

Title	Demonstrate knowledge of road drainage systems		
Level	4	Credits	6

Purpose	<p>This unit standard is for people who require an understanding of road drainage systems to install road drainage system structures and their connections.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of road drainage systems; describe road drainage system structures and their connections; and identify and describe road drainage system maintenance.</p>
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Classification	Infrastructure Works > Generic Road Works
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Available grade	Achieved
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Explanatory notes

- 1 Assessment against this unit standard may take place in a workplace and/or provider 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.

- 2 Definitions

Company requirements include the policy, procedures, and methodologies of the company. They include legislative and regulatory requirements applicable to a 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.

Technical instructions mean the defined procedures for the method of carrying out the construction process. For this unit standard, they include manufacturers’ instructions, company procedural documents, local authority requirements, and contract specifications.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of road drainage systems.

Evidence requirements

- 1.1 Drainage systems for surface stormwater, pavement, and subsoil drainage are described in terms of their suitability for site conditions.
- Range site conditions include but are not limited to – steep slope, level ground, cross fall, sand, permeable gravel, swamp, low water table, high water table.
- 1.2 Materials used in road drainage systems are identified and their use for drainage is explained.
- Range at least three materials.
- 1.3 Effects of different pavement compositions on drainage requirements are described in accordance with company requirements.
- Range pavements – chipseal, asphalt, unsealed.
- 1.4 Methods for ensuring that drainage channels relate to road pavement levels are described in accordance with technical instructions and company requirements.
- Range open drain, kerb and channel.
- 1.5 Importance of orientation of perforations in drainage pipe is explained in accordance with technical instructions.
- 1.6 Use of geotextiles in road drainage systems is described in accordance with technical instructions.

Outcome 2

Describe the function and installation of road drainage system structures and their connections.

Range sump, inspection chamber, access point, head wall, drop structure.

Evidence requirements

- 2.1 The function of road drainage system structures is described.
- 2.2 Methods for installing road drainage system structures are described in accordance with technical instructions.

- 2.3 Methods for connecting pipes to road drainage system structures are described in accordance with technical instructions.

Outcome 3

Identify and describe road drainage system maintenance.

Evidence requirements

- 3.1 Reasons for maintaining road drainage are identified.

Range three reasons.

- 3.2 Requirements for the maintenance of road drainage are described in accordance with technical instructions.

Range pavement drainage, surface stormwater drains, subsoil drainage, road drains, culverts, sumps.

- 3.3 Requirements for maintenance of bridge deck drainage are described in accordance with technical instructions.

Planned review date	31 December 2019
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 March 2011	N/A
Review	2	19 February 2015	N/A

Accreditation and Moderation Action Plan (AMAP) reference	0101
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This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Consent requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact Infrastructure ITO askus@infratrains.co.nz if you wish to suggest changes to the content of this unit standard.