

ABSTRACT

This study explained why Value Engineering should be implemented “differently” in a high-risk projects, compared to a standard low risk project. Even though risk is a part of Value Engineering study, oftentimes the Value Engineering study leads to an alternative solution which is lower in price and has better quality.

Three different approaches of value engineering is implemented in three different project of a typical 3 (three) floors basement construction in Jakarta. In Project A (located in South Jakarta), the original design using system diaphragm wall was then changes to contiguous bored pile and bentonite. The soil in the project is highly cemented sand. Cost saving in this project is 15-25%.

In Project B (located in Central Jakarta), the diaphragm wall system was implemented successfully with no risk of dewatering or system failure since the soil is consist of clay or silt with NSPT = 4 – 20.

Project C (located in Central Jakarta) was built in a high risk soil. The soil is soft and dispersive with NSPT = 2 – 6. Contiguous bored pile and bentonite system with 3 or 4 anchors is used, but failure. This Project is a high risk project, but value engineering advised using a contiguous bored pile with bentonite that seems lower in cost compare to diaphragm wall, but in fact the loss which comes with that decision is about 200%.

Keywords: risk, 3 (three) floors basement, saving, dispersive soil, loss