Modification history

|  |  |
| --- | --- |
| Release | Comments |
| Release 1 | This version released with AHC Agriculture, Horticulture and 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. |

| AHCIRG3XX | Operate and maintain gravity fed irrigation systems |
| --- | --- |
| Application | This unit of competency describes the skills and knowledge required to operate and maintain gravity fed irrigation systems.  The unit applies to individuals who operate and maintain gravity fed irrigation systems under broad direction and take responsibility for their own work.  No occupational licensing, legislative or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Irrigation (IRG) |

| Elements | Performance Criteria |
| --- | --- |
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Prepare for gravity fed irrigation system operation and maintenance | 1.1 Confirm activity to be undertaken, including identifying potential hazards and risks and implementing safe working practices to manage risks  1.2 Select and use required materials, tools equipment and machinery and check for safe operations  1.3 Select, fit, use and maintain safety and personal protective equipment applicable to the task |
| 2. Monitor drainage and tail-water systems | 2.1 Monitor water intake, conveyance and distribution, drainage and tail-water  2.2 Check water reuse systems for clearance and freedom from weeds  2.3 Monitor pumps, if used, during operation, clear rubbish from outlets and backflush pump |
| 3. Inspect gravity fed irrigation system | 3.1 Record damage and blockages with contaminants by damage type, location and the section of the system affected  3.2 Record and report damaged or faulty pumps, valves, electrical components and computer control systems and take action to effect repairs |
| 4. Maintain gravity fed irrigation system | 4.1 Service water measuring, diversion and conveyancing, and distribution structures  4.2 Carry out vegetation control to keep all system components clear  4.3 Service and repair machinery according to operation and maintenance manual |
| 5. Record and report maintenance activities | 5.1 Record machinery service and repair according to operation and maintenance manual  5.2 Collect, treat and dispose of or recycle waste |

| 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 | * Interpret textual information from a range of sources to identify relevant and key information about workplace operations |
| Writing | * Document gravity fed irrigation system damage and blockages * Document mechanical equipment service and repair |
| Oral communication | * Initiate discussions with supervisor using clear language to communicate damage and blockages |
| Numeracy skills | * Measure water levels * Record water flow rates and water usage |
| Navigate the world of work | * Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility |
| Interact with others | * Use appropriate language and communication skills to disseminate information about system damage and blockages |

|  |  |  |  |
| --- | --- | --- | --- |
| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| AHCIRG3XX Operate and maintain gravity fed irrigation systems  Release 1 | AHCIRG334 Operate and maintain gravity fed irrigation systems  Release 1 | Major changes to elements, performance criteria and foundation skills | Not equivalent unit |

|  |  |
| --- | --- |
| Links | Companion Volumes, including Implementation Guides, are available at VETNet:  <https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72> |

| TITLE | Assessment requirements for AHCIRG3XX Operate and maintain gravity fed irrigation systems |
| --- | --- |
| 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 operated and maintained gravity fed irrigation systems on at least one occasion and has:   * adjusted and monitored check valves * carried out running repairs on irrigation delivery and drainage systems * carried out shut down procedures, cleaned equipment and disposed of waste * checked pressure at the head works and control valves * checked the serviceability of siphons * identified variations in water flow and distribution * inspected irrigation systems * measured water usage * removed and replaced gates, slides and doors * removed and replaced valves and filters * undertaken minor repairs of equipment. | |

| 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:   * safe working practices applicable to operating and maintaining gravity fed irrigation systems * machinery operation and maintenance manual * characteristics and operation of components * components of a surface irrigation system * soil characteristics * common operational and maintenance problems * common operational problems * environmental impacts of irrigation maintenance * routine and end of season maintenance requirements * surface irrigation system components * weed control methods. |

| 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: * work instructions and workplace procedures applicable to operating and maintaining gravity fed irrigation systems * gravity fed irrigation system materials, tools equipment and machinery * gravity fed irrigation pump system tools and equipment and procedures * personal protective equipment applicable to operating and maintaining gravity fed irrigation systems * specifications: * machinery operation and maintenance manual * environmental procedures for collection, treatment, disposal or recycling of waste * timeframes: * according to job requirements.   Assessors of this unit must satisfy the requirements of assessors in applicable vocational education and training, legislation, frameworks and/or standards. |

|  |  |
| --- | --- |
| Links | Companion Volumes, including Implementation Guides, are available at VETNet:  <https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72> |