

<b>Title</b>	<b>Explain drainage management systems, construct sumps, and remove surface water for civil infrastructure works</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	People credited with this unit standard are able to: explain drainage management systems, remove surface water, and construct sumps and remove water by pumping for civil infrastructure works.
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<b>Classification</b>	Infrastructure Works > Infrastructure Civil Works
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with relevant legislative and industry requirements.
- 2 Legislation relevant to this unit standard include:
  - Health and Safety at Work Act 2015;
  - Resource Management Act 1999;
  - *Excavation Safety – Good Practice Guidelines*, available from <https://worksafe.govt.nz>;
  - and all subsequent amendments and replacements.
- 3 Definitions
 

*Drainage management systems* refer to systems for managing site drainage and dewatering during civil infrastructure works. It does not include permanent drainage systems that form part of the works themselves.

*Industry requirements* refer to relevant policies, processes, methodologies, industry codes of practice, site specific health and safety plans, standard operating procedures, site safety plans, quality plans, work plans, traffic management plans, contract work programmes, job safety analysis, safe work method statements, job instructions, manufacturer’s requirements, contract specifications, manuals, procedural documents.

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### Outcomes and performance criteria

#### Outcome 1

Explain drainage management systems for civil infrastructure works.

**Performance criteria**

- 1.1 Drainage management systems are explained in terms of purpose and function.
- 1.2 Types and components of drainage management systems are explained in terms of their suitability for specific applications.
- Range applications – stream diversion, surface stormwater, control of ground water-table level, seepage.
- 1.3 Materials used for drainage management systems are identified and their use for drainage is explained in accordance with job requirements.
- 1.4 Methods for installing drainage management systems are explained in accordance with contract specifications.

**Outcome 2**

Remove surface water for civil infrastructure works.

**Performance criteria**

- 2.1 Drainage management system is selected in accordance with site conditions.
- 2.2 Temporary drainage system to divert surface and subsurface water to storm water drainage system is established.
- 2.3 Surface holes and depressions are filled.
- 2.4 Appropriate falls are provided for surface water drains.
- 2.5 Site surface water is removed and directed to temporary drainage system.
- Range soak holes, sumps, sediment ponds.

**Outcome 3**

Construct sumps and remove water by pumping for civil infrastructure works.

**Performance criteria**

- 3.1 Drainage management system is selected in accordance with site conditions.
- 3.2 Sump is constructed in accordance with drainage management system.
- 3.3 Surface or submersible pumps are installed.
- 3.4 Water is pumped to temporary drainage system.

<b>Replacement information</b>	This unit standard replaced unit standard 12568.
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<b>Planned review date</b>	31 December 2026
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 September 2018	31 December 2023
Review	2	29 July 2021	N/A

<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>.

#### Comments on this unit standard

Please contact Connexis - Infrastructure Industry Training Organisation [qualifications@connexis.org.nz](mailto:qualifications@connexis.org.nz) if you wish to suggest changes to the content of this unit standard.