

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

CLOSING SUBMISSIONS ON BEHALF OF DAVID COATSWORTH

DATE OF HEARING: COMMENCING 5 SEPTEMBER 2012

Hesketh Henry
Solicitor Acting: Christina Bryant
Private Bag 92093
Auckland 1142

Telephone: +64 9 375-8690
Facsimile: + 64 9 365 5289
Email: christina.bryant@heskethhenry.co.nz

CLOSING SUBMISSIONS ON BEHALF OF DAVID COATSWORTH

1. These submissions are intended to clarify the evidence in relation to the recommended scope of Mr Coatsworth's assessment of the CTV building, which is referred to at paragraphs 510-512 and 538 of Counsel Assisting's closing submissions dated 5 September 2012. No submissions are made on the inferences to be drawn from the evidence given at the hearing, which is left, respectfully, to the Commissioners' review.

2. Counsel Assisting states at paragraph 510:

"...There is also an issue about whether Mr Coatsworth adequately communicated to Mr Drew these limitations on the assessment he was proposing so that Mr Drew knew what he was accepting. Mr Drew, as a lay person, was entitled to rely on the expertise of Mr Coatsworth to advise him on the appropriate inspection and in advising Mr Drew that only a damage based assessment was needed, at least initially, he should have clearly explained what that would and would not include."

3. This statement, and a similar statement in paragraph 538, could be misread to infer that Mr Coatsworth did not explain to Mr Drew what his assessment would and would not include. To avoid any confusion, we refer the Commissioners to Mr Coatsworth's email of 24 September 2010, which states:¹

"Thank you for your time given in discussion with myself regarding earthquake damage to your building at 249 Madras Street. I understand that the building owners are interested in having an independent structural assessment carried out..."

I suggest that we should allow to carry out a thorough inspection of the building. This would include viewing the exterior from the ground, from windows, from the roof and from whatever other vantage points are available. It would also include inspecting all visible internal surfaces. I would propose that we lift ceiling tiles in appropriate places to inspect under floor surface, beams and beam-column joints where possible. For the purpose of this review I would not suggest removing internal wall linings unless there is some obvious reason to want to do this. For instance, if linings were badly damaged around a column base, then it would be logical to remove the linings to observe the structural elements. We would take photos of any damage and record locations on sketches. Structural and Architectural drawings of the building would be

¹ WIT.COATSWORTH.0001.1A

very helpful. If these can be made available, they will help with the understanding of the structural systems within the building.

We would then consider the information obtained from the inspection and determine if there are any patterns to the damaged [sic] observed that would explain any deficiencies in the performance of the building. We would then prepare a report describing the building, the damage observed, comment on reasons for the observed damage and briefly comment on possible remedial works. Within the scope of this report we would not anticipate detailing or specifying repair works. Similarly we have made no allowance in our estimate for any analysis of the structure although in the event of significant structural damage it would ultimately be necessary to carry out structural analysis to determine strengthening and repair work requirements...”

4. Mr Coatsworth’s evidence was that he also told Mr Drew orally that he did not recommend a calculated structural analysis unless damage was observed.² Mr Kehoe supported this recommendation: his evidence was that an engineer would not normally recommend that work be undertaken to calculate the expected capacity of a building unless and until damage had been observed at an on-site visual assessment.³

5. Mr Kehoe gave evidence that post-earthquake assessments in New Zealand and the United States currently proceed from the assumption that structural damage in a reinforced concrete building significant enough to compromise safety will be visually apparent⁴ and, in the absence of such damage, the building will be capable of withstanding another earthquake of equivalent force.⁵ The assessment is made in an environment where aftershocks are expected to occur, but are commonly understood to be smaller than the main shock.⁶ Within those parameters, a “damage-based” assessment is a better test of a building’s seismic capacity than any calculation.⁷ Mr Kehoe acknowledged however that a damage-based assessment does not determine a building’s capacity to withstand an earthquake of greater force than the original event.⁸

² TRANS20120704.79 L11-25

³ TRANS.20120704.125 L30-34 - TRANS.20120704.126 L1-15

⁴ TRANS.20120704.121 L28-33; TRANS.20120704.125, L24-30, TRANS.20120705.12 L11-L27, TRANS.20120705.29 L1-10

⁵ TRANS.20120704.125 L25-30; TRANS.2012.07.04.137 L6-24, TRANS.20120705.7 L11-32 – TRANS.201207.05.8 L1-21

⁶ TRANS.20120704.122 L4-20

⁷ TRANS.201207.04.126 L15-21, TRANS.201207.05.12 L7-10

⁸ TRANS20120705.30 L17-32 – TRANS20120705.31 L1-6

6. Counsel Assisting says at paragraph 538 that “Mr Coatsworth accepted that what he carried out was essentially governed by what he proposed to do rather than what he was asked to do.” This statement correctly records Mr Coatsworth’s answer to a question posed by Mr Palmer.⁹ It is not however an accurate summary of the evidence, insofar that it implies that Mr Drew asked Mr Coatsworth to do anything other than the assessment outlined in the email of 24 September 2010. Mr Coatsworth responded to a subsequent question on the same issue from Counsel Assisting in cross-examination as follows:¹⁰

Q. Right, and I think you said to Mr Palmer that essentially you dictated the level of inspection because you sent your proposal and he was presumably happy with what you proposed?

A. Well I certainly suggested what we were going to do to him and he accepted. I don't know that 'dictate' is the correct word.

7. It is respectfully submitted that the evidence is:
- a. Mr Drew approached Mr Coatsworth with a view to instructing him to undertake a structural assessment of the building;¹¹
 - b. Mr Coatsworth sent his email of 24 September 2010 setting out his recommendations for the scope of that assessment and providing a quote for the work;¹²
 - c. Mr Drew accepted those recommendations and instructed Mr Coatsworth to proceed with his assessment;¹³
 - d. Mr Coatsworth’s recommendations expressly excluded an analysis of the structure. Mr Coatsworth told Mr Drew that an analysis would be necessary if significant structural damage was observed.¹⁴

⁹ TRANS20120704.43 L7-21

¹⁰ TRANS20120704.79 L26-30

¹¹ TRANS.20120702.13 L2-6, TRANS20120704.5 L3-7

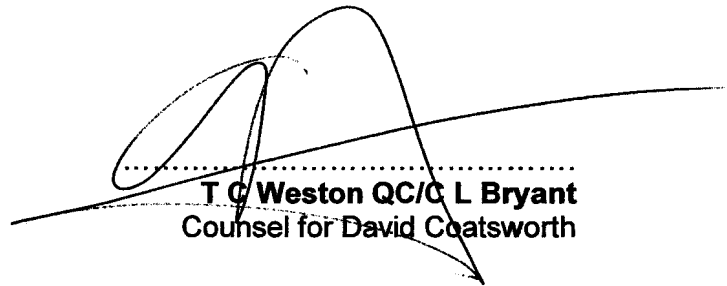
¹² TRANS20120704.5 L7-18

¹³ TRANS20120704.5 L18-22

¹⁴ WIT.COATSWORTH.0001.1A, TRANS20120704.8 L23-30; TRANS20120704.79 L11-14

8. Under cross-examination, Mr Coatsworth expressed his view that it would not have been appropriate for him to recommend a calculated analysis of the structure, which he estimated would cost more than \$25,000 and take at least a month to complete, in the absence of any visible significant structural damage.¹⁵ Mr Kehoe stated similar views.¹⁶

Dated 3 September 2012



T C Weston QC/C L Bryant
Counsel for David Coatsworth

¹⁵ TRANS.20120704.107 L5-14, TRANS.20120704.108 L16-32 - TRANS.20120704.109 L1-3

¹⁶ TRANS.20120704.126 L25-31; TRANS.20120705.32 L23-32 - TRANS.20120705.33 L1-33 - TRANS.20120705.34 L1-5