Application of value engineering to geotechnical design for a factory structures on soft alluvial flood plain in Indonesia

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This paper aims at giving a framework on how value engineering can be applied to geotechnical design to improve the value of the project. Case history of such application on an alternative design to a palm oil mill over very soft alluvial flood plain in east coast of Sumatra of Indonesia is presented to demonstrate how a safe and cost effective geotechnical solution for the foundation treatment is developed. Innovative short floating pile design, piled raft foundation and inverted "T" arrangement retaining wall design have resulted in a cost saving of 30% and significant time saving. With the systematic approach and thoughtful brainstorming on design process, the final design turns up to be a successful showcase of value engineering in geotechnical design.

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