
	<b>BQA NCQF QUALIFICATION TEMPLATE</b>	Document No.	DNCQF.QIDD.GD02
		Issue No.	01
		Effective Date	04/02/2020

SECTION A: QUALIFICATION DETAILS													
<b>QUALIFICATION DEVELOPER (S)</b>		Construction Industry Trust Fund											
<b>TITLE</b>	Certificate III in Road Maintenance											<b>NCQF LEVEL</b>	<b>3</b>
<b>FIELD</b>	Manufacturing, Engineering, and Technology				<b>SUB-FIELD</b>	Civil Construction				<b>CREDIT VALUE</b>	<b>44</b>		
New Qualification					<input checked="" type="checkbox"/>	Review of Existing Qualification							
<b>SUB-FRAMEWORK</b>		General Education			<input type="checkbox"/>	TVET			<input checked="" type="checkbox"/>	Higher Education			
<b>QUALIFICATION TYPE</b>	Certificate	I	<input type="checkbox"/>	II	<input type="checkbox"/>	III	<input checked="" type="checkbox"/>	IV	<input type="checkbox"/>	V	<input type="checkbox"/>	Diploma	Bachelor
	Bachelor Honours		<input type="checkbox"/>	Post Graduate Certificate				<input type="checkbox"/>	Post Graduate Diploma				
	Masters						<input type="checkbox"/>	Doctorate/ PhD					
<b>RATIONALE AND PURPOSE OF THE QUALIFICATION</b> <p>Government has identified high unemployment and poverty amongst youth as a national security risk, hence the need to train this section of the population in productive and income generating skills.</p> <p>Despite the country continuing to receive investments, these investments are biased towards capital intensive ventures. This situation has the inherent risk of unemployment continuing to surge, and the government, through its vital development policy paper, National Development Plan 11 (NDP 11), has identified areas of potential high employment uptake such as civil construction, agriculture, services, and manufacturing and has made a commitment to give these sectors extensive support with a view to making meaningful contribution the growth of the economy.</p> <p>Another policy document that makes mention of skills development as a vehicle towards inclusivity and provision of opportunities for all, is the Vision 2036 document under the of Human and Social Development (Pillar 2) which states that” Botswana society will be knowledgeable with relevant quality education that is outcome based, with emphasis on technical and vocational skills as well as academic competencies.”</p> <p>Road Maintenance has a high potential for employment uptake. As an emerging sector, there is need for standardization that would give professionalization of this sector, hence the need for this qualification.</p>													

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Earthmoving and Related Plant Operators, some of the skills required in Roads Maintenance, have also been forecasted as one of the top occupations in demand for the future (HRDC, 2019).

This qualification provides qualifying learners with the critical road maintenance knowledge, skills and competences in order to become competent practitioners in the civil construction sector; be employed or self-employed within the industry and pursue further learning in specific areas of civil construction.

#### **PURPOSE:**


The qualification will equip candidates with necessary knowledge, skills and competences to:

- Apply safety measures at site.
- Apply technical attributes of road maintenance works.
- Maintain road surfaces and drainage systems.
- Install signage, road furniture and traffic markings.
- Mix and cast quality concrete.
- Apply bituminous for maintenance activities.
- Operate small plant and equipment at road maintenance works.


#### **ENTRY REQUIREMENTS (including access and inclusion)**

- NCQF Level 2, Certificate II or equivalent.
- There shall be access through RPL and CAT in line with the National RPL and CAT policies.

