeast
02544.000008	NKW Sash Factory, Butler Brook	Undetermined	Historic-Period	Industrial historic site	1.0 mile southeast
02544.000020	Butler Brook Precontact Site	Undetermined	Pre-Contact	Lithic scatter	1.0 mile southeast

- Sensitivity for Pre-Contact Native American archaeology within the Archaeological Study Area is considered to be moderate, given the presence of several Pre-Contact sites within 1 mile, including those in upland settings. Furthermore, the Facility is dominated by well-drained soils which were often preferred by Pre-Contact peoples for habitation sites. The APE for Direct Effects is also considered to be moderately sensitive for SLF sites and rockshelters[3].

[3] Rockshelters consist of overhangs or shallow caves in natural bedrock which were often used as campsites by Pre-Contact Native Americans because of the protection from the elements they afforded.

- Sensitivity for historic archaeology within the Archaeological Study Area is considered to be high in proximity to structures identified on historic maps (Figures 5-7 of the appended Phase 1A Archaeological Resources Survey & Phase 1B Fieldwork Plan [Appendix CC]). Archaeological resources associated with these sites could include foundations, structural remains, artifact scatters, and/or other features. The remainder of the Archaeological Study Area away from historic map-documented structures is considered to be of moderate sensitivity for historic archaeology.

In addition, the Phase 1A archaeological survey report acknowledges that proposed construction of the Facility will include ground-disturbing activities with the potential to impact archaeological resources. The APE for Direct Effects (i.e., archaeological resources) includes all areas of soil disturbance associated with proposed turbine pad and assembly areas, access roads, buried collection lines, overhead transmission lines, meteorological towers, laydown and staging areas, operations and maintenance facilities, and substations. Any archaeological sites located within the Facility Site that are not within the limits of disturbance for proposed Facility components will not be affected by the Facility.

(3) Phase 1B Archaeological Resources Study

A Phase 1B archaeological survey was conducted between April 30 and August 20, 2018 by EDR and PAF to determine whether archaeological sites were located in areas of ground disturbance for the proposed Facility. The Phase 1B survey was conducted under the supervision of RPAs in a manner consistent with the *SHPO Wind Guidelines* (NYSOPRHP, 2006) and the Phase 1B Archaeological Survey report was prepared in accordance with NYSOPRHP's *Phase 1 Archeological Report Format Requirements* (NYSOPRHP, 2005).

As indicated above, the scope and methodology for the Phase 1B Archaeological Survey were proposed in the Phase 1A Archaeological Resources Survey & Phase 1B Fieldwork Plan, which was submitted to NYSOPRHP on March 21, 2018 and approved by NYSOPRHP on March 29, 2018. The *SHPO Wind Guidelines* suggest following the approach detailed in *Archeological Investigations in the Upper Susquehanna Valley, New York State* (Funk, 1993a, 1993b) in the design of archaeological surveys for wind projects. The approach involves identification of broad environmental zones with local habitat (or landscape class) subdivisions. The archaeological survey subsequently includes intensive sampling of selected areas within each of the identified landscape classes, rather than undertaking an even distribution of sampling throughout the APE for Direct Effects. Following this approach, EDR used Geographic Information System (GIS) software to identify landscape classes within the Facility and proposed an archaeological sampling strategy. The Phase 1A Archaeological Resources Survey & Phase 1B

Fieldwork Plan summarizes the methodology used for the GIS analysis and presents the landscape classification analysis in tabular and graphical formats (see Appendix CC).

The primary methods used during the archeological survey included shovel testing (in hayfields, forest, and shrubland areas) and pedestrian reconnaissance (in steeply sloped areas). Pedestrian surface surveys were not conducted due to the lack of ground-surface visibility in excess of 80% (e.g., active agricultural settings) within the APE. The locations of areas selected for intensive archaeological sampling within the APE for Direct Effects were determined in the field using professional judgment under the direction of an RPA. Two areas were prioritized during the selection process for shovel testing: (1) areas where proposed Facility components are located in proximity to structures depicted on historic maps; and, (2) areas deemed to have high sensitivity for Pre-Contact Native American archaeological material. The latter were included in a landscape classification GIS model that focused on topography, proximity to water sources and hydric soils, and land features not near water. The pedestrian reconnaissance survey was specifically targeted at identifying SLFs and potential rockshelter sites and encompassed the entire APE for Direct Effects, including steep slopes, regardless of ground surface visibility.

This Phase 1B archaeological survey was completed in accordance with the fieldwork plan and research design previously reviewed and approved by NYSOPRHP (Perazio, 2018; see Appendices A and B in the Phase 1B Archaeological Survey report [Appendix Z]). At the time that the fieldwork plan was prepared, the layout and assumptions regarding temporary disturbance resulted in an APE for Direct Effects of 362 acres. Subsequent to the preparation of the fieldwork plan, the Facility layout was revised, and assumptions regarding the limits of temporary disturbance during construction were refined for some Facility components (see Sections 1.2 and 2.3 of the Phase 1B Archaeological Survey Report), resulting in a revised archaeological APE of 309.1 acres. However, 112.3 acres within this APE consisted of steeply sloped areas which were not tested. As a result, shovel testing was completed for 269.6 acres of the APE. Taking the extensive steep slopes and the sampling design presented in the archaeological research design into account, this actually represents a 141% level of effort for the Project APE. In addition, the entire Facility layout was subjected to archaeological pedestrian reconnaissance to identify stone landscape features which totaled 1,172 acres. Therefore, the amount of archaeological survey fieldwork conducted for the Facility significantly exceeds the level of effort (per the *SHPO Wind Guidelines*) necessary to survey the APE for Direct Effects for the Bluestone Wind Facility.

