Visual Impact Assessment

Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland
Steuben County, New York

Case No. 15-F-0122

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1.0 Introduction

On behalf of Baron Winds, LLC, Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) prepared this Visual Impact Assessment (VIA) for the proposed Baron Wind Project (the Project). The proposed Project is a wind energy generating facility located in the Towns of Cohocton, Dansville, Fremont, and Wayland, Steuben County, New York. This VIA was prepared in support of the Project's review under Article 10 (Certification of Major Electrical Generating Facilities) of the New York State Public Service Law. The information and conclusions included in this report are intended to assist the Department of Public Service (DPS), other state agencies, interested stakeholders, and the general public in their review of the proposed Project in accordance with the requirements of Article 10. The purpose of this VIA is to:

- Define the visual character of the Project study area
- Inventory and evaluate existing visual resources and viewer groups within the study area
- Describe the appearance of the visible components of the proposed Project
- Evaluate potential Project visibility within the study area
- Identify key views for visual assessment
- Assess the visual impacts associated with the proposed Project

This VIA was prepared under the direct guidance of a registered landscape architect experienced in the preparation of visual impact assessments. It is also consistent with the policies, procedures, and guidelines contained in established visual impact assessment methodologies (see Literature Cited/References section), and complies with the requirements Stipulation 24.

2.0 Project Description

Baron Winds, LLC, a subsidiary of EverPower Wind Holdings, Inc., proposes to construct and operate a wind energy generating facility in Steuben County, New York, (see Figure 1). The proposed facility, herein referred to as the Project, consists of the following components:

- Up to 76 wind turbines, with a maximum combined generating capacity of 300 megawatts (MW).
- Approximately 22 miles of access roads.
- Approximately 36 miles of overhead and underground 34.5 kilovolt (kV) collection lines.
- A collection substation.
- A point of interconnection (POI) substation modification.
- Up to four permanent meteorological (met) towers.
- Two temporary construction staging/laydown yards
- An Operations and Maintenance (O&M) building.

Various models of wind turbines are being considered for the Project (see Table 1). The analyses conducted in this VIA assume a 76 turbine layout consisting of Vestas V126-3.6 MW wind turbines having an 89 meter (292 feet) hub height, 126 meter (413 feet) rotor diameter, and 152 meter (499 feet) total height. This is the tallest turbine height presently under consideration for the Project, and thereby represents the greatest potential visual impact.

2.1 Project Site

The proposed Project Site includes approximately 8,615 acres of leased private land in the Towns of Cohocton, Dansville, Fremont, and Wayland, in Steuben County, New York (Figure 1). As measured to the nearest proposed turbine, the Project Site is 0.5 mile west of the Village of Cohocton, 3.5 miles northeast of the Village of North Hornell, 3.9 miles northeast of the City of Hornell, 3.9 miles south of the Village of Wayland, 4.6 miles east of the Village of Arkport, 4.6 miles northwest of the Village of Avoca, 6.4 miles north of the Village of Canisteo, 7.1 miles southeast of the Village of North Dansville, 7.7 miles northeast of the Village of Almond, 8.5 miles east of the Village of Canaseraga, and 8.9 miles southwest of the Village of Naples. The Project Site is bounded on the northeast by Interstate Route 390, on the east by the Avoca and Howard town lines, on the south by Interstate Route 86, and on the west by the Carrington Creek valley and Loon Lake (Figure 2).

Land within the Project Site consists of open fields, forests, areas of successional shrubland, and wetlands, with elevations ranging from 1,420 feet (433 meters) above mean sea level (AMSL) along an unnamed tributary of Reynolds Creek in the northeast, to 2,142 feet (653 meters) AMSL at the summit of Potter Hill. Land use is dominated by second growth forest

as well as active and reverting agricultural land, interspersed with farms and low density rural residential development along area roadways. Higher density residential and commercial development in the vicinity of the proposed Project is concentrated in the City of Hornell and the Villages of Cohocton, North Hornell, Wayland, Arkport, and Avoca.

Inset 1: View overlooking Loon Lake and the surrounding landscape, from Hann Road in the Town of Wayland.

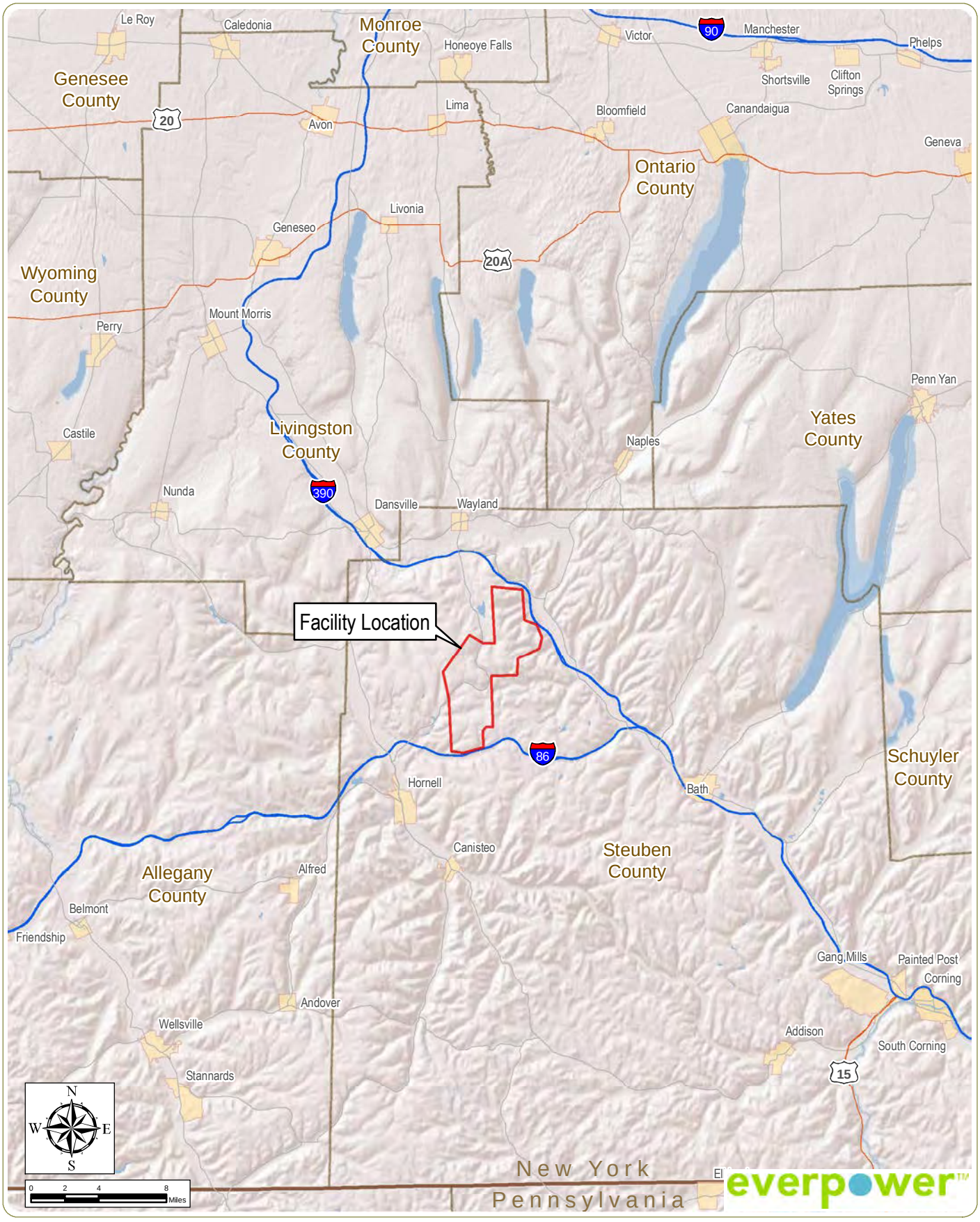

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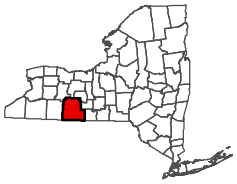
Figure 1: Regional Facility Location



Notes: 1. Basemap: ESRI ArcGIS Online "World Shaded Relief" Map Service and ESRI StreetMap North America, 2008.
2. This map was generated in ArcMap on September 12, 2017.
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Figure 2: Facility Layout

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
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- Wind Turbine
- Permanent Met Tower
- Buried Collection Line
- Overhead Collection Line
- Access Road
- Laydown Yard
- O&M Building
- POI Substation
- Collector Substation
- Facility Site
- Village Boundary
- Town Boundary

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2.3 Proposed Project

The Baron Winds Project is a proposed wind energy generating facility consisting of up to 76 wind turbines and associated support facilities. The proposed Project layout is illustrated in Figure 2. The major components of the Project are described as follows:

2.3.1 Wind Turbines

Due to their height and size, the proposed wind turbines are the Project components that will be the most visible and have the greatest potential visual impact. Therefore, the proposed wind turbines are the primary focus of the visual impact analyses presented in this report.

Market factors such as availability and cost influence turbine selection, so a specific turbine model has not yet been selected for the Project. While not exhaustive, turbine models under consideration for this Project are listed in Table 1. Turbine models that have been determined to be suitable for this site include the Acciona AW-132-3300 (3.3 MW), Gamesa G126-2.625 (2.625 MW), Gamesa G132-3.4 (3.463 MW), General Electric GE 3.2-130 (3.23 MW), Nordex N117-3.6 (3.6 MW), Nordex N131-3.9 (3.9 MW), Senvion M122-3.4 (3.4 MW) Senvion M140-3.6, Siemens SWT-2.625-120 (2.625 MW), Siemens SWT-3.6-130 (3.6 MW), Vestas V126-3.6 (3.6 MW), and Vestas V136-3.6 models.

For the purposes of this VIA, it is assumed that the wind turbine selected for the Project will be the Vestas Model V126, which represents the tallest turbine presently under consideration. The rotor diameter of this turbine is 126 meters and the anticipated hub height is 87 meters, resulting in a maximum blade tip height of 150 meters above the ground surface. However, to provide conservative analysis of potential turbine visibility, a hub height of 89 meters was used in all of the analyses conducted in this VIA. Please note that the turbine ultimately selected for the Project may not be one of those presented in Table 1. However, the selected turbine will have a generally similar appearance, and will be no taller than the Vestas V126 analyzed in this VIA.

Table 1. Approximate Turbine Dimensions by Model

Turbine Model	Rated Power	Hub Height	Rotor Diameter	Total Height
Acciona AW-132-3300	3.3 MW	84 meters (276 feet)	132 meters (433 feet)	150 meters (492 feet)
Gamesa G126-2.625	2.625 MW	84 meters (276 feet)	126 meters (413 feet)	147 meters (482 feet)
Gamesa G132-3.465	3.465 MW	84 meters (276 feet)	132 meters (433 feet)	150 meters (492 feet)

Turbine Model	Rated Power	Hub Height	Rotor Diameter	Total Height
General Electric GE3.2-130	3.23 MW	85 meters (279 feet)	130 meters (427 feet)	150 meters (492 feet)
Nordex N117-3.6	3.6 MW	91 meters (298 feet)	117 meters (384 feet)	149.5 meters (491 feet)
Nordex N131-3.9	3.9 MW	84 meters (276 feet)	131 meters (430 feet)	149.5 meters (491 feet)
Senvion M122-3.4	3.4 MW	89 meters (292 feet)	122 meters (400 feet)	150 meters (492 feet)
Senvion M140-3.6	3.6 MW	80 meters (262 feet)	140 meters (400 feet)	150 meters (492 feet)
Siemens SWT-2.625-120	2.625 MW	85.1 meters (279 feet)	120 meters (394 feet)	145 meters (476 feet)
Siemens SWT-3.6-130	3.6 MW	85 meters (279 feet)	130 meters (426 feet)	150 meters (492 feet)
Vestas V126-3.6	3.6 MW	87 meters (285 feet)	126 meters (413 feet)	150 meters (492 feet)
Vestas V136-3.6	3.6 MW	82 meters (269 feet)	136 meters (446 feet)	150 meters (492 feet)

Regardless of which turbine model is ultimately selected for the facility, it will be comprised of standard utility-scale wind turbine components, which are described below. The typical appearance of these structures is illustrated in Figure 3.

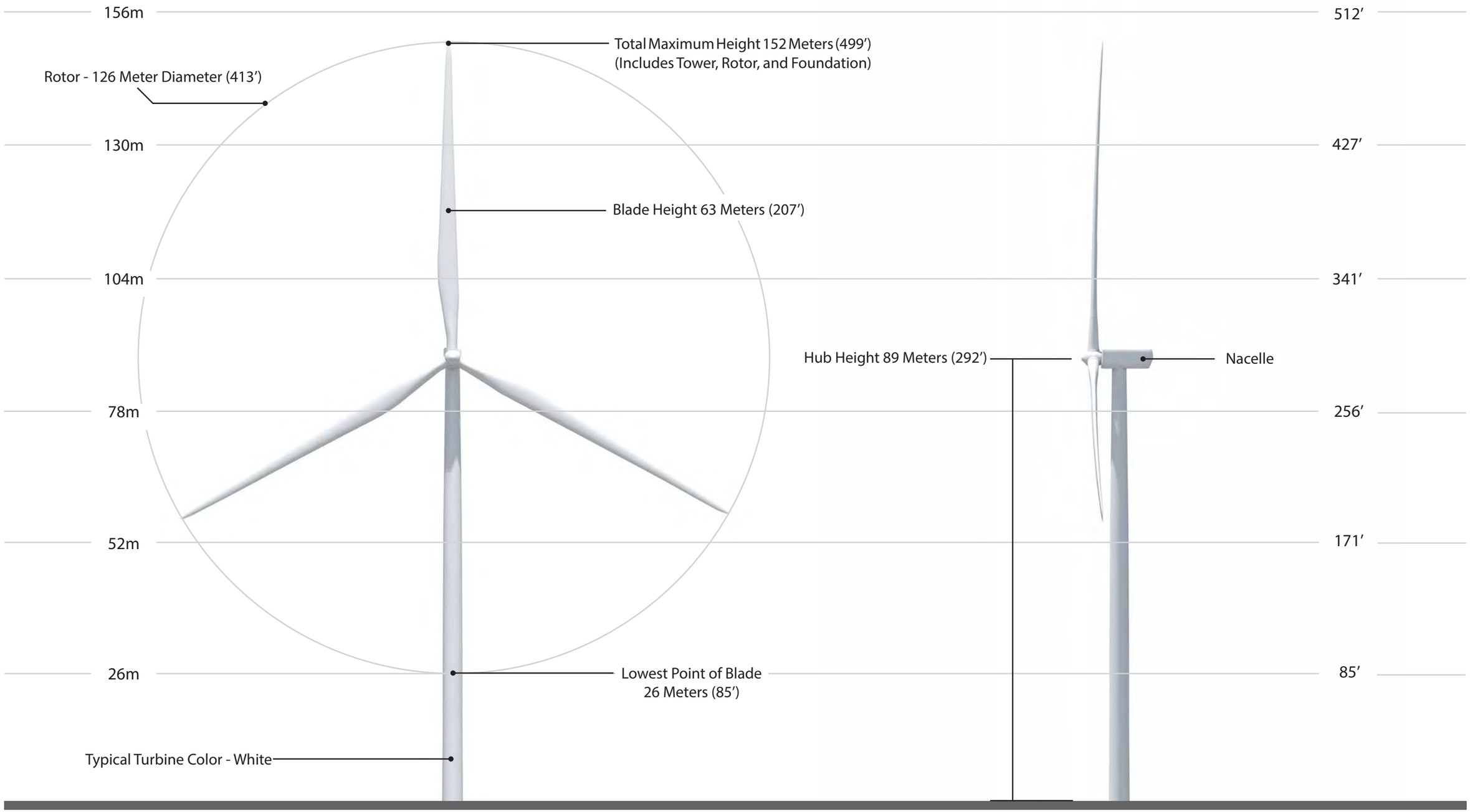

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Figure 3: Diagram of Proposed Project Components; Vestas V126 Turbine

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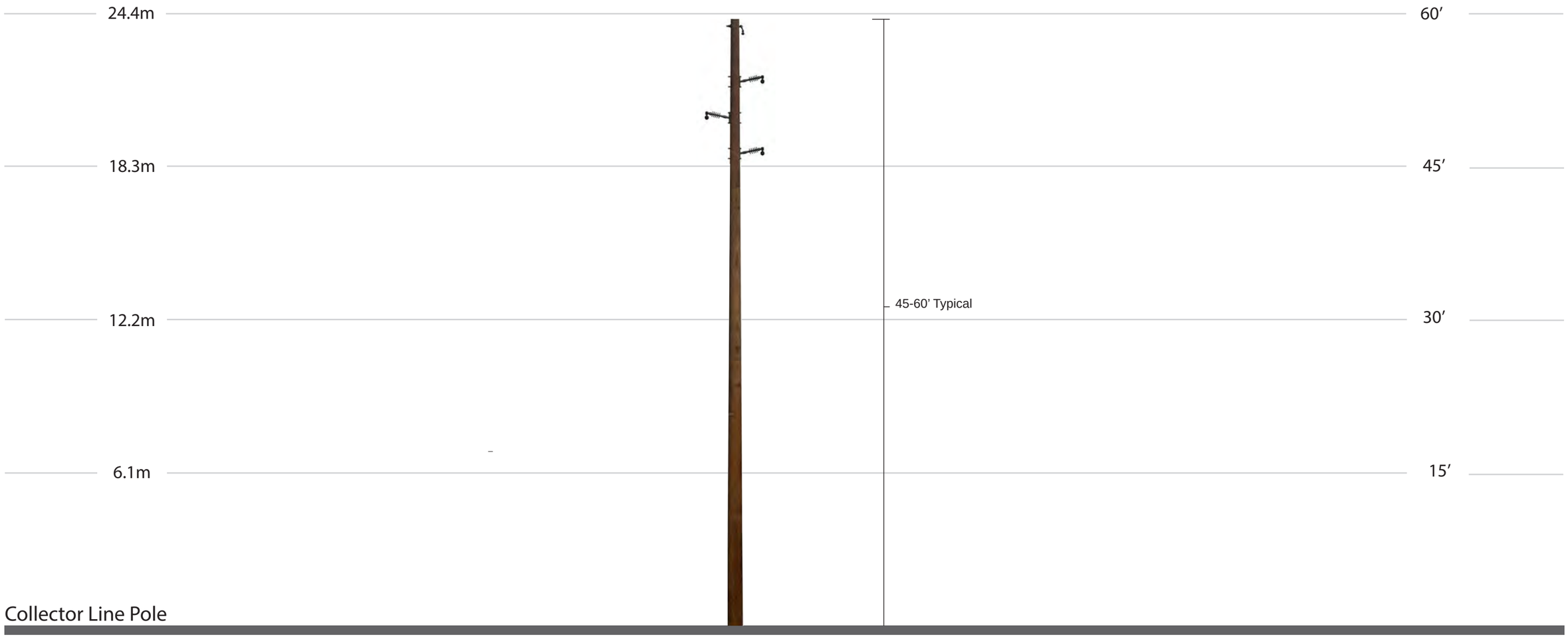

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Figure 3: Diagram of Proposed Project Components; Collector Line Pole

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Tower: The tubular towers to be used to support the wind turbine are conical steel structures manufactured in sections, each of which are trucked separately to the site and bolted together using internal flanges. Each tower is anticipated to have a hub height of 87 meters (285 feet), and will be equipped with an access door, internal lighting, and an internal ladder to access the nacelle. The towers will be painted white or off-white in compliance with Federal Aviation Administration (FAA) guidance to avoid the need for day time obstruction warning lights. As indicated previously, to present a conservative assessment of potential visual impact, a hub height of 89 meters (292 feet) was used in the analyses conducted for this VIA.

Nacelle: The main mechanical components of the wind turbine are housed in the nacelle. These components include the drive train, gearbox, and generator. The nacelle is a white or off-white steel-reinforced fiberglass shell, and as modeled for this study, is approximately 34 feet long, 12 feet wide and 13 feet tall. The nacelle is externally equipped with an anemometer and a wind vane that continuously measure wind speed and direction. Attached to the top of some of the nacelles will be a single, medium intensity aviation warning light, in accordance with FAA specifications. These will be synchronized flashing red lights (L-864 or similar) and illuminated only at night. The nacelle is mounted on a sliding ring that allows it to rotate or "yaw" into the wind to maximize energy capture.

Rotor: A rotor assembly is mounted on the drive shaft, and is operated upwind of the tower. Each modeled rotor consists of three 201 foot long fiberglass composite blades, with a total diameter of 413 feet (126 meters). The rotor attaches to the drive shaft at the front of the nacelle. Electric servo motors within the rotor hub vary the pitch of each blade according to wind conditions, which enable the turbine to operate efficiently at varying wind speeds. Like the tower and nacelle, the rotor will be white or off-white in color.

2.3.2 Electrical System

The proposed wind farm has an electrical system that consists of: 1) a network of overhead and buried 34.5 kV cables that will collect power from each wind turbine (collection lines), 2) a collection substation and switchyard to step up the power from 34.5 kV to 230 kV, and 3) a POI substation modification to allow interconnection at NYSEG's Canandaigua Substation in the Town of Cohocton. Each of these components is illustrated in Figure 3 and further described below:

Collection lines: The combined length of overhead and underground collection lines needed to collect power from the turbines and deliver it to the collection substation is approximately 36 miles. The majority of the collection system (approximately 33 miles) would be installed underground. However, overhead sections of collection line will be used where requested by landowners or where underground installation is prohibitive or infeasible due to

constraints such as steep slopes, rivers, stream crossings, and shallow bedrock. The locations of overhead sections of the collection line are indicated in Figure 2. These segments of the line will be carried on wood poles 50-60 feet in height. The typical appearance of overhead collection line structures is depicted in Figure 3: Sheet 2.

Collection Substation: The terminus of the 34.5 kV collection system is the collection substation, which will increase the voltage of the power delivered by the collection lines from 34.5 kV to 230 kV. The collection substation will be located adjacent to NYSEG's Canandaigua Substation and Hillside-Meyer 230 kV transmission line, in a reverting agricultural field west of the terminus of Van Aucker Road in the Town of Cohocton. The collection substation will be approximately 1.6 acres in size, enclosed by chain link fencing and accessed via the service road to the existing substation. It will include 34.5- and 230- kV busses, a transformer, circuit breakers, towers, a control building, and related structures, with a maximum height of approximately 50 feet. All equipment will be gray/silver in color, while the walls and roof of the control house will be a neutral earth tone color. The collection substation has been sited in a location that is central in respect to the turbines, and is away from existing residences and sensitive environmental features.

POI Substation Modification: To allow Project interconnection with NYSEG's Hillside-Meyer 230 kV transmission line, minor additions to the Canandaigua Substation will be made, primarily inside the fence of the existing substation. These modifications will include overhead lines to connect the collection substation to the Canandaigua Substation, a breaker, motor operators, revenue meter, and associated equipment. Components required for the POI modification will be similar in height and appearance to those inside the existing substation.

The above-ground electrical collection and interconnection facilities are shown in any simulations where they would be visible, and their appearance and visual impact are specifically described in Section 5.2.4 of this VIA.

2.3.3 Access Roads

The Project Site includes a pre-existing network of state, county and local roads. Existing public roads will be used to access Project worksites to the extent practicable, and some existing public roads will likely need to be improved to facilitate Project construction. Roadway improvements are envisioned to be temporary features which could include the widening of intersections and constructing "jug handles" to accommodate oversized vehicles. Improvements to public roads would be removed at the end of construction and the areas restored to pre-construction conditions. These temporary improvements are not anticipated to significantly change the visual character of the existing roads. Therefore, public road improvements are not evaluated in this study.

New or improved private roads are proposed to access turbine sites from the public road network. The proposed length of Project access roads is approximately 22 miles, some of which will be upgrades to existing farm lanes and logging roads, and some of which will be newly built. During construction, access roads will be gravel surfaced and up to 40 feet wide to accommodate construction vehicles and component deliveries to the turbine sites. Following construction, the turbine-access roads will be reduced in width to approximately 20 feet, and remain in place for maintenance purposes. These access roads take on the appearance of farm lanes and do not have a significant long-term visual impact. Access roads and associated clearing are shown in simulations where they would be visible; however, the visibility and visual impact of Project access roads, on their own, are not evaluated in this study. Temporary visual impacts associated with the construction of the access roads are discussed in Section 5.2.5 of this VIA.

2.3.4 Meteorological Towers

Four permanent 100-meter (328-foot) tall meteorological towers (met towers) will be installed to collect wind data and support performance testing of the Project. Although these structures may be supported by guy wires, for the purposes of this VIA, it is assumed that the towers will be free-standing galvanized lattice steel structures. The met towers will be equipped with wind velocity meters and directional measuring instruments at three different elevations, and temperature and humidity monitors near ground level. Visual impacts from the met towers are considered to be small compared to the turbines. Met towers are shown in the simulations where they would be visible; however, the visibility and visual impact of the met towers, on their own, are not evaluated in this study.

2.3.5 Temporary Construction Staging/Laydown Yards

Construction of the Project will require the development of two temporary construction staging/laydown yards to accommodate trailers, storage containers, large Project components, and parking for construction workers. One staging area will be in an active agricultural field on the north side of Davis Road in the Town of Wayland, and is anticipated to be up to 5.3 acres in size. The second staging area will be in an active agricultural field on the north side of Canfield Road in the Town of Fremont, and is anticipated to be up to 9.4 acres in size. The staging areas are temporary features associated with construction of the Project. No permanent fencing or lighting of the staging areas is proposed, and these areas will be restored to preconstruction conditions when construction of the Project is complete. Temporary visual impacts associated with the construction of these facilities are discussed in Section 5.2.5 of this VIA.

2.3.6 O&M Building

An O&M building will house the permanent O&M staff offices and will be an approximately 4,000 square foot single story structure. It is proposed to be located adjacent to the previously mentioned temporary construction laydown area on the north side of Canfield Road in the Town of Fremont. The land adjacent to the O&M building will also be used to store equipment as necessary, and is anticipated to be up to 2 acres in size. Due to its similarity in appearance to other pole barns and agricultural structures in the area, and relatively minimal visual effect relative to other Project facilities, the O&M facility is not addressed in this study.

3.0 Existing Visual Character

3.1 Visual Study Area

According to the requirements set forth in 16 NYCRR § 1000.2(ar) the visual study area to be used for analysis of major electric generating facilities is defined as "*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*."

As part of this VIA, a 10-mile radius visual study area was used to identify visually sensitive resources of regional and statewide significance. A more inclusive inventory of locally significant visually sensitive resources was conducted for the area within a 5-mile radius of the proposed Project. The 5-mile and 10-mile radius visual study area boundaries are depicted on Figure 4.

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Figure 4: Visual Study Area

- Wind Turbine
- Permanent Met Tower
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
2. This map was generated in ArcMap on September 14, 2017.
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3.2 Physiographic Setting

3.2.1 Landform and Vegetation

The visual study area lies within the Central Appalachian physiographic region of New York State (Reschke, 1990). This area is distinguished by elevated ridges that are dissected by narrow, steep-walled valleys and ravines. These dissected plateaus transition rapidly to relatively flat river valleys associated with the Cohocton River and the Canisteo River. Both of these valleys run generally northwest to southeast through the visual study area. The Cohocton River Valley is adjacent to the proposed northern turbine arrays, and the Canisteo River Valley is approximately 4 miles southwest of the proposed southern arrays. Ground surface elevation within the visual study area ranges from approximately 600 to 2,985 feet AMSL. (In comparison, ground surface elevation within the Project Site itself, where the turbines would be built, ranges from 1,420 to 2,142 feet AMSL.)

Vegetation is characterized by a mix of open farm fields and forest throughout the majority of the study area. Forestland is more prevalent than agricultural fields in the south, while in the northern end of the study area farm fields predominate. Open fields include active cropland and pasture and tend to occur on more level hilltops and within the major valleys. Forest is primarily deciduous, consisting of oak-hickory and northern hardwoods with some native conifers (white pine and hemlock) mixed in. Blocks of planted conifers, such as Norway spruce and Scotch pine, also occur in the upland portions of the study area. Forestland occupies the unfarmed ravines and ridge slopes throughout the study area, and can also be found along river banks and in woodlots, hedgerows and wooded wetlands in the more agricultural portions of the study area.

3.2.2 Land Use

Land use within the visual study area is dominated by undeveloped forest, agricultural land and rural residences. Dairy farming is the primary agricultural activity. Higher density residential and commercial development is concentrated in settlements along Interstate Routes 86 and 390 and State Routes 15, 21, 36, 63, and 70, including the City of Hornell and the Villages of Dansville, Wayland, Cohocton, Naples, Canaseraga, Arkport, Avoca, North Hornell, Almond, and Canisteo. The city and villages are characterized by a well-defined central business district surrounded by traditional residential neighborhoods and commercial development along the outskirts. Hamlets within the visual study area including South Dansville, Howard, Wallace, and North Cohocton, are relatively small communities within the rural/agricultural landscape. They are typically located at major crossroads and consist of residences, stores, and churches. Outside the villages and hamlets, scattered pockets of commercial and industrial land use occur within the Cohocton River Valley and along portions of the state highways. These commercial and industrial businesses include automobile dealerships, retail and convenience stores, building material suppliers, small manufacturing operations, gravel pits, and equipment yards. Interstate Route 390

and the Livonia, Lakeville and Avon Railroad run through the Cohocton River Valley, and NYSEG's Hillside-Meyer 230 kV transmission line traverses the proposed Project Site near Cohocton.

3.2.3 Water Features

Water features within the visual study area include the Cohocton and Canisteo Rivers (and numerous associated smaller streams), Hornell Reservoirs Numbers 1 and 2, Almond Lake, Loon Lake, Smith Ponds, Loucks Pond, and Demons Pond. People use these waters for fishing, boating, and swimming, and own residential properties on the shorelines. In addition, Almond Lake is a Federal Recreation Area that lies within the Canacadea State Forest, and is visible from the Interstate Route 86 scenic overlook. Loon Lake has residential houses around its shoreline and is visible from roads above the lake. Other of the water features within the visual study area are generally hidden from view because they lie within wooded valleys.

3.3 Landscape Similarity Zones

In accordance with the requirements set forth in 16 NYCRR § 1000.24(b)(1), Landscape Similarity Zones were defined and mapped within the visual study area. Defining distinct landscape types within a given study area provides a useful framework for the analysis of a project's potential visual effects. Landscape Similarity Zones (LSZs) within the visual study area were defined based on the similarity of various landscape characteristics including landform, vegetation, water, and land use patterns, in accordance with established visual assessment methods (notably, USDA Forest Service, 1995; Smardon et al., 1988: USDOT Federal Highway Administration, 1981; USDI Bureau of Land Management, 1980). Within the visual study area, the following six distinct LSZs were identified:

- Forest
- Rural Valley
- Rural Upland/Ridgeline
- City/Village/Hamlet
- Waterfront/Open Water
- Transportation Corridor

LSZs within the 10-mile study area were mapped using a Geographic Information System (GIS) classification exercise. The LSZ classifications are based on mapped land cover, elevation, and proximity to various landscape or land use features. The mapping of LSZs is a generalization exercise intended for viewing at the macroscopic scale of the entire study area. Therefore, it is possible that field review at a given viewpoint would change the initial GIS-derived LSZ classification based

on observed landscape characteristics that are beyond the scale of the GIS analysis. The classification analysis is subtractive, meaning that a given criterion is used to classify a portion of the study area as a particular LSZ, and then the next criterion is applied to classify portions of the remaining land, and so forth until the entire study area is mapped. The classification and mapping of LSZs within the visual study area followed this order of criteria:

- The Transportation Corridor LSZ was identified as the area within 300 feet of Interstate Routes 86 and 390.
- The Waterfront/Open Water LSZ was identified as any area classified as open water in the United States Geological Survey (USGS) 2011 National Land Cover Dataset (NLCD).
- The City/Village/Hamlet LSZ was identified as the area inside, or within 1,000 feet of, the mapped boundary of any village or city, as well as the area within 1,000 feet of the center point of any mapped hamlet.
- The Forest LSZ was then defined as areas identified as deciduous, evergreen, or mixed forest in the USGS 2011 NLCD.
- Finally, all areas remaining unclassified were divided into either the Rural Valley or Rural Upland/Ridgeline LSZs based on elevation. All areas below the median elevation in the study area (500 meters or approximately 1,640 feet AMSL) were classified as Rural Valley LSZ, and all areas above the median elevation were classified as Rural Upland/Ridgeline.

The extent of each LSZ within the visual study area is summarized in Table 2 and depicted on Figure 5. Descriptions of the visual characteristics of each LSZ, along with representative photographs, are provided in Sections 3.3.1 through 3.3.6, below.

Table 2. Landscape Similarity Zones by Total Area in 10-Mile Study Area

Landscape Similarity Zone	Total Area of LSZ within the 10-Mile Study Area (square miles)	Percent of Total Area[1] within 10-Mile Study Area
Forest	270.8	47.6%
Rural Upland/Ridgeline	140.3	24.7%
Rural Valley	122.6	21.5%
City/Village/Hamlet	28.7	5.0%
Transportation Corridor	5.6	1.0%
Waterfront/Open Water	1.4	0.2%

[1]The 10-mile study area includes approximately 569.4 square miles, or approximately 364,390 acres.

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Figure 5: Landscape Similarity Zones

- Wind Turbine
- Permanent Met Tower
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area

Landscape Similarity Zone

- Forest
- Transportation Corridor
- Rural Upland
- Rural Valley
- City/Village/Hamlet
- Open Water/Waterfront

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
2. This map was generated in ArcMap on November 2, 2017.
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3.3.1 Forest


Inset 2. Representative Photographs of the Forest Landscape Similarity Zone.
Left: Lander Road at Ryder Road, Town of Dansville (Viewpoint 145); Right: Lyons Hollow Road, Town of Prattsburgh (Viewpoint 178).
Note the degree to which vegetation screens outward views from within forested areas.

Forest is the largest LSZ, covering some 47.6% of the visual study area. This zone is characterized by the dominance of mixed deciduous and coniferous tree species, often in association with steep topography. The Forest LSZ occurs throughout the visual study area primarily in the valleys and wooded ravines that occur between the dissected upland ridges. Small streams and unpaved roads often run through these valleys. Also included in this zone are the wooded slopes of the Cohocton and Canisteo River Valleys as well as some large woodlots and reforestation areas that occur either on the ridge tops or within the major river valleys. Views within this zone are generally restricted to areas where small clearings and road cuts provide breaks in the tree canopy. Where long distance views are available they are typically of short duration, limited distance, and tightly framed by trees and adjacent slopes. Land use in this zone includes low-density residential development and recreational activities such as hunting and snowmobiling. Examples of this zone are shown in Inset 2. These forested areas occur on private lands with limited public access, as well as public lands such as Canacadea State Forest and Burt Hill Multiple Use Area (among other areas).

3.3.2 Rural Valley

Inset 3. Representative Photographs of the Rural Valley Landscape Similarity Zone.
Left: State designated Cohocton River Fishing Access on RT 371 in the Cohocton River Valley, Town of Cohocton (Viewpoint 164); Right: County Route 6 at County Route 70 and Neil Creek, Town of Avoca (Viewpoint 123).
Note the general character of visibility of distant ridge tops and broad, open views in the foreground.

The Rural Valley LSZ makes up 21.5% of the study area. This zone includes most of the Cohocton and Canisteo River Valleys, as well as the valleys of several tributary streams. It is characterized by large, flat agricultural fields and widely-spaced farms and residences located along the roadways. This zone includes several more heavily traveled two-lane roads such as State Routes 15, 21, 36, 63, 371 and 415 which in places follow these rural valleys and offer open views of the surrounding hills. Interstate Routes 86 and 390 also run through the Rural Valley LSZ, but have a distinctly different visual character and so fall within the Transportation Corridor LSZ described below. The Cohocton and Canisteo Rivers, which fall within this zone, are characterized by gentle gradients, numerous oxbows and shoreline wetlands. The river banks are lined with mature trees and brush in most places, which tends to shield views to and from the rivers. A valley referred to as "The Muck", surrounding Marsh Ditch north of Arkport, also falls within this LSZ. Dominant activities in the Rural Valley LSZ area are farming and local travel. Because of the abundance of open farm land within the broad river valleys, lands in the Rural Valley LSZ often offer expansive views of the surrounding wooded hillsides. However, long-distance views are limited in wooded portions of this LSZ, and in all cases, the surrounding hills form the visible horizon and limit views of landscape features outside the valleys.

Inset 4. Representative Photograph of an operating wind project viewed from the Rural Valley Landscape Similarity Zone.
RT 371 in the Town of Cohocton.

