

Wind Power GeoPlanner™

Communication Tower Study

Forest Ave – Oneida Wind



Prepared on Behalf of
New Leaf Energy

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COMSEARCH
A CommScope Company

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1. Introduction

This Communication Tower Study was performed for the Forest Ave – Oneida Wind project in Madison County, New York to identify the tower structures as well as FCC-licensed communication antennas that exist within two miles of the project area. This information is useful in the planning stages of the wind energy facilities to identify turbine setbacks and to prevent disruption to the services provided by the tenants on the towers. This data can be used in support of the wind energy facilities communications needs in addition to avoiding any potential impact to the current communications services provided in the region.

2. Summary of Results

The communication towers and antennas in the study area were derived from a variety of sources including the FCC's Antenna Structure Registration (ASR) database, Universal Licensing System (ULS), national and regional tower owner databases, and the local planning and zoning boards. The data¹ was imported into GIS software and the structures mapped in the wind energy area of interest. Each tower location is identified with a unique ID number associated with detailed structure and contact information provided in a spreadsheet attachment.

Seven tower structures and twenty-eight communication antennas were identified within two miles of the Forest Ave – Oneida Wind project area using the data sources described in our methodology above. Five of the structures found were registered with the FCC, four of which contain sixteen of the twenty-eight communication antennas. The remaining antennas may be located on a variety of structure types such as guyed towers, monopoles, silos, rooftops or portable structures. The specific type of structure would normally need to be determined by an on-site visit.

Detailed information about the tower structures and communication antennas is provided in Table 1 and Table 2 including location coordinates, structure height above ground level, and owner-operator name².

A discussion of turbine setback distances is provided in section three.

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data provided in this report is governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

² Please note that this report analyzes all known operators on the towers from data sources available to Comsearch. Unidentified operators may exist on the towers due to unlicensed or federal government systems, mobile phone operators with proprietary locations, erroneous data on the FCC license, and other factors beyond our control.

Tower ID	ASR Number	Owner	Structure Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance the Proposed Turbine (km)
Tower001	1049862	CORNEYS ELECTRONICS INC	106.7	43.04055556	-75.62916667	3.06
Tower002	1268273	County of Madison, New York	110.0	43.04061111	-75.66238889	0.85
Tower003	1003980	AT&T Mobility Spectrum LLC	61.9	43.04252778	-75.65466667	1.06
Tower004	1003577	Family Life Ministries, Inc.	97.5	43.04666667	-75.66583333	0.15
Tower005	N/A	KGI	45.7	43.06589167	-75.66579722	1.99
Tower006	N/A	KGI	30.5	43.07472222	-75.69111111	3.64
Tower007	1217251	STATE OF NEW YORK, DIVISION OF STATE POLICE	60.6	43.07805556	-75.64872222	3.60