The archaeological survey involved the excavation of 2,416 shovel tests, from which 20 historic-period artifacts and four Pre-Contact-period artifacts were collected. The Phase 1B survey resulted in the identification of 20 potentially Pre-Contact Native American SLF sites, one Pre-Contact Native American lithic scatter, and one historic-period farmstead. With the exception of Site JL-3 and the Sky Lake Site (which is recommended non-

S/NRHP eligible), all of the archaeological sites are currently being avoided by the Facility design. Although the 20 SLF sites and one historic-period site have not been evaluated for the S/NRHP (i.e., they are unevaluated), they are being treated as potentially eligible for avoidance purposes. Furthermore, the Applicant attempted to avoid impacts to all Pre-Contact Native American (or potentially Pre-Contact Native American) archaeological sites by 50 to 100 feet (15 to 31 meters), per comments from the Delaware Nation described above. However, due to topographic and environmental constraints, as well as the locations of non-participating parcels, this was not always feasible. However, as stated above, all potentially Pre-Contact Native American archaeological sites are being avoided by direct impacts, with the exception of up to four features at Site JL-3. Facility components have been shifted in 22 instances to avoid SLFs that were formerly located within the APE for Direct Effects.

The Phase 1B Archaeological Survey report was submitted to the NYSOPRHP via the CRIS website on September 14, 2018.

(4) Phase 2 Study

As discussed above, up to four SLFs at one of the archaeological sites identified during the Phase 1B survey, Site JL-3, may be impacted by the proposed Facility. Consultation has been initiated and is ongoing regarding the need for and extent of mitigation (which could potentially involve Phase 2 study) at this site. If, due to currently unforeseen circumstances, the avoidance measures employed for the remainder of the sites (such as removing or re-locating Facility components away from identified archaeological sites) are insufficient to avoid impacts, a Phase 2 study may be conducted to assess the boundaries, integrity and significance of cultural resources identified during the Phase 1B archaeological survey. It should be noted that Phase 2 investigations are not warranted for archaeological sites that do not meet the criteria for listing on the S/NRHP. However, if necessary, Phase 2 studies would be designed to obtain detailed information on the integrity, limits, structure, function, and cultural/historic context of an archaeological site, as feasible, sufficient to evaluate its potential eligibility for listing on the S/NRHP.

(5) Archaeological Material Recovered During Cultural Resources Studies

As previously noted, a total of 20 historic-period and four Pre-Contact period artifacts were collected during the Phase 1B archaeological survey, all of which were collected from shovel tests. These collected artifacts were cleaned, catalogued, inventoried and curated in a manner consistent with professional standards, such as the New York Archaeological Council's (NYAC) *Standards for Cultural Resource Investigations and Curation of Archaeological Collections in New York State* (NYAC, 1994; the "NYAC Standards"). When the artifacts were

collected in the field, archaeologists recorded standard provenience information and collected each artifact in sealed plastic bags per standard archaeological field practices. All recovered materials were washed, dried, and cataloged per standard archaeological laboratory procedures. Following processing and analysis, artifacts were curated in 4-mil polyethylene bags. Recovered artifacts were described to a level of detail sufficient to prepare an artifact inventory for inclusion in the Phase 1B Archaeological Survey report, which includes descriptions of each artifact's material, temporal or cultural/chronological associations (when possible to ascertain), style, and function (see Appendix Z of this Application). In addition, a selection of representative artifacts was photographed for inclusion in the report. Complete photographic documentation of all collected artifacts was not conducted. The Applicant understands that all artifacts recovered are the property of the land owner from which the artifacts were recovered. If appropriate, the consultant may identify local repositories (such as local historical societies or archaeological museums) for disposition of recovered artifacts.

A complete listing of all recovered artifacts is included in Appendix E of the Phase 1B Archaeological Survey report, (Appendix Z of this Application).

(6) Unanticipated Discovery Plan

An Unanticipated Discovery Plan is included as Appendix AA of this Application. The Unanticipated Discovery Plan identifies the actions to be taken in the unexpected event that resources of cultural, historical, or archaeological importance are encountered during Facility construction. The plan includes a provision for work stoppage upon the discovery of possible archaeological or human remains. Evaluation of such discoveries, if warranted, will be conducted by an RPA.

(b) Historic Resources

(1) A Complete Historic Architectural Survey

On August 22, 2017, the Applicant submitted the PSS for the proposed Facility to the NYSOPRHP via the CRIS website. NYSOPRHP responded to this submission on September 20, 2017 and requested that archaeological and historic architectural survey work plans be prepared and submitted for the Facility (Perazio, 2017).

EDR prepared a Phase 1A Historic Architectural Resources Survey Work Plan (Appendix DD), which was submitted through the CRIS website on March 21, 2018. The purpose of the Phase 1A Historic Architectural Resources Survey Work Plan was to define the Facility's APE relative to historic architectural resources (i.e., the APE for Indirect Effects); determine whether previously identified historic architectural resources are located in the

APE; and propose a methodology to identify historic architectural resources within the APE, evaluate their eligibility for the S/NRHP, and assess the potential effect of the Facility on those resources through the use of viewshed analysis. The Phase 1A Historic Architectural Survey Work Plan defined the APE for Indirect Effects as those areas within 5 miles (8.1 km) of proposed turbines which are within the potential viewshed (based on topography) of the Facility, per the *SHPO Wind Guidelines* (NYSOPRHP, 2006). On April 3, 2018, NYSOPRHP (Howe, 2018) provided a response to the Phase 1A Historic Architectural Survey Work Plan, which concurred with the historic architectural survey methodology and APE for Indirect Effects proposed by EDR. A copy of this correspondence is included as Appendix A of the Historic Resources Survey Report (Appendix EE of the Application).

The Facility as described in the PSS was originally comprised of up to 40 turbines. Following the submission of the Phase 1A Historic Architectural Resources Survey Work Plan, the Facility layout was revised to only include up to 33 turbines. An historic resources survey for the Facility was subsequently conducted (per the *SHPO Wind Guidelines*) in accordance with the Phase 1A work plan, which was developed in consultation with, and approved by, NYSOPRHP staff. The Historic Resources Survey Report was submitted to NYSOPRHP via the CRIS website on June 4, 2018 with the request that NYSOPRHP review the results of the survey and provide determinations of eligibility prior to EDR's completion of a historic resources effects analysis for the Facility.

