

Case Study of Ground Improvement Solution for a Power Plant

Authors : Eleonora Di Mario

Abstract : This paper describes the application of ground improvement to replace a typical piled foundation scheme in a power plant in Singapore. Several buildings within the plant were founded on vibro-compacted sand, including a turbine unit which had extremely stringent requirements on the allowable settlement. The achieved savings in terms of cost and schedule are presented. The monitoring data collected during the operation of the turbine are compared to the design predictions to validate the design approach, and the quality of the ground improvement works. In addition, the calculated carbon footprint of the ground improvement works are compared to the piled solution, showing that the vibro-compaction has a significantly lower carbon footprint.

Keywords : ground improvement, vibro-compaction, case study, sustainability, carbon footprint

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