

COMPLETION REVIEW ENGINEERS REPORT 48 NORTH AVON ROAD, CHRISTCHURCH

Ref 260712 REV1

Date: 2/8/2026

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1. Introduction

This report covers the review of the earthquake repairs to 48 North Avon Road. In 2026 many buildings have recently had earthquake related damage repaired. The repairs to this building (2 Flats) included minor releveled of floor in 2 rooms, replacement of joists and connection to piles with stainless steel strap and epoxy injection to ring beam cracks.

The building is an existing residential house divided into 2 flats. The building was constructed in the 1930s. The external walls are timber clad with corrugated metal roof.

The current repair work has been carried out by a licensed building practitioner. Following a review of the structural condition and other reports, the noted defects have been fully repaired.

The house is in good condition.

The report has been Prepared by Peter Duncan. The document is authorized by Peter Duncan MIPENZ, MIE AUST, CPENG, RPEQ.

These reports, in this format, form part of the Quality Assurance procedure in APEC Services. Each report is tailored for the site and purpose but essentially includes the checklist for quality assurance considerations and a record of the repair work.

1.1 Site Details

Address	48 North Avon Road
Real Property Description	Lot 1 DP 410803
Owner	Griha Ltd
Engineer	APEC Services (Skipstone Consulting)
Engineer Foundations	N/A
Geotechnical	N/A
Site Area	496m ²
Building Area	154m ²
Council	Christchurch City Council
Year Constructed	1930-1939

2. Scope of Work

Peter Duncan from APECS carried out a review of the repairs and levels and repairs achieved. Initial investigation showed that the floor in two rooms exceeded the MBIE Guidance values for floor slope. Floor level differential in one area only, floor in one room replaced..

- Repairs and releveling of floors
- Replacement of floor joists in one room
- Cracks to ring beam repaired with epoxy injection

3. Defect Review

There was no documentation for review. The work adjusted the floor levels to meet the MBIE Guidance values for floor level and floor slope and correct obvious out of level defects to meet MBIE Guidance values.

3.1 Other Maintenance

Other Maintenance work on the house includes refurbishment of the walls and minor defects.

The building is in good, repaired condition.

4. References

AS/NZS 1170.0:2002 Structural Design Actions (Part 0: General Principles)
AS/NZS 1170.1 :2002 Structural Design Actions (Part 1: Permanent, Imposed, and other actions)
AS1170.5:2004 Structural Design Actions (Part 5: Earthquake Loading) Amendments
NZS 3101.1-2006 & 3101.2-2006 Concrete Structures Standard
AS 4100:2009/NZS3404 Steel Structures Standard
NZS/AS 1720 Timber Structures Standard
MBIE Guidance "Repairing and rebuilding houses affected by the Canterbury earthquakes"
December 2012

5. Conclusion

The house has been repaired. Repair work (2026) was in this case was carried out as a maintenance activity in accordance with s41 and Schedule 1 of the Building Act.

6. Supporting Information

Supporting Information

The MBIE Guidance values were designed as a means of standardizing assessments of foundation settlement. The Guidance indicates that the guidance values should not be taken in isolation of other indicators of settlement.

Floor slopes are measured over more than 2m and are a representation of serviceability.

I have reprinted the MBIE Guidance information from Table 2.2 below

Table 2.2: Indicator criteria for foundation damage not requiring structural repair (all technical categories)

Dwelling Foundation Type	Settlement Status	Lateral stretch status	Crack widths'/Other
Type A	Vertical differential settlement <50 mm and floor slope less than 1 in 200 between any two points >2 m apart	<20 mm ²	Pile tilt <15 mm per 1 m height and no floor framing damage
Type B			<5 mm cracks in perimeter foundation
Type C			<5 mm cracks in the floor slab

(1) Crack widths are those principally related to earthquake actions

(2) A maximum lateral stretch of 20 mm is based on a resulting potential out of plumb of house end walls of 10 mm.

Some inconsistencies have been discovered in the advice given previously in the Guidance about dealing with cracks in slabs and foundation walls. Cracks can be caused by other than earthquakes, and shrinkage is a particular contributor to the formation of cracks in floor slabs. In perimeter foundation walls, cracks have often occurred at vents (where the cross-section is reduced) over the life of the foundation as a result of local foundation settlement unrelated to earthquake activity.

