

Clark Hyