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LOMÉ CONTAINER TERMINAL - QUAY WALL DESIGN

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ABSTRACT

The aim of this paper is to describe the main design and execution criteria regarding the quay wall solution adopted which is being constructed at a length of approximately 1000 meters in the new container terminal at the Lomé Port, Togo.

These structures include a 29-meter deep reinforced concrete diaphragm wall, connected to an anchored dead man wall through a 45-meter long steel tie rod system. The quay cranes will run over the diaphragm wall on the sea side and on a beam, founded on bored piles, on the land side.

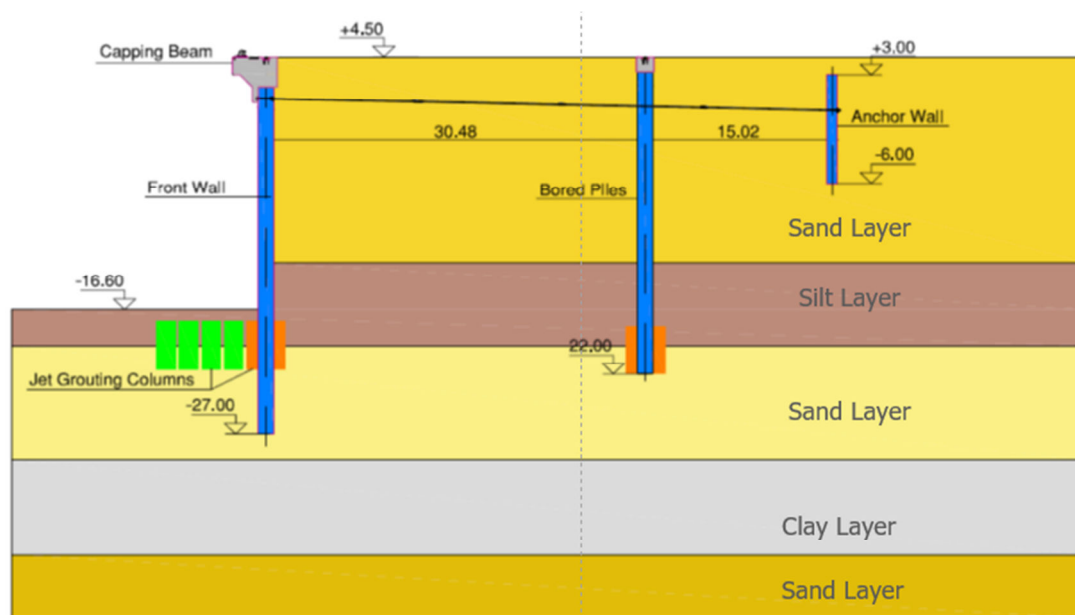


Fig. 1 - New container terminal, Lomé Port, Togo

Several constraints were taken into consideration, for example, the geological-geotechnical conditions as well as the high loads (due to the bollards and the crane rails), the durability, the safety and the costs.

Finally, as a result of a soft clay layer, located next to the diaphragm wall tip, the ground at the wall tip level was improved in several sections with jet grout columns to prevent punching and increase the overall stability. The soil in the passive zone of the diaphragm wall was also improved with jet grouting columns to reduce the deformation and the bending moments in the quay wall.

The paper will address the wide range and versatility of solutions adopted during the construction of the quay wall of the Lomé Container Terminal, at Togo. Other aspects, such

as design loads, relevant ultimate and service limit states, quality control and quality assurance procedures and monitoring plan will also be discussed along the paper.



Fig. 2 - Global view of the works

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