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Oranjewoud: A world of opportunity!
Comfortable living, work, travel and recreation are only possible with a proper understanding of space. Oranjewoud’s fields of activity consequently range from urban development, mobility, construction and property to rural development, water, the environment, safety, sport and recreation.
We operate in the Netherlands and on an international scale too. Oranjewoud was a major force in land management under Frisian management some 60 years ago. Our organisation has developed into an all-round partner and is much more than just an engineering consultancy.

Mission
Oranjewoud aims to be a leading partner in the development and application of sustainable and integral solutions relating to all aspects of our living environment, such as home, work, recreation, mobility and the environment.

Core values
Enterprising, People-oriented, Development, and Character.

Oostdijkbank Radar Post Helicopter Platform - Nieuwpoort, Belgium

Introduction
The SRK (Scheldt Radar Chain) manager plans to discontinue the use of the helicopter type currently used to transport maintenance staff to and from the Oostdijkbank Radar Post. It would like to make the radar post accessible for Belgian naval helicopters. The new helicopter type (NH-90) is considerably heavier, which results in significantly higher static and dynamic loads on the steel platform structure of the helicopter tower. On behalf of SRK, Soresma NV asked Oranjewoud to perform a structural analysis of the existing helicopter tower and to draw up specifications for the necessary structural alterations.

Description of the radar post
The Oostdijkbank Radar Post consists of a radar tower and a helicopter tower connected by a footbridge. The radar tower houses technical systems while the helicopter tower is made up of a helicopter platform with a workshop underneath. Fuel and water tanks are accommodated within the actual tower.

The main structure/foundation of the helicopter tower consists of a single tubular pile with a diameter of 3.0 m. The foundation depth of the tubular pile is -25,000 m MLLWS. The top of the tubular pile is at +17,500 m MLLWS. The elevation of the helicopter platform itself is +21,000 m MLLWS. There are two more platforms at +17,500 m MLLWS and +15,000 MLLWS, respectively. The helicopter platform and the lower platforms are made up of a girder structure, topped with steel plate in case of the helicopter platform and workshop, and with a steel grating in case of the lower platform. The girder structure of the helicopter platform and the middle platform are supported by columns on the bottom platform, which in turn is supported by shoring on the tubular pile.

Main characteristics:
- Monopile dimensions: Ø 3.000 x 30 mm, L = 42.5 m, S355J2G3 grade steel
- Helicopter platform deck: sheet steel thickness 20 mm, orthogonal grid of HEA280 on HEA500 beams
- S235JO grade steel
- Platforms at +17,500 m and +15,000 m MLLWS in a design with tangentially positioned IPE200 beams

Software: Scia Engineer
The project is about alterations to the helicopter platform of the Oostdijckbank Radar Post in the Western Scheldt estuary. The radar post consists of a radar tower plus a helicopter tower. As in the future considerably heavier helicopters will be used, Oranjewoud was asked to perform a recalculation of the existing helicopter tower construction to determine if it would be possible to use the NH90 helicopter without extensive alterations to the tower. The results of the recalculation indicated that only a few components would be inadequate and Oranjewoud was asked to work out and draw up the specifications for the required alterations.