Table 1: Summary of Tower Structures

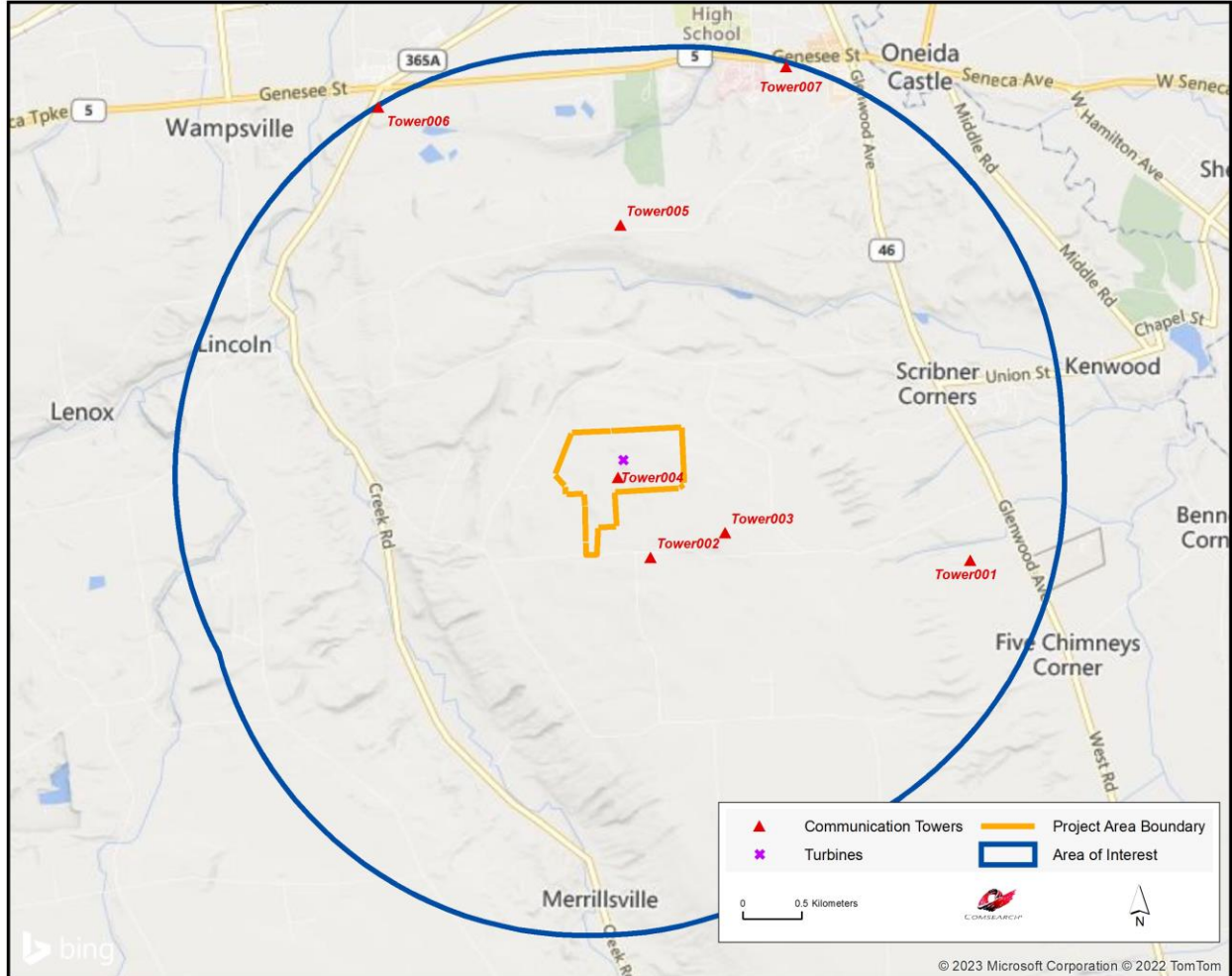


Figure 1: Towers within the Area of Interest

ID	Tower ID	Callsign	Service Type	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance the Proposed Turbine (km)
1	Tower001	WPZP732	Microwave	New York State Thruway Authority	30.48	43.04055556	-75.62916667	3.06
2	Tower001	WPNR417	Land Mobile	CORNEYS ELECTRONICS INC	49.0	43.04055556	-75.62916667	3.06
3		KJP482	Land Mobile	CITY OF ONEIDA	27.0	43.04061111	-75.66713889	0.83
4	Tower002	WQNH536	Microwave	Madison, County Of	22.86-86.87	43.04061111	-75.66238889	0.85
5	Tower002	WQOS614	Land Mobile	County of Madison	55.0	43.04061111	-75.66238889	0.85
6	Tower002	WQLN443	Land Mobile	County of Madison	84.0	43.04061111	-75.66238889	0.85
7	Tower002	WQLN992	Land Mobile	County of Madison	84.0	43.04061111	-75.66238889	0.85
8	Tower002	WQOS614	Land Mobile	County of Madison	55.0	43.04061111	-75.66238889	0.85
9	Tower002	WQRE873	Land Mobile	County of Madison	55.0	43.04061111	-75.66238889	0.85
10	Tower003	WPZU510	Microwave	JPJ Electronic Communications Inc.	24.38	43.04252778	-75.65466667	1.06
11	Tower003	KNKA294	Cellular	NEW CINGULAR WIRELESS PCS, LLC	None	43.04252778	-75.65466667	1.06
12	Tower003	WQYK289	Land Mobile	BOARD OF COOPERATIVE EDUCATIONAL SERVICES MADISON & ONEIDA COUNTIES DISTRICT	30.0	43.04252778	-75.65466667	1.06
13	Tower004	WPUQ258	Land Mobile	MADISON, COUNTY OF	45.7	43.04666667	-75.66583333	0.15
