



Australian Government

Department of Education, Employment and Workplace Relations

NWP255B Maintain and repair wastewater collection assets

Revision Number: 2

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Modification History

NWP255B Release 2: Layout adjusted. No changes to content.
NWP255B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to maintain and repair pipes, drains and wastewater collection assets.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field staff with responsibility for ensuring that wastewater collection assets are maintained and repaired in a safe and timely manner.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where <i>bold italicised</i> text is used, further information is detailed in 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 Plan and prepare for maintenance.	1.1 Determine work requirements for maintenance and repair of assets from working drawings, plans, specifications and instructions. 1.2 Select and check equipment and tools required to meet safety requirements of task and site. 1.3 Select, fit and use personal protective equipment.
2 Conduct maintenance and repair work.	2.1 Locate and remove system chokes and blockages to achieve maximum system performance. 2.2 Repair or replace leakages and damaged assets to meet test specifications. 2.3 Repair or replace structures as required to meet operational, legislative and organisational requirements. 2.4 Check maintained and repaired assets to ensure that specifications have been met.
3 Finalise work.	3.1 Check, maintain and store equipment, tools and materials according to manufacturer guidelines and organisational procedures. 3.2 Complete workplace records and process as required.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- install and repair appropriate assets
- clear chokes and blockages
- maintain assets
- identify and respond to operational problems
- use communication systems
- perform work-based calculations
- follow drawings, plans, specifications and instructions
- apply policies and procedures
- use safety and personal protective equipment
- work effectively as part of a team
- use tools and machinery
- identify hazards
- communicate with customers and other employees
- use literacy skills in regard to verbal and written communication in the workplace
- record work activities

Required knowledge:

- system hydraulics basics
- system layout
- system calculations
- environmental aspects of construction and maintenance
- lock-out procedures for mechanical and electrical installations
- relevant utilities and service bodies
- risk factors and potential hazards of locating underground utilities and services
- risk factors and potential hazards of installation and maintenance processes
- hazardous materials handling
- landscape and ground structure of work area
- equipment operation, capacity and limitations
- effects of weather and conditions on construction site or plant
- control systems
- pipes and fittings
- OHS procedures
- personal work site safety
- component parts
- repair and maintenance standard operating procedures

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The candidate should demonstrate the ability to conduct maintenance and repair work on wastewater collection assets by:

- planning and preparing work site
- performing maintenance and repair tasks on pipe work and structures according to manufacturer specifications and organisational requirements
- checking work, restoring work site, storing equipment and completing documentation

Context of and specific resources for assessment

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards and government regulations

Where applicable, physical resources should include equipment modified for people with disabilities.

Access must be provided to appropriate learning and assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice
- a decision of competence should only be made when the assessor has complete confidence in the person's competence over time and in various contexts
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence
- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time

- assessment can be through simulated project-based activity and must include evidence relating to each of the elements in this unit

Questioning will be appropriate to the skill levels of the operator and cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

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. Add any 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.

Assets may include:

- collection system's pipe work, including:
 - vitrified clay
 - reinforced concrete
 - polyvinyl chloride (PVC)
 - polyethylene
 - cast iron cement lined
 - ductile iron cement lined
 - glass reinforced piping
 - mild steel cement lined
- structures, including:
 - meter pits
 - valve pits
 - drop structures
 - regulators
 - erosion barriers
 - person access chambers and pits
 - head walls
 - thrust blocks
 - inspection shafts
 - controlling equipment
- fittings, including:
 - jointing systems for pipe types, e.g. gibault
 - tension bands
 - solvent cement joints
 - compression ring joints
 - bolted flanges
 - cathodic protection
 - electrofusion
 - butt-welding

Equipment and tools may include:

- hand and power tools
- lifting and winching equipment
- mechanical excavation equipment
- local repair by electronic means, including:

Legislative and organisational requirements may include:

- top hats
- patches
- pneumatic and motorised equipment, including:
 - compressors
 - pneumatic spades and attachments
 - motorised cutting equipment
 - conventional and jet rodding systems
 - on- and off-road vehicles
 - portable pumps
- communication equipment
- closed circuit television (CCTV) equipment to survey repairs
- breathing apparatus
- gas detection equipment
- rescue equipment
- appropriate personal protective equipment
- relevant federal and state or territory legislation and regulations
- codes of practice, associated standards and guidance material
- documented organisational policies, manuals and induction programs
- relevant community planning and development agreements, such as land care agreements

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.