Views of the existing Cohocton and Dutch Hill Wind Farms are common throughout the Cohocton River Valley portion of the Rural Valley LSZ, as pictured in Inset 4 above. Views of operating wind projects in this LSZ can be experienced along Route 371 and from County Route 6.

3.3.3 Rural Upland/Ridgeline

Inset 5. Representative Photographs of the Rural Upland/Ridgeline Landscape Similarity Zone.
Left: Emo Road, Town of Wayland (Viewpoint 144); Right: Avery Hollow Road, Town of Cohocton (Viewpoint 172).
Note that in many areas, there is a potential for open, elevated, distant views that provide panoramic views of the surrounding landscape.

The Rural Upland/Ridgeline LSZ makes up 24.7% of the visual study area. This LSZ occurs on hilltops and elevated ridges, and is characterized by open agricultural land with widely dispersed farms and rural residences along a network of county

and local roads. Active agricultural fields, largely consisting of corn, hay, and soybeans, dominate the landscape. This LSZ also includes three existing wind farms, with operating turbines occurring along ridgelines in the northeastern and southeastern portions of the visual study area. Topography on the elevated plateaus that make up the majority of this LSZ is generally level to gently rolling. Views in the Rural Upland/Ridgeline LSZ are generally open and at times expansive. Representative views are shown in Inset 5. These views typically include open fields in the foreground often backed or bordered by trees that define the edges of the steep slopes that descent into the adjacent valleys. Views across broad valleys to other hilltops are available from many locations. These views include widely scattered homes, barns, silos, and farm equipment and in some places include views of operating wind turbines in multiple directions. Due to the elevation of this zone and the abundance of open fields, expansive, and at times panoramic open views are available from many areas within the Rural Upland/Ridgeline LSZ.

3.3.4 City/Village/Hamlet

Inset 6. Representative Photographs of the City/Village/Hamlet Landscape Similarity Zone.
Left: Village of Wayland; at Intersection of Routes 15; 21 and 63 (Viewpoint 8); Right: Village of Canaseraga Four Corners Historic District; Intersection of Main Street and Church Street (Viewpoint 52).
Note the degree to which buildings and vegetation screen outward views from within village/hamlet centers.

The City/Village/Hamlet LSZ occupies 5.0% of the study area and includes the City of Hornell, the Villages of Almond, Arkport, Avoca, Canaseraga, Canisteo, Cohocton, Dansville, Naples, North Hornell, and Wayland, and several rural hamlets including Atlanta, Burns, Cumminsville, Fremont, Haskinville, Howard, Ingleside, Kanona, North Cohocton, Perkinsville, South Dansville, South Hornell, Springwater, Wallace, and Wheeler. This landscape similarity zone is characterized by moderate to high-density residential and commercial development. Vegetation and landform may contribute to visual character in this zone, but buildings (typically 1-3 stories tall) and other man-made features dominate the landscape. Representative views are shown in Inset 6. The character of buildings and structures within this zone can be highly variable. However, they are typically arranged along an organized street pattern that tends to screen outward views and focus views along the main streets and crossroads. In some areas, trees along the streets and within yards also tend to enclose and

screen views within this zone. However, open street corridors and the edges of the City/Village/Hamlet LSZ, where there is less development, offer more unobstructed views of the surrounding landscape. Because these settlements are typically in valley settings, long-distance views are typically obscured by surrounding hillsides.

3.3.5 Transportation Corridor


Inset 7. Representative Photographs of the Transportation Corridor Landscape Similarity Zone.
Left: Interstate 86 Kanona Rest Area, Town of Bath (Viewpoint 88); Right: Interstate 390 Overpass at Wentworth Road, Town of Cohocton (Viewpoint 170).

The Transportation Corridor LSZ occupies approximately 1% of the study area and includes divided, multi-lane highways with limited access. These include Interstate Routes 86 and 390, which run adjacent to the northern and southern ends of the Project Site, respectively, and converge in the southeastern portion of the visual study area. Views along these transportation corridors are dominated by automobiles, pavement, guard rails, and signs in the foreground, backed by vistas of the surrounding countryside, including some operating wind turbines. Representative views in this LSZ are shown in Inset 7. The scenery is variable, with views consisting predominately of agricultural land and low density rural residential houses and farms, with forested hills and upland ridges in the background.

3.3.6 Waterfront/Open Water


Inset 8. Representative Photographs of the Waterfront/Open Water Landscape Similarity Zone.
Left: Route 21 at Almond Lake, Town of Hornellsville (Viewpoint 108); Right: Loon Lake, Town of Wayland (Viewpoint 192).

The Waterfront/Open Water LSZ occupies just 0.2% of the study area and is defined by broad expanses of water that provide open views of the surrounding landscape. Representative views of this LSZ area are shown in Inset 8. Land use within this LSZ includes year-round and seasonal residences along some of the lake shores, as well as water-based recreation. Within the study area, this LSZ occurs at Almond Lake, Loon Lake, and Hornell Reservoirs Number 1 and 3. Almond Lake and Loon Lake have considerable visual importance due to their high public use, recreational value and scenic quality. Outward views from boats on the lake's surface and from points along the lake shore typically include a shoreline characterized by a mix of trees and man-made structures backed by adjacent ridges. The forested, hilly nature of portions of the study area creates quite different outward views from some water bodies, such as the smaller Hornell Reservoirs, which are enclosed by forest vegetation along the shoreline that screens outward views and creates a sense of enclosure.

Almond Lake is an important recreational destination within the Kanakadea Recreation Area. The lake is located in a low area between multiple hills and ridgelines, and because of this location, views from the open water and shoreline are condensed into the foreground with limited long-distance views.

3.4 Distance Zones

Three distinct distance zones are typically defined in visual studies. Consistent with well-established protocols (e.g., Jones and Jones 1977; USDA, U.S. Forest Service, 1995), EDR defines these zones as follows:

- *Foreground*: 0 to approximately 0.5 mile. At these distances, a viewer is able to perceive details of an object with clarity. Surface textures, small features, and the full intensity and value of color can be seen in foreground objects.

- *Mid-ground*: approximately 0.5 to 3.5 miles. The mid-ground is usually the predominant distance at which landscapes are seen. At these distances a viewer can perceive individual structures and trees but not in great detail. This is the zone where the parts of the landscape start to join together; individual hills become a range, individual trees merge into a forest, and buildings appear as simple geometric forms. Colors will be clearly distinguishable, but will have a bluish cast and a softer tone than those in the foreground. Contrast in color and texture among landscape elements will be reduced.

- *Background*: Over 3.5 miles. The background defines the broader regional landscape within which a view occurs. Within this distance zone, the landscape has been simplified; only broad landforms are discernable, and atmospheric conditions often render the landscape an overall bluish color. Texture has generally disappeared and color has flattened, but large patterns of vegetation are discernable. Silhouettes of one land mass set against another and against the skyline or horizon are the dominant visual characteristics in the background. The background contributes to scenic quality by providing a softened backdrop for foreground and mid-ground features, an attractive vista, or a distant focal point.

The land area of each LSZ within the study area, broken down by distance from the proposed turbine locations, is summarized in Table 3.

Table 3. Distance Zones by Landscape Similarity Zone, 10-Mile Study Area

Landscape Similarity Zone	Total Area[1] (square miles) and Percent of LSZ		
	Foreground (<0.5-mile)	Mid-Ground (0.5 – 3.5 miles)	Background (>3.5miles)
Forest	10.9 *(43.6%)*	48.6 (42.1%)	211.2 (49.2%)
Rural Valley	0.7 *(2.9%)*	18.4 (16.0%)	103.4 (24.1%)
Rural Uplands/Ridgeline	12.9 *(51.5%)*	43.0 (37.2%)	84.5 (19.7%)
City/Village/Hamlet	0.2 *(0.7%)*	2.7 (2.3%)	25.8 (6.0%)
Transportation Corridor	0.3 *(1.2%)*	2.2 (1.9%)	3.2 (0.8%)
Waterfront/Open Water	<0.1 *(0.1%)*	0.6 (0.5%)	0.8 (0.2%)
Total Distance Zone Area[2]	25.0 *(100%)*	115.5 *(100%)*	428.9 *(100%)*

[1]The 10-mile study area includes approximately 569.4 square miles, or approximately 364,390 acres.

3.5 Viewer/User Groups

Three categories of viewer/user groups were identified within the visual study area. These groups include local residents, through-travelers/commuters, and tourists/recreational users.

3.5.1 Local Residents

Local residents include those who live and work within the visual study area. They generally view the landscape from their yards, homes, local roads, schools, and places of employment, and are the group with the greatest opportunity for views of the proposed Project. The largest concentration of local residents is found in the City of Hornell which has a population of 8,563, followed by the Village of Dansville (population 4,573), the Town of Wayland (4,314) and the Town of Canisteo (3,391). The Towns of Cohocton, Naples, and Springwater have populations of over 2,400. The Towns of Almond and Howard have over 1,000 residents, while Avoca, Arkport, North Hornell, and Canaseraga have smaller populations.

People living outside of the main population centers reside in relatively low density throughout the study area. Except when involved in local travel, residents are likely to be stationary and have frequent or prolonged views of the landscape. Local residents may view the landscape from ground level or from elevated viewpoints such as windows in the upper stories of their homes. Residents' sensitivity to visual quality is variable. However, it is assumed that local residents may be very sensitive to changes in views from their homes and yards.

3.5.2 Through-Travelers/Commuters

Through-travelers and commuters passing through the area view the landscape from motor vehicles on their way to work or other destinations. They are moving, have a relatively narrow field of view, and are destination oriented. Drivers on major roads in the area (e.g., Interstate Routes 390 and 86; and State Routes 415, 21, and 36) will most often be focused on the road and traffic conditions, but will also have the opportunity to observe roadside scenery. However, these views will generally be peripheral and fleeting. Passengers in moving vehicles will have greater opportunities for prolonged views of the surrounding countryside than will drivers, and so may have greater perception of changes in the visual environment. Commuters' and travelers' sensitivity to visual quality is variable. However, it is assumed that through-travelers will generally have limited perception of, or sensitivity to, visual change, while local commuters and travelers may be very sensitive to changes in views of areas that they travel through on a regular basis.

3.5.3 Tourists/Recreational Users

Tourists and recreational users include local residents and out-of-town visitors involved in cultural and recreational activities at parks, historic sites, water bodies, and in undeveloped natural settings such as state forests and trails (e.g. Canacadea State Forest and the Finger Lakes Trail). These viewers are concentrated at the recreational and cultural sites located within the visual study area, and view the landscape from area highways while on their way to these destinations, as well as from the destinations themselves. This group includes snowmobilers, cyclists, boaters, hunters, fishermen, hikers, and those involved in more passive recreational activities such as family vacations, picnicking, sightseeing, and walking. Visual

quality may or may not be an important part of the recreational experience for these viewers. However, for some, scenery will be a very important part of their experience, and for almost everyone, the natural scenery enhances the quality of recreational experiences. Tourists and recreational users will often have continuous but changing views of landscape features over relatively long periods of time.

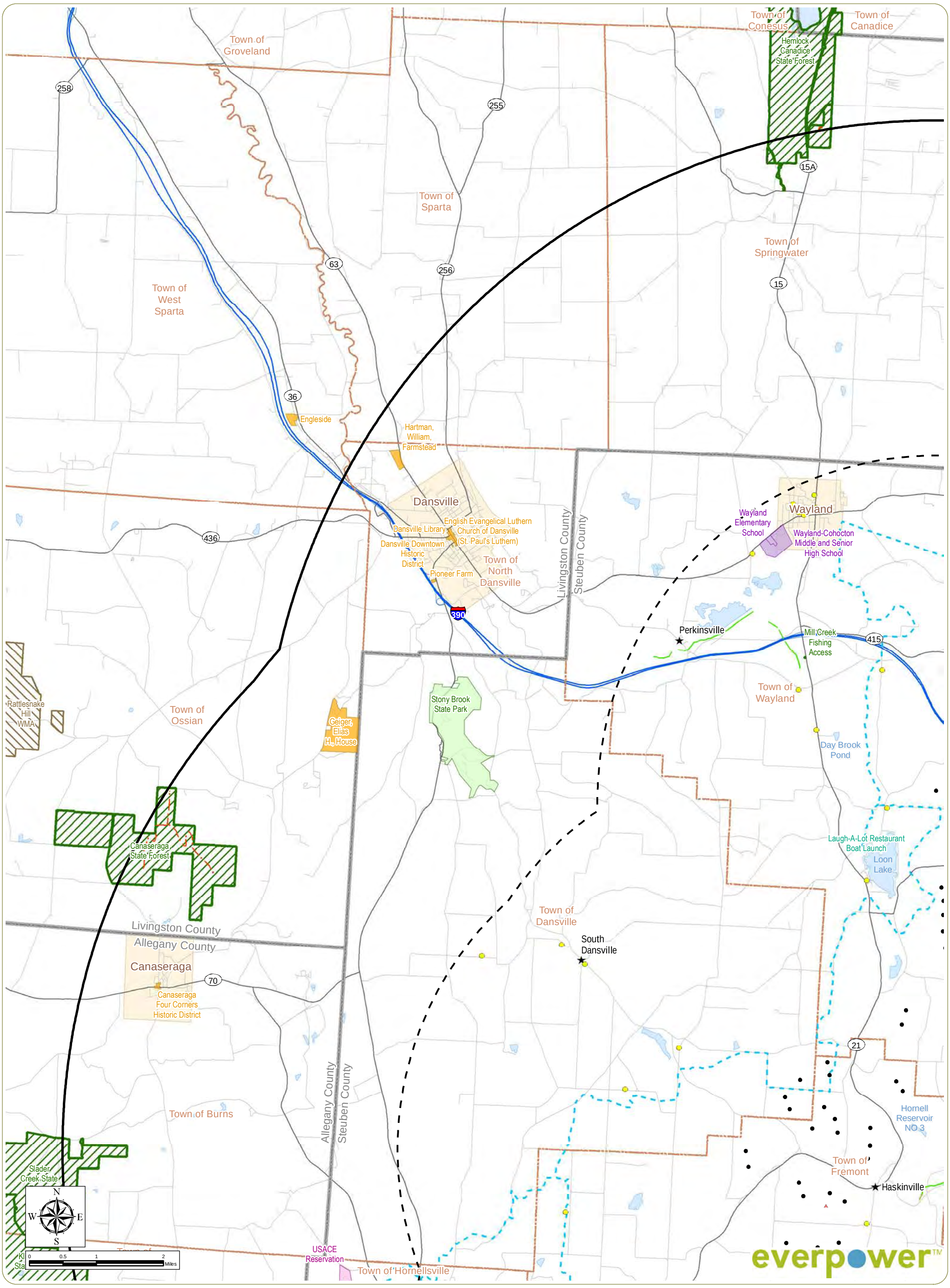
3.6 Visually Sensitive Resources

In accordance with standard visual impact assessment practice in New York State, visually sensitive resources were identified in accordance with the New York State Department of Environmental Conservation (NYSDEC) Program Policy DEP-00-2 *Assessing and Mitigating Visual Impacts* (NYSDEC, 2000), which defines specific types of properties as visually sensitive resources of statewide significance. The types of resources identified by NYSDEC in Program Policy DEP-00-2 are consistent with the types of resources identified in 16 NYCRR § 1000.24(b)(4). These include landmark landscapes; wild, scenic or recreational rivers administered respectively by either the NYSDEC or the Adirondack Park Agency (APA) pursuant to ECL Article 15 or the U.S. Department of the Interior pursuant to 16 USC Section 1271; forest preserve lands, scenic vistas specifically identified in the Adirondack Park State Land Master Plan, conservation easement lands, scenic byways designated by the federal or state governments; scenic districts and scenic roads designated by the Commissioner of the NYSDEC pursuant to ECL Article 49; Scenic Areas of Statewide Significance; state parks or historic sites; sites listed on National or State Registers of Historic Places; areas covered by scenic easements, public parks or recreation areas; locally designated historic or scenic districts and scenic overlooks; and high-use public areas.

To identify visually sensitive resources within the visual study area, EDR consulted a variety of data sources including digital geospatial data (shapefiles) obtained primarily through the NYS Geographical Information System (GIS) Clearinghouse or the Environmental Systems Research Institute (ESRI); numerous national, state, county, and local agency websites as well as websites specific to identified resources; the DeLorme Atlas and Gazetteer for New York State; USGS 7.5-minute topographical maps; and web mapping services such as Google Maps. Aesthetic resources of statewide significance were identified within a 10-mile radius of the Project Site. NRHP-Eligible sites, as well as locally significant aesthetic resources and areas of intensive land use were identified within a 5-mile radius of the Project Site. Some of the identified visually sensitive resources lie beyond the study area boundaries because at the time the VIA outreach letter was sent to municipal and state agencies, the proposed wind turbine layout was larger, resulting in larger VIA study areas. All the sensitive sites identified during the VIA outreach were kept in the VIA analysis even though the Project boundaries shifted. The complete inventory of visually sensitive resources is presented in Appendix C. Their locations are shown in Figure 6, and also on the composite overlay map included in Appendix A.

In accordance with the requirements set forth in 16 NYCRR § 1000.24(b)(4) as well as the Article 10 Preliminary Scoping Statement (PSS) for the Project dated August 2016, the Applicant conducted a systematic program of public outreach to assist in the identification of visually sensitive resources. Copies of the correspondence sent by the Applicant as part of this process, as well as responses received from stakeholders, are included as Appendix F of this VIA. This outreach included the following:

- The Applicant distributed a request on November 7, 2016 to the appropriate municipal planning representatives, and on February 27, 2017 to State of New York interested parties, that requested feedback regarding the identification of important aesthetic resources and representative viewpoints in the Project vicinity to inform field review efforts and the eventual selection of candidate viewpoints for the development of visual simulations. The materials provided as part of this submission to interested stakeholders included: a summary of the purpose and necessity of consultation per the requirements of Article 10; a definition, explanation, and map of the visual study area; a preliminary inventory and map of visually sensitive resources identified in accordance with NYSDEC Program Policy DEP-00-2; a preliminary viewshed (visibility) analysis; a discussion of anticipated subsequent steps, including additional consultation regarding the eventual selection of viewpoints for development of visual simulations; and a request for feedback regarding additional visually sensitive resources to be included in the analysis.



Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 6: Visually Sensitive Resources

Sheet 1 of 5

Notes: 1. Basemap: ESRI StreetMap North America, 2008.
2. This map was generated in ArcMap on September 11, 2017.
3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Wind Turbine
- Permanent Met Tower
- NRHP-Eligible Resource
- Hamlet
- Nationwide Rivers Inventory
- Finger Lakes Trail
- NYSDEC Trail
- Bike Route
- NYSDEC Public Fishing Stream
- North Country National Scenic Trail
- Snowmobile Trail
- Scenic Overlook
- State Park
- NRHP-Eligible District
- NRHP-Listed Resource
- Local Park
- School
- Golf Course
- NYSDEC Land
- Other Resources of Statewide Significance
- Wildlife Management Area
- Other Local Resource
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area
- City or Village
- Town Boundary
- County Boundary

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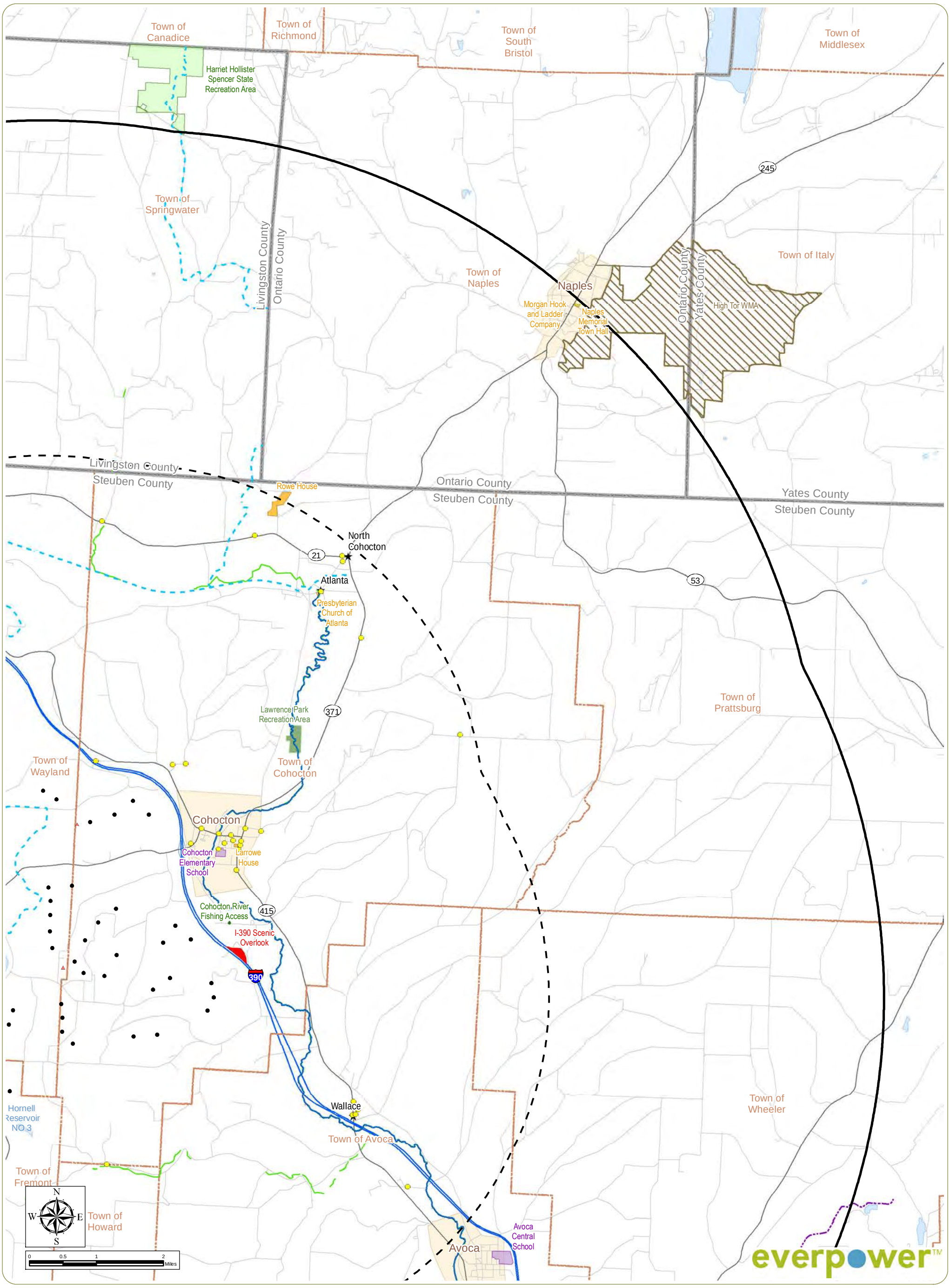

Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 6: Visually Sensitive Resources

Sheet 2 of 5

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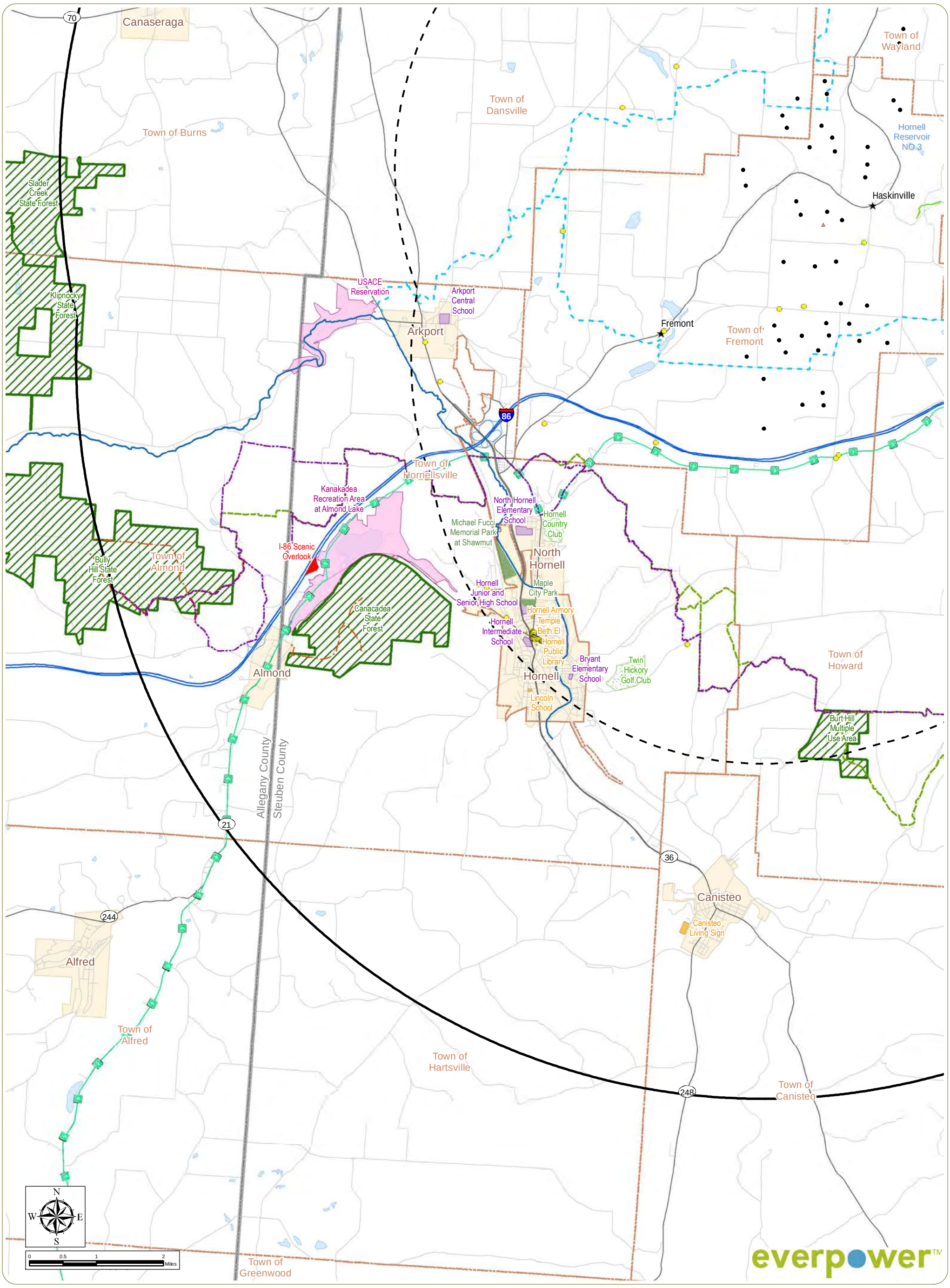

Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 6: Visually Sensitive Resources

Sheet 3 of 5

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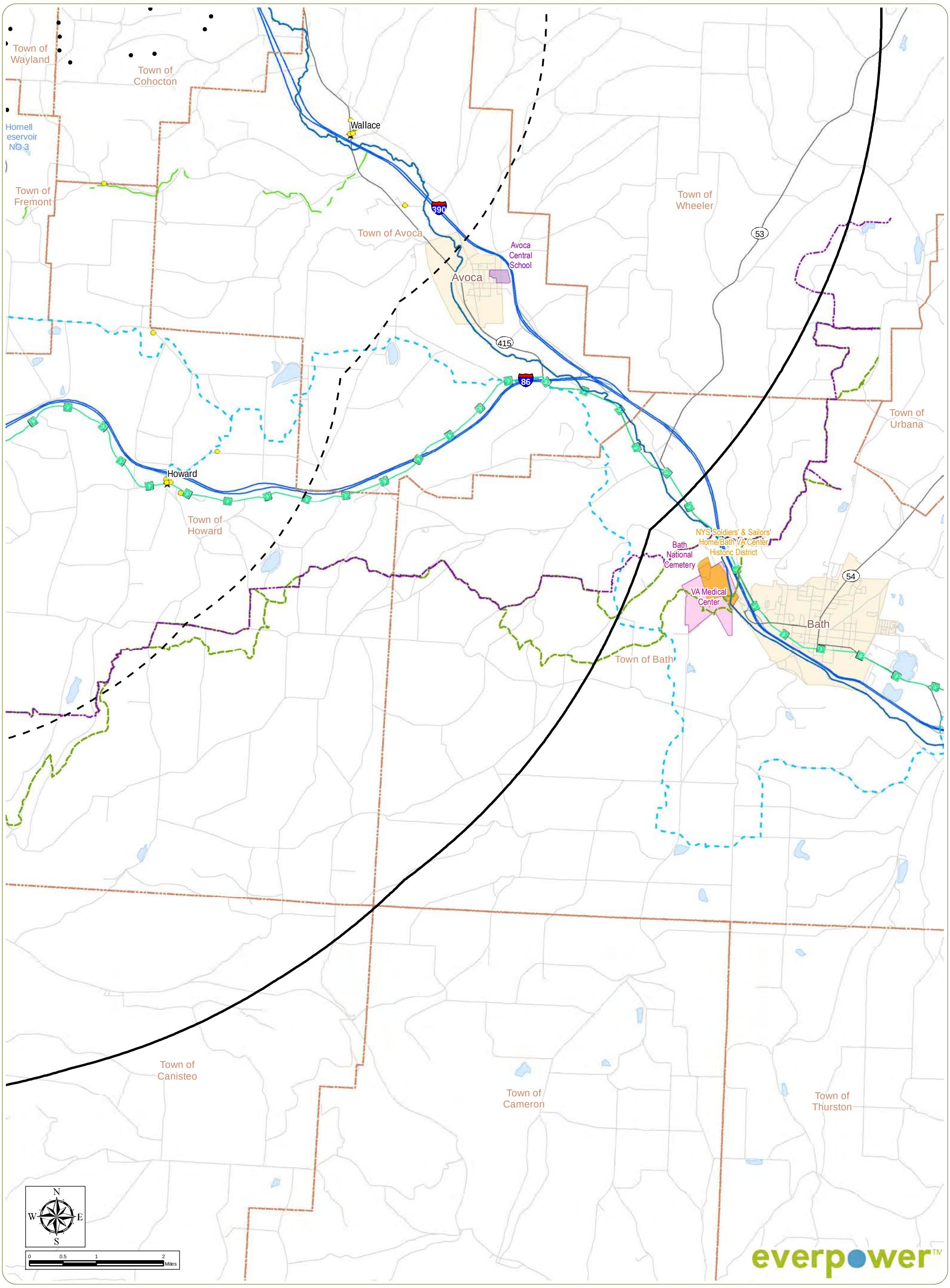

Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 6: Visually Sensitive Resources

Sheet 4 of 5

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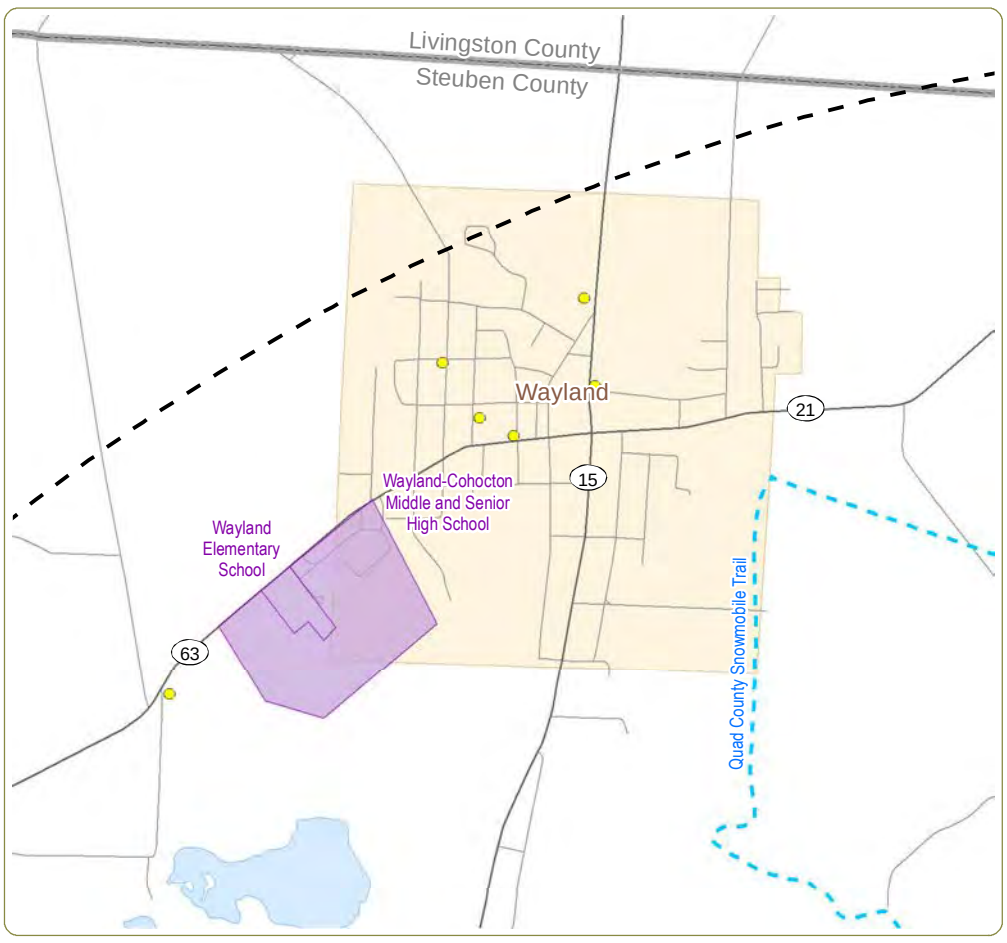
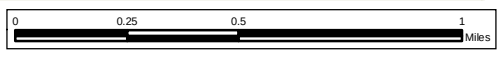
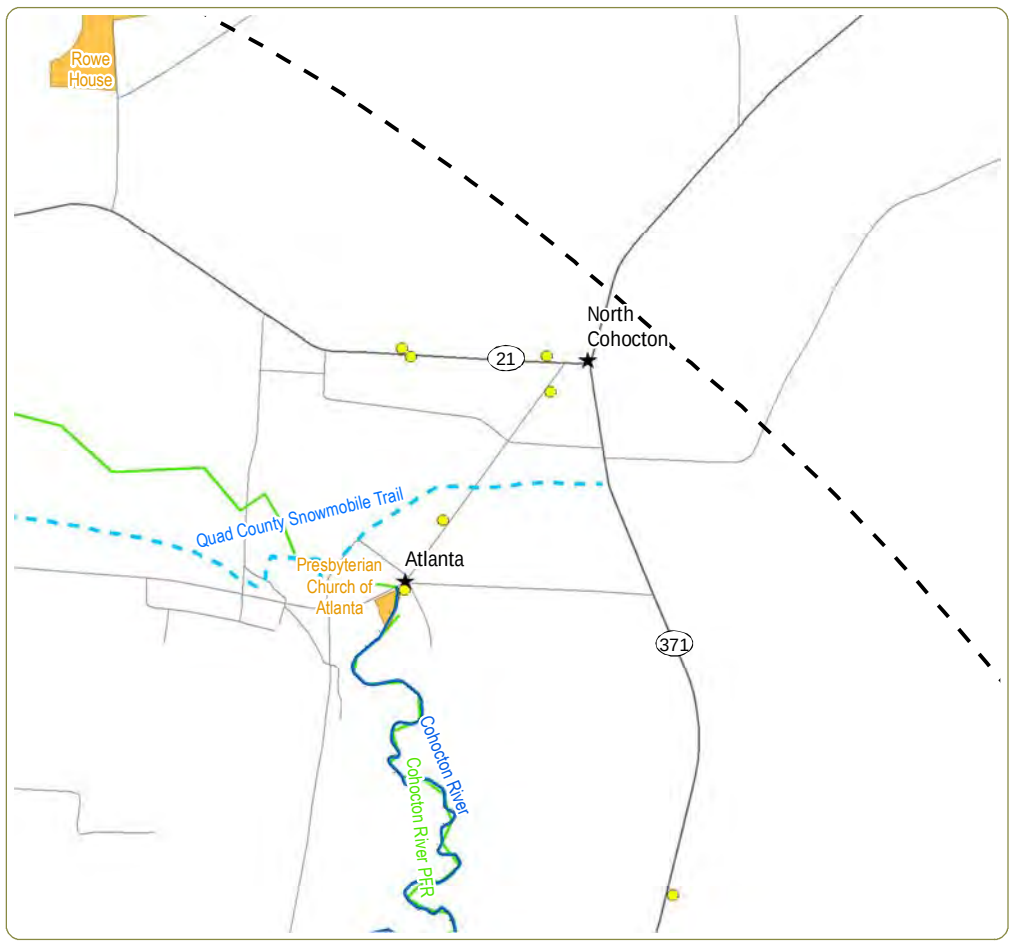
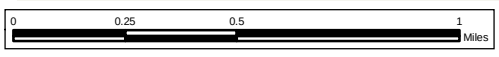


