MACCAFERRI

CASE HISTORY

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PARAMESH SYSTEM FOR GORONTALO OUTER RING R

GORONTALO, GORONTALO, INDONESIA

Reinforced Soil Walls and Slope Reinforcement

Problem

The Ministry of Public Works and Public Housing (PUPR) is advancing the 46.2-kilometer Gorontalo Outer Ring Road (GORR) construction project through the Directorate General of Highways. This route is crucial for connecting Gorontalo City's economic hub, Djalaludin Airport, and Gorontalo Harbor. It is envisaged that GORR will improve traffic flow around the city, lessen traffic congestion, and lower the number of accidents.
One of the main challenges in this project is the height difference between the road elevation and the ground level of up to 20 meters. If not handled properly, inadequate retaining walls can cause road stability and safety problems. For this reason, building a retaining wall that can withstand dams up to 20 meters high is necessary.

Solution

The Maccaferri Paramesh System retaining wall system—which utilizes Mechanically Stabilized Earth (MSE) Wall technology—is being employed to overcome this issue. This solution was chosen because of its remarkable ability to handle large embankment loads, combining mechanically arranged soil to provide additional stability with geosynthetic materials. Geosynthetic materials, like metal meshes or geotextiles, are inserted into the soil to more evenly distribute the weight, as opposed to traditional methods, which need larger structures and more resources.
The Paramesh System offers several advantages, including affordability, simplicity of use, and long-term stability. Its construction procedure is more direct and efficient thanks to its modular components, which allow for quick and simple installation and condition adjustment for the project. The method reduces the need for big gear and supplies, which decreases overall expenses. Its robust design reduces the need for maintenance and ensures stability throughout time. The Paramesh System's installation is expected to expedite and secure the Gorontalo Outer Ring Road project while simultaneously enhancing motorist comfort and safety.

Client: BPJN Gorontalo
Designer / Consultant: PT. Virama Karya
Contractor: PT. Dewanto Cipta Pratama
Products used (Qty.)

- Terramesh	463 units
- Macmat Hs	13.320 sqm
- Macmat	9.360 sqm
- MonoAxial GeoGrids	31.950 sqm
- Macarmour & Steelgrid	9.000 sqm

Date of construction: 07/2023 - 02/2024

Google Maps Google Earth



Before Construction



Construction Work



Construction Work



Finish Construction



Finish Construction

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