



Building Code Technical Risk Advisory Group

5 June 2019





Item	Agenda Item	In the hands of	Time
	Welcome Coffee		9:15 - 9:30
1.	Introductions	Chief Engineer	9.30 - 9.45
2.	Business Update	Dave Robson	9.45 - 10.15
3.	Strategic discussion: “good ground” in the building code	Jenni Tipler	10.15 - 10.45
4	Prioritising risk submissions for discussion at the meeting	Chief Engineer	10.45 - 11.05
	Open Forum: Discuss Risks:		
5.	Risk 1	Chief Engineer	11.05 - 11.35
	Risk 2		11.35 - 12.15

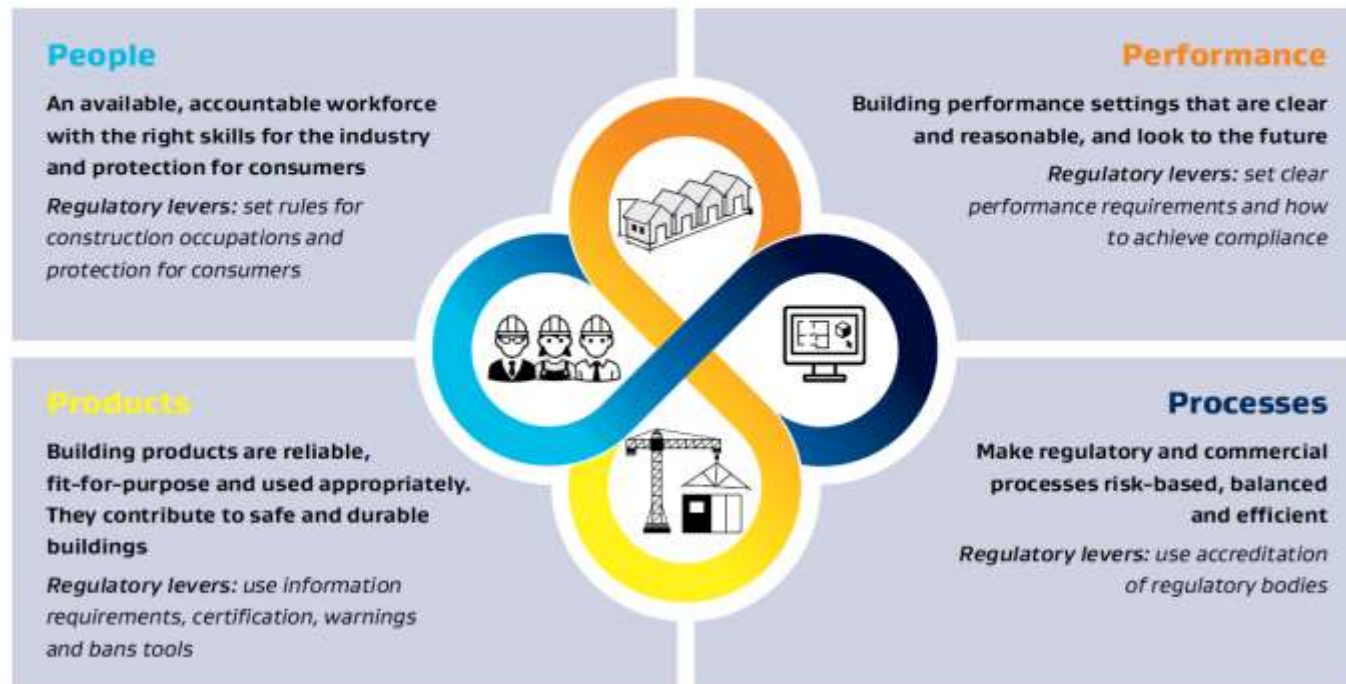


Item	Agenda Item	In the hands of	Time
	Lunch		
	Open Forum: Discuss Risks:		
5.	Risk 3	Chief Engineer	12.45 - 1.15
	Risk 4		1.15 - 1.45
	Risk 5		1.45 - 2.10
6.	Open Forum: General issues		2.10 - 2.20
7.	Next Steps	Mike Kerr	2.20 - 2.30
8.	Close	Mike Kerr	2.30

- June BC update
 - Key highlights
- HD8 update
 - Progress and next steps
- Engineering NZ relationship
 - Technical proposal C5
 - Geotechnical Practice Series
 - Low Damage Design information
- SNZ collaboration and 2019/2020 commitment
- Building Code 101 series of education content
- Operating Model
- Risk Framework
- Digital changes and developments

THE 4Ps FRAMEWORK

This framework helps define both the outcome and the regulatory levers available to set standards and influence change in the building regulatory system.



All four Ps must work effectively together for a thriving building system.

