



Australian Government

RIICAM406 Conduct a condition assessment of water and sewerage mains

Release: 1

RIICAM406 Conduct a condition assessment of water and sewerage mains

Modification History

Release	Comments
Release 1	This version first released with the RII Resources and Infrastructure Industry Training Package Version 8.0. Newly created unit.

Application

This unit describes the skills and knowledge required to plan, conduct and document water supply and sewerage (WS&S) condition assessments. This includes an understanding of WS&S functions and features.

It applies to those working in a supervisory or paraplanning role. They generally perform a broad range of operational activities in their area of responsibility and are responsible for monitoring a safe work environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Civil Infrastructure Asset Management

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. Determine the level of service required for the water supply and sewerage (WS&S) assets condition assessment	1.1 Obtain, interpret, clarify and confirm work requirements 1.2 Identify and comply with duty of care requirements according to legislation, standards, regulations, codes, guidelines and manuals 1.3 Evaluate community expectations of WS&S asset condition 1.4 Determine the organisational budget and

	resources available to manage the WS&S asset 1.5 Identify key risk management strategies for WS&S asset
2. Plan for WS&S data collection	2.1 Identify key functions and features of WS&S assets 2.2 Plan and document types of WS&S data intended for collection according to organisational need 2.3 Develop WS&S data collection plan according to organisational policies and procedures 2.4 Communicate data collection activities to required personnel 2.5 Prepare and complete pre-inspection processes
3. Assess WS&S and gather data points	3.1 Assess the WS&S features to determine the different grades of asset component condition 3.2 Determine asset condition rating and risk score according to task requirements 3.3 Gather water and sewerage main data points according to organisational and task requirements 3.4 Report immediate service deficiencies and identified faults to required personnel 3.5 Identify and document potential risks, hazards and environmental issues according to organisational policies and procedures
4. Finalise reporting activities and undertake data validation	4.1 Document condition assessment findings according to organisational policies and procedures 4.2 Determine completeness of data collection according to task requirements 4.3 Validate data according to organisational and task requirements 4.4 Organise data collected in a retrievable format according to organisational policies and procedures 4.5 Securely store data collected according to organisational procedures, legislative requirements, and industry practices 4.6 Submit report to required personnel on data collection activities and results according to task requirements

	4.7 Seek and respond to feedback
--	----------------------------------

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 resourcing and budget requirements and performs mathematical calculations
Oral communication	Conveys information and requirements clearly and listens actively
Planning and organising	- Plans, organises and completes work according to defined requirements and schedules - Prioritises tasks and own workload for required outcomes
Technology	Uses required technological tools and software in collecting and documenting data
Writing	Prepares information that complies with requirements, using sector-specific vocabulary, grammatical structures and conventions

Unit Mapping Information

New unit.

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 RIICAM406 Conduct a condition assessment of water and sewerage mains

Modification History

Release	Comments
Release 1	This version first released with the RII Resources and Infrastructure Industry Training Package Version 8.0. Newly created unit.

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 a condition assessment for at least one water main and at least one sewerage main.

In the course of the above, the candidate must:

- locate and apply required documentation, policies and procedures and confirm that the work activity is compliant
- organise work tasks, determine requirements and undertake appropriate measures to mitigate risks
- communicate clearly and concisely with others to receive and clarify work instructions.

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:

- key requirements of legislation, codes, regulations, standards and security arrangements relating to collecting and analysing data for WS&S
- organisational policies and procedures applicable to collecting and analysing data for WS&S, including:
 - financial plans
 - gap analysis
 - levels of service
 - pre-inspection survey packs
 - renewals
 - summary reports

- work orders
- work schedules
- records and documentation formats
- key water supply components, including:
 - dams and weirs
 - pump stations
 - reticulation mains
 - rising mains
 - storage reservoirs
 - trunk mains
 - water supply systems
- key sewerage components, including:
 - access chambers (maintenance holes)
 - gravity sewers
 - pump stations
 - sewerage systems
 - storage reservoirs
 - treatment plants
 - trunk sewers
- key functions and features of water supply assets, including:
 - water potability
 - water sourcing
 - water storage
 - water transport
 - water treatment
- key functions and features of sewerage assets
- key data collection methods, and their benefits and limitations, including:
 - aerial photo measurement
 - complaints systems
 - desktop surveys
 - formal visual inspections
 - global positioning system (GPS)
 - physical inspections
 - roughness testing
 - safety audits
 - surveyed
 - taped
 - visual and selection loading testing
- organisational information management strategies
- process for determining asset condition rating and risk score

- process for evaluating community expectations of assets, including:
 - environmental standards
 - legislative requirements
 - safety standards
- key data collection tools, and procedures for their use, including:
 - asset inventory
 - asset management systems
 - asset register
 - geographic information systems
 - spreadsheets
- types of maintenance, including:
 - maintenance works
 - pipe vibration analysis
 - refurbishments
 - renewals
- rating system for WS&S condition assessment
- key risks and hazards considerations for managing WS&S assets, including:
 - environmental
 - financial
 - litigious
 - personal injury / death
 - reputation.

Assessment Conditions

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

- include access to:
 - water and sewerage mains
 - personal protective equipment
 - equipment required for collecting data for WS&S
- 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 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>