A total of 46 resources were inventoried as part of the historic resources survey. The results of the survey are as follows:

- Two extant properties listed on the S/NRHP are located within the APE: the State Theater (90NR00089), and the Windsor Village Historic District (90NR00091). Three additional S/NRHP-listed properties were surveyed that were located near or within the five-mile study area but outside of the APE for indirect effects.
- There are eight properties within the APE that were previously recommended S/NRHP-eligible by NYSOPRHP and 17 previously identified properties whose S/NRHP-eligibility was listed in the NYSOPRHP CRIS system as "undetermined." In addition, EDR identified 16 properties within the APE that were not previously surveyed.
- Of the eight previously identified properties determined by NYSOPRHP to be S/NRHP-eligible, all eight were recommended by EDR to be S/NRHP-eligible.
- Of the 17 previously identified properties whose S/NRHP-eligibility was undetermined, six properties are recommended by EDR to be S/NRHP-eligible and nine properties are recommended to be not S/NRHP-eligible. The potential S/NRHP eligibility of two historic cemeteries could not be determined because they are located on private property without obvious public access.
- Of the 16 newly identified properties, all 16 are recommended by EDR to be S/NRHP-eligible.

- No new potentially S/NRHP-eligible historic districts were identified by EDR.
- EDR recommended that two historic cemeteries that were not visible from the public-right-of-way (Alexander Hill Cemetery in the Town of Windsor, and Huggins Cemetery in the Town of Sanford) be further examined for S/NRHP eligibility.

On July 10, 2018, NYSOPRHP provided a response to the results and recommendations of the Historic Resources Survey Report, which included final determinations of eligibility for the S/NRHP. Of the 46 resources identified by EDR as part of the historic resources survey, NYSOPRHP determined the following regarding historic properties located within the APE for indirect (visual) effects:

- No change was recommended for the five properties within the five-mile Study Area listed on the S/NRHP.
- A total of 26 properties recommended by EDR to be S/NRHP-eligible were determined by NYSOPRHP to be S/NRHP-eligible.
- In addition, one property recommended by EDR to be S/NRHP-eligible was determined by NYSOPRHP to be not S/NRHP-eligible, and a formal determination of S/NRHP eligibility was not made by NYSOPRHP for three properties recommended by EDR to be S/NRHP-eligible.
- A total of eight properties recommended by EDR to be not S/NRHP-eligible were determined by NYSOPRHP to be not S/NRHP-eligible.
- In addition, a formal determination of S/NRHP eligibility was not made by NYSOPRHP for one property recommended by EDR to be not S/NRHP-eligible.
- The S/NRHP eligibility of two newly identified historic properties is undetermined due to lack of public access.

In addition, NYSOPRHP identified "key loci where visual impacts should be carefully assessed," which are the Village of Windsor (specifically the S/NRHP-listed Windsor Village Historic District), and the Village of Deposit. It was also noted that "several of the individual rural agrarian properties will be in the viewshed of a significant number of the proposed towers," and that potential impacts to the viewshed and setting of these properties should be assessed through visual analysis (Bonafide, 2018).

On July 31, 2018, EDR contacted Erin Czernecki at NYSOPRHP regarding the Windsor Village Cemetery (USN 00747.000066). This resource was misidentified as S/NRHP-Eligible in the Historic Resources Survey Report and in the response letter from NYSOPRHP (Bonafide, 2018). Consultation with NYSOPRHP has confirmed that it is a contributing resource to the Windsor Village Historic District and therefore has been removed from the surveyed properties list. Therefore, 25 properties recommended by EDR to be S/NRHP-eligible have been determined by NYSOPRHP to be S/NRHP-eligible.

A copy of all NYSOPRHP correspondence related to the historic resources survey is included in Appendix A of the Historic Resources Effects Analysis (Appendix FF of the Application).

Area of Potential Effect Relative to Historic Architectural Resources

The Facility will have no physical impacts to historic architectural resources (i.e., no historic structures will be damaged or removed) as a result of construction of the Facility. The Facility's potential effect on a given historic property would be a change (resulting from the introduction of wind turbines) in the property's visual setting. Therefore, the APE for visual effects on historic resources must include those areas where Facility components (including wind turbines) will be visible and where there is a potential for a significant visual effect. Per the requirements set forth in 16 NYCRR § 1000.2(ar), the study area to be used for analysis of major electric generating facilities is defined as:

> *(ar) Study Area: an area generally related to the nature of the technology and the setting of the proposed site. For large facilities or wind power facilities with components spread across a rural landscape, the study area shall generally include the area within a radius of at least five miles from all generating facility components, interconnections and related facilities and alternative location sites. For facilities in areas of significant resource concerns, the size of a study area shall be configured to address specific features or resource issues.*

Per the *SHPO Wind Guidelines*, the APE for visual impacts on historic properties for wind projects is defined as those areas within 5 miles of proposed turbines which are within the potential viewshed (based on topography) of a given project (NYSOPRHP, 2006). The 5-mile-radius study area for the Facility includes parts of the Towns of Colesville, Sanford, and Windsor and parts of the Villages of Windsor and Deposit in Broome County. It also includes parts of the Town of Afton in Chenango County and parts of the Towns of Masonville, Deposit, and Tompkins in Delaware County (Appendix EE, Figure 2).

The Facility's APE relative to historic resources includes the areas of potential Facility visibility based on the topographic viewshed located within five miles of the Facility (Appendix EE, Figure 2). This area represents a conservative, "worst case" assessment of potential Facility visibility. The preliminary viewshed analysis for the Facility included in the Phase 1A Historic Architectural Resources Survey Work Plan was based on a preliminary Facility layout of 40 turbines, which was anticipated to change during the development and permitting of the Facility.

As previously noted, following the submission of the Phase 1A Historic Architectural Resources Survey Work Plan, the Facility layout was revised to include up to 33 turbines. It was noted in the work plan that the Facility's APE

relative to historic architectural resources might be revised in association with subsequent layout changes during the permitting process, and that Facility changes were likely to result in changes in the size of the APE. *The* Historic Resources Survey Report documented those revisions. The Historic Architectural Resources Survey and the Historic Architectural Resources Effects Analysis, summarized herein, were conducted within the revised APE for the Facility that represents the 33-turbine layout.

Previously Identified Historic Architectural Resources Located in the Area of Potential Effect

The "Previously Identified Historic Properties" map (see Figure 3 – Sheets 1 and 2 in the appended Historic Resources Survey Report [Appendix EE]) indicates the locations of historic resources identified through review of the APE for Indirect Effects using the CRIS website.

