



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **SFIAQUA302C Construct or install stock culture, holding and farm structures**

**Release: 1**

## **SFIAQUA302C Construct or install stock culture, holding and farm structures**

### **Modification History**

Not Applicable

## Unit Descriptor

<b>Unit descriptor</b>	<p>This unit of competency involves constructing or installing <i>stock culture or holding structures or systems</i> and <i>farm structures</i>. This may include constructing a <i>water supply and disposal or effluent system</i> for closed or semi-closed structures.</p> <p>Licensing, legislative, regulatory or certification requirements may apply to this unit. Therefore it will be necessary to check with the relevant state or territory regulators for current licensing, legislative or regulatory requirements before undertaking this unit.</p>
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## Application of the Unit

<b>Application of the unit</b>	<p>The construction techniques required may vary with the type of structure or system. More demanding construction and/or installation activities will require the employment or engagement of qualified tradespersons or the attainment of appropriate licences to meet state/territory and local government requirements.</p> <p>Licences may be required if operating:</p> <ul style="list-style-type: none"> <li>• load-shifting equipment, including forklifts</li> <li>• vehicles</li> <li>• vessels.</li> </ul> <p>All enterprise or workplace procedures and activities are carried out according to <i>relevant government regulations, licensing and other compliance requirements</i>, including <i>occupational health and safety (OHS) guidelines</i> and <i>ecologically sustainable development (ESD) principles</i>. Equipment operation, maintenance, repairs and calibrations are undertaken in a safe manner that conforms to manufacturer instructions. Appropriate <i>personal protective equipment (PPE)</i> is selected, checked, used and maintained.</p>
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## Licensing/Regulatory Information

Refer to Unit Descriptor

## Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for construction or installation	1.1. <i>Construction work plan</i> is read or heard, interpreted and confirmed as understood with senior personnel. 1.2. Equipment, tools and materials as identified in the construction work plan are gathered and checked for serviceability.
2. Undertake construction work	2.1. <i>Construction tasks</i> are completed according to work plan. 2.2. Advice on problems, progress and standard is sought from senior personnel or appropriate expert as appropriate.
3. Complete construction and installation activities	3.1. Work areas are cleaned, equipment checked and repaired, if necessary, and stored. 3.2. Stock culture, holding and farm structures are positioned according to construction work plan. 3.3. Checking and commissioning are undertaken to ensure that finished product fits design specification and is operable. 3.4. Relevant construction and installation data, observations or information are recorded legibly and accurately, and any out of range or unusual records checked. 3.5. Non-compliances are conveyed to senior personnel. 3.6. Feedback is sought from senior personnel on effectiveness of the construction and installation activities.

## Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
<b>Required skills</b>
<ul style="list-style-type: none"> <li>• communicating with senior personnel on construction plan, its progress and effectiveness of the structure or system</li> <li>• communicating to seek feedback and expert advice</li> <li>• using construction techniques relevant to the construction or installation task</li> <li>• using hand and power tools.</li> </ul>

**REQUIRED SKILLS AND KNOWLEDGE****Literacy skills used for:**

- interpreting construction work plan
- reading labels
- reading specifications and manufacturer guidelines.

**Numeracy skills used for:**

- estimating and measuring of length, area and volume.

**Required knowledge**

- assembly techniques for stock culture, holding and farm structures
- basic design principles and components of specific stock culture, holding and farm structures
- characteristics of construction materials
- construction activities that require a licensed tradesperson
- enterprise OHS procedures
- general principles of structural design.

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment evidence required to demonstrate competence in this unit</b>	<p>Assessment must confirm the ability to:</p> <ul style="list-style-type: none"> <li>construct or install stock culture, holding and farm structures following a construction plan and enterprise procedures.</li> </ul> <p>Assessment must confirm knowledge of:</p> <ul style="list-style-type: none"> <li>construction techniques required for a specific task.</li> </ul>
<b>Context of and specific resources for assessment</b>	<p>Assessment is to be conducted at the workplace or in a simulated work environment.</p> <p>Resources may include:</p> <ul style="list-style-type: none"> <li>construction plan</li> <li>coordinator/supervisor overseeing the construction or installation</li> <li>resources as identified in the construction plan</li> <li>site for construction or installation.</li> </ul>
<b>Method of assessment</b>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> <li>demonstration of construction techniques</li> <li>project work, for example, constructing or installing at least one (1) stock culture or holding structure and one (1) farm structure that would be considered typical of those found on aquaculture enterprises in the region</li> <li>written and oral short-answer testing.</li> </ul>
<b>Overview of assessment</b>	<p>This unit may be assessed holistically with other units within a qualification.</p>

