

Domain	PLUMBING	Unit ID: 473
Title:	Plan and install on-site domestic effluent treatment plants	
Level: 4		Credits: 8

Purpose

This unit standard specifies the competencies required to plan and install on-site domestic effluent treatment plants, including septic tanks. It includes planning and preparing for work, identifying installation requirements, installing domestic effluent plant 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. To demonstrate competence, at a minimum, evidence is required of marking out, excavating a site and installing either a pre-cast concrete or a glass reinforced plastic (GRP) domestic effluent treatment plant. These tasks should be performed ensuring correct identification of requirements and finishing of the tasks, correct selection and use of appropriate processes, tools and equipment and completing all work to specification.
3. 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.
4. Tools and equipment may include but are not limited to hand and power tools, measuring equipment, ladders, manual excavation equipment, excavation plant and equipment, lifting/load shifting equipment.
5. Materials may include but are not limited to pre-cast concrete, domestic plant, bricks, concrete and reinforcement materials.
6. Performance of all elements in this unit standard must comply with all relevant workplace requirements and/or manufacturers' specifications.
7. Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with excavation equipment and plant, uneven/unstable terrain, pits, poles, trip hazards, dirt mounds, underground services, surrounding structure and facilities, hazardous materials, recently filled trenches, other machines, traffic control, working in proximity to others, worksite visitors, the public and may include working in confined spaces.

8. 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.

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 Plans, drawings, and specifications are developed in accordance with job requirements.
- 1.2 Safety requirements associated with installing domestic treatment plants and the workplace environment are adhered to throughout the work.
- 1.3 Quality assurance requirements are adhered to in accordance with workplace procedures.
- 1.4 Tasks are planned and sequenced in conjunction with others involved or affected by the work.
- 1.5 Tools and equipment, including personal protective equipment, are selected and checked for serviceability in line with workplace procedures.
- 1.6 Work area is prepared to support the efficient installation of domestic treatment plants in line with workplace procedures.

Element 2: Identify installation requirements

Performance criteria

- 2.1 Position of domestic effluent treatment plant is determined in accordance with plans and specifications and site requirements.
- 2.2 The design and capacity of the plant is confirmed to comply with standards and the requirements of the regulatory authorities, the installation and the site plans, drawings and specifications.
- 2.3 Quantity and type of materials required are calculated from plans, drawings and specifications.
- 2.4 Materials are ordered and checked for compliance with docket/order form and for acceptable condition in line with workplace procedures.

Element 3: Install domestic plant

Performance criteria

- 3.1 Size and location of excavation is marked out to comply with drawings, specifications, installation and site requirements.
- 3.2 Site is excavated and preparation for installation is undertaken in accordance with installation requirements for the plant, plans, permits and site requirements, ensuring minimal damage to surrounding structures or environment.
- 3.3 Domestic treatment plant is installed and secured in specified position to prevent movement or damage to plant in compliance with requirements of the responsible authority for the installation and inspection of domestic treatment plants.
- 3.4 Plant is filled with water to prevent flotation.
- 3.5 Excavation is backfilled to specifications.

Element 4: Clean up work area

Performance criteria

- 4.1 Work area is cleared with materials disposed of or recycled in line with workplace procedures.
- 4.2 Tools and equipment are cleaned, checked, maintained and stored in line with manufacturers' recommendations and workplace procedures.
- 4.3 Documentation is completed in line with workplace requirements.

Registration Data

Subfield:	General Construction
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