3. Strategic discussion: “good ground” in the building code





Regulatory Objectives

- Ensure that house foundations meet the performance requirements of the Building Code
- Provide ‘prescriptive’ solutions for house foundations that are not prohibitively expensive
- For, residential buildings (low risk?), standardised foundation solutions should be available so that specialised geotechnical input is not always required



1.1.2 Buildings covered by this Standard

NZS 3604 shall apply only to buildings within the following limits:

(a) Buildings founded on *good ground*;

GOOD GROUND. Any soil or rock capable of permanently withstanding an ultimate bearing *capacity* of 300 kPa (i.e. an allowable bearing pressure of 100 kPa using a factor of safety of 3.0), but excludes:

- (a) Potentially compressible ground such as top soil, soft soils such as clay which can be moulded easily in the fingers, and uncompacted loose gravel which contains obvious voids;
- (b) Expansive soils being those that have a liquid limit of more than 50 % when tested in accordance with NZS 4402 Test 2.2, and a linear shrinkage of more than 15 % when tested from the liquid limit in accordance with NZS 4402 Test 2.6; and
- (c) Any ground which could foreseeably experience movement of 25 mm or greater for any reason including one or a combination of land instability, ground creep, subsidence, seasonal swelling and shrinking, frost heave, changing groundwater level, erosion, dissolution of soil in water, and effects of tree roots.



NZS 3604:2011
New Zealand Standard
Timber-framed buildings
Superseding NZS 3604:1999



NZS 3604:2011

B1
BUILDING CODE





3.0 Timber

3.1 NZS 3604 subject to the following modifications:

3.1.1 NZS 3604 Paragraph 1.3 Definitions

Add (in the definition for Good Ground):

“(liquefaction, lateral spread – for the **Canterbury earthquake region only**)”

after “subsidence” in subparagraph (c).

3.1.14 NZS 3604 Foundations in the **Canterbury earthquake region only where good ground has not been established**

COMMENT:

Foundations for houses built on ground that has the potential for liquefaction or lateral spread are outside the scope of B1/A51.

Foundation designs for houses built in areas that have the potential for liquefaction, as defined by the Christchurch City Council, the Selwyn District Council and the Waimakariri District Council, may be in accordance with the MBIE Guidance Document “Repairing and rebuilding houses affected by the Canterbury earthquakes” (refer to www.mbie.govt.nz).

The foundation options in the MBIE Guidance Document apply to properties in the *Canterbury earthquake region* that have been categorised as Technical Category 1 to 3 (TC1, TC2 and TC3).

For TC1 properties, provided the conditions for good ground in Section 3 of NZS 3604 are met, house foundations following B1/A51 can be used.

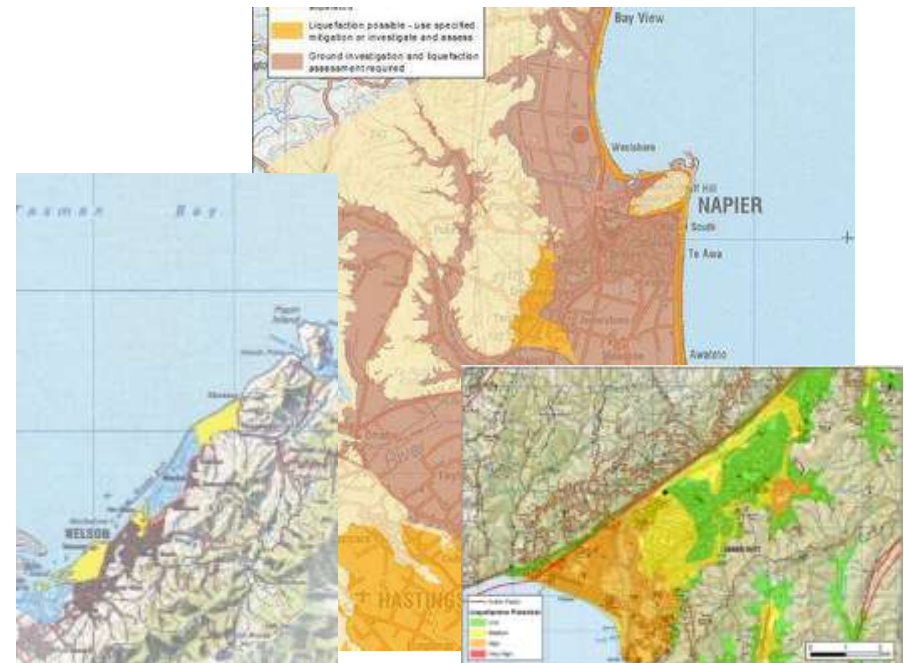
For TC2 and TC3 properties the MBIE Guidance Document provides a range of foundation solutions depending on expected ground movement and available bearing capacity. These parameters also determine the degree of involvement of structural and geotechnical engineers and the extent of specific engineering design.

