Detailed calculations of post-construction strain allow bridge piers to be constructed in front of walls with confidence

Walls and Slopes
№ 445

Cavite-Laguna Expressway

Laguna, Philippines

CONSTRUCTED IN 2019

Benefits

Small construction footprint
enables continuity of adjacent traffic

Ease of installation
with a modular block wall system

Rapid construction
with TensarTech TW3 Wall

Tensar Keeps Traffic Flowing

Cavite-Laguna Expressway (CALAx) is a mammoth project which required reinforced soil structures for the bridge approaches to be built within tight space constraints in busy city areas.

CLIENT'S CHALLENGE

The CALAx project involved the construction of reinforced soil structures measuring a maximum height of 11.2m, located around nine bridges. These works were located in busy areas which required a solution that would have a small construction footprint, reduced machinery needs and needed minimal road closures and traffic disruptions until CALAx was brought online.

TENSAR SOLUTION

Tensar's partner, well-established in the market, was ready to provide a solution to meet the client's challenge. The retaining wall system consisting of modular blocks and Tensar geogrids can be installed manually. The use of modular blocks avoided the need for cranes and external propping which are required for panel facing systems. An experienced partner was also vital as a project of this scale requires a builder with both the resource and experience to bring the project to completion.

Modular block units and stiff RE500 geogrids allow for rapid and easy no-fuss installation

PROJECT BACKGROUND

The Cavite-Laguna Expressway or CALAx is a four-lane, 44.63km expressway which connects Kawit, Cavite (CAVITEx) to Mamplasan, Biñan, Laguna (SLEx). The primary objective of the project is to ease congestion in the Cavite and Laguna areas.

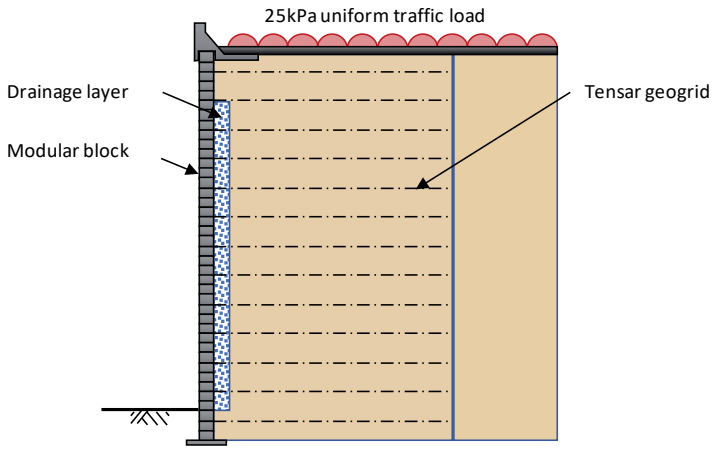
Due to the high profile and importance of the project reliability, efficiency and cost were major considerations in selecting appropriate construction techniques. The structure was designed to support a traffic load of 25kPa and resist seismic forces equivalent to peak horizontal accelerations of 0.25g. Tensar's partner, FW Nicol Philippines Inc., provided a design and supply service to the main contractor in addition to onsite monitoring and support.

Partner
FW Nicol Philippines Inc.

Main contractor
D.M. Consunji Inc.

Client
MPT South Management Corp.

Cross section of the proposed modular block wall



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