

**PRECOOL COLD STORAGE EXPANSION
DURBAN, KWAZULU NATAL, SOUTH AFRICA**

Vertical Walls with Concrete Facing Panels

Problem

The Pre Cool Cold Storage Factory were undertaking an upgrade of its existing facilities in 2018. The factory was being extended to make provision for an extra 10 000m² of floor space. The extension of the factory had to be constructed within a cut condition which required the new area to be filled to achieve the required level of the existing factory. Due to the heavy loads that the facility was envisioned to carry, the fill material of the foundation needed to be reinforced and cladded to ensure the stability and sustainability of the facility. The client approached Maccaferri Africa to assist with the design, supply and supervision of a Mechanically Stabilised Earth Wall solution.

Solution

Maccaferri Africa provided a proposal for a Mechanically Stabilized Earth Wall (MSEW), varying in height from 1m to 8.4m. The MacRes System comprised of approximately 1420 m² of concrete cladding panels, reinforced with 33 900 linear meters of ParaWeb™ reinforcement. The wall included a coping beam at the top to achieve an refined finish. The MSEW stabilized the fill material utilised in the foundation,. The design of wall was conducted in accordance to BS 8006:2010 taking the Global, Internal and Foundation Stability into consideration Design Parameters Reinforced Soil Parameters:
Internal Friction Angle (°) - 30 Cohesion (kPa) - 0 Unit Weight (kN/m³) - 18 Loading:
Dead Load (Building): 35 kPa Live Load (Road): 20 kPa No presence of water in the structure had been considered in the design The Mechanically Stabilised Earth Wall solution provided a soil stabilised structure with an aesthetically pleasing facade.

Client: PRE COOL COLD STORAGE
Designer / Consultant: GAP Consulting
Contractor: Leendo Trading and Projects
Products used (Qty.)
- MacRes 1420m²
Date of construction: 07/2018 - 03/2019



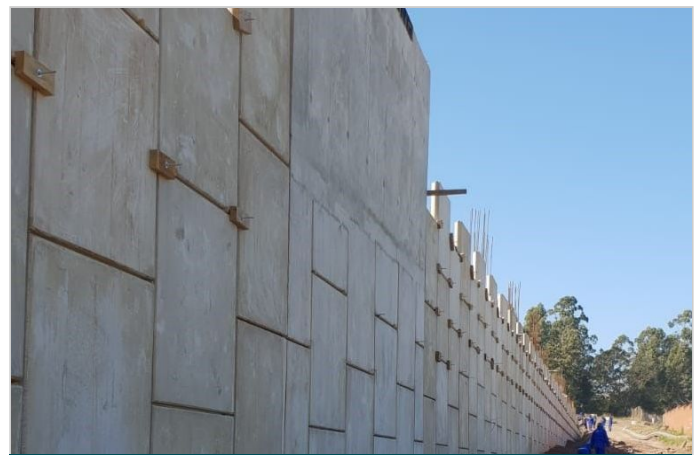
Paraweb installation



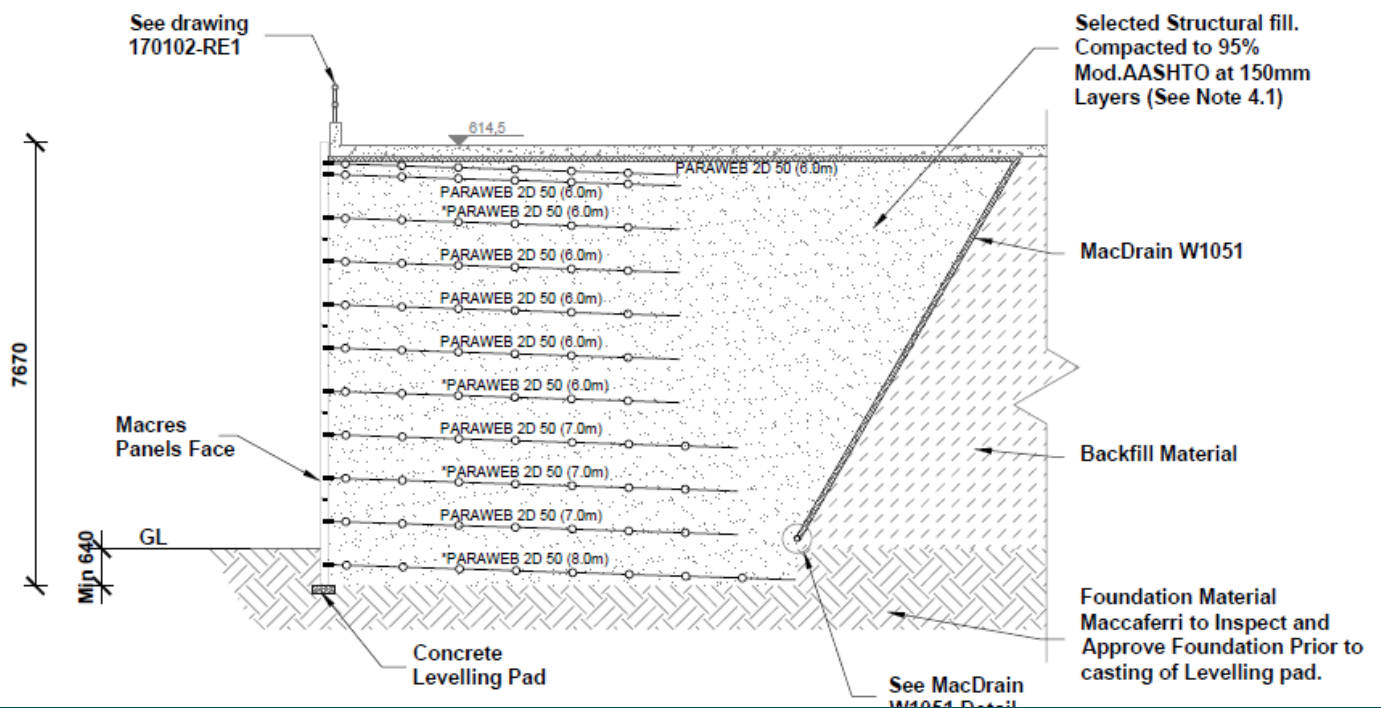
MacRes Installation



MacRes Installation-1



MacRes



Cross Section

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Engineering a Better Solution

