



Australian Government

Department of Education, Employment and Workplace Relations

LGAWORK208A Perform field support duties in the construction and maintenance of water reticulation systems

Release: 2

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Modification History

LGAWORK208A Release 2: Layout adjusted.
LGAWORK208A Release 1: Primary release.

Unit Descriptor

This unit covers providing support activity in the construction and maintenance of a water supply reticulation system.

Application of the Unit

This unit supports the attainment of skills and knowledge required for competent workplace performance in councils of all sizes. Knowledge of the legislation and regulations within which councils must operate is essential. The unique nature of councils, as a tier of government directed by elected members and reflecting the needs of local communities, must be appropriately reflected.

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 ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Establish site for water reticulation system's maintenance or construction	1.1 Work is planned and programmed to be undertaken in accordance with drawings, specifications and other documentation. 1.2 Work site is prepared and maintained in safe condition and in accordance with the occupational health and safety (OHS) requirements and regulations of other relevant authorities. 1.3 Work is assigned to appropriate accredited personnel or gangs to meet reticulated water service's job requirements. 1.4 Traffic control is planned at the work site and is signed in accordance with the regulations of various authorities and the Australian standards Manual of Traffic Control Devices. 1.5 Underground and overhead obstructions, hazards and other utility services are located.
2 Carry out reticulated water service maintenance	2.1 Condition of the water-reticulated system is monitored, tested, sampled and reported on. 2.2 Water quality problems identified by tests are responded to. 2.3 Correct water reticulated service is located and identified. 2.4 Defective components or pipeline are repaired, replaced or serviced as required. 2.5 Functional pressure/non-pressure tests of items are carried out. 2.6 Water reticulation pipes and equipment are cleaned and disinfected with all wastewater being disposed of appropriately. 2.7 Service is reinstated after maintenance work has been passed at final inspection.
3 Excavate trenches	3.1 Appropriate drainage is provided for the diversion of all uncontaminated water from the site and silt traps are set up as required to prevent damage to the environment. 3.2 Environmental protection devices are installed as required to meet environmental regulations. 3.3 Levels and lines of works are set out according to the drawings. 3.4 Excavation plant is selected according to requirements. 3.5 Trenches are excavated to depth and grade as shown on plans, and shoring or shields are installed or trenches are battered back according to OHS requirements. 3.6 Pressure and other tests are completed as specified. 3.7 Trenches are backfilled with selected materials , compacted in layers and surface is finished according to specifications.

ELEMENT	PERFORMANCE CRITERIA
4 Carry out construction of water reticulation service	4.1 Trench bottom is prepared and pipe bedding is laid to specifications in accordance with the drawings. 4.2 Pipes are placed and valves, fittings and flow control devices are fitted in accordance with the drawings and specifications. 4.3 Water service is disinfected and functional tests of items are carried out. 4.4 Water system is placed in service and the performance of the water reticulation system is monitored. 4.5 Valve chambers, minor structures and thrust blocks are constructed.
5 Complete necessary documentation	5.1 Construction and maintenance reports are completed and filed to meet council's requirements. 5.2 The as constructed plans and drawings are completed in accordance with completed works.

Required Skills and Knowledge

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

Required Skills

- reading and interpreting plans and specifications, and plant and equipment capabilities
- measuring and calculating quantities
- measurement and methods of setting out
- trade-specific skills

Required Knowledge

- OHS requirements
- construction and maintenance practices related to water distribution systems
- pipe materials and components technology
- work scheduling, inspection, testing and monitoring
- work site traffic management
- monitoring and testing methods and procedures
- state and local environmental requirements

Evidence Guide

Overview of assessment requirements	A person who demonstrates competency in this unit will be able to perform the outcomes described in the Elements to the required performance level detailed in the Performance Criteria. The knowledge and skill requirements described in the Range Statement must also be demonstrated. For example, knowledge of the legislative framework and safe work practices that underpin the performance of the unit must be demonstrated.
Critical aspects of evidence to be considered	Appropriate materials, pipes and components, construction methods and processes are used for the efficient maintenance and construction of water reticulation and sewerage collection systems. Plans and specifications are adhered to. Safety on work sites is ensured. Australian standards, codes of practice and advisory standards are met.
Context of assessment	Appropriate materials, pipes and components, construction methods and processes are used for the efficient maintenance and construction of water reticulation and sewerage collection systems. Plans and specifications are adhered to. Safety on work sites is ensured. Australian standards, codes of practice and advisory standards are met.
Relationship to other units(prerequisite or co-requisite units)	To enable holistic assessment this unit may be assessed with other units that form part of the job role.
Method of assessment	The following assessment methods are suggested: • observation of the learner performing a range of workplace tasks over sufficient time to demonstrate handling of a range of contingencies • written and/or oral questioning to assess knowledge and understanding • completion of workplace documentation • third-party reports from experienced practitioners • completion of self-paced learning materials including personal reflection and feedback from trainer, coach or supervisor
Evidence required for demonstration of consistent performance	Evidence will need to be gathered over time across a range of variables.

Resource implications In accordance with a range of variable requirements.

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 in the Performance Criteria is detailed below.

Plant may include:

- excavators
- backhoes
- trench excavators
- trench compactors
- trucks
- loaders
- cranes

Trench support systems may include:

- timber struts
- wales and runners
- steel trench sheets
- box shields
- poling boards
- trucking frames

Materials may include:

- concrete
- steel
- clay
- sand
- rock
- crushed rock
- geofabric cloth
- plastics

Types of pipes may include:

- steel pipes
- lined steel pipes
- cast and ductile iron pipes
- reinforced and unreinforced concrete pipes
- polyvinyl chloride (PVC) pipes
- fibre reinforced concrete (FRC) pipes
- copper pipes

Types of pipe joints may include:

- cast iron: flanged, flexible, sleeve, bell and spigot joints
- steel: butt and spigot and socket welded joints, and flanged joints
- Viking Johnson coupling
- PVC: insert fitting and flared compression rubber gasket joints
- FRC: gibault, machined and rubber joints
- concrete pipes: socket mortar, socket mastic and socket rubber ring

Types of valves, meters and components may include:

- stop valves, non-return valves, flow control valves, pressure control valves, energy dissipaters and air release valves
- venturi and orifice meters, inferential propeller blade or vane meters, and waste and leak detection meters

Disinfectant methods may include:

- continuous feed
- slug
- foam swabs
- pigs
- flushing

Pipe tests may include:

- pressure
- leakage
- water quality
- compaction
- confined spaces

Structures may include:

- pump stations
- valve chambers
- inspection chambers
- thrust blocks
- pipe supports

Unit Sector(s)

Operational Works