



Australian Government

RIICRC306E Conduct earthworks

Release: 1

RIICRC306E Conduct earthworks

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 earthworks in civil construction, including setting out sub-grades, forming and assessing earthworks and placing and compacting sub-grade replacement materials.

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 work to conduct earthworks	1.1 Obtain, interpret, clarify and confirm work requirements 1.2 Access, interpret and apply earthwork operations documentation and confirm work activity is compliant 1.3 Identify and address potential risks, hazards and environmental issues, and implement control measures 1.4 Select and wear personal protective equipment according to site requirements 1.5 Identify, obtain, confirm and implement signage requirements 1.6 Survey work site and confirm ease of access and safe movement of materials

ELEMENT	PERFORMANCE CRITERIA
	1.7 Identify compaction standards and testing requirements 1.8 Select plant, tools and equipment required to carry out tasks and check for faults
2. Set out sub-grade	2.1 Set out job according to job requirements from survey controls 2.2 Establish profiles to line and level according to job requirements
3. Form earthworks	3.1 Inform plant operators of job requirements 3.2 Assess earthworks and confirm specified height is achieved with allowances for pavement courses and overall dimensions 3.3 Monitor uniform layer thickness and moisture content and confirm against job requirements 3.4 Monitor stabilisation of existing material against job requirements 3.5 Remove surface area protrusions and confirm damage to geosynthetic material is minimised 3.6 Place geosynthetic material according to job requirements
4. Place and compact sub-grade replacement materials	4.1 Identify, remove and store unsuitable material separately according to site requirements 4.2 Place imported replacement or stabilised material according to site requirements 4.3 Inform roller operators of required number of passes 4.4 Assess compaction process and confirm nominated number of passes achieves uniform compaction across the subgrade
5. Conduct clean-up activities	5.1 Clear work area and dispose of or recycle materials according to site requirements 5.2 Clean, check, maintain 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
Numeracy	Calculates basic measurements including mass and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICRC306D Conduct earthworks.

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 RIICRC306E Conduct earthworks

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 earthworks on at least two occasions, including:
 - setting out sub-grade to plan
 - forming earthworks by informing plant operators of job requirements
 - assessing earthworks in progress
 - monitoring thickness and moisture content of earthworks
 - monitoring stabilisation of existing material
 - removing surface area protrusions and placing geosynthetic material
 - placing and compacting sub-grade replacement materials
 - clearing work area and disposing of, recycling or storing materials
 - cleaning, checking, maintaining and storing plant, tools and equipment.

During the above, the candidate must:

- locate and apply required documentation, policies and procedures and confirm work activity is compliant
- implement the requirements, procedures and techniques to conduct earthworks, including:
 - identifying and applying required specifications to all work activities
 - identifying, addressing and reporting potential hazards and risks
 - identifying, obtaining, confirming and implementing signage requirements
 - selecting and checking for faults all plant, tools and equipment required to carry out tasks
 - surveying the work area for ease of access and movement of materials
 - identifying compaction standards and testing requirements
 - identifying, addressing and reporting environmental issues and ground conditions
- work with others to conduct earthworks in a way that meets requirements, including:
 - preparing for and organising work activities to meet task requirements
 - communicating with others to receive and clarify work instructions

- using communication techniques and aids to advise others of work activity and exclusion zones
- monitoring movements and hazards and identifying and communicating changes to work environment.

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 earthworks
- policies, procedures and documentation required to conduct earthworks, including those relating to:
 - site requirements
 - manufacturer specifications for required plant and equipment
 - relevant drawings and job specifications
 - hazard and risk management
 - environmental protection
 - work activity set up procedures
 - communication techniques and aids
 - site isolation, signage, erecting barriers and traffic control
 - work health and safety
 - waste management
 - compaction standards and testing requirements
- types, characteristics, technical capabilities and limitations of plant and equipment required to conduct earthworks
- principles and techniques for effective earthworks, including:
 - cutting and filling with existing materials
 - forming of existing materials
 - replacement of unsuitable materials
 - stabilising of unsuitable materials
 - use of geosynthetic materials.

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 earthworks
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,

- be assessed in compliance with relevant 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 (RTOs) 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 Companion Volume 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>