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14th December 2010

J Ballantyne & Co Ltd
PO Box 4648
CHRISTCHURCH 8140

Our Ref: 100781/S/1

ATTENTION: PAUL O'CONNELL

Dear Paul,

RE: EARTHQUAKE DAMAGE TO BUILDINGS AT BALLANTYNES: OLD STABLES, 1950'S BUILDING, 1965 BUILDING, ANDERSON BUILDING, LOW LEVEL INFILL

Powell Fenwick Consultants Ltd has been engaged by J Ballantyne & Co Ltd to inspect the above property.

SCOPE OF REPORT

The scope of this report is for the building owner to be made aware of any structural issues that may have occurred to the building elements outlined above a result of the earthquake on the 4th September and subsequent aftershocks; and to provide indications of remedial work required to rectify these structural issues.

In order to assess the structural suitability for use, and to identify any possible ongoing issues walk through inspections of the buildings at the property were conducted by Hannah Clarke on behalf of Powell Fenwick Consultants Ltd on the 5th September 2010 and the 19th November 2010.

The inspection covered visually available aspects of the buildings internally and externally. No coverings were removed, no drawings reviewed or any detailed engineering conducted. Non-structural utilities such as electrical, water, and other services, and weather tightness were not specifically inspected, but may be commented on where they impact the building structure. We note that this report is specifically for the purpose of assessing earthquake damage to date and further inspection may be required in the event of significant aftershocks or other events that could affect the structural integrity of the building.

PROPERTY INFORMATION

Specific information relating to the property/construction is summarised in the attached earthquake damage inspection summary.

EARTHQUAKE DAMAGE

Indications are that these buildings are not in danger of structural collapse.

The attached earthquake damage inspection summary notes items that have been damaged by the earthquake. The following specific items have been noted as requiring attention in the near future but are not considered to affect the short term structural integrity of the buildings:

Old Stables

- Cracking to bricks within mortar course at South Gable, these are to be re-pointed
- Loose flashing to top of Eastern side of South Gable is to be refixed
- Perceived movement in floor is existing hogging of floor over brick wall below, no work is required here.
- Gap between joists where the span direction changes is not a structural concern as these joists cantilever over the wall below, and as such are not supported off the joist running perpendicular; no existing fixings could be seen.

1950's Building

- Movement in carpet over seismic joint will require the carpet to be lifted and re-laid.
- Damage to some ceiling linings where these span across the seismic joint, these will require repair and reinstatement.

1965 Building

- Diagonal cracking of mortar joints in unreinforced unfilled block infill with no physical offset of blocks, these cracked mortar lines are to be re-mortared.
- Cracking of joint and spalling of concrete where concrete frames meet unreinforced unfilled block infill. Spalled concrete is to be repaired with structural mortar.
- Diagonal cracking in un-reinforced unfilled concrete block partition walls to toilets in basement. These walls does not form part of the lateral load resisting structure of the building and as such the cracking to the wall is only an aesthetics issue. These cracked mortar lines are to be re-mortared, and cracked blocks chased out and mortared; the internal finish should then be reinstated.
- Cracking between soffit and wall, note this cracking is mostly in the paint and very little movement has occurred in the concrete. The paint should be removed and cracks injected.
- Tiles to the exterior wall to the north side above the canopy have erupted around the seismic joint line. These should be removed and re-laid.
- The sealant joint on the seismic joint to the front face of the North wall and top of the parapet should be checked to ensure this has not been compromised.

Anderson Building

- Significant cracking in internal linings in kitchen area for Tea Rooms; this cracking is not of structural concern as the linings are not structural. The linings should be repaired and reinstated.
- Movement in carpet over seismic joint will require the carpet to be lifted and re-laid.

- Damage to some ceiling linings where these span across the seismic joint, these will require repair and reinstatement.

Low Level Infill

- Cracking in basement wall of ramp to low level infill. Indications are this is existing, however the earthquake may have caused further movement. These cracks should be epoxy injected.

Structural items that require immediate attention to prevent ongoing damage to the buildings are:

- NIL

GROUND MOVEMENT AND LIQUEFACTION

There were no obvious indications of ground movement, fissures and/or liquefaction in the ground adjacent the property. Any comments on ground movement, fissures or liquefaction associated with the earthquake are based upon our visual inspection only.

ADDITIONAL INFORMATION

It is important to note that this information is based on a visual walk through inspection only. It is possible that there is unobserved damage that may become evident in the future. If this is the case, please note the areas you have observed and contact our office to discuss them if required.

This inspection and report is carried out under the standard conditions of contract as per the standard ACENZ "Short Form Agreement for Consultant Engagement".

