



Australian Government

MSL975027 Classify building sites

Release: 1

MSL975027 Classify building sites

Modification History

Release 1. Supersedes and is equivalent to MSL976001A Classify building sites

Application

This unit of competency covers the ability to classify building sites, including residential, light industrial, commercial and institutional structures for the purpose of providing guidance for the design of footing systems.

This unit of competency is applicable to senior technical officers working in the construction materials testing industry sector. Site classification is applicable to single dwelling houses, townhouses and commercial, institutional or light industrial buildings. The classification depends on reactivity of the foundation soils and other potential problems, such as mine subsidence, groundwater conditions and slope. These influence the design of footings, so as to minimise damage due to foundation movement during the life of the building. Operations are performed in accordance with laboratory and/or workplace procedures, and appropriate legislative requirements.

This competency is typically performed by paraprofessionals working under the supervision of an engineer.

While no specific licensing or certification requirements apply to this unit at the time of publication, laboratory operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

MSL974014 Classify soils

MSL973010 Conduct laboratory-based acceptance tests for construction materials

MSL973009 Conduct field-based acceptance tests for construction materials

Competency Field

Testing

Unit Sector

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

essential outcomes.

demonstrate achievement of the element.

1 Prepare to classify site

- 1.1 Review job request and any accompanying documentation to identify purpose of site classification, proposed structure, client's information needs and timeframe
- 1.2 Review relevant building codes or regulations, standards and workplace procedures for classifying site
- 1.3 Locate any previous site classifications conducted in same area
- 1.4 Review supplied site drawings, topography, borehole locations and logs, photographs and design plans for planned structure
- 1.5 Inspect supplied samples and investigation data for completeness and obvious errors
- 1.6 Confirm that investigation data meets depth requirements for the type of site and location
- 1.7 Liaise with client when supplied documentation, samples, investigation data and/or job request do not comply with workplace procedures and resolve any problems

2 Analyse site information and test results

- 2.1 Locate and assess site features, such as slope, structures, drainage, trees and vegetation or abnormal soil conditions that may affect site classification
- 2.2 Determine if fill is present on-site, whether controlled or uncontrolled, and its depth and extent
- 2.3 Determine bearing capacity of soil
- 2.4 Review shrink/swell or correlated clay index test results to determine soil reactivity
- 2.5 Review bore log data in conjunction with soil reactivity and calculate potential soil movement
- 2.6 Recognise obvious errors, insufficient or inconsistent data and limitations of test results
- 2.7 Arrange for, or conduct, additional sampling and/or testing to ensure reliable data for site classification, as

required

- | | | |
|---|-------------------------------------|---|
| 3 | Report site classification | 3.1 Use standard symbols and descriptors to assign a valid site classification that accurately reflects soil reactivity, surface movement and any problematic features

3.2 Summarise field observations, calculations and test results used to determine site classification

3.3 Accurately describe site features that will affect the design of the proposed structure

3.4 Provide adequate data to inform footing system design

3.5 Authorise release of site classification report to the client, or forward the report to a signatory for review and release |
| 4 | Finalise site classification | 4.1 Store client's documentation, samples and test data, and site classification in accordance with workplace procedures

4.2 Maintain confidentiality of client information |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Standards, codes, procedures and/or workplace requirements

Standards, codes, procedures and/or workplace requirements include the latest version of one or more of:

- Australian and international standards covering the requirements for the competence of testing and calibration laboratories, laboratory safety, and quality and environmental management

- national work health and safety (WHS) standards and codes of practice, national measurement regulations and guidelines, and environmental legislation and regulations
 - specific codes, guidelines, standards and methods, such as:
 - State/Territory Building Codes and Regulations
 - AS 2870-2011 Residential slabs and footings
 - AS 3798-2007 Guidelines on earthworks for commercial and residential developments
 - AS 1726-1993 Geotechnical site investigations
 - AS 1289 Set Methods of testing soils for engineering purposes
 - National Association of Testing Authorities (NATA) documents regarding construction materials testing (Field application document)
- workplace documents, such as standard operating procedures (SOPs); quality and equipment manuals; calibration and maintenance schedules; material safety data sheets (MSDS) and safety procedures; material, production and product specifications; production and laboratory schedules; workplace recording and reporting procedures; waste minimisation and safe disposal procedures; maps and site plans
- sampling and testing procedures for specific sites, clients and samples

WHS and environmental management requirements

WHS and environmental management requirements include:

- complying with WHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time
- applying standard precautions relating to the potentially hazardous nature of samples

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSL976001A Classify building sites

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

Assessment Requirements for MSL975027 Classify building sites

Modification History

Release 1. Supersedes and is equivalent to MSL976001A Classify building sites

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- safely conducting at least five (5) site classifications from the following list of site classes: S, M, H1, H2, E and P
- liaising with clients to clearly establish their requirements, information needs and to resolve any problems
- interpreting and applying the relevant sections of standards, regulations, codes of practice and workplace procedures
- accurately interpreting site maps, drawings, features, bore logs and test data
- recognising soil characteristics and accurately classifying samples of gravel, sand, silt and clay
- comparing the physical properties of samples with test results and expected values and recognising anomalous results
- interpreting test results and field observations with close attention to detail and making logical conclusions
- arranging for additional samples or sampling at different bore locations to address insufficient data or contaminated samples
- arranging for repeat or additional laboratory tests to address inconsistent data or resolve anomalous results
- performing accurate calculations, such as surface movement
- seeking timely advice to deal with situations beyond own technical competence
- providing site classification reports to clients in accordance with workplace procedures and within the expected timeframe
- maintaining accurate and complete records of site classifications and confidentiality of client information.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- provisions and requirements of relevant standards, regulations and building codes relevant to site classifications performed as part of job role
- importance of ethical/professional conduct of site classifications and legal implications of errors
- engineering properties of soil and rock materials
- information required for footing system design
- methods of assigning a site classification

- influences of topography, site preparation, structures and vegetation on classification decisions
- in situ and laboratory test methods applicable to site classification
- common calculations (e.g. surface movement) used in site classification
- common sources of site misclassification, including:
 - misidentification of soil properties
 - non-recognition of fill or nature of fill
 - laboratory test results inconsistent with site observations and/or bore logs
- relevant hazards, work health and safety (WHS) and environment requirements.

Assessment Conditions

- Judgment of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event. The timeframe must allow for adequate assessment of operation under all normal and a range of abnormal conditions.
- This unit of competency is to be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
 - MSL975007 Supervise sampling, inspections and testing at construction sites
 - MSL975023 Supervise geotechnical site investigations
- Holistic assessment methods include:
 - review of site classifications completed by the candidate
 - feedback from supervisors or clients about the candidate's ability to conduct site classifications safely, efficiently and in accordance with work instructions
 - examples of workplace documentation completed by the candidate, such as site classification reports, records and calculations
 - observation of the candidate performing site classification tasks
 - oral or written questioning about site classification procedures, test methods, common site classification problems and interpretation of site data
 - review of responses to simulations, case studies and scenarios. For example, given appropriate soil profile test results, the candidate calculates the potential soil movement in each soil layer and the total surface movement.

- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - client requirements, building site documentation, sampling data and test results
 - relevant codes, regulations, standards and test methods, and workplace procedures
 - calculator and/or computer with appropriate software.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competence and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience.
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with a laboratory about performing the competency being assessed within the last twelve months.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>