VISUAL IMPACT ANALYSIS

411 Reynolds Road Wind

For Proposed Site Work at:

411 Reynolds Road
Glen, NY 12072

Prepared by:

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Dated: December 8, 2021

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Introduction

This Visual Impact Analysis has been performed for a proposed Wind Energy Generating project located in the town of Glen, NY on a 191.6 acre parcel east of Reynolds Road. The subject parcel is approximately 2 miles from the center of Glen. A single 4.3 MW wind turbine is proposed to be located on this parcel. The proposed wind turbine has been sited on the parcel to balance the constraints of visual impact, natural resource impacts, noise, shadow, and energy production. In coordination with this analysis, Borrego and Hartgen Associates have been coordinating with the New York State Historic Preservation Office (SHPO) to ensure compliance with any State requirements.

Existing Conditions

The existing condition on the parcel is predominantly rural undeveloped forest land. Nearby areas consist of agricultural land and low density rural residential land. The western and southwestern portion of the site are fallow agricultural fields, while the north and eastern portions are wooded. No residential structures exist on site. Neighboring residences are closest along Reynolds Road to the west, and Severine Lane to the south. The parcel is bounded by wooded areas to the north and east and so abutting residences are further set back in those directions.

Scenic Resources of Statewide Significance

The site is not located within any of the designated Scenic Resources of Statewide Significance as defined by the NYSDEC. Areas of local significance include the historic area of Glen, as well as Charlestown State Forest and Lost Valley State Forest. Please see the Impacts section of this report for representative views from these locations.

Proposed Conditions

The proposed project features a single Wind Turbine located approximately 1000 feet east of Reynolds Road, at coordinates 42°52’20.6”N, 74°19’19.2”W. The turbine will produce 4.3 MW of electricity, which will be interconnected to the distribution grid along Reynolds Road. The turbine tower stands 345 feet tall at the hub, and features 246 foot blades, for a total tip height of 640 feet. Ancillary equipment installed will include a gravel crane pad, ground mounted electrical equipment, and a series of utility poles near Reynolds Road. The utility poles installed will be 35 feet to 40 feet in height.

The location of the turbine is on a wooded ridge at approximately 1117 feet above mean sea level. Please see Figure 1 below for a locus map of the turbine

Figure 1: Locus Map

Impacts

Viewshed

The viewshed for the proposed Glen wind turbine primarily consists of the Route 30A corridor between Glen and Charleston, and portions of Route 161. This landscape is rural residential in nature, with significant portions of the area used for agriculture. Areas directly to the north and south of the proposed turbine are natural forested areas. Schoharie Creek is located within the project viewshed, but analysis shows that due to the lower elevation of the creek, the turbine will not be visible from the creek or the surrounding valley. Figure 2 shows the locations where the tip of the turbine blade will be visible (green highlighted area). This area has been generated based on ground data only. It does not include vegetation and so is a conservative estimate of the turbine visibility. The actual visibility of the turbine will be reduced in areas due to tree cover. Additionally, visibility of the turbine tower and lower sections will also be more limited.