Please call our office on 366 1777 if you require further information or assistance.

Yours faithfully,
POWELL FENWICK CONSULTANTS LIMITED

H. Clarke
H E CLARKE

Encl. Earthquake damage inspection summary
Photos of relevant areas
Property Sketch Plan
Specification for Concrete Repair using Sika Monotop Structural Mortar
Specification for Crack Injection using Sika Injectokit TH

Our Ref: 100781/S/1

EARTHQUAKE DAMAGE INSPECTION SUMMARY

The following is a summary of our inspection. It is intended to be read with our covering report. Findings are focused on structural condition only.

1. CONSTRUCTION AND DAMAGE DETAILS

Old Stables
Construction: 2 Levels (Including mezzanine in roof space) + Basement – Unreinforced brick masonry with timber roof trusses
Observed Damage:

- Cracking to bricks within mortar course at South Gable
- Loose flashing to top of Eastern side of South Gable
- Movement in floor is existing hogging of floor over brick wall below
- Gap between joists where the span direction changes, these joists cantilever over the wall below, no existing fixings could be seen.

1950's Building
Construction: 2 Levels + Basement – Concrete Frame and Unfilled Concrete Block walls
Observed Damage:

- Movement in carpet over seismic joint.
- Damage to some ceiling linings where these span across the seismic joint

1965 Building
Construction: 2 Levels + Basement– Concrete Frame with Unfilled Concrete Block Infill walls
Observed Damage:

- Diagonal cracking of mortar joints in unreinforced unfilled block infill, no physical offset of blocks.
- Cracking of joint and spalling of concrete and plaster where concrete frames meet unreinforced unfilled block infill
- Diagonal cracking in un-reinforced unfilled concrete block partition walls to toilets in basement.
- Cracking between soffit and wall, note this cracking is mostly in the paint and very little movement has occurred in the concrete.
- Tiles to the exterior wall to the north side above the canopy have erupted around the seismic joint line.

Anderson Building
Construction: 2 Levels Retail + 4 Levels Carpark + Basement – Concrete frame and Walls
Observed Damage:

- Significant cracking in internal linings in kitchen area for Tea Rooms
- Movement in carpet over seismic joint.
- Damage to some ceiling linings where these span across the seismic joint

Low Level Infill
Construction: 2 Levels + Basement – Concrete walls
Observed Damage:

- Cracking in basement wall of ramp to low level infill. Indications are this is existing, however the earthquake may have caused further movement.

ITEM	DESCRIPTION	CONDITION / COMMENT
SITE		
Ground Fissures		None observed
Ground Movement		None observed
Liquefaction		None observed

2. OVERALL STRUCTURAL CONDITION

Damage observed is all superficial and not of structural concern. The main structural elements which are visible appear in good condition with little signs of movement or damage.

3. RECOMMENDATIONS

The following is a brief summary of further investigations / possible remedial. This is not an exhaustive list and only relates to items covered in this inspection. You may also require further specialist contractor input.

Investigations

- The sealant joint on the seismic joint to the front face of the North wall and top of the parapet should be checked to ensure this has not been compromised. If this has been compromised allow to re-seal with suitable façade sealant such as Sikaflex façade AT

Remedial

Old Stables

- Repoint bricks to South Gable
- Refix loose flashing to top of Eastern side of South Gable

1950's Building

- Lift and re-lay carpet over seismic joint.
- Re-plastering of damaged internal linings where possible or replacement.

1965 Building

- Remortar cracked blockwalls to exposed faces, note this is to happen full depth of the face shell. This applies to the cracked mortar in the infill walls and the unfilled partition walls in the basement. Repaint walls, and where required in the toilets re-lay tiles.
- Chase out cracks to exposed face in blocks to unfilled partition walls and mortar/groutfill chase to allow wall to be re-plastered and painted.
- Breaking out of damaged concrete to concrete frames with infill walls and repair with Sika MonoTop Structural Mortar repair system; refer to appended specification.

- Remove paint at cracked soffit and wall junction within basement toilet and expose any cracks. Cracks should be injected using Sika Injectokit TH system; refer to appended specification
- Remove and re-fix tiles which have erupted to exterior wall on the north side above the canopy.

Anderson Building

- Re-plastering of damaged internal linings in Tea rooms kitchen and ceilings where possible or replacement
- Lift and re-lay carpet over seismic joint.