Wayland Detail







North Cohocton/Atlanta Detail

- Hamlet
- NRHP-Eligible Resource
- North Country National Scenic Trail
- Nationwide Rivers Inventory
- Finger Lakes Trail
- NYSDEC Public Fishing Stream
- NYSDEC Trail
- Bike Route
- Snowmobile Trail
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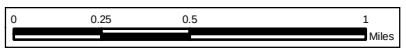
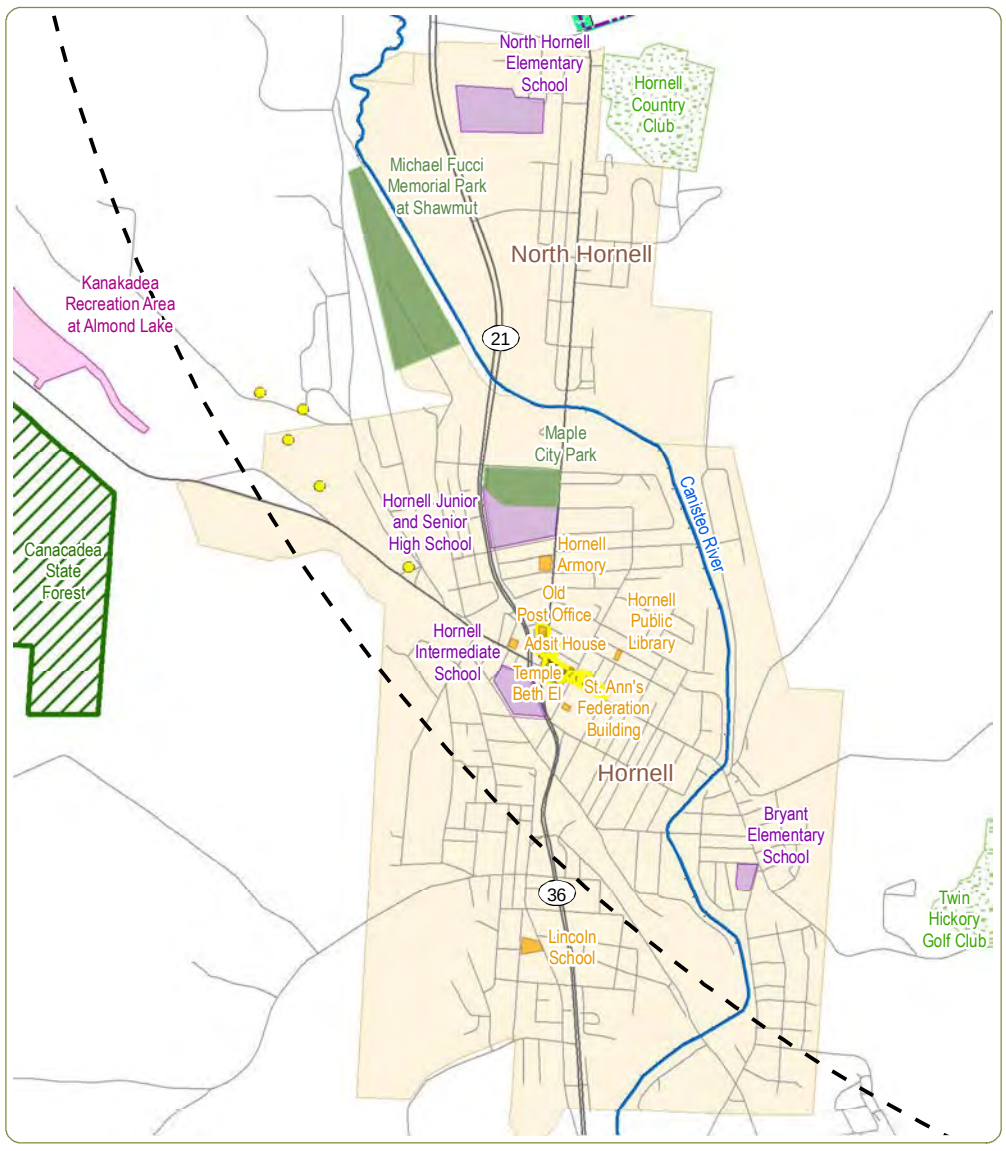
- County Boundary

Hornell Detail



Cohocton Detail



Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 6: Visually Sensitive Resources

Sheet 5 of 5

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- On January 3, 2017, Marcia Weber, Executive Director of the Southern Tier Central Regional Planning and Development Board, provided an e-mail response to the Applicant's November 7, 2016 preliminary analysis. The response provided comments from two employees of the Planning and Development Board:
    - Gabriel Holbrow, Planner, stated that the list of potential Visually Sensitive Resources compiled by EDR seemed very complete. In addition, Mr. Holbrow provided a recommendation for viewpoint locations, primarily along the surrounding highways with broad views toward the proposed Project
    - Victoria Ehlen, Economic Development Coordinator, recommended that the viewshed or a map of the 120 wind turbines be provided.
- On March 15, 2017, EDR received an e-mail response from Andrew Davis, New York State Department of Public Service (DPS), which recommended including the following resources in the sensitive sites analysis:
    - New York State lands and resources:
        - Bully Hill State Forest and recreational trails
        - Canacadea State Forest and recreational trails
        - Canaseraga State Forest and recreational trails
    - Waterways with New York State Public Fishing Rights access easements:
        - Neils Creek in and near the Project Area
        - Mill Creek
        - Cohocton Creek near the Project Area
- In their comments on the PSS provided on August 31, 2016, DPS staff identified four federally-designated resources to be included in the VIA. These sites are listed below:
    - U.S. Army Corps of Engineers (ACOE) Almond Lake Recreation Area
    - The North Country National Scenic Trail (coincident with the Finger Lakes Trail in the Project vicinity)
    - National Rivers Inventory Study Rivers, including the Cohocton River and Canisteo River south-easterly of Hornell
    - The scenic overlook at Route I-86 west of Hornell, which provides views to the Almond Lake Federal Recreation Area and potentially to the Project Area.

- In addition, EDR conducted a historic resources survey (in consultation with the NYSOPRHP) of the 5-mile study area to identify potential historic sites (EDR, 2017. The Historic Architectural Resources Survey report was formally submitted to NYSOPRHP via their CRIS website on April 14, 2017. The results of this survey are presented in a final report that is included as an appendix to the Article 10 Application.

- On July 28th, 2017, NYSOPRHP provided a response to the results and recommendations of the *Historic Architectural Resources Survey Report*, which included final determinations of eligibility for listing on the National Register of Historic Places (NRHP). Of the 265 resources identified by EDR as part of the historic architectural resources survey, NYSOPRHP determined the following regarding historic properties located within the 5-mile APE for indirect (visual) effects:
    - Eight extant properties listed on the NRHP are located within the APE for indirect effects, and one property previously listed on the NRHP was found to be no longer present.
    - A total of 105 historic properties located within the APE for indirect effects were determined to be NRHP-eligible, and 143 properties were found to be not eligible for listing on the NRHP.
    - Six additional previously identified historic properties were also found to be no longer extant, and the NRHP eligibility of two previously identified historic properties is undetermined due to lack of public access.

All of the visually sensitive sites that were identified as a result of the research, stakeholder outreach, and subsequent consultation described above are included in Appendix C, and further described below.

3.6.1 Aesthetic Resources of Statewide Significance

The Project's 10-mile visual study area includes 157 sites that the NYSDEC Program Policy DEP-00-2 *Assessing and Mitigating Visual Impacts* (NYSDEC, 2000) considers aesthetic resources of statewide significance (see Appendix C). These include 20 sites and three districts listed on the NRHP; one state park, one state recreation area; two wildlife management areas; two eligible wild, scenic or recreational rivers; two scenic overlooks, one federally-designated trail; one state-designated trail; and four additional resources. Additionally, the area within and near the 5-mile study area boundary includes 105 sites and one district that have been determined by NYSOPRHP to be eligible for NRHP-listing. These Aesthetic Resources of Statewide Significance are discussed below.

Sites Listed on or Eligible for Listing on the State and National Register of Historic Places:

EDR reviewed the NRHP and the NYSOPRHP Cultural Resources Information System (CRIS) websites, as well as the NYSOPRHP shapefile for buildings, structures, objects and historic districts listed in the NRHP to identify significant historic buildings and/ districts located within 10 miles of the Project (NPS, 2016c; NRHP, 2016a, 2016b; NYSHPO, 2016). The Applicant, also conducted a *Historic Architectural Resources Survey* for the Project (EDR, 2017) which identified additional historic buildings and resources located within 5 miles of the proposed Project. Representative examples of NRHP-listed and eligible properties within the study area are shown in Inset 9, below.

The 10-mile visual study area includes 20 individual properties and three historic districts that are listed in the NRHP. These properties and historic districts are discussed below and shown on Figure 6.

Inset 9. Representative Photographs of NRHP-listed and NRHP-eligible Properties within the Study Area.
Upper Left: Rowe House, entrance gate (07NR05717) (Viewpoint 6); Upper Right: Dansville Downtown Historic District (06NR05669) (Viewpoint 50); Lower Left: Larrowe House (90NR03084) (Viewpoint 37); Lower Right: Canaseraga Four Corners Historic District (02NR01898) (Viewpoint 52). Historic properties within the study area include residences, cemeteries, farms, bridges, parks, and various other structures. These properties are scattered throughout the study area, but are most concentrated in village and hamlet centers.

Larrowe House (90NR03084): The Larrowe House (currently the Cohocton Town and Village Municipal Building, 90PR02998) and the contributing Larrowe Garage and Cohocton Public Library (USN 10149.000017) are located in the Village of Cohocton, in the southeastern portion of the 5-mile study area. The Larrowe House was constructed in 1856 by Albertus Larrowe, one of the founders of Cohocton. It was the main structure of a larger farm complex, of which it is the sole surviving building. The building exterior and interiors retain a high level of integrity. The contributing Larrowe Garage building was constructed in the 1920s as a one-story automobile

garage. The property remained in the Larrowe family until 1950, when the lot was deeded to the Town of Cohocton. The building was listed in the NRHP in 1990 (Ardito, 1989).

Presbyterian Church of Atlanta (09NR06057): The Presbyterian Church of Atlanta is located in the hamlet of Atlanta, in the Town of Cohocton, in the northeast portion of the 5-mile study area. The church was originally constructed circa 1895 in the Queen Anne style, designed by noted Elmira, New York architect Otis Dockstader. The church retains much of its original interior and exterior details, and is architecturally significant as a highly intact example of a Queen Anne-style church constructed in the Akron Plan, which uniquely programmed the internal rooms of churches around a central rotunda (Englert, 2009).

Hornell Armory (90NR02021): The Hornell Armory is located in the City of Hornell, in the southwest portion of the 5-mile study area. Designed for the 47th Separate Company of the National Guard of New York, the asymmetrical, fortress-like military building is one of the few surviving armories in New York State that continues to perform its original function with relatively few alterations. The architect was I.G. Perry of Albany, who employed a variety of blue stone and vitrified brick detailing including round corner towers, corbelling, belt courses, and arches (Reed, 1980).

Hornell Public Library (90NR02020): The Hornell Public Library is located in the City of Hornell, in the southwest portion of the 5-mile study area. Designed by New York City architect Edward Tilton, the library was dedicated in 1911. Its five-bay façade has an imposing entrance flanked by arched windows. The open floor plan, well-lit by skylights and large arched windows, is representative of the Carnegie Library style which was prevalent in Victorian America at the turn of the century. For over one hundred years the library has continued to serve the Town of Hornell (McDougall, 1975).

Old Post Office (97PR03311): The Old Post Office is located in the City of Hornell, in the southwest portion of the 5-mile study area. The 1917 Georgian-style building has a pentagon-shaped massing, filling out most of the irregularly shaped corner lot in downtown Hornell. The principal façade faces onto Seneca Street, and has a central recessed entry flanked by a series of pilasters and tall narrow windows. Additional detailing includes a limestone cornice, marble keystones and roofline balusters. It was designed and constructed under the supervision of architect James A. Wetmore of the U.S. Treasury Department (Ross, 1997).

Temple Beth El (15NR00119): Temple Beth-El is located in the City of Hornell, in the southwest portion of the 5-mile study area. The modest, three-bay, yellow brick synagogue was constructed in 1947 in response to a growing

Jewish community, which until that time had been worshipping in local homes and rented commercial spaces. Surviving decorative features include a cast stone door surround, transom arch, iron and glass lamps, and Star of David motifs. The building retains a high degree of integrity in terms of extant historic fabric and finishes, as well as feeling and association (Greil, 2015).

Adsit House (02NR04939): The Adsit House was located in the City of Hornell, in the southwest portion of the 5-mile study area, but no longer exists. It was a circa 1828 Federal-style residence that got demolished in 2010.

St. Ann's Federation Building (01NR01767): The St. Ann's Federation Building is located in the City of Hornell in the southwest portion of the 5-mile study area. Built between 1910 and 1912, it is a Neoclassical-style structure with a brick façade installed over the first fireproof concrete and steel structural system to be used in Hornell. Designed by Elmira architect Otis Dockstader, it remains largely intact, and continues to serve the community as an office building and local landmark (Krattinger, 2001).

Rowe House (07NR05717): The Rowe House is located on County Road 38 in the Town of Wayland on the southeast edge of the 5-mile study area. The Rowe House property is comprised of a two-story seven-bay Tudor Revival-style house constructed circa 1926 on 28 acres of land. The house was constructed for the Rowe family by the prominent Rochester architect J. Foster Warner, retains a high degree of historic and architectural integrity, and is a highly prominent and intact example of the Tudor Revival style in a predominantly rural, agrarian setting (Englert, 2007a).

Lincoln School (15NR00075): The Lincoln School is located in the center of the City of Hornell at 373 Canisteo Street, 5.2 miles from the nearest proposed turbine. The school was constructed in 1923 -1924 and listed on the NRHP in 2015. Lincoln School opened in 1924 and served as a neighborhood elementary school until 1979, and after that as an office building until 2012. It is a three-story building of dark colored brick with a flat roof, brick and terra cotta trim at the main façade and banks of large classroom windows interspersed with blank wall sections. The exterior retains its original masonry opening pattern along with original trim elements. The Lincoln School is significant architecturally as an intact and well-preserved example of a 1920s neighborhood elementary school in a small Western New York community, exhibiting design features that were typical of grammar school architecture of the period (Hooker and DiBella, 2015).

Canisteo Living Sign (04PR06610): The Canisteo Living Sign is located just outside the Village of Canisteo and 7.4 miles from the nearest proposed turbine. The Canisteo Living Sign is an area of ground approximately 90 feet

long by 300 feet wide, on the southeast side of a hill, comprised of 260 pine trees that spell out the name "Canisteo". The sign was originally laid out by Canisteo natives Edwin Childs and Harry C. Smith in 1933 with 750 Scotch pine seedlings. Over the years the area has expanded as the trees have grown, and some trees have been thinned, resulting in the current 260 trees. The Canisteo Living Sign is significant under Criterion A for its importance to the village's history and identity and to the history of aviation in the Southern Tier region in New York. The sign was constructed in 1933-34 as a civic project and became a visual navigation marker for airplane pilots. The sign if also significant under Criterion C for its design and unusual construction materials (Bartos, 2004).

Dansville Downtown Historic District (06NR05669): The Dansville Downtown Historic District is located 8.0 miles from the nearest proposed turbine, and is comprised of the intact three-block commercial core of the Village of Dansville. The district includes the east and west sides of Main Street (State Routes 36 and 63) from Perine Street to Chestnut Street, and two properties on Ossian Street, comprising an area of about 5 acres containing 50 contributing buildings. The majority of the buildings are commercial in character and mostly form continuous blocks. Most of the buildings in the district are two or three stories in height and were constructed between 1835 and 1900. The historic district contains one of the largest concentrations of nineteenth-century commercial buildings in Western New York, representative of regional architectural trends in small-town commercial construction, including Greek Revival, Italianate, Neoclassical, and Colonial/Georgian Revival styles (Englert, 2007b).

US Post Office – Dansville (90NR01374): The Dansville Post Office is located at 100 Main Street in the Village of Dansville, Livingston County, 8.0 miles from the nearest proposed turbine. The post office is a contributing building in the Dansville Downtown Historic District. The Dansville Post Office is architecturally significant as a distinguished example of a Colonial Revival style public building in New York. The building was designed in 1932 by Rochester architect Charles A. Carpenter, then built in 1932 -1933 (Gobrecht, 1986).

English Evangelical Lutheran Church of Dansville (St. Paul's Lutheran Church; 11NR06204): The English Evangelical Lutheran Church of Dansville is located in the Village of Dansville, Livingston County, 8.1 miles from the nearest proposed turbine. The church was built in 1847 and is a late Greek Revival era building, now known as St. Pauls' Lutheran Church. The church's architecture is historically significant as a representative intact example of mid-nineteenth century ecclesiastical design, and in the area of social history for its association with the Village's German immigrant community. In addition, the site is nationally significant as the place where Clara Barton formed the first local chapter of the American Red Cross in 1881 (Bartos, 2013).

Pioneer Farm (90NR01375): Pioneer Farm is located on State Route 36 in the Village of Dansville, Livingston County, approximately 8.1 miles from the nearest proposed turbine. Pioneer Farm contains a brick farmhouse that was built around 1822. The house was erected by James McCurdy, who was the son of the first settler in the Village of Dansville and a prosperous sheep farmer. The house is in need of repair, but has survived intact as an example of an early 19th century Western New York farmhouse (Waite, 1970).

Geiger, Elias H., House (05NR05540): The house of Elias H. Geiger is located on Geiger Road in the Town of Ossian, Livingston County, 8.2 miles from the nearest proposed turbine. The house is located on 182.6 acres of the estate's original 232 acres and includes two contributing barns constructed in 1937. It is a large two-story wood-frame building, constructed in 1866 or 1867 by Elias H. Geiger, master carpenter, lumberman, and businessman. In the front lawn is a giant locust tree, which is the largest of its kind in the world. The house is architecturally significant as a largely intact and distinctive example of Italianate style residential architecture (Englert, 2005).

Dansville Library (90NR01373): The Dansville Library is located at 200 Main Street in the Village of Dansville, 8.2 miles from the nearest proposed turbine. The library is a contributing building in the Dansville Downtown Historic District. The library was originally the residence of Joshua Shepard who built the neoclassical style home in 1823 -1824. In 1923 the Shepard family gave the house to the community for use as a library (Gobrecht, 1977).

Canaseraga Four Corners Historic District (02NR01898): The Canaseraga Four Corners Historic District is located along Main Street (State Route 70) at the intersection with South and North Church Streets, in the Village of Canaseraga, Allegany County, 9.1 miles from the nearest proposed turbine. The historic district includes 16 buildings associated with the commercial development of the village following a fire in 1895 that wiped out the entire village center. The Canaseraga Four Corners Historic District is significant as an intact example of a cohesive collection of a building type and style that characterized rural villages at the end of the nineteenth century (Opalka, 2001)

Hartman, William, Farmstead (00NR01578): The William Hartman Farmstead is located on Route 63 North, just outside the Village of Dansville, Livingston County, 9.3 miles from the nearest proposed turbine. The William Harman Farmstead includes a vernacular, Greek Revival style farmhouse, built between 1848 and 1850. There are four contributing support structures, which include a large barn, small storage barn, carriage shed, and chicken house, all of which date to the mid- to late-nineteenth century. The listing also includes approximately 18 acres of

surrounding land. The farmstead is an architecturally and historically significant collection of intact, rural agrarian buildings. Together, the buildings and surrounding cultivated fields recall the rural agrarian heritage of this portion of southern Livingston County (Todd, 1999).

Morgan Hook and Ladder Company (95NR00832): The Morgan Hook and Ladder Company is located at 18-20 Mill Street in the Village of Naples, Ontario County, 9.7 miles from the nearest proposed turbine. The firehouse was built in 1830 as a Federal-style dwelling, but became a boarding house, and was eventually converted to a fire house in 1891 -1892. The building also served as a local jail. The Morgan Hook and Ladder Company is a historically and architecturally significant building representing a long span of the village's nineteenth and twentieth century history. The exterior retains its initial Federal period configuration as a dwelling (Piwonka, 1994).

Naples Memorial Town Hall (96NR00972): The Naples Memorial Town Hall is located on the northeast corner of the junction of North Main and Monier Streets in the Village of Naples, Ontario County, 9.9 miles from the nearest proposed turbine. The Town Hall was built in 1872 and is a two-story, rectangular brick building, of Italianate style. The Town Hall is architecturally and historically significant as a monumental public building, and is significant for its lengthy association with the social and recreational activity of the citizens of the Village of Naples and Town of Naples. The building is also significant as a distinguished example of late Victorian public architecture (Todd, 1995).

Additionally, per the requirements set forth in 16 NYCRR § 1000.20(b), a *Historic Architectural Resources Survey* (EDR, 2017) was conducted that identified a total of 105 historic properties and one district (City of Hornell Historic District) within the 5-mile radius study area were determined by NYSOPRHP to be NRHP-eligible. The NRHP-eligible sites located within the 5-mile study area include churches, cemeteries, schools, former railroad stations, commercial buildings, park structures, and industrial buildings, most of which occur in areas of concentrated settlement such as the City of Hornell, the Villages of Cohocton and Wayland, and the Hamlets of Atlanta, Howard, and Wallace (see Figure 6 and Appendix C).

State Parks:

Review of the NYSOPRHP website indicates that there is one New York State Park and one State Recreation Area located within the visual study area (NYSOPRHP, 2016b).

Stony Brook State Park: Stony Brook State Park is located in Dansville, New York approximately 6.3 miles from the nearest proposed turbine. The park is comprised of hilly woodlands, a deep gorge with rugged cliffs overlooking three waterfalls, and rock formations. Hiking trails are located along the rim and in the gorge, and

there are nature trails throughout the park. Amenities provided include a playground, ball fields, and a swimming pool, and activities include hunting, camping, picnicking, and cross-country skiing.

Harriet Hollister Spencer State Recreation Area: Harriet Hollister Spencer State Recreation Area is located in Springwater, New York, approximately 10.0 miles from the nearest proposed turbine. Activities allowed at the recreation area include hunting, biking, hiking, snowmobiling, snowshoeing, cross-country skiing, and picnicking.

Urban Cultural Parks/Heritage Areas:

No Urban Cultural Parks or State or National Heritage Areas occur within the visual study area (NPS, 2016e; NYSOPRHP 2016a).

State Forest Preserves:

New York State Forest Preserves occur within the Adirondack and Catskill Parks, neither of which are located within the visual study area (NYSDEC, 2016e).

National Wildlife Refuges and State Wildlife Management Areas:

Review of the U.S. Fish and Wildlife Service (USFWS) National Wildlife Refuge System website indicates that no National Wildlife Refuges occur within the visual study area (USFWS, 2016). However, one State Wildlife Management Area (WMA) is located within the 10-mile radius visual study area (NYSDEC, 2016b).

Inset 10. Representative Photographs of Selected Visually Sensitive Resources within the Study Area.
Upper Left: VA Medical Center (Viewpoint 112); Upper Right: Almond Lake (USACE Recreational Site) (Viewpoint 108);
Lower Left: I-86 Scenic Overlook (Viewpoint 111); Lower Right; Bicycle Route 17 (Viewpoint 96)

High Tor WMA: Located approximately 9.1 miles from the nearest proposed turbine, this 6,800-acre WMA consists of steep wooded hills, gullies, eroded cliffs, and wetlands. Approximately 3,700 acres is scenic steep wooded terrain, intersected by vehicle trails used to access the more remote sections of the WMA. Approximately 2,200 acres consists of lowland marsh, forested wetland, and grassland, and is drained by Naples Creek. The third part of the WMA is known as South Hill, and is comprised of 900 acres of overgrown fields with steep wooded hillsides. South Hill provides scenic views of the Naples and West River Valleys. The primary purpose of High Tor WMA is for wildlife management and wildlife-dependent recreation. Activities allowed on the property include hunting, trapping, fishing, and wildlife viewing.

National Natural Landmarks:

Review of the National Park Service National Natural Landmarks Program website indicates that no National Natural Landmarks are located within the visual study area (NPS, 2016b).

National Parks, Recreation Areas, Seashores and Forests:

Review of the National Park Service and U.S. Forest Service websites indicates that no National Parks, National Recreation Areas, National Seashores or National Forests are located within the visual study area (NPS, 2016a; USFS, 2013). A federal recreation area at Almond Lake is discussed under *Other Resources of Statewide Significance* at the end of this section.

National or State Designated Wild, Scenic and Recreational Rivers:

Review of the National Wild and Scenic Rivers website and the NYSDEC Wild, Scenic and Recreational Rivers website indicates that no formally designated wild, scenic or recreational rivers are located within the visual study area (National Wild and Scenic Rivers, 2016; NYSDEC, 2016h). The National Park Service Nationwide Rivers Inventory (NRI) was also consulted, as it is roughly equivalent to an eligible-for-listing designation. The NRI lists *"free-flowing river segments in the United States that are believed to possess one or more outstandingly remarkable natural or cultural values judged to be of more than local or regional significance*" (NPS, 2011).

The NRI lists a 37-mile section of the Cohocton River for its "outstandingly remarkable" recreation, geologic, and fish qualities. The NRI-designated reach of the Cohocton, which flows through the visual study area 0.6 miles from the nearest proposed turbine, is seasonally a Class I whitewater, and provides year-round trout fishing. In addition, the river has hydraulic connection with an important aquifer the vicinity of the Villages of Wallace and Avoca, and has a self-sustaining population of brown trout and brook trout (NPS, 2011).

The NRI also lists a 46-mile segment of the Canisteo River for its "outstandingly remarkable" recreation. The NRI-designated portion of the river is seasonally a Class I white water and provides smallmouth bass and walleye fishing (NPS, 2011). This segment of the Canisteo River runs approximately 3.9 miles from the nearest proposed turbine.

Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible as Scenic:

There are no state- or nationally- designated scenic byways within the visual study area (USDOT, 2016; NYSDOT, 2016b). However, there are two scenic overlooks located on the interstate highways that traverse the study area.

> *I-86 Scenic Overlook:* The scenic overlook on Interstate Route 86, located between exits 33 and 34 west of the City of Hornell, provides a bird's eye view of Almond Lake and the associated flood control dam. The scenic overlook is approximately 7.0 miles from the nearest proposed turbine. The reservoir created by the dam has a storage capacity of 7,900 acre-feet at spillway crest and has an area of 190 acres when filled to the crest. The

dam forms part of the protection for surrounding communities, and reduces flood heights at other localities on the Canisteo and Chemung Rivers.

I-390 Scenic Overlook: The scenic overlook on Interstate Route 390 is located off the north-bound lanes at exit 9, near Flint Road in the Town of Cohocton. It provides expansive views of the Cohocton River Valley and the wooded hills that surround it. The primary view is to the north, toward the Village of Cohocton. This scenic overlook is approximately 0.7 mile from the nearest proposed turbine and provides parking and picnicking facilities, as well as views of existing wind farms.

Scenic Areas of Statewide Significance:

According to the NYS Department of State (2016), there are no Scenic Areas of Statewide Significance within the visual study area.

State or Federal Designated Trails:

One state-designated bike route, State Bike Route 17, traverses the southern half of the visual study area and at its closest point is 0.6 mile from the nearest proposed turbine (NYSDOT, 2016a). State Bike Route 17 is a shared roadway route that extends 442 miles from State Bike Route 9 in the Village of Wappingers Falls to State Bicycle Route 517 in the Village of Westfield on the shores of Lake Erie.

One nationally-designated trail, the North Country National Scenic Trail traverses the southern part of the visual study area (NPS, 2016d). At its closest point, the trail passes within 2.3 miles of a proposed turbine. In March 1980, Congress passed legislation authorizing the North Country National Scenic Trail. When complete, the national trail will be the longest continuous hiking trail in the United States, crossing seven states (North Dakota, Minnesota, Wisconsin, Michigan, Ohio, Pennsylvania, and New York). The trail connects scenic, natural, historic, and cultural areas (NPS, 2016d; North Country Trail Association, 2017).

One state-designated trail, the Finger Lakes Trail, also traverses the southern part of the visual study area, and coincides with the North Country National Scenic Trail (NYSOPRHP 2016c). The Finger Lakes Trail system passes through several state-owned properties in the area, as well as private lands. It includes over 950 miles of trails that run from the Pennsylvania-New York border in Allegany State Park to the Long Path in the Catskill Forest Preserve (Finger Lakes Trail Conference, 2017).

There are also trail systems in several nearby State Forests and Multiple Use Areas which fall within the 10-mile radius visual study area. Please see Section 3.6.2 for a description of these trails.

Adirondack Park Lands and Scenic Vistas:
No portions of the Adirondack Park are located within the study area.

Palisades Park Land:
No portions of the Palisades Park are located within the study area.

State Nature and Historic Preserve Areas and Bond Act Properties (Exceptional Scenic Beauty, Open Space):
Review of existing data did not identify any State Nature or Historic Preserve Areas or Bond Act Properties within the study area that were purchased under the Exceptional Scenic Beauty or Open Space Category.

Other Resources of Statewide or Regional Significance:

Kanakadea Recreation Area at Almond Lake: Located approximately 5.1 miles from the nearest proposed turbine, the Kanakadea Recreation Area at Almond Lake is a public recreation area on a flood control reservoir. It is owned by the USACE but operated and maintained by Steuben County. The recreation area includes a boat launch, picnic area, and campground.

USACE Reservation: The USACE also owns the Arkport dam on the Canisteo River. located just west of Arkport, New York, and 5.6 miles from the nearest proposed turbine. The dam is an earth filled structure 1,200 feet long and rising 113 feet above the streambed, with a concrete spillway and an outlet in the right abutment. The dam impounds water after heavy rains to prevent flooding downstream.

VA Medical Center: The VA Medical Center in located in the Village of Bath, New York, and is 10.9 miles from the nearest proposed turbine, which is outside the 10-mile visual study area, but was recommended to be included in the sensitive sites analysis during the VIA outreach. The medical center was founded in 1878 as a Grand Army of the Republic Soldiers and Sailors Home. The facility provides a full range of patient care services. A national cemetery dating back to the Civil War is located on the Medical Center grounds.

3.6.2 Aesthetic Resources of Local Significance

In addition to the scenic resources of statewide significance listed above, the visual study area includes aesthetic resources that are regionally and locally significant, sensitive to visual impact, and/or receive significant public recreational use. These aesthetic resources include recreation facilities, public open spaces, population centers, and heavily used transportation corridors. In addition, aesthetic resources of local significance were also identified during the VIA public outreach, effort. Locally significant resources are listed in Appendix C. Notable local and regional resources within the 5-mile study area are described below:

Recreational Resources:

Recreational Resources within 5 miles of the proposed Project include trails, local parks, water resources and state forests. Trails within the 5-mile visual study area (a few of which are pictured in Inset 11, below) include:

- *Burt Hill Multiple Use Area Trail*: At its closest point the trail is approximately 4.3 miles from the nearest proposed turbine. In addition, there is a lean-to for overnight camping located just off the Finger Lakes Trail.
- *Canacadea State Forest Trails*: At their closest point, the trails are approximately 6.5 miles from the nearest proposed turbine. The trails are used for hiking, mountain biking, horse riding, cross-country skiing, and snowmobiling.
- *Bully Hill State Forest Trail:* A multi-use trail occurs on the property and can be used for hiking, cross-country skiing, snowshoeing, and snowmobiling. At its closest point, the trail is approximately 8.0 miles from the nearest proposed turbine.
- *Canaseraga State Forest Trails*: At their closest point the trails are approximately 8.9 miles from the nearest proposed turbine. Trails occurring within Canaseraga State Forest are multiple use trails for hiking, mountain biking, horse riding, cross-country skiing, and snowmobiling. There are also unmarked, unmaintained skid roads, deer paths, and old farm lanes available for exploring.
- *Hemlock-Canadice State Forest Trails:* There are approximately 14 miles of marked hiking trails within Hemlock-Canadice State Forest. At the closest point, the trails are approximately 10.0 miles from the nearest proposed turbine.
- *Snowmobile Trails:* Three snowmobile clubs maintain trails within the visual study area. Bath Snowflakes maintains approximately 56 miles of snowmobile trails within the 5-mile study area. At the closest point to the Project the snowmobile trail runs directly adjacent to a proposed turbine. Quad County Snowmobile Club maintains approximately 30 miles of snowmobile trails within the 5-mile study area. At their closest point, the trails run directly adjacent to a proposed turbine. Hill and Valley Riders Club maintains approximately 7 miles of

snowmobile trails within the 5-mile study area, the closest of which is approximately 5.1 miles from the nearest proposed turbine location.

Inset 11. Representative Photographs of Trails within the Study Area
Upper Left: Bully Hill State Forest (Viewpoint 156); Upper Right: Canacadea State Forest (Viewpoint 148);
Lower Left: Quad County Snowmobile Trail (Viewpoint 193); Lower Right: Canaseraga State Forest (Viewpoint 160)

Three local parks/playgrounds occur within the 5-mile study area. Lawrence Park Recreation Area is located north of the Village of Cohocton, 2.3 miles from the nearest proposed turbine. Amenities include a main pool, kiddie pool, bath house, three pavilions, a basketball court, volleyball court, shuffle board, playground equipment, and sand boxes. In addition, a 60-foot long bridge was constructed over the Cohocton River in the early 1970s to provide access to another park area with picnicking and camping. Michael Fucci Memorial Park at Shamut is located on in the City of Hornell, 4.3 miles from the nearest proposed turbine. The park adjoins a nearby skateboard park, with a half-mile lighted walkway around a pond, a handicapped accessible fishing pier, three pavilions, restrooms, a concession stand, a children's play area, horseshoe pits, and two soccer/football fields. Maple City Park is located 4.3 miles from the nearest proposed turbine, in the City of Hornell. The park is adjacent to the Hornell Senior High School and includes ball fields and a pool.

NYSDEC-owned lands within the 5-mile study area include six state forests, one multiple use area, and two fishing access points (NYSDEC, 2016c and 2016g). These lands include:

- *Burt Hill Multiple Use Area*: The facility is located in the Town of Howard, Steuben County, New York, approximately 4.3 miles from the nearest proposed turbine. The site consists of 403 acres used for recreational activities such as hiking, hunting and trapping, camping, and wildlife viewing. In addition, the site is managed for timber production, a diversity of wildlife habitats, and clean water.
- *Canacadea State Forest*: Canacadea State Forest is located in the Town of Hornellsville, Steuben County, New York, approximately 5.4 miles from the nearest proposed turbine. The 1,623-acre property is managed for multiple benefits, including sustainable timber management, a diversity of wildlife habitats, compatible recreational opportunities, and clean water. Activities permitted at the facility include camping, hunting and trapping, and wildlife viewing.
- *Bully Hill State Forest:* Bully Hill State Forest is located in Towns of Almond and Birdsall, Allegany County, New York, approximately 8.2 miles from the nearest proposed turbine. The state forest includes 3,513 acres that provide opportunities for hiking, snowmobiling, camping, bird watching, horseback riding, nature photography, and hunting. In the 1930s the facility was the site of many work projects carried out by the Civilian Conservation Corps (CCC).
- *Canaseraga State Forest:* The state forest is located in the Town of Ossian, Livingston County, New York, approximately 8.6 miles from the nearest proposed turbine. The 1,287-acre property is managed for multiple benefits including sustainable timber management, diversity of wildlife habitats, compatible recreational opportunities, and clean water. Activities allowed at the facility include camping, hunting, trapping, and wildlife viewing.
- *Hemlock-Canadice State Forest:* Hemlock-Canadice State Forest is located approximately 9.2 miles west of the nearest proposed turbine. The forest includes approximately 6,849 acres that surround Hemlock and Canadice Lakes, which have provided drinking water for the City of Rochester and adjacent communities for more than 100 years. To protect water quality, the City of Rochester acquired much of the watershed property around the lakes. Over the years the land was planted and/or naturally reverted to forest. Activities allowed at the state forest include hiking, boating, fishing, hunting, trapping, biking, snowmobiling, and wildlife viewing.
- *Slader Creek State Forest*: Slader Creek State Forest is located approximately 9.2 miles west of the nearest proposed turbine. The forest includes 1,229 acres of a mix of native hardwood species and planted conifers. Activities allowed within the state forest include hiking on the Finger Lakes Trail and North County Scenic Trail, cross-country skiing and snowshoeing, camping, and hunting and trapping.
- *Klipnocky State Forest*: Klipnocky State Forest is located approximately 9.8 miles west of the nearest proposed turbine. The state forest borders Slader Creek State Forest and encompasses 2,634 acres. Forest cover includes a mix of native hardwoods, native conifers, and planted conifers. Featured activities include hiking on the Finger

Lakes Trail and North Country Trail, cross-country skiing and snowshoeing, hunting and trapping, and snowmobiling.

