

<b>Domain</b>	<b>PLUMBING</b>	<b>Unit ID: 463</b>
<b>Title:</b>	<b>Install below ground sanitary drainage systems as part of plumbing operations</b>	
<b>Level: 3</b>		<b>Credits: 4</b>

**Purpose**

This unit standard specifies the competencies required to install below ground sanitary drainage systems for sewerage and waste discharge from sanitary fixtures to a sewerage authority's point and make alteration to existing sanitary drainage. It includes planning and preparing for work, identifying installation requirements, installing sanitary drainage systems and cleaning up the work area.

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

**Special Notes**

1. Entry information:
  - Prerequisite
    - 434 - *Apply safety rules and regulations in plumbing operations 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. Tools and equipment include, but are not limited to hand and power tools, hand excavation tools, hacksaw, dropsaw, compression cutters, grinders, measuring equipment, heating equipment, levelling equipment and threading and bending equipment, mechanical excavation equipment, trench shoring equipment, hand trolleys, rollers, forklifts, chain blocks, hoists and jacks.
4. Materials include, but are not limited to UPVC pipes (Unplasticised Poly Vinyl Chloride), cast iron, vitreous clay pipes and appropriate fixtures from manufacturers' catalogues.
5. Safe operating procedures are to include but are not limited to recognising hazards associated with shoring requirements, uneven/unstable terrain, trip hazards, dirt mounds, services, surrounding structures and facilities, recently filled trenches, other machines, traffic control, working in proximity to others, worksite visitors, the public and may include working in confined spaces.
6. Performance of all elements in this unit standard must comply with all relevant workplace requirements and/or manufacturers' specifications.

7. Regulations and legislation relevant to this unit standard include the following:
- Labour Act, No. 6, 1992
  - Occupational Health and Safety Regulations No. 18, 1997
- and all subsequent amendments.

### **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](http://www.nta.com.na).

## **Elements and Performance Criteria**

### **Element 1: Plan and prepare for work**

#### **Range**

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

#### **Performance Criteria**

- 1.1 Plans and specifications are obtained, confirmed and applied .
- 1.2 Safety requirements associated with installing sanitary drainage systems, and the workplace environment, are adhered to throughout the work.
- 1.3 Quality assurance requirements are identified and adhered to in accordance 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, 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 installation of sanitary drainage systems.

## **Element 2: Identify installation requirements**

### **Performance criteria**

- 2.1 Quantity and type of materials required are calculated from existing installations, plans, specifications and site inspections.
- 2.2 Allowance for fabrication and assembly are correctly determined and transferred in line with workplace procedures.
- 2.3 Materials and equipment are identified and ordered/collected in accordance with workplace procedures.
- 2.4 Materials and equipment are checked for compliance with standards, docket/order form and for acceptable condition in line with workplace procedures.

## **Element 3: Install sanitary drainage systems**

### **Performance criteria**

- 3.1 Pipework is set out in accordance with drawings and specifications, site requirements or job instructions, with consideration to the location of existing services.
- 3.2 Pipework is installed in line with plans and specifications, standards and workplace procedures and without damage to surrounding environment, existing pipework or other services.
- 3.3 Connections for alterations, additions or repair to existing systems are made in accordance with standards and manufacturers' specifications.
- 3.4 Installation is tested to comply with standards and relevant authorities' requirements.
- 3.5 Installation is tested to comply with standards and relevant authorities' requirements.

## **Element 4: Clean up the work area**

### **Performance criteria**

- 4.1 Installation is backfilled in accordance with standard and work areas is cleared with materials disposed of or recycled in line with workplace procedures.
- 4.2 Tools and equipment are cleaned, maintained and stored in line with manufacturers' recommendations and workplace procedures.
- 4.3 Documentation is completed in line with regulatory authorities' and workplace requirements.

## **Registration Data**

<b>Subfield:</b>	General Construction
<b>Date first registered:</b>	15 November 2007
<b>Date this version registered:</b>	15 November 2007
<b>Anticipated review:</b>	2010
<b>Body responsible for review:</b>	Namibia Training Authority