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SECTION B		QUALIFICATION SPECIFICATION	
Upon completion of this qualification, candidates will:			
GRADUATE PROFILE (LEARNING OUTCOMES)		ASSESSMENT CRITERIA	
1	Apply the principles of Occupational Health and Safety in the Work Environment	1.1 Identify hazards in the Workplace 1.2 Asses possible risks in the workplace 1.3 Practice Good Housekeeping 1.4 Wear Appropriate Personal Protective Equipment	
2	Perform maintenance of road surfaces.	2.1 Identify road defect for maintenance. 2.2 Erect signage where work area is demarcated and guarded around. 2.3 Select basic equipment and plant for road maintenance according to specification. 2.4 Perform road works activities on a road maintenance site. 2.5 Install pavement edge restraints and side gutters to secure the road edges.	
3	Demonstrate skill of maintaining signage, road furniture and guardrails.	3.1 Install traffic signs, delineators and roadside amenities for safe use of the road. 3.2 Repair any dilapidated road signs to ensure road safety. 3.3 Clear the work area as a result of maintenance activities to ensure safety on road users.	
4	Demonstrate competence of maintaining drainage systems.	4.1 Clean road drainage structures and bridge water way to insure storm water to flow. 4.2 Trim trees and dispose to clear roadway. 4.3 Install Roadside grass verges. 4.4 Implement Environmental management during maintenance activities.	
5	Apply skill to operate small plant and equipment.	5.1 Identify any road maintenance plant. 5.2 Put signage around a work area for safety issues.	

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	5.3 Operate the plant to carry out maintenance work. 5.4 Carry out minor maintenance to a plant.
<b>6</b> Apply knowledge of Entrepreneurial principles in the workplace.	6.1 Plan for given work assignments. 6.2 Solve problems creatively in the workplace. 6.3 Mobilise people and resources to execute tasks. 6.4 Create value through implementation of innovative ideas.

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SECTION C		QUALIFICATION STRUCTURE			
COMPONENT	TITLE	Credits Per Relevant NCQF Level			Total (Per Subject/ Course/ Module/ Units)
		Level [ 3 ]	Level [ 4 ]	Level [ ]	
<b>FUNDAMENTAL COMPONENT</b>  Subjects/ Courses/ Modules/Units	Occupational Health, Safety and Environment	3			3
	Fundamental Entrepreneurial Principles	3			3
	Rehabilitation and protection of environment	2			2
	Introduction to construction Industry	2			2
	TOTAL				
<b>CORE COMPONENT</b>  Subjects/Courses / Modules/Units	Safely at roadworks sites	2			2
	Materials used in road formation	2			2
	Installation and repair of road drainage systems		3		3
	Decommissioning services in civil construction	2			2
	Road surfaces Repair	4			4
	Unbound pavement layers	2			2

 <b>BOTSWANA</b> Qualifications Authority	<b>BQA NCQF QUALIFICATION TEMPLATE</b>	Document No.	DNCQF.QIDD.GD02
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	<i>Install guard rails, hand rails, and safety barriers on civil construction works</i>	4			4
	<i>Road drainage structures on road construction works</i>		4		4
	<i>Mix and Cast concrete</i>	4			4
	<i>Signage and road furniture</i>	3			3
	<i>Road Maintenance Plant and Equipment</i>	4			4
<b>ELECTIVE/ OPTIONAL COMPONENT</b>  <i>Subjects/Courses / Modules/Units</i>	<b>N/A</b>				

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<b>SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL</b>	
<b>TOTAL CREDITS PER NCQF LEVEL</b>	
<b>NCQF Level</b>	<b>Credit Value</b>
<b>3</b>	<b>37</b>
<b>4</b>	<b>7</b>
<b>TOTAL CREDITS</b>	<b>44</b>
<b>Rules of Combination:</b>	
<b>(Please Indicate combinations for the different constituent components of the qualification)</b>	
<p>The qualification consists of Fundamental and Core Components.</p> <p>To be awarded the Qualification learners are required to obtain a minimum of <b>44</b> credits as detailed below.</p> <p><b>Fundamental Components:</b></p> <p>The Fundamental components consist of foundational knowledge, all of which are compulsory.</p> <p><b>Core Components:</b></p> <p>The core components consist of modules containing applied knowledge and practical skills to the value of <b>34</b> credits which are compulsory.</p>	

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### **ASSESSMENT ARRANGEMENTS**

All assessments leading/contributing to the award of credits or a qualification shall be based on learning outcomes and/or sub-outcomes.

#### **Formative assessment**

Formative or continuous assessment would be conducted to inform teaching and learning and establish the learner's level of readiness for progression to the next learning unit or module.

Formative assessment shall constitute 60% of the Final grade.

#### **Summative assessment :**

Internal summative assessments shall be carried out in accordance all applicable examination rules, and the weighting of the assessment shall constitute 40% of the Final grade.

All assessment shall be carried out by Assessors registered and accredited with BQA or nay other recognized Authority.


