Title	Determine and describe construction of medium and large buildings		
Level	6	Credits	20

Purpose	People credited with this unit standard are able to, for medium and large buildings, determine and describe: the foundations and substructure; the passive fire protection systems; the structure for a specific design, the envelope, and the interior.

Classification	Construction > Core Planning and Construction

Available grade	Achieved

Guidance Information

1 Definitions
Design requirements refer to requirements for sustainability, durability, appearance, maintenance, practicality for intended use, general cost implications and water/weathertightness.
Small buildings are small scale, light weight buildings, generally of non-specific design, and of domestic scale with lightweight framing and/or concrete or concrete masonry construction.
Buildability refers to – ease of construction, availability of plant, equipment and materials, site access, construction sequence.

2 Construction methods for medium and large buildings are similar and therefore previous distinctions between medium and large buildings is not required. Medium and large buildings can include domestic and commercial buildings that are not covered by the definition of *small buildings*.

3 It is expected that the candidate will demonstrate an understanding of the concept of *buildability*.

4 Evidence should include sketching whenever possible.

5 Assessment of this unit standard can be by simulation using given site information, and/or observation.

6 Legislation and publications relevant to this unit standard include: Health and Safety in Employment Act 1992 and Health and Safety in Employment Regulations 1995;
Resource Management Act 1991;
Building Act 2004;
New Zealand Building Code;
NZS 3604:1999 *Timber framed buildings*, and NZS 4229:1999 *Concrete masonry buildings not requiring specific engineering design*, available from Standards New Zealand (http://www.standards.co.nz).

7 Recommended skills and knowledge:
Unit 9663, *Demonstrate knowledge of a research/feasibility study of a site*.

Outcomes and performance criteria

Outcome 1

Determine and describe the foundations and substructure.

Performance criteria

1.1 Description addresses geotechnical factors.

1.2 Description is in accordance with building use and design requirements.

1.3 Construction process is explained in terms of site constraints, materials, and time and general cost implications.

Range materials – timber, concrete, steel.

Outcome 2

Determine and describe the passive fire protection systems.

Performance criteria

2.1 Passive fire protection systems are determined and described in accordance with design requirements.

2.2 The selection of passive fire protection and materials meets the requirements of the structure and the New Zealand Building Code.

Range fire rated separations, fire doors, fire windows, structural protection, penetrations, egress.

2.3 Description includes provision for services, materials, cladding and finishes.

2.4 Construction process is explained in terms of site constraints, materials, and time and general cost implications.

Range materials – proprietary linings, concrete, specialist coatings.

Outcome 3

Determine and describe the structure of a building of specific design.

Performance criteria

3.1 Building structural systems are described in terms of their relationship with building types.

3.2 Description includes provision for services, materials, cladding and finishes.

3.3 Description is in accordance with building use and design requirements.

3.4 Construction process is explained in terms of site constraints, materials, and time and general cost implications.

Range laminated timber;
concrete, four of – in situ, precast, prestressed, post tensioned, tilt slab, fibre reinforced;
structural steel, composite.

Outcome 4

Determine and describe the envelope of a building.

Performance criteria

4.1 Selection and design for wall and roof claddings and openings match the characteristics of the required structure.

4.2 Design principles of typical cladding jointing systems are described in terms of sealants, flashings, and compatibility and jointing between systems.

4.3 Description includes provision for services, materials, and finishes.

4.4 Description is in accordance with building use and design requirements.

4.5 Construction process is explained in terms of site constraints, materials, and time and general cost implications.

Range materials, four of – timber, rendering, metal, fibre cement, masonry, concrete, glass, plastic, membrane, composite panel.

Outcome 5

Determine and describe the interior of a building.

Range linings, joinery, fitments.

Performance criteria

5.1 Selection of the interior matches the characteristics of the required structure.

5.2 Description matches or exceeds the regulatory requirements that apply to the approved solutions.

5.3 Description includes provision for services, materials, and finishes.

5.4 Construction process is explained in terms of site constraints, materials, and time and general cost implications.

Replacement information	This unit standard replaced unit standard 9672.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 March 2011	31 December 2024
Review	2	25 August 2022	31 December 2024

Consent and Moderation Requirements (CMR) reference	0048

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