One S/NRHP-listed property, one S/NRHP-listed district, eight S/NRHP-eligible properties, and 17 properties whose S/NRHP eligibility was previously undetermined are located within 5 miles of the Facility. The previously identified S/NRHP-listed property and district within the APE for Indirect Effect are the State Theater in the Village of Deposit and the Windsor Village Historic District, respectively.

The NRHP-eligible properties within the APE for Indirect Effects include rural cemeteries, farmsteads, residences, and bridges. Numerous nineteenth- and early-twentieth-century structures (primarily residences and farmsteads) within the APE have not been previously evaluated by NYSOPRHP to determine if they are NRHP-eligible. Within the APE, many of the nineteenth-century residences are Greek Revival or Greek Revival-inspired vernacular houses. The architectural integrity of historic resources throughout the APE is highly variable, with many showing noticeable alteration, or deterioration due to the elements.

Methodology to Identify Historic Architectural Resources and Assess Potential Effects of the Facility

Historically significant properties are defined herein to include buildings, districts, objects, structures, and/or sites that have been listed on the S/NRHP, as well as those properties that NYSOPRHP has formally determined are eligible for listing on the S/NRHP. Criteria set forth by the National Park Service for evaluating historic properties (36 CFR § 60.4) state that:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> (A) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(B) that are associated with the lives of persons significant in our past; or
(C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
(D) that have yielded, or may be likely to yield, information important in prehistory or history.

The Facility's APE is defined above (and in the appended Historic Resources Survey Report [Appendix EE]). The historic resources survey included review of previous historic architectural surveys within the study area (described above and in Section 2.2 of the Historic Resources Survey Report), consultation with NYSOPRHP (described above and in Section 1.3 of the Historic Resources Survey Report), site visits to identify and evaluate potential historic resources within the study area, and supplemental research on specific historic properties (as necessary). All historic architectural resources fieldwork was conducted by qualified architectural historians who meet the Secretary of Interior's Standards for Historic Preservation Projects (36 CFR Part 61).

Historic resources survey fieldwork included systematically driving all public roads within the APE to photograph and evaluate the S/NRHP-eligibility of previously surveyed structures and properties within the APE. Site visits were conducted in March and May of 2018. When sites were identified that were not previously surveyed but appeared to satisfy S/NRHP-eligibility criteria, EDR's architectural historian documented the existing conditions of the property. This included photographs of the building(s) (and associated property when necessary) and field notes describing the style, physical characteristics and materials (e.g., number of stories, plan, external siding, roof, foundation, and sash), condition, physical integrity, and other noteworthy characteristics for each resource. EDR's evaluation of historic resources within the study area focused on the physical condition and integrity (with respect to design, materials, feeling, and association) to assess the potential architectural significance of each resource.

All properties included in the historic resources survey were photographed and assessed from public rights-of-way. The condition and integrity of all resources were evaluated based solely on the visible exterior of the structures. No inspections or evaluations requiring access to the interior of buildings, or any portion of private property, were conducted as part of this assessment. In accordance with the *SHPO Wind Guidelines*, and based on consultation with NYSOPRHP, buildings that were not sufficiently old (i.e., less than 50 years in age), that lacked architectural integrity, or have been evaluated by EDR's architectural historians as lacking historical or architectural significance were *not* included in or documented during the survey.

The completed Historic Resources Survey Report is part of this Article 10 Application and was uploaded to NYSOPRHP through the CRIS website on June 4, 2018. This report contained the results of EDR's survey but did not contain an effects analysis for historic resources. The Historic Resources Survey Report was submitted so that NYSOPRHP could review the results of the survey and make determinations of eligibility for the properties identified. Following NYSOPRHP's determinations of eligibility, a separate Historic Resources Effects Analysis report (Appendix FF) was prepared and submitted to NYSOPRHP via the CRIS website on June 22, 2018.

Properties inventoried and evaluated as part of the historic resources survey included both previously and newly identified resources. The locations of all properties surveyed (including previously surveyed and newly identified properties) are listed in Table 1 and shown on Figure 7 of the attached Historic Resources Survey Report (Appendix EE). Photographs of all properties surveyed are included in Appendix B of the Historic Resources Survey Report.

A total of 27 previously identified properties (i.e., properties already included in the NYSOPRHP CRIS database as either S/NRHP-eligible or whose eligibility for the S/NRHP has not been formally determined) were re-visited and evaluated as part of the Facility's historic resources survey. Three additional properties located outside the APE for Indirect Effects were also surveyed due to their close proximity to the study area. The S/NRHP-eligibility of two properties could not be determined due to a lack of access.

In addition, EDR identified 16 properties within the 5-mile study area that had not been previously surveyed. All of these newly surveyed properties were recommended by EDR as S/NRHP-eligible. Most of these resources are comprised of residences within the Village of Deposit that retain a high level of integrity in materials, design and residential setting. Additional resources recommended by EDR to be S/NRHP-eligible include cemeteries, churches, and agricultural support buildings. No new potentially S/NRHP-eligible historic districts were identified by EDR.

In addition to the historic resources survey, existing visual and aesthetic resources within the visual study area were identified by EDR as part of a Visual Impact Assessment (VIA) report, which is summarized in Exhibit 24 of this application and attached in its entirety as Appendix ZZ. It is important to note that the VIA examined a 10-mile study area around the Facility, whereas the historic resources survey and visual effects analysis discussed here examined a 5-mile study area.

In accordance with the requirements set forth in 16 NYCRR § 1000.24(b)(4) as well as the Article 10 PSS for the Facility, the Applicant conducted a systematic program of public outreach to assist in the identification of visually

sensitive resources. Outreach included town and village historians in addition to other stakeholders relevant to historic properties (town supervisors, mayors, business owners, etc.) Copies of the correspondence sent by the Applicant as part of this process, as well as responses received from stakeholders, are included in the VIA.

The VIA includes an evaluation of the potential visibility of the Facility based on viewshed analysis, field verification, and preparation of representative visual simulations. The visual simulations (included in the VIA report [Appendix ZZ] and as Appendix B of the Historic Resources Effects Analysis [Appendix FF]) provide representative views of the potential visual effect of the Facility from a variety of distances and settings within the study area.

