

BC Update 203: Two new geotechnical guidance modules released by MBIE and NZGS

Posted: 8 November 2016

MBIE and the New Zealand Geotechnical Society (NZGS) have jointly released two new geotechnical engineering guidance documents as part of the Earthquake Geotechnical Engineering Practice series. This joint guidance has been published as Building Act s175 guidance.



The two new modules are:

- Module 2: Geotechnical investigations for earthquake engineering
- Module 4: Earthquake resistant foundation design.

These versions are being issued for public comment. Geotechnical and structural engineers are encouraged to make use of these documents and return comments to modulefeedback@nzgs.org (<https://www.building.govt.nz/mailto:modulefeedback@nzgs.org>) within six months for consideration by the editorial committee. Comments are also welcome from others working in earthquake engineering.

For Module 4, feedback during this public comment period will inform decisions about the future direction of B1/VM4 (verification method for foundation design). B1/VM4 has not been updated for some time and it has quite limited application. It does not address liquefaction-prone sites or those with other stability issues.

Module 2

Module 2 provides guidance on appropriate investigations to assess the ground conditions to support the seismic design of new structures.

Module 4

Module 4 provides the principles for good foundation design, including up-to-date practice and implementation of Royal Commission recommendations. MBIE recommends that practitioners make themselves familiar with the module and apply the guideline principles in their designs.

Some aspects of Module 4 may be perceived as being inconsistent with B1/VM4, particularly related to strength reduction factors. However, shallow footing design is mostly governed by settlement considerations in the serviceability case, so change will be minimal in these cases. For deep foundations, Module 4 references AS2159: 2009 to provide a risk-based approach to strength reduction factors.

The guidelines are evolving from the single NZGS document published in July 2010 (Module 1 – Guideline for the identification, assessment and mitigation of liquefaction hazards) into a series of modules being developed in partnership by MBIE and NZGS. Modules already published are:

- Module 1: Overview
- Module 3: Identification, assessment and mitigation of liquefaction hazards
- Module 5a: Specification of ground improvement for residential properties in the Canterbury region

Modules on ground improvement and retaining wall design in the NZGS Earthquake Geotechnical Engineering series are scheduled for release

in 2017.

Geotechnical engineering education programme

An education programme is supporting the release of the documents. A seminar series on Module 4 on foundation design with worked examples for experienced professional will be held at various centres around New Zealand in early 2017.

Read the geotechnical guidelines (<https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/geotechnical-guidance-3/>)

New Zealand Geotechnical Society (<http://www.nzgs.org>)

View the geotechnical educational programme (<https://www.building.govt.nz/building-code-compliance/geotechnical-education/>)



**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI

New Zealand Government