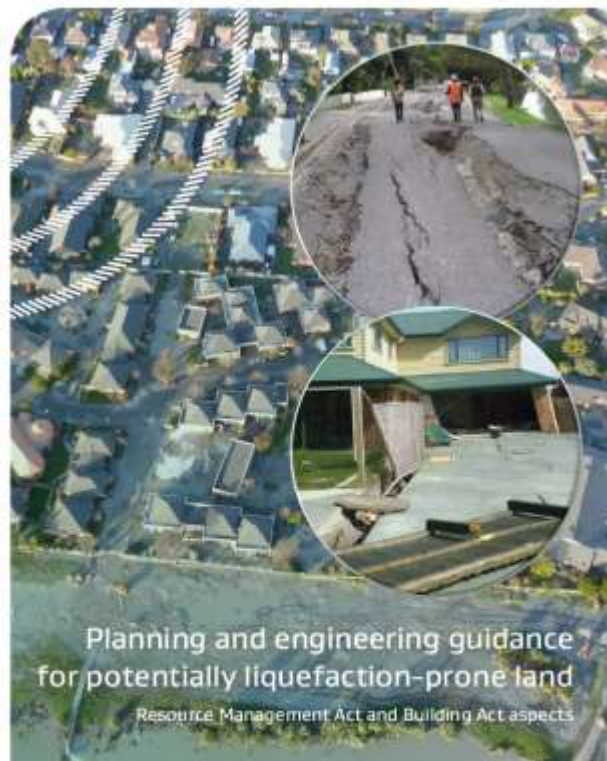
Further guidance is being developed for other New Zealand regions and it is expected that this will inform the wider building and construction sector in due course. In the meantime for properties outside the *Canterbury earthquake region* that have the potential for liquefaction, MBIE recommends that further engineering advice is sought. For these properties a foundation solution following those provided for TC2 in the MBIE Guidance Document may be appropriate.



We know that this is an issue in areas other than Canterbury

- In the event of a 500 year return period earthquake the extent of liquefaction could be similar to that experienced in Christchurch at the following centres:
 - Gisborne
 - Hutt Valley
 - Kapiti Coast
 - Napier/ Hastings
 - Nelson/ Richmond
 - Tauranga/ Mt Maunganui
 - Wanganui
 - Whakatane





MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
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Nov 2019 ?



3.0 Timber

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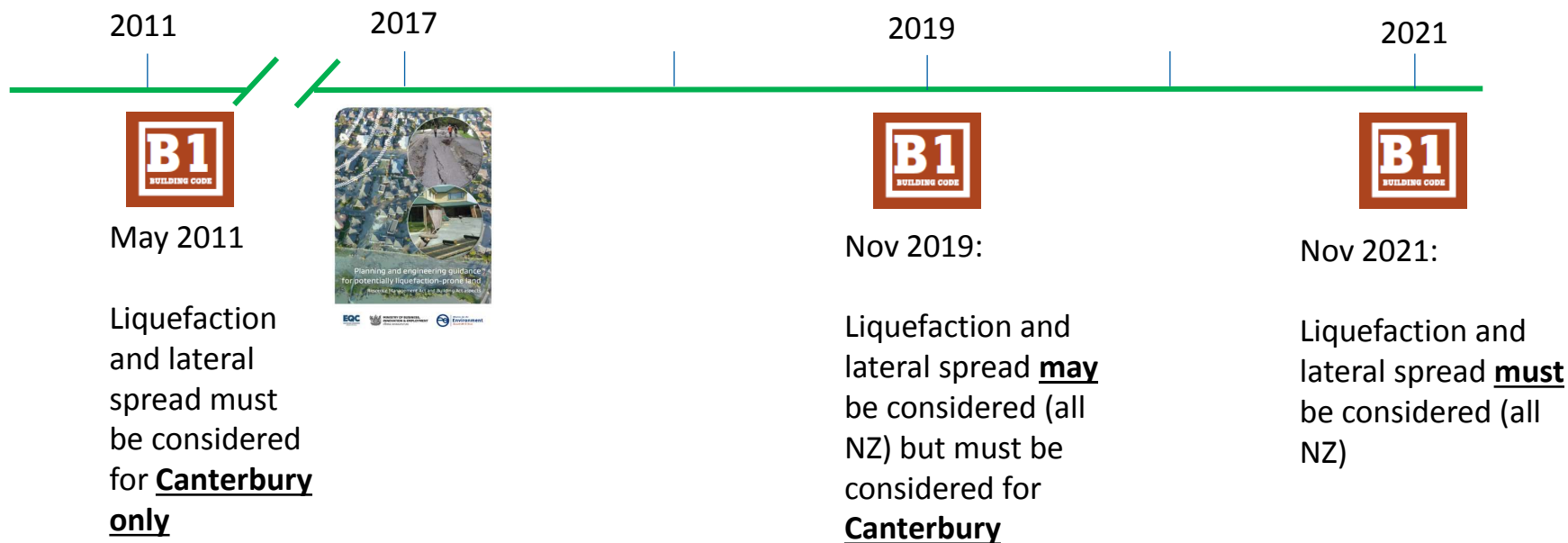
3.1.1 NZS 3604 Paragraph 1.3 Definitions

Add (in the definition for Good Ground):

“(liquefaction, lateral spread [REDACTED]

after “subsidence” in subparagraph (c).

Possible timeline





4. Prioritising risk submissions for discussion at the meeting





5. Risk Discussion



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Lunch





5. Open Forum: General issues



- Next meeting will be on Thursday 29 August, 2019 at MBIE.
- Questions



Thank You





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