(2) A Summary of the Nature of the Probable Impact of Facility Construction and Operation on Any Historic Resources.

Construction of the Facility will not require the demolition or physical alteration of any buildings or other potential historic resources. No direct physical impacts to historic architectural resources will occur as a result of Facility construction or operation.

The Facility's potential effect on a given historic property would be a change (resulting from the introduction of wind turbines) in the property's visual or auditory setting. As it pertains to historic properties, setting is defined as "the physical environment of a historic property" and is one of seven aspects of a property's integrity, which refers to the "ability of a property to convey its significance" (NPS, 1990:44-45). The other aspects of integrity include location, design, materials, workmanship, feeling, and association (NPS, 1990). The potential effect resulting from the introduction of wind turbines into the visual setting for any historic or architecturally significant property is dependent on a number of factors including distance, visual dominance, orientation of views, viewer context and activity, and the types and density of modern features in the existing view (such as buildings, residences, overhead electrical transmission lines, cellular towers, billboards, highways, and silos).

The potential effect resulting from the introduction of the sound of wind turbines into the setting for any historic or architecturally significant property is likewise dependent on a number of factors including the proximity of an historic property to a turbine, the perceived disruption to the contributing characteristics of the property, and the presence of existing noise levels from modern technology and machinery that is audible (such as highway traffic, industrial or agricultural activities, airports, railyards, or other sources of noise).

As discussed above, the potential visibility and visual impact of the proposed Facility is evaluated in the VIA prepared for the Facility which is summarized in Exhibit 24 and attached as Appendix ZZ of this Application. The

distance to the nearest turbine as well as the number of turbines potentially visible from historic resources within the study area is depicted in Figure 4 of the attached Historic Resources Effects Analysis report (Appendix FF). The viewshed was determined by preparing a digital survey model (DSM) of the Study Area to include the elevations of buildings, trees, and other objects that would potentially screen views of the Facility. The number of turbines potentially visible from each historic property within the study area and distance from each historic resource to the nearest turbine is listed in Table 20-3.

Table 20-3. Visual Effects Analysis for S/NRHP-Listed and S/NRHP-Eligible Resources

Survey ID	USN	Address	Name and/or Description	Municipality	County	NRHP Eligibility Recommendation (EDR)	NRHP Eligibility Recommendation (NYSOPRHP)	Distance to Nearest Turbine (Miles)	Number of Turbines Potentially Visible
1	05NR05519	3500 State Route 79	Harpursville United Methodist Church, a one-story stone church with a central bell tower	Town of Colesville	Broome	NRHP-Listed Site	NRHP-Listed Site	5.7	0
2	BIN 3349160	Old Bridge Street over Susquehanna River	Center Village Bridge, a Pratt through-truss bridge	Town of Colesville	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	4.7	9
3	00704.000070	2906 State Route 79	Winsor Acres Farms, a farm complex consisting of 12 metal agricultural buildings	Town of Colesville	Broome	Not NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	2.7	7
4	00704.000089	63 Chaffee Street	A two-story Greek Revival residence with clapboard siding	Town of Colesville	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	4.6	10
5	00704.000090	2814 State Route 79	Approximately 0.6-acre cemetery with an estimated 291 headstones, circa 1798 (Harpur Cemetery)	Town of Colesville	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	2.9	3
6	00712.000090	14 Lord Road	Approximately 0.25-acre cemetery with an estimated 12 headstones, circa 1843 (Lord Road Cemetery)	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP Eligibility Undetermined	3.3	14
7	00712.000069	395 Clark Road	Historic farmstead consisting of a two-and-one-half-story vernacular residence, a small shed, an historic barn, and a modern pole barn	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	2.7	16
8	00712.000091	223 Huggins Road	Approximately 0.4-acre cemetery with an estimated 5 headstones, circa 1900 (Huggins Cemetery)	Town of Sanford	Broome	NRHP Eligibility Undetermined	NRHP Eligibility Undetermined	1.7	17

Survey ID	USN	Address	Name and/or Description	Municipality	County	NRHP Eligibility Recommendation (EDR)	NRHP Eligibility Recommendation (NYSOPRHP)	Distance to Nearest Turbine (Miles)	Number of Turbines Potentially Visible
9	02NR04990	Dutchtown Road over Susquehanna River	Ouaquaga Lenticular Truss Bridge, a double-span, lenticular through-truss bridge	Town of Windsor	Broome	NRHP-Listed Site	NRHP-Listed Site	4.8	0
10	00716.000027	Old New York Route 17 over Occanum Creek	Girder and floor beam bridge, built 1935	Town of Windsor	Broome	Not NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	4.9	2
11	90NR00091	Academy, Chapel, Church, College, Dewey, Elm and Main Streets	Windsor Village Historic District	Town of Windsor	Broome	NRHP-Listed Site	NRHP-Listed Site	3.7	3
12	00747.000100	21 Maple Street	Two-story Greek Revival residence	Town of Windsor	Broome	Not NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	4.0	2
13	90NR00090	10 Chestnut Street	Jedediah Hotchkiss House, a two-story stone Greek Revival residence with associated stone barn	Town of Windsor	Broome	NRHP-Listed Site	NRHP-Listed Site	3.3	0
14	00712.000092	585 William Law Road	Approximately 0.2-acre cemetery with an estimated 46 headstones, circa 1848 (Alexander Hill Cemetery)	Town of Windsor	Broome	NRHP Eligibility Undetermined	NRHP Eligibility Undetermined	0.7	33
15	00712.000093	110 Bryce Road	An historic farmstead consisting of a two-and-one-half-story vernacular residence, a barn, and two small sheds	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	0.0[4]	23

[4] This historic structure occurs on a large parcel upon which a wind turbine is proposed, so the distance from the property is to the nearest turbine is given as 0. The distance from the structure is 0.6 mile.

