

**Modification history**

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 4.0.
Release 1	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 1.0.

<b>AHCIRG504</b>	<b>Develop an irrigation and drainage management plan</b>
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to compile information and develop an irrigation and drainage management plan.</p> <p>The unit applies to individuals who apply specialised skills and knowledge to the development of an irrigation and drainage management plan, and take personal responsibility and exercise autonomy in undertaking complex work. They analyse and synthesise information and analyse, design and communicate solutions to sometimes complex problems.</p> <p>No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Irrigation (IRG)

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. Compile property background information	1.1 Identify ownership details 1.2 Compile irrigation history 1.3 Identify locality and property details 1.4 Identify agreements and easements with surrounding properties 1.5 Develop property maps to illustrate locality and property boundaries
2. Compile information on infrastructure and topography	2.1 Define significant topographical and infrastructure features 2.2 Identify opportunities and strengths of the property 2.3 Identify limitations and weaknesses of the property 2.4 Identify local planning issues that may affect the irrigation and drainage management plan 2.5 Develop a map overlay to illustrate topography and infrastructure
3. Compile information on natural resources	3.1 Gather soil survey information 3.2 Identify strategies to minimise and reduce soil erosion, and physical and chemical soil deterioration 3.3 Identify water source availability and quality 3.4 Identify ground water depth and salinity issues 3.5 Define climatic characteristics 3.6 Develop a map overlay to illustrate natural resource features
4. Compile information on workplace cropping and planting	4.1 Define the suitability of soils and water quality for crops and plants 4.2 Identify any special irrigation requirements of crops and plants 4.3 Develop monthly and annual water budgets for each crop and plant program 4.4 Identify current yields and compare with benchmark crop yields 4.5 Establish targets with consideration for any factors which could limit optimum production 4.6 Define intended crop rotations 4.7 Develop a map overlay to illustrate crop and plant detail

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
5. Compile information on existing irrigation and drainage system where used	5.1 Evaluate current system performance 5.2 Compare current system performance to benchmark performance parameters 5.3 Develop scheduling procedures 5.4 Define drainage management performance including environmental authority compliance issues 5.5 Identify areas for improvement in system management and structure 5.6 Develop a map overlay to illustrate irrigation system layout
6. Develop an irrigation and drainage management plan with specifications for new or up-graded irrigation and drainage system	6.1 Summarise performance requirements for distribution, treatment and drainage systems 6.2 List new or replacement components 6.3 Develop a development timetable 6.4 Define proposed scheduling system 6.5 Define performance monitoring procedures and workplace health and safety requirements 6.6 Define drainage management processes 6.7 Develop a map overlay to illustrate proposed irrigation and drainage development 6.8 Document irrigation and drainage management plan

<b>Foundation Skills</b>	
<i>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.</i>	
<b>Skill</b>	<b>Description</b>
Reading	<ul style="list-style-type: none"> <li>Identify and interpret information regarding requirements for irrigation and drainage management plan</li> </ul>
Writing	<ul style="list-style-type: none"> <li>Develop irrigation and drainage management maps and overlays</li> <li>Document irrigation and drainage management plan</li> <li>Document irrigation and drainage system timetables and schedules</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Calculate and document monthly and annual water budgets</li> <li>Interpret statistical data and measurements</li> </ul>
Navigate the world of work	<ul style="list-style-type: none"> <li>Identify and describe own workplace requirements, including safety requirements, associated with own role and area of responsibility</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
AHCIRG504 Develop an irrigation and drainage management plan Release 2	AHCIRG504 Develop an irrigation and drainage management plan Release 1	Minor changes to performance criteria and foundation skills	Equivalent unit

<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72</a>
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<b>TITLE</b>	<b>Assessment requirements for AHCIRG504 Develop an irrigation and drainage management plan</b>
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has developed an irrigation and drainage management plan on at least one occasion and has:</p> <ul style="list-style-type: none"> <li>• compiled and analysed complex information</li> <li>• developed and implemented relevant workplace health and safety and environmental procedures</li> <li>• developed plans and reports</li> <li>• identified adverse environmental impacts of irrigation system activities and recommended appropriate remedial action</li> <li>• interpreted statistical data and measurements</li> <li>• used a range of irrigation and information management software.</li> </ul>	
<b>Knowledge Evidence</b>	
<p>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:</p> <ul style="list-style-type: none"> <li>• computerised irrigation systems</li> <li>• workplace policies and procedures relevant to irrigation and drainage management planning</li> <li>• environmental impacts of irrigation systems using water from any ground or underground source</li> <li>• irrigation system options</li> <li>• measuring and monitoring procedures</li> <li>• methods and techniques of irrigation</li> <li>• readily available water</li> <li>• soil, plant and water relationships</li> <li>• water table and salinity.</li> </ul>	
<b>Assessment Conditions</b>	
<p>Assessment of skills must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>• physical conditions:             <ul style="list-style-type: none"> <li>• a workplace setting or an environment that accurately represents workplace conditions</li> </ul> </li> <li>• resources, equipment and materials:             <ul style="list-style-type: none"> <li>• workplace policies and procedures relevant to irrigation and drainage management planning</li> <li>• computer and irrigation and information management software</li> </ul> </li> <li>• timeframes:             <ul style="list-style-type: none"> <li>• according to the job requirements.</li> </ul> </li> </ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
<b>Links</b>	<p>Companion Volumes, including Implementation Guides, are available at VETNet:  <a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72</a></p>