Two NYSDEC Public Fishing Access sites occur within the 5-mile study area. The NYSDEC Cohocton River Fishing Access point is located 0.5 mile south of the Village of Cohocton, off of Jones Road, in the Town of Cohocton. The fishing access is located 0.6 mile from the nearest proposed turbine. The Cohocton River provides year-round fishing for wild brook trout and wild and stocked brown trout (NYSDEC, 2016i). The NYSDEC Mill Creek Fishing Access is located off of State Route 21 (0.4 mile south of Interstate Route 390) in the Town of Wayland. Mill Creek is one of the most productive wild trout streams in NYSDEC Region 8. It supports wild populations of brook trout and brown trout and provides year-round trout fishing (NYSDEC, 2016i). The fishing access site is located 2.7 miles from the nearest proposed turbine.

Named water resources that offer recreational opportunities within the 5-mile study area (several of which have been previously described) include Loon Lake, Hornell Reservoirs, Canacadea Creek, Canaseraga Creek, Canisteo River, Cohocton River, Mill Creek, and Neil Creek. There are three NYSDEC Public Fishing Rights (PFR) Streams within the 5-mile study area. PFRs are permanent easements purchased by the NYSDEC from willing landowners, giving anglers the right to fish and walk along the bank, up to 33-feet on one or both sides of the stream. The Cohocton River PFR comes within 0.6 mile of the nearest proposed wind turbine. The Neil Creek PFR comes within 0.9 mile of the nearest proposed wind turbine, and the Mill Creek PFR is 2.7 miles from the nearest proposed wind turbine at its closest point. All three PFR streams are known for their healthy populations of trout and excellent fishing opportunities. Laugh-A-Lot Restaurant, located on Loon Lake, provides the only public boat launch on Loon Lake. The boat launch is a cement ramp that users must pay a fee to access.

Two golf courses occur within the 5-mile visual study area. The Hornell Country Club is an 18-hole public golf course located on the northeast side of the City of Hornell, New York, approximately 3.3 miles from the nearest proposed turbine. The Twin Hickory Golf Club is located approximately 3.8 miles from the nearest proposed turbine. It is an 18-hole course located southeast of Hornell, New York.

Inset 12. Representative Photographs of Recreational Resources within the Study Area
Upper Left: View from Lawrence Parks Recreation Area, Town of Cohocton (Viewpoint 127-130); Upper Right: Cohocton Elementary School Playground (Viewpoint 38);
Lower Left: Finger Lakes Trail and North Country National Scenic Trail (VP 152); Lower Right: Ellsworth "Ozzie" Tripp Sports Complex, Cohocton Elementary School (Viewpoint 169)

Public Schools:

Four schools within the Wayland-Cohocton Central School District occur within the 5-mile study area. Cohocton Elementary School is located on Park Avenue in the Village of Cohocton, 1.1 miles from the nearest proposed turbine. During the 2016-2017 school year, 189 students, kindergarten through 4th grade, were enrolled in this school. Wayland Elementary is located adjacent to the Wayland-Cohocton Middle and Senior High School on Route 63 in the Village of Wayland, 4.2 miles from the nearest proposed turbine. During the 2016-2017 school year, 303 students in kindergarten through 4th grade were enrolled in Wayland Elementary, 399 students in 5th through 8th grade were enrolled in Wayland-Cohocton Middle School, and 416 students in 9th through 12th grade were enrolled in Wayland-Cohocton Senior High School.

Five schools within the Hornell City School District also occur within the 5-mile study area. North Hornell Elementary School is located on Avondale Avenue in the Village of North Hornell, 3.8 miles from the nearest proposed turbine. A total of 245

students, kindergarten through 1st grade, were enrolled in this school during the 2016-2017 school year. Bryant Elementary School is located on Terry Street in the City of Hornell, 4.6 miles from the nearest proposed turbine. The elementary school serves 227 students in 2nd and 3rd grade. Hornell Intermediate School is located on Buffalo Street in the City of Hornell, 4.7 miles from the nearest proposed turbine. Hornell Intermediate School had 378 students in 4th through 6th grade during the 2016-2017 school year. Hornell Junior and Senior High Schools are located on Seneca Street in the City of Hornell, 4.3 miles from the nearest proposed turbine. During the 2016-2017 school year, Hornell Junior High School had 248 students in 7th and 8th grade and Hornell Senior High School had 568 students in grades 9th through 12th.

Arkport Central School is located on East Avenue in the Village of Arkport, 4.5 miles from the nearest proposed turbine. During the 2016-2017 school year 439 students were enrolled in kindergarten through 12th grade at Arkport Central School. Avoca Central School is located on Oliver Street in the Village of Avoca, 5.6 miles from the nearest proposed turbine. During the 2016-2017 school year 432 students were enrolled in kindergarten through 12th grade at Avoca Central School.

Areas of Intensive Land Use:

Areas of concentrated settlement within the visual study area are considered visually sensitive due to the type/intensity of land use they receive. The City of Hornell and several rural villages lie within the 5-mile visual study area. They are listed below, along with their distance from the nearest proposed turbine:

- The Village of Cohocton has a population of 838, and is 0.5 mile northeast of the Project.
- The Village of North Hornell has a population of 778, and is 3.5 miles southwest of the Project.
- The City of Hornell has a population of 8,563, and is 3.8 miles southwest of the Project.
- The Village of Wayland has a population of 1865, and is 3.9 miles northwest of the Project.
- The Village of Arkport has a population of 844, and is 4.3 miles west of the Project.
- The Village of Avoca has a population of 946, and is 4.6 miles east of the Project (U.S. Census Bureau, 2010).

Hamlets within the 5-mile visual study area include Atlanta, Fremont, Haskinville, Howard, North Cohocton, Perkinsville, South Dansville, and Wallace.

Transportation Corridors:

The 5-mile visual study area includes eight highways that could be considered visually sensitive due to the number of vehicles that travel these roads on a daily basis. Table 4 includes NYSDOT 2015 traffic counts for major roadways within the 5-mile study area.

Table 4. Traffic Counts for Major Transportation Corridors within the 10-Mile Study Area

Road	Total Length within the 10-Mile Study Area (miles)	Average Vehicles/Day on Segments within the Study Area
Interstate Route 390	24	10,904 - 22,214
Interstate Route 86	26	5,627 - 19,098
State Route 36	25	1,948 – 14,276
State Route 21	41	2,062 – 11,365
State Route 15	8.5	1,170 – 5,417
State Route 63	8.5	1,398 - 5,014
State Route 371	5	2073
State Route 415	19	1,258 – 3,079

Source: NYSDOT, 2015

4.0 Visual Impact Assessment Methodology

The Visual Impact Assessment (VIA) procedures used for this study are consistent with methodologies developed by the U.S. Department of the Interior, Bureau of Land Management (1980), U.S. Department of Agriculture, National Forest Service (1995), the U.S. Department of Transportation, Federal Highway Administration (1981), U.S. Army Corps of Engineers (Smardon, et al., 1988) and the NYSDEC (2000). These procedures are widely accepted as standard visual impact methodology for wind energy projects (CEIWEP, 2007), and are consistent with the requirements of Stipulation 24. The specific techniques used to assess potential Project visibility and visual impacts are described in the following section.

4.1 Project Visibility

An analysis of Project visibility was undertaken to identify those locations within the visual study area where there is potential for the proposed wind turbines, overhead collection lines, and substation to be seen from ground-level vantage points. This analysis included identifying potentially visible areas on viewshed maps and verifying Project visibility in the field. The methodology employed for each of these assessment techniques is described below.

4.1.1 Viewshed Analysis

Topographic viewshed maps for the proposed turbines were prepared using 10-meter resolution USGS digital elevation model (DEM) data (7.5-minute series) for the visual study area, the location and height of all proposed turbines, collection line poles and five lighting masts within the substation (see Figure 2), an assumed viewer height of 1.7 meters, and ESRI ArcGIS® software with the Spatial Analyst extension. To evaluate potential turbine visibility, two 10-mile radius topographic viewsheds were mapped, one to illustrate "worst case" daytime visibility (based on the tallest of all proposed turbines, with a maximum blade tip height of 152 meters, or 499 feet above existing grade), and the other to illustrate potential visibility of FAA obstruction warning lights at night. The nighttime viewshed was based on the FAA warning light height of 302 feet, or 92 meters, above existing grade, and the conservative assumption that all turbines would be equipped with the lights[1]. Viewshed analysis of overhead segments of the collection line is based on a maximum pole height of 60 feet, while the substation viewshed is based on a maximum lighting mast height of 50 feet. The overhead collection line and substation viewshed analyses evaluated potential visibility within a 1-mile radius of the proposed location of these Project components.

The ArcGIS program defines the viewshed by reading every cell of the DEM data and assigning a value based upon the existence of a direct, unobstructed line of sight to proposed facility location/elevation coordinates from observation points

[1] The viewshed is intentionally conservative and overstates the potential visibility of the FAA warning lights. A hub height of 89 meters is assumed, when actual hub height is anticipated to be 87 meters. In addition, typically, fewer than half of the proposed turbines in a wind project are lit by FAA warning lights. However, the Applicant and FAA have not yet determined which turbines will need to be lit.

throughout the study area. The resulting viewshed maps define the maximum area from which any portion of these components of the completed Project could potentially be seen within the study area during both daytime and nighttime hours based on a direct line of sight, and ignoring the screening effects of existing vegetation and structures. A turbine count analysis was also performed to determine how many wind turbines would be potentially visible from any given point within the viewshed. The results of this analysis were then grouped by number of turbines potentially visible and presented on a viewshed map.

Because the screening provided by vegetation and structures is not considered in this analysis, the topographic viewshed represents a true "worst case" assessment of potential Project visibility. Topographic viewshed maps assume that no trees exist, and therefore are very accurate in predicting where visibility will not occur due to topographic interference. However, they are less accurate in identifying areas from which the Project could actually be visible. Trees and buildings can limit or eliminate visibility in areas indicated as having potential Project visibility in the topographic viewshed analysis.

To supplement the topographic viewshed analysis, a vegetation viewshed was also prepared to illustrate the potential screening provided by forest vegetation. A base vegetation layer was created using the 2011 USGS NLCD to identify the mapped location of forest land (including the Deciduous Forest, Evergreen Forest and Mixed Forest NLCD classifications) within the visual study area. Based on standard visual assessment practice, the mapped locations of the forest land were assigned an assumed height of 40 feet and added to the DEM. The turbine, collection line, and substation viewshed analyses were then re-run, as described above. As with the topographic viewshed analysis for the turbines, two vegetation viewsheds were mapped, one to illustrate “worst case” daytime visibility (based on the tallest of all proposed turbines, with a maximum height of 499 feet above existing grade) and the other to illustrate potential visibility of FAA warning lights (based on a nacelle height of 302 feet above existing grade and the conservative assumption that all turbines could be equipped with lights). Once the initial vegetation viewshed analysis was completed, a Spatial Analyst conditional statement was used to assign zero visibility to all areas of mapped forest, resulting in the final vegetation viewshed. The vegetation viewshed is based on the assumption that in most forested areas, outward views will be well screened by the overhead tree canopy. During the growing season the forest canopy will fully block views of the proposed facilities, and such views will typically be almost completely obscured, or at least significantly screened by tree trunks and branches, even under “leaf-off” conditions. Although there are certainly areas of mapped forest within natural or man-made clearings that could provide open outward views, these openings are rare, and the available views would typically be narrow/enclosed and include little of the proposed Project.

Because it accounts for the screening provided by mapped forest stands, the vegetation viewshed is a much more accurate representation of potential Project visibility. However, it is important to note that because screening provided by buildings

and street/yard trees, as well as characteristics of the proposed turbines that influence visibility (color, narrow profile, distance from viewer, etc.), are not taken consideration in the viewshed analyses, being within the viewshed does not necessarily equate to actual Project visibility.

4.1.2 Field Verification

EDR personnel conducted visual field review in the study area on multiple dates between December 2016 and May 2017 (December 20, 2016, January 12, 2017, March 23, 2017, and May 10 & 18, 2017). During these site visits, EDR staff members drove public roads and visited public vantage points within the 10-mile radius study area to document locations from which the turbines and other Project components would likely be visible, partially screened, or fully screened. This determination was made based on the visibility of the distinctive Project Site ridges/landforms, as well as existing tall structures (such as existing wind turbines, silos and temporary meteorological towers) on or around the Project Site, which served as locational and scale references. These site visits resulted in photographs from 207 representative viewpoints within the 10-mile study area. The viewpoints document potential visibility of the Project from the various LSZs, distance zones, directions, visually sensitive resources, and area of high public use throughout the visual study area. A photo log, including a representative photograph toward the Project Site from each viewpoint, is included in Appendix B.

The December 20, 2016 field review focused on documenting existing landscape characteristics and verifying potential visibility of the proposed Project from identified sensitive sites, all with the idea that the viewpoints/photographs might be selected for subsequent development of visual simulations. Weather conditions during the December 20, 2016 site visit were not consistent with the forecast, and remained overcast throughout the majority of the day (although there were points throughout the day when skies partially cleared and visibility improved). Representative photos were taken throughout the day and provide different sunlight/sky conditions typical of the winter season. The photographs also document the distinctive landforms within the study area, as well as existing tall structures which provided scale and location references to allow for determination of potential Project visibility.

Additional site visits were conducted in January, March and May of 2017 to supplement the photography obtained in December. As shown in the photo log included in Appendix B, this resulted in a set of photographs that document a range of weather/sky conditions, visibility, and seasonal characteristics. It is worth noting that a percentage of the visual field review was conducted during the leaf-off season and therefore many of the photographs depict the most conservative scenario in terms of potential Project visibility.

During each site visit, photos were taken using digital SLR cameras with a minimum resolution of 14.1 megapixels[2]. All cameras utilized a focal length between 28 and 35 mm (equivalent to between 45 and 55 mm on a standard 35 mm film camera). This focal length is the standard used in visual impact assessment because it most closely approximates normal human perception of spatial relationships and scale in the landscape (CEIWEP, 2007). At each viewpoint, a series of overlapping photos were taken to cover the full field of view toward the Project Site. Viewpoint locations were determined using hand-held global positioning system (GPS) units and high resolution aerial photographs (digital ortho quarter quadrangles). The time and location of each photo were documented on all electronic equipment (cameras, GPS units, etc.) and noted on field maps and data sheets. Viewpoints photographed during field review generally represented the most open, unobstructed available views toward the Project.

4.2 Project Visual Impact

Beyond evaluating potential Project visibility, the VIA also examined the visual impact of the proposed Project on the LSZs, aesthetic resources, and viewer groups within the visual study area. This assessment involved creating computer models of the proposed turbine model and turbine layout, selecting representative viewpoints within the study area, and preparing computer-assisted visual simulations of the proposed Project. These simulations were then evaluated by three registered landscape architects to determine the type and extent of visual impact resulting from Project construction. Further information on the rating panel, personnel and procedure can be found in Appendix E. Renderings of overhead segments of the collection line were also prepared from representative viewpoints. Details of the visual impact assessment procedures are described below.

4.2.1 Viewpoint Selection

16 NYCRR § 1000.24(b)(4) includes the requirements that "*the applicant shall confer with municipal planning representatives, DPS, DEC, OPRHP, and where appropriate, APA in its selection of important or representative viewpoints*"[3]. Building on the previous consultation with municipal representatives and stakeholders to identify visually sensitive sites (as described above in Section 3.6 of this VIA), EDR conducted additional outreach to agency staff and stakeholder groups to determine an appropriate set of viewpoints for the development of visual simulations. Copies of the correspondence sent by EDR as part of this process, as well as responses received from stakeholders, are included in Appendix F. This outreach effort included:

[2] Digital SLR cameras used in the photography fieldwork included Nikon D3100, D5200, and D7100.

[3] Note: "DPS" is the New York State Department of Public Service, "DEC" is the New York State Department of Environmental Conservation, "OPRHP" is the New York State Office of Parks, Recreation, and Historic Preservation, and "APA" is the Adirondack Park Agency. The APA is not applicable in this instance due to the Project's location (i.e., not in the vicinity of the Adirondack Park).

- On January 1, 2017, in accordance with Article 10, Exhibit 24, Part 1001.24(b)(4), EDR distributed a letter entitled "Baron Winds Farm - Recommendations for Visual Simulations", to appropriate municipal planning representatives and State of New York interested parties (see Appendix F). This memo included 1) a summary of research and consultation undertaken as part of the VIA to date, 2) a description of the field review/photography conducted for the Project, 3) a rationale for viewpoint selection, and 4) recommendations that 14 specified viewpoints be selected for the preparation of turbine simulations. The rationale provided for selection of the recommended viewpoints included the following factors:

    - They provide representative views of the Project from the various LSZs and Distance Zones within the study area.
    - They include visually sensitive resources/sites within the study area, including sites recommended by the DPS and other stakeholders during review of the Project's PSS.
    - A significant portion of the Project would be visible based on viewshed analysis and field review.

- On April 19, 2017, EDR distributed a letter entitled "Baron Winds Farm – Invitation to Consult Regarding Viewpoint Selection for Photo Simulations" via email and regular mail to appropriate municipal planning representatives (see Appendix F). The purpose of this communication was to invite these municipal and state agencies to take part in one of two webinars that were scheduled for Wednesday, April 26, 2017.
- On April 26, 2017, EDR hosted two on-line webinars at 10:00 am and 3:00 pm (to accommodate participants' schedules and maximize participation); however, the format and content of each webinar were identical. Each included, 1) a review of the visual studies conducted to date, 2) discussion of proposed and alternate viewpoints for as the development of simulations, and 3) a request that stakeholders provide any additional suggestions or comments regarding viewpoint selection via email.
- Comments received during the April 26th webinars included the suggestion that the soccer fields located in Cohocton Village at the elementary school be considered.
- As a follow-up to the on-line webinars, EDR provided a proposed list of viewpoints for visual simulations to DPS staff and other stakeholders via email on May 8, 2017.
- On June 13, 2017, EDR received an email from John A. Bonafide of the NYSOPRHP's Division for Historic Preservation (DHP) in regard to the recommended viewpoints for development of visual simulations. The letter stated that based on the DHP's review of the information provided in EDR's letter (email) on May 8, 2017 the DHP agrees with the viewpoints chosen.

- Three viewpoints were added following a field visit on May 10, 2017 to capture spring and summer leaf-on conditions.
- One simulation was added to Viewpoint 37 for comparing leaf-on and leaf-off conditions.

Based on the outcome of stakeholder and agency consultation, a total of 21 viewpoints were selected for the development of visual simulations. These viewpoints were selected based upon the following criteria:

- They provide open views of proposed turbines (as indicated by field verification), or provide representative views of the screening effects of vegetation and/or buildings from selected areas.
- They illustrate Project visibility from sensitive resources identified by local stakeholders and state agencies.
- They illustrate typical views from LSZs where views of the Project will be available.
- They illustrate typical views of the proposed Project that will be available to representative viewer/user groups within the visual study area.
- They illustrate typical views of different numbers of turbines, from a variety of viewer distances, and under different lighting/sky conditions, to illustrate the range of visual change that will occur with the Project in place.
- The photos obtained from the viewpoints display good composition, lighting, and exposure.

Locational details and the criteria for selection of each simulation viewpoint are summarized in Table 5, below:

Table 5. Viewpoints Selected for Simulation

Viewpoint Number	Location and/or Visually Sensitive Resource	LSZ Represented	Viewer Group Represented	Viewing Distance[1]	View Orientation[2]
21	Quad County Snowmobile Trail, Town of Wayland	Rural Uplands/Ridgeline	Local Residents, Tourists/Recreational Users	2.4	SE
23	State Route 371, Town of Cohocton	Rural Valley	Local Residents, Through-Travelers	5.0	SSE
30	State Route 371, Cohocton River State Designated	Rural Valley	Local Residents, Tourists/Recreational Users	2.8	SW
37	Larrowe House and Memorial Park, Town of Cohocton	City/Village/Hamlet	Local Residents, Tourists/Recreational Users	1.5	SSW
43	State Route 415, Town of Cohocton	Rural Valley, Transportation Corridor	Local Residents	1.9	WNW
49	Interstate 390, Scenic Overlook, Town of Cohocton	Transportation Corridor	Through Travelers/Commuters	0.7	WNW

Viewpoint Number	Location and/or Visually Sensitive Resource	LSZ Represented	Viewer Group Represented	Viewing Distance[1]	View Orientation[2]
51	State Route 21, Town of Wayland	Rural Valley	Local Residents	1.1	E
54	Interstate 390, NHRP Eligible Site, Town of Cohocton	Transportation Corridor	Local Residents, Through-Travelers/commuters	1.0	W
57	Wallace Back Road, Town of Avoca	Rural Valley	Local Residents	2.8	WNW
66	Country Route 46, Town of Fremont	Rural Uplands/Ridgelines	Local Residents	6.3	E
79	County Route 54 at Jones Road, Town of Fremont	Rural Uplands/Ridgelines	Local Residents	0.1	SSE
92	County Route 70A at Russell Road, Town of Fremont	Rural Valley	Local Residents	0.8	N
111	Interstate 86 Scenic Overlook	Transportation Corridor	Tourists/Recreational Users, Through Travelers/Commuters	8.6	
114	North Country Trail/Finger Lakes Trail, Town of Bath	Rural Uplands/Ridgelines	Tourists/Recreational Users	9.3	NW
118	Intersection of South Woods Road and Burt Hill Road, Town of Howard	Rural Uplands/Ridgelines	Local Residents	3.5	NNW
148	DEC Truck Trail, Canacadea State Forest, Town of Hornellsville	Forest	Tourists/Recreational Users	6.6	NE
160	Canaseraga State Forest, Blank Hill Road, Town of Ossian	Forest	Tourists/Recreational Users	12.2	E
168	Ellsworth "Ozzie" Tripp Sports Complex, Town of Cohocton	City/Village/Hamlet	Local Residents, Tourists/Recreational Users	1.2	SW/SSW
177	Lent Hill Road At Eveland Road, Town of Cohocton	Rural Uplands/Ridgeline	Local Residents	5.8	SW/W
192	Loon Lake, Laf A Lot Road, Town of Wayland	Waterfront/Open Water	Local Residents, Tourists/Recreational Users	1.2	SE
198	Rex Road, Town of Cohocton	Rural Uplands/Ridgelines	Local Residents	0.1	NNE/NE

[1]Distance from viewpoint to nearest visible turbine (in miles)
[2]N = North, S = South, E = East, W = West

In addition to the viewpoints selected for the development of turbine simulations, two viewpoints were selected to illustrate the appearance of the proposed overhead segments of the collection line. These viewpoints included a location on County Route 121/Cohocton Loon Lake Road and a location on State Route 21 South at Derevees Road both in the Town of Cohocton. These locations offer unobstructed views of the overhead line segments, including required vegetation clearing

and different structure types. Simulations of the proposed collection substation and POI substation modifications were not prepared due to a lack of visibility from public vantage points and/or the limited visual change these structures would make in the vicinity of the existing Canandaigua Substation (see discussion in Section 5.1.2).

4.2.2 Visual Simulations

To show anticipated visual changes associated with the proposed Project, high-resolution computer-enhanced image processing was used to create realistic photographic simulations of the proposed Project from each of the 21 selected viewpoints. The photographic simulations were developed by using Autodesk 3ds Max Design® to create a simulated perspective (camera view) to match the location, bearing, and focal length of each existing conditions photograph. Existing elements in the view (e.g., topography, buildings, roads, existing turbines) were modeled based on aerial photographs and DEM data in AutoCAD Civil 3D®. A three dimensional (3-D) topographic mesh of the landform (based on DEM data) was then brought into the 3-D model space. At this point minor adjustments were made to camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph. This assures that any elements introduced to the model space (e.g., the proposed turbines) will be shown in proportion, perspective, and proper relation to the existing landscape elements in the view. Consequently, the alignment, elevations, dimensions and locations of the proposed Project structures will be accurate and true in their relationship to other landscape elements in the photograph.

Computer models of the proposed turbine layout and overhead collection line were prepared based on specifications and data provided by the Applicant. For the purposes of this analysis it was assumed that all turbines would be Vestas V126 (3.6 MW) machines with a hub height of 89 meters (292 feet) and a rotor diameter of 126 meters (413 feet). All turbine rotors were modeled facing into the prevailing wind (i.e., oriented to the southwest). Structures for the overhead collection line were assumed to be wood poles ranging from 50 to 60 feet in height. Specific structure type/design information were provided by the Project electrical engineer. Using the camera view as guidance, the visible portions of the modeled Project components were imported to the landscape model space described above, and set at the proper coordinates. Coordinates for proposed turbines and collection line poles, were provided to EDR by the Applicant.

Clearing limits were assumed to be a 225-foot radius, around each turbine, a 100-foot wide cleared right-of-way for the overhead line, and a 75-foot wide corridor along access roads in forested areas. A 16-foot wide gravel drive is represented in any simulations where the proposed access roads would be visible in the photograph.

Once the proposed Project was accurately aligned within the camera view, a lighting system was created based on the actual time, date, and location of the photograph. Using the Mental Ray Rendering System® with Final Gather and Mental

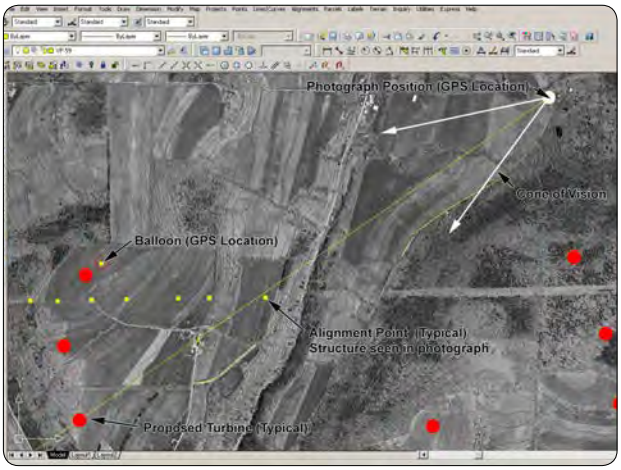
Once the proposed Project was accurately aligned within the camera view, a lighting system was created based on the actual time, date, and location of the photograph. Using the Mental Ray Rendering System® with Final Gather and Mental Ray Daylight System® within the Autodesk 3ds Max Design® software, light reflection, highlights, color casting, and shadows were accurately rendered on the modeled Project based on actual environmental conditions represented in the photograph. The rendered Project was then superimposed over the photograph in Adobe Photoshop® and portions of the Project components that fall behind vegetation, structures or topography were masked out. Photoshop was also used to take out any existing structures or vegetation proposed to be removed as part of the Project. Once the turbines or poles were added to the photo, any shadows cast on the ground by the proposed structures were also included by rendering a separate "shadow pass" over the DEM model in Autodesk 3ds Max Design® and then overlaying the shadows on the simulated view with the proper fall-off and transparency using Adobe Photoshop®. A graphic illustration of the simulation process is presented in Figure 7.

"Wireframe" Renderings

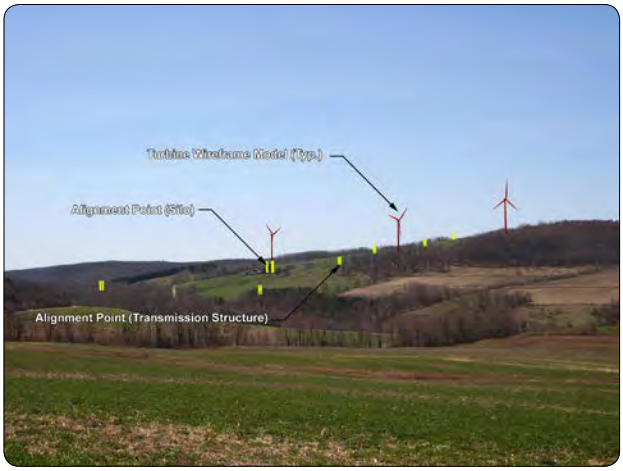
In addition, for some views, "wireframe renderings" were prepared to illustrate the potential screening effect of vegetation or other features in the photograph. In these wireframe renderings, the portions of the proposed turbines that will be screened by vegetation (or other landscape features) are shown in a bright green color (for illustrative purposes). In some instances, these wireframe renderings were prepared for viewpoints that were being considered as candidates for visual simulations to determine the potential visibility of the Project (and therefore, whether the viewpoint was a good candidate for a visual simulation). In other instances, wireframe renderings were prepared for the explicit purpose of illustrating the effects of screening. The wireframe renderings are included as Insets to support the discussion of potential Project visibility in Section 5.1.3 of this VIA.

Photos are selected to illustrate typical views of the proposed project that will be available to representative viewers/user groups from the major landscape similarity zones and sensitive sites within the study area.

A three-dimensional computer model of the project is built based on proposed turbine



Aerial photographs and GPS data collected



These data are superimposed over photographs from each of the viewpoints, and minor camera changes are made to align all known reference points within the view.

A digital terrain model representing the existing topography is also overlayed on the existing

The proposed exterior of the turbines was then added to the model and the appropriate sun angle is simulated based on the date, time and location (latitude and longitude) at which each photo was taken.

Baron Winds Project
Towns of Cohocton, Dansville, Fremont, and Wayland,
Steuben County, New York

Figure 7: Visual Simulation Methodology

AutoCAD Civil 3D 2016® drawing.

and not from the Baron Winds Project

everpower

edr
www.edrdpc.com

4.2.3 Visual Contrast Rating

To evaluate anticipated visual change associated with installation of the turbines, the photographic simulations of the completed Project were compared to photos of existing conditions from each of the 21 selected viewpoints. These "before" and "after" photographs, identical in every respect except for the Project components shown in the simulated views, were provided as 11 x 17 inch color prints to three registered landscape architects (one in-house and two independent), who were then asked to determine the effect of the proposed Project in terms of its contrast with existing elements of the landscape. The methodology utilized in this evaluation is a modified version of the U.S. Bureau of Land Management (BLM) contrast rating methodology (USDI BLM, 1980) that was developed by EDR in 1999, (and subsequently updated), for use on wind power projects. It involves using a short evaluation form, and a simple numerical rating process. Along with having proven to be accurate in predicting public reaction to wind power facilities, this methodology 1) documents the basis for conclusions regarding visual impact, 2) allows for independent review and replication of the evaluation, and 3) allows a large number of viewpoints to be evaluated in a reasonable amount of time. Landscape, viewer, and Project related factors considered by the landscape architects in their evaluation included the following:

- *Landscape Composition:* The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water and sky. Some landscape compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modification than panoramic, canopied, or ephemeral landscapes.

- *Form, Line, Color, and Texture*: These are the four major compositional elements that define the perceived visual character of a landscape, as well as a project. Form refers to the shape of an object that appears unified; often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture; usually evident as the edges of shapes or masses in the landscape. Texture in this context refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to, or contrast with, these same elements in the existing landscape is a primary determinant of visual impact.

- *Focal Point*: Certain natural or man-made landscape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains and water features. Cultural features, such as a distinctive barn or steeple can also be focal points. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape.

- *Order*: Natural landscapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

- *Scenic or Recreational Value*: Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The particular characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

- *Duration of View*: Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

- *Atmospheric Conditions*: This refers to clouds, precipitation, haze, and other ambient air related conditions, which affect the visibility of an object or objects. These conditions can greatly affect the perceived contrast of project components with the landscape, in terms of and the design elements of form, line, color, texture, and scale.

- *Lighting Direction*: Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

- *Project Scale*: The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing landscaping. Perception of Project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

- *Spatial Dominance*: The degree to which an object or landscape element occupies space in a landscape, and thus dominates landscape composition from a particular viewpoint.

- *Visual Clutter*: Numerous unrelated built elements occurring within a view can create visual clutter, which adversely impacts scenic quality.

- *Movement*: project components that are in motion are typically more noticeable, but in the case of wind turbines, have also been shown to also make them appear more functional and visually appealing. Numerous studies have documented that viewers prefer to see wind turbines in motion. The following quote and citations are taken from an on-line summary of perceptional studies of wind farms conducted by the Macaulay Land Research Institute (MLURI, 2010):

> *"Motion has also been indicated as a powerful predictor of preference (Gipe, 1993; Thayer and Freeman, 1987). This is a unique feature of wind turbines in comparison with other forms of static structures. People find wind farms that appear to be working by relating this with moving rotors as more attractive than those that do not. Motion is equated with lower perceived visual impact (Gipe, 1993). They are likely to find wind farms visually interesting because of their motion. In this mode, the turbines are perceived as abstract sculptures, arousing interest with their novel, unfamiliar forms and animation (*Thayer, R.L. and Hansen, H. *1988)."*

5.0 Visual Impact Assessment Results

5.1 Project Visibility

5.1.1 Turbine Viewshed

Potential wind turbine visibility, as indicated by viewshed analysis, is illustrated in Figure 8 and summarized in Table 6. Based only on the screening provided by topography alone, the blade tip viewshed analysis indicates some portion of the proposed turbine array could potentially be visible in approximately 74.3% of the 5-mile study area and approximately 54.6% of the 10-mile study area (Figure 8, Sheet 1; Table 6). This "worst case" assessment of potential visibility indicates the area where any portion of any turbine could potentially be seen, without considering the screening effect of existing vegetation and structures. Areas where there is no possibility of seeing the Project include locations in narrow ravines and on hillsides oriented away from the Project Site. The broad valley that runs through the western portion of the 10-mile study area (associated with the Canisteo River and Marsh Ditch) is also screened from view by topography alone. Screened areas are concentrated in the outer portions of the study area, with visibility typically beginning to taper off at distances of 2-3 miles from the nearest turbine. Visually sensitive resources that will be fully screened from view by topography alone include 14 NRHP-listed and 41 NRHP-eligible sites, the, Harriet Hollister Spencer State Recreation Area, Bath National Cemetery, seven surface water resources, and three schools (Arkport Central School, Hornell Intermediate School, and Bryant Elementary School). Visually sensitive resources that will not experience any screening by intervening topography include five NRHP-listed and 77 NRHP-eligible sites; the I-390 Scenic Overlook; the hamlets of North Cohocton, Fremont, and Haskinville; Michael Fucci Memorial Park at Shawmut; Reynolds Creek; Hemlock-Canadice State Forest Trail; three fishing access/boat launch sites; and three schools (Wayland Elementary School, Cohocton Elementary School, and Wayland-Cohocton Middle and Senior High School). The remaining 86 inventoried visually sensitive resources will receive some level of topographic screening (see Appendix C). For example, potential Project visibility is indicated along much of the Cohocton River (as turbines are located on the adjacent western ridge); however, the portion of the river that is north of the proposed Project will be screened from view by Dutch Hill.

Table 6. Summary of Turbine Viewshed Results for the 5-Mile and 10-Mile Study Areas

Number of Turbines Visible	5-Mile-Radius Study Area[1] Viewshed Results							
	Blade Tip Topography Only		Blade Tip Topography and Vegetation		FAA/Nacelle Topography Only		FAA/Nacelle Topography and Vegetation	
	Square Miles	% of Study Area	Square Miles	% of Study Area	Square Miles	% of Study Area	Square Miles	% of Study Area
0	56.1	25.7	136.2	62.4	69.7	32.0	146.2	67.0
1-15	49.5	22.7	34.0	15.6	60.1	27.5	37.5	17.2
16-30	38.0	17.4	20.6	9.4	38.3	17.5	18.1	8.3
31-45	25.7	11.8	10.9	5.0	18.7	8.6	7.3	3.3
46-60	14.8	6.8	6.6	3.0	11.8	5.4	4.3	2.0
61-76	34.1	15.6	9.9	4.5	19.7	9.0	4.8	2.2
Total Visible	162.1	74.3	82.0	37.6	148.5	68.0	72.0	33.0
10-Mile-Radius Study Area[2] Viewshed Results								
0	258.8	45.4	438.9	77.1	293.2	51.5	457.7	80.4
1-15	89.7	15.8	51.4	9.0	99.7	17.5	53.6	9.4
16-30	62.4	11.0	30.1	5.3	65.2	11.5	27.8	4.9
31-45	46.2	8.1	17.6	3.1	35.5	6.2	11.8	2.1
46-60	30.1	5.3	11.4	2.0	23.7	4.2	7.7	1.4
61-76	82.2	14.4	19.9	3.5	52.1	9.1	10.9	1.9
Total Visible	310.6	54.6	130.5	22.9	276.1	48.5	111.7	19.6

[1]The 5-mile study area includes approximately 218.2 square miles, or approximately 139,650 acres.
[2] The 10-mile study area includes approximately 569.4 square miles, or approximately 364,390 acres.

Potential turbine visibility based on topography only. Screening effects of buildings, trees or other factors are not accounted for. Viewshed Analysis based on maximum blade tip height of 152.1 meters (499 feet).

Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 8: Viewshed Analysis

Sheet 1 of 4: Wind Turbine Blade Tip Visibility Based on Topography Only

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
2. This map was generated in ArcMap on September 7, 2017.
3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Wind Turbine
- Permanent Met Tower
- Foreground (<0.5 Mile) Distance Zone Limit
- Mid-ground (0.5-3.5 Miles) Distance Zone Limit
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area
- Town Boundary
- County Boundary

Number of Turbines Potentially Visible

- 1-15 Turbines Visible
- 16-30 Turbines Visible
- 31-45 Turbines Visible
- 46-60 Turbines Visible
- 61-76 Turbines Visible

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Potential FAA warning light visibility based on topography only. Screening effects of buildings, trees or other factors are not accounted for. Viewshed Analysis based on an approximate FAA warning light height of 92.1 meters (302 feet).

Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 8: Viewshed Analysis

Sheet 2 of 4: Wind Turbine FAA Warning Light Visibility Based on Topography Only

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
2. This map was generated in ArcMap on September 7, 2017.
3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Wind Turbine
- Permanent Met Tower
- Foreground (<0.5 Mile) Distance Zone Limit
- Mid-ground (0.5-3.5 Miles) Distance Zone Limit
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area
- Town Boundary
- County Boundary

Number of FAA Lights Potentially Visible

- 1-15 Lights Visible
- 16-30 Lights Visible
- 31-45 Lights Visible
- 46-60 Lights Visible
- 61-76 Lights Visible

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Potential turbine visibility based on topography and screening effects of mapped forest vegetation. Viewshed Analysis based on maximum blade tip height of 152.1 meters (499 feet).

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Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 8: Viewshed Analysis

Sheet 3 of 4: Wind Turbine Blade Tip Visibility Based on Topography and Vegetation

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
2. This map was generated in ArcMap on September 7, 2017.
3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Wind Turbine
- Permanent Met Tower
- Foreground (<0.5 Mile) Distance Zone Limit
- Mid-ground (0.5-3.5 Miles) Distance Zone Limit
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area
- Town Boundary
- County Boundary

Number of Turbines Potentially Visible

- 1-15 Turbines Visible
- 16-30 Turbines Visible
- 31-45 Turbines Visible
- 46-60 Turbines Visible
- 61-76 Turbines Visible

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Potential FAA warning light visibility based on topography and screening effects of mapped forest vegetation. Viewshed Analysis based on an approximate FAA warning light height of 92.1 meters (302 feet).

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Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 8: Viewshed Analysis

Sheet 4 of 4: Wind Turbine FAA Warning Light Visibility Based on Topography and Vegetation

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
2. This map was generated in ArcMap on September 7, 2017.
3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Wind Turbine
- Permanent Met Tower
- Foreground (<0.5 Mile) Distance Zone Limit
- Mid-ground (0.5-3.5 Miles) Distance Zone Limit
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area
- Town Boundary
- County Boundary

Number of FAA Lights Potentially Visible

- 1-15 Lights Visible
- 16-30 Lights Visible
- 31-45 Lights Visible
- 46-60 Lights Visible
- 61-76 Lights Visible

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Areas with potential nighttime views of the turbines, as indicated by the FAA topographic viewshed analysis (Figure 8, Sheet 2; Table 6), include approximately 68.0% of the 5-mile radius study area and approximately 48.5% of the 10-mile radius study area. This analysis indicates that the potential visibility of FAA warning lights at a height of 302 feet (92.1 meters) will generally be concentrated in the same areas where daytime blade-tip height visibility was indicated. As stated above, this topographic analysis presents a "worst case" assessment of potential nighttime visibility that does not take into account the screening effect of existing vegetation and structures, and is based on the conservative assumption that all turbines would be equipped with FAA warning lights (a more realistic assumption is that approximately half of the turbines will be lighted).

Factoring vegetation into the viewshed analysis significantly reduces potential turbine visibility throughout the study area (Figure 8, Sheets 3 and 4). Vegetation, in combination with topography, will serve to block daytime views of the turbines from approximately 62.4% of the 5-mile study area and approximately 77.1% of the 10-mile study area (i.e., 37.6% and 22.9% of the study areas, respectively, are indicated as having potential Project visibility). Areas of potential nighttime visibility, as indicated by FAA vegetation viewshed analysis, are limited to approximately 33.0% of the 5-mile radius study area and approximately 19.6% of the 10-mile radius study area. Based on the results of the viewshed analysis, visibility will generally be most available in open agricultural areas and along significant portions of Interstates 86 and 390, and NYS Routes 15, 21, 63, 371, and 415 within the study area. Visibility is also indicated throughout much of the Villages of Avoca, Cohocton and Wayland and, to a lesser extent, in the Villages of Dansville, Canaseraga, Arkport, North Hornell, and Almond. However, buildings and street trees, which are not accounted for in this analysis, will likely screen many of those views. Visually sensitive sites that were not fully screened by topography alone but will be screened by intervening forest vegetation include five NRHP-listed and five NRHP-eligible sites, High Tor Wildlife Management Area, Lime Kiln Creek, Klipnocky State Forest, five state forest trails, and the Hornell Junior and Senior High School. Factoring vegetation into the viewshed analysis indicates reduced, but not eliminated, potential Project visibility at a number of additional visually sensitive resources. Resources that are not indicated as receiving any screening of Project views by either topography or vegetation (i.e. some portion of the proposed Project would theoretically be visible from all locations within the resource's mapped boundary) include one NRHP-listed site (Larrowe House), 67 NRHP-eligible sites, Wayland Elementary School, Cohocton Elementary School, Laugh-A-Lot Restaurant Boat Launch, and the Mill Creek and Cohocton River Fishing Access areas (see Appendix C). However, as mentioned previously, actual Project visibility in these areas is anticipated to be more limited than indicated by the vegetation viewshed analysis, due to the slender profile of the turbines, the effects of distance, and screening provided by hedgerows, street trees and structures, which are not taken into consideration in the analysis.

An analysis comparing potential daytime Project visibility within the various LSZs is summarized in Table 7, and discussed below.

Table 7. Summary of Blade Tip Vegetation Viewshed Results by Landscape Similarity Zone, 10-Mile Study Area

Number of Turbines Visible	10-Mile-Radius Study Area[1] Viewshed Results by Landscape Similarity Zone (LSZ) (% of LSZ with Potential Project Visibility)					
	Forest[2]	Waterfront / Open Water	Transportation Corridor	Rural Valley	Rural Uplands / Ridgelines	City / Village / Hamlet
0	100%	48.7%	47.6%	67.9%	44.1%	74.9%
1-15	0%	23.6%	34.4%	18.6%	15.3%	13.2%
16-30	0%	22.4%	16.4%	8.7%	11.0%	8.7%
31-45	0%	5.2%	1.4%	3.2%	9.0%	2.6%
46-60	0%	0.1%	0.1%	1.1%	7.1%	0.4%
61-76	0%	0%	0%	0.4%	13.7%	0.2%
Total Percent Visible	0%	51.3%	52.4%	32.1%	55.9%	25.1%

[1]The viewshed analysis area (within 10 miles of proposed project components) includes approximately 569.4 square miles, or approximately 364,390 acres.
[2]The viewshed analysis methodology concludes that there is no visibility in forested areas as an assumption of the model. However, it is possible that areas classified as forest, especially on the edges, will have small areas of visibility (See Section 4.1.1).

- The LSZ with the least amount of potential turbine visibility is Forest, which essentially offers no outward views due to the screening effects of the forest canopy. Note that small portions of the Forest LSZ may, in reality, offer limited outward views due to categorization errors by the USGS when classifying land-cover as Forested with a 30-meter x 30-meter cell resolution, especially at the edges of forested areas. Additionally, these digital data do not recognize small clearings or other breaks in the vegetation that may allow for occasional outward views from forest areas. However, the occurrence of these areas is generally limited, and there will be little to no Project visibility from forested areas, especially during the growing season.
- Viewshed results indicate 25.1% of that the more populated portions of the study area that make up the City/Village/Hamlet LSZ offer potential turbine visibility. The majority of this visibility is concentrated in the Villages of Wayland, Cohocton, and Avoca. However, as mentioned above, even this relatively small percentage likely overstates the opportunities for Project visibility within this LSZ, as the buildings and associated vegetation clusters that typify city, village and hamlet centers will provide a great deal of screening that is not accounted for in the viewshed analysis.
- The potential for turbine visibility is indicated in approximately 32.1% of the Rural Valley LSZ. The portions of this LSZ that may have views of wind turbines include much of the Cohocton River Valley, valley areas around the Village of Wayland and southwest of the Village of Dansville, and the narrow valley along Big Creek (south of the Project). The Canisteo River valley, extending north through the City of Hornell, Village of Arkport and beyond, is largely screened from view, as are many of the valleys in the outer portions of the 10-mile study area.

- The Waterfront/Open Water LSZ only occupies 1.4 square miles within the 10-mile study area and has potential views of the Project from 51.3% of its area. Viewshed results indicate that Loon Lake, Smith Pond, Hornell Reservoir Number 1, and unnamed open water/wetland areas near Perkinsville could experience widespread visibility; and that proposed turbines views may be available from the southwest portion of Almond Lake and the western portion of Hornell Reservoir Number 3. Demons Pond, and several additional small unnamed water bodies, are indicated as being fully screened from view by intervening vegetation and/or topography.
- The proposed turbines may be visible from approximately 52.4% of the Transportation Corridor LSZ. This LSZ includes the corridors of Interstate Routes 86 and 390, which are located 0.4 and 0.2 mile from a proposed turbine at their nearest points, respectively. Although intervening topography and vegetation provide screening in some areas, the viewshed analysis indicates that both of these corridors could experience long stretches of turbine visibility. Areas within the 10-mile study area where the Project will not be visible from the Transportation Corridor LSZ include the portion of Interstate Route 390 that runs roughly from the Village of Dansville to the hamlet of Perkinsville; the portion of Interstate Route 86 roughly from the hamlet of Howard to the Cohocton River Valley; and the portions of Interstate Route 86 that run through the Canisteo River Valley as well as the area west of Almond Lake.
- The greatest potential for visibility of the turbines is indicated within the Rural Upland/Ridgeline LSZ. The blade-tip vegetation viewshed indicates that 55.9% of this LSZ could potentially offer views of the Project. Portions of this LSZ that are screened from view include hillsides oriented away from the Project and areas screened by adjacent forestland. In general, visibility within this LSZ is most heavily concentrated in proximity to the proposed Project and diminishes as distance from the Project increases.

5.1.2 Substation and Overhead Collection Line Viewsheds

Potential visibility of the collection substation, as indicated by the viewshed analysis, is illustrated in Figure 9, Sheet 1. This analysis, based on the tallest proposed structures and topography alone, indicates that some portion of the substation could be visible from approximately 28.9% of the 1-mile study area. Visibility is limited by the hillside location of the station and the relatively high topographic relief within the 1-mile radius study area. The southeastern portion of the study area slopes toward Neils Creek and is screened from view, as are the northern and eastern slopes of Brown Hill. The largest area of potential visibility extends north and west from the collection substation on hilltops and slopes facing the proposed station. Two visually sensitive resources occur within 1-mile of the proposed collection substation: the NRHP-eligible Merrill (Parkhill) Cemetery and Neils Creek Public Fishing Stream. Views of the substation are fully screened from both of these resources by intervening topography.

When vegetation is factored into the analysis, potential visibility of the proposed station is further reduced to approximately 7.7% of the 1-mile study area. Views from the remaining 92.3% of the study area are screened by the combination of topography and forest vegetation. Remaining areas of potential substation visibility include an open area adjacent to the proposed station (limited by the hilltop to the south), portions of an agricultural field on Brown Hill to the northeast, portions of the cleared transmission line ROW extending to the northwest, and several areas within open fields on hilltops and slopes facing the station site in the northwestern quadrant of the 1-mile study area.

Results of the overhead collection line viewshed analysis are illustrated in Figure 9, Sheet 2. The topographic viewshed analysis indicates that approximately 77.6% of the area within 1 mile of the overhead collection line could potentially have views of the proposed structures. The remaining 22.4% of the area includes topographic depressions such as Hinkle Hollow and Oil Well Hollow, which would be screened from view of the overhead line. Factoring vegetation into the analysis reduces potential visibility to 32.1% of the 1-mile study area, however, most elevated open areas within 1 mile of the overhead collection line could potentially have views of some portions of the proposed structures. Eight visually sensitive resources occur within the overhead collection line 1-mile study area, including one NRHP-eligible properties (a 1923 Gothic Revival church), a snowmobile trail, the Village of Cohocton, three major transportation corridors (Interstate Route 390 and State Routes 21 and 415), and two named streams (Neils Creek and Reynolds Creek). The viewshed analysis indicates that the overhead collection line will not be visible from either of the NRHP-eligible properties and that the Village of Cohocton, NYS Route 415, and Neils Creek will be largely screened from view. While much of Interstate 390 will be screened by the walls of Hinkle Hollow, potential visibility is indicated within the Interstate Route 390 ROW south of Loon Lake Road. More substantial visibility is indicated along NYS Route 21, Reynolds Creek, and the Quad County Snowmobile Trail, which have the greatest potential for prolonged views of the proposed overhead collection line.

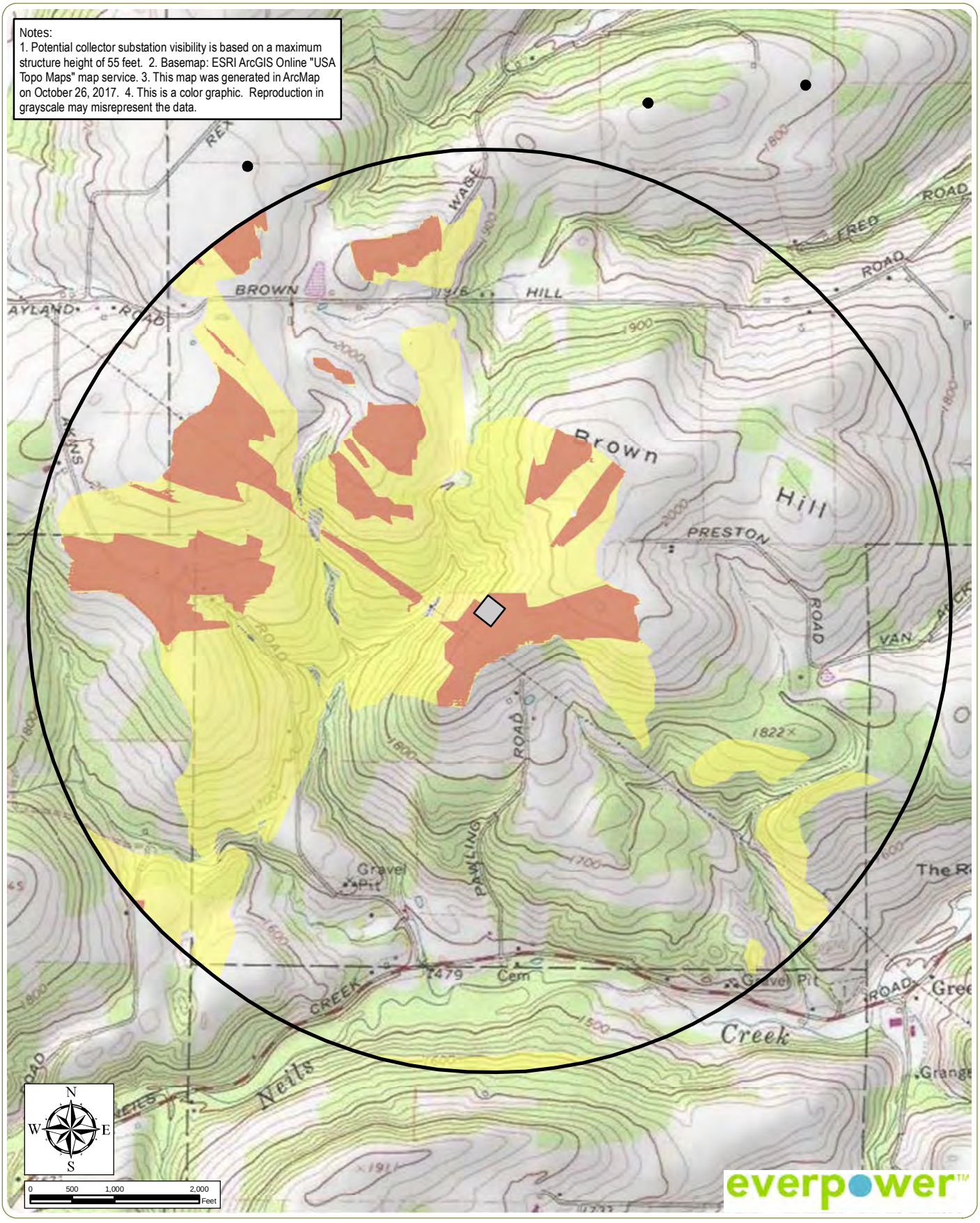

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Figure 9: Substation and Overhead Collection Line Viewshed Analysis

Sheet 1: Substation Visibility

- Wind Turbine
- Collector Substation
- 1-Mile Substation Study Area
- Potential Visibility Considering Topography Only
- Potential Visibility Considering Topography and Vegetation

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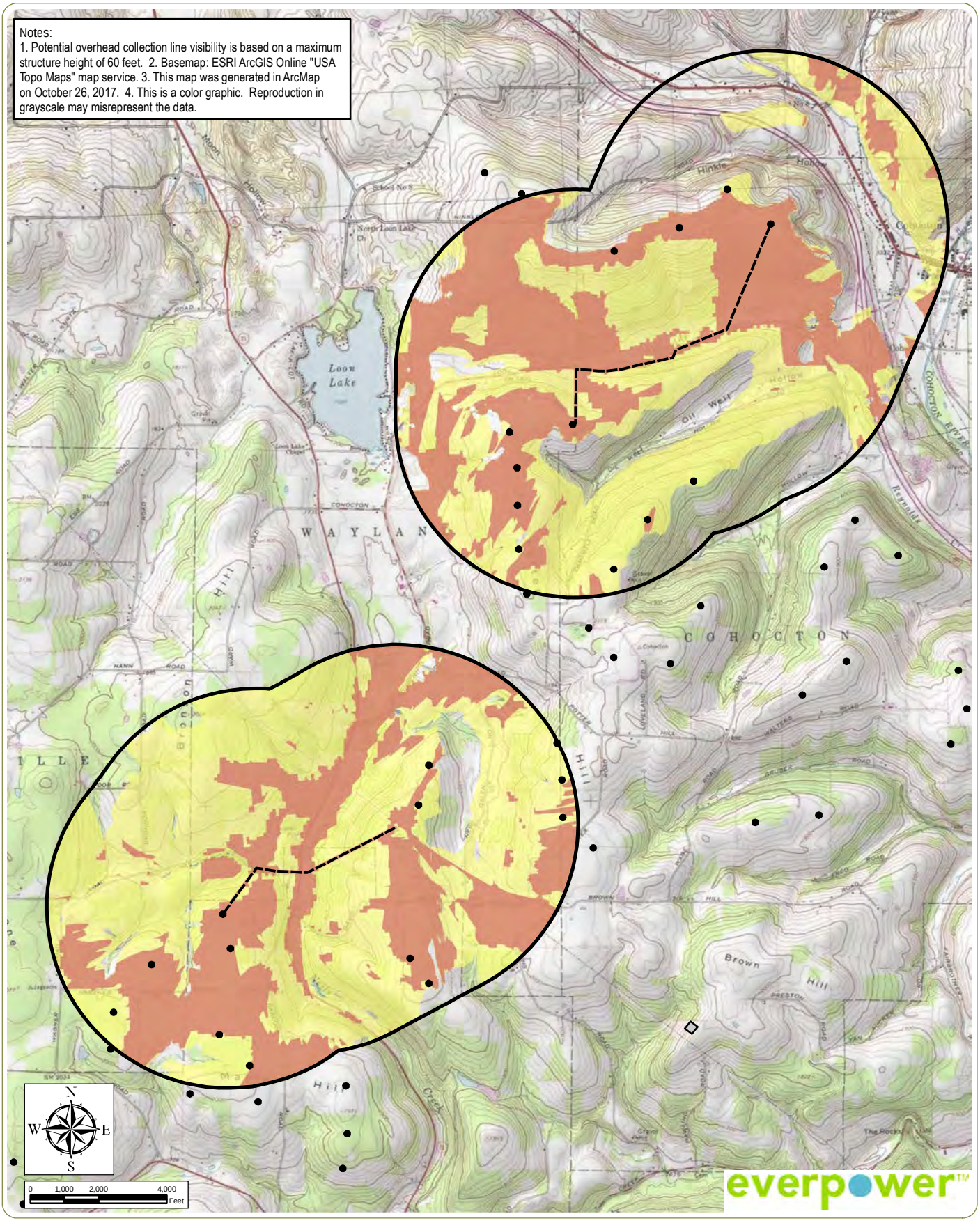

Baron Winds Project

Towns of Cohocton, Dansville, Fremont and Wayland - Steuben County, New York

Figure 9: Substation and Overhead Collection Line Viewshed Analysis

Sheet 2: Overhead Collection Line Visibility

- Wind Turbine
- Overhead Collection Line
- Collector Substation
- 1-Mile Overhead Collection Line Study Area
- Potential Visibility Considering Topography Only
- Potential Visibility Considering Topography and Vegetation

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5.1.3 Field Evaluation

As noted in Section 4.1.2, visual field review for the Project was conducted on multiple dates between December 2016 to May 2017, and resulted in photographic documentation from 207 representative viewpoints within the 10-mile study area (see Figure 10 and Appendix A). A representative photograph documenting the general view toward the Project Site from each viewpoint is included in the photo log in Appendix B.

Field review confirmed that actual Project visibility is likely to be more limited than suggested by viewshed mapping. This is due to the fact that trees that typically vegetate the steep slopes within the study area provide more extensive and effective screening than assumed in these analyses (e.g., vegetation is more extensive than indicated on the USGS NLCD, and often taller than 40 feet in height), and screening provided by buildings is significant within more developed areas (e.g., the villages and hamlets). The results of EDR's field review, organized according to Landscape Similarity Zone, are summarized below.

Inset 13: View looking south/southwest from County Route 7 in the Town of Wheeler. Note how position of road in regard to the valley ridges and mature vegetation, blocks open views to adjacent ridges, valleys and plateaus (Viewpoint 181).

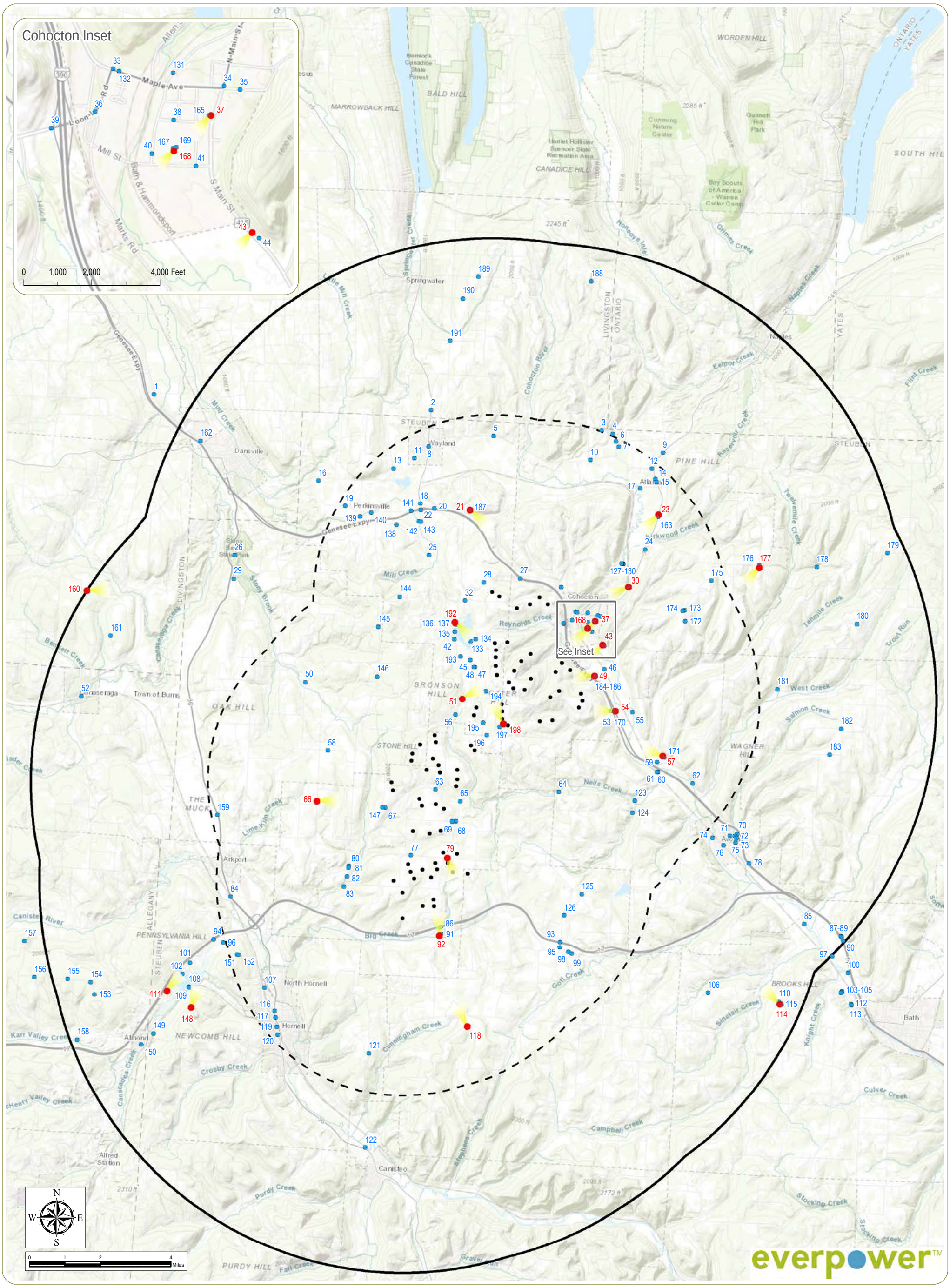

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Figure 10: Viewpoint Location Map

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
2. This map was generated in ArcMap on September 14, 2017.
3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Simulated Viewpoint
- Viewpoint
- Wind Turbine
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area

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Forest LSZ

Field review confirmed that actual visibility of the Project from the Forest LSZ, which covers a majority of the study area, is very limited. Photographs of typical views from the Forest LSZ are included in Section 3.3.1 (see Inset 2). Even under leaf off conditions, the density of tall forest vegetation in forest stands and woodlots block nearly all outward views toward the Project Site. Visually sensitive resources in this LSZ where field review confirmed no (or minimal) Project visibility include Bully Hill State Forest, Canacadea State Forest, Canaseraga State Forest and Stony Brook State Park, as represented by Viewpoints 26, 29, 148, 153-155, and 161 (see Appendix B).

Field review from the NYSDEC Truck Trail within the Canacadea State Forest, the recreation area within Stoney Brook State Park and Blank Road within Canaseraga State Forest (among others) confirmed that outward views from the Forest LSZ are generally limited to roadway corridors, and small forest clearings. As shown in Inset 14, even along roadways and at formal overlooks and clearings, outward views from interior forest areas, are fully or substantially screened.

Field review also confirmed that public trail networks within the state forests rarely leave forested areas, and open field traverses or cleared overlooks are rare. The one exception is the North Country/Finger Lakes Trail, where portions of the trail leave the forest and run along public roads. Views from these open portions of the trail network are consistent with the description of Project visibility from the Rural Valley and Rural Upland/Ridgeline LSZs, as described below.

Inset 14. Factors Affecting Visibility from the Forest LSZ.
Left – Blank Hill Road at Canaseraga State Forest, Town of Ossian (Viewpoint 160). Right – Karr Road in Bully Hill State Forest, Town of Almond (Viewpoint 153).

Rural Valley LSZ

Field review indicates that potential Project visibility within the Rural Valley LSZ is highly variable. Photographs of typical views from the Rural Valley LSZ are included in Section 3.3.2. The siting considerations of a wind energy Project require that the turbines to be sited on hilltops or ridgelines, outside of valley areas. In many of the rural valleys within the visual study area, where outward visibility is not screened by foreground buildings or vegetation, the most dominant visual feature is typically the nearest ridge and/or series of hills and ridges that define the valley walls. The portions of the Rural Valley LSZ that are agricultural often provide open views across flat valleys framed by ridges (see Inset 15). When located in proximity to the proposed Project, such valley locations will provide unobstructed views of nearby wind turbines located on the adjacent ridgetops. However, these ridges that define the valley walls will also be effective in blocking views of the more distant turbines. This is demonstrated by available views of the existing Cohocton and Howard Wind Farms within the study area. When traveling on a road located in the rural valleys, the existing turbines are dominant visual features when located on adjacent ridges. However, when traveling just one valley over, the same turbines are generally well screened by the combination of foreground topography and vegetation. The Rural Valley LSZ also includes areas where hedgerows, yard plantings, small forest stands, and/or residential and agricultural buildings that screen (or partially screen) longer distance views.

Visually sensitive resources located in the Rural Valley LSZ that may afford views of the Project include scattered NRHP-eligible sites (primarily farmsteads and cemeteries).

Inset 15. Factors Affecting Visibility from the Rural Valley LSZ.
Left - County Route 121, Town of Wayland (Viewpoint 193). Right - State Route 415 Pull off and Parking Area, Town of Cohocton (Viewpoint 44).

Rural Upland/Ridgeline LSZ

The Rural Upland/Ridgeline LSZ generally offers the greatest opportunity for views of the Project within the study area. Photographs of typical views from the Rural Upland/Ridgeline LSZ are included in Section 3.3.3. Vantage points in areas

of relatively high elevation minimize the screening effects of intervening topography, and often offer open, long distance views toward ridge tops and plateaus, where most Project components are proposed to be located. Additionally, the open and agricultural character of the landscape within the majority of this zone minimizes the amount of screening offered by trees.

This LSZ has relatively few visually sensitive resources when compared to the other LSZs within the study area, due to the low density of human settlement/development. Portions of the North Country Trail/Finger Lakes Trail and Quad County Snowmobile Trails cross open areas and follow local roadways within the Rural Upland/Ridgeline LSZ. These trails offer foreground, mid-ground and background views of existing turbines due to the open elevated nature of the landscape and the fact that this LSZ is the preferred location for siting wind turbines.

Inset 16. Representative Views from the Rural Uplands/Ridgeline LSZ.
Left - Lent Hill Road at Eveland Road, Town of Cohocton (Viewpoint 176). Right - Finger Lake Trail at Cochrane Road, Town of Bath (Viewpoint 114).

City/Village/Hamlet LSZ

Actual visibility of the Project from the City/Village/Hamlet LSZ, as confirmed by field review, is anticipated to be variable. Photographs of typical views from the this LSZ are included in Section 3.3.4. In most portions of the City of Hornell and the various villages and hamlets within the study area, buildings and yard vegetation effectively screen outward views. In these areas views of the Project will often be limited to partially screened views of turbines in gaps between buildings and vegetation, unless proposed turbines are located on a ridge or open agricultural area directly adjacent to the village or hamlet. Appendix B includes representative views from Cohocton, Wayland, Hornell, and Dansville.

Areas with the best opportunity for more open views within this LSZ are generally located on the outskirts of these developed areas, or where relatively large areas of unvegetated land (e.g., parks, ponds, school grounds, and athletic fields) occur within a village or hamlet. Appendix B includes representative views from the hamlets of North Cohocton (Viewpoint 21),

Atlanta (Viewpoint 23), and Arkport (110). In general, the less-densely settled hamlets provide more opportunities for Project visibility than the City of Hornell and the villages.

This LSZ is the location of most of the NHRP-listed and eligible properties in the study area. Views available from these visually sensitive sites will depend on their location and degree of foreground screening. As represented by the photos included in Inset 17, views from areas of dense development will be partially screened or include a limited number of turbines (e.g., narrow views available between nearby structures or through gaps in vegetation), while open views are more likely from historic sites on the periphery of the smaller villages and hamlets.

Inset 17. Representative Views from the City/Village/Hamlet LSZ.
Top Left - Avoca Central School Sports Fields; Chase Street, Town of Avoca (Viewpoint 75). Top Right - Village of Cohocton; State Route 371 at State Route 415, Town of Cohocton (Viewpoint 34). Bottom Left - Village of Wayland; at Intersection of Routes 15; 21 and 63, Town of Wayland (Viewpoint 8). Bottom Right - Bidlack Road, Village of Atlanta, Town of Cohocton (Viewpoint 17).

Inset 18. Wireframe view – Hornell Historic District, Town of Hornell

Transportation Corridors LSZ

Field review revealed that potential Project visibility from the Transportation Corridors LSZ will be highly variable. Due to their length, these areas run through a variety of different settings, from settled area to agricultural valleys and uplands, and areas of forest cover. Photographs of typical views from the Transportation Corridors LSZ are included in Section 3.3.5. Field review confirmed that foreground, mid-ground and background views to the Project Site are present along different sections of Interstate Routes 390 and 86. Visibility of the proposed turbines from visually sensitive resources along the Interstates will be variable. For example, foreground views of portions of the Project will be possible from the Interstate 390 Scenic Overlook as the turbines rise above the adjacent foreground ridges, while long distance views from the Interstate 86 Scenic Overlook include intervening vegetation and topography that will significantly screen visibility of the proposed wind turbines.

Inset 19: Representative Views from the Transportation Corridor LSZ.
Left - Yocum Road, Town of Wayland (Viewpoint 186). Right – I-86 Overpass, Rose Road, Town of Hornell (Viewpoint 86).

Waterfront/Open Water LSZ

Inset 20. Representative Views from the Waterfront/Openwater LSZ.
Left - Laf A Lot Road at Loon Lake, Town of Wayland (Viewpoint 192). Right - Kanacadea Camp Avenue at Almond Lake, Town of Hornellsville (Viewpoint 102).

Field review of the limited areas that make up the Waterfront/Open Water LSZ within the study area, indicated that Project visibility is likely to be limited, with the exception of Loon Lake. Photographs of typical views from the Waterfront/Open Water LSZ are included in Section 3.3.6, and shown in Inset 20, above. Waterfront and open water areas offer relatively open outward views when compared to other landscape types due to expanse of open water and the lack of screening by foreground topography, vegetation or buildings. This holds true for Loon Lake and Almond Lake, however, the other water bodies in this study area, are largely limited to small ponds and impoundments, or meandering rivers where long-distance views are screened by shoreline trees and adjacent hills. Waterbodies that are included in this LSZ and that were visited during the field review include Hornell Reservoirs Number 1 and 3, Loon Lake, Almond Lake, and the Cohocton River. Viewshed analysis suggested that potential Project visibility from Almond Lake was limited to the southwestern shoreline. Field review and a wire frame rendering confirmed, that the proposed turbines will not be visible from the water's surface (Inset 21)

The largest area of the Waterfront\Open Water LSZ where the proposed Project will likely be visible is the shoreline and surface of Loon Lake. This is due to the proximity of the northern-most turbines and the lack of intervening vegetation. Field review in this area confirmed potential Project visibility from the Loon Lake shoreline, adjacent residences and surrounding roadways.

Inset 21. Wireframe view – Almond Lake, Town of Hornellsville

5.2 Project Visual Impact

5.2.1 Analysis of Existing and Proposed Views

To illustrate anticipated visual change associated with the proposed Project, photographic simulations of the installed turbines were prepared from the 21 selected viewpoints indicated in Figure 10 and Table 5. Two simulations of the overhead segments of the collection line were also prepared, and are addressed in Section 5.2.4. These simulations are presented as insets on the following pages, and are also included as stand-alone images in Appendix D. Review of these images, along with photos of the existing view, allowed for comparison of the aesthetic character of each view with and without the proposed Project in place. Results of this evaluation are presented below.

Rural Upland/Ridgeline LSZ (Viewpoints 21, 66, 79 114, 118, 177 and 198)

The viewpoints listed above are located at specific sensitive sites, or represent common views that are found throughout the Rural Upland/Ridgeline LSZ. As discussed in Section 5.1.1, the Rural Upland/Ridgeline LSZ has the greatest potential for Project visibility (55.9%) and therefore has the greatest representation of viewpoints/simulations. The selected viewpoints are located in the Towns of Bath, Cohocton, Fremont, Howard, and Wayland to capture a range of conditions and landscape characteristics. Foreground (<0.5 mile), mid-ground (0.5 - 3.5 miles) and background (>3.5 miles) viewer distances are each represented by these simulations, as would be experienced by the user groups within this LSZ. The most common viewers found in this LSZ are local residents, although certain sensitive sites (represented by Viewpoints 21 and 114) will have tourists/recreational users as well.

