

## 43 LICHFIELD STREET

**Hearing: Monday 27 February 2012 at 10.00am**

### Summary

The building that was situated at 43 Lichfield Street (known as the 'Anderson' building) was part of a complex of 4 buildings owned by the retailing company J Ballantyne & Co. It was a 7 level ductile frame building with pre-cast, pre-stressed floors supported on transverse frames with seismic beams.

The building comprised of 2 levels of retail space above ground and a further 4 levels of car parking above, and one basement level below ground.

Following the 4 September 2010 earthquake there was a Level 1 Rapid Assessment on 5 September 2010 which noted minor damage and resulted in a green placard.

Powell Fenwick Consultants Ltd carried out inspections of the building on 5 September 2010 and 19 November 2010 on behalf of the owners. Although significant cracking to internal linings was noted which required repair, these were not of structural concern.

The owner of the building then proceeded to have the required repairs carried out.

Following the Boxing Day aftershock there was a further Level 1 Rapid Assessment on behalf of the Council. Again this noted minor damage and resulted in a green placard.

In the 22 February 2011 earthquake the building suffered widespread and significant damage, indicating that the building had been pushed close to its capacity for seismic loading. That damage included failure of transfer beams, column connection, column beam hinging, shear displacement of beams and beam elongation.

As well pre-cast concrete façade panels on the south side (Lichfield Street) fell from the building. It would appear that this was in part due to the absence of pre-cast ties from the spandrel to the floor topping.

Linda Arnold was sitting in her motor vehicle near 43 Lichfield Street, speaking on her cell phone, when the earthquake struck. One of the concrete spandrels that fell from the building crushed her motor vehicle, killing Mrs Arnold. .

### **Proposed Witnesses**

1. Mary Devine, Managing Director, J Ballantyne & Co Ltd
2. Hannah Clarke, Powell Fenwick Consultants Ltd, structural engineers
3. Stuart Winterbourne, Powell Fenwick Consultants Ltd, structural engineers
4. Lovell-Smith & Cusiel, Consulting, structural & civil engineers.
5. Stephen McCarthy, Christchurch City Council
6. Peter Smith, Spencer Holmes Ltd, structural engineer

### **Likely Issues**

1. The failure mechanism of the building, and in particular what caused the concrete panels to fall.
2. Whether the way such concrete panels are attached or designed requires review.
3. Whether the inspection of the building after a large earthquake should include the inspection of such concrete panel connections.