



One Day Seminar on Pile Foundation - Testing Methods and Best Practice: 12th March 2015

Reported by Ir. Yee Yew Weng, Secretary General, MGS

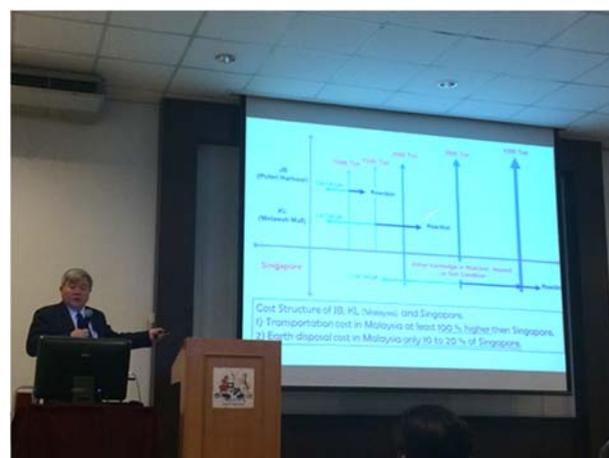
Malaysian Geotechnical Society (MGS) and Geotechnical Engineering Technical Division, Institution of Engineers (GETD IEM) had jointly organized a one day seminar on “Pile Foundation - Testing Methods and Best Practice” on the 12th March 2015 at Tan Sri Prof. Chin Fung Kee Auditorium, Wisma IEM. This was MGS’s 1st event in 2015 and this seminar had successfully attended by more than 110 engineers. This particular topic on “Pile Foundation - Testing Methods and Best Practice” was chosen to disseminate state of art knowledge in pile testing methods in this vibrant part of the construction world.

Prof. Chew Soon Hoe from National University of Singapore (NUS) was the first speaker of the day. He introduced a new method of pile testing - Rapid Pile Load Test, which was accepted in ASTM Standard, as well as Australia and Japanese National Standard. He explained the basic concepts and theories about these two methods and showed the examples of projects being done in Singapore and Malaysia using Rapid Pile Load Test. He also showed excellent comparison and results of correlation tests between Rapid Pile Load Test and Static Pile Load Test. Rapid Pile Load Test is having more advantages than Static Load Test as the test set-up is fast and easy as well as short testing duration.

The second speaker of the day was Er. Foo Hee Kang. He shared about load testing using Kentledge and Reaction Pile Method. He highlighted the comparison of Kentledge Load Test and Reaction Pile Load Test in terms of safety, method of setup and cost. It is interesting that he mentioned the transportation cost in Malaysia is 100% higher than in Singapore but the earth disposal cost in Malaysia is only about 20% of Singapore.



Prof. Chew explaining Rapid Pile Load Test



Er. Foo showing the comparison between Kentledge and Reaction Pile Method



Er. Chandrasegaran presented on Bi-Directional Load Testing Method. He explained that this method provides alternative to the conventional testing methods since it is more environment friendly and can be used in certain geological conditions successfully. He covered the theory behind the method, installation procedures and some case studies to show the advantages of adopting this test method. However, he stressed that the installation process and position of the load cell is very crucial in determining the success of the test because the drawback of the test is that there is no second chance if anything goes wrong. After lunch, the seminar was resumed with the presentation from Ir. Dr. Lee Sieng Kai on pile instrumentation techniques. He introduced an innovative instrumentation called Glostrex method. He explained that the conventional sacrificial cast-in strain gauges may cause delay in lowering the steel cage and pile concreting because they are pre-installation method. Whereas Glostrex method is a post-installation method, hence the time of lowering steel cage and pile concreting will be not be affected. The last speaker of the day was Engr. Chong Mun Fai. He emphasized on the importance of engaging a certified and accredited pile tester for PDA in order to have the CAPWAP analysis interpreted correctly. He concluded that the non-destructive tests are good tools for establishing the integrity as well as to confirm the design parameters of the installed pile.

Finally, a forum on “Will Maintained Load Tests Be Eventually Replaced by Faster and More Economical Testing Methods?” was conducted. Dr. H. M. Aziz from JKR was invited as one of the panelists for the forum. He stressed that, Maintained Load Tests will be replaced eventually depending on the time needed by the industry to gain maturity in conducting rapid load tests. However, Dr. Lee highlighted that Maintained Load Tests are still favourable because the period of holding may have considerable impact on the results. At the same time, Prof. Chew expressed that he agreed that Maintained Load Tests will eventually be replaced by faster testing method but greater economy may not be achieved because in business, when the time of testing is reduced, then cost incurred is usually higher. In addition, participants brought up the issue of that there are far too few certified pile testers in Malaysia. Engr. Chong and Dr. Aziz answered that there are only about 10 certified pile testers in Malaysia. The seminar ended at 5.00pm with the momento presentation to all speakers.



Participants during the seminar



Panelists for the forum