7. Photographs



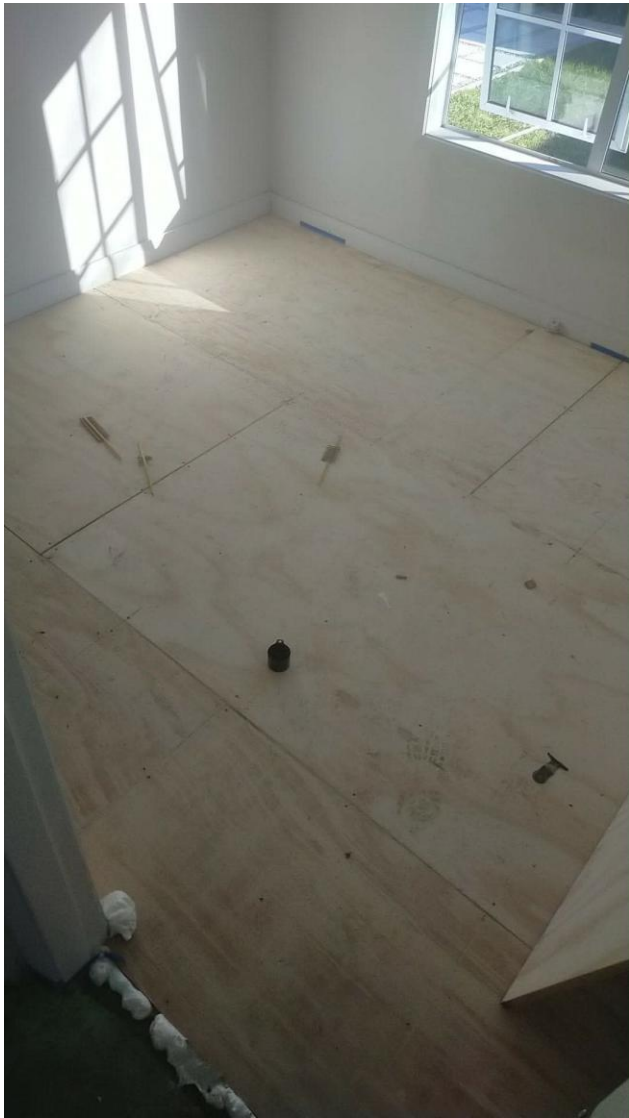
Epoxy Repair to ring beam crack



Ground level too close to floor – damaged joists replaced floor level adjusted to level



Sealed floor – minor gaps in floor sheet sealed.



Completed floor





Nipple for epoxy injection (cracks to ring beam)



Typical under floor



Stainless steel strap to existing "kerosene tin" Pile typical of age of house



Laser over floor to demonstrate level

PRODUCER STATEMENT – PS4A CONSTRUCTION REVIEW

[NOT USED IN CONJUNCTION WITH BUILDING
CONSENT CODE COMPLIANCE APPLICATION]

Rcd 376

Job number 260712

Issued By Skipstone Consulting Ltd/APEC Services
To Griha Ltd
TO BE SUPPLIED TO Christchurch City Council
IN RESPECT OF Releveling and Repair of Earthquake Damage services
AT 48 North Avon Road
Town/City Christchurch Lot 1 DP 410803 SO

Skipstone Consulting Ltd/APEC Services have been engaged by Griha Ltd

to provide construction monitoring services in respect of specific elements within the works to the following level:

CM2

Inspection and review of repair work completed by Builder including adjustment to floor levels and repairs including replacement of aged joists. Epoxy repair to ring beam ,

The construction monitoring that has been carried out relates to elements of the Works referred to in the attached PS1A Design Producer Statement issued prior to commencement of the Works. The construction monitoring also relates to the authorised instructions / variation(s) provided or listed in the attached Schedule, that were issued in the course of the Works. The construction monitoring relates to Part only (as specified in the attached Schedule) of the elements of the Works referred to in the PS1A.

On the basis of this this construction monitoring or review together with information supplied by the contractor during the course of the works and on behalf of the firm undertaking this Construction Review, **I believe on reasonable grounds** that these elements of the works have been completed in accordance with the requirements of the relevant documentation in the attached schedule including form PS1A to be attached if supplied.

I also believe on reasonable grounds that persons who have undertaken this construction review have the necessary competency to do so.

I, Peter Duncan am: CPEng 144221

I am a member of () Engineering New Zealand, and Hold the following qualifications BEng (Civil) MBA
The Design Firm issuing this statement hold a current policy of Profession Indemnity Insurance no less than \$200,000*

SIGNED BY Peter Duncan (Signature)



ON BEHALF OF Skipstone Consulting Ltd/APEC Services

Date 2/08/2026

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of \$200,000.*

SCHEDULE TO PS4A

The documents and supporting, drawings are listed below

Inspection Report 260712