## Range Statement

**RANGE STATEMENT**

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

***Stock culture or holding structures or systems*** may include:

- blowers, aerators, paddlewheels, aspirators
- greenhouses, hothouses and igloos
- pest, predator and disease control structures
- water supply and disposal systems, including pumps, pipes, canals, channels, settlement ponds and storage dams
- cages, pontoons, enclosures and pens, including associated moorings, anchors and markers
- dams, ponds and pools
- display tanks, aquaria and aquascapes
- grow out facilities, hatcheries and nurseries
- harvesting swimways, canals or channels
- live holding tanks, bins, cages and pens
- longlines, posts, racks and rails, rafts, fences, socks, trays, sticks, baskets, modules, barrels, bags and panels
- open, flow-through, closed and semi-closed systems
- purging or depurating systems
- tanks, raceways and recirculating systems.

***Farm structures*** may include:

- buildings
- equipment storage
- fences, gates and entrance ways
- greenhouses, hothouses and igloos
- jetties
- moorings
- parking areas
- ramps
- security systems
- shelters and shade cloth
- soil conservation works
- surrounding grounds/gardens
- tank, pump and blower stands
- tracks, roads and pathways
- waste holding or disposal structures



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- water supply and effluent systems, pipes and channels.

<b>RANGE STATEMENT</b>	
<p><b><i>Water supply and disposal or effluent system</i></b> (for closed or semi-closed structures only) may include:</p>	<ul style="list-style-type: none"> <li>• channels, canals and trenches (can be earthen, concrete or plastic-lined)</li> <li>• depth gauges</li> <li>• float switches and solenoids</li> <li>• flow control devices (e.g. non-return mechanisms, taps, valves, float valves, monks, dykes, weirs and gates)</li> <li>• flow meters and pressure gauges</li> <li>• header tank, storage dams or reservoirs</li> <li>• hoses or pipes (can be metal, PVC, rubber, concrete or polyethylene/polypropylene) pressure or sewage rating</li> <li>• intake structure supports screens</li> <li>• monks, spill ways, sumps or overflows</li> <li>• pumps, bores and windmills</li> <li>• roaded or lined banks</li> <li>• sediment dams and settlement tanks</li> <li>• sieves, filters or other mechanical, chemical or biological treatment structures</li> <li>• siphons, including reducing diameter pipes</li> <li>• sprays</li> <li>• sumps.</li> </ul>
<p><b><i>Relevant government regulations, licensing and other compliance requirements</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• business or workplace operations, policies and practices</li> <li>• environmental hazard identification, risk assessment and control</li> <li>• health and welfare of aquatic animals</li> <li>• Indigenous land rights and cultural activities, including fishing by traditional methods</li> <li>• maritime operations, safety at sea and pollution control</li> <li>• OHS hazard identification, risk assessment and control.</li> </ul>
<p><b><i>OHS guidelines</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• appropriate workplace provision of first aid kits and fire extinguishers</li> <li>• codes of practice, regulations and/or guidance notes which may apply in a jurisdiction or industry sector</li> <li>• enterprise-specific OHS procedures, policies or standards</li> <li>• hazard and risk assessment of workplace, maintenance activities and control measures</li> </ul>

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- induction or training of staff, contractors and visitors in relevant OHS procedures and/or requirements to allow them to carry out their duties in a safe manner
- OHS training register
- safe lifting, carrying and handling techniques, including manual handling, and the handling and storage of hazardous substances
- safe systems and procedures for outdoor work, including protection from solar radiation, fall protection, confined space entry and the protection of people in the workplace
- systems and procedures for the safe maintenance of property, machinery and equipment, including hydraulics and exposed moving parts
- the appropriate use, maintenance and storage of PPE.