14	Tower004	KA59023	Land Mobile	MADISON, COUNTY OF	7.0	43.04666667	-75.66583333	0.15
15	Tower004	WPPU436	Land Mobile	CORNEYS ELECTRONICS INC	59.0	43.04672222	-75.66575000	0.14
16		WPMD527	Land Mobile	ONEIDA HEALTH SYSTEMS INC DBA ONEIDA HEALTH CARE CENTER	21.0	43.04672222	-75.66575000	0.14
17		WPVZ482	Land Mobile	NEW YORK POWER AUTHORITY	51.0	43.06588889	-75.66741667	1.99
18		W268AE	FM	CRAM COMMUNICATIONS, LLC	27.0	43.06588900	-75.66766700	2.00
19		W279CK	FM	WOLF RADIO, INC.	38.0	43.06588900	-75.66766700	2.00
20		WTKO-CD	TV	ACME TV CORP.	33.5	43.06588900	-75.66738900	1.99
21		WPRF782	Land Mobile	Mobiletech Communications	45.7	43.06611111	-75.66583333	2.01
22		WPRG946	Land Mobile	Mobiletech Communications	45.7	43.06611111	-75.66583333	2.01
23		KEI616	Land Mobile	SULLIVAN, TOWN OF	12.0	43.07505556	-75.67463889	3.10
24		WQKS883	Land Mobile	Oneida Healthcare Center	20.4	43.07766667	-75.65425000	3.42

ID	Tower ID	Callsign	Service Type	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance the Proposed Turbine (km)
25	Tower007	KTK752	Land Mobile	STATE OF NEW YORK DIVISION OF STATE POLICE	60.6	43.07805556	-75.64872222	3.60
26	Tower007	WQVL932	Microwave	Madison, County Of	51.82	43.07805556	-75.64872222	3.60
27		WPXW475	Land Mobile	ONEIDA HEALTHCARE CENTER	3.0	43.07863889	-75.65469444	3.51
28		WQKX699	Land Mobile	ONEIDA HEALTHCARE CENTER	21.0	43.07866667	-75.65463889	3.52

