

(17) ALEXANDRIA CHEMICALS TERMINAL – EGYPT (2013) – Soil Improvement by Stone Columns

The project site situated within Al – Dekhela Sea Port, Alexandria, Egypt. The 8000 square meter was assigned to construct high toxic liquids tanks; 5 of 17 m diameter, 4 of 20 m diameter and 4 of 13.5 m diameter. Site geological profile is silty sand with moderate relative density with occasional existence of 1.00m thick of organic materials at 9.00 m / 10.00 m below ground level. To avoid any potential decay in organic materials properties and the associated settlement on the new constructed tanks, soil improvement in the form of stone columns was designed to sustain a 200 kpa potential load at ground level. 2134 stone columns with 1.00 m average diameter at 2.00 m spacing and 12.00 m / 14.000 m length were good enough to support tanks potential loads. Columns were designed in accordance to rational equations and serviceability was checked and verified through software package Plaxis.

