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## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### REGISTERED QUALIFICATION:

#### Occupational Certificate: Water Reticulation Practitioner

SAQA QUAL ID		QUALIFICATION TITLE		
102581		Occupational Certificate: Water Reticulation Practitioner		
ORIGINATOR				
Development Quality Partner - LG SETA (Physical)				
PRIMARY OR DELEGATED QUALITY ASSURANCE FUNCTIONARY			NQF SUB-FRAMEWORK	
-			OQSF - Occupational Qualifications Sub-framework	
QUALIFICATION TYPE	FIELD		SUBFIELD	
Occupational Certificate	Field 12 - Physical Planning and Construction		Civil Engineering Construction	
ABET BAND	MINIMUM CREDITS	PRE-2009 NQF LEVEL	NQF LEVEL	QUAL CLASS
Undefined	236	Not Applicable	NQF Level 04	Regular-ELOAC
REGISTRATION STATUS		SAQA DECISION NUMBER	REGISTRATION START DATE	REGISTRATION END DATE
Reregistered		SAQA 06120/18	2018-07-01	2023-06-30
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT		
2024-06-30		2027-06-30		

*In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.*

*This qualification does not replace any other qualification and is not replaced by any other qualification.*

#### PURPOSE AND RATIONALE OF THE QUALIFICATION

##### Purpose:

The purpose of this qualification is to prepare a learner to operate as a Water Reticulation Practitioner. The Water Reticulation Practitioner (WRP) maintains the integrity of the potability of the water supply from the water reservoir to the household water point. S/he installs and maintains the water reticulation infrastructure, identifies and attends to water leaks, installs water meters, maintains the water system and interfaces with the public.

##### A qualified learner will be able to:

- Install water reticulation infrastructure.
- Operate and maintain a water reticulation system.
- Manage a water reticulation team.

##### Rationale:

Water Reticulation Practitioners (WRPs) play a critical role in the country because they ensure the integrity of the portability of the water supply from the water reservoir to the household water point. In the conceptualisation of this qualification, the functions of the WRP have been confined to water reticulation and



*do not include wastewater reticulation. Typical learners will be those who have completed their schooling or those currently working in the water reticulation environment and who wish to improve their qualifications. In many municipalities, plumbers carry out the task of the water reticulation practitioner. This qualification will assist them to become competent water reticulation practitioners.*

*The benefits accruing to the learner who obtains this qualification include a nationally recognised qualification that will improve current knowledge, skills, and competencies of those performing water reticulation-related functions. It will also create improved access to other education and training opportunities for those who wish to pursue a career in water reticulation at a higher level. The benefit to the country includes the fact that this qualification will serve as a national benchmark for water reticulation practitioners. As far as society is concerned this occupational qualification will increase employment opportunities for many as water reticulation is a responsibility of every municipality in the country. The water reticulation practitioner will improve the quality of life by ensuring good water infrastructure, promoting water conservation, and controlling water loss. These will have the cumulative effect of reducing water supply interruptions.*

## **LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING**

*Recognition of Prior Learning (RPL):*

*RPL for access to the external integrated summative assessment:*

*Accredited providers and approved workplaces must apply the internal assessment criteria specified in the related curriculum document to establish and confirm prior learning. Accredited providers and workplaces must confirm prior learning by issuing a statement of result or certifying a work experience record.*

*RPL for access to the qualification:*

*Accredited providers and approved workplaces may recognise prior learning against the relevant access requirements.*

*Entry Requirements:*

- *Level 2 with Mathematical Literacy.*

## **RECOGNISE PREVIOUS LEARNING?**

Y

## **QUALIFICATION RULES**

*This qualification is made up of the following compulsory Knowledge, Practical Skills and Work Experience Modules.*

*Knowledge Modules:*

- *642605001-KM-01: Workplace fundamentals, Level 3, 5 Credits.*
- *642605001-KM-02: The world of the Water Reticulation Practitioner, Level 4, 6 Credits.*
- *642605001-KM-03: Tools, equipment and electronic devices, Level 3, 5 Credits.*
- *642605001-KM-04: Basic slinging and lifting operations, Level 2, 5 Credits.*
- *642605001-KM-05: Water reticulation systems, Level 4, 17 Credits.*
- *642605001-KM-06: Pipes, piping, and pipe joining, Level 3, 6 Credits.*
- *642605001-KM-07: Pipe laying, valves, actuators, pumps and water meters, Level 4, 9 Credits.*
- *642605001-KM-08: Operating and maintaining a water reticulation system, Level 4, 12 Credits.*

*Total number of Credits for Knowledge Modules: 65.*

*Practical Skill Modules:*

- *642605001-PM-01: Use tools and equipment, Level 3, 5 Credits.*
- *642605001-PM-02: Conduct slinging and lifting operations, Level 2, 6 Credits.*
- *642605001-PM-03: Install and test a water reticulation infrastructure, Level 3, 22 Credits.*
- *642605001-PM-04: Safely and respond to emergencies, Level 2, 3 Credits.*
- *642605001-PM-05: Operate and maintain a water reticulation system, Level 4, 18 Credits.*
- *642605001-PM-06: Manage a water reticulation team, Level 4, 3 Credits.*