Table 2: Summary of Communication Antennas

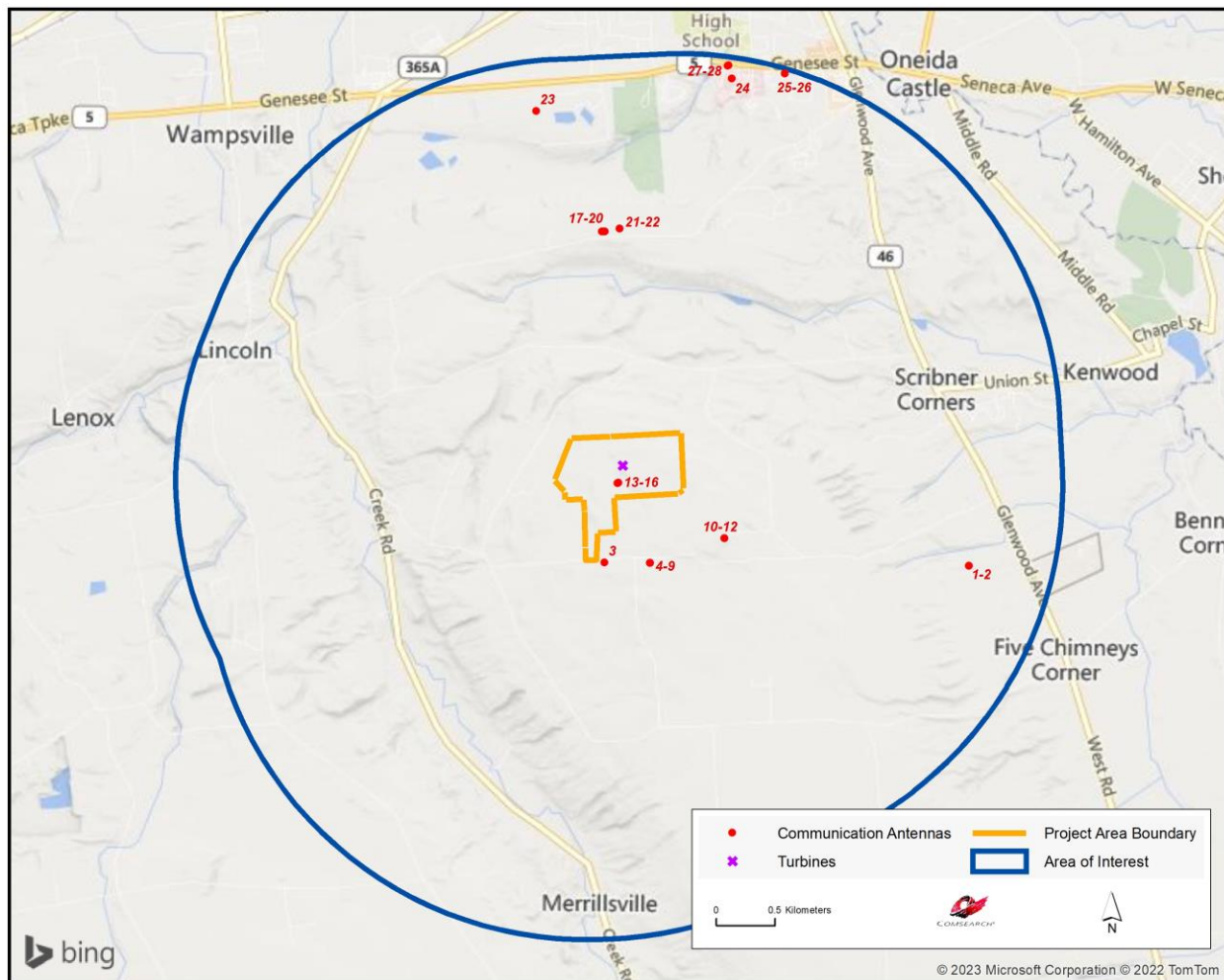


Figure 2: Communication Antennas within the Area of Interest

3. Discussion of Separation Distances

In planning the wind energy turbine locations, a conservative approach would dictate not locating any turbines in close proximity to existing tower structures to avoid any possible impact to the communications services provided by the structures. Reasonable distance between communication towers and wind turbine towers is a function of two things: (1) the physical turning radius of the wind turbine blades and (2) the characteristics of the communication systems on the communication tower.

Since wind turbine blades can rotate 360° in both the vertical and horizontal planes, the first consideration of separation distance to other structures is clearance of the rotating blades. If the blade radius is 50 meters, then a separation distance greater than 50 meters is necessary. From a practical standpoint, a setback distance greater than the maximum height of the turbine is necessary to ensure a “fall” safety zone in the unlikely event of a turbine tower failure. Setback requirements for “fall” safety are typically specified by the local zoning ordinances.

The separation distance required based on the characteristics of the communication systems will vary depending on the type(s) of communication antennas located on the tower. For example, AM, FM and TV communication antennas should be separated by distances that allow for normal coverage. For RADAR and microwave systems, line-of-sight (LOS) is used as the criteria for separation distance as well as the physical clearance necessary for the turbine blades. For land mobile, mobile phone, and wireless Internet systems, setback distances are based on FCC interference emissions from electrical devices according to their respective frequency bands.

Finally, the communication tower structures identified herein could be a potential benefit in support of communications network needs for the wind energy facility. An example would be the implementation of a Supervisory Control and Data Acquisition (SCADA) system that monitors and provides communications access to the wind energy facility.

4. Conclusions

Our study identified seven tower structures and twenty-eight communication antennas within two miles of the project area. They are used for microwave, FM, TV, and land mobile services in the area.



5. Contact Us

For questions or information regarding the Communication Tower Study, please contact:

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