

THORNWOOD RAILWAY STATION MARIANHILL, KWA-ZULU NATAL , SOUTH AFRICA

Reinforced Soil Walls and Slope Reinforcement

Problem:

Transnet Railway passing through Thornwood Railway station experienced slope movement and failure in 2014. The railway became non-operational and a full reinstatement of the supporting formation was required. The reinstatement began with piles, a bearing wall and a wrap-around geotextile solution. During the construction phase of the rehabilitation solution, a portion of the existing embankment supporting rail Line 2 was undercut in order to relieve overburden pressures on the toe of the existing embankment.

Solution:

The most effective solution proposed and accepted was the use of a Mechanically Stabilised Earth Wall was used for the containment of the platform. The Terramesh System with Paragrid 150/05 tie-backs were modelled on Maccaferri Software, MACSTARS, to determine the minimum FOS against global instability of the MSE solution. Due to the immense loads experienced, the solution required Geogrids every 250mm to reinforced the G5 material specified as the structural fill. A Geotextile, MacTex H40.1 was used as a filtration material between the Terramesh System and the structural fill.

Client: TRANSNET GROUP CAPITAL

Designer / Consultant: GEOSURE CONSULTING

Contractor: TRANSNET RME

Products used (Qty.)

Terramesh unknown

Date of construction: 08/2020 - 10/2020



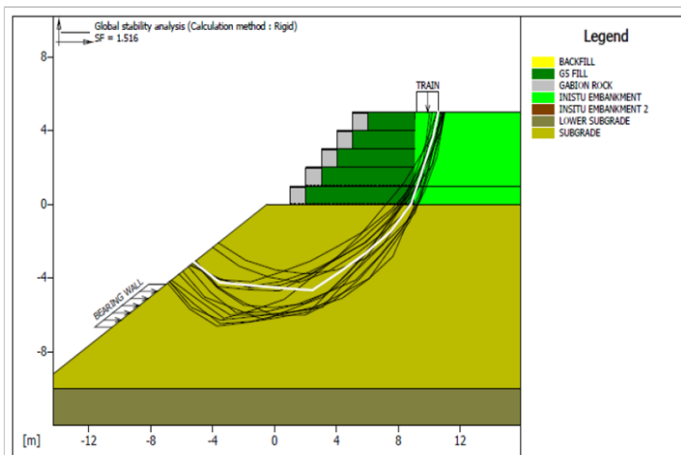
During the project



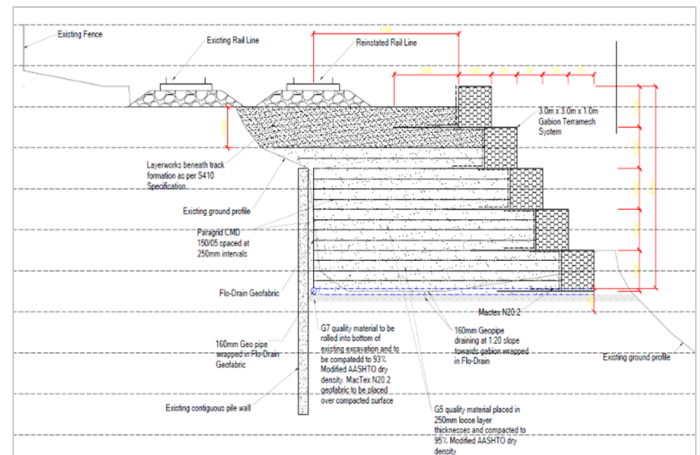
During the project



During the project



During the project



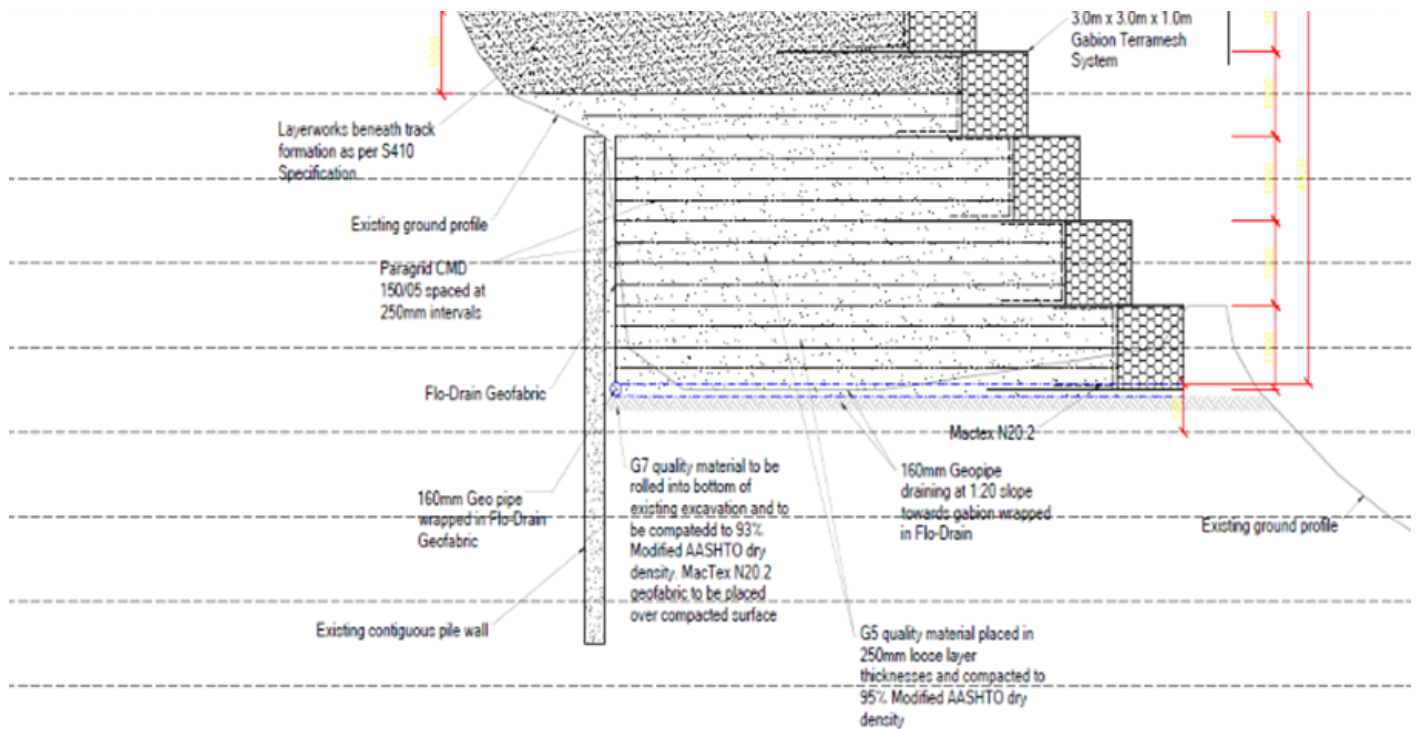
During the project



During the project



Project completed



Schematic representation

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