*Total number of Credits for Practical Skill Modules: 57.*

*Work Experience Modules:*

- *642605001-WM-01: Installation processes for water reticulation infrastructure, Level 3, 58 Credits.*
- *642605001-WM-02: Processes to operate and maintain a water reticulation system, Level 4, 50 Credits.*
- *642605001-WM-03: Processes to manage team members, Level 4, 6 Credits.*

*Total number of Credits for Work Experience Modules: 114.*

## **EXIT LEVEL OUTCOMES**



1. Prepare to install water reticulation infrastructure.
2. Install water reticulation infrastructure.
3. Operate and maintain the water reticulation system.
4. Oversee/manage a team's performance and conduct in a water reticulation.

#### **ASSOCIATED ASSESSMENT CRITERIA**

*Associated Assessment Criteria for Exit Level Outcome 1:*

- Interpretation of work instructions from supervisor show understanding of the nature of the task involved.
- Planning for the installation of infrastructure demonstrates that consideration has been given to the allocation of tasks to team members, the organising, checking, loading and transport of materials and equipment, and management of time.
- A range of relevant information pertaining to the installation of infrastructure is obtained through the accurate interpretation of maps, construction and site drawings, specifications and materials manuals.
- Hazards and risks at the work site are identified, assessed and mitigated and traffic is managed.
- Appropriate notification of water supply interruption is given to consumers/public.
- Way-leave documentation indicates that permission has been sought from appropriate authorities.

*Associated Assessment Criteria for Exit Level Outcome 2:*

- Work site is set out as specified.
- Excavation of trench is conducted manually or by guiding excavation equipment operator.
- Pipe bedding, pipe anchoring, and shoring operations are completed according to correct procedures.
- Pipe laying, pipe joining, pipeline charging and testing and backfilling operations conform to specifications, correct procedures and techniques.
- Valve installation and connection of pump to the system conform to manufacturer's specifications.
- Water reticulation concrete work and brick masonry are carried out according to appropriate procedures.
- Water supply to customer is achieved through correct connection and water meter installation procedures.
- Work area is returned to original state through appropriate reinstatement activity.
- All relevant safety precautions are adhered to.
- The task is completed within the specified time.
- No equipment, parts, and tools are damaged.
- An understanding of factors influencing the installation of water reticulation infrastructure is demonstrated.

*Associated Assessment Criteria for Exit Level Outcome 3:*

- Maintenance plan indicates understanding of preventative and emergency maintenance operations.
- Preparations for maintenance show that consideration has been given to the allocation of tasks to team members, the organising, checking, loading and transport of materials and equipment, and management of time.
- A range of relevant information pertaining to the operation and maintenance of infrastructure is obtained through the accurate interpretation of maps, construction and site drawings.
- Hazards and risks at the site of a water leak are identified, assessed and mitigated and traffic is managed.
- Water supply is reinstated through repairs on water leak, conducted according to appropriate procedures.
- Operation of valves is maintained through correct maintenance, removal and replacement operations for faulty valves and repairs within scope of the Water Reticulation Practitioner (WRP).
- Operation of pumps is maintained through correct maintenance, removal and replacement operations for faulty pumps and repairs within scope of the WRP.
- Operation of meters is maintained through correct maintenance, removal and replacement operations for faulty meters and meter repairs within scope of the WRP.
- Correct isolation procedures are conducted before, and correct recharging procedures after maintenance and repair operations are carried out on valves, pumps, meters, and pipes.
- Hazards and risks associated with repair and maintenance on valves, pumps and meters and confined spaces are identified, assessed and mitigated.
- Manufacturer specifications are adhered to.
- All relevant safety precautions are adhered to.
- The tasks are completed within the specified time.
- No equipment, parts, and tools are damaged or lost.
- An understanding of factors influencing operation and maintenance of the water reticulation infrastructure is demonstrated.

*Associated Assessment Criteria for Exit Level Outcome 4:*

- The completion of job cards demonstrates reporting and team management/appraisal skills.
- Assets inspection is carried out to ascertain their condition and facilitate their management.
- Team members are supervised to ensure productivity and efficiency.



- The allocation of tasks is completed, and instructions are given using effective communication skills.
- Time management techniques are implemented to ensure that tasks are completed within stipulated time frame.
- Decision-making skills are demonstrated in the course of completing tasks associated with water reticulation.

*Integrated Assessment:*

*Integrated Formative Assessment:*

The skills development provider will use the curriculum to guide them on the stipulated internal assessment criteria and weighting. They will also apply the scope of practical skills and applied knowledge as stipulated by the internal assessment criteria. This formative assessment leads to entrance into the integrated external summative assessment.

