

## 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. |

| AHCIRG502                | Design irrigation system maintenance and monitoring programs  |
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| <b>Application</b>       | <p>This unit of competency describes the skills and knowledge required to design irrigation system maintenance and monitoring programs.</p> <p>The unit applies to individuals who apply specialised skills and knowledge to the design of irrigation system maintenance and monitoring programs, 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   |
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| <i>Elements describe the essential outcomes.</i>   | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>   |
| 1. Design an irrigation system maintenance program | 1.1 Specify resources needed to perform maintenance tasks<br>1.2 Specify repairs, replacements and servicing requirements for equipment and machinery<br>1.3 Specify activities required to maintain the irrigation site, system hardware and water quality<br>1.4 Analyse manufacturer operating manuals and use as guidance to specify maintenance activities, schedule and skills required<br>1.5 Take into account water supply authority constraints and requirements for water and maintenance when scheduling system maintenance program activities<br>1.6 Determine labour and workplace health and safety requirements for each activity and record<br>1.7 Ensure weed control, water storage and treatment maintenance form an integral part of the system maintenance program<br>1.8 Specify strategies for dealing with and minimising environmental impacts and maximising positive impacts of irrigation, drainage and water treatment systems<br>1.9 Document irrigation system maintenance program |
| 2. Design a monitoring and scheduling program      | 2.1 Integrate procedures for monitoring and recording system hardware use and performance into the monitoring and scheduling program<br>2.2 Integrate procedures for scheduling, monitoring and recording water use<br>2.3 Develop procedures for monitoring and recording operating costs<br>2.4 Develop water restriction contingency plans<br>2.5 Document irrigation system monitoring and scheduling program  |

| <b>Foundation Skills</b>   |  |
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| <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 design requirements for irrigation system maintenance and monitoring programs</li> <li>Interpret manufacturer operating manual information related to irrigation system maintenance and monitoring program design</li> <li>Interpret water quality guidelines for fresh and marine water, workplace health and safety and environmental protection legislation, codes of practice and workplace requirements related to irrigation system monitoring and maintenance programs</li> </ul> |
| Writing  | <ul style="list-style-type: none"> <li>Document irrigation system maintenance program</li> <li>Document irrigation system monitoring and scheduling program</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> |
| AHCIRG502<br>Design irrigation system maintenance and monitoring programs<br>Release 2 | AHCIRG502 Design irrigation system maintenance and monitoring programs<br>Release 1 | Minor changes to performance criteria and foundation skills | Equivalent unit           |

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| <b>Links</b> | Companion Volumes, including Implementation Guides, are available at VETNet:<br><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 AHCIRG502 Design irrigation system maintenance and monitoring programs</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 designed irrigation system maintenance and monitoring programs on at least one occasion and has:</p> <ul style="list-style-type: none"> <li>• analysed and organised information</li> <li>• designed scheduling and recording procedures</li> <li>• developed and included relevant workplace health and safety and environmental procedures</li> <li>• identified adverse environmental impacts of irrigation, drainage and water treatment activities and taken appropriate remedial action</li> <li>• identified and scheduled irrigation system maintenance and monitoring activities.</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>• drainage and water treatment using water from any ground or underground source</li> <li>• environmental impacts of irrigation</li> <li>• irrigation, drainage and water treatment maintenance activities</li> <li>• maintenance and monitoring design requirements</li> <li>• water quality guidelines for fresh and marine water including but not limited to the Australian and New Zealand Environment Conservation Council (ANZECC) 1999 guidelines</li> <li>• water supply authority constraints</li> <li>• workplace health and safety and environmental protection legislation, regulations, codes of practice and workplace requirements applicable to monitoring and maintenance programs.</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>• manufacturer operation manuals relevant to irrigation system maintenance and monitoring program design</li> <li>• water quality guidelines for fresh and marine water including ANZECC 1999 guidelines</li> <li>• workplace health and safety and environmental protection legislation, regulations, codes of practice and workplace requirements applicable to monitoring and maintenance programs</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>   | 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> |