

Title	Position, excavate, and backfill excavations and trenches for plumbing, gasfitting, or drainlaying		
Level	3	Credits	4

Purpose	<p>This unit standard is for people who work in the plumbing, gasfitting, or drainlaying industries.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – determine the position of the excavation or trench for plumbing, gasfitting, or drainlaying work; – excavate to a stable sub-base in preparation for plumbing, gasfitting, or drainlaying work; and – carry out backfilling and clear the site when completing plumbing, gasfitting, or drainlaying work.
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Classification	Plumbing, Gasfitting and Drainlaying > Core Plumbing, Gasfitting, and Drainlaying
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Available grade	Achieved
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Guidance Information

- 1 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to:
- Building Act 2004;
 - Health and Safety at Work Act 2015;
 - Plumbers, Gasfitters, and Drainlayers Act 2006;
 - Plumbers, Gasfitters, and Drainlayers Regulations 2010;
 - Resource Management Act 1991.

The following standards, which are available at <http://www.standards.govt.nz/>:
 AS/NZS 1546.1:2008 *On-site domestic wastewater treatment units – Septic tanks*,
 AS/NZS 1547:2012 *On-site domestic wastewater management*,
 AS/NZS 3500.2:2021 *Plumbing and drainage, Part 2: Sanitary plumbing and drainage*.

The following guides, which are available at <http://www.worksafe.govt.nz/worksafe/>:
Good practice guidelines – Excavation safety, Wellington: WorkSafe New Zealand, 2016,
Guide for Safety with Underground Services, Wellington: Department of Labour, 2002.

The following Building Code clauses, and any related Acceptable Solution and Verification Method documents, which are available at <https://www.building.govt.nz/>:
New Zealand Building Code Clause E1 Surface Water
New Zealand Building Code Clause G12 Water Supplies
New Zealand Building Code Clause G13 Foul Water.

Any new, amended or replacement referenced standards, codes of practice, guidelines, Building Code Acceptable Solutions and Verification Methods, or authority requirements affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

2 Definitions

Job specifications refer to instructions (oral, written, graphic) and may include any of the following – manufacturer instructions; design drawing detail specifications; specifications from a specialist source such as an architect, designer, engineer, or a supervisor; and site or work specific requirements.

Other services refers to any existing installed services such as water, gas, electricity, or telephone network cables.

- 3 Candidates must hold a current limited certificate trainee authorisation or exemption under supervision as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006.

Outcomes and performance criteria

Outcome 1

Determine the position of the excavation or trench for plumbing, gasfitting, or drainlaying work.

Performance criteria

- 1.1 Determine position and level by measurements in accordance with job specifications.
- Range includes establishing line, level, and gradient.
- 1.2 Identify any need for the excavation to accommodate other services and incorporate into the position and size.
- 1.3 Locate other services, avoid, and protect them in accordance with the owning utility operator's working practice.
- 1.4 Identify other services by label and/or colour in accordance with job specifications and relevant standards and codes.
- 1.5 Avoid or remove any obstructions.

Outcome 2

Excavate to a stable sub-base in preparation for plumbing, gasfitting, or drainlaying work.

Performance criteria

- 2.1 Remove surface material in accordance with job specifications.
- 2.2 Calculate spoil in accordance with volume of excavation and bulking factor.
- 2.3 Excavate spoil in accordance with job specifications.
- 2.4 Identify stable sub-base by visual assessment and in accordance with job specifications.
- 2.5 Stabilise the excavation in accordance with job specifications and relevant standards and codes.

 Range may include benching, battering, sheet piling, shoring. evidence of one method is required.
- 2.6 Determine type of, quality, and quantity needed for bedding material.
- 2.7 Select, place, and level bedding material in accordance with site conditions and job specifications.

Outcome 3

Carry out backfilling and clear the site when completing plumbing, gasfitting, or drainlaying work.

Performance criteria

- 3.1 Backfill the excavation and compact as necessary, in accordance with job specifications, codes and standards, selection of backfill material, method of compaction, rate of compaction, and expected finished surface.
- 3.2 Place or reinstate appropriate means of identifying below ground services.

 Range may include but is not limited to – signal tape, trace wire.
- 3.3 Remove and dispose of debris, including excess spoil, associated with the completed work.

Replacement information	This unit standard and unit standard 30532 replaced unit standard 1099 and unit standard 1122.
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Planned review date	31 December 2029
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 September 2017	31 December 2028
Review	2	30 May 2024	N/A

Consent and Moderation Requirements (CMR) reference

0003

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 qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.