

## CASE STUDY

# MAPLE RIDGE WIND FARM

LOWVILLE, NEW YORK



## BACKGROUND

The Maple Ridge Wind Farm, projected to be the largest wind farm east of the Mississippi River, was on a tight schedule and had run into a major problem. Over twenty-three miles of access roads were needed in order to build 120 wind turbines in the project's 1st Phase. A Tensar distributor was contacted by the project's contractor to help assess soil conditions under the proposed access roads. The contractor needed a fast solution as conditions were unfavorable.

The original tower access road design included an undercut of approximately 10 inches, inclusion of a geotextile and the installation of close to 10 inches of aggregate. The original width of the access roads was 16 feet. Several areas were observed where silt and clay had day-lighted at the surface (indicating that the geotextile had ruptured or failed) due to rutting. The geotextile was also noticed in places at the ground surface. "Rocking" (a 1-to-2 inch deflection or movement of the aggregate by standing and rocking back and forth) was also detected. Soft to medium soils were found with an estimated CBR of approximately 0.8 to 1.6 – based on observed rutting depths of vehicle tracks. The original solution, which included a geotextile, had failed under heavy traffic.

## THE SOLUTION

Tensar used its software to create a more robust design that accounted for both the average and the "worst case" CBR scenarios. Using the design software allowed the local engineer to provide a set of formal designs within 24 hours of visiting the site. These designs ultimately became the solution to the contractor's urgent soft ground problems. By partnering with Tensar, valuable time was saved and a dependable solution that kept the project on track was achieved.

## PROJECT HIGHLIGHTS

### Project:

Maple Ridge Wind Farm  
(Formerly known as the Flat Rock Site)

### Location:

Tug Hill Plateau in Lowville, New York

### Owner

PPM Energy & Horizon Wind Power Co.

### Quantity

453,000 SY Tensar geogrid

### Quantity:

460,000+ sq yds



## CASE STUDY: MAPLE RIDGE WIND FARM

Approximately 453,000 square yards of Tensar geogrid have been installed at the Maple Ridge Wind Farm project. The access road widths, in some areas, were widened from 16 to 32 feet to accommodate the 31 foot crane width. Tensar geogrid was also installed beneath the crane platforms at each wind turbine location. Tensar geogrids were successfully used at the site to improve the bearing capacity of the soils, reduce the amount of aggregate required to stabilize the soils underlying the tower access roads and provide ease of construction. This allowed the high profile project to stay on track and on time, while providing Lowville and its surrounding areas with a new source of power.

## TENSAR+ DESIGN SOFTWARE

Stabilizing a subgrade, passing a proof roll, or designing an unpaved road is easier than ever with Tensar+ software. Our free, cloud-based software allows engineers, contractors, and owners to design with geogrid in a variety of applications, including pavements, crane pads, soft soil stabilization, unpaved roads and marine scour protection. Award-winning Tensar+ software allows you to calculate the total value of each design alternative, including conventional construction. Tensar+ incorporates the benefits of Tensar geogrids into accepted design methodologies, based on rigorous full-scale testing and validation by third-party experts. Visit [tensarplus.com](https://www.tensarplus.com) to start designing today.



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Web: [TensarCorp.com](https://www.tensarcorp.com)

Email: [info@tensarcorp.com](mailto:info@tensarcorp.com)

Phone: 800-TENSAR-1

