

# Site Supervision Course (Geotechnics module)

**Thursday, 5 September 2019**

(8.30 a.m. to 5.30 p.m.)

**Hotel Armada Petaling Jaya**

Lot 6, Lorong Utara C, Section 52  
46200 Petaling Jaya

Organised by



The Association of Consulting Engineers Malaysia

Supported by



C . O . W . A . M  
CONSTRUCTION INSPECTOR OF WORK ASSOCIATION MALAYSIA  
PPMA-002-14-05042013

Construction Inspector of Work Association Malaysia

## Objective

This course is designed to provide the Graduate Engineers, Engineering Technologists and Inspectors of Works with necessary practical knowledge and information related to good engineering practice in site supervision using proper resources, procedures and reporting to meet the approved design and specification.

## Target Audience

The course is open to Graduate Engineers, Engineering Technologists and Inspectors of Works who have little or no experience in the supervision of geotechnical works at site.

## Language

English will be used for the course and course materials.

## Registration Fee

ACEM member firms & COWAM members	RM 450.00 per person
Others	RM 550.00 per person

Registration fee must be submitted together with the registration form. Payment by crossed cheque is to be issued to '**The Association of Consulting Engineers Malaysia**'.

Fee will not be refunded for any cancellation. However, substitution of participants can be arranged by informing the ACEM secretariat one week before the course commences.

Completed registration forms should be returned to the ACEM secretariat by **29 August 2019** to the following address:

The Association of Consulting Engineers Malaysia  
Suite No. 20-9, Level 20, Menara 1MK  
No. 1, Jalan Kiara, Mont' Kiara  
50480 Kuala Lumpur

For further enquiries, please contact the ACEM secretariat at tel. 012-5290031, 012-5190031 or e-mail [sec@acem.com.my](mailto:sec@acem.com.my).

## Continuing Professional Development (CPD)

The course is eligible for 5 CPD hours for Inspector of Works and Professional Engineers registered with the Board of Engineers Malaysia.

## **Certificate of Attendance**

Certificate of Attendance will be issued subject to full attendance.

## **Course Contents**

### **SOIL INVESTIGATION AND EARTHWORKS**

#### **Part 1 – Soil Investigation (SI)**

- Introduction
- Related Codes, Standards and Guidelines
- Soil Investigation Works
- Supervision
  - Termination Criteria
  - Existing Utilities
  - Equipment and Tools
  - Field Tests
  - Safety
  - Checklist
  - Others

#### **Part 2 – Earthwork (EW)**

- Introduction
- Related Codes, Standards and Guidelines
- Works related to Earthwork
  - Earthwork Design
  - Potential Problems
  - Backfill Material and Compaction
  - Ground Treatment Options
- Supervision
  - Cut slope – slope gradient, drains and slope surface protection
  - Fill slope – sloping ground surface, drains and surface protection
  - Backfill control – suitability of backfill material, backfill thickness, degree of compaction, slope geometry, etc.
  - Ground treatment – treatment methods, locations, material tests and records. Requirement of pre and post treatment in-situ tests.

- Environmental management – noise, vibration, air and/or water monitoring and tests
- Site records

## **PILING AND FOUNDATION WORKS**

### **Part I – Bored Pile and Micropile Installation**

1. Introduction
  - 1.1 Objective of this course
  - 1.2 Detail course contents
  - 1.3 Method statement
  - 1.4 References
2. Role of Supervision for Piling Works
  - 2.1 Parties involved
  - 2.2 Basic role & responsibility
  - 2.3 Duties of supervisors
  - 2.4 Minimum supervision requirements for piling works
3. Site Supervision of Bored Pile Installation
  - 3.1 How to supervise bored pile installation properly (BS EN 1536)?
  - 3.2 Critical info sought from SI
  - 3.3 QC tests for materials & products for bored piles
  - 3.4 Requirements for each bored pile construction process
  - 3.5 Bored pile termination criteria
  - 3.6 Post construction testing
  - 3.7 Common defective construction
  - 3.8 Construction checklist
4. Site Supervision of Micropile Installation
  - 4.1 How to supervise micropile installation properly (BS EN 14199)?
  - 4.2 Critical info sought from SI
  - 4.3 QC tests for materials & products
  - 4.4 Important construction process & requirements
  - 4.5 Construction checklist
5. Specification for Piling Works
6. Case histories/Case studies

