

22 December 2010

File: 7520

Mr Paul O'Connell  
Property and Maintenance Manager  
J Ballantyne & Co Ltd  
PO Box 4648  
Christchurch 8140

Dear Sir,

**Repair of Earthquake damage, Anderson Building.**

Damage is confined to:

1. cracking of the screed in the suspended floor at level 1
2. spalling of the concrete columns adjacent to the level 10A parking floor ramp;
3. the level 14 personnel stair to the city Council carpark upper level;
4. a series of diagonal cracks below the ground floor, none more than 0.2mm wide, in the pre-cast wall panels adjacent to the southern columns in the west basement shear wall below ground floor level, and a 3.5mm wide crack in the bottom south corner of this wall at ground floor level;
5. Cracking at the joint between the South wall and East and West walls of the Goods Lift at the upper parking level.

Longitudinal cracking in the parking level floor screeds coincide with the double Tee pre-cast floor units, and are shrinkage cracks, not attributable to the seismic loading or movement.

**Repair Procedures**

- 1) As earlier reported, the cracking at first floor level screed is not likely to impair the structural integrity of the floor, and cracks have been filled with grout.
- 2) the spalls in the columns at level 10 have been repaired;
- 3) The masonry anchors fixing the stair to the level 14 landing have pulled out of the concrete and spalled the edge of the landing. This fixing is not required, as the stair is intended to move with the CCC car-parking building lift shaft to which it is attached.  
We recommend, the anchors are removed, and the corner of the landing is patched using Sikadur UA.
- 4) We recommend these cracks are injected with Sikadur 31
- 5) Joints not sealed so-far, can similarly be injected with Sikadur 31.

The sealant suggested, or similar approved, should be applied strictly in accordance with the manufacturer's specifications.

We are confident the building will continue to comply with the required Building Codes.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'D. Cusieli', enclosed within a hand-drawn oval shape.

D.Cusieli, B.E. MIPENZ MIE(Aust) CPEng IntPE (NZ)

for LSC Consulting Ltd