

Title	Assess and monitor ground conditions for onsite piling and deep foundation works		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to assess and monitor ground conditions for onsite piling and deep foundation works.
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Classification	Infrastructure Works > Structural Foundations
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Available grade	Achieved
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Guidance Information

- 1 Learning and assessment within this unit standard must be carried out in a construction or infrastructure works environment in accordance with industry requirements and the following legislation, as relevant to the role, and any subsequent amendments:
 - Health and Safety at Work Act 2015;
 - Resource Management Act 1991;
 - Heritage New Zealand Pouhere Taonga Act 2014;
 - *Structural Engineering Society New Zealand (SESOC), New Zealand Geotechnical Society (NZGS) Construction Specification Bored and Driven Piles 2022*, available from www.nzgs.org;
 - *Excavation Safety: Good Practice Guidelines 2016*, available from Worksafe www.worksafe.govt.nz;
 - *Operator Safety Manual for Earthmoving Machinery 2017*, available from Civil Contractors New Zealand <https://civilcontractors.co.nz/>.

- 2 Definition

Industry requirements may refer to but are not limited to relevant policies, processes, methodologies, industry codes of practice, site specific health and safety plans, standard operating procedures, site safety plans, quality plans, work plans, traffic management plans, contract work programmes, job safety analysis, safe work method statements, job instructions, manufacturer's requirements, contract specifications, manuals, procedural documents.

- 3 Range

Three different piling activities with three different bore logs.

Outcomes and performance criteria

Outcome 1

Assess ground conditions for onsite piling and deep foundation works.

Performance criteria

1.1 Bore logs are interpreted to determine geotechnical information that impacts on piling operations.

Range landforms, land features, nature of ground, ground conditions, subsurface conditions, water levels, rocks and rock outcrops, basement rock, types of soils present, ground water levels, strata information, rock strength.

1.2 Working platform certificate is confirmed by a supervisor to ensure it meets stability requirements.

Range position, geo-grid, bearing pressure of machine, platform thickness, material used.

Outcome 2

Monitor ground conditions for onsite piling and deep foundation works.

Performance criteria

2.1 Drill tools are selected for suitability for the piling operations and are monitored for unforeseen ground conditions.

Range changing water table, unforeseen obstructions, seasonal changes, rock strength, lack of geotechnical information.

2.2 Ground conditions are monitored in terms of contamination that could impact on piling operations.

Range petrochemicals, asbestos, odours.

2.3 Ground conditions are monitored in terms of archaeological artefacts and areas of cultural significance that impact on piling operations.

2.4 Changes in ground conditions are recorded and reported.

Planned review date	31 December 2028
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 July 2023	N/A

Consent and Moderation Requirements (CMR) reference	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangaAraRau.nz if you wish to suggest changes to the content of this unit standard.