

<b>Title</b>	<b>Install and maintain water mains and water supply systems</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>4</b>

<b>Purpose</b>	<p>This unit standard is for people who work in the plumbing industry.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"><li>– install and commission water main;</li><li>– install water supply systems and reticulation; and</li><li>– maintain water mains and water supply systems and reticulation.</li></ul>
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<b>Classification</b>	Plumbing, Gasfitting and Drainlaying > Plumbing
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 References  
Building Act 2004;  
Health Act 1956;  
Health and Safety at Work Act 2015;  
Plumbers, Gasfitters, and Drainlayers Act 2006;  
Plumbers, Gasfitters, and Drainlayers Regulations 2010;  
Water Supplies Protection Regulations 1961;  
The following standards, which are available at <http://www.standards.govt.nz>:  
AS/NZS 3500.1:2015 *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*,  
NZS 5807:1980 *Code of practice for industrial identification by colour, wording or other coding*;  
The following clauses, and any related compliance 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;  
and all subsequent amendments and replacements.
- 2 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.
- 3 This unit standard requires the application of theory as included in the Plumbers, Gasfitters, and Drainlayers Regulations 2010.

- 4 Credit for this unit standard does not entitle the candidate to legally perform certain electrical aspects of this work unless registered or supervised by a registered person under the provisions of the Electricity Act 1992.
- 5 **Range**  
jointing – three of compression flange, electro fusion weld, fusion weld, couplings (gibault type), glued, RRJ push fit, threaded, hard solder (brazing);  
pipe materials – one of MDPE polyethylene, uPVC, copper;  
water mains fittings – three of hydrants, isolation valves, meters, branches, saddle tapping, other fittings;  
water mains structures – anchor blocks, thrust blocks.
- 6 Assessment against installation of water main structure/s may be carried out using simulation.
- 7 **Definitions**  
*Job specifications* – 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. Where job specifications are in conflict with applicable legislation, standards, and/or codes, such legislation, standards, and/or codes shall take precedence for the purpose of assessment.  
*Maintain* may refer to all or any of – repair, upgrade, alter, remove.  
*Other services* – any existing installed services.  
*Water mains* refers to water mains and associated fittings and structures.  
*Water supply systems and reticulation* refers to water collection, storage, and distribution pipework to buildings, and to metering equipment.
- 8 Candidates must hold a current limited certificate or exemption under supervision as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006.
- 9 Recommended skills and knowledge for the unit standard: Unit 30532, *Demonstrate knowledge of excavating and trenching for plumbing, gasfitting, or drainlaying*.
- 10 All practical activities are to be carried out in a way that avoids harm to people and damage to property, environment, other services, materials, tools, and equipment.

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## Outcomes and performance criteria

### Outcome 1

Install and commission water mains.

### Performance criteria

- 1.1 Construct water main and install associated fittings in accordance with job specifications.
- 1.2 Install water main and associated fittings and connect them to connections and discharge points in accordance with job specifications.

- 1.3 Backfill in a way to prevent damage to installed components.
- 1.4 Commission water main and associated fittings to ensure they operate to design function.

## Outcome 2

Install water supply systems and reticulation.

### Performance criteria

- 2.1 Install water supply systems in accordance with job specifications and relevant standards and codes.
- 2.2 Connect water supply systems to connection and termination points in accordance with job specifications and relevant standards and codes.
- 2.3 Test water supply systems for soundness in accordance with job specifications and relevant standards and codes. Complete relevant commissioning tests and reporting.
- Range reporting may include but is not limited to – photographic evidence, as-built plans.
- 2.4 Install water supply systems to prevent contamination and/or damage to the system.
- 2.5 Backfill in a way to prevents damage to installed components.

## Outcome 3

Maintain water mains and water supply systems and reticulation.

### Performance criteria

- 3.1 Identify faults in terms of causes and means of rectification.
- 3.2 Rectify faults in accordance with maintenance requirements, job specifications, and relevant standards and codes.

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<b>Replacement information</b>	This unit standard and unit standard 30614 replaced unit standard 23849.
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**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	26 October 2017	31 December 2028
Review	2	30 May 2024	31 December 2028

**Consent and Moderation Requirements (CMR) reference**

0003

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.