



Australian Government

AHCIRG442 Supervise irrigation system installation

Release: 1

AHCIRG442 Supervise irrigation system installation

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to develop construction procedures, interpret irrigation system design, and coordinate and supervise the construction and installation of a range of irrigation systems.

The unit applies to individuals who apply specialised skills and knowledge to the supervision of irrigation system installation and have responsibility for the output of others. This includes applying and communicating non-routine technical solutions to predictable and unpredictable problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Irrigation (IRG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Develop and implement construction procedures	1.1 Develop employment and contract management procedures 1.2 Develop procedures for controlling and recording site deliveries 1.3 Develop procedures for recording the hire of plant and equipment 1.4 Assess workplace health and safety risks associated with construction activities and implement suitable controls and procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	to minimise risk 1.5 Notify client, authorities and agencies of the schedule of works 1.6 Develop procedures to minimise environmental impacts of construction work
2. Interpret the irrigation system design for the site	2.1 Determine the purpose, scale and required output of the irrigation system 2.2 Assess the landscape of the site 2.3 Determine construction requirements and verify with the designer 2.4 Select components to meet design specifications and site requirements
3. Organise resource requirements	3.1 Nominate tasks, timelines and required resources 3.2 Organise labour requirements 3.3 Verify and check parts and equipment delivered to the site 3.4 Select and maintain equipment and machinery according to operation and maintenance manual 3.5 Allocate jobs and tasks to the work team 3.6 Carry out safety induction for the task and site
4. Supervise construction work	4.1 Interpret plan and supervise construction work 4.2 Confirm site is prepared and set out appropriately 4.3 Confirm the correct lay out of the main line 4.4 Supervise the insertion of sub-mains and flushing manifold 4.5 Supervise the installation of risers, emitters and other components
5. Complete installation work and test components	5.1 Connect water supply 5.2 Check emitters for optimal coverage and efficiency 5.3 Set valves to allow water to targeted areas 5.4 Start up and flush the system 5.5 Attach measuring devices and controllers to the system
6. Commission system	6.1 Identify operating faults and take corrective action to meet design specifications 6.2 Calibrate testing and monitoring equipment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	6.3 Carry out testing procedures and record results 6.4 Document irrigation system operating procedures 6.5 Hand over system in operating order

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Identify and interpret information regarding supervising irrigation system installation
Oral communication	- Use clear language to notify client, authorities and agencies of installation activities - Initiate discussions with client using clear language to communicate irrigation system hand over
Navigate the world of work	Identify and describe own workplace requirements, including safety requirements, associated with own role and area of responsibility

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCIRG442 Supervise irrigation system installation	AHCIRG431 Supervise irrigation system installation	Performance criteria clarified Foundation skills added Assessment requirements updated	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCIRG442 Supervise irrigation system installation

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has supervised an irrigation system installation on at least one occasion and has:

- implemented employment procedures
- conducted work health and safety risk assessment
- developed irrigation system construction and installation procedures
- interpreted irrigation designs
- supervised installation tasks including:
 - assembling sprinklers, pressure regulators and hose directors
 - checking operating specifications for pressures and flow rates
 - completing installation work and testing components
 - installing irrigation components
 - installing power and pumping plant
 - laying and joining sprinkler lateral pipelines
 - laying and joining supply and distribution pipeline
 - pressure testing the system
 - setting out and preparing site
 - setting up irrigation controllers
 - undertaking start-up procedures
- developed irrigation system operating procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- employment procedures
- project management principles
- safe work practices for construction

- design interpretation
- volume and pressure requirements
- water quality and water filtration techniques
- behaviour of water on varying terrain and soil types
- calculations for installing low volume irrigation systems
- operating specifications for pressures and flow rates
- pump capacity
- types of pumps and water flow rates
- licensing requirements for electrical work
- equipment and machinery operation and maintenance manual
- principles and practices of irrigation system installation supervision
- characteristics and operation of joints, valves and sprinkler components
- setting up fertigation equipment
- distribution uniformity
- start-up procedures
- setting up irrigation controllers
- commissioning procedures
- soil water retention testing techniques.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - irrigation system testing and monitoring equipment and manual specifications:
 - workplace procedures applicable to health and safety in the workplace, environment and irrigation system installation
- relationships
 - client, authorities and agencies
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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