Innovative groundwork for Burgerwindpark A2 Lage Rooijen

Construction of access roads and crane platforms for the development of the wind farm

Maasdriel, Netherlands

By implementing a geogrid solution, the need for costly pile foundations for the crane platforms was eliminated, while the access roads were mechanically stabilised to facilitate the transport of materials needed for the construction of the wind farm.

CLIENT´S CHALLENGE

The project required the construction of access roads and stable working platforms across the soft ground to facilitate the transport and lifting operations necessary for the construction of the wind turbine. Several solutions were evaluated for the work platforms. The main requirements of the project were to stay within budget, minimise noise pollution, optimise for recycling and allow for a variety of main crane types for each of the three turbine structures. A traditional solution with pile-founded footings could not meet these project requirements.

TENSAR SOLUTION

To prevent cost overruns and potential delays, Tensar evaluated a solution using TensarTech® Stratum® cellular: a one-metre thick mattress consisting of an H-series base grid and uniaxial geogrid walls. These walls form cells that were filled with granular material, resulting in a rigid foundation that improves stability, increases load-bearing capacity and minimises differential settlement.

BENEFITS

- **Cost and time savings** compared to the original solution with piles
- **Stable foundation** without piles
- **Minimising the impact on the environment** and ensuring the safety of workers and local residents

Tensar®
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PROJECT DETAILS

Constructed in
2024-2025

Client
Burgerwindpark A2 Lage Rooijen BV

Consultant
Green Trust Consultancy BV
Ingenieursbureau Geologics BV

Contractor
H4A Windenergie BV

Tensar distributor
Joosten Kunststoffen BV

H-series geogrids installed to lay a foundation for the subsequent construction of cells.

PROJECT BACKGROUND

Burgerwindpark A2 Lage Rooijen is a Dutch onshore wind farm in the municipality of Maasdriel, in the province of Gelderland. The project involves the construction of three wind turbines directly east of the A2 motorway and north of the Maasdijk.

The project began in September 2024 with the preparation of the site and the excavation of the crane platforms. These platforms, designed to support cranes approximately 160 metres high, were crucial for the assembly of the wind turbines. The specially designed crane platforms ensured the safe and stable placement of heavy cranes, which was essential for the construction, maintenance and eventual dismantling of the wind turbines.
The main crane platform will remain in place for as long as the wind turbines are in operation and will be used for maintenance for the next 25 years.

This strategic decision significantly reduced costs and minimised the use of granulate, requiring fewer lorries for transport. In addition, the reduction in the number of piles led to lower consumption of concrete and steel and less noise pollution. Only the foundations of the wind turbines are built on piles.

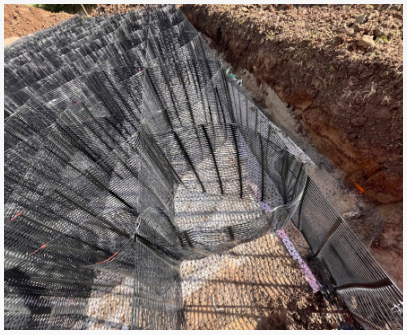
Construction activities were paused from November 2024 to April 2025 due to the storm season, a requirement of the local water board to ensure the optimal integrity of the nearby river dike. After the storm season, construction resumed with the construction of turbine foundation sand the installation of electrical cabling..

To facilitate the transport of thousands of loads of granulate, piles, steel, concrete and wind turbine components across the pasture, the access roads were stabilised with a layer of geogrid under the granulate. This approach eliminated the need for steel road plates, which are often expensive to transport and hire and are susceptible to theft.

The use of geogrids delivered practical benefits while promoting sustainability and circularity. The granulate used for the access roads is 100% reusable and is returned to the contractor for use in other projects. In addition, the geogrids are recyclable, further enhancing the environmental merits of the project.

The construction process was carefully planned to minimise the impact on the environmentand ensure the highest level of safety for all workers and local residents.

Vertical retaining walls, mechanically constructed with RE geogrids, installed to form cells.



Assembled TensarTech Stratum mattress structure, ready to be filled.

The cells are filled with granulate, which is compacted to create a rigid foundation.

"Our goal is to prioritise safety and minimise the impact on the environment and disruption as much as possible. This has been successfully achieved through careful design, implementation and commitment to sustainable use."

Leo Kuljanski | Design Manager Europe | Tensar Netherlands

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