



Australian Government

RIICFW305E Conduct cast in-situ pilings operations

Release: 1

RIICFW305E Conduct cast in-situ pilings operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to conduct cast in-situ pilings operations in civil construction including establishing locations for piles, boring holes and installing caissons, and setting up, relocating and removing boring rigs.

It applies to those working in operational roles. They generally work under minimal supervision to undertake a broad range of tasks in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to conduct in-situ pilings operation	1.1 Obtain, interpret and confirm work instructions 1.2 Access, interpret and apply documentation required to conduct cast in-situ pilings operations and confirm work activity is compliant 1.3 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.4 Select and wear personal protective equipment according to site requirements 1.5 Confirm and identify requirements for complying with environmental protection, safety and traffic management signage requirements

ELEMENT	PERFORMANCE CRITERIA
	1.6 Identify potential hazards and environmental issues, implement control measures within scope of own role and escalate where required 1.7 Select plant, tools and equipment required to carry out tasks and check for faults 1.8 Identify, confirm, and locate materials required for work application
2. Locate and prepare pile positions	2.1 Establish location for piles from reference points and set out according to job requirements 2.2 Position and confirm operation of plant and related equipment 2.3 Bore hole according to job requirements 2.4 Confirm conformity of caisson according to job requirements 2.5 Install caisson in bored hole according to job requirements 2.6 Prepare caisson to receive concrete
3. Place concrete	3.1 Place concrete into caisson according to job requirements 3.2 Vibrate concrete, removing voids and air pockets
4. Remove boring rig	4.1 Relocate boring rig to next installation operation according to job requirements 4.2 Remove boring rig from site on completion of work according to job and site requirements
5. Conduct clean-up activities	5.1 Clear work area and dispose of or recycle materials accord to site requirements 5.2 Clean, check, perform maintenance on and store plant, tools and equipment according to manufacturer specifications and site requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Oral communication	- Identifies and interprets information from verbal instructions - Conveys information and instructions to others verbally
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICFW305D Conduct cast in-situ pilings operations.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICFW305E Conduct cast in-situ pilings operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- conduct cast in-situ piling operations on at least two occasions, including:
 - boring a hole to install at least one caisson, including reinforcement construction and placing concrete into caisson
 - setting up, relocating and removing boring rig.

During the above, the candidate must:

- locate and apply required legislation, documentation, policies and procedures
- identify, report and record hazards and risks
- work with others to undertake and complete cast in-situ pilings operations that meets required outcomes, including:
 - communicating with others to receive and clarify work instructions
 - using communication techniques and equipment, including signage to advise others of work activity and exclusion zones.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to conduct cast in-situ pilings operations
- policies, procedures and documentation required to conduct cast in-situ pilings operations, including those relating to:
 - hazard and risk management
 - work health and safety
 - emergency response
 - site and equipment safety

- environmental protection
- waste management
- communication techniques and equipment
- site isolation and traffic control responsibilities
- operational, maintenance and basic diagnostic procedures
- project quality requirements job plans and specifications
- site requirements
- manufacturer specifications for required plant and equipment
- workplace recording and reporting
- principles and techniques required to conduct cast in-situ pilings operations, including those relating to:
 - foundation work
 - water erosion
 - construction work
 - bored cast in-situ piles characteristics and installation
 - scaffolding and work platform installation
 - installing piles in water
 - pile location
 - soil types and characteristics, including:
 - sand
 - rock
 - clay
 - shale
 - gravel
 - silt
 - vibration methods
 - characteristics of reinforced concrete
 - concreting
 - bore types
 - boring rigs
 - caisson types and characteristics
 - interpreting engineering drawings
- types, characteristics, technical capabilities and limitations of plant and equipment required to conduct cast in-situ pilings operations, including:
 - augers
 - spirit levels
 - plumb bobs
 - compressors
 - concrete vibrators
 - high pressure hoses

- scaffolding
- materials safety data sheet (SDS) compliance processes
- components of job safety analyses (JSAs), job safety environmental analyses (JSEAs), and safe work method statements (SWMs)
- civil construction terminology related to conducting cast in-situ pilings operations.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to conduct in-situ pilings operations
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with required legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

***While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>