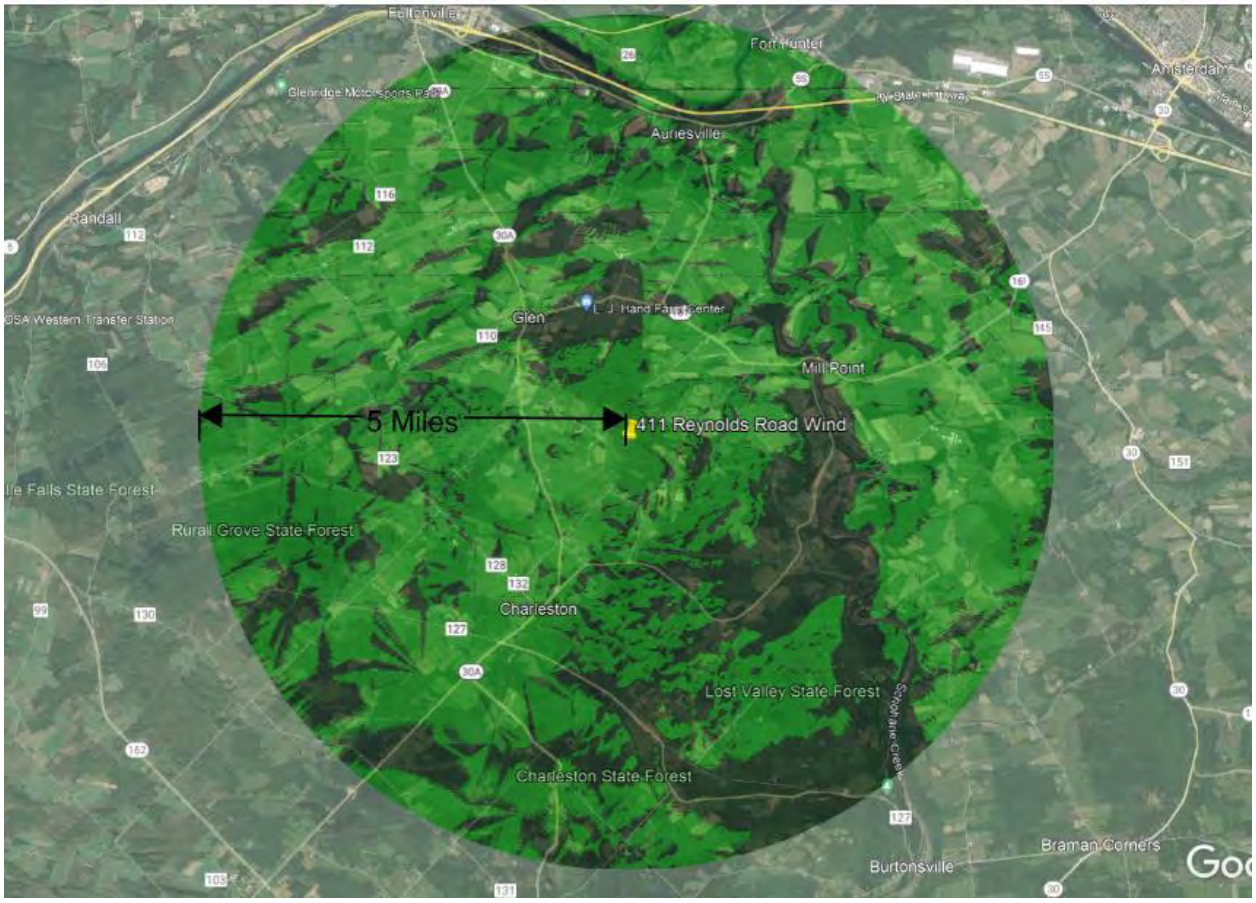

Figure 2 - Viewshed of proposed turbine tip at 640 ft elevation

Key Viewpoints

Within the viewshed, there are several areas that have been identified as key viewpoints. These are areas that are significant to the local community or have historical significance. This list has been compiled based on feedback from the town of Glen Planning Board and the community. Please see Figure 3 for locations where visual simulations were performed.

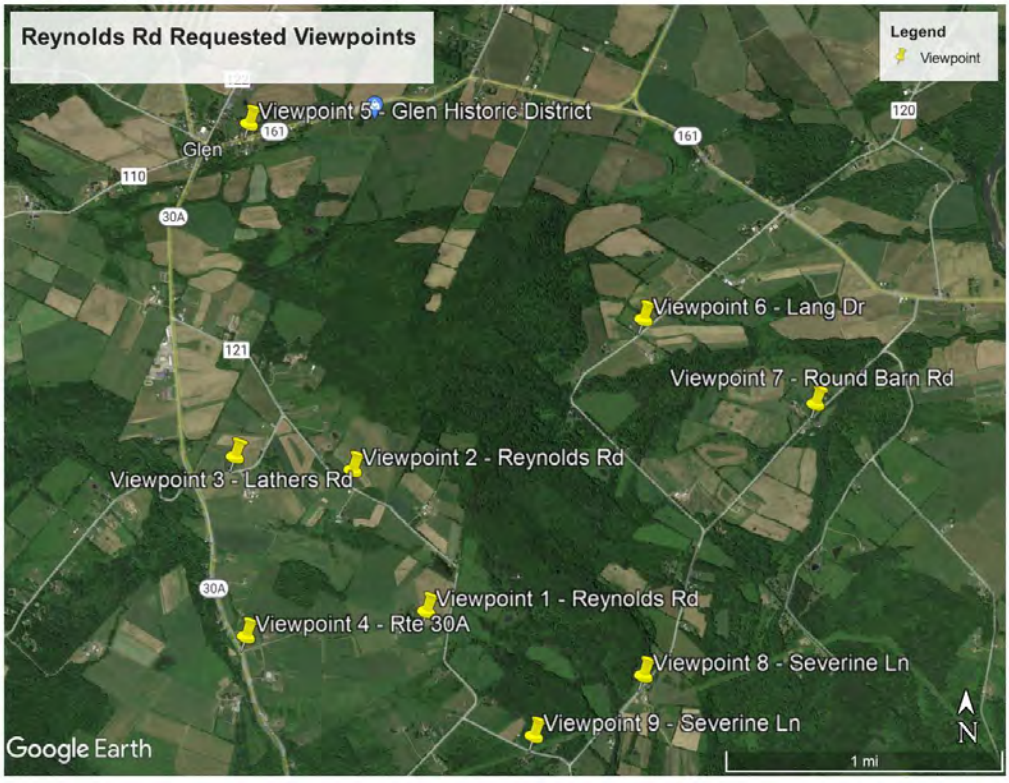

Figure 3 - Summary of Viewpoint Simulations

Borrego has partnered with Saratoga Associates to take high resolution photos from these key locations and then generate simulated perspectives of the proposed turbine. The method of creating these simulations precisely matches the X, Y, and Z coordinates of the image and 3D model of the turbine to generate an accurate visual representation of the future project. Please see Attachment 1 for the visual simulations from each of the key viewpoints.

