

**SAMPOERNA ACADEMY GREEN TERRAMESH
SENTUL, WEST JAVA, INDONESIA**

Reinforced Soil Walls and Slope Reinforcement

Problem

Sampoerna Academy is an international school located at Sentul City, West Java, Indonesia. Sentul has a hilly topography, so the sport field of the school was constructed on a flat land as a result of slope cutting. Thus, the need of slope protection near the facility is required.

The surrounding slopes around the field need to be protected from the potential landslide and erosion. The slope which has sandy-clay type of soil required protection from landslide and future erosion created by rain and surface water flow. The selection of the right solution is necessary to prevent failure by the presence of water. MSE Wall (Green Terramesh) by Maccaferri Indonesia was selected considering its flexibility and its ability of free drainage, allowing water to flow through the facing, and mitigating the excess pore water pressure of the structural fill. Furthermore, Green Terramesh is chosen to be the facing / secondary reinforcement of MSE Wall considering its ability to grow vegetation (LCC - Legume Cover Crop).

Solution

MSE Wall structure by Maccaferri consists of Green Terramesh and Macgrid WG 15 (Geogrid) as the main reinforcement. Green Terramesh, that is fabricated from Galvanized (Zn) and PoliMac coated steel wire, acts as the secondary reinforcement or fascia and Macgrid WG 15 (Geogrid) as the primary reinforcement, both work systematically along with the Well-Compacted Structural Fill to create a stable retaining wall structure. There is also Geotextile Non-Woven that works as a filtration layer between Green Terramesh and Structural Fill, allowing water to flow out without carrying any soil particles. Macdrain W 1061 (Drainage Composite) works as subdrain layer between Structural Fill and Existing Backfill, providing a drainage for any incoming water from the rear of the structure.

Green Terramesh is chosen to be the facing due to its resistance to corrosion with the presence of PoliMac coated wire mesh that provides additional protection to the structure. Green Terramesh is also considered to be the best solution because it is an environmentally friendly modular system used for soil reinforcement that permits a vegetative cover to be established rapidly.

Client: PT TRIMITRA ASRITAMA

Designer / Consultant: PT TRIMITRA ASRITAMA

Contractor: PT TRIMITRA ASRITAMA

Products used (Qty.)

- Green Terramesh 4,000 pcs
- MacGrid WG 8,000 m2
- MacDrain W 15,936 m2

Date of construction: 11/2019 - 04/2020



MSE Wall Construction Back View



Mse Wall Front View



Vegetation Templok Method



Vegetation Growth



Lush Grown Vegetation

Steel wire protected by long-life galvanising with an additional PoliMac® polymeric coating

NEW POLYMER COATING

MACCAFERRI POLIMAC®

New coating PoliMac®

Long-life galvanising

Steel wire low carbon

ENVIRONMENTALLY FRIENDLY
FREE OF HEAVY METALS

POLIMAC® PRODUCTS HAVE
IDENTIFICATION ON THEIR EDGE WIRES

PoliMac Coating