

CERAMAH TEKNIK TECHNICAL TALK

Foundation challenges at geological interface zone

Chow Chee Meng
G&P Sdn. Bhd.
Date: 11 October 2023
Platform: Zoom

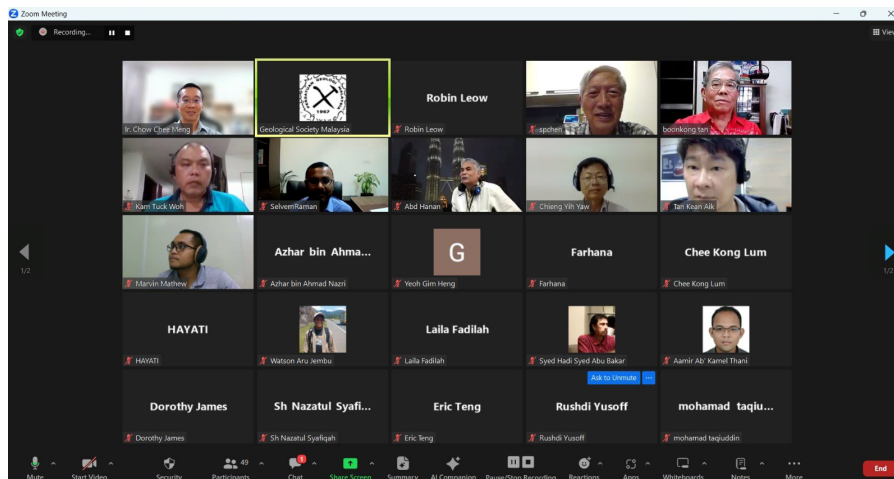
The above talk was delivered by Ir Chow Chee Meng (G&P) on 11th October, 2023 via Zoom. Some 70 members participated. An abstract of the talk is given below:

Abstract: Geological interface zone is known to be highly complex and heterogeneous where proper planning of subsurface investigations (SI) and selection of appropriate foundation system are very important to ensure safety and construction at site can progress smoothly. Challenges associated with foundation works in such interface zone have been reported previously, e.g. Mitchell (1985) in the construction for a 30-storey hotel in Kuala Lumpur on karstic limestone formation at the boundary of the Kenny Hill Formation and a granitic intrusion.

In this talk, two case histories of foundation works at geological interface zone will be shared. In the first case history, foundation challenges for a high-rise development of up to 46-storeys located at Granite-Limestone interface zone will be presented. The foundation system for the building comprises bored piles socketed into Granite bedrock. The geological conditions at the interface zone are very complicated where there are limestone floaters above the Granite bedrock. In addition, other types of rocks such as breccia, pyrite and skarn are also encountered at the interface zone which further complicates the foundation design. Results of instrumented test piles carried out at site and construction challenges will be discussed.

In the second case history, a mixed development on a 9-acres site at Kenny Hill-Granite interface zone will be presented. The foundation system for the building of up to 59-storeys high comprises of bored piles socketed into Granite bedrock and bored piles designed to a pre-determined length at the Kenny Hill side of the site. In both case histories, the importance of SI will be discussed where adequate subsurface information especially at the interface zone is crucial during design such that the design caters for the complex and heterogeneous ground conditions at the interface zone and enables construction works to progress smoothly with minimal interruptions and delays.

We thank Sdr Chow for his support and contribution to the Society's activities.



Prepared by,
Tan Boon Kong
Chairman, Working Group on Engineering Geology
12th October 2023