### **MODERATION ARRANGEMENTS**

There shall be internal and external moderation carried out by Moderators registered and accredited with BQA or any other recognized authority.

### **RECOGNITION OF PRIOR LEARNING**

Candidates may submit evidence of prior learning and current competence and/or undergo appropriate forms of RPL assessment for the award of credits towards the qualification in accordance with applicable RPL policies and relevant national-level policy and legislative framework.

### **CREDIT ACCUMULATION AND TRANSFER**

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Candidates would be allowed to accumulate enough credits that would warrant them the award of the qualification. This would include transfers of credits from previous learnings.

### **PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)**

#### **Articulation and Education Pathways**

Horizontal Articulation:

Graduates of this qualification may consider pursuing to other qualifications on the same levels in the field of landscaping such as:

- Certificate III in Road Construction
- Certificate III in Small Plant Operation
- Certificate III in Bitumen Laying

Vertical Articulation:

Learners may progress to higher level in the same field such as

- Certificate IV in Road Maintenance
- Certificate IV in Roads Engineering
- Certificate IV in Heavy Plant Operation

#### **Employment Pathways**


Learners who attain this qualification will have competencies and attributes to work as:

- Road patching artisans
- Road maintenance tradesmen
- Road maintenance team leader

### **QUALIFICATION AWARD AND CERTIFICATION**

To be awarded the qualification the candidate must have met the following requirements:

- All exit level outcomes
- Minimum **44** credit requirements

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#### Certification:

Upon completion of the qualification the candidate will be awarded a certificate for award of **Certificate III in Road Maintenance**.

### **REGIONAL AND INTERNATIONAL COMPARABILITY**

Benchmarking has been done against qualifications offered by reputable entities within the region and beyond to appreciate what is typical of this level and type of qualification out there, in relation to graduate profiling, scope and depth of content, to ascertain regional and international comparability and articulation of the proposed qualification. The outcomes of this process are highlighted below.

The following Similarities and Differences of the qualifications examined were observed.


#### **Similarities**

All the qualifications place great importance on occupational health and safety, and have included a module on the same, albeit in different titles. The exit level outcomes of the 4 qualifications examined are similar and their scope covers use and operation of hand and power tools, laying of new surfaces, and an understanding of the highway code, maintenance and repair of bituminous road surfaces, earthworks, and traffic control, among others.

Since the qualification is skills based, assessment is integrated, and competencies are achieved through the design and development of assessment activities that make use of a variety of assessment methods and tools that measure not only the learner's knowledge and ability to perform practical tasks and activities within a familiar context, but which also challenge learners to demonstrate their ability to deal with problem situations that might or can arise in the workplace from time and which require learners' to demonstrate their ability to adapt their performance to meet the requirements of changed circumstances and to reflect on what they are doing and why.

#### **Differences**

Road maintenance is not found as a stand-alone qualification, mostly it is found as a strand or elective component for learners from road maintenance sector. This is a common trend taking ground with most of the recently revised qualifications.

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Whereas Road Maintenance is the title of our qualification; it is found as a part of Infrastructure Works or Road Construction in comparable countries (which have industrialised economies and specialisations of labour) like New Zealand, Australia including South Africa.

These electives components form core modules in our qualification. Most of our fundamentals and core modules are also found under requirements for mandatory units of competency or compulsory of comparable qualifications /countries. It has also been observed that higher credit value and lengthier durations are given to learnerships and apprenticeship associated with practical civil construction activities.

### **Comparability and Articulation**

The proposed qualification generally compares well with the qualification studied since the exit outcomes cover similar scope and depth and are aligned to exit-level descriptors typical of this level and as done within the region and beyond as well as competencies required for employment in a road maintenance work site.

The elective components found in some of the qualifications studied form core modules of the proposed qualification. Most of our fundamentals and core modules are also found under requirements for mandatory units of competency or compulsory of comparable qualifications /countries.

The proposed qualification has also included fundamentals that include communication skills, entrepreneurship, and occupational health and safety to ensure that there is provision for development of attributes, thus offering the learners with a window of opportunity for self-employment.

### **REVIEW PERIOD**

The qualifications shall be reviewed after 5 years or when the need arise.

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