

Title	Describe, and undertake sampling and testing procedures for wastewater treatment		
Level	4	Credits	7

Purpose	People credited with this unit standard are able to: describe factors that affect the quality of samples; collect wastewater samples for analysis; perform on site analysis of collected samples; and compare and interpret the wastewater sample results received from a professional laboratory with plant operating process variables.
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Classification	Water Industry > Wastewater Treatment
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Available grade	Achieved
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Guidance Information

- Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable legislative and industry requirements. Assessment against Outcome 2 must be carried out on a wastewater treatment plant site.
- Legislation relevant to this unit standard includes: Health and Safety at Work Act 2015, Water Services Act 2021, Resource Management Act 1991, Hazardous Substances and New Organisms Act 1996, and subsequent amendments.
- Definitions
Industry requirements include manufacturers' specifications; and enterprise requirements which may include documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.
Wastewater may include stormwater and sewage systems.
- Learning and assessment activities for this unit standard must be informed by Te Mana o te Wai (refer to [Taumata Arowai](#)) and the *National Policy Statement for Freshwater Management 2020* available from <https://environment.govt.nz/>.

Outcomes and performance criteria

Outcome 1

Describe factors that affect the quality of samples.

Performance criteria

1.1 The need for a representative sample is explained, and factors which affect the reliability of process measurement are identified and described.

Range includes but is not limited to – flow volume changes, effluent strength variations, average versus peak variations.

1.2 Changes that may occur during sample handling are described in terms of methods to minimise their impact.

Range air losses/gains, oxidation, microbiological viability, temperature effects, cross contamination.

1.3 Sample storage and transportation procedures are described in terms of the analysing laboratory requirements.

Range evidence of three procedures is required.

Outcome 2

Collect wastewater samples for analysis.

Range final effluent and one sample from an operational process.

Performance criteria

2.1 Sampling is documented.

2.2 Samples are collected.

2.3 Samples are handled and stored according to the requirements of the analysing laboratory.

Outcome 3

Perform on site analysis of collected samples.

Performance criteria

3.1 Analyses are performed on samples and results are recorded.

Range may include but is not limited to – settleability, dissolved oxygen, pH, nutrient, solids percentage; evidence of two is required.

Outcome 4

Compare and interpret the wastewater sample results received from a professional laboratory with plant operating process variables.

Range ten consecutive samples of final effluent are required.

Performance criteria

4.1 Characteristics of wastewater sample results are compared and interpreted in relation to the resource consent requirements.

Range physical, chemical, microbiological.

Replacement information	This unit standard replaced unit standard 17878 and 17879.
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Planned review date	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	19 September 2008	31 December 2018
Review	2	16 March 2017	31 December 2023
Review	3	28 April 2022	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>.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.