## Geophysical input for geotechnical site investigation over reclaimed land, mangrove swamp and marine environment

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Seismic reflection and refraction techniques were used to map Quaternary sediments as a fast and inexpensive method to complement borehole and cone penetrometer tests. On this site although thin layers and velocity inversion layers are expected, the seismic refraction method gave useful information to the engineers such as unsaturated layers, near saturated layers and consolidated layers interpreted from velocity computations. The seismic reflection survey on the other hand was able to identify clearly silty clay layers and silty sand layers. The survey also managed to identify settlement of the original ground due to the load of the reclaimed sand. The above information combined with the borehole and CPT results gave in depth understanding of the underlying geology of the survey area. As a comparison two resistivity profiles were also surveyed using the 2D resistivity imaging technique.