

Title	Describe wastewater reticulation system management, and management of critical control points		
Level	5	Credits	8

Purpose	People credited with this unit standard are able to: describe the importance of maintaining continuity of treatment of wastewater; describe the factors that affect risks due to construction and maintenance of the reticulation system; describe the procedures for taking a reticulation main out of service, clearing, unblocking and putting back into service; and identify critical control points, hazards, preventive actions, and corrective actions of wastewater reticulation systems.
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Classification	Water Industry > Water Reticulation
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Available grade	Achieved
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Explanatory notes

- 1 Legislation relevant to this unit standard includes: Health and Safety at Work Act 2015, Resource Management Act 1991, and Hazardous Substances and New Organisms (HSNO) Act 1996, and subsequent amendments.
- 2 Definitions
Critical control point – specific point, procedure, or step in water treatment processes at which control can be exercised to reduce, eliminate, or prevent the possibility of a public health hazard.
Organisational procedures – instructions to staff, and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – site specific requirements, manufacturers’ specifications, product quality specifications, and legislative or regulatory requirements.

Outcomes and evidence requirements

Outcome 1

Describe the importance of maintaining continuity of treatment of wastewater.

Evidence requirements

- 1.1 The treatment of wastewater is described in terms of the importance of continuity of treatment, and the implications of disruption of conveyance.

- 1.2 The treatment of wastewater is described in terms of the importance of maintaining flow, and disposal.
- 1.3 Treatment service level requirements are described in accordance with process loading and organisational procedures.

Outcome 2

Describe the factors that affect risks due to construction and maintenance of the reticulation system.

Range public health risks, environmental contamination risks.

Evidence requirements

- 2.1 The risks are described in terms of reticulation problem areas.
- Range includes but is not limited to – low lying areas, long detention times, high velocity, low velocity
- 2.2 The opportunities for contamination during new pipeline construction are described in terms of risks, and methods to reduce these risks.
- Range includes but is not limited to – pipe storage, site cleanliness, hygiene facilities, trench inundation, pump lock-out
- 2.3 The opportunities for contamination during maintenance are described in terms of risks, and methods to reduce these risks.
- Range includes but is not limited to – positive water flows, site cleanliness, trench inundation, flushing, pigging, disinfection, hygiene.
- 2.4 The hazards and causes of backflow, and methods of prevention in wastewater reticulation systems are described in terms of the strengths and limitations of prevention methods.

Outcome 3

Describe the procedures for taking a reticulation main out of service, clearing, unblocking and putting back into service.

Evidence requirements

- 3.1 The purpose and timing of the procedure with consideration for safety are described in accordance with organisational procedures.
- Range may include but is not limited to – safety plan(s) for confined space entry, trench safety, traffic, excess height access, hazardous chemicals use.

- 3.2 Procedures for advising system uses and providing an alternative disposal method are described in accordance with organisational procedures.
- 3.3 Reticulation main shut-down and draining are described in accordance with organisational procedures.
- 3.4 The repair procedure and reticulation mains clearing are described in accordance with organisational procedures.
- 3.5 The procedure for mains put back into service is described in accordance with organisational procedures.

Outcome 4

Identify critical control points, hazards, preventive actions, and corrective actions of wastewater reticulation systems.

Range piped reticulation systems, reticulation features, pump stations, pumps.

Evidence requirements

- 4.1 The critical control points in wastewater reticulation systems are identified in accordance with organisational procedures.
- 4.2 The hazards, the causes of the events leading to their failure, and the level of risk are identified at each critical control point.
- 4.3 The preventive and corrective actions for persistent problems or events related to each hazard are identified in accordance with organisational procedures.

Planned review date	31 December 2021
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	16 March 2017	N/A

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>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, 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.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMRs). The CMR 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 the Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.