*Integrated Summative Assessment:*

An external integrated summative assessment, conducted through the relevant Quality Council for Trades and Occupations (QCTO) Assessment Quality partner is required for the issuing of this qualification. The external integrated summative assessment will focus on the Exit Level Outcomes and Associated Assessment Criteria. The external summative assessment will be a test conducted through an evaluation of written and practical tasks covering critical aspects in a simulated environment at an assessment centre accredited by QCTO and conducted by a registered assessor. The assessment will take place over a minimum period of 2 days.

## **INTERNATIONAL COMPARABILITY**

The international comparability aimed to examine Water Reticulation Practitioner qualifications of two countries and to compare the South African qualification against the international best practice in this field. The comparability exercise focused on New Zealand and Australia.

*New Zealand:*

New Zealand Certificate in Pipe Installations (Level 4) with strands in Trenched, and Trenchless (ID 2694) and This qualification is designed to provide the infrastructure works industry with people who have the practical skills, knowledge and aptitude to be able to safely and effectively install pipes using trenched and/or trenchless methodologies and technology.

The qualification has the following outcomes:

1. Communicate and maintain safety on the worksite and for the community, Credits 30 must include:

- Planning, entering and working in a confined space.
- Knowledge of pathogens, diseases, and their control in the water industry.
- Testing for gas and related hazards, and interpreting and responding to gas test results.
- Communicating and liaising with the general public and others affected by worksite activities; communication must include the nature and extent of works.

2. Apply knowledge of pipes, fittings, and structures installation processes, using industry standards and specifications, Credits 40 must include:

- Interpretation of infrastructure plans and set out information.
- Types of protection and support systems used for excavation.
- Knowledge of processes used in making and placing concrete.
- Quality assurance requirements.
- For Trench technology.

3. Install underground utilities using appropriate trenched installations methodology and technology, Credits 50 must include:

- Excavation requirements for infrastructure pipe-laying.
- Excavating, backfilling, compacting, and preparing for reinstatement.
- Placing and removing protection and support systems for excavation on an infrastructure works site.
- Slings, lifting and placing loads using mobile plant.
- Appropriate handling of pipes and fittings for infrastructure pipe-laying.
- Importance of pre-checking infrastructure pipes, fittings, and structures.
- For Trenchless technology.

4. Install underground utilities using appropriate trenchless installations methodology and technology, Credits 35 must include:

- Applied knowledge of the type of methodology.
- Damage avoidance, consequences of damage, and damage response for trenchless installations.
- Preparing the site, setting up equipment and materials; and disestablishing the site after completing operations.

- Operate the plant and/or equipment for trenchless installations.

*The New Zealand qualification very closely resembles this occupational qualification in content.*

*Australia:*

*The Certificate II in Water Operations compares with this qualification. The skills from the Australian qualification resonating with this qualification are stated below:*

- Work effectively in the water industry.
- Use maps, plans, drawings and specifications.
- Work safely in confined spaces.
- Prepare and restore work site.
- Repair minor structures.
- Operate water reticulation and distribution system.
- Construct and install water distribution assets.
- Locate, identify and protect utility services.
- Install and repair water services.
- Repair or insert water distribution assets.
- Carry out manual excavation.
- Install trench support.

*Conclusion:*

*While both these qualifications compare in terms of generic content with the South African qualification, the New Zealand qualification's content is more aligned to this qualification.*

## **ARTICULATION OPTIONS**

*Horizontal Articulation:*

*This qualification articulates horizontally with the following qualifications:*

- Further Education and Training Certificate: Wastewater and Water Reticulation Services, Level 4.
- Further Education and Training Certificate: Water and Wastewater Treatment Process Control Supervision, Level 4.

*Vertical Articulation:*

*This qualification articulates vertically with the following qualification*

- National Certificate: Water Care, Level 5.

## **MODERATION OPTIONS**

*N/A*

## **CRITERIA FOR THE REGISTRATION OF ASSESSORS**

*N/A*

## **NOTES**

*Qualifying for external assessment.*

*In order to qualify for an external assessment, learners must provide proof of completion of all required modules by means of statements of results and work experience, including the Foundational Learning Competence.*

*Additional legal or physical entry requirements:*

- Must be sighted, be able to hear and be physically capable of carrying out the various tasks.

*Criteria for the accreditation of providers:*

- Accreditation of providers will be done against the criteria as reflected in the relevant curriculum on the Quality Council for Trades and Occupations (QCTO) website.
- The curriculum title and code is: Water Reticulation Practitioner: 642605001.

*Encompassed Trades:*

- This qualification encompasses the following trades as recorded on the National Learners' Records Database (NLRD).
- This is not a trade qualification.

*Part Qualifications.*

*None.*



**LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION:****NONE****PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS QUALIFICATION:**

*This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Primary or Delegated Quality Assurance Functionaries have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Primary or Delegated Quality Assurance Functionary should be notified if a record appears to be missing from here.*

**NONE**

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