## Part II – Displacement Pile Installation

### 1. Introduction

- 1.1 Objective of this course
- 1.2 Detail course contents
- 1.3 Method statement
- 1.4 References

### 2. Site Supervision of Displacement Piles

2.1 How to supervise construction of displacement piles to BS EN12699?

2.2 Principles & behaviour of for displacement piles

2.3 Important Construction Issues of Driven/Jacked Concrete Piles

- (a) Pre-installation planning
- (b) Typical piling problems at site & issues
- (c) Driving stress & WEAP
- (d) Localized obstruction problems
- (e) Pile whipping & verticality problems
- (f) Socketing into rock
- (g) Pile extension requirements
- (h) Selection of hammer & drop height
- (i) Pile termination criteria & difficulties in achieving set
- (j) Redriving tests & set-up/false set phenomenon
- (k) Pile cap excavation problems (soft ground & high water table)
- (l) Piling problems in limestone formation
- (m) Piling problems in soft ground
- (n) Piling problems granite/metasedimentary rock formation
- (o) Piling problems of small RC Piles (<200mm)
- (p) Piling problems of large displacement piles
- (q) Mitigations against ground movement
- (r) Mitigations against noise & ground vibration
- (s) Mitigations against excess pore pressure
- (t) Mitigations against high driving tensile stress

2.4 Pile testing for structural integrity & capacity

2.5 Common defective construction

2.6 Case histories/studies

## Course Programme

8.00 a.m. – 8.30 a.m.	Registration
8.30 a.m. – 10.00 a.m.	Lecture on Site Investigation and Earthworks
10.00 a.m. – 10.30 a.m.	Tea break
10.30 a.m. – 12.30 p.m.	Lecture on Piling and Foundation Works
12.30 p.m. – 1.30 p.m.	Lunch
1.30 p.m. – 3.30 p.m.	Lecture on Piling and Foundation Works (cont'd)
3.30 p.m. – 4.00 p.m.	Tea break
4.00 p.m. – 5.30 p.m.	Lecture on Piling and Foundation Works (cont'd)

## C.V. of Course Lecturers



Ir. Chen Chean Sin is currently a Technical Director of SSP Geotechnics Sdn Bhd. He obtained his Bachelor of Science from the Department of Civil Engineering of National Taiwan University, Taiwan and Master of Science in Geotechnical Engineering from University of Illinois at Urbana-Champaign, USA. In the past twenty over years, he had been involved in many local and oversea projects including hill site development, soft ground treatment, land reclamation, deep basement excavation and foundation design, failure investigation, remedial design and others. He is a registered PE with BEM, Council Member of ACEM and Fellow of IEM.



Ir. Neoh Cheng Aik joined JKR/PWD Malaysia after graduating from University of Malaya in 1974, and has served 25 years in various capacities and posts. He is currently the Director of E-Geo Consultant Sdn Bhd, which specialises in geotechnical engineering design & construction.

Ir. Neoh is also frequently engaged as an independent geotechnical design checker and as expert witness in construction disputes related to geotechnical works. He was amongst the first batch of accredited geotechnical independent checkers appointed by BEM. Ir. Neoh has previously served in IEM (Geotechnical Division Chairman & IEM vice President) and REAM (Chairman of Geotechnical Committee on Geotechnics/TC5). He has published/presented more than 50 technical papers on geotechnical and road engineering in various local/international seminars/conferences/ journals/ bulletins.

## Registration Form

(e-mail to sec@acem.com.my by 29 August 2019)

### Site Supervision Course (Geotechnics module) Thursday, 5 September 2019 Hotel Armada Petaling Jaya

Name (in full): \_\_\_\_\_

Designation: \_\_\_\_\_ Years of working experience: \_\_\_\_\_

Organisation: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Tel.: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

Contact Person: \_\_\_\_\_

#### Registration Fee

ACEM member firm RM 450.00 per person

COWAM member (Membership no. \_\_\_\_\_) RM 450.00 per person

Others RM 550.00 per person

Enclosed is cheque no. \_\_\_\_\_ for RM \_\_\_\_\_ being registration fee for the course (*cheque is to be issued to 'The Association of Consulting Engineers Malaysia'*).

\_\_\_\_\_  
Signature & Company Stamp

\_\_\_\_\_  
Date