

ASSESSMENT GUIDELINES

Unit 1020

Design and install an irrigation system in
landscape work

Level 4, Credit 6, version 5

Design and install an irrigation system in landscape work

Unit standard 1020
Level 4, Credit 6, version 5

Level of performance required for this unit standard

This is a level 4 unit standard. At this level trainees are expected to demonstrate the following abilities when completing assessment tasks:

- To work under broad guidance, independently; with complete responsibility for the standards of the outcome achieved.
- To apply technical skills, knowledge, and innovation to complete the task to the specified standard, in a variety of familiar and unfamiliar contexts.
- To analyse and interpret information, and make an informed judgment.

Workplace assessment:

For guidelines on Workplace Assessment, please refer to the NZHITO Workplace Assessors Manual, and for further information, please contact: NZHITO, PO Box 8638, Christchurch. Ph 03 9644 735, Fax 03 9644 737, Website www.hortito.org.nz

Special notes:

1. *Workplace procedures* refer to verbal or written instructions to staff on procedures for the worksite and equipment.
2. Legislation relevant to this unit standard includes but is not limited to the Health and Safety in Employment Act 1992, and the Resource Management Act 1991.

**Unit 1020: Design and install an irrigation system in landscape work
(Apprentice copy)**

ELEMENT	Competent	Range of evidence an assessor should consider
<p>Element 1 Identify water requirements from a given landscape plan</p>	<p>Yes/No</p>	<ul style="list-style-type: none"> ▪ Identify the delivery system of water available for the watering system in terms of the characteristics of the source. This includes pressure, volume and pumping requirements. ▪ Identify water requirements for individual elements of the soft landscape plan. Range includes: lawns, annuals, perennials, bulbs, trees and shrubs. ▪ Calculate the total applications requirements for the site from individual elements requirements. ▪ Determine water applications rates, taking into consideration the plant and requirements and the need to prevent of soil problems. Range includes effects on soil – structural and textural modification, nutrient leaching, toxic residues, ponding, run-off, erosion ▪ Identify water delivery rates in terms of the effects of pipe diameter, length, and type, and water pressure.
<p>Element 2 Define the requirements of an irrigation system to meet identified site needs.</p>	<p>Yes/No</p>	<ul style="list-style-type: none"> ▪ Identify pumping or storage modifications from the water source required to provide the volume and pressure to meet calculated application needs, and define the methods of achieving these modifications. Range includes: capacity, type, and installations requirements. ▪ Select and justify the method of application for each element of the soft landscape to enable water to be applied to meet the correct watering requirement. Range includes; micro irrigation, in-ground sprinkler, above-ground sprinkler. ▪ Select and describe distribution elements for the system from information supplied by manufacturer's to design a system, which will provide the required application rates for each soft landscape site element. Range includes: pipe work; size and type, control systems, application element size and type.

<p>Element 3 Install and irrigation system to achieve rates required.</p>	<p>Yes/No</p>	<ul style="list-style-type: none"> ▪ Take material and/or system element needs from plans or specification and order using detailing methods, which define type, size, and quantity required. This includes pump, control equipment, application units, fixing or support requirements, and pipe. ▪ Install all elements according to manufacturer’s requirements and workplace procedures. ▪ Select and use tools and equipment from a given range according to workplace procedures to achieve a specified outcome, without causing damage to system elements, injury to the operator, or danger to others. Range use at least eight of – pipe wrench, water boiler, crox tools, pipe vice, PVC pipe clip applicator, hacksaw, adjustable spanner, adhesives, pipe threader, pipe bender, PVC pipe cutters and adjustable pliers. ▪ Ensure electrical connections to the system are made by an approved installer, to the standard required for certification by the relevant authority. ▪ Trial completed watering system and make adjustments to achieve required coverage and application rates. ▪ Protect watering system elements from damage by weather, traffic, or other work according to workplace procedures. ▪ Develop and present a maintenance programme to the client, which ensures that the system continues to operate to maximum efficiency.
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_____ (Name of Apprentice)

is **Competent / Not yet competent** in Unit Standard 1020 (version 5)

Signed (Assessor): _____

WPA Registration Number: _____ Date: _____

**Unit 1020: Design and install an irrigation system in landscape work
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Please send this page to your NZHITO Regional Manager, who will forward it to National Office to register the credits on your NZQA Record of Learning.

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