

<b>Title</b>	<b>Demonstrate knowledge of rehabilitation and replacement of existing wastewater pipe lines</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>3</b>

<b>Purpose</b>	People credited with this unit standard are able to demonstrate knowledge of: criteria to be considered before selecting either a rehabilitation or replacement technology for existing wastewater pipes; and rehabilitation and replacement of existing wastewater pipes.
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<b>Classification</b>	Water Industry > Water Reticulation
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation and references relevant to this unit standard include: Health and Safety at Work Act 2015, Local Government Act 2002, and subsequent amendments; NZS 4404:2010 *Land Development and Subdivision Infrastructure*; and AS/NZS 2566.2:2002 *Buried flexible pipelines - Installation*, both available from <http://www.standards.govt.nz>; Local or Territorial Authority codes of practice.
- 2 Definitions  
*Water reticulation* – in this context refers to all pipe systems, pumping systems, and components that contribute to the collection and disposal of wastewater and stormwater.  
*Replacement* – restore the service life or extend parts of the water distribution system.  
*Rehabilitation* – existing pipes are repaired, relined or re-coated.

### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of criteria to be considered before selecting either a rehabilitation or replacement technology for existing wastewater pipes.

#### Performance criteria

- 1.1 Selection criteria are described in terms of their importance, and applicability for specified situations.

Range evidence is required for at least three selection criteria.

**Outcome 2**

Demonstrate knowledge of rehabilitation of existing wastewater pipes.

Range two different rehabilitation techniques.

**Performance criteria**

- 2.1 Rehabilitation techniques are described in terms of their uses and suitability for specified situations, and pipe materials.
- 2.2 Rehabilitation techniques are described in terms of the procedures and methods of installation.
- 2.3 Rehabilitation techniques are described in terms of their advantages and disadvantages.
- Range evidence is required for at least two advantages and two disadvantages.
- 2.4 The uses of closed circuit television (CCTV) are described for selecting and assessing rehabilitation techniques, before and after lining.

**Outcome 3**

Demonstrate knowledge of replacement of existing wastewater pipes.

Range two different replacement techniques.

**Performance criteria**

- 3.1 Replacement methods are described in terms of their uses and suitability for specified situations, and pipe materials.
- 3.2 Replacement methods are described in terms of the procedures used.
- 3.3 Replacement methods are described in terms of the materials used.
- 3.4 Replacement methods are described in terms of their advantages and disadvantages.
- Range evidence is required for at least two advantages and two disadvantages.
- 3.5 Replacement methods are described in terms of precautions for use, and visible warning signs at ground level.

<b>Replacement information</b>	This unit standard, unit standard 19213, unit standard 19214, unit standard 19215, and unit standard 22111 were replaced by unit standard 31450.
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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 2005	31 December 2016
Rollover and Revision	2	20 February 2009	31 December 2016
Rollover	3	21 July 2011	31 December 2018
Review	4	16 March 2017	31 December 2021
Review	5	27 September 2018	31 December 2021

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