

Title	Demonstrate knowledge of lifting and moving loads for infrastructure works		
Level	3	Credits	5

Purpose	<p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – explain the principles for using mobile plant for lifting and moving loads; – demonstrate knowledge of risk management associated with lifting, moving, and placing loads; – explain the types and inspection of lifting attachments; – demonstrate knowledge of communication techniques for lifting, moving, and placing operations; and – explain the process for determining the included lift angle.
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Classification	Infrastructure Works > Generic Infrastructure Works
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with relevant legislative and industry requirements.
- 2 Legislation and references relevant to this unit standard include:
 - Health and Safety at Work Act 2015;
 - NZ Gazette, No. 104 – 24 September 2015, Notice Under the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999; <https://gazette.govt.nz/notice/id/2015-go5666>;
 - Approved Code of Practice for Load-lifting Rigging, December 2012; available from www.worksafe.govt.nz.
- 3 Definitions

Capability refers to the ability of the machine to lift a load safely. Capability may be obtained from plant load charts and manufacturers' operators manuals.

Included lift angle refers to the top angle between the slings or chains that must not exceed 120 degrees due to the increase in load placed on the slings or chains.

Industry requirements may refer to but are not limited to relevant policies, processes, methodologies, industry codes of practice, site specific health and safety plans, standard operating procedures, site safety plans, quality plans, work plans, traffic management plans, contract work programmes, job safety analysis, safe work method statements, job instructions, manufacturer's requirements, contract specifications, manuals, procedural documents.

Loads refer to objects that need to be mechanically lifted and moved. For this unit standard, loads do not include loose materials such as aggregates.

- 4 This unit standard does not meet the requirements for the *Approved Code of Practice for Cranes, Page 47, Part 4: Requirements for persons operating or working with cranes* available at www.worksafe.govt.nz.

Outcomes and performance criteria

Outcome 1

Explain the principles for using mobile plant for lifting and moving loads.

Performance criteria

- 1.1 The relationship between the size, weight, and configuration of mobile plant is explained in terms of lifting capacity, capability, reach, and stability.
- 1.2 Provision of a safe working platform is explained in relation to worksite conditions.
- Range worksite conditions – slope, unstable ground, near vertical face, wet ground, trenches.
- 1.3 Requirements when lifting or moving a load are explained in terms of operating in a safe working area.
- Range includes but is not limited to – underground services, overhead obstructions, adjacent structures, traffic, people.
- 1.4 Test lifting is explained in terms of methodology for assessing the lifting capacity of mobile plant and the included lift angle.
- 1.5 Procedures for walking a load are explained.

Outcome 2

Demonstrate knowledge of risk management associated with lifting, moving, and placing loads.

Performance criteria

- 2.1 Potential risks and their control measures are identified, and the procedures and equipment used for elimination or minimisation of the risks are described.
- Range risks include but are not limited to – instability, crushing, jamming, communication failure, incorrect centre of gravity of load, rigging failure, pendulum swing.
- 2.2 The importance of a test lift is explained in terms of checking the safe working load.

Outcome 3

Explain the types and inspection of lifting attachments.

Performance criteria

- 3.1 Lifting hooks are explained in terms of requirements for rating, mounting, and certification.
- Range lifting hooks may include plant attachments that incorporate lifting hooks.
- 3.2 Lifting beams are explained in terms of requirements for rating and certification.
- 3.3 Inspections of hooks, beams, and attachments are explained in terms of visual checks prior to use.

Outcome 4

Demonstrate knowledge of communication techniques for lifting, moving, and placing operations.

Performance criteria

- 4.1 The importance of taking direction from one person when operating plant is explained.
- 4.2 Visual communication techniques are described in terms of hand signals used during worksite operations.
- 4.3 Verbal communication techniques are described in terms of radio and telecommunications.

Outcome 5

Explain the process for determining the included lift angle.

Performance criteria

- 5.1 Information used to determine the weight of the object to be lifted and the included lifting angle is explained.
- Range information may include but is not limited to – load weight, number of rigging legs, length of rigging legs, height of hook from load, type of hitch, sling rating, lifting angle calculation charts; evidence of three pieces of information is required.
- 5.2 The process for checking the included lift angle of the multi leg attachments or rigging to ensure it is appropriate for the weight of the object being lifted is explained in terms of the safe working load.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	29 July 2021	31 December 2023
Rollover and Revision	2	26 May 2022	N/A

Consent and Moderation Requirements (CMR) reference	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.