Australian Government

AHCIRG435 Determine hydraulic parameters for an irrigation system

Release: 1

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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 determine hydraulic parameters for an irrigation system.

The unit applies to individuals who apply specialised skills and knowledge to determine hydraulic parameters for an irrigation system. 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
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Confirm water delivery specifications for irrigation system	1.1 Confirm soil characteristics and determine hydraulic properties 1.2 Determine plant and crop water requirements for various stages of growth 1.3 Calculate peak water requirements for each area to be irrigated
2. Determine pressures required to deliver	2.1 Determine static pressures between water source and delivery

Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
required amount of water over specified area	points 2.2 Calculate dynamic pressure necessary to achieve required water volume
3. Analyse technical drawings to determine pressure losses through system	3.1 Calculate losses resulting from fittings, laterals and elevation differences 3.2 Determine losses resulting from flow through canals, culverts and pipes of varying sizes and diameters within a system 3.3 Calculate total friction loss 3.4 Determine hydraulic parameters for system
4. Select system components to deliver water efficiently	4.1 Select water delivery components to achieve efficient delivery rate and pressure 4.2 Select compatible flow direction and control components with pipes to achieve minimal friction losses

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 irrigation system hydraulic parameters
Writing	• Record scheduling system information for each irrigation, significant rainfall events and other appropriate parameters
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

AHCIRG435 Determine hydraulic parameters for an irrigation system	AHCIRG402 Determine hydraulic parameters for an irrigation system	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