The simulation viewpoints, although spread throughout the study area, share many common attributes and characteristics. The dominant foreground feature of each view is an open agricultural field along a rural road. The typical road located in these areas is a narrow unpaved road, often designated as “Seasonal Use”. The mid-ground is typically occupied by a mix of rolling hills, valleys and plateaus. The hills are a mix of forested areas intermingled with agricultural fields, while the valleys are generally not fully visible from these elevated viewpoints. Development is sparse with only the occasional farm complex visible. Distant ridgelines and hill tops populate the backgrounds in these viewpoints. Generally, at this distance the background hills begin to blur and appear to have uniform ground conditions. Operating wind projects that are visible from these viewpoints include the Cohocton/Dutch Hill Wind Farm located in the northeastern portion of the study area, and the Howard Wind Farm located in the southern portion. Existing turbines make up varying percentages of the available views and can be seen at foreground, mid-ground and background distances within this LSZ.

Viewpoint 21 (see Appendix D – Sheets 1-3)

Inset 22: Existing view from Yocum Road, Town of Wayland

Existing View (see Inset 22)

Viewpoint 21 is located along the Quad County Snowmobile Trail where a section of the trail parallels Yocum Road in the Town of Wayland. It is approximately 2.4 miles from the nearest proposed turbine that would be visible in this view. The existing view toward the proposed Project is in a southeast direction. The typical viewer will be a local resident traveling on the roadway and/or a recreational/tourist using the snowmobile trail.

Both the Interstate Route 390 and State Route 415 corridors are visible in the mid-ground of the view. State Route 415 runs through the low point in a small valley. The Interstate Route 390 corridor cuts across the side of a mid-ground hill. The two road corridors are separated by a brushy embankment. Open agricultural fields occur in the foreground and mid-ground, and two transmission lines and a sparse hedgerow run adjacent to the State Route 415 ROW. A two-story residential structure is present on the far left side of the view.

Past the Interstate Route 390 corridor a forested hilltop extends to the visible horizon. The existing view is well-organized and appealing, despite the highway infrastructure, resulting in moderate scenic quality.

Inset 23: Visual simulation from Yocum Road, Town of Wayland

Proposed Project (see Inset 23)

With the proposed Project in place, three turbines are visible above the forested hill that defines the horizon line. The turbines extend slightly into the sky above the hill top with the nacelles appearing close to the horizon/tree line. The generally horizontal lines of the existing topography and field edges contrast with the vertical lines of the turbines, which present appreciable contrast with the existing vegetation and landform. However, this contrast is limited by the presence of existing man-made infrastructure in the view, including the transmission structures and the Interstate Route 390 corridor. The limited number of visible turbines, their distance from the viewer, and the limited contrast they present against the sky also reduces their overall impact. The view remains well organized, with minimal impact on scenic quality.

Viewpoint 66 (see Appendix D – Sheets 4-6)

Inset 24: Existing view from County Route 46, Town of Fremont

Existing View (see Inset 24)

Viewpoint 66 is located along County Route 46 in the Town of Fremont. It is approximately 2.2 miles from the nearest proposed turbine that would be visible in this view. The existing view toward the proposed Project Site is in an easterly direction, 90 degrees opposed to the direction of travel for the typical local viewer traveling along the roadway.

This long-distance view features a large open agricultural field in the foreground, with a wooded mid-ground valley that slopes down and out of view, before rising gently into a mix of agricultural and forest land in the background. Although an aesthetically pleasing working landscape, the winter conditions, lack of topographic variability, and lack of a strong focal point result in moderate scenic quality.

Inset 25: Visual simulation from County Route 46, Town of Fremont

Proposed Project (see Inset 25)

With the proposed Project in place, multiple turbines are visible across the horizon in the mid-ground and background of the view. The turbines present appreciable contrast with the existing vegetation, landform, and sky. Due to the large number of turbines populating this view, they will become the dominant focal point, and attract viewer attention. Although a new element in this view, the turbines appear compatible with the working agricultural landscape, thus limiting the land use contrast they present within this LSZ.

Viewpoint 79 (see Appendix D – Sheets 7-9)

Inset 26: Existing view from County Route 54 at Jones Road, Town of Fremont

Existing View (see Inset 26)

Viewpoint 79 is located on County Route 54, at Jones Road in the Town of Fremont. It is approximately 0.1 mile from the nearest proposed turbine location. The existing view to the south/southeast features a flat harvested corn field in the foreground that appears sterile and extends to the visible horizon. Only small portions of a forested ridgeline can be seen beyond the agricultural field in the background. On the background ridge, numerous operating turbines are clearly visible. Although distant, the existing turbines break into the skyline. The sky is overcast at the horizon with strongly backlit clouds above. This sky condition reduces the visibility/prominence of the existing turbines. The stark winter conditions, lack of topographic or vegetative variability, and the lack of foreground elements/focal points results in scenic quality that is relatively low.

Inset 27: Visual simulation from County Route 54 at Jones Road, Town of Fremont

Proposed Project (see Inset 27)

With the proposed Project in place, portions of three new turbines are now visible in the foreground and mid-ground of this view. The simulation is representative of views where the proposed Project will be visible in the immediate foreground with an existing wind farm in the background. This is a typical condition that will be available from open viewpoints in the Rural Upland/Ridgeline LSZ. Due to the proximity of the turbines within the view, they present strong line and scale contrast with the landform and sky. The existing turbines limit the perceived land use contrast presented by the new turbines, but do not mitigate their perceived size and line contrast with the flat horizontal character of the existing landscape. However, addition of the new turbines does not have a substantial adverse effect on scenic quality, which is already relatively low. In addition, because this LSZ is largely undeveloped and lacks visually sensitive resources, relatively few viewers will experience this type of view.

Viewpoint 114 (see Appendix D – Sheets 10-12)

Inset 28: Existing view from Finger Lakes Trail/Cochrane Road, Town of Bath

Existing View (see Inset 28)

Viewpoint 114 is located along the Finger Lakes Trail/North Country National Scenic Trail where it parallels Cochrane Road in the Town of Bath. This viewpoint is approximately 9.3 miles from the nearest proposed turbine. The view from this location is typical of those situations where the trail emerges from the forest and runs along rural roadways. The existing view toward the proposed Project is to the northwest, with several existing operating turbines visible in the background, to the north. The view is from an elevated vantage point that includes a curving rural road and adjacent open fields in the immediate foreground. The landscape is a patchwork of woodlots and fields that descends into a mid-ground valley before rising into rolling background hills. The view presents topographic and vegetative variability and has a bucolic rural character that results in relatively high scenic quality. The typical viewer will be a local resident traveling to and from their residence and daily destinations along the roadway, as well as recreational users of the trail network. The duration of view for trail users will be significantly longer than that of local drivers, allowing for more observation and appreciation of the landscape.

Inset 29: Visual simulation from Finger Lakes Trail/Cochrane Road, Town of Bath

Proposed Project (see Inset 29)

With the proposed Project in place, new turbines can be seen on the surrounding landscape on the distant horizon. From this distance, the proposed turbines present minimal contrast with existing features of the landscape. To the extent that they are visible, the turbines appear to be an extension of the existing turbines, creating one continuous element in the landscape. The addition of the proposed turbines to the ridge does not result in a perceived change in land use, and reinforces the working agricultural character of the landscape. Due to its distance from the viewer and its compatibility with existing land use, the Project will not have an adverse impact the overall scenic quality of the view or the experience of trail users at this location.

Viewpoint 118 (see Appendix D – Sheets 13-15)

Inset 30: Existing view from South Woods Road at Burt Hill Road, Town of Howard

Existing View (see Inset 30)

This viewpoint is located at the intersection of South Woods Road and Burt Hill Road in the Town of Howard. It is approximately 3.5 miles from the nearest proposed turbine, and offers an opportunity for a long-distance view of the surrounding landscape. The view to the north/northwest from this location includes a curving roadway and overhead utility line in the immediate foreground, backed by gently rolling open agricultural land. Although located outside the field of view in the selected photograph, existing wind turbines are visible from this viewpoint in the foreground and mid-ground of the landscape. The expansive road surface, utility line and existing turbines, along with working fields and farm buildings, emphasize the working character of the landscape. Viewers at this location would typically be local travelers on lightly-used rural roads. Scenic quality and viewer sensitivity at this viewpoint are considered to be low to moderate.

Inset 31: Visual simulation from South Woods Road at Burt Hill Road, Town of Howard

Proposed Project (see Inset 31)

While there are existing turbines visible from this viewpoint, with the proposed Project in place, the new turbines are a prominent addition to the mid-ground and background of the view. Existing utility lines, fencing and trees help to mitigate the impact, but visual contrast is still moderate to appreciable due to the large quantity of turbines added to the landscape. The turbines are consistent with the functional character of the existing landscape, and the limited number of viewers, lack of sensitive resources, and relatively low scenic quality at this location limits the Project's adverse visual impact.

Viewpoint 177 (see Appendix D – Sheets 16-18)

Inset 32: Existing view from Lent Hill Road At Eveland Road, Town of Cohocton

Existing View (see Inset 32)

Viewpoint 177 is located on Lent Hill Road at the intersection of Eveland Road in the Town of Cohocton, approximately 5.8 miles from the nearest proposed turbine. Views from this location include turbines from the Cohocton/Dutch Hill Wind Farm in the foreground and the Howard Wind Farm in the mid-ground. The existing turbines are interspersed with fields, hedgerows, and blocks of forest land on the level to gently rolling ridgetop topography. The view at this location feels open and expansive, and overall scenic quality is considered moderate.

Inset 33: Visual simulation from Lent Hill Road at Eveland Road, Town of Cohocton

Proposed Project (see Inset 33)

With the proposed Project in place, a large number of new turbines have been added in the background, along the horizon line. The distance of the new turbines from the viewer, and the presence of the existing turbines, help minimize the visual contrast presented by the proposed Project. However, there is a significant increase in turbine density that changes the dominant character of the view to be predominantly about the collective turbine installations. The turbines remain compatible with the working agricultural landscape, and overall visual impact is limited due to the small number of viewers and lack of sensitive resources common to the Rural Upland/Ridgeline LSZ.

Viewpoint 198 (see Appendix D – Sheets 19-21)

Inset 34: Existing view from Rex Road, Town of Cohocton

Existing View (see Inset 34)

This viewpoint is located on Rex Road, a seasonal use road, in the Town of Cohocton. It is approximately 0.1 mile from the nearest proposed turbine that would be visible in this view. The view to the north/northeast is characterized by working farmland. It is an attractive rural scene with rolling topography, textural variety in the vegetation, and minimal built features. The dirt road and adjacent open agricultural fields dominate the foreground of the view, with additional fields and blocks of forest vegetation on the rolling plateau that extends to the horizon. Turbines associated with the Dutch Hill/Cohocton Wind Farm are visible amongst the rolling hilltops in the background of this view.

This location receives very limited use because the road is seasonally maintained and inaccessible during the winter months. Duration of views and viewer sensitivity in this area are low, which is typical of the Rural Upland/Ridgeline LSZ.

Inset 35: Visual simulation from Rex Road, Town of Cohocton

Proposed Project (see Inset 35)

With the proposed Project in place, the introduction of multiple turbines in the foreground and mid-ground add prominent new focal points to the view. A new access road to the foreground turbines on the left is also apparent. Due to their proximity to the viewer, the turbines present appreciable contrast with the landform and sky, and become the dominant features of the landscape. The working agricultural landscape now takes on more of a utilitarian character. The stacked turbines and bisected rotors that occur within this view are visually distracting. However, the proposed access road is consistent with the unpaved public roads and farm lanes in this area, and the turbines still appear compatible with a working agricultural landscape that already includes operating wind turbines.

The change in character and added contrast resulting in the proposed turbines will have little effect on viewer activity due to the very limited use of the viewpoint receives, with the most likely user group being farmers working the land.

Rural Valley LSZ (Viewpoints 23, 30, 43, 51, 57, and 92)

The above viewpoints are located at specific sensitive sites, or represent common views, within the Rural Valley LSZ. As indicated in Table 7 and Section 5.1.1, substantial portions of the Rural Valley LSZ have the potential for Project visibility (32.1%). This LSZ also includes a concentration of viewers and visually sensitive resources. It therefore has the second highest representation of viewpoints selected for the development of visual simulations. Selected viewpoints are located in the Towns of, Avoca, Cohocton, and Wayland to capture a range of resources and landscape characteristics. Mid-ground (0.5 - 3.5 miles) and background (>3.5 miles) viewer distances are typical within this LSZ. The most common viewers found in this LSZ are Local Residents, with Through Travelers/Commuters present in some areas as well.

The simulation viewpoints, although varying by location and seasonal conditions, share many common attributes. The foreground of each view typically includes a road within an open flat valley that extends into the mid-ground. Mid-ground conditions on the valley floor are variable, but are generally enclosed by wooded slopes raising on all sides to create the ridge lines and plateaus that define the limits of landscape visibility. The hills are a mix of mostly forested areas intermingled with small agricultural fields. Development, in the form of farm complexes and rural homes, are generally visible in the valley. Operating wind farms are visible from portions of this LSZ, including the Cohocton/Dutch Hill project. Where visible, existing turbines generally make up a small percentage of the available view, and are typically present in the mid-ground and background. Long distance views that are available from the Rural Upland/Ridgeline LSZ are generally not available in the Rural Valley LSZ due to the screening provided by the adjacent topography.

Viewpoint 23 (see Appendix D – Sheets 22-24)

Inset 36: Existing view from State Route 371, Town of Cohocton

Existing View (see Inset 36)

Viewpoint 23 is on State Route 371, less than 1 mile south of the hamlet of North Cohocton, in the Town of Cohocton. It is approximately 5.0 miles from the nearest proposed turbine that would be visible in this view to the south-southwest. The typical viewer will be a Local Resident or Through-Traveler/Commuter driving along the roadway. The existing view features a broad level agricultural field that extends from the foreground to the mid-ground. Farm and residential structures, as well as roadside utility structures, are widely spaced along the highway on the left side of the view. The open field is bordered on all sides by heavily wooded slopes. Existing turbines are visible against the sky on the adjacent ridges (including several that are outside the field of view in the selected photograph). Overall scenic quality of this working agricultural landscape is considered moderate.

Inset 37: Visual simulation from State Route 371, Town of Cohocton

Proposed Project (see Inset 37)

With the proposed Project in place, 24 new turbines are visible on and behind the background ridge that anchors the center of the view. The addition of multiple turbines in the center of this view will be noticeable, despite the presence of existing turbines on the adjacent ridgetops. This is due to the number of new turbines introduced to the view and their extent across the center of the view, which increases contrast with the existing vegetation and landform and the perceived intensity of wind farm use. However, the Project's contrast with the existing landscape is limited due to the presence of the existing turbines and the Project's compatibility with the working agricultural fields that continue to dominate the view.

Viewpoint 30 (see Appendix D – Sheets 25-27)

Inset 38: Existing view from State Route 371, Town of Cohocton

Existing View (see Inset 38)

Viewpoint 30 is located along Route 371 at a designated Cohocton River Fishing Access, in the Town of Cohocton. It is located approximately 2.6 miles from the nearest proposed turbine. The existing view to the south features a curving rural road with an open field on the right, bounded by rolling forested hills. A rural home and farm structures appear as widely separated man-made features along the road. The landscape feels comfortable and enclosed, with an appealing visual movement created by the road curving through the rural landscape into the distance. While there are existing turbines visible in the mid-ground outside the field of view of this photograph, the selected view is free of visual clutter and utility structures. Overall scenic quality is considered moderate.

The Cohocton River is at a low point in the landscape behind the viewer in this photograph. Shoreline trees and the foreground topography generally combine to limit outward views from the river itself.

Inset 39: Visual simulation from State Route 371, Town of Cohocton

Proposed Project (see Inset 39)

With the proposed Project in place, 10 turbines are now visible on and behind the forested mid-ground ridgeline that serves as the backdrop for the view. The turbines span the full extent of the ridgeline and extend well into the sky, accentuating their scale contrast with the existing landform and vegetation. The inward focus along the road as it curves through the valley is altered by the introduction of the numerous turbines on the ridgeline, which introduce a new land use and become the focal points of the view.

It is worth noting that, along with local travel, viewer activity at this location will generally be fishing on the Cohocton River. As described above, the river is set down in the landscape and screened by shoreline vegetation that will substantially screen outward views of the Project from the river.

Viewpoint 43 (see Appendix D – Sheets 28-30)

Inset 40: Existing view from State Route 415, Town of Cohocton

Existing View (see Inset 40)

Viewpoint 43 is from State Route 415, approximately 0.5 mile south from the Village of Cohocton, in the Town of Cohocton. It is approximately 1.9 miles from the nearest proposed turbine. The existing view toward the proposed Project is in a west-northwest direction. It features a paved rural highway and a broad, flat agricultural field in the immediate foreground, backed by farm structures in the mid-ground. The barn and silos appear well organized against the rolling topography. An existing sand and gravel operation is located on the lower half of the mid-ground hill outside the field of view to the south. The overall scenic quality of this working landscape is moderate, and the typical viewer will be a local resident or through-traveler/commuter driving along the roadway.

Inset 41: Visual simulation from State Route 415, Town of Cohocton

Proposed Project (see Inset 41)

With the proposed Project in place, the new turbines rise prominently above the mid-ground ridgetop and introduce a new use to the landscape. The turbines break the skyline along the ridge and present moderate contrast with the landform and sky. However, the turbines are well spaced within the view and are compatible with the character of the working agricultural landscape. This location is elevated in sensitivity due to the number of potential viewers, however the existing land use and scenic quality are not substantially affected by addition of the proposed Project.

Viewpoint 51 (see Appendix D – Sheets 31-33)

Inset 42: Existing view from State Route 21 at South Church Road, Town of Wayland

Existing View (see Inset 42)

Viewpoint 51 is located at the intersection of State Route 21 and South Church Road in the Town of Wayland. The nearest proposed turbine is located 1.1 miles from the viewpoint. This view represents a portion of the Rural Valley LSZ characterized by a narrower valley with wetlands and successional fields in the foreground, rather than open agricultural fields. This creates interesting vegetative texture and diversity in the landscape. The view is more enclosed and dominated by the foreground features, including a winding rural road and a single home tucked in at the base of a wooded hill. Mid-ground ridges are visible, but are screened by trees in the foreground and occupy only a small portion of the available view from this location. Signs, markers and utility lines add visual clutter, and result in low to moderate scenic quality and viewer sensitivity.

Inset 43: Visual simulation from State Route 21 at South Church Road, Town of Wayland

Proposed Project (see Inset 43)

With the proposed Project in place, portions of four wind turbines and a permanent met tower are clearly visible above the ridge on the left side of the view. Under the lighting conditions illustrated in this photo, the turbines are illuminated against the sky and contrast with the darker features in the foreground. The relative proximity of the turbines accentuate their line and scale contrast with the existing vegetation and landform, and make them prominent new focal points in the view. The turbines also introduce modern, utilitarian features to the view and alter the rural character of the existing landscape. However, foreground trees provide screening and limit the percentage of the Project that is visible from this location. The turbines are not overwhelming and the complexity of the view draws viewer attention to the foreground, which helps to reduce the impact of the proposed Project.

Viewpoint 57 (see Appendix D – Sheets 34-36)

Inset 44: Existing view from Wallace Back Road, Town of Avoca

Existing View (see Inset 44)

Viewpoint 57 is located on Wallace Back Road in the Town of Avoca. The location is approximately 2.8 miles from the nearest proposed turbine that would be visible in this view. This is a classic rural view with a red barn serving as a focal point drawing the viewers' attention. There is varying color, texture, and form to the landscape, and the mid-ground hillside, blanketed with trees, captures the viewer's interest and encloses the view. Typical viewers are local residents and viewer exposure is relatively low given the lightly used nature of the road and low density of homes in this area. Because of the classic rural characteristics and composition of the view, scenic quality is moderate to high.

Inset 45: Visual simulation from Wallace Back Road, Town of Avoca

Proposed Project (see Inset 45)

With the proposed Project in place, turbines are clearly visible on the mid-ground ridge. While the turbines' modern appearance and scale present moderate contrast with the vegetation and sky, placement of the turbines on the ridge adds to the composition of the view and is consistent with the character of the working agricultural landscape. The turbines are visible, but are not overwhelming from this viewpoint. Their overall impact on scenic quality is minimal.

Viewpoint 92 (see Appendix D – Sheets 37-39)

Inset 46: Existing view from Russell Road at County Route 70A, Town of Fremont

Existing View (see Inset 46)

Viewpoint 92 is located on Russell Road at County Route 70A in the Town of Fremont. The location is approximately 0.8 mile from the nearest proposed turbine that would be visible from this viewpoint. The existing view to the north from this location features a winding road and gently rising landform that leads to a farm complex on a mid-ground hill. The hill blocks views of more distant landscape features. Foreground tree branches, signs, and utility lines add clutter to the view. The view is a complex composition of structures, disorganized vegetation, and infrastructure. The Interstate Route 86 corridor bisects in the mid-ground but is not clearly visible, as the road surface and traveling cars and trucks are screened by the road cut. The typical user in this location will be a resident or local traveler. The scenic quality of this view is relatively low.

Inset 47: Visual simulation from Russell Road at County Route 70A, Town of Fremont

Proposed Project (see Inset 47)

With the proposed Project in place, a single turbine has been added to the view. While the turbine is in proximity to the viewer, it is obscured by an existing hedgerow and the branches of a deciduous tree in the foreground. Viewers may notice the proposed turbine, but it will not significantly reduce the quality of the already cluttered view from the adjacent roads and homes.

Transportation Corridor LSZ (Viewpoints 49, 54 and 111)

The Transportation Corridor LSZ is represented by Viewpoints 49, 54, and 111. These viewpoints represent specific sensitive sites along the major highways, or common views found throughout the Transportation Corridor LSZ. Although this LSZ does not occupy a substantial portion of the visual study area, it has the highest number of users that will potentially experience views of the proposed turbines. The viewer group using this LSZ is through travelers/commuters with relatively low sensitivity to visual change. The large majority of Project views will be from a vehicle traveling at a high rate of speed along one of the Interstate corridors. These views range from 90 degrees perpendicular to the direction of travel, to straight ahead and aligned with the road. These different angles of view and high rate of speed generally result to a low duration of exposure to views in this LSZ. The selected simulation viewpoints are representative of the different conditions available within this LSZ but focus on those areas where the duration of Project views will be the longest (e.g., rest areas and over passes). The operating wind farms that already occur within the study area are visible from these viewpoints, at various distances and directions.

It is worth nothing that the landscape along the Interstate corridors is consistently changing, and allows for representative views into and from most of the other defined LSZs within the study area. The one landscape feature that is consistent throughout the Transportation Corridor LSZ, and is noticeable from every viewpoint in the LSZ, is the highway itself, and associated transportation infrastructure. The paved road surface and moving vehicles, while not the focal point of any view, dominate the viewer experience in this LSZ.

Viewpoint 49 (see Appendix D – Sheets 40-42)

Inset 48: Existing view from I-390 Scenic Overlook, Town of Cohocton

Existing View (see Inset 48)

Viewpoint 49 is located at the Interstate Route 390 scenic overlook, accessible to northbound travelers in the Town of Cohocton. The location is approximately 0.7 mile from the nearest proposed turbine. The existing view toward the Project site to the west-northwest features an expanse open flat road and mowed road shoulders in the foreground, curving away and out of view behind trees in the mid-ground. An abruptly rising, wooded hill centers the background of the view. The view from the scenic overlook parking area in this direction is pleasant and orderly, but is not the primary view from this location. The scenic overlook is oriented to take advantage of the view to the north, which includes a maintained lawn and ornamental tree plantings in the foreground and a sweeping view of the Cohocton River Valley in the mid-ground. Partially screened views of the existing Cohocton/Dutch Hill turbines on the hills in the background are also available in this direction. The scenic quality of the view toward the Project site is moderate.

Inset 49: Visual simulation from I-390 Scenic Overlook, Town of Cohocton

Proposed Project (see Inset 49)

With the proposed Project in place, portions of four turbines extend into the sky above the forested mid-ground hill. Due to the proximity and positioning of the turbines at the apex of the hill, their line and scale contrast with the sky, vegetation and landform is appreciable. Their size, form and movement will make them new focal points of the view. Installation of the turbines does not reduce the visual quality of the interstate corridor but does change the character of the view, and will attract the attention of users of the scenic overlook away from what is now the primary direction of view. Low viewer sensitivity reduces the Project's visual impact, and for many viewers at the overlook, the new turbines will add an element of interest that complements the partially screened views of the existing turbines. The proposed turbines have the potential to attract more viewers to the overlook specifically to enjoy the unobstructed foreground view of these machines.

Viewpoint 54 (see Appendix D – Sheets 43-45)

Inset 50: Existing view from I-390 Overpass at Wentworth Road, Town of Cohocton

Existing View (see Inset 50)

Viewpoint 54 is located on the Interstate Route 390 overpass on Wentworth Road in the Town of Cohocton. This location is approximately 1.0 mile from the nearest proposed turbine that would be visible in this view to the west. The view features an open road and guardrails in the foreground, with residential and farm structures present in the mid-ground, backed by rising hills that include a mix of agricultural fields and forest land. Three existing turbines from the Dutch Hill/Cohocton Wind Farm can be seen on the background hills on the left side of the view. The Interstate highway corridor is not included in the selected field of view, but is a dominant feature in views to the northwest and southeast from this location. The existing view appears somewhat cluttered, and scenic quality is compromised by the bridge railings and overhead utility lines that dominate the foreground. The composition of the residential and farm structures and topographical change are interesting but less dominant in the view.

This view is more expansive than those available to travelers on Interstate Route 390 due to its elevated position. Views to travelers on Route 390 will be substantially screened by the road cut and roadside vegetation, and will only be available in this direction if looking 90 degrees out of a vehicle's side window.

Inset 51: Visual simulation from I-390 Overpass at Wentworth Road, Town of Cohocton

Proposed Project (see Inset 51)

With the proposed Project in place, two turbines are clearly visible, with a portion of a blade visible on a third, above the ridgeline, in the mid-ground of the view. The turbines present moderate to appreciable contrast with the existing vegetation and landform, and their large size is obvious due to their proximity and location on the hilltop. However, the complexity of this view and the presence of other visible structures that pierce the skyline (including the existing wind turbines) reduce the overall impact. The limited number of new visible turbines, and their compatibility with the working agricultural character of the landscape, also serve to limit the Project's impact on land use and scenic quality.

The proposed turbines will be less visible to travelers on Route 390 at this location, and if seen, will be viewed in the context of other existing turbines in a working agricultural landscape along this section of the highway. Views of both the existing and proposed turbines will decrease as viewers on Wentworth Road get closer to the residential structures in the mid-ground due to the screening effect of the hill located immediately behind them.

Viewpoint 111 (see Appendix D – Sheets 46-48)

Inset 52: Existing view from I-86 Scenic Overlook and Parking Area, Town of Hornellsville

Existing View (see Inset 52)

Viewpoint 111 is located at the Interstate Route 86 Scenic Overlook in the Town of Hornellsville. The location is approximately 8.55 miles from the nearest proposed turbine. The scenic overlook is oriented so as to provide a view toward Almond Lake, Canacadea State Forest and the Kanakadea Recreation Area. The open and expansive view is across a wooded valley, and includes the frozen surface of Almond Lake, Almond Dam, and rising wooded hills in the background. Tall trees occupy the foreground, and the mid-ground is characterized by rolling topography with a mix of forest and open fields. The view features very few man-made features, but the hill that rises above the Almond Dam includes communication towers that protrude above the horizon. The scenic quality of the view is considered moderate to high.

Inset 53: Visual simulation from I-86 Scenic Pull Off and Parking Area, Town of Hornellsville

Proposed Project (see Inset 53)

With the proposed Project in place, the new turbines are barely visible on a distant ridgeline. Contrast with the existing vegetation and topography is minimal to moderate. The focus of the view remains Almond Lake in the mid-ground. Viewers will not likely focus on the proposed turbines, and may not notice them at all. However, the addition of the turbines in the view do add utilitarian features to the view, and somewhat alter its undeveloped character. Due primarily to the effects of distance, the overall impact of the proposed Project on viewer activities and enjoyment at this viewpoint will be minimal.

City/Village/Hamlet LSZ (Viewpoints 37, and 168)

The City/Village/Hamlet LSZ is represented by Viewpoints 37 and 168 (including both leaf-off winter and leaf-on spring photographs for Viewpoint 37). The selected viewpoints represent specific sensitive sites located within these areas of higher population density, and are representative of the most open views that can be found in the cities, villages, and hamlets within the study area. This LSZ does not represent the greatest area of in potential Project visibility within the study area, but does offer the opportunity for the longest duration of views by the largest number of residents. The landscape character present in this LSZ consists or residential structures lining the streets with the accompanying yard and street vegetation in the foreground. Open views into the mid-ground and background are few and far between, as foreground elements dominate the landscape and screen long-distance outward views. Open areas associated with athletic fields around schools, central greens or parks, as well as views down roadways and at locations on the outskirts of the village or hamlet, provide for more open distant views.

It is worth noting that operating wind turbines are visible from Viewpoint 168 and elsewhere within the Village of Cohocton, but not from Viewpoint 37. Views of the existing turbines within this LSZ are often screened by the intervening buildings and vegetation, with views of multiple turbines rare. Where views are available, the existing turbines are typically present in the mid-ground and background.

Viewpoint 37 – Leaf-Off Conditions (see Appendix D – Sheets 49-51)

Inset 54: Existing view from Larrowe House, Village of Cohocton, Town of Cohocton

Existing View (see Inset 54)

Viewpoint 37 is centrally located within the Village of Cohocton, adjacent to State Route 415/South Main Street, at the site of the NHRP-listed Larrowe House (*90NR0308)*, the Village offices, and Memorial Park. It is approximately 1.5 miles from the nearest proposed turbine that would be visible in a view to the south-southwest (toward the proposed Project). The typical viewer at this location would likely be a local resident participating in town events or performing daily tasks. The foreground of the existing view consists of elements that make up Memorial Park, including a wooden gazebo, flag pole, bell memorial, and open lawn area. The colors are muted due to the time of year and the largely overcast/snow-covered conditions. Located just behind these features is Park Avenue and a line of adjacent homes intermixed with scattered mature yard trees. Typical of the rural villages and hamlets in the study area, the homes are a mix of traditional architectural styles with additions and accessory structures added over the years. Although partially screened by foreground trees, rising hills create the backdrop to this view. Scenic quality at this public gathering place in the village is considered moderate to high.

Inset 55: Visual simulation from Larrowe House, Village of Cohocton, Town of Cohocton – Leaf-off conditions

Proposed Project leaf-off (see Inset 55)

With the proposed Project in place, several turbines are now clearly visible on the wooded ridgeline that forms a backdrop to this view. In this winter time view, some of the turbines are partially screened by foreground features, but the majority are clearly visible against the bright sky. Due to their elevated position and proximity to the viewer, the turbines appear large and present moderate to appreciable contrast with the vegetation and landform of the background ridge. The turbines add a utilitarian element to the village setting which could alter perceived land use and viewer activity. However, this effect is mitigated somewhat by foreground utility poles and overhead lines that bisect the view. Mature trees in the foreground and mid-ground extend into the sky and also serve to help limit the Project's line and scale contrast.

Inset 56: Visual simulation from Larrowe House, Village of Cohocton, Town of Cohocton – Leaf-on conditions

Proposed Project leaf-on (see Inset 56)

During the growing season, color and texture of the landscape in the view is more visually diverse, but overall scenic quality is as described previously. Although somewhat more well screened under the leaf-on conditions, the majority of the proposed turbines are still clearly visible on the background ridge. The visual effects are largely the same as those described in the winter view, with the turbines appearing large, and introducing utilitarian elements and land use into a traditional residential village setting. However, increased concealment behind mature trees with foliage that extends above the ridgeline, and the attention-grabbing colors of the vegetation, somewhat reduce the visual prominence of the Project.

Viewpoint 168 (see Appendix D – Sheets 52-54

Inset 57: Existing view from Ellsworth "Ozzie" Tripp Sports Complex, Town of Cohocton

Existing View (see Inset 57)

Viewpoint 168 is at the Ellsworth 'Ozzie' Tripp Sports complex on the outskirts of the Village of Cohocton, adjacent to the Wayland/Cohocton Elementary School. This location is approximately 1.2 miles from the nearest proposed turbine. The selected view is to the southwest from the eastern sideline bleachers within this complex. An open, flat athletic field defines the foreground, along with associated media booths, bleachers, fencing, lighting, and storage buildings around the field edge. Residential and farm structures, along with a plowed field, are visible on the valley floor in the mid-ground, backed by a rising wooded hillside, a portion of which is being used as a gravel pit. The sports center is well manicured and orderly. However, the overall landscape is visually complex, with forest, extraction, agricultural production, and recreation land uses included in the view. The field lighting protrudes into the sky and appears out of scale with the rest of the site. Because of the electric mix of activities and landscape features in this view, the overall scenic quality is relatively low.

Portions of the operating Cohocton and Dutch Hill Wind Farm are visible to the north and east from this viewpoint, outside of the selected field of view.

Inset 58: Visual Simulation from Ellsworth "Ozzie" Tripp Sports Complex, Town of Cohocton

Proposed Project (see Inset 58)

With the proposed Project in place, numerous proposed turbines extend across the ridgetop and rise high into the sky behind the sports complex. The size and number of visible turbines results in appreciable to strong contrast with the existing landform, vegetation, and sky. The turbines also create a more utilitarian/industrial character to the landscape. Wind turbines from existing and proposed wind farms will now take up a larger percentage of the available view, dominating the viewer experience. The presence of existing diverse man-made structures help mitigate the effect of the Project on this already compromised view. In addition, the focus of viewer attention will remain the sporting events on the foreground field.

Forest LSZ (Viewpoints 148, and 160)

The Forest LSZ is represented by Viewpoints 148 and 160, both of which are located in state forests. This LSZ is found throughout the study area and is the most prevalent LSZ based on overall area. The landscape character of the Forest LSZ is defined by mature vegetation, which occupies the majority of views in all distance zones, and is the overall focus of the viewers' attention. Long-distance views to the surrounding hills and plateaus are only available where openings occur in the forest canopy. The selected viewpoints represent specific sensitive sites, and illustrate conditions in those very limited portions of the Forest LSZ where open, outward views are available. Visibility within this LSZ will change with the seasons, but will always be limited due to the abundance of trees. Photos from the two selected viewpoints were taken during leaf-off conditions to present a 'worst case' Project visibility scenario.

The areas within this LSZ where a viewer may experience potential long-distance views are concentrated along road corridors that align with the direction to the proposed Project. These occur at open parking areas at the state forests and, to a lesser degree, from small openings along trails and at campgrounds and day-use areas. Common activities in forested settings include various forms of outdoor recreation, which are concentrated in and around camping areas and along trails used for hiking, cross country skiing and snowmobiling. These activities can provide longer duration views, and viewer sensitivity in these natural settings can be high. Due to extensive vegetative screening, operating wind turbines are generally not visible from the Forest LSZ.

Viewpoint 148 (see Appendix D – Sheets 55-57)

Inset 59: Existing view from the DEC Truck Trail in Canacadea State Forest, Town of Hornellsville

Existing View (see Inset 59)

Viewpoint 148 is located approximately 1.9 miles from the entrance to the NYSDEC Truck Trail, on the Canacadea State Forest. It is a maintained scenic vista, easily accessed by foot or by vehicle. This viewpoint offers open views of the valley north of the City of Hornell, and the hills surrounding it. Dense foreground vegetation, partially screens the distant view and frames a specific spot in the valley. The location is a high point in the landscape and allows the viewer to look down on the distant hills and plateaus. No operating turbines are visible from this vantage point or along the majority of the trail. The overall scenic quality of the existing view is moderate.

Visitors to this area are predominantly local recreational users, with a scattering of tourists. The multiple use trail is an unpaved public access road that is not plowed in the winter.

Inset 560: Visual simulation from the DEC Truck Trail in Canacadea State Forest, Town of Hornellsville

Proposed Project (see Inset 60)

With the proposed Project in place, numerous turbines can be seen along the background ridge that forms the visible horizon in this view. While the proposed Project covers a significant area on the ridge, the turbines themselves appear quite small and are largely concealed by deciduous trees in the foreground. This vegetation, will screen additional portions of the Project during the growing season, further reducing the impact of the Project at this viewpoint. Recreational activities that occur within the state forest will not be affected by the turbines, as they are hardly discernable from the overlook, and will be even less visible elsewhere in the forest. The focus of viewer attention will remain the forest experience and the view of the North Hornellsville valley. The overall contrast presented by the Project at this viewpoint is minimal to insignificant.