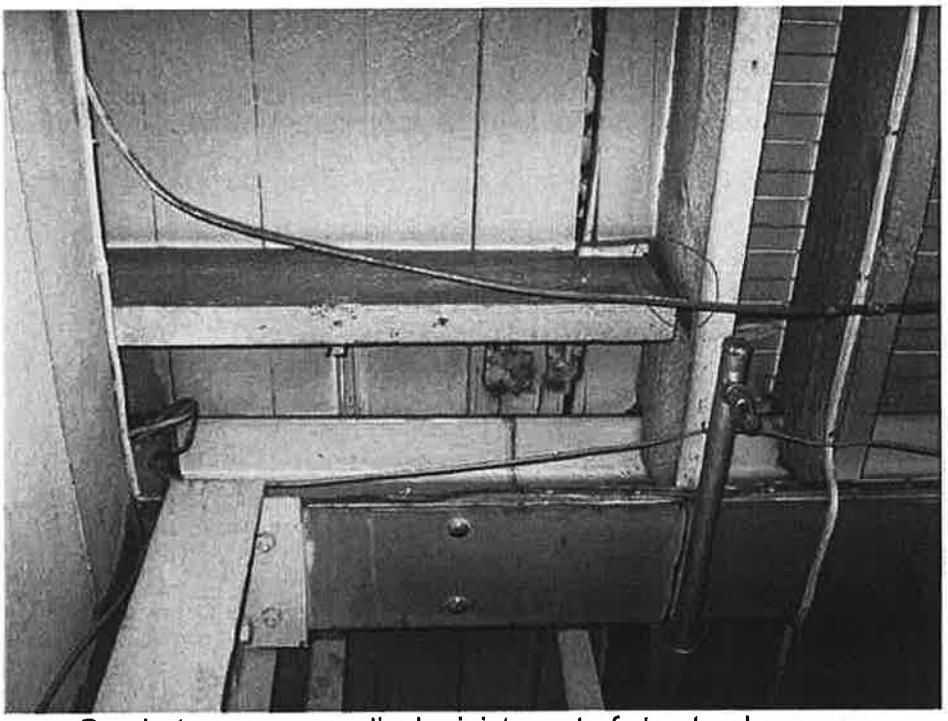
Low Level Infill

- Cracking in basement wall of ramp to low level infill to be epoxy injected with Sika Injectokit TH; refer to appended specification.

