

Accurately Locating Subsurface Utilities in Wet Ground Conditions

Overview

- This project took place in Singapore to locate a water pipe beneath a car park with no up-to-date subsurface utility map available
- The [Proceq GS8000](#) subsurface mapping system was used to detect and map the pipe
- Despite the heavy rainfall and the bad soil conditions of the investigated area, the [SFCW](#) technology managed to resolve targets at deeper depths compared to conventional pulsed systems

Challenge

A large water pipe beneath a car park needed to be located and mapped for an upcoming project. No up-to-date subsurface utility map of the land was available, so the team were commencing the investigation with little information.

Adding to the challenge, the ground conditions in Singapore are very challenging for GPR investigations. The year-round heavy rainfall means the ground is often wet and soggy, with the dielectric value at very high levels.

Solution

The Proceq GS8000 subsurface mapping system was used to detect and map the water pipe. The Stepped Frequency Continuous Wave technology (SFCW) gives the GS8000 an ultra-wide bandwidth, with both low and high frequencies, to achieve the perfect mix of penetration depth and resolution, even under challenging ground conditions.

The [Proceq GPR Subsurface](#) iPad app delivers 3D visualization on site and enables the utilities to be projected onto Google Earth since the true geo-location is obtained with the integrated GNSS receiver, MA8000. This is particularly useful for subsurface utility companies who conduct annual inspections on the same areas.



Learn more about time and cost saving solutions for subsurface utility companies, damage prevention and underground mapping in our [Tech Hub](#).



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