Viewpoint 160 (see Appendix D – Sheets 58-60)

Inset 61: Existing view from Blank Hill Road in the Canaseraga State Forest, Town of Ossian

Existing View (see Inset 61)

Viewpoint 160 is located within the Canaseraga State Forest, in the Town of Ossian, approximately 12.2 miles from the nearest proposed turbine. The existing view toward the Project Site from this location is to the east, and features the entry road to the state forest in the immediate foreground, bordered by fields and forest. The road corridor focuses the view along the open roadway down into a mid-ground valley before rising to a distant background ridgeline. The setting appears secluded, but not wild, as man-made improvements are clearly evident. However, no buildings or operating turbines are visible in the view, and existing scenic quality is considered moderate.

Inset 62: Visual simulation from Blank Hill Road in the Canaseraga State Forest, Town of Ossian

Proposed Project (see Inset 62)

With the proposed Project in place, turbines can be seen on the background ridge within the open road corridor. At this distance turbine visibility and contrast with the landscape is insignificant, and much of the Project is screened by foreground trees that line the road. Foreground features remain the character-defining elements of the view, and the Project will have little, if any, effect on viewer activity and scenic quality. Installation of the proposed turbines on a background ridgeline, and concealment of the turbines by foreground vegetation mitigates any adverse visual effect.

Waterfront/Open Water LSZ

The Waterfront/Open Water LSZ is found on a limited basis within the study area, and is the least common LSZ based on overall area. However, outward visibility from within this LSZ can be quite high, because foreground screening is very limited or nonexistent, and viewer sensitivity will tend to be high. Areas within this LSZ where Project visibility is most likely to occur include the open water of Loon Lake and along the Cohocton River corridor. The character of the Waterfront/Open Water LSZ is defined by the presence of open water which is the dominant landscape feature and the focus of the viewers' attention. Tourist/recreational users and local residents are the user groups most likely to view the Project from the Waterfront/Open Water LSZ. Most views in this LSZ will be from the shoreline and roadways surrounding open water areas. Visibility of existing wind turbines from the Waterfront/Open Water LSZ is generally limited due to screening provided by intervening topography and vegetation.

Viewpoint 192 (see Appendix D – Sheets 61-63)

Inset 63: Existing view from Laf-A-Lot Road, Town of Wayland

Existing View (see Inset 63)

Viewpoint 192 is located at the shoreline of Loon Lake off of Laf-A-Lot Road in the Town of Wayland. It is approximately 1.2 miles to the nearest proposed turbine that would be visible in this view. The existing view to the southeast toward the proposed Project Site features the roofs of shoreline structures and the open water of Loon Lake in the immediate foreground. Numerous man-made structures interspersed with clumps of trees are visible on the opposite shoreline, with low wooded hills rising beyond the shoreline to form the visible horizon. Trees on a small wooded peninsula in the foreground are the only features that extend into the sky above the background ridge. The typical viewer will be a local resident or recreational user visiting or staying at one of the camps located along the lake shoreline. Scenic quality of this view is considered to be high.

Inset 64: Visual simulation from Laf-A-Lot Road, Town of Wayland

Proposed Project (see Inset 64)

With the proposed Project in place, multiple turbines and one permanent met tower are prominently visible above the background ridge. Several turbines are well screened by trees on the peninsula to the left, but others are fully visible against the sky. Their number, proximity, lack of screening, and presence on ridgeline accentuate the turbines' scale contrast with the existing vegetation, landform, and sky. Their utilitarian character is also inconsistent with the residential waterfront character of the view. The turbines create a new focus within this view, drawing the viewer's eye upward from the open water and shoreline of the lake to the proposed Project. The quantity and proximity of the turbines now make them the dominant features of the view. Although the shoreline includes camps/homes and associated man-made structures, the introduction of the proposed turbines adds a utilitarian element to the landscape that alters the existing recreational character of the view. Consequently, the Project's impact on scenic quality and viewer activity at this viewpoint is relatively high. It is worth noting that the number and extent of turbines visible from other shoreline areas of Loon Lake will generally be less than shown in this simulation. For instance, the proposed turbines, present within this view will not be visible from the residences on the opposite shoreline in this view.

5.2.2 Visual Impact Assessment Rating

As described in Section 4.2.3 of this VIA, three registered landscape architects (one in-house, two independent) evaluated the visual impact of the proposed Project. Utilizing 11 x 17-inch digital color prints of the 22 visual simulations (including two from Viewpoint 37) described above, the landscape architects (LAs) reviewed the existing and proposed views, evaluated the contrast/compatibility of the Project with various components of the landscape (landform, vegetation, land use, water, sky, and viewer activity), and assigned quantitative visual contrast ratings on a scale of 0 (insignificant) to 4 (strong). The average contrast score assigned by each LA was calculated for each viewpoint, and an average score for each viewpoint was determined. Copies of the completed rating forms are included in Appendix E, and the results of this evaluation process are summarized in Table 8 below.

Table 8. Summary of Results of Contrast Rating Panel Review of Simulations

Viewpoint Number	Distance to Nearest Visible Turbine[1]	Distance Zone	Landscape Similarity Zone	Viewer Groups			Contrast Rating Scores[2]				
				Local Residents	Through Travelers/ Commuters	Tourists/ Recreation	#1	#2	#3	Average	Contrast Rating Result
21	2.4	Mid-Ground	Rural Uplands / Ridgeline	●			2.8	1.4	1.9	2.0	Moderate
66	2.2	Mid-Ground	Rural Uplands / Ridgeline	●			3.6	3.0	2.4	3.0	Appreciable
79	0.1	Foreground	Rural Uplands / Ridgeline	●			2.4	3.0	3.2	3.0	Appreciable
114	9.3	Background	Rural Uplands / Ridgeline	●		●	0.5	0.8	1.2	0.8	Insignificant / Minimal
118	3.5	Mid-ground	Rural Uplands / Ridgeline	●			2.4	1.8	2.5	2.2	Moderate
177	5.8	Background	Rural Uplands / Ridgeline	●			1.0	1.2	2.1	1.4	Minimal
198	0.1	Foreground	Rural Uplands / Ridgeline	●			2.3	3.5	2.5	2.8	Moderate / Appreciable
Total average rating for the Rural Uplands / Ridgeline LSZ										2.2	Moderate
23	5.0	Background	Rural Valley	●	●		2.5	2.4	2.4	2.4	Moderate
30	2.8	Mid-ground	Rural Valley	●	●		3.1	2.8	2.4	2.8	Moderate / Appreciable
43	1.9	Mid-ground	Rural Valley	●	●		2.7	2.3	2.0	2.3	Moderate
51	1.1	Mid-ground	Rural Valley	●			3.1	2.0	2.2	2.4	Moderate
57	2.8	Mid-ground	Rural Valley	●			3.6	3.0	2.4	3.0	Appreciable

Viewpoint Number	Distance to Nearest Visible Turbine[1]	Distance Zone	Landscape Similarity Zone	Viewer Groups			Contrast Rating Scores[2]				
				Local Residents	Through Travelers/ Commuters	Tourists/ Recreation	#1	#2	#3	Average	Contrast Rating Result
92	0.8	Mid-ground	Rural Valley	●			1.6	0.2	0.6	0.8	Insignificant / Minimal
Total average rating for the Rural Valley LSZ										2.8	Moderate / Appreciable
49	0.7	Mid-ground	Transportation Corridor		●		2.9	3.3	2.7	3.0	Appreciable
54	1.0	Mid-ground	Transportation Corridor		●		2.8	2.3	2.3	2.5	Moderate / Appreciable
111	8.55	Background	Rural Uplands / Ridgeline & Transportation Corridor		●		1.2	0.7	2.6	1.5	Minimal / Moderate
Total average rating for the Transportation Corridor LSZ										2.3	Moderate
37 Leaf off	1.5	Mid-ground	City / Village / Hamlet	●		●	3.1	2.2	2.8	2.7	Moderate / Appreciable
37 Leaf On	1.5	Mid-ground	City / Village / Hamlet	●		●	2.7	1.9	2.5	2.4	Moderate
168	1.2	Mid-ground	City / Village / Hamlet	●		●	3.8	3.2	2.5	3.2	Appreciable
Total average rating for the City/Village/Hamlet LSZ										2.8	Moderate / Appreciable
148	6.6	Background	Forest			●	0.0	0.0	1.4	0.5	Insignificant / Minimal
160	12.2	Background	Forest			●	0.0	0.0	0.6	0.2	Insignificant
Total average rating for the Forest LSZ										0.4	Insignificant
192	1.2	Mid-ground	Open Water / Shoreline	●		●	3.5	3.3	3.9	3.7	Appreciable / Strong
Total average rating for the Open Water/Shoreline LSZ										3.7	Appreciable / Strong

[1]Distance in miles.
[2]Contrast Rating Scale: 0.0 - 0.4 (Insignificant), 0.5 – 0.9 (Insignificant/Minimal), 1 – 1.4 (Minimal), 1.5 – 1.9 (Minimal/Moderate), 2 - 2.4 (Moderate), 2.5 – 2.9 (Moderate/Appreciable), 3 – 3.4 (Appreciable) 3.5 – 3.9 Appreciable/Strong), 4 (Strong).

As Table 8 indicates, the average overall composite contrast ratings for the 22 visual simulations ranged from 0.2 (Insignificant) to 3.7 (Appreciable/Strong). The results of this evaluation are summarized as follows.

Rural Upland/Ridgeline LSZ (Viewpoints 21, 66, 79, 114, 118, 177, and 198)

Simulations of the Project from viewpoints located within the Rural Upland/Ridgeline LSZ received average contrast rating scores that ranged from 0.8 for Viewpoint 114, to 3.0 for Viewpoints 66 and 79. The low contrast rating for Viewpoint 114 is largely attributable to the background distance at which the proposed turbines are viewed. Comments from the rating panel indicated that the turbines would be visible, but would not have a substantial impact on the existing character or scenic quality of this viewpoint. Viewpoints 66 and 79 received contrast ratings of 3.0 due largely to the number of turbines visible or their proximity to the viewer. Under these conditions the turbines become the dominant features of the landscape and focal points in the view. The overall conclusion from the rating panel is that the Project will have a generally moderate effect on viewpoints in the Rural Upland/Ridgeline LSZ. Although this is the only zone where turbines can be viewed from near foreground locations, their overall impact is relatively small due to the limited number of viewers and sensitive resources found within this LSZ, the visibility of existing wind farms, and the compatibility of the turbines with the working agricultural land use that characterizes most existing views.

Rural Valley LSZ (Viewpoints 23, 30, 43, 51, 57, and 92)

Simulations of the Project from viewpoints located within the Rural Valley LSZ received average contrast rating scores that ranged from 0.8 at Viewpoint 92, to 3.0 at Viewpoint 57. Simulations within the Rural Valley LSZ received an overall average contrast rating of 2.3, which indicates a moderate level of impact can be expected throughout this LSZ. This can be attributed to the fact that mid-ground ridges that line the valleys typically screen background landscape features and limit views of turbines to those within the mid-ground distance zone.

The low contrast rating for Viewpoint 92 can be attributed to the relatively low baseline scenic quality of the existing view, along with the fact that the proposed turbines are largely concealed by intervening vegetation, even during leaf-off/winter conditions. Viewpoint 57 received the highest average contrast rating within this LSZ largely because of the high scenic quality of this classic rural view. However, even in this instance, the Project's compatibility with the working agricultural landscape was noted by all of the rating panel members.

Transportation Corridor LSZ (Viewpoints 49, 54, and 111)

Simulated views of the Project from viewpoints located within the Transportation Corridor LSZ received average contrast rating scores that ranged in value from 1.5 at Viewpoint 111, to 3.0 at Viewpoint 49. The low contrast rating received by Viewpoint 111 can be attributed to the distance of the Project from the viewer. Although this viewpoint had the highest

baseline scenic quality rating of the selected viewpoints within this LSZ, the effect of the Project in the distant background was minimal. The appreciable contract noted for Viewpoint 49 is due primarily to the proximity of the unscreened turbines at the apex of a nearby wooded hill. Impact of the Project in this LSZ is mitigated by the limited sensitivity and relatively short duration of views typical of viewers traveling the Interstate highways. Although prolonged views are available at the designated rest stops, in these venues the turbines are likely to add interest to the view and actually enhance the experience of travelers passing through the area.

City/Village/Hamlet *LSZ (Viewpoints 37 Leaf-Off, 37 Leaf-On, and 118)*

Simulations from viewpoints located within the City/Village/Hamlet LSZ received average contrast rating scores that ranged from 2.4 at Viewpoint 37, to 3.2 at Viewpoint 168. At Viewpoint 37, rating panel results indicate that the proposed Project has moderate to appreciable contrast with other landscape features in this view under both winter (leaf-off) and summer (leaf-on) conditions. The scale of the turbines contrasts with the adjacent vegetation and alters the residential character of the view. At Viewpoint 168, rating panel results suggest that the visual contrast would be appreciable to strong due to the size and number of turbines added to this view and the number of viewers exposed to the Project at this location. However, visual impact was mitigated by the already compromised scenic quality of the existing view. It is also worth noting that both of the selected viewpoints are locations where a substantial number of turbines would be visible from the City/Village/Hamlet LSZ. This is an unusual circumstance, as outward views from most locations within this zone are well screened by structures and street/yard trees, that limit potential Project visibility.

Forest LSZ *(Viewpoints 148 and 160)*

Viewpoints located within the Forest LSZ received average contrast rating scores that ranged from 0.2 for Viewpoint 160, to 0.5 for Viewpoint 148. Rating panel results indicated an insignificant to minimal contrast rating due to the distance of the turbines from the viewer and the screening provided by the forest vegetation in the foreground. Viewer sensitivity at the state forests where these viewpoints are located could increase perceived visual impact if the turbines were closer or less well screened.

Waterfront/Open Water *(Viewpoint 192)*

The visual simulation from Viewpoint 192, located within the Waterfront/Open Water LSZ, received a composite contrast rating of 3.7, which is the highest score received by any of the selected viewpoints. Rating panel results indicate that the proposed Project will add highly visible utilitarian features to the landscape, which present strong contrast with the current

land use and viewer activity. The focal point in the view will re-align upward from the water surface and shoreline to the skyline and the proposed turbines. The overall conclusion from the rating panel is that the Project will present appreciable to strong contrast multiple features of the landscape within the Waterfront/Open Water LSZ. However, as noted previously, Viewpoint 192 represents "worst case" Project visibility, and other areas within this LSZ are not anticipated to experience this degree of turbine visibility/visual impact.

As indicated by the contrast ratings/summary in Table 8 (see also Appendix E), the rating scores provided by the three landscape architects were generally consistent, with a few outliers or conflicting scores. Although appreciable to strong contrast was noted for some viewpoints, the overall contrast presented by the Project is considered moderate. Rating panel results indicate that the number of turbines visible and their scale and form contrast with the landform, vegetation, and sky were the primary sources of visual contrast with the existing landscape. The greatest perceived visual impact typically occurs when numerous turbines are visible, where the turbines are in close proximity to the viewer, or where the turbines appear out of place in their setting (e.g., in a residential context). These conditions tend to heighten the Project's contrast with existing elements of the landscape in terms of line, form, and especially scale. Factors mitigating visual impact within the study area include, 1) the dissected landform that limits the number of turbines visible from valley locations, 2) the relatively few viewers present on the elevated plateaus and ridgetops where views of numerous turbines and near foreground views will be available, 3) the substantial screening provided by existing foreground landscape features in forested areas and areas of concentrated human settlement, and 4) the working agricultural character of much of the landscape in which the Project would be viewed.

Views from some water/waterfront settings (e.g., the northwest shore of Loon Lake) have the potential for more substantial visual impact due to the strong land use contrast presented by the turbines and the relatively high sensitivity of viewers in this setting. However, even in this context, visual impact is mitigated to some extent by the present of existing turbines in the area and the fact that not all viewers will find the turbines to be aesthetic liabilities.

Although at times offering appreciable contrast with existing elements of the landscape, the proposed Project will not necessarily be perceived by viewers as having an adverse visual impact. Wind turbines are unlike most other energy/infrastructure facilities, such as transmission lines or conventional power plants, that are almost universally viewed as aesthetic liabilities. Wind turbines have a clean sculptural form that is considered attractive by some viewers (Pasqualetti et al., 2002). In EDR's experience, operating wind power projects in New York State have generally received a positive public reaction following their construction. This observation is supported by several surveys conducted by Jefferson County Community College in Lewis County, New York (location of the 195-turbine Maple Ridge Farm Project in operation since 2006), which revealed strong community support for wind power (JCCC, 2008, 2010, 2011, 2012). A significant

majority (approximately 90%) of Lewis County residents who participated in these surveys expressed support for the development of additional wind energy projects (JCCC, 2010, 2011, 2012). Approximately 70% of respondents have consistently indicated that wind farms have had a positive impact on Lewis County (JCCC 2008, 2010, 2011, 2012). The 2008 survey indicated that 77% of individuals that were able to see and/or hear turbines from their homes indicated that the wind farms have had a positive impact on Lewis County. Additionally, only 7.5% of participants who live within 1 mile of the nearest wind turbine felt that wind farms have had a negative impact (JCCS, 2008).

This finding is consistent with a number of broader studies that have found increased local support for wind projects once they are constructed and become operational. Public support often follows a "U" pattern, in which acceptance is initially high, drops during the planning and construction, and then rebounds after the wind farm commences operation, and impacts are found to be less detrimental than feared (Firestone et al., 2009). Similar results have also been documented in public opinion/acceptance surveys regarding constructed wind power projects in other locations (Bishop and Proctor, 1994; Gipe, 2003). A study of public perception of wind power in Scotland and Ireland (Warren, et. al., 2005) provided the following conclusions:

> *"A remarkably consistent picture is emerging from surveys of public attitudes to wind power, and the case studies provide further evidence that this picture is a representative one. Large majorities of people are strongly in favour of their local windfarm, their personal experience having engendered positive attitudes. Moreover, although some of those living near proposed windfarm sites are less convinced of their merits, large majorities nevertheless favour their construction. This stands in marked contrast with the impression conveyed in much media coverage, which typically portrays massive grassroots opposition to windfarms."*

Based on the analysis in this VIA, it is expected that similar overall reactions, with some individual variability in acceptance, will result for this Project.

5.2.3 Nighttime Impacts

The potential visibility of FAA warning lights on the proposed turbines, based on viewshed analysis, is described in Section 5.1.1 of this VIA (see Table 6 and Figure 8). Nighttime photos from the Fenner Wind Power Project (Figure 11), which is located in Madison County, New York and has been in operation since 2001, are included to illustrate the type of nighttime visual impact that could occur at certain viewpoints. The contrast of the aviation warning lights with the night sky could be appreciable in dark, rural settings, and their presence suggests a more commercial/industrial land use. Viewer attention is drawn by the flashing of the lights, and any positive reaction that wind turbines engender (due to their graceful form, association with clean energy, etc.) is lost at night. While generally not an issue from roads and public resources visited almost exclusively during the day (parks, trails, historic sites, etc.), turbine lighting could be perceived negatively by area

residents who may be able to view these lights from their homes and yards in dark rural settings. However, this impact will be limited along major roadways and in areas of more concentrated human settlement, where nearby ridgelines will generally screen views of large numbers of turbines and existing light sources will limit the visibility and contrast of the aviation warning lights. It should be noted that the size and brightness of the lights depicted in Figure 11 are due to the use of a long exposure during photography to ensure that the lights were visible in the photographs, and therefore, are not representative of what would be seen with the naked eye. In addition, the Fenner Wind Power Project pre-dates current FAA regulations, and all 20 turbines were required to be lit. Typically, only a portion (around one-third to half) of the proposed turbines will actually be lit, as determined in consultation with the FAA. For all these reasons, the appearance of the lights, as presented in Figure 11, illustrates a worst-case example of potential nighttime visibility.

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Towns of Cohocton, Dansville, Fremont, and Wayland,
Steuben County, New York

Figure 11:Representative Evening/Nighttime Photos

Fenner Wind Farm in Madison county, New York.

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5.2.4 Visual Impact of Above-Ground Interconnection Facilities

The proposed wind turbines are the visually dominant feature of the proposed Project and therefore are the focus of the detailed analyses presented in this VIA. However, the Project also includes above-ground electrical components, which could also have a visual effect on the study area.

Substation

As described in Section 2 and shown on Figure 2 of this VIA, the Project includes construction of a Collection Substation adjacent to the existing NYSEG Canandaigua Substation and Hillside-Meyer 230 kV transmission line in the Town of Cohocton. POI Substation modifications will occur entirely inside the fence of the existing station.

Field review indicates that the proposed substation is well screened by surrounding vegetation and is located at the end of a lightly used road (Inset 65). There are no residences immediately adjacent to the site, and forest vegetation screens the site from nearby homes on Pawling Road, while topography largely screens views from Van Auker Road. 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 50 feet, viewshed analysis confirmed that substation visibility will be very limited within 1 mile of the proposed site. In addition, location of the Collection Substation at an existing substation minimizes the contrast presented by the proposed facility. Consequently, visibility and visual impact of the proposed substation are anticipated to be localized and minor. To illustrate the potential appearance of the Collection Substation, photographs of existing substation facilities built for other wind energy projects in New York are included as Figure 12.

Inset 65: View looking southwest from Van Auker Road at existing NYSEG substation and site of proposed POI substation and collection substation.

Photo 1:

Cohocton Wind Farm Collection Substation

Photo 2:

Hardscabble Wind Power Project Point of Interconnect (POI) Substation

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Figure 12: Representative Wind Energy Substation Photos

Note: Images in this figure are typical, and not from the Baron Winds Project

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Overhead Collection Lines

To evaluate the visual effect of the proposed overhead collection lines segments, simulations were prepared from two viewpoints within the study area. These viewpoints were selected to illustrate the appearance of different structure designs at different distances from the viewer. The first viewpoint is location on County Route 21 south of Derevees Road in the Town of Fremont. The view to the south from this location features the highway and associated guardrails and signs. Existing overhead utility lines occur along both roads and crisscross the sky. The base of a forested hill occurs along the left side of Route 21, and the land drops away on the right. However, trees on both sides of the road limit long distance views outside the road corridor. This, along with the existing transportation and utility infrastructure in this view result in relatively low scenic quality.

With the proposed Project in place, three large utility poles now occur on the right side of Route 21, and the new conductors span the highway. Some loss of roadside vegetation is apparent along the right side of the highway, which opens a view to a new wind turbine. The new poles are noticeably taller than the existing roadside utility poles, and the additional overhead conductors add clutter to the sky. However, the line, form, and land use connotation are similar to the existing lines, and their visual impact is limited by their relatively low baseline scenic quality of the existing view. Views of the new line to drivers on Route 21 will be brief, and restricted to a short distance on either side of the proposed line crossing.

The second viewpoint where a simulation of the overhead collection line was developed is from County Route 121 (Cohocton Loon Lake Road) in the Town of Cohocton. The existing view to the northwest features a mix of open fields and shrub land in a valley in the foreground, extending up onto a mid-ground hillside. Vegetation on the hill transitions to a mix of deciduous forest and conifer plantations on the hilltop. The hill encloses the view and serves to block visibility of more distant landscape features. The agricultural use of the land is apparent from the vegetation characteristics, but the only man-made element in the view is a fence surrounding what appears to be a vegetable garden in the foreground valley.

With the proposed collection line in place, a line of single poles carrying three overhead conductors angles across the view and up the hill, from left to right. The line is an obvious new man-made feature that has been added to the landscape. However, except where the poles that extend above the tree line on the hilltop, the line blends fairly well with the background vegetation. It is not out of keeping with the rural agricultural fields which remain the character-defining feature of this view. The more noticeable new feature in the view is a single wind turbine that extends above the hill top and well into the sky. The turbine becomes a new focal point that draws the viewer's eye away from the new line.

As indicated by the simulations, the limited forest clearing, presence of existing transportation and utility infrastructure, and/or modest height of the proposed structures all serve to limit the visual impact of the overhead sections of the collection line. Overhead utility lines are a common feature of the landscape throughout the study area are clearly subordinate to the proposed turbines as a new addition to the landscape. As such, the proposed overhead collection line will not result in significant contrast with existing land use or scenic quality.

Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland
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Figure 13: Visual Simulation of Proposed Overhead Collection Line

Sheet 1 of 4

Proposed Collection Line

Viewpoint 201:

View from Route 21 South, South of Derevees Road.

Location:
Town of Fremont
Steuben County

Direction of View:
North

Photo Date:
May 18, 2017

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Figure 13: Visual Simulation of Proposed Overhead Collection Line

Sheet 2 of 4

Proposed Collection Line

Viewpoint 201:

View from Route 21 South, South of Derevees Road.

Location:
Town of Fremont
Steuben County

Direction of View:
North

Photo Date:
May 18, 2017

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Figure 13: Visual Simulation of Proposed Overhead Collection Line
Sheet 3 of 4

Proposed Collection Line

Viewpoint 208:
View from Cohocton Loon Lake Road, Route 121.

Location:
Town of Cohocton
Steuben County

Direction of View:
Northwest

Photo Date:
May 18, 2017

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Simulation

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Figure 13: Visual Simulation of Proposed Overhead Collection Line
Sheet 4 of 4

Proposed Collection Line

Viewpoint 208:
View from Cohocton Loon Lake Road, Route 121.

Location:
Town of Cohocton
Steuben County

Direction of View:
Northwest

Photo Date:
May 18, 2017

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5.2.5 Visual Impacts During Construction

Visual impacts during construction are anticipated to be relatively minor and entirely temporary in nature. Representative photographs of typical wind farm construction activities are included in Figure 14. As shown on these photographs, anticipated visual effects during construction include the following:

- There will be a temporary increase in truck traffic on area roadways. Construction vehicles for the Project will include pick-up trucks, dump trucks, crane transporters, concrete trucks, and oversized semi-trailers including specialized transportation vehicles. For instance, wind turbine blades are transported on trailers with one blade per vehicle, and tower sections are typically transported in three to four sections depending on the supplier (one section per truck). The size of the proposed blades and tower segments generally control the height and width of the transportation vehicle.
- It is anticipated that temporary widening of some public roads with an aggregate material will be required to accommodate the turning movements of delivery vehicles in certain locations (e.g., road intersections). These temporary improvements will generally be removed at the completion of construction. Public roads may also be damaged by the heavy vehicle traffic during the course of construction. However, as required by road use agreements, all such damage will be repaired at the end of construction.
- The construction laydown yards will be developed by stripping the topsoil, grading as necessary, and installing a level gravel-surfaced work area. Electric and communication lines will be brought in from existing distribution poles to allow connection with construction trailers. During Project construction, the yard will be occupied by vehicles, construction trailers and stockpiled materials, all of which will be removed, and the site restored, at the end of construction.
- Project access roads will be sited on existing farm lanes and forest roads wherever possible, and areas of disturbance will be confined to the smallest area possible. However, construction of access roads will involve topsoil stripping and grubbing of stumps, as necessary. Stripped topsoil will be stockpiled along the road corridor for use in site restoration. Following removal of topsoil, subsoil will be graded, compacted, and surfaced with approximately 12 inches of gravel or crushed stone. During construction, access roads with a travel surface up to 40 feet wide will be required to accommodate large cranes and oversized construction vehicles. This road width will be narrowed to 16 feet following completion of construction. Following construction, access roads generally take on the appearance of farm lanes (see simulation from Viewpoint 198).
- Once the roads are complete for a particular group of turbine sites, turbine foundation construction will commence on that completed access road section. Initial activity at each tower site will typically involve clearing and leveling (as needed) up to a 225-foot radius around each tower location. Topsoil will be stripped from the excavation area,

and stockpiled for future site restoration. Following topsoil removal, tracked excavators will be used to excavate the foundation hole. Subsoil and rock will be separated from topsoil and stockpiled for reuse as backfill. Once the foundation is poured and sufficiently cured, the excavation area around and over it is backfilled with the excavated on-site material. The base of each tower will be surrounded by a 6-foot wide gravel skirt, and an area approximately 100 feet by 60 feet will remain as a permanent gravel crane pad. Otherwise, the turbine sites will be revegetated. Because turbines are typically well removed from public roads and adjacent residences, visibility of earth work at these sites is generally limited.

- Whenever possible, underground collection lines will be installed by direct burial, which involves the installation of bundled cable (electrical and fiber optic bundles) directly into a narrow cut or "rip" in the ground. The rip disturbs an area approximately 24 inches wide with bundled cable installed to a minimum depth of 36 inches. Where direct burial is not possible, an open trench will be excavated. Using this installation technique, topsoil and subsoil are excavated, segregated, and stockpiled adjacent to the trench. Following cable installation, the trench is backfilled with suitable fill material and any additional spoils are spread out or otherwise properly disposed of. Following installation of the buried collection line, areas will be returned to pre-construction grades and revegetated.
- Turbine assembly involves the use of large tracked cranes, smaller rough terrain cranes, boom trucks, and rough terrain fork-lifts for loading and off-loading materials. The tower sections, rotor components, and nacelle for each turbine will be delivered to each turbine site by flatbed trucks and unloaded by crane. A large assembly crane will set the tower segments on the foundation, place the nacelle on top of the tower, and install the rotor either by individual blade installation or, following ground assembly, placing the assembled rotor onto the nacelle. The visibility of these cranes will be comparable to the visibility of the proposed turbines (in terms of height). However, use of cranes at each turbine site will be limited to the time necessary to complete turbine erection (generally 1-2 days).
- Restoration of temporarily disturbed areas will be achieved by restoring original grades (where feasible) and seeding with a native seed mix to reestablish vegetative cover in these areas. Other than in active agricultural fields, native species will be allowed to revegetate these areas. This will minimize visual impacts associated with soil and vegetation disturbance during construction.

Photo 01

Preliminary access road construction

Photo 02

Restoration of land adjacent to access road

Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland, Steuben County, New York

Figure 14: Representative Construction Photographs for Wind Energy Projects

Photo 03

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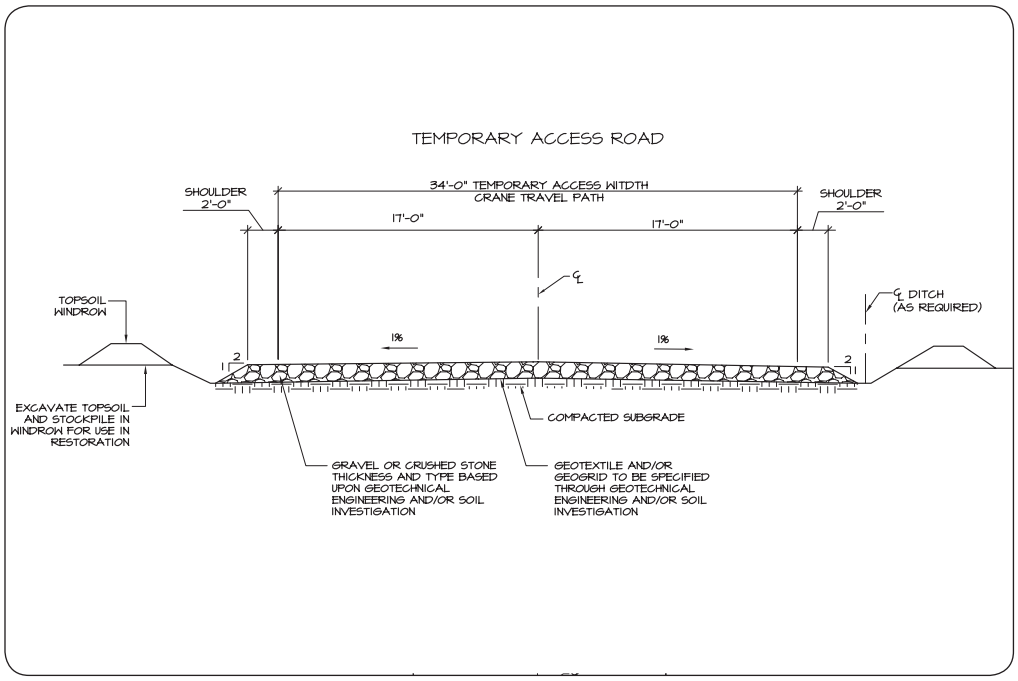


