TERRA-MIX™

_STRAIGHT AHEAD

_Wind power plants

Tortumanu (Romania)

_Hybrid foundation »System TERRA-MIX«™

_Building site report

_Excecution: **March - May 2011**

_Project: **4 wind power plants in Tortumanu (Romania)**
4 - 6 layers composition with binding agent reinforcement

_Prime contractor: **STRABAG s.r.l.**

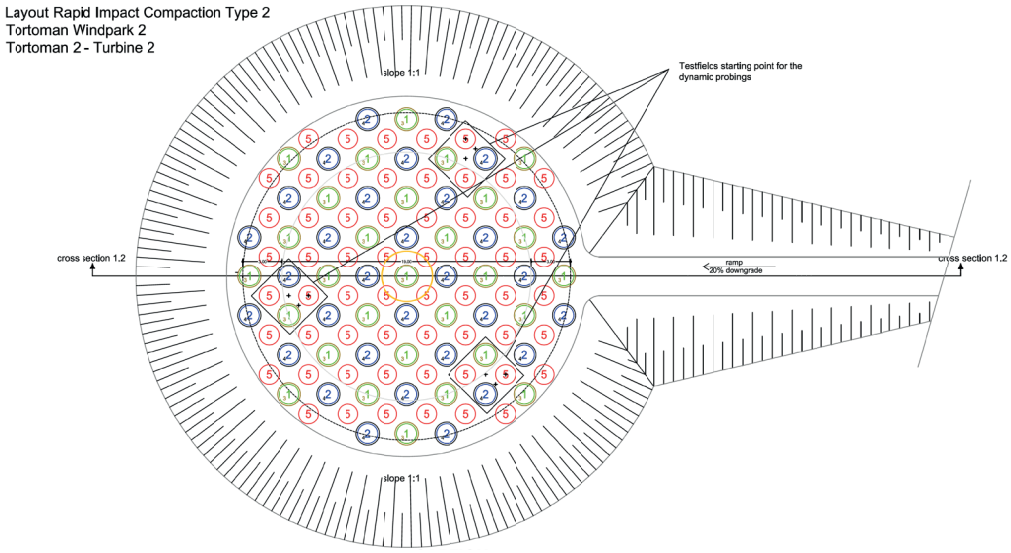
_Area per plant: **some 500m² (with overlap)**

_Area of stabilisation with binding agent (single layer for access roads and crane floor space): **some 16300m²**

_Building site report

Job description:

While discussing the ground conditions it was discovered that down to some 15m below the top ground surface it consisted of macro-porous loess. It´s consistency was in the area of being stiff to semi-solid; the water content increasing with increasing depth.



Solution:

In order to guarantee sufficient carrying capacity the following approach was taken: for the foundations of the wind power plants first Impulse Compaction was carried out with a basic grid of 3.0 x 3.0m, whereby up to three transitions were necessary. The intervals were compacted with so called „finish-points“ using one transition. The composition up to the foundation was implemented using binding agent reinforced layers of 50cm, whereby the loess at hand was used as base material. For three plants the composition was 2.0m thick; for one plant 6 layers, corresponding to 3.0m, was needed. The recipe for the binding agent (lime - concrete mix) was determined in advance and checked and adapted during the construction. For the access roads and the crane floor spaces the binding agent stabilised composition consisted of one layer; crushed angular grain was used as a top (wearing) layer.

Results:

By the verification of the carrying capacity by means of a loading plate, as well as bedding density / consistency through dynamic probing the estimated values were achieved or by far exceeded. Hence the determined limit values from the settling calculations fell far below the targets.

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