PHOTOS

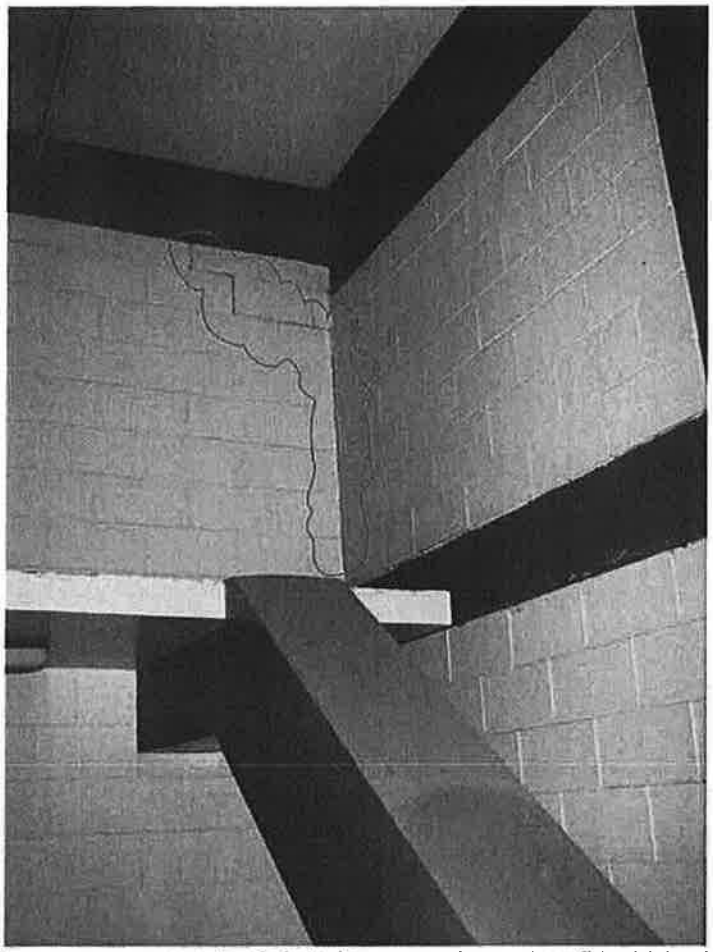
Old Stables

Cracking to brick gable

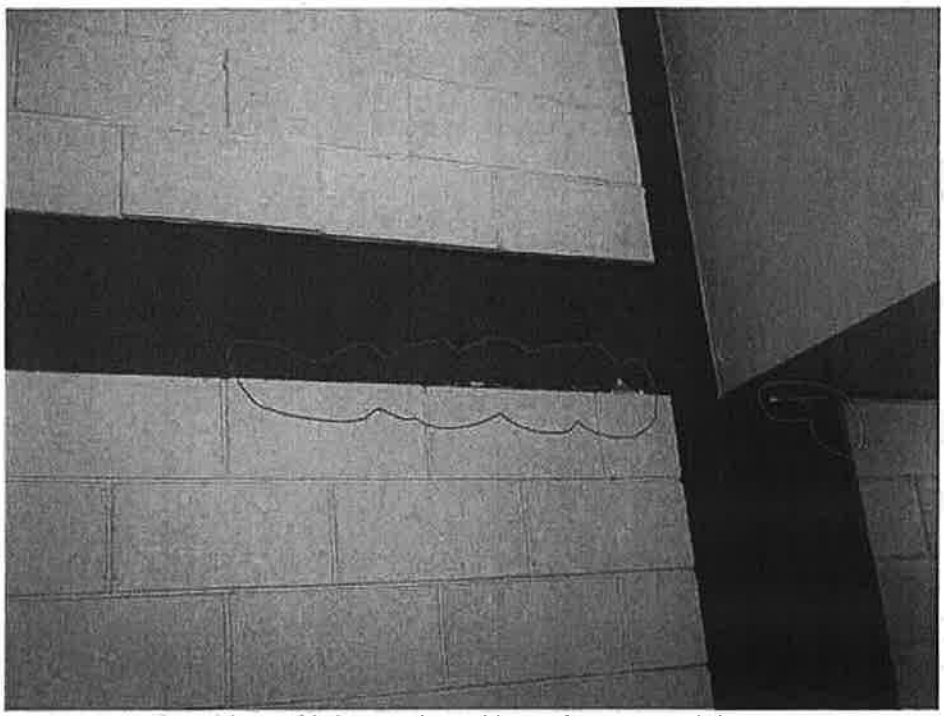


Gap between perpendicular joists, not of structural concern

1965 Building

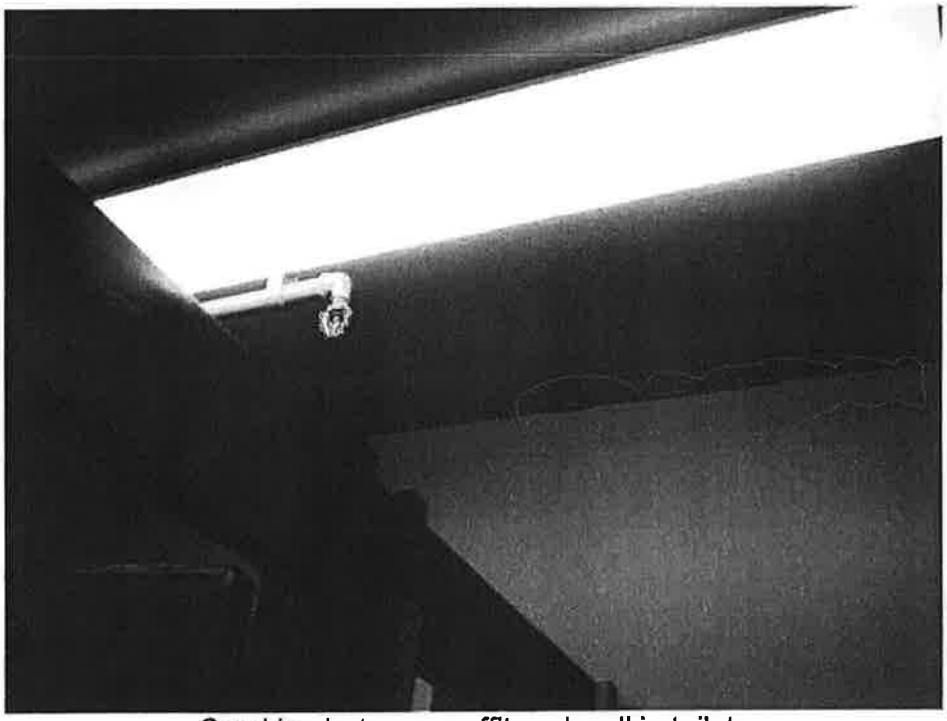


Diagonal cracking of mortar joints in unreinforced unfilled block infill



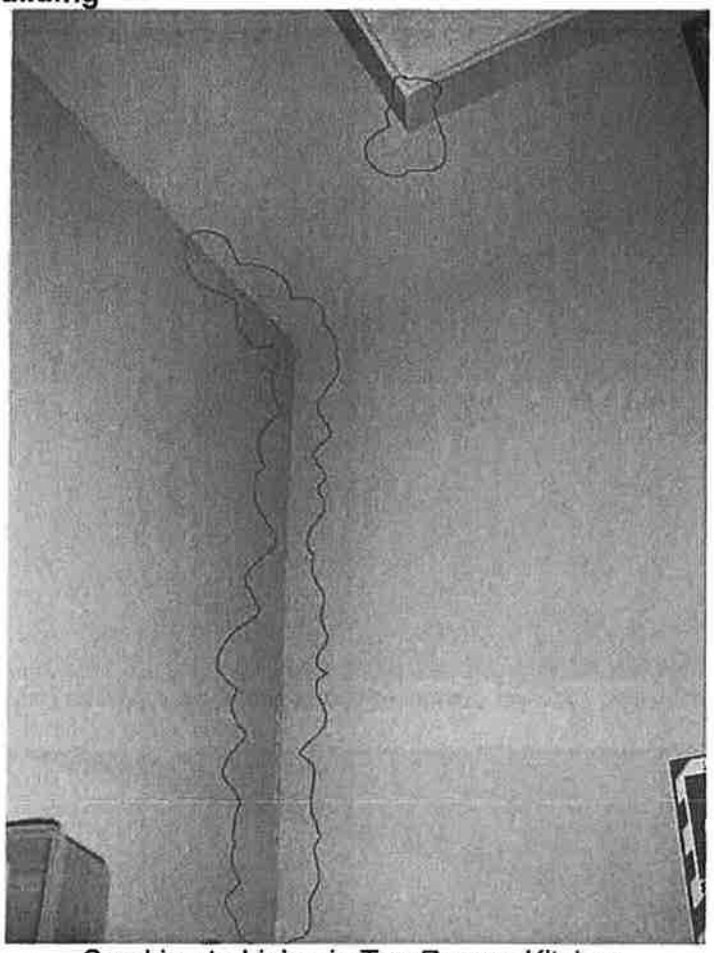