Survey ID	USN	Address	Name and/or Description	Municipality	County	NRHP Eligibility Recommendation (EDR)	NRHP Eligibility Recommendation (NYSOPRHP)	Distance to Nearest Turbine (Miles)	Number of Turbines Potentially Visible
16	00712.000094	828 State Route 41	Approximately 0.7-acre cemetery with an estimated 150 headstones, circa 1830 (Sanford Cemetery)	Town of Windsor	Broome	NRHP-Eligible (EDR Recommended)	NRHP Eligibility Undetermined	0.6	14
17	00712.000095	171 Big Hollow Road	A two-and-one-half-story vernacular structure with a northern ell and two roof ridge cupolas	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.1	0
18	00712.000009	166 Big Hollow Road	Historic farmstead with two-story vernacular residence	Town of Sanford	Broome	Not NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	1.1	2
19	02544.000018	60 Wheeler Street	Two-and-one-half-story vernacular residence	Town of Deposit	Delaware	Not NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	1.6	1
20	02544.000019	171 Second Street	Deposit Junior-Senior High School, a two-story Public Works Administration (PWA)-era school building	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	1.4	5
21	02544.000012	47 Wheeler Street	Two-story vernacular residence	Town of Deposit	Delaware	Not NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	1.6	2
22	00743.000011	29 Ford Hill Road	A two-story Gothic Revival cottage residence with lancet doorways and decorative gable-end woodwork	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.6	0
23	00743.000012	21 Center Street	A three-stone pressed cement block apartment building. Keystone above door reads "1915"	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.6	0

Survey ID	USN	Address	Name and/or Description	Municipality	County	NRHP Eligibility Recommendation (EDR)	NRHP Eligibility Recommendation (NYSOPRHP)	Distance to Nearest Turbine (Miles)	Number of Turbines Potentially Visible
24	02506.000054	129 Second Street	First Presbyterian Church, a one-story brick church with a four-story cross-gabled bell tower with spire	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.7	2
25	00743.000013	141 Second Street	First Baptist Church, a one-story brick church with a cross-gabled roof and a four-and-one-half-story bell tower	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.7	3
26	02544.000028	145 Second Street	Deposit Historical Society Museum, a one-story brick building, originally the first bank in the village	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.7	0
27	02544.000029	43 Pine Street	A two-story Federal/Greek Revival transitional style residence	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.8	3
28	02544.000016	32 Pine Street	Two-story Greek Revival residence	Town of Deposit	Delaware	Not NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	1.9	0
29	00743.000003	45 Second Street	Two-and-one-half-story Second Empire residence	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.7	0
30	02544.000001	20 Main Street	Two-story Greek Revival residence with additions	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.9	1
31	00743.000002	75 Second Street	Two-story Greek Revival with additions	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.7	1
32	00743.000006	16 Court Street	Two-story vernacular residence with decorative woodwork	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.7	1

Survey ID	USN	Address	Name and/or Description	Municipality	County	NRHP Eligibility Recommendation (EDR)	NRHP Eligibility Recommendation (NYSOPRHP)	Distance to Nearest Turbine (Miles)	Number of Turbines Potentially Visible
33	00743.000014	99 Second Street	A two-and-one-half-story residence with elements of Federal, Greek Revival, and Italianate styles	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.7	1
34	BIN 770220	CSX over Mill Street (County Route 237)	Girder and floor beam railroad bridge, built 1920	Town of Sanford	Broome	Not NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	1.8	2
35	02544.000017	128-132 Front Street	Three-story brick commercial building	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.8	0
36	02544.000015	159 Front Street	Deposit Free Library, one-story brick building	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.8	1
37	90NR00089	148 Front Street	State Theater, a one-story Art Deco theater with a glass facade	Town of Sanford	Broome	NRHP-Listed Site	NRHP-Listed Site	1.8	2
38	02544.000030	228 Front Street	A two-story Greek Revival residence and contemporary addition. Historic marker states the property was the site of the first store in the village, built by Silas Crandall in 1803.	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	2.0	0
39	02544.000031	1 River Street	Axtell Antiques, a two-story Federal style residence with 12/12 windows and historic iron gate on property. Historic marker states the building was historically known as the "Rookery Tavern" and was constructed in 1799.	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	2.0	0

Survey ID	USN	Address	Name and/or Description	Municipality	County	NRHP Eligibility Recommendation (EDR)	NRHP Eligibility Recommendation (NYSOPRHP)	Distance to Nearest Turbine (Miles)	Number of Turbines Potentially Visible
40	02544.000032	CSX over Delaware River	CSX over the Delaware, a metal lattice through truss railroad bridge, circa 1880.	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	1.9	7
41	02544.000033	Southwest corner of Orchard and Laurel Bank Avenue	An approximately 0.5-acre cemetery with an estimated 102 headstones, circa 1793 (Revolutionary War Cemetery)	Town of Deposit	Delaware	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	2.1	0
42	02544.000034	27 Oak Street	Approximately 8.9-acre cemetery with an estimated 2101 headstones, circa 1882 (Laurel Hill Cemetery).	Town of Deposit	Delaware	Not NRHP-Eligible (EDR Recommended)	NRHP Eligibility Undetermined	2.0	13
43	00716.000087	941 State Route 79	Outlook Farm, an historic farmstead consisting of a two-and-one-story Queen Anne residence, a carriage house with an attached shed, and a barn.	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	3.4	9
44	00716.000088	623 State Route 79	Approximately 0.25-acre cemetery with an estimated 100 headstones, circa 1780 (Old South Windsor Cemetery, also known as Wake Cemetery).	Town of Windsor	Broome	NRHP-Eligible (EDR Recommended)	NRHP Eligibility Undetermined	3.6	15
45	00712.000096	591 Oquaga Lake Road	Approximately 243-acre camping resort consisting of six houses, two barns, two large camp lodges, two support buildings, a lake house, and a tennis court.	Town of Sanford	Broome	NRHP-Eligible (EDR Recommended)	NRHP-Eligible (NYSOPRHP Determined)	4.5	9

Based on the viewshed analysis, two of the five S/NRHP-listed properties within the APE for indirect effects are anticipated to have views of up to three new wind turbines. The State Theater (90NR00089) is located approximately 1.8 miles from the nearest turbine in the Village of Deposit. From this location, the visual setting associated with the property would include views of up to two wind turbines. The S/NRHP-listed Windsor Village Historic District (90NR00091) is located approximately 3.7 miles from the nearest turbine. From the location with the most Project visibility (Viewpoint 2, see Insets 1-2), the visual setting associated with the historic district would include views of up to three wind turbines. Field review indicates that views of these two resources will be partially screened by intervening topography, vegetation, and structures. The Facility will not be visible from the remaining three S/NRHP-listed properties within the Study Area (the Harpursville Methodist Church (05NR05519), the Oquaga Lenticular Truss Bridge (02NR04990), and the Jedediah Hotchkiss House (90NR00090)). These resources are located between 3.3 and 5.7 miles from the nearest turbine, and views of the Facility from these properties will be screened by intervening vegetation, topography and/or buildings

