

UNDER

THE COMMISSIONS OF INQUIRY ACT 1908

IN THE MATTER OF

**ROYAL COMMISSION OF INQUIRY INTO BUILDING
FAILURE CAUSED BY CANTERBURY
EARTHQUAKES**

**KOMIHANA A TE KARAUNA HEI TIROTIRO I NGA
WHARE I HORO I NGA RUWHENUA O WAITAHA**

AND IN THE MATTER OF

THE CTV BUILDING COLLAPSE

**STATEMENT OF EVIDENCE OF DAVID FALLOON
IN RELATION TO THE CTV BUILDING**

DATE OF HEARING: COMMENCING 25 JUNE 2012

STATEMENT OF EVIDENCE OF DAVID FALLOON IN RESPECT OF THE CTV BUILDING

1. My full name is David John Falloon. I reside in The Selwyn District (Halkett). I am a Structural Engineer and operate my own business, Falloon and Wilson.

Qualifications and experience

2. I have a Bachelor of Engineering degree from The University of Canterbury. I graduated in 1967
3. I am a member of IPENZ and have been since 1970.

The CTV Building

4. In 2000 I was engaged by Cemac Partitions to provide structural drawings for two specific aspects of the fitout for CHTV, as it then was, for its tenancy of the CTV Building. Documents on the Council file record that this tenancy intended to be operational by 1 June 2000 [BUI.MAD249.0009.61].
5. The installation of a staircase from Level 1 to Level 2 was the first of two stages Falloon & Wilson was engaged to advise on. This involved the cutting of a hole in the level 2 floor slab. The second stage involved the creation of an entranceway in the southeast corner of the building on Level 1. We were involved with the entrance canopy structure
6. I no longer have my records relating to this matter because after the time of the 22 February 2011 earthquake my office was in the St Elmo Courts building and this has since been demolished due to earthquake damage. Accordingly I am relying on my memory and the Christchurch City Council (**the Council**) file in respect of this matter. A copy of the Council file has been provided to me by Counsel Assisting the Royal Commission.

Producer Statement

7. I have viewed the drawings prepared by Falloon and Wilson in 2000 for the internal staircase opening between Levels 1 and 2 at the south end of the CTV Building [BUI.MAD249.0151B.2 and .3].
8. The bottom right hand corner of the drawings show that the design work was done by "CWT". I recall that this was a short term employee called Chris. I have signed the drawings as having checked them.

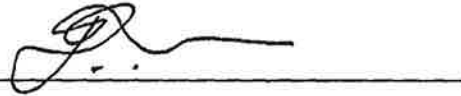
9. An application for a building consent in respect of this work was made by Amanda Coats of Warburton Team Architecture on 19 April 2000 [BUI.MAD249.0009.57]. At that time Falloon & Wilson were nominated as the structural engineers for this project but we had not done enough of the design work to submit drawings with the application.
10. I filed a Producer Statement with the Council on 26 April 2000 [BUI.MAD249.0009.71]. This predated my preparation of structural drawings. This is not normally a process I would adopt but the intention was to progress the application through Council departments other than structural. However I did advise the Council at that time that our design work was in progress [BUI.MAD249.0009.107].
11. The drawings for the internal staircase, 2774/S1, were filed with the Council on 4 May 2000 [BUI.MAD249.0009.95].

Stair Opening and Analysis

12. I recall viewing the original structural drawings in 2000 and determining that the floor structure was HiBond with a concrete topping spanning north-south between concrete beams running east-west.
13. In checking the design I carried out calculations to determine the size of the steel trimmer beams required to support the edges of the floor around the opening for vertical loads.
14. I did not consider that the lateral load paths from the floor diaphragm would be altered because the area cut out for the stair opening was only a small proportion of the total floor area. The rest of the floor diaphragm was available to transfer lateral loads to the shear walls. It was my opinion that Level 2 would not attract as much lateral action as the upper floors.
15. The design required the slab edges to be supported on steel trimmer beams and a steel post. This beam and post arrangement is shown on drawing 2774/S1. The opening was at the eastern end of the South Shear Wall and between two east-west reinforced concrete floor beams. The south end of the trimmer beam to the west side of the stair opening was to be bolted to the side of the South Shear Wall near the end of the wall. The other ends of the north-south steel trimmer beams were to be fixed to the sides of the concrete floor beams. The stair itself was timber-framed and self-supporting.

16. On 23 November 2000 I provided a Producer Statement – PS4 – Construction Review to the Council confirming that I had carried out periodic reviews of the work and that the work had been completed to the extent required by the building consent. I remember visiting the site to observe construction but do not recall any detail about that.

Signed: _____



David Falloon

Date:

23/07/2012