

Lorong Halus Infrastructure Works

Singapore

For the first time in Singapore, Keller introduced Vibro Concrete Columns technique to provide an innovative alternative to treat problematic landfill soil. Collaboration with Keller Malaysia and Keller's Global Product Team ensured excellent execution for this project.



The project

Lorong Halus was Singapore's largest landfill built on the site of a former sewage works, until it closed in 1999 followed by greater need for infrastructure. Keller Singapore was given the opportunity to provide value engineering as the local government invested in a major roadworks programme in the area.

The challenge

The site was built on difficult ground conditions caused by years of buried waste. Keller had to come up with a solution that works with the challenging soil properties and one that would provide the necessary strength.

The solution

After exploring various techniques, Vibro Concrete Columns technique was chosen. The nature of the technique introduces concrete into the soil and pushes the problematic, landfill soil to the side. This way, strength gained from the columns are independent of surrounding soils. Although the technique has never been done in Singapore before, collaboration with Keller Malaysia, which has solved similar situation with VCC before, and Keller's Global Product Team ensured excellent execution. Keller finished the job three weeks ahead of milestone schedule, impressing the client with our work, site control and safety.

Project facts

Owner(s)

JTC Corporation

Keller business unit(s)

Keller Foundations (S E Asia) Pte Ltd

Main contractor(s)

Chartworth Enterprise Singapore Pte Ltd

Solutions

Bearing capacity / settlement control

Markets

Infrastructure

Techniques

Vibro concrete columns

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