<b>RANGE STATEMENT</b>	
<b><i>ESD principles</i></b> may include:	<ul style="list-style-type: none"> <li>• adhering to protected areas, marine or land parks</li> <li>• applying animal welfare ethics for handling, holding and slaughter</li> <li>• appropriate disposal of waste feeds, mortalities and other dead biological matter</li> <li>• facility quarantine, biosecurity and control of weeds, pests, predators and diseases</li> <li>• genetically modified organisms, biodiversity and conservation Acts</li> <li>• implications on biodiversity and protecting native and protected species</li> <li>• imports quarantine and inspection, and approved arrangements for Australian Quarantine Inspection Service (AQIS), Australian Customs Service (ACS) and Biosecurity Australia (BA)</li> <li>• managing, controlling and treating effluent waste and reducing contaminants</li> <li>• minimising noise and exhaust or odour emissions</li> <li>• minimising the unsafe use and disposal of maintenance debris, such as oil containers and chemical residues, and hazardous substances, such as fuel and oils</li> <li>• monitoring and controlling biological oxygen demand (BOD) of effluent water</li> <li>• reducing damage to native vegetation and animals</li> <li>• reducing dust problems, soil disturbance and increased run-off flows from machinery use and unsafe cleaning and servicing activities</li> <li>• reducing live cultured or held organisms from escaping into environment</li> <li>• refuelling and bunkering, and control of pollution at sea</li> <li>• sustainable fisheries requirements, such as size limits, quotas, season restrictions, population dynamics, fishing impacts and fisheries management strategies</li> <li>• using and recycling water, and reduction of energy use.</li> </ul>
<b><i>PPE</i></b> may include:	<ul style="list-style-type: none"> <li>• buoyancy vest or personal floatation device</li> </ul>

<b>RANGE STATEMENT</b>	
	<p>(PFD)</p> <ul style="list-style-type: none"> <li>• gloves, mitts or gauntlets, and protective hand and arm covering</li> <li>• hard hat or protective head covering</li> <li>• hearing protection (e.g. ear plugs and ear muffs)</li> <li>• insulated protective clothing for freezers or chillers and refrigeration units</li> <li>• non-slip and waterproof boots (gumboots) or other safety footwear</li> <li>• personal locator beacon or Emergency Position Indicating Radio Beacon (EPIRB)</li> <li>• protective eyewear, glasses and face mask</li> <li>• protective outdoor clothing for tropical conditions</li> <li>• safety harness</li> <li>• sun protection (e.g. sun hat, sunscreen and sunglasses)</li> <li>• uniforms or overalls</li> <li>• waterproof clothing (e.g. wet weather gear and waders).</li> </ul>
<i>Construction work plan</i> may include:	<ul style="list-style-type: none"> <li>• construction activities</li> <li>• construction or installation directions or design</li> <li>• expected time required to complete activities</li> <li>• materials, tools and equipment required/arranged</li> <li>• OHS procedures</li> <li>• order of activities</li> <li>• staff and external tradespeople and specialists</li> <li>• standard of completed construction activities.</li> </ul>
<i>Construction tasks</i> may include:	<ul style="list-style-type: none"> <li>• assembly of prefabricated buildings</li> <li>• basic cutting and welding (metal and plastic)</li> <li>• brickwork and brick laying</li> <li>• concrete or masonry work</li> <li>• fibreglassing</li> <li>• fixtures and fittings: <ul style="list-style-type: none"> <li>• feeders</li> <li>• lighting, and heating and cooling equipment</li> <li>• pumps and water treatment equipment</li> <li>• ropes, moorings and buoys</li> <li>• screens and predator control equipment</li> </ul> </li> </ul>

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	<ul style="list-style-type: none"> <li>• storage areas</li> <li>• water quality monitors</li> <li>• water supply and effluent system</li> <li>• glass replacement</li> <li>• gravel or clay road/track surfacing</li> <li>• pipe laying and joining</li> <li>• woodworking.</li> </ul>
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**Unit Sector(s)**

<b>Unit sector</b>	Aquaculture operations
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**Co-requisite units**

<b>Co-requisite units</b>	

**Competency field**

<b>Competency field</b>	
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