

	Unit ID: 1022
Domain	ROAD CONSTRUCTION AND MAINTENANCE – MACHINE OPERATIONS
Title:	Carry out activities in road construction and maintenance using a grader
Level: 3	Credits: 32

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 work; perform maintenance and authorised service operations on the grader; use ripper or scarifier; use grader for earthworks; complete work related documents; and clean up work area.

Being credited with this unit standard does not enable a person to drive the vehicle on an open, public road. In order to do so, a person must be in possession of a valid and current driving licence relevant to this vehicle type.

Special Notes

1. Entry information:
 - Prerequisite
 - Unit 712 - *Comply with health, safety and environmental rules and regulations in road construction and maintenance work operations*
2. Credit for this unit standard assumes that people are also capable to carry out pre-check operations, start and shut down procedures, and to load and secure a grader for transport to and from site.
3. Quality in this unit standard means adherence to work instructions. It is assumed that the work instructions are informed by contract requirements.
4. Expected worksite production target are to be met.
5. Assessment evidence may be collected from a real workplace, a simulated workplace or an appropriately simulated environment in which road construction and maintenance operations are carried out.
6. *'Batter'* refers to an earthworks cut or wall with a sloping face.
7. Maintenance may include but is not limited to cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance and repair activities.
8. Safe working practices include but are not limited to day-to-day observation of safety policies and procedures, and compliance with emergency procedures.

9. Performance of all elements in this unit standard must comply with all relevant legal and workplace requirements, contractual agreement and/or manufacturers' specifications.
10. Regulations and legislation relevant to this unit standard may include but are not limited to the following:
 - Labour Act, No. 11 of 2007
 - Occupational Health and Safety Regulations No. 18, 1997.
 - Road Traffic and Transport Regulations No. 52, 1999 and Government Notice No 53 Road Traffic and Transport Regulations
 - Road Ordinance 1972 and other relevant legislations 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. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Performance Criteria

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, explained, clarified and applied to the allocated task.
- 1.2 Safety requirements, including personal protective clothing and equipment are obtained from the site safety plan, workplace policies and procedures, and applied to the allocated task.
- 1.3 Traffic control requirements are obtained and implemented according to workplace requirements.
- 1.4 Plant, tools, fuel, lubricants, equipment, attachments and accessories selected to carry out tasks are checked for consistency with the requirements of the job, their usability and any faults rectified or reported prior to commencement of work.
- 1.5 Environmental protection requirements are identified from the project environmental management plan and applied to the allocated task.

Element 2: Perform maintenance and authorised service operations on the grader

Performance Criteria

- 2.1 Grader is maintained and serviced in accordance with the workplace requirements and manufacturer's procedures.

Element 3: Use ripper or scarifier

Performance Criteria

- 3.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 3.2 Ripper or scarifier is used to break up hard surface in accordance with manufacturer's instructions.
- 3.3 Ripper or scarifier is used to aerate cohesive soils in line with job requirements.
- 3.4 Ripper or scarifier is used to mix materials in line with job requirements.

Element 4: Use grader for earthworks

Range

Shaping of formation levels include cross-fall; grade; batter slope; and super elevation.

For assessment purpose, evidence is required to cut any two (2) drainage channels: Cut-out drain; interceptor drain; vee drain; and swale drain.

Performance Criteria

- 4.1 Relevant work instructions are obtained and confirmed in line with workplace procedures.
- 4.2 Sequence and work methods in terms of production requirements and site traffic are chosen to ensure safety of people and plant.
- 4.3 Topsoil is stripped according to job requirements.
- 4.4 Formation levels are shaped according to job requirements.
- 4.5 Foundation material is prepared according to job requirements.
- 4.6 Drainage channels are cut according to job requirements.
- 4.7 Materials are spread and levelled according to job requirements.
- 4.8 Earthworks are trimmed to line and level according to job requirements.
- 4.9 Topsoil is spread and levelled according job requirements.

Element 5: Complete work related documents

Performance Criteria

- 5.1 Work related documents are completed in accordance with contract and workplace requirements.

- 5.2 Maintenance and service related documents are completed in accordance with manufacturer and workplace requirements.
- 5.3 Documents related to accidents or other incidents are completed in accordance with workplace requirements.

Element 6: Clean up work area

Performance Criteria

- 6.1 Work area is cleared and materials disposed of or recycled in accordance with project environment management plan.
- 6.2 Grader, tools and equipments are cleaned, checked, maintained, serviced and stored in accordance with manufacturers' recommendations and standard work practices.
- 6.3 Unused materials are safely stored and stacked for future use.

Registration Data

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