# GUIDANCE REFERENCE MATERIAL

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## **Glossary of terms**

The following terms are used throughout this document.

Term	Definition				
AP40 and AP65	Aggregate specification relating to grading				
Building platform	A prepared mass of compacted soil to provide a base on which to construct a dwelling (refer to sections 5.2 and 15.1.3). For properties potentially affected by flooding (refer to section 8.4).				
Deep piles	Non-3604 piles (driven, bored or screw) that are designed to transmit foundation loads to a deeper bearing stratum.				
Foundation damage	In the context of this document, damage (differential settlement, cracking, stretching, tilting, twisting) to foundation elements (individually or collectively) resulting from land or structure movement (vertical or horizontal) attributable to the earthquake sequence. Refer also to Table 2.2 and 2.3.				
Foundations	Building element that transmits loads from the structure directly to the ground.				
Geotechnical ultimate bearing capacity	The 'geotechnical ultimate' bearing capacity is the calculated ultimate bearing capacity of the soil in geotechnical terms. The 'structural' (or 'dependable', 'allowable', 'reduced') ultimate limit state bearing capacity' is the geotechnical ultimate bearing multiplied by a strength reduction factor (normally in the vicinity of 0.5), to be compared with fully factored loads as per AS/NZS 1170. The 'allowable bearing capacity' is the geotechnical ultimate limit state bearing capacity divided by a factor of safety (often 3), to be compared with unfactored working loads (ie. the old 'working stress' method),				
Good ground	Ground that has static bearing capacity (geotechnical ultimate) of 300 kPa or better and is free of other hazards, as defined in NZS 3604:2011.				
Heavy roof	A roof with roofing material exceeding 20 kg/m <sup>2</sup> but not exceeding 60 kg/m <sup>2</sup> of roof area (eg, concrete and clay tiles).				
Heavy wall cladding	A wall cladding having a mass exceeding 80 kg/m², but not exceeding 220 kg/m² of wall area. Typical examples are clay and concrete masonry veneers.				
Lateral stretch	The degree of lateral stretching of the ground which may occur across a building footprint in an earthquake, as opposed to global lateral movement, where the entire superstructure and foundation is able to move as one along with the global movement of the block				
Light roof	A roof with roofing material not exceeding 20 kg/m² of roof area (eg, sheet metal roofing and metal tiles)				
Light wall cladding	A wall cladding having a mass not exceeding 30 kg/m². Typical examples are weatherboards.				
Medium wall cladding	A wall cladding having a mass exceeding 30 kg/m² but not exceeding 80 kg/m² of wall area (a typical example is stucco cladding).				

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Term	Definition			
NZS 3604	All references in this document to NZS 3604 are to the most recent publication of NZS 3604, this being NZS 3604:2011, unless specifically stated. References include modifications made to NZS 3604 in Acceptable Solution B1/AS1.			
Piles	A block or column-like member used to transmit loads from the building and its contents to the ground (from NZS 3604:2011). Generally, house piles are founded at a shallow depth (<1.2 m) when the ground is 'good ground' as defined in NZS 3604. However, the presence of poor soils and liquefiable soils below the house may result in the need to install piles founded at significantly greater depths.			
Scala penetrometer	Hand held penetrometer test primarily used in New Zealand and Australia, using equipment manufactured in accordance with NZS 440. Test 6.5.2:1988 (sometimes incorrectly referred to as 'DCP').			
Readily repairable	Refer definition in Part B, section 8.2.3			
Slab-on-grade	Also known as slab-on-ground (refer to NZ3 3604).			
Superstructure	That portion of the dwelling above the underside of the wall bottom plate.			
Type A dwelling	Timber-framed suspended timber floor structures supported only or shallow piles.			
Type B dwelling	Timber-framed suspended timber floor structures with perimeter concrete foundation and shallow piles in the interior space.			
Type C dwelling	Timber-framed dwelling on concrete slab-on-grade ground floor.			

### **List of acronyms**

The following acronyms are used throughout this document.

Acronym	Definition			
AEP	Annual exceedence probability			
AS	Acceptable solution			
ASCE	American Society of Civil Engineers			
BCA	Building consent authority			
BRANZ	Building Research Association of New Zealand			
CBR	California bearing ratio			
ссс	Christchurch City Council			
CERA	Canterbury Earthquake Recovery Authority			
CFA	Continuous Flight Augur (piles)			
CPEng.	Chartered Professional Engineer			
СРТ	Cone penetrometer test			
DBH	Department of Building and Housing (now part of MBIE)			
DC	Dynamic compaction			
DPC	Damp proof course			
DPM	Damp proof membrane			
DPT	Dynamic penetrometer test			
DSM	Deep soil mixing			
EAG	Engineering Advisory Group			
EECA	Energy Efficiency and Conservation Authority			
EERI	Earthquake Engineering Research Institute			
EIFS	Exterior insulation finishing system			
ELS	Earthquake Loadings Standard			
EQC	Earthquake Commission			
FC	Fines content			
FFL	Finished floor level			
Fletcher EQR	Fletcher Construction – Earthquake Recovery			
FMA	Flood management area			
FHWA	Federal Highway Administration – for geotechnical research and publications			
GNS Science	nce New Zealand Crown Research Institute that focuses on geology, geophysics (including seismology and volcanology), and nuclear scier (particularly isotope science and carbon dating)			

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Acronym	Definition				
IL	Importance level				
IPENZ	Institute of Professional Engineers New Zealand				
Lidar	Light Detection and Ranging – a measuring device				
LBP	Licensed building practitioner				
LFA	Localised flooding area				
LMG	Low mobility grout				
MASW	Multi-channel analysis of surface waves				
MBIE	Ministry of Business, Innovation and Employment				
MSF	Magnitude scaling factor				
NZGS	New Zealand Geotechnical Society				
NZS	New Zealand Standard				
PGA	Peak ground acceleration				
РМО	Project management office				
QPID	Quotable value property identification number				
RBW	Restricted Building Work				
RIC	Rapid Impact Compaction				
RMA	Resource Management Act				
SCJ	Shrinkage control joint				
SHS	Square hollow section				
SLS	Serviceability limit state (refer to AS/NZS 1170)				
SPT	Standard penetration test (refer to NZS 4406.6.51:1988)				
SWS	Swedish Weight Sounding				
ТС	Technical category				
t-m	tonne-metres				
ULS	Ultimate limit state				
VM	Verification method (refer to AS/NZS 1170)				
VS	versus eg, cost vs benefits				

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