

Title	Install, test, and commission water main systems		
Level	4	Credits	3

Purpose	<p>This unit standard is for people who work in the plumbing industry.</p> <p>People credited with this unit standard are able to install, test, and commission water main systems.</p>
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Classification	Plumbing, Gasfitting and Drainlaying > Plumbing
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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 the:
 Building Act 2004;
 Health and Safety at Work Act 2015;
 Plumbers, Gasfitters, and Drainlayers Act 2006;
 Plumbers, Gasfitters, and Drainlayers Regulations 2010;
 Water Services Act 2021;
 Water Services (Drinking Water Standards for New Zealand) Regulations 2022;
 Drinking Water Acceptable Solution for Roof Water Supplies- available at [Acceptable Solutions | Taumata Arowai](#).

The following standards, which are available at <http://www.standards.govt.nz>:
 AS/NZS 3500.1:2021 *Plumbing and drainage, Part 1: Water services*,
 NZS 3604:2011 *Timber-framed buildings*,
 NZS 4302:1987 *Code of practice for the control of hygiene in air and water systems in buildings*.

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 G10 Piped Services,
 New Zealand Building Code Clause G12 Water Supplies.

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.

Water main systems refers to water mains and associated fittings, metering equipment and pipework to buildings and other connection and termination points.

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

4 Assessment information

All work must be completed in accordance with job specifications and relevant standards and codes.

5 Range

Jointing – evidence is required for three of compression, flange, electro fusion weld, fusion weld, couplings (gibault type), glued, RRJ push fit, threaded, hard solder (brazing);

Pipe materials – one of polyethylene, uPVC, stainless steel, copper;

Water mains fittings – evidence is required for a minimum of any three of - hydrants, isolation valves, meters, branches, saddle tapping, other fittings.

6 Level of performance

To achieve this standard the candidate must be capable of consistently performing the requirements:

- to current and relevant legislation, standards and codes (including safety);
- in an environmentally sustainable manner;
- within an acceptable timeframe;
- in the workplace;
- in different and unfamiliar contexts.

7 This unit standard relates to both reticulated network authority mains and self-contained water supply systems. Self-contained water supply systems may refer to private water collection or bore and distribution systems.

Outcomes and performance criteria

Outcome 1

Install, test, and commission water main systems.

Performance criteria

- 1.1 Install water main systems and associated fittings and connect them to connections and discharge points.
- 1.2 Test water main systems for soundness.

1.3 Complete relevant water main systems commissioning tests and reporting.

Range reporting may include but is not limited to – photographic evidence, as-built plans, testing sheets or checklists.

1.4 Backfill in a way to prevent damage to installed components.

Range selection of bedding, installation of marker tape.

1.5 Commission water main and associated fittings to ensure they operate to design function.

Range may include – flushing system, chemical treatments, checking operation of components, verifying flow rates.

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	30 May 2024	N/A

Consent and Moderation Requirements (CMR) reference	0003
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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 qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.