Cracking of joint and spalling of concrete/plaster

Cracking in un-reinforced unfilled concrete block partition walls to toilets in basement



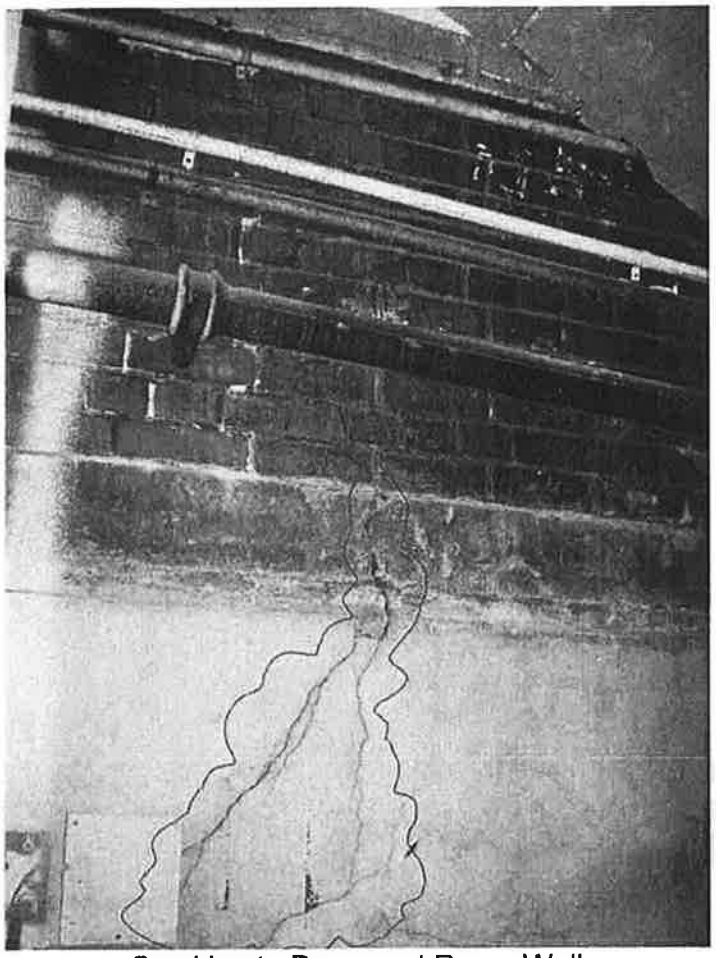
Cracking between soffit and wall in toilets

Anderson Building



Cracking to Lining in Tea Rooms Kitchen

Low Level Infill



Cracking to Basement Ramp Wall