Based on the viewshed analysis, of the 25 properties within the APE determined by NYSOPRHP to be S/NRHP-eligible:

- Fourteen properties will have potential views of between 1 and 10 turbines. These properties are located between 1.7 and 4.7 miles from the nearest turbine. Of these 14 properties, nine will only have potential views of between 1 and 3 turbines.
- Two properties will have views of between 16 and 23 turbines. These properties are located approximately 2.7 and 0.0 miles from the nearest turbine, respectively.
- Nine properties will have no views of the Facility.
- No properties will have views of more than 23 turbines.

The field review conducted as part of the historic resources survey indicated that existing buildings, street trees, yard vegetation, utility poles, and other objects screen views of the Facility from the Villages of Windsor and Deposit, and other areas of concentrated settlement within the Study Area. Potential views of the Facility from within the village were limited to the edges of the developed areas where gaps between buildings allow for more partial and/or distant views toward the Facility. Based on viewshed analysis and field review, it can be concluded that the effect on the visual setting associated with historic resources in the villages and hamlets located within the Study Area will be greatest in areas closest to the wind turbines and will decrease the greater the distance between an historic resource and the nearest wind turbine.

Note that per the New York State Department of Environmental Conservation (NYSDEC) Program Policy DEP-00-2, Assessing and Mitigating Visual Impacts (NYSDEC, 2000), simple visibility of the Facility from any of the viewing

locations does not imply detrimental effect to the beauty or structure. The policy specifically states "Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Significant aesthetic impacts are those that may cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place. Proposed large facilities by themselves should not be a trigger for declaration of significance. Instead, a project by virtue of its siting in a visual proximity to an inventoried resource may lead staff to conclude that there may be a significant impact" (NYSDEC, 2000).

The potential visual effect of the Facility's proposed collection and POI substations was not explicitly addressed in the Historic Resources Survey Report (Appendix EE). However, the VIA (Appendix ZZ) prepared for the Facility, which was included as an appendix of the Article 10 Application and summarized in Exhibit 24, does address the visibility and visual impact of the collection and POI substations. The historic properties identified in the Historic Resources Survey Report are included as a category of visually sensitive sites that are considered in the VIA (see Section 3.6 and Figure 5 in the VIA report). In addition, the VIA report includes a discussion (included below), viewshed map (included as Figure 5 of the Historic Resources Effects Analysis) and visual rendering (Figure 10 of the VIA report) that address the potential visibility and visual effect of the collection and POI substations:

> *Substations*
>
> Field review indicates that the proposed substation is well screened by surrounding vegetation and topography and is located at the end of a lightly used dirt road. There is one residence adjacent to the site at approximately 1,200 feet that will have views of the substations from their yard and driveway. However, because of the screening provided by adjacent vegetation, views from the home will not be available. The site is set into a small valley that consists of only Big Hollow Road and the Afton-Stilesville transmission corridor. Views from adjacent roadways, such as Lumber Road and County Route 248 (North Sanford Road) are fully blocked by the valley walls. Thus, visibility and viewer exposure at this site are anticipated to be minimal. Engineering designs for the substations have not yet been finalized. However, based on an assumed maximum structure (lightning mast) height of 60 feet, viewshed analysis confirmed that substation visibility will be very limited within 1 mile of the proposed stations. In addition, co-location of the collection substation with the POI substation directly adjacent to an existing overhead transmission line minimizes the overall contrast presented by the proposed facilities. Consequently, visibility and visual impact of the proposed substations is anticipated to be localized and minor. To illustrate the potential appearance of the collection and POI substations a visual simulation was produced from Big Hollow Road (VIA, page 122).

No S/NRHP-eligible properties are located within one mile or the viewshed of the proposed collection and POI substations (see Figure 5 of the Historic Resources Effects Analysis). The nearest S/NRHP-eligible property to the collection and POI substations (171 Big Hollow Road, USN 00712.000095) is located 2.1 miles to the south. Based on the viewshed analysis depicted in Figure 5 of the Historic Resources Effects Analysis, no historic properties will have views of the collector and POI substations, and therefore no historic properties will be impacted by the proposed substations.

In addition to the viewshed analysis, a set of 19 visual simulations of the turbines were prepared for the Facility's VIA report (Appendix ZZ)[5]. These simulations provide representative views of the proposed Facility from a variety of landscape settings, directions, and viewing distances from within the Facility's Visual Study Area. Although most of these simulations do not necessarily represent the views of or from specific historic properties, the simulations do provide representative depictions of the Facility's potential effect on the visual settings associated with historic properties within the Study Area. Full size images of all of the simulations are included in the VIA report and included in Appendix B of the Historic Resources Effects Analysis report which is appended to this Exhibit (Appendix FF).

The simulations that best represent the potential visual effect on two of the "key loci" identified by NYSOPRHP as part of consultation for the Facility (Bonafide, 2018) include the simulations from Viewpoint 2 (Windsor Village Historic District), Viewpoint 12 (Village of Deposit), and Viewpoints 61 and 104 (rural agrarian properties), which are included as Insets 1-8 in the Historic Resources Effects Analysis report. The evaluation of the Facility's potential visual effect at each of these locations is presented in detail in the VIA and summarized in the Historic Resources Effects Analysis report. In addition, a detailed assessment of the potential visual effects from the remaining key loci identified by NYSOPRHP is provided in the Historic Resources Effects Analysis report through use of "wireframe" simulations.

Based on field review and visual simulations prepared as part of the VIA for the Facility, it is anticipated that the Bluestone Wind Project will not have a significant adverse visual impact on historic resources listed in or eligible for listing in the S/NRHP. Field review and visual simulations revealed that views from the Villages of Deposit and Windsor (which were identified by NYSOPRHP as locations where visual impacts should be carefully assessed) toward the Facility would be largely screened by intervening vegetation, buildings and topography. With regard to the concerns expressed by NYSOPRHP regarding rural, agrarian properties, although construction of the Facility will result in a change to the visual setting of historic properties located within the Study Area, it is likely that the qualities that contributed to the historic significance of properties determined by NYSOPRHP to be NRHP-eligible will not be adversely impacted by the Facility.

