



GEOTECHNICAL SEMINAR

JOINTLY ORGANIZED BETWEEN
GEOTECHNICAL SOCIETY OF SINGAPORE (GEOSS)
& CENTRE FOR SOFT GROUND ENGINEERING



Building Damage Assessment with Particular Reference to Buildings on Mixed Foundation – Case Studies

by

Wen Dazhi

Land Transport Authority (LTA)

(PDU pending approval)

Date: Tuesday, 10 November 2009
Time: 6:30pm Reception
7:00pm Seminar
Venue: **LT5**
Faculty of Engineering
National University of Singapore

SYNOPSIS

Many shophouses in Singapore are built over deep deposits of normally consolidated or slightly over consolidated marine clay. They are typically founded on footings or strip foundations supported on a dense mass of bakau piles. Unlike other deep foundations which are usually taken to firm bearing strata, the bakau piles generally were not driven to the bearing strata and they behave typically as a uniform mat under the footings or the strip foundations. The typical two to four storey, terraced shophouses, built on such foundations, settle with the ground surface. Over the years many of these shophouses have undergone additions and alternations. To meet modern design codes, the additions or the renovated buildings often have an interior or extension that are founded on deep piles taken to competent bearing strata, while the conserved façade remains on the old, shallow foundations. If ground settlements are induced, for example by adjacent construction activities, the buildings on such mixed foundation system will be at high risk of suffering from severe damage due to the different responses between the parts of the buildings on deep foundations and the other parts on shallow foundations. The presentation will discuss briefly the process of building damage assessment for underground constructions. Particular references will be made to case studies of buildings on mixed foundations. The settlements, modes of deformation and final result of excavation near these structures will be presented.

THE SPEAKER

Dr. Wen Dazhi is a registered PE, PE(Geo) and AC(Geo) in Singapore, a Chartered Engineer of UK and a Chartered Professional Engineer of the Engineers Australia. He has more than 20 years of design and construction experiences.

He has worked for consultants and contractors in China, Australia and Singapore. His major experiences are in the fields of geotechnical and tunnel engineering.

For catering purpose, please confirm your attendance by reply e-mail to: geoss@nus.edu.sg

****** Admission is free for members of GeoSS. Non-members who join as members (S\$60 per annum) on the spot will have their membership till Dec 2009 ******

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