

Project: D214167, Installation of Five Power Generating Wind Turbines

Location: Buffalo, New York

Client: New York State Thruway Authority, Buffalo Division

Cost: \$7.8M

Year: 2013

Work Performed:

- Site Work
- Construction of Wind Turbines/Buildings
- Electrical Construction
- Coordination with Utility Companies

In 2013, the American Wind Energy Association ranked New York State 11th in the country for installed wind power resources, acknowledging the State's commitment to the development and operation of wind energy infrastructure. Contributing to the State's sustainable energy initiative, Prudent Engineering provided Prime consultant Construction Inspection services for the installation of five power-generating wind turbines in the New York State Thruway Authority's (NYSTA) Buffalo Division. In addition to other project responsibilities, Prudent's scope of work included: site work; building and electrical construction; modification of existing Authority buildings and utilities; construction of wind turbines and foundations; and coordination with private utility companies.



The wind turbine generators (WTG) were installed at five NYSTA facilities positioned along the Erie Section of the Thruway, south of the City of Buffalo. Located in one of the State's windiest zones, these medium-scale

WTGs are highly productive energy systems, generating 100 kilowatts of electricity and about 30-35 percent in energy savings for the Authority's Buffalo Division. Under the State's Net Metering Law, clean energy produced by the turbines not only powers Authority facilities but is directed into the larger utility grid, providing electricity for local residents.

As the Prime consultant, Prudent provided construction inspection for the multiphase installation process of the WTGs. Phase one concerned site preparation, which involved the construction of an access road, staging area and crane erection pad. The second phase included foundation installation, excavations, form construction, rebar installation, concrete placement and compaction backfilling. Phase three entailed turbine erection, delivery and assembly of the tower, and WTG components. The final phase coordinated all electrical work concerning the installation of underground feeders, WTG terminations and the facility's supporting electrical elements. The successful installation of these environmentally friendly technologies has served to bolster the Buffalo Division's sustainable energy efforts.



Turbine in Westfield, New York