

OOSTERWEEL VERBINDING -LINKEROEVER, SB12-SB13 SOUND BARRIERS

ANTWERP, ANTWERP, BELGIUM

Noise Barriers

Problem

The Oosterweel Link project is a new 15km-long motorway connection developed by Lantis for completing the Antwerp ring road R1 (Belgium). It is a major project in Belgium and its design started in the 1990s to find a solution to the congestion problems in and around Antwerp. The total estimated cost of the project is approximately €4.5bn. The Antwerp ring road is a key part of the Trans-European Transport (TEN-T) Core Network.

Maccaferri collaborated with the design and building of the Mechanically Stabilized Earth (MSE) walls with its main product family „Terramesh“. This is a well-known system used in Europe and in the rest of the world to support or enable the construction of infrastructures in tight urban corridors, forming retaining walls, road embankments, wing walls and bridge abutments known as Geosynthetic Reinforced Soil-Integrated Bridge Systems (GRS-IBS).

„Terramesh“ double twist steel wire mesh reinforcements have been used in combination with ParaLink® and Paragrid® geogrids representing an evolution and a significant advantage for both cost-effectiveness and performance. The project includes 15.000 facing sqm of „Terramesh Green®“, 14.000 facing sqm of „Terramesh Mineral® and System® and 5.000 facing sqm of gabion cladding.

Solution

Along the main road E34 the design foresaw the construction of noise barriers up to 9m of height. The front inclination was planned by 70° to ease the re-greening of the slopes.

Terramesh Green and Terramesh Mineral were used in accordance to the plan. In the area under the bridges, the Terramesh Mineral was used to avoid any maintenance of the green slopes. Maccaferri's Corporate Technical Department has supported and is still supporting the main designers step by step from the first preliminary Global and Internal stability checks with Limit Equilibrium Method (LEM) analyses carried out with MacStars Software to Finite Element Method (FEM) deformation analyses due to the strict restrictions on displacements. Maccaferri provided the designers with all material properties for correct modeling.

Client: Lantis / Texion Geosynthetics NV

Designer / Consultant: Arcadis NV /Lantis

Contractor: Stadsbader NV

Products used (Qty.)

- Terramesh	4.500 sqm of Terramesh
- MonoAxial GeoGrids	6.000 sqm of ParaGrid

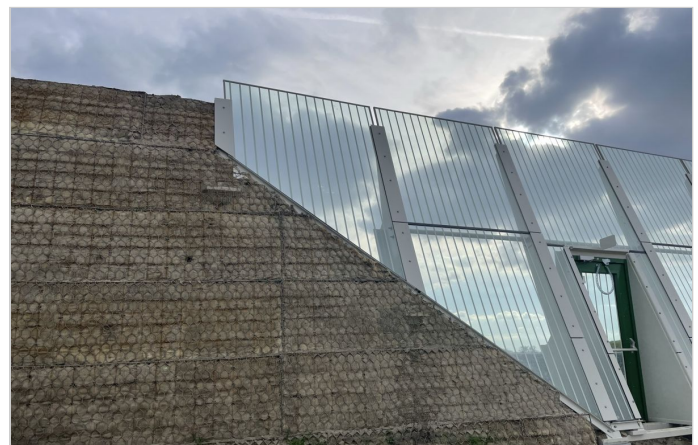
Date of construction: 01/2022 - 04/2022

[Google Maps](#)

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Transition between Green Terramesh and Mineral Terramesh



Detail of the interaction with a glass noise barrier



Detail of the Green Terramesh DUO elements on the top of the slope



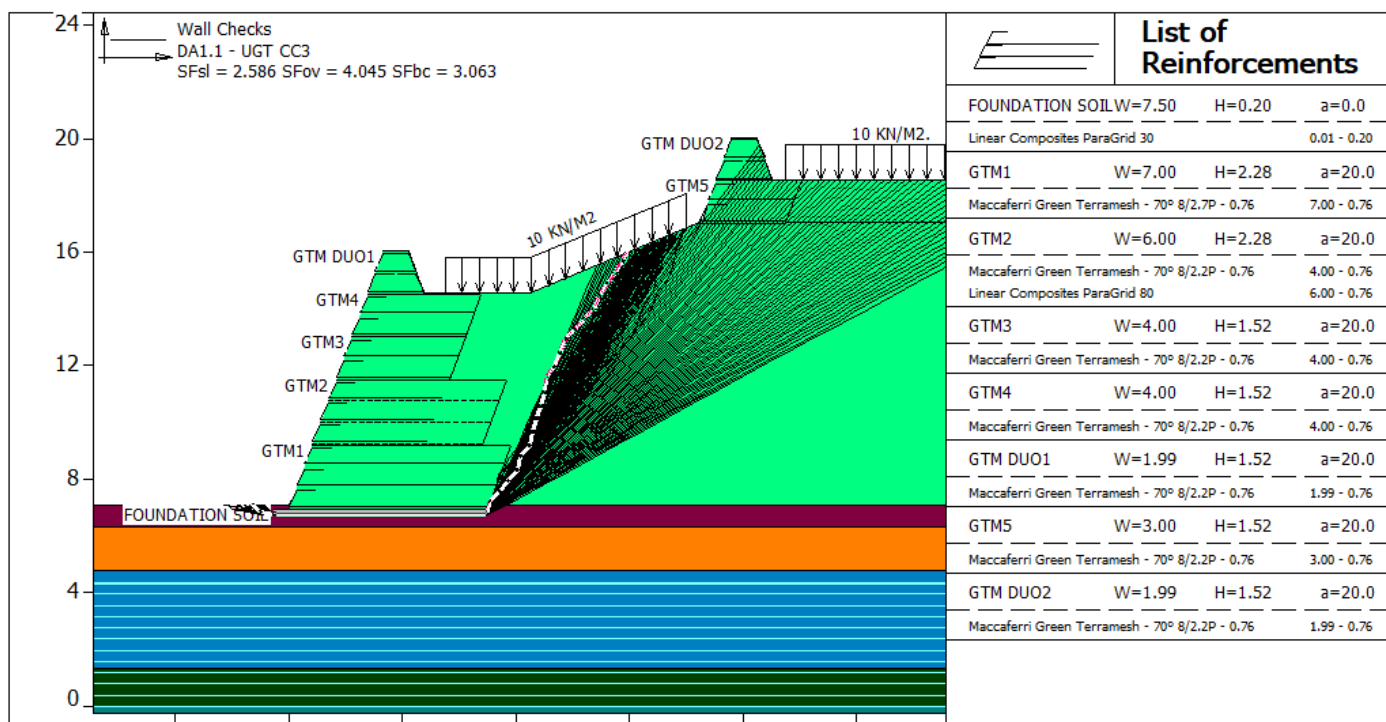
Google maps view 2023



Google maps view 2023



Detail of the bridge abutment



Typical cross-section for stability checks with MacStars