Domain	ROAD CONSTRUCTION AND MAINTENANCE - CORE
Title:	Carry out basic measurements and calculations for road construction and maintenance
Level: 2	Credits: 8

Purpose

This unit standard is intended for those who work in road construction and maintenance operations. People holding credit for this unit standard are able to: Plan and prepare for calculation and/or measurement, obtain measurements, perform calculations and determine appropriate material quantities.

Special Notes

1.   Entry information:

        Prerequisite
        • None.

2.   Assessment evidence may be collected from a real workplace, a simulated real workplace or an appropriate simulated realistic environment in which construction and maintenance operations are carried out.

3.   This unit standard is to be assessed in the context of construction and maintenance operations and should be assessed in conjunction with other relevant technical unit standards selected from this subfield.

4.   Calculations include but are not limited to length, width, area, depth, volume, mass, ratios, perimeter, quantities, fractions and percentages.

5.   Areas and volumes are to include but not limited to regular and composite shapes such as rectangles, squares, circles, triangles and cylinders that represent calculations taken in a road construction and maintenance environment.

6.   Measurements are to be in metric scale and cover all necessary calculations.

7.   'Specifications' refers to any, or all of the following: manufacturers' specifications and recommendations, site and workplace specific requirements.

Elements and Performance Criteria

Element 1: Plan and prepare for calculation and/or measurement.

Performance Criteria

1.1   Calculations and measurement tasks are determined from work instructions.

1.2   Safety requirements are obtained form the site safety plan and workplace policies, other regulatory specifications or legal obligations and applied.

1.3   Measuring and calculating tools selected to carry out tasks are consistent with the requirements of the job, checked for usability and any faulty items are discarded of, replaced or reported and where required recalibrated.

Element 2: Obtain measurements.

Range:

Tools and equipment include but are not limited to: Measuring wheel, tape, dipsticks, scales, measuring cylinders and stationery.

Performance Criteria

2.1   Method and tools used for obtaining required measurements are selected in terms of the project specifications.

2.2   Measurements obtained by using the appropriate measuring tools are within specified tolerance.

2.3   Measurements are recorded in specified format.

Element 3: Perform calculations.

Range:

Tools and equipment include but are not limited to: electronic calculator and stationery.

Performance Criteria

3.1   An appropriate calculation method is selected for achieving the required result.

3.2   Calculation results are consistent with the measurement data.

3.3   Results are self checked and recorded.

Element 4: Determine appropriate material quantities.

Performance criteria

4.1   Required quantities are consistent with calculations.

4.2   Required quantities make provision for contingencies such as wastage,
        shrinkage and compaction.

4.3   Materials quantities for the project are checked and recorded in a secure and
        legible format.

Registration Data

Subfield:	Road Construction and Maintenance
Date first registered:	12 November 2009
Date this version registered:	12 November 2009
Anticipated review:	2013
Body responsible for review:	Namibia Training Authority