

Domain
Title:
Level: 2

PLUMBING
Set out and install water services

Unit ID: 458

Credits: 6

Purpose

This unit standard is intended for those who set out and install water services. People credited with this unit standard are able to plan and prepare for work, identify installation requirements, set out water services and install and test pipe services.

This unit standard is intended for those who work as plumbers.

Special Notes

1. Entry information:

Prerequisite

- 434 - Apply Occupational Health and Safety in Working Environment.
- 440 – Plan and organise as part of plumbing operation or demonstrated equivalent knowledge and skills.

2. Assessment evidence may be collected from a real workplace or simulated real workplace or an appropriate simulated realistic environment in which plumbing operations are carried out.
3. The unit requires the installation of pipe work to carry drinkable water from a water meter, storage tank and/or hot water service to a point of discharge/storage. It may also include the installation of pipe work to carry non-drinkable water from a source to a point of discharge/storage. The point of discharge may be an isolating valve, tap or fixture. Site location for work application may be either domestic or commercial, and may be a new worksite, or an existing structure being renovated, extended, restored or maintained.
4. Tools and equipment include, but are not limited to hand and power tools, hand excavation equipment, measuring equipment, silver brazing equipment, flaring tools, crimping tools, pressure testing equipment, bending equipment, lifting/load shifting equipment, mechanical excavation equipment, trench shoring equipment, scaffolding, elevated work platforms, hand trolleys, rollers, forklifts, chain blocks, hoists and jacks.
5. Materials may include those authorised for use. Factors influencing choice of materials include type of usage, nature of water, conveyed, condition of ground, characteristics of materials and products and environmental factors.
6. Performance of all elements in this unit standard must comply with all relevant workplace requirements and/or specifications.

7. Regulations and legislation relevant to this unit standard include the following:
- Labour Act No. 11 of 2007
 - Regulations relating to the health & Safety of employees at work under Schedule 1 (2) of the Labour Act No.11 of 2007 and all subsequent amendments
 - Local Authorities Act No. 23 of 1992
 - Environmental Management Act No. 7 of 2007

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Range

Planning and preparation may include but is not be limited to workplace inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements.

Performance Criteria

- 1.1 Drawings and specifications are obtained.
- 1.2 Health and safety requirements associated with setting out and installing water services, and the workplace environment, are adhered to throughout the work.
- 1.3 Quality assurance requirements are identified and adhered to in line with workplace procedures.
- 1.4 Tasks are planned and sequenced in conjunction with others involved in or affected by the work.
- 1.5 Tools and equipment for setting out and installing water piping systems, including personal safety equipment, are selected and checked for serviceability in line with workplace procedures.
- 1.6 Work area is prepared to support the efficient setting out and installation of water services.

Element 2: Identify installation requirements

Performance criteria

- 2.1 Quantity and type of materials are calculated from drawings and specifications or site inspection and comply with standards.
- 2.2 Materials and equipment are identified and ordered/collected in line with workplace procedures.
- 2.3 Materials and equipment are checked for compliance with standards, docket/order form and for acceptable condition.

Element 3: Set out water services

Performance criteria

- 3.1 Pipelines and fixture connection points are set out in line with drawings and specifications, with consideration to the location of existing services.
- 3.2 Measurements of building line from boundary are determined from site drawing.

Element 4: Install and test pipe services

Performance Criteria

- 4.1 Trenches are excavated in line with standards and authorities' requirements.
- 4.2 Installation of supports and clips are checked for compliance with job specification, authorities' requirements and manufacturers' specifications.
- 4.3 Pipes are installed and jointed in line with job specifications, design layout and standards without damage or distortion to pipe work, or surrounding environment and other services.
- 4.4 Installation is tested to comply with standards and authorities' requirements and adjusted.
- 4.5 Water meter and related devices are installed on the water lines in line with standard and authorities' requirements.

Registration Data

Subfield:	Civil and Building Services Engineering
Date first registered:	15 November 2007
Date this version registered:	31 May 2018
Anticipated review:	2023
Body responsible for review:	Namibia Training Authority