Operational Noise/Vibration Impacts (see Exhibit 19)

The assessment of potential noise-related impacts from the Facility is discussed in detail in Exhibit 19, and a Preconstruction Noise Impact Assessment (PNIA) is included as Appendix X. This subsection focuses on potential

[5] In addition, a simulation was prepared for the collector and POI substations (included in the VIA as Figure 10). However, as summarized in Section 3.2.2 and depicted in Figure 5 of the Historic Resources Effects Analysis, no S/NRHP-eligible resources are located within one mile of the collector or POI substations, and therefore there will be no indirect (visual) impact from the substations on S/NRHP-eligible resources. Therefore, the discussion of visual simulations in this Exhibit is limited to simulations prepared for wind turbines only.

operational noise/vibration impacts to S/NRHP-eligible historic properties within the Study Area. Construction-related noise/vibration impacts are not considered because they will be short-term and temporary in nature.

Relevant to noise and vibration impacts to S/NRHP-eligible cultural resources, the implementing regulations for New York State Parks, Recreation and Historic Preservation Law, Section 14.09 (9 NYCRR § 428.7) state:

> In determining whether an undertaking will have an adverse impact on eligible or register property, the commissioner shall consider whether the undertaking is likely to cause:
>
> 1. destruction or alteration of all or part of the property;
> 2. isolation or alteration of the property's environment;
> 3. *introduction of visual, audible or atmospheric elements which are out of character with the property or alter its setting;*
> 4. neglect of the property resulting in its deterioration or destruction. [emphasis added] (9 NYCRR § 428.7)

In addition, the Federal Regulations entitled "Protection of Historic Resources" (36 CFR Part 800) include in Section 800.5(2) a discussion of potential adverse effects on historic resources:

> "Adverse effects on historic properties include but are not limited to: . . . (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; [and] (v) *Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features*. . ." [emphasis added]

Similar to visual impacts to historic properties, potential noise and vibration impacts would be greatest at properties in closer in proximity to turbines. The 44 properties located outside of 0.5-mile from the nearest turbine (98 percent of S/NRHP-eligible properties) will experience noise levels below 45 dBA $L_{eq(8)}$ with noise levels decreasing with distance from the turbine. Ambient noise levels of 45 dBA $L_{eq(8)}$ and below are consistent with sound levels suggested by various noise guidelines that are considered generally acceptable for residential areas (see Exhibit 19).

Only one S/NRHP-eligible property (110 Bryce Road (USN 00712.000093)) is located within 0.5-mile (0.8 km) of the nearest turbine. This property is anticipated to experience noise levels of between 40 and 45 dBA $L_{eq(8)}$ during Facility operation. However, it should be noted that the distance from the nearest turbine was measured to the property's parcel boundary. The distance from the nearest turbine to the S/NRHP-eligible structure on the property is 0.6-mile (0.9 km).

Therefore, the noise generated by nearby wind turbines is not anticipated to constitute a significant adverse impact to the setting of this property, nor to any of the S/NRHP-listed or S/NRHP-eligible historic resources within the Study Area.

More generally, the Facility has been sited with turbines, the POI substation, and the collection substation in undeveloped areas away from population centers, such as villages and town centers, in order to minimize potential auditory impacts to area residences and historic properties, which are clustered in developed areas within the 5-Mile Study Area for the Facility. Moreover, because existing ambient noise levels are expected to be slightly higher in these more developed areas (due to increased vehicle traffic and other noises associated with greater population density, any potential noise impacts to historic properties from the proposed turbines and collection substation would not be expected to be significant.

Based on the above analysis, and that contained in Exhibit 19 of this Application, potential noise and/or vibrations caused by the operation of the proposed Facility are not expected to significantly alter the character or setting of S/NRHP-listed and -eligible historic properties within the Study Area. Vibrations are not anticipated to impact any S/NRHP-listed or -eligible properties and noise-related impacts are anticipated to be relatively minimal, due in large part to the Facility's siting in remote rural areas away from areas of higher historic and modern population density. Any elevated noise and vibration levels related to Facility construction will be short-term and temporary in nature. Therefore, there will be no permanent noise-related adverse impacts to S/NRHP-listed or eligible properties.

Mitigation

Mitigation options are limited given the nature of the Facility and its siting criteria (very tall structures some of which are located in open fields at the highest locally available elevations). However, in accordance with NYSDEC Visual Policy (NYSDEC, 2000), and as described in the VIA report for the Facility (Exhibit 24; Appendix ZZ) various mitigation measures were considered to address visual impacts generally.

Mitigation specifically targeted at impacts to historic properties typically consist of projects that benefit historic properties and/or the public's appreciation of historic resources to offset potential impacts to historic properties resulting from the introduction of wind turbines into their visual setting. Mitigation projects that have been proposed for other wind energy projects in New York State have included activities such as additional historic resources surveys, S/NRHP nominations, monetary contributions to historic property restoration causes, development of heritage tourism promotional materials, development of educational materials and lesson plans, and development of public history materials, such as roadside markers.

As part of the Article 10 review process, the Applicant has initiated contact with local stakeholders to help identify potential cultural resources mitigation projects and will continue to consult with the stakeholders and NYSOPRHP to determine the need for and details of these projects. The Applicant has drafted a Preliminary Cultural Resources Mitigation Plan (see Appendix GG) that summarizes these outreach efforts and proposed mitigation projects.

The plan will be submitted to NYSOPRHP for their review and concurrence; however, cultural resources mitigation will not formally begin until it is initiated by the U.S. Army Corps of Engineers (USACE) as the involved federal agency under Section 106 of the National Historic Preservation Act (NHPA). Consultation with USACE, NYSOPRHP, DPS, and local stakeholders will be ongoing, resulting in a Memorandum of Agreement between all involved agencies and parties outlining the projects to be undertaken as a result of the cultural resources mitigation process, including total offset funding.

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