

Title	Undertake a worksite water assessment for resource efficiency		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: plan a worksite water assessment; assess water use at a worksite; and report on a worksite water assessment.
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Classification	Zero Waste > Resource Efficiency
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Available grade	Achieved
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Guidance Information

- 1 Recommended text
Target Sustainability business guides, calculators and worksheets, available at <https://www.ccc.govt.nz/environment/sustainability/target-sustainability/>.
- 2 Recommended websites
Target Sustainability (water usage) – <https://www.ccc.govt.nz/environment/sustainability/target-sustainability/target/target-water/>;
Water New Zealand – <http://www.waternz.org.nz/>.
- 3 Definitions
Assessment refers to an evaluation of performance to determine current practice.
Organisation refers to an entire business entity in the private or public sector or a business unit within the organisation.

Outcomes and performance criteria

Outcome 1

Plan a worksite water assessment.

Performance criteria

- 1.1 A site plan or process flow diagram is obtained that can be used to determine the types and extent of water used at the worksite and to identify any target water sources.

Range	target sources and water uses may include – mains supply, rainfall, private bore, recycled, water pumping, meters, storage; services linked to the water system; cooling and heating systems, process and equipment water needs; sanitary and kitchen use, ablutions, maintenance and operations, irrigation.
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- 1.2 Copies are obtained of any trade waste permits, water use consents, or discharge permits applying to the worksite.
- 1.3 All water inputs and disposal types are identified at the worksite and flows are estimated or measured to determine quantity of water used.
- Range measurements may include – water meters, flow meters or other volume and flow measuring devices.
- 1.4 Recent data from any pump logs and pipe maintenance programmes is obtained so that a draft analysis can be prepared and any water balance discrepancies can be checked during the assessment.
- 1.5 Information on water quality and additives is obtained from records of samples and tests.
- Range water quality – physical, chemical, biological.
- 1.6 Key personnel are identified to best provide specific information from the organisation and the support of team members is secured in consultation with the organisation.
- 1.7 Recording tools and equipment are prepared so that the assessment can be performed efficiently and accurately.
- Range includes but is not limited to – water meters.
- 1.8 Maintenance of any feature that shows obvious water wastage due to system fault is arranged prior to data collection to ensure the collection of accurate baseline data.
- Range where relevant includes maintenance of – toilet, cooling tower.

Outcome 2

Assess water use at a worksite.

Performance criteria

- 2.1 The types, quantity, and quality of water used at the worksite are identified, measured, and recorded to inform the water efficiency report.
- Range types include where present – rainwater, piped water, abstracted supply, water treatment, recycled water, wastewater, trade waste; quantity – cubic metres, litres.
- 2.2 Water use information is collected and used to identify opportunities for savings.
- Range includes where present – inputs, collection systems, storage type, storage capacity, tap flow rates, irrigation, number and capacity of toilets and urinals, cleaning practices, cooling tower.

- 2.3 Measurements are taken and recorded accurately and any significant errors are identified and corrective actions taken to ensure the accuracy of the data.
- Range errors may arise from – instrument failure, drift, blockages.
- 2.4 Water loss present at the worksite is identified, measured, and its causes are recorded.
- Range may include but is not limited to – leaks, evaporation, wasteful practices, cleaning methods, contamination.
- 2.5 Water recycling or reuse processes present at the worksite are identified and measured as planned.
- 2.6 Related resource wastes present at the worksite are identified and measured to recommend further action.
- Range may include but is not limited to – deadlegs, rinsing inefficiencies, hot water temperature, liquid wastes, uninsulated pipes.
- 2.7 The assessment identifies how water is used in specific areas and activities to assess possible actions for improving efficiency and quality.
- 2.8 Regular reading of water meters identifies baseflow variability, process demand, main uses, and any instances of leakage.
- Range regular readings may include – overnight daily, automatic, continuous.
- 2.9 Cost of using water is determined so that direct and indirect costs are considered and reported in accordance with organisation's requirements.
- Range costs may include but are not limited to – heating, chemical treatment, sanitising, wastewater treatment, disposal, pumping, trade waste.
- 2.10 Costs and use of water are itemised to show opportunities for financial savings and reduced water usage.

Outcome 3

Report on a worksite water assessment.

Performance criteria

- 3.1 The report records and quantifies any water loss and costs identified by the assessment and recommends appropriate loss prevention and minimisation measures for the most significant losses.
- Range costs – direct, indirect.

- 3.2 The report records information on each key activity or process that uses water and recommends changes to maximise water efficiency in the activity or process.
- Range information may include – any unexplained variation in water consumption;
changes may include but are not limited to – water efficient appliances, drier cleaning methods, staff training, shut off valves, process controls, timers, toilet flush controls, leak control, reuse.
- 3.3 The report identifies any pollution and health and safety risks relating to water use and recommends prevention methods.
- 3.4 The report recommends any further investigation required to measure water use to identify potential efficiencies.
- 3.5 The report meets the organisation's requirements for data format, type, and detail.

Planned review date	31 December 2023
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 June 2011	31 December 2015
Revision	2	21 November 2013	N/A
Rollover and Revision	3	28 June 2018	N/A

Consent and Moderation Requirements (CMR) reference	0014
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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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.