MOHAMMED AL AMEEN MOSQUE PARKING & LANDSCAPING WORKS

Muscat - Oman

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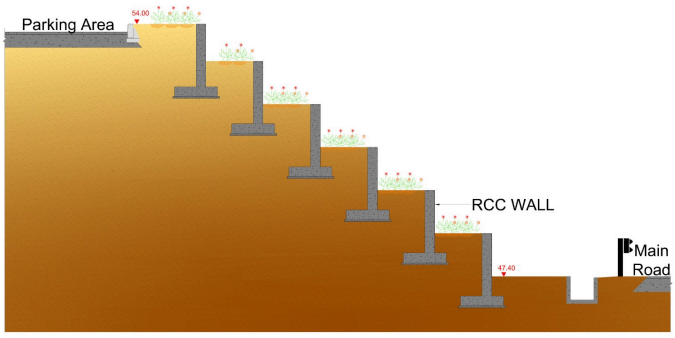
TYPE OF PROJECT	YEAR OF CONSTRUCTION	CLIENT	CONTRACTOR	DESIGNER
Mass Gravity Retaining Walls	**2019**	**SAUD BAWAN CHARITABLE FOUNDATION**	**GENERAL DEVELOPMENT SERVICES LLC (GDS)**	**PARSONS INTERNATIONAL & COMPANY LLC**

PROD. RELATED
TerraMesh (25,000 M2)

Challenge

It was envisaged by the architect to provide a parking space above the existing 8m high loose slope location which has to be converted into a terrace made of tiered & short retaining walls which will be landscaped eventually. As a traditional solution and commonly adopted structure, a series of RCC (Reinforced Cement Concrete) walls were considered by the architect (refer figure 2). However, since these walls are to be constructed on loose dune sand, the bearing capacity & rotational stability becomes critical. Moreover, being a landscaping area, the soil portion in benches will have plants that requires continuous irrigation. This will result in drainage issues that requires very effective weep holes on the RCC walls. Another anticipated problem was the overall cost of the retaining walls which further increases due to the need of theming by local stones which has to be accomplished by cladding a layer of the beige colored stones to the exposed surface of RCC walls. For the above reasons, the architect approached Maccaferri Middle East (MME) to propose an alternative viable solution which has to be techno-commercially better than the RCC walls.



Section

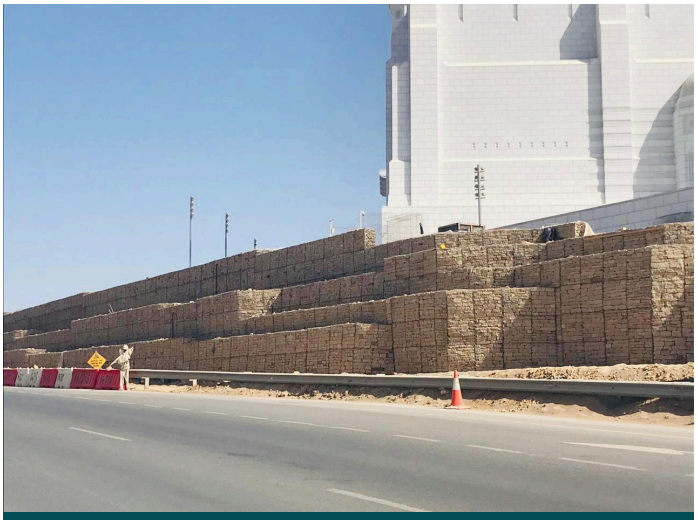
PERSPECTIVE VIEW "A" - GABION TERRACED WALL

3D Section

Solution

Based on the design studies done by Maccaferri Middle East LLC for this project and based on our experience in similar project conditions, we proposed a terraced Terramesh wall system that was accepted by the client due to the following--benefits; (1) Being a flexible gabion facia type wall system, the allowable settlements are higher & hence structurally more stable than RCC walls. (2) Additionally, one or more layers of 300KN/m strength geogrid can be provided to enhance rotational stability of the whole 8m high slope, which is not possible in case of RCC walls. (3) Due to the porous gabion facia, the irrigation water is drained easily and quickly, without generating additional pore water pressure. (4) The front side of gabion facia can be filled with beige colored expensive stones placed by hand, while the balance portion on rear side can be filled by less expensive wadi stones. (5) Terramesh installation doesn't require skilled labors, concrete casting, scaffolding etc. which makes it faster than RCC wall construction. As in case of this project, the total scope

During Construction



After Construction

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OPEN GOOGLE MAPS

OPEN GOOGLE EARTH

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