Findings

The turbine will be visible off site from certain viewpoints. The visibility will depend on the surrounding elevations, tree cover, and existing building obstructions.

Mitigation

Efforts have been made to minimize the visual influence to the surrounding community. The primary way this is achieved is through the use of careful siting of the turbine. The proposed location of the turbine situates it as far from residences as is feasible. The nearest residence to the proposed location is over 2,500 feet away. Additionally, the turbine will be painted white to reduce visibility as much as possible. Tree clearing will also be minimized. Due to the height of the turbine, vegetation is not typically an effective screening measure, however, minimizing vegetation removal will limit the visibility of accessory structures, as well as provide potential turbine screening depending on the viewpoint and topography.

ATTACHMENT 1 - VISUAL SIMULATIONS

VP 1- REYNOLDS ROAD
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	11:35 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II

Photo Location:	42° 52’ 11.5748” N 74° 19’ 37.1895” W
Distance to WTG:	1,992 feet

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Figure-1
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 1- REYNOLDS ROAD
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	11:35 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II

Photo Location:	42° 52’ 11.5748” N 74° 19’ 37.1895” W
Distance to WTG:	1,992 feet

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Figure-2
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 2- REYNOLDS ROAD
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	11:55 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 52′ 36.8868″ N 74° 20′ 03.3864″ W
Distance to WTG:	3,340 feet

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Figure-3
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 2- REYNOLDS ROAD
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	11:55 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 52′ 36.8868″ N 74° 20′ 03.3864″ W
Distance to WTG:	3,340 feet

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Figure-4
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 3- LATHERS ROAD
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	12:00 PM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II

Photo Location:	42° 52′ 38.7876″ N 74° 20′ 35.7972″ W
Distance to WTG:	1.08 miles

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Figure-5
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 3- LATHERS ROAD
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	12:00 PM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 52′ 38.7876″ N 74° 20′ 35.7972″ W
Distance to WTG:	1.08 miles

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Figure-6
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 4- ROUTE 30A
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	12:11 PM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 52’ 05.0340” N 74° 20’ 29.8500” W
Distance to WTG:	1.06 miles

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Figure-7
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 4- ROUTE 30A
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	12:11 PM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 52′ 05.0340″ N 74° 20′ 29.8500″ W
Distance to WTG:	1.06 miles

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Figure-8
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 5- GLEN HISTORIC DISTRICT
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	12:28 PM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 53′ 41.5105″ N 74° 20′ 30.4071″ W
Distance to WTG:	1.74 miles

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Figure-9
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 5- GLEN HISTORIC DISTRICT
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	12:28 PM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 53′ 41.5105″ N 74° 20′ 30.4071″ W
Distance to WTG:	1.74 miles

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Figure-10
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 6- LANE DRIVE
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	10:27 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II

Photo Location:	42° 53’ 044232” N 74° 18’ 49.2624” W
Distance to WTG:	4,450 feet

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Figure-11
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 6- LANE DRIVE
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	10:27 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 53’ 044232” N 74° 18’ 49.2624” W
Distance to WTG:	4,450 feet

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Figure-12
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 7- ROUND BARN ROAD
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021	Photo Location:	42° 52’ 49.1304” N
Time:	10:47 AM		74° 18’ 04.3488” W
Focal Length:	50 MM	Distance to WTG:	1.15 miles
Camera:	Canon EOS 6D Mark II		

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Figure-13
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 7- ROUND BARN ROAD
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	10:47 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 52’ 49.1304” N 74° 18’ 04.3488” W
Distance to WTG:	1.15 miles

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Figure-14
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 8- SEVERINE LANE
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	11:13 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 51’ 52.8660” N 74° 18’ 57.0024” W
Distance to WTG:	3,877 feet

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Figure-15
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 8- SEVERINE LANE
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	11:13 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 51′ 52.8660″ N
	74° 18′ 57.0024″ W
Distance to WTG:	3,877 feet

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Figure-16
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VP 9- SEVERINE LANE
EXISTING CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	11:21 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 51′ 47.9232″ N 74° 19′ 15.7332″ W
Distance to WTG:	3,972 feet

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Figure-17
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY

VIEW OF WTG PARTIALLY VISIBLE THROUGH EXISTING VEGETATION

VP 9- SEVERINE LANE
SIMULATED CONDITION

SARATOGA ASSOCIATES

Photograph Information

Date:	11/30/2021
Time:	11:21 AM
Focal Length:	50 MM
Camera:	Canon EOS 6D Mark II
Photo Location:	42° 51′ 47.9232″ N 74° 19′ 15.7332″ W
Distance to WTG:	3,972 feet

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Figure-18
PHOTO SIMULATIONS
411 Reynolds Road
Glen, NY