

Title	Demonstrate knowledge of the effects of soil types and ground conditions on trenchless operations		
Level	4	Credits	6

Purpose	People credited with this unit standard are able to demonstrate knowledge of the effects of soil types, and ground conditions, on trenchless operations.
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Classification	Infrastructure Works > Pipeline Construction and Maintenance
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with relevant legislative and industry requirements.
- 2 Legislation relevant to this unit standard include: Health and Safety at Work Act 2015; and any subsequent amendments.
- 3 Definition
Industry requirements refer 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, Waka Kotahi New Zealand Transport Agency specifications and guidelines.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the effects of soil types on trenchless operations.

Range sand, clay, rock, cohesive soil, non-cohesive soil.

Performance criteria

- 1.1 Soil types are described in terms of their composition, qualities, and suitability for trenchless operations.

- 1.2 Soil types are described in terms of the limitations they impose on choice of trenchless method, and their effects on the design path for trenchless operations.
- 1.3 Soil types are described in terms of their effects on choice of equipment size, and ancillary support plant and equipment.
- 1.4 Changes in soil type during trenchless operations are described in terms of their effects on the operation and industry requirements for their management.
- 1.5 Records to be kept in relation to soil types for trenchless operations are described.

Outcome 2

Demonstrate knowledge of the effects of ground conditions on trenchless operations.

Performance criteria

- 2.1 Ground conditions are described in terms of their effects on choice of trenchless design path, methodology, and tooling materials.
- Range water table level, soft ground, hard ground, variable ground, boulders.
- 2.2 Actions to be taken when unexpected ground conditions are encountered during trenchless operations are described, including criteria for seeking expert advice.
- 2.3 Records to be kept in relation to ground conditions for trenchless operations are described.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	29 November 2018	31 December 2023
Review	2	26 August 2021	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 Connexis - Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.