Photo 04

Access road typical detail

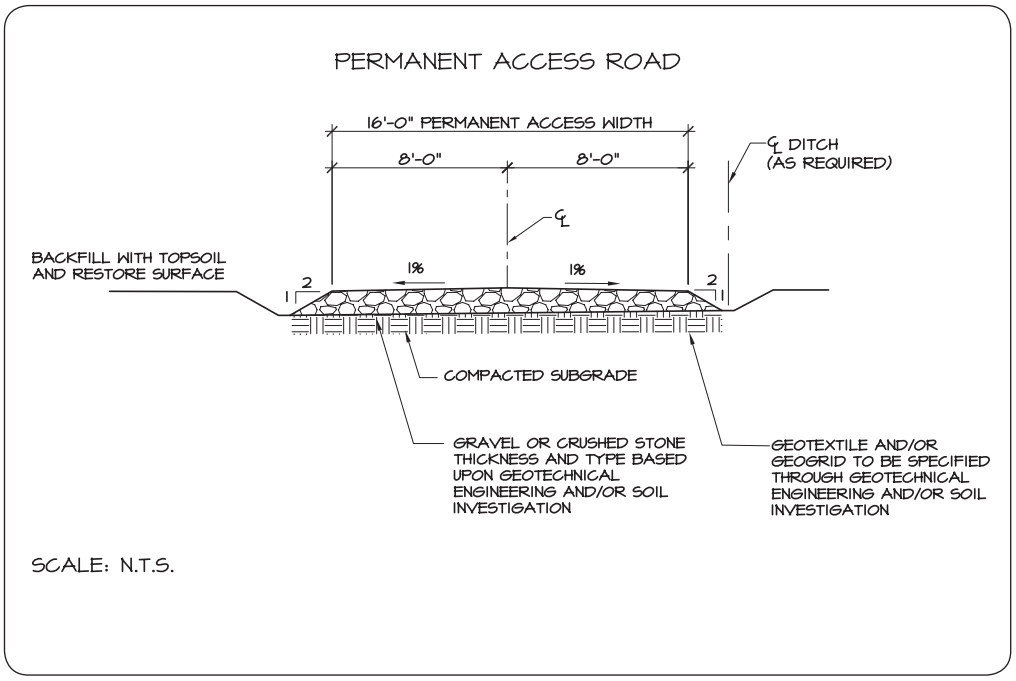


Photo 05

Access road typical detail

Photo 06

Buried interconnect installation

Photo 07

Typical trench associated with buried interconnect installation

Photo 08

In-progress restoration of buried interconnect impact

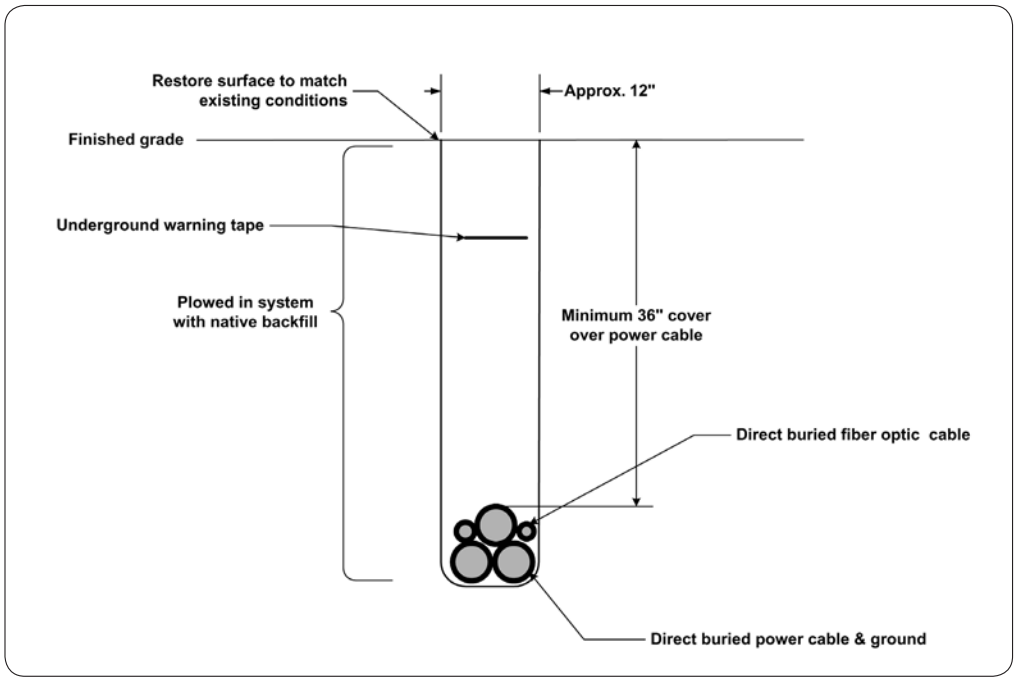


Photo 09

Buried interconnect typical detail

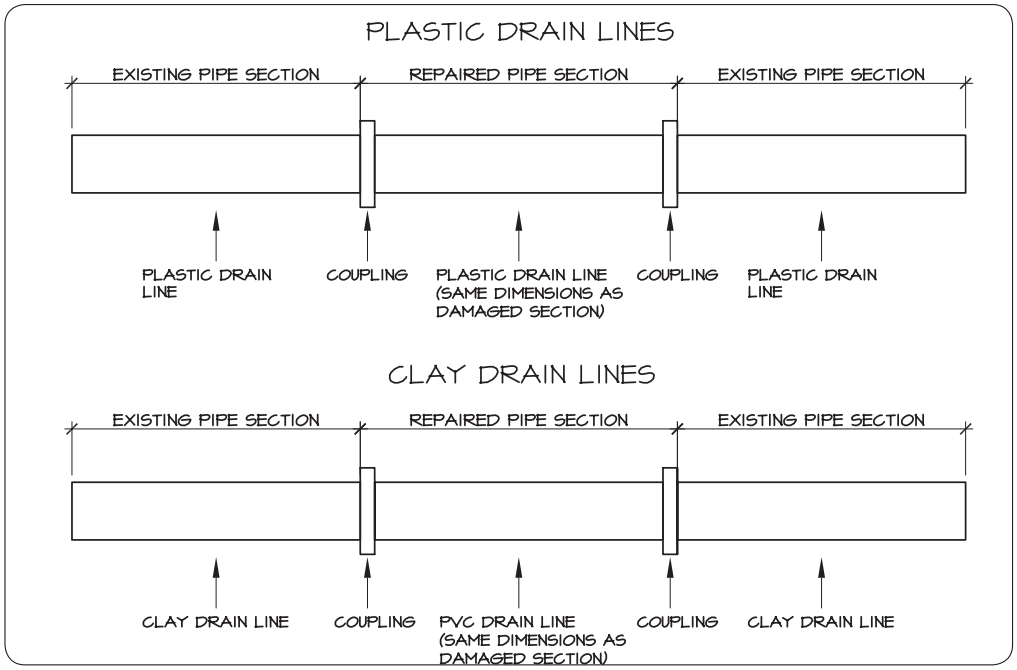


Photo 10

Drain line repair typical detail

Photo 11

Turbine foundation construction

Photo 12

Turbine foundation construction

Photo 13

Turbine foundation construction

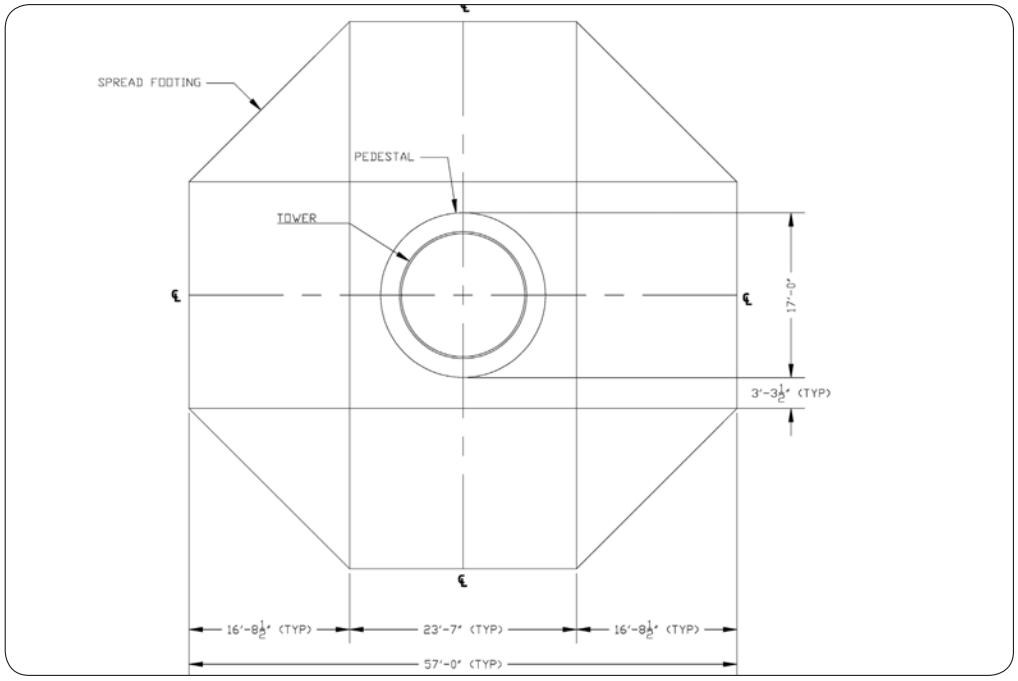


Photo 14

Turbine foundation typical detail

Photo 15

Transportation of turbine components

Photo 16

Typical turbine workspace

Photo 17

Erection of turbine

Photo 18

Typical operational turbines

Photo 19

Typical substation

Photo 20

Public road improvement

Photo 21

Turning radius public road improvement

Photo 22

Typical temporary stream diversion

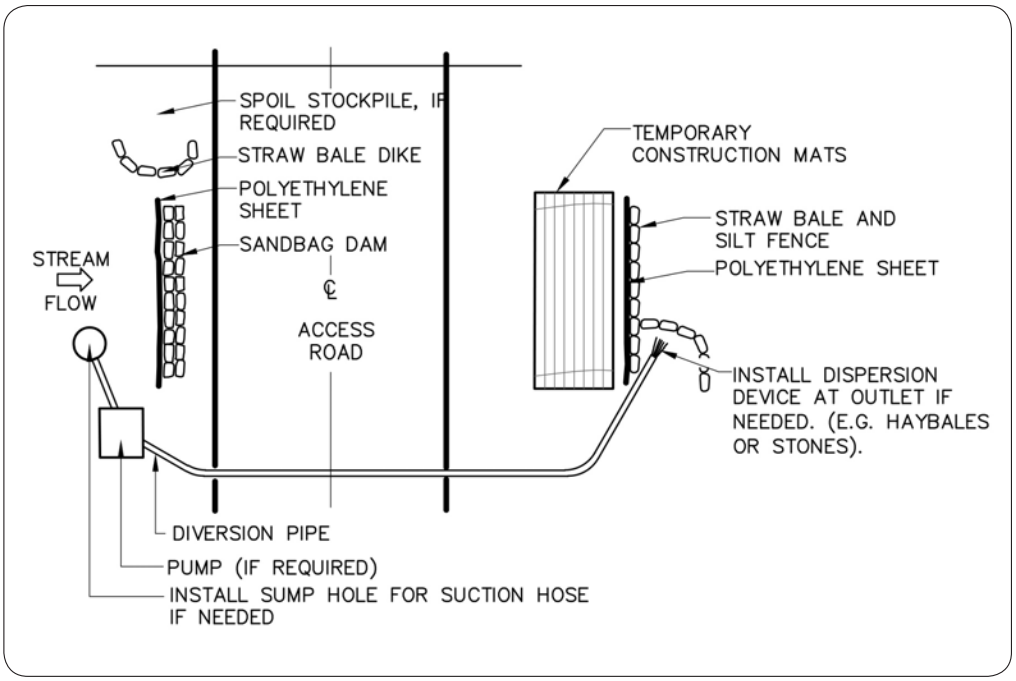


Photo 23

Temporary stream diversion typical detail

Photo 24

Typical sump pit

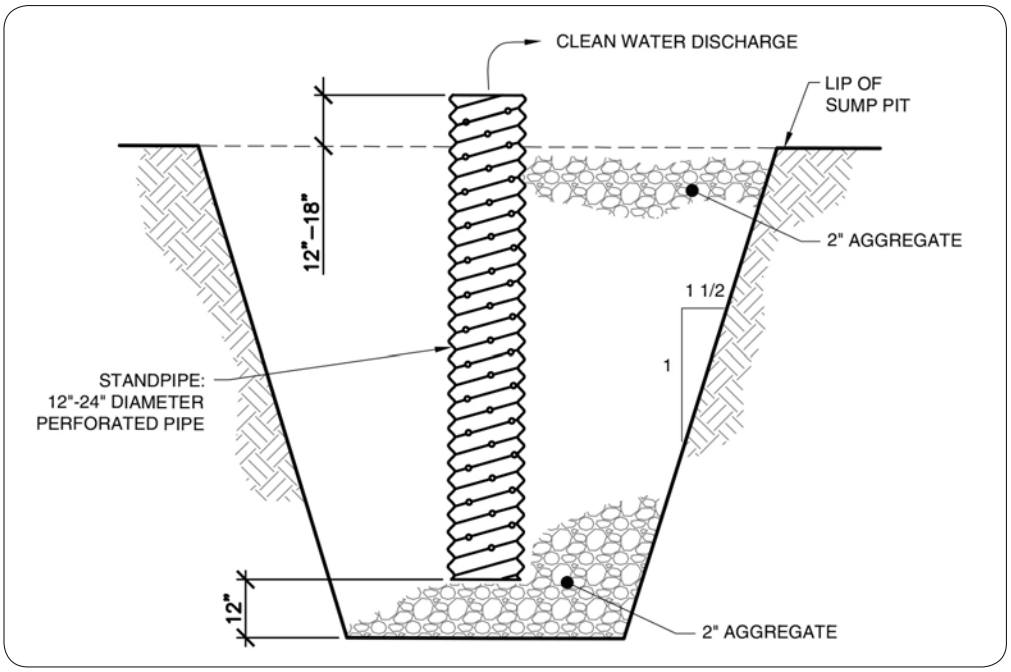


Photo 25

Sump pit typical detail

5.2.6 Cumulative Visual Impacts

Per the requirements set forth in 16 NYCRR § 1000.24(a), the potential cumulative visual effect of the Baron Winds Project along with other wind energy projects currently operating in the surrounding region must be considered. Cumulative impacts are two or more individual visual effects which, when taken together, are significant or that compound or increase other similar visual effects. This section addresses the potential cumulative visual impacts that may arise from interactions between the proposed Baron Winds Project and the currently operating wind farms in Steuben County. In Steuben County several wind-powered generating facilities are operation. The closest operational projects are the TerraForm (formerly First Wind) Dutch Hill/Cohocton Wind Farm and the Everpower Howard Wind Farm, located approximately, 0.7 mile and 2.6 miles from the nearest point of the Baron Winds Project, respectively.

To evaluate the potential cumulative visual impact of multiple wind power projects within the study area, cumulative viewshed analyses were conducted. The 10-mile radius vegetative viewshed analysis for the Baron Winds Project (based on maximum blade tip height) was overlaid on viewshed analyses prepared for the operating wind farms (Cohocton, Dutch Hill, and Howard) using the same methodology described herein. Data on the existing turbines was based on publicly available layout and turbine height information included in each project's respective State Environmental Quality Review Act (SEQRA) documentation. The viewsheds for the existing and proposed projects were then plotted on a base map, and areas of viewshed overlap identified. Results of the cumulative viewshed analysis of the proposed wind projects is presented in Figure 15 and Tables 9 and 10.

Table 9. Cumulative Viewshed Count Analysis

Total Number of Turbines Potentially Visible[1]	10-Mile Radius Study Area Cumulative Viewshed Results[2]	
	Square Miles	% of Study Area
0	391.0	68.7
1-30	100.2	17.6
31-60	38.3	6.7
61-90	19.0	3.3
91-120	11.4	2.0
121-154	9.5	1.7
Total Visible	178.4	31.3

[1] The cumulative viewshed analysis accounts for existing turbines from the Cohocton, Dutch Hill, and Howard wind farms as well as proposed Baron Winds Project turbines (35, 16, 27, and 76 turbines, respectively).
[2] The cumulative viewshed analysis area (within 10 miles of proposed Baron Winds Project components) includes approximately 569.4 square miles, or approximately 364,390 acres.

Table 10. Cumulative Viewshed Analysis by Landscape Similarity Zone

Landscape Similarity Zone	10-Mile-Radius Study Area Cumulative Viewshed Results by Landscape Similarity Zone (LSZ)[1] (% of LSZ with Potential Turbine Visibility)		
	Visibility of Existing Wind Turbines[2]	Visibility of Proposed Turbines[3]	Newly Visible Area[4]
Forest[5]	0.0%	0.0%	0.0%
Waterfront/Open Water	20.4%	25.1%	10.4%
Transportation Corridor	44.9%	52.4%	19.5%
Rural Valley	63.3%	55.9%	10.1%
Rural Uplands/ Ridgelines	37.7%	32.1%	10.7%
City/Village/Hamlet	29.1%	51.3%	30.0%

[1]The cumulative viewshed analysis area (within 10 miles of proposed Baron Winds Project components) includes approximately 569.4 square miles, or approximately 364,390 acres. The viewshed analysis accounts for screening created by intervening topography and mapped forest vegetation and is based on the maximum blade tip height for each project.
[2]Percentage of each LSZ in which the viewshed analysis indicates potential visibility of existing wind turbines from the Cohocton, Dutch Hill, and/or Howard wind projects based on maximum the blade tip height (128 meters, 128 meters, and 130 meters, respectively).
[3]Percentage of each LSZ in which the viewshed analysis indicates potential visibility of proposed Baron Winds Project wind turbines based on maximum the blade tip height (152.1 meters).
[4]Percentage of each LSZ in which existing wind turbines are not currently visible but the proposed Project would potentially be visible.
[5]The viewshed analysis methodology concludes that there is no visibility in forested areas as an assumption of the model. However, it is possible that areas classified as forest, especially on the edges, will have small areas of visibility (See Section 4.1.1).

As shown in Table 9, the cumulative viewshed analysis indicates that approximately 68.7% of the 10-mile study area will not have views of the existing or proposed wind turbines due to screening provided by topography and mapped forest vegetation. The majority of the remaining area, where existing and/or proposed turbines may potentially be visible, will have views of between 1 and 30 wind turbines (17.6% of the 10-mile study area). However, there are more limited areas where greater numbers of turbines will be visible, including approximately 9.5 square miles (or 1.7% of the 10-mile study area) where more than 121 wind turbines may potentially be visible. These locations of greatest cumulative visibility are almost exclusively located in ridgetop agricultural settings where open fields and elevated vantage points offer expansive views of the landscape. These areas are concentrated in the eastern half of the visual study area. Visually sensitive resources that may have a view of over 121 wind turbines are limited to several isolated areas along snowmobile trails, and a very small segment of the North Country National Scenic Trail/Finger Lakes Trail where the co-located trails run across the top of Brooks Hill along Cochrane Road in the Town of Bath.

In addition to a cumulative turbine count viewshed analysis, an additional analysis was conducted to isolate areas where the proposed turbines may be visible from locations where views of existing turbines are not currently available. These areas total approximately 32.8 square miles (5.8%) of the 10-mile study area. These patches of new visibility are scattered throughout the 10-mile study area, and tend to occur in valley settings where views of the existing turbines are screened

from view but an open line of sight toward one or more proposed turbines is available. These locations include, but are not limited to, a sizable area within the Cohocton River Valley extending through the Village of Avoca, the eastern half of Loon Lake (and the valley extending south from there), State Bike Route 17 south of the Project Site, the northern portion of the City of Hornell, the Canisteo River Valley south of Arkport, northwestern Dansville, and the area north of Wayland. These areas are identified on Figure 15.

As described in Section 5.1, and 5.2 of this VIA, the visibility and visual effect of wind turbines within the study area will vary based on viewing distance, viewer orientation, and the number of turbines visible, as well as the potential screening effects of topography and vegetation. If turbines from the Cohocton/Dutch Hill or Howard Wind Farms are visible from a vantage point within the Baron Winds Project Site, they will typically be viewed as background features in any view that includes the proposed turbines in the foreground or mid-ground (see simulations from Viewpoints 50 and 79). The reverse will be true when the proposed Project is viewed from any of the existing wind farms (e.g., Viewpoint 177). From longer distances, the three wind farms may appear to be a single larger facility (see simulation from Viewpoints 23 and 114). However, as indicated by the fieldwork results and review of the visual simulations, in areas dominated by forest or more concentrated human settlement (Forest and City/Village/Hamlet LSZs) screening provided by vegetation and/or structures generally limit broad open views to the surrounding landscape. Thus, views of multiple turbines within the proposed Project, let alone those that also include turbines from the existing wind farms, are rare within these LSZs. In areas with views across open water, cumulative impacts are not anticipated because views of existing wind turbines from these areas are generally limited.

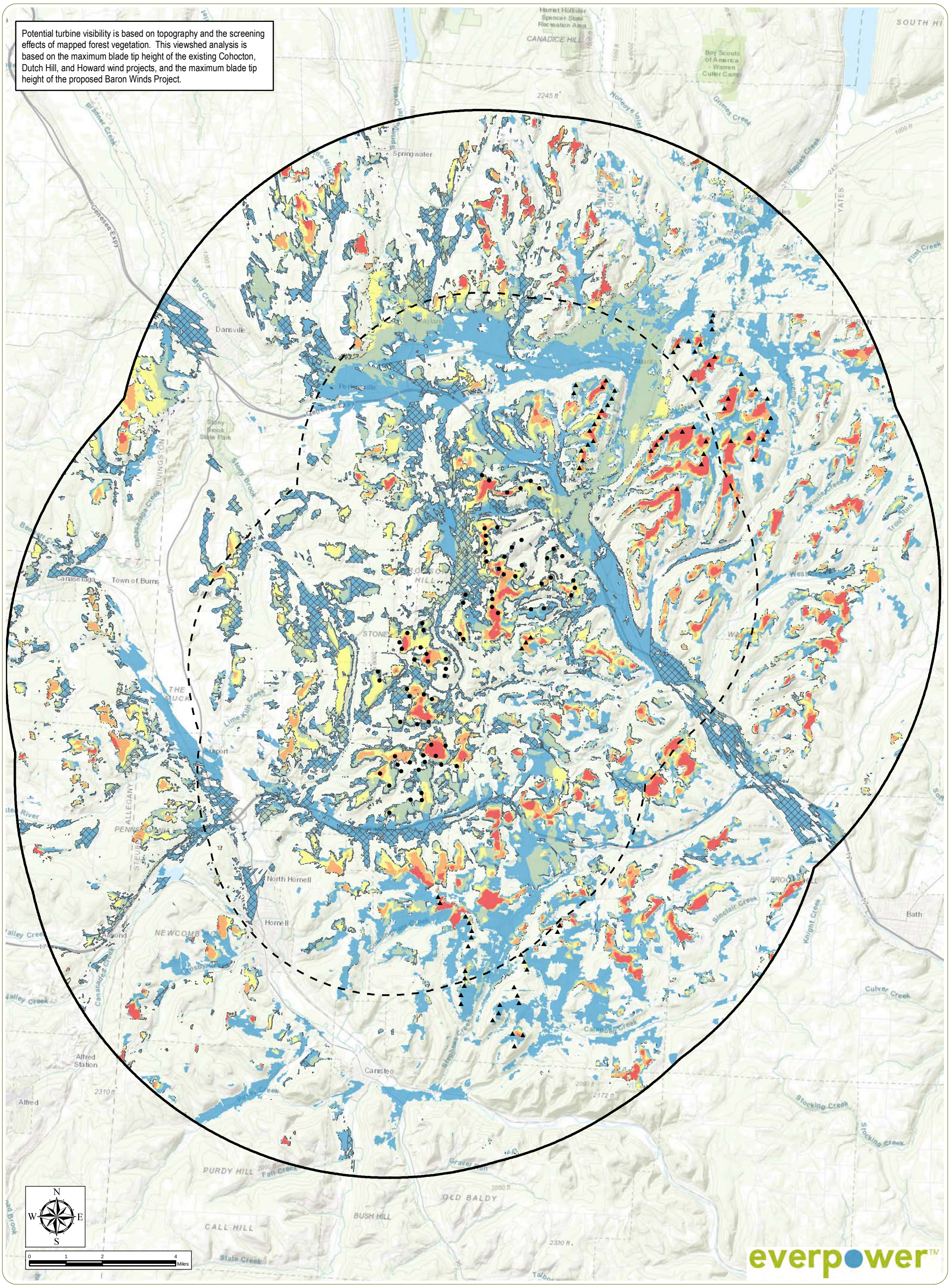
In the Rural Valley LSZ, ridges that define the valley walls typically limit the number of turbines from any one project that can be seen from a given viewpoint. When multiple projects are visible, the total number of turbines present within the view is generally not large, and the addition of a new project to the view appears to be an extension of the existing wind farm/land use, rather than the introduction of a new visual element to the landscape. This tends to reduce the contrast presented by the new turbines, and in some cases serves to balance the composition of the view.

The zones where cumulative project visibility is most likely to occur are the Rural Upland/Ridgeline and the Transportation Corridor LSZs. Due to elevation and the abundance of open agricultural land, rural uplands offer the greatest opportunity to see numerous turbines form multiple projects. However, many of these turbines will be viewed at significant distances, which reduces their visual impact, and areas where such views are available generally have few visually sensitive resources and a limited number of viewers. Within the Transportation Corridor LSZ, turbines from multiple projects will be visible at a variety of distances and directions as travelers pass through the study area on the major highways. However, because the viewers are moving at a high rate of speed, the duration of their views will be limited. In addition, the travelers that will be

experiencing these views generally have limited sensitivity to visual change within the landscape, and actually may find the additional turbines to be a point of interest as they travel through the area.

Consequently, although there may be locations where the cumulative effect of the existing and proposed wind projects is substantial, these instances will be relatively rare, will affect a limited number of viewers, and/or will not affect sites or receptors that are particularly sensitive to visual change. Thus, the addition of a limited number of new turbines to a working agricultural landscape where these features already exist is not expected to have a significant adverse cumulative visual impact.

Potential turbine visibility is based on topography and the screening effects of mapped forest vegetation. This viewshed analysis is based on the maximum blade tip height of the existing Cohocton, Dutch Hill, and Howard wind projects, and the maximum blade tip height of the proposed Baron Winds Project.



Baron Winds Project

Towns of Cohocton, Dansville, Fremont, and Wayland - Steuben County, New York

Figure 15: Cumulative Viewshed Analysis

- Proposed Wind Turbine
- Existing Wind Turbine
- Newly Visible Area
- 5-Mile Facility Study Area
- 10-Mile Facility Study Area

Potential Cumulative Turbine Visibility

- 1-30 Turbines Visible
- 31-60 Turbines Visible
- 61-90 Turbines Visible
- 91-120 Turbines Visible
- 121-154 Turbines Visible

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
2. This map was generated in ArcMap on September 7, 2017.
3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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6.0 Conclusions

The VIA for the Baron Winds Project allows the following conclusions to be drawn:

1. Maximum visibility analysis (i.e., viewshed analysis based only on topography) conducted as part of this VIA indicates that the proposed turbines could theoretically be visible from approximately 74.3% of the 5-mile radius study area and approximately 54.6% of the 10-mile radius study area. However, factoring mapped forest vegetation into the viewshed analysis significantly reduces potential turbine visibility. Vegetation, in combination with topography, will serve to block daytime views of the turbines from approximately 62.5% of the 5-mile study area and approximately 77% of the 10-mile study area (i.e., approximately 37% and 23% of the study areas, respectively, are indicated as having potential Project visibility).

   Potential turbine visibility (based on viewshed analysis) from the various LSZs within the study area is summarized as follows:

   - The LSZ with the least amount of potential turbine visibility is the Forest LSZ, which offers very few/very narrow outward views due to the screening effects of the forest canopy. The Forest LSZ makes up 43.6% of the foreground area in relationship to the proposed turbines. This is important to note because foreground views have the greatest potential for increased contrast and adverse visual impact. Having this much of the foreground within the Forest LSZ limits the availability of views with heightened contrast and adverse impact.

   - The greatest amount of potential turbine visibility is indicated within the Rural Upland/Ridgeline LSZ. The blade-tip vegetation viewshed indicates that 55.9% of the acreage of this LSZ zone will potentially offer views of the Project, often at significant distance.

   - The Rural Valley LSZ presents potential opportunities for views of the proposed turbines in 25.1% of its area within the 10-mile study area. Visibility within this zone is generally limited by adjacent topography that forms the valley walls.

   - The Waterfront/Open Water Zone has potential visibility in 51.3% of its area within the 10-mile study area. However, within the 10-mile study area for this Project, this LSZ makes up only 0.2% of the total area.

- The Transportation Corridor LSZ presents potential opportunities for turbine visibility in 52.4% of its area within the 10-mile study area. However, within the 10-mile study area for this Project, this LSZ makes up only 1.0% of the total area.

- The more populated portions of the study area that make up the City/Village/Hamlet LSZ are indicated as having potential turbine visibility in 25.1% of their acreage. However, this greatly overstates the opportunities for views of the Project in these areas as the buildings and associated vegetation not taken into consideration in the viewshed analysis significantly screen outward views.

2. Viewshed analysis indicates that one or more of the proposed turbines could be at least partially visible from many (69%) of the identified aesthetic resources of statewide and local significance that occur within the study area (see Appendix C). Field review indicates that actual Project visibility will be much more limited from many of these sites.

3. Viewshed analysis of the proposed collection substation and overhead segments of the collection line indicate that potential visibility of these Project components will be very limited and will affect few visually sensitive resources/receptors.

4. Field review confirmed that the area with greatest potential Project visibility occurs on open hilltops, plateaus and slopes within and adjacent to the Project Site, and from open agricultural areas within the adjacent valleys. Forested areas, including state forests and many of the designated trails, offer the least opportunity for open views of the Project. Field review also indicated the Project will generally be at least partially screened from most locations in city, village, and hamlet settings by structures and trees. However, partial views of turbines or turbine blades may be available from some open areas within the villages and hamlets, and along their outskirts.

5. Simulations of the proposed Project indicate that the visibility and visual impact of the wind turbines will be variable, based on landscape setting, extent of natural screening, presence of other man-made features and/or visual clutter in the view, baseline scenic quality, viewer sensitivity, distance of the viewer from the Project, and the number of turbines visible in the view. Evaluation by a rating panel of registered landscape architects indicates that the Project's overall contrast with the visual/aesthetic character of the area will generally be minimal to moderate. However, based on the contrast rating scores and comments, greater levels of contrast can be anticipated where open views of large numbers of turbines are available from, open water, and areas of concentrated human use/settlement. Conversely, contrast is reduced when turbines are partially screened, viewed at greater distances, seen in the context of a working agricultural landscape, viewed in a setting with existing visual clutter, or co-located with an operating project. Potential visual impact by LSZ is summarized below:

- Although the Project will often times be highly visible, in general, visual impact in the Upland/Ridgeline LSZ will be limited due to modest baseline scenic quality, a lack of visual sensitive resources/viewers, the presence of existing turbines in the view, and compatibility of the Project with the working agricultural landscape.

- Within the Rural Valley LSZ, scenic quality is generally higher and sensitive resources and viewers more abundant. However, the Project's visual impact is generally limited due to the presence of existing turbines, the limited number of new turbines visible, and the compatibility of the turbines with the working agricultural landscape.

- Within the Forest and City/Village/Hamlet LSZs screening provided by trees and/or structures generally limit the number of visible turbines. Where views are available, the Project's visual impact is likely to be highly variable based on the number and proximity of visible turbines, the presence or lack of visually sensitive resources, baseline scenic quality, and the visibility of operating windfarms.

- Visual impact within the Transportation LSZ is also likely to be variable as viewers pass through the landscape. However, even where unobscured foreground views are available, adverse visual impact is not likely to be significant, due to the relatively low sensitivity of the viewers and brief duration of the views. In the context of this LSZ, the turbines are likely to be considered an interesting addition to the landscape.

- Visual impact to the Water/Waterfront LSZ will also be variable based on the water body's distance from the Project, and the degree of screening provided by adjacent vegetation and topography. In most cases Project visibility from this LSZ will be very limited. However, from portions of Loon Lake visual impact will be notable. Views from the northwest shore from Loon Lake (as represented by the simulation from Viewpoint 192) will include multiple turbines on the adjacent ridgetops to the southeast. The turbines present appreciable to strong contrast with existing elements of the landscape and could adversely affect user enjoyment of this resource. However, factors that limit this impact include the following: 1) wind turbines are already common in the larger area and are not a unique/unfamiliar addition to the local landscape, 2) wind turbines from the Cohocton Wind Farm (the three Brown Hill turbines) are already visible from portions of Loon Lake, 3) views from the eastern shore of the lake will not see the proposed turbines, and views on the southern shore of the lake will see fewer turbines at greater distances than shown in the simulation from Viewpoint 192, and 4) a portion of the viewers using the lake may not consider the turbines to be an aesthetic liability or something that would adversely affect their use and enjoyment of this waterbody.

6. Based on EDR's experience with currently operating wind power projects in the area and elsewhere, and the apparent lack of organized controversy associated with this Project, public reaction to the aesthetic qualities of the proposed Baron Winds turbines is unknown and likely to be highly variable. Reactions will be based on proximity to the turbines, the affected landscape, and personal attitude of the viewer regarding wind power. High contrast also does not always indicate adverse visual impact. Many viewers do not consider wind turbines to be an aesthetic liability, and as Stanton (1996) notes, although a wind power project is a man-made facility, what it represents "may be seen as a positive addition" to the landscape.

7. Based upon the nighttime photos/observations of existing wind power projects, the red flashing lights on the turbines could result in a nighttime visual impact on certain viewers. The actual significance of this impact from a given viewpoint will depend on how many turbines are visible, what other sources of lighting are present in the view, the extent of screening provided by structures and trees, and nighttime viewer activity/sensitivity. However, night lighting could be somewhat distracting, and could have an adverse effect on rural residents and recreational users that currently experience (or expect) dark nighttime skies. It is anticipated that nighttime visibility/visual impact will be reduced due to 1) FAA lighting guidelines (FAA, 2005) which typically result in aviation warning lights on only about one half the turbines, 2) ridgelines, of woodlots and hedgerows that screen portions of the Project from many locations, and 3) the concentration of residences in villages, hamlets, and along highways where existing lights already compromise dark skies and compete for the viewer's attention.

8. Cumulative visual impacts associated with the Project are not anticipated to be significant. Based on viewshed analysis, only 31.3% of the 10-mile visual study area has the potential for simultaneous views of multiple wind farms, and only 13.7% has the potential for views that include greater than 30 turbines. Where simultaneous views of multiple projects are most likely (the Upland/Ridgeline LSZ) impact will be limited due to the distance separating the projects, the relatively low scenic quality, and the lack of visual sensitive resources and viewers.

9. Visibility and visual impact of the proposed Collection Substation and POI Substation modifications will be limited due to: 1) lack of nearby viewers, 2) existing natural screening that will remain in place following Project construction, and 3) the presence of the existing Canandaigua Substation and Hillside-Meyer 230 kV transmission line. As indicated by the simulations, the limited forest clearing, presence of existing transportation and utility infrastructure, and/or limited height of the proposed structures all serve to limit the visual impact of the overhead sections of the collection line. Overhead utility lines are a common feature of the landscape throughout the study area are clearly subordinate to the proposed turbines as a new addition to the landscape. As such, the proposed overhead collection line will not result in significant contrast with existing land use or scenic quality.

10. Construction impacts are short term/temporary impacts that will last only for the duration of construction (typically less than one year). In addition, because the turbines are generally well removed from adjacent public roads and residences, most on-site construction activities (other than increased traffic) will be screened from the majority of viewers. Upon completion of construction, construction vehicles and equipment will depart, and disturbed portions of the site will be restored.

Mitigation options are limited, given the nature of the Project and its siting criteria (very tall structures typically located in open fields at the highest locally available elevations). However, in accordance with NYSDEC Program Policy (NYSDEC, 2000), various mitigation measures were considered. These included the following:

A. Professional Design. All turbines will have uniform design, speed, color, height and rotor diameter. Turbines will be mounted on conical steel towers that minimize visual clutter. The placement of any advertising devices (including commercial advertising, lettering, or logos identifying the Project owner or turbine manufacturer) on the turbines will be prohibited.

B. Screening. Due do the height of individual turbines and the geographic extent of the proposed Project, screening of individual turbines with earthen berms, fences, or planted vegetation will generally not be effective in reducing Project visibility or visual impact. Additionally, based on site-specific field investigation both the POI and Collection Substation are not anticipated to have significant visual effect on nearby sensitive receptors. Therefore, visual screening of these Project components is not anticipated to be necessary.

C. Relocation. Because of the limited number of suitable locations for turbines within the Project Site, and the variety of viewpoints from which the Project can be seen, turbine relocation will generally not significantly alter visual impact. Moving individual turbines to less windy sites would not necessarily reduce impacts but could affect the productivity and viability of the Project. Where visible from sensitive resources within the study area, views of the Project are highly variable and include different turbines at different vantage points. Therefore, turbine relocation would generally not be effective in mitigating visual impacts on sensitive resources. Additionally, the Project layout has been designed to accommodate various set-backs from roads and residences, which limit options for relocation of individual Project components.

D. Camouflage. The proposed white/off white color of wind turbines (as mandated by the FAA to avoid daytime lighting) generally minimizes contrast with the sky under most conditions. This is demonstrated by simulations prepared under a variety of sky conditions. The size and movement of the turbines prevents more extensive camouflage from being a viable mitigation alternative (i.e., the turbines cannot be made to look like anything else).

Nielsen (1996) notes that efforts to camouflage or hide wind farms generally fail, while Stanton (1996) feels that such efforts are inappropriate. She believes that wind turbine siting "*is about honestly portraying a form in direct relation to its function and our culture; by compromising this relationship, a negative image of attempted camouflage can occur*." Other components of the Project will be designed to minimize contrast with the existing agricultural character in the Project area. For instance, new road construction will be minimized by utilizing existing farm lanes wherever possible and in most instances electrical collection lines will be buried.

E. Low Profile. A significant reduction in turbine height is not possible without significantly decreasing power generation. Less generating capacity (resulting from smaller turbines) could threaten the Project's economic feasibility. To avoid generation losses, use of smaller turbines would require that additional turbines be constructed. Several studies have concluded that people tend to prefer fewer larger turbines to a greater number of smaller ones (Thayer and Freeman, 1987; van de Wardt and Staats, 1988). There will be minimal visual impact from the electrical collection system because the majority of the collection system will be installed underground, and where overhead sections are necessary, the poles will generally not exceed the height of the surrounding trees.

F. Downsizing. Reducing the number of turbines could reduce visual impact from certain viewpoints, but from most locations within the study area where more than one turbine is visible, the visual impact of the Project would change only marginally unless a substantial number of turbines were removed. All illustrated in the visual simulations, even where existing wind farms are visible, the number of visible turbines rarely feels overwhelming. It should be noted that the number of proposed turbines, anticipated to be up to 120 at the time the PSS was prepared, has already been reduced to 76. Along with affecting the financial viability of the Project, further elimination of turbines could significantly reduce the local socioeconomic benefits of the Project, and reduce the Project's ability to assist the State in meeting its energy policy objectives and goals.

G. Alternate Technologies. Alternate technologies for comparable power generation, such as gas-fired or solar-powered facilities, would have different, and perhaps more significant, visual impacts than wind power. Viable alternative wind power technologies (e.g., vertical axis turbines), that could reduce visual impacts, do not currently exist in a form that could be used on a commercial/utility-scale Project.

H. Non-specular Materials. Non-specular conductors will be considered for use on the overhead portions of the electrical collection lines. Non-reflective paints and finishes will be used on the wind turbines to minimize reflected glare.

I. Lighting. The analyses presented herein are based on the conservative assumption that all turbines will be lit with FAA warning lights. However, turbine lighting will be kept to the minimum allowable by the FAA. Medium intensity red strobes will be used at night, rather than white strobes or steady burning red lights. Fixtures with a narrow beam path will be utilized as a means of minimizing the visibility/intensity of FAA warning lights at ground-level vantage points. Lighting at the substations will be kept to a minimum, and turned on only as needed, either by switch or motion detector.

J. Maintenance. The turbines and turbine sites will be maintained to ensure that they are clean, attractive, and operating efficiently. Research and anecdotal reports indicate that viewers find wind turbines more appealing when the rotors are turning (Pasqualetti et al., 2002; Stanton, 1996). In addition, the Project developer will establish a decommissioning fund to ensure that if the Project goes out of service and is not repowered/redeveloped, all visible above-ground components will be removed.

K. Offsets. Correction of an existing aesthetic problem within the viewshed is a viable mitigation strategy for wind power projects that result in substantial adverse visual impact at a particular viewpoint. Based on rating panel results, such impacts could be experienced by certain viewers at Loon Lake. Projects that provide enhanced public access or recreational opportunities at Loon Lake could be proposed as off-set mitigation for potential visual impacts to this resource and its users.

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Appendix D

Visual Simulations

On Enclosed CD:

Appendix A

Composite Overlay Map

Appendix B

Photo Log

Appendix C

Sensitive Sites Visibility Analysis

Appendix E

Visual Impact Assessment Rating Forms

Appendix F

Stakeholder Outreach and Correspondence