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| Title | Demonstrate knowledge of bypass pumping and employ bypasses for pipeline construction or maintenance | | |
| Level | 4 | Credits | 4 |

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| Purpose | People credited with this unit standard are, for infrastructure pipelaying, able to: demonstrate knowledge of bypass pumping; and install, commission, and decommission bypasses. |
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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 Legislation and references relevant to this unit standard include: Health and Safety at Work Act 2015 and Resource Management Act 1991; NZS 4404:2010 *Land Development and Subdivision Infrastructure*; Local and territorial authority requirements.
- 2 Assessment against this unit standard must take place in a workplace environment. Assessment parameters will depend on company and site-specific equipment, procedures, and practices. Practices must reflect industry best practice and comply with legislative requirements.
- 3 For bypasses that require entry to an access chamber or other confined space it is recommended that candidates hold credit for both Unit 17599, *Plan a confined space entry*, and Unit 18426, *Demonstrate knowledge of hazards associated with confined spaces*. Where this entry occurs on reticulated water systems candidates should also have credit for Unit 19207, *Work in a confined space in the infrastructure industry*.
- 4 **Definitions**
Company requirements include the policy, procedures, and methodologies of the company. They include legislative and regulatory requirements applicable to the company or a specific site. Requirements are documented in the company's health and safety plans, traffic management plans, contract work programmes, quality assurance programmes, policies, and procedural documents.
Contract specifications include plans, diagrams, and special technical conditions. They do not include special administrative conditions.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of bypass pumping for pipeline construction and maintenance.

Performance criteria

- 1.1 Purposes of bypass pumping are explained in terms of the requirements of pipeline construction and maintenance.
- 1.2 Methods for temporarily removing the flow between two points on a pipeline are described, and their suitability for specific situations are explained in accordance with company requirements.
- 1.3 Limitations of bypass pumping are described and explained in relation to pump and hose or pipe capabilities, operational situations, and terrain.
- 1.4 Risk factors in maintaining bypass pumping are described and explained in terms of potential consequences. Measures to control the risk factors are described in accordance with company requirements.

Range three risk factors.

Outcome 2

Install, commission, and decommission bypasses for pipeline construction or maintenance.

Range one of – rerouting, repair, new construction.

Performance criteria

- 2.1 Plan is obtained, and method of bypass is determined and confirmed.
- 2.2 Plant, equipment, fittings, and materials are selected in accordance with method of bypass and company requirements.
- 2.3 Site management and communication requirements are determined and confirmed as in place before commencement of work.

Range site safety plan, environmental plan, any traffic management plan, notifications.
- 2.4 Hoses and bungs are installed in accordance with contract specifications and company requirements.
- 2.5 The bypass is commissioned in accordance with contract specifications and company requirements.
- 2.6 The bypass is decommissioned in accordance with job requirements and the site is restored as required in accordance with contract specifications.

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| Replacement information | This unit standard was replaced by unit standard 32809 and unit standard 32810. |
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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 | 21 November 2008 | 31 December 2021 |
| Review | 2 | 29 November 2018 | 31 December 2023 |
| Review | 3 | 26 August 2021 | 31 December 2023 |

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| 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>.