Title	**Demonstrate knowledge of earthworks and determine bulk earthmoving requirements for a specific infrastructure works site**		
Level	**4**	**Credits**	**8**

Purpose	People credited with this unit standard are able to demonstrate knowledge of earthworks and determine bulk earthmoving requirements for a specific infrastructure works site.

Classification	Infrastructure Works > Infrastructure Civil Works

Available grade	Achieved

Guidance Information

1 Legislation relevant to this unit standard includes:
Health and Safety at Work Act 2015;
Resource Management Act 1991;
Health and Safety in Employment Regulations 1995;
BS 6031:2009 *Code of practice for earthworks* and NZS 4404:2010 *Land development and subdivision*, available from https://www.standards.govt.nz/;
TNZ F/01 *Specification for Earthworks Construction,* available from http://www.nzta.govt.nz/resources/;
Territorial Authority guidelines for earthworks.

2 Assessment against this unit standard must take place in a workplace environment. Assessment parameters depend on company and site-specific equipment, procedures, and practices. Practices must reflect industry best practice and comply with legislative requirements.

3 Definitions
Bulk earthmoving refers to significant amounts of earth being removed, transported, and placed. Examples of undertakings involving bulk earthmoving are large subdivision development, roadway construction, and surface extraction.
Company requirements include the policy, procedures, and methodologies of the company. They include legislative and regulatory requirements which may apply across the company or to a specific site. Requirements are documented in the company's health and safety plans, traffic management plans, contract work programmes, quality assurance programmes, policies, and procedural documents.
Contract specifications include plans, diagrams, and special technical conditions. They do not include special administrative conditions.

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Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of earthworks for infrastructure works.

Performance criteria

1.1 Types of earthworks employed in infrastructure works are described in terms of purpose and winning, loading, haulage, and placement processes and requirements.

Range cut and fill formation, subgrade formation, construction and maintenance of haul roads and loading and unloading areas.

1.2 Industry standards and specifications governing earthworks are described in terms of purpose and their effect on and earthworks processes.

1.3 Environmental implications of earthworks are described in terms of potential negative effects and their management in accordance with company requirements.

1.4 Plant and equipment used for earthworks are described in terms of purpose, function, and recommended capacity.

1.5 The importance of matching quantities of soil for bulk earthmoving is explained in terms of time and resource efficiency.

Outcome 2

Determine bulk earthmoving requirements for a specific infrastructure works site.

Performance criteria

2.1 Site layout is described, and positioning of haul roads, loading areas, and unloading areas is determined in accordance with contract specifications and company requirements.

2.2 Earthmoving processes and required plant and equipment are determined in accordance with contract specifications and company requirements.

2.3 Site management requirements for the earthworks are determined and explained in terms of contract specifications and company requirements.

Range safety, environmental.

2.4 Communication requirements and procedures are determined in accordance with contract specifications and company requirements.

Range warning and emergency, traffic, toolbox meetings.

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Replacement information	This unit standard replaced unit standard 20616 and unit standard 20624.

Planned review date	31 December 2027

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 September 2018	N/A
Rollover and Revision	2	29 January 2026	N/A

Consent and Moderation Requirements (CMR) reference	0120

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Energy and Infrastructure Industry Skills Board qualifications@energyinfra-skills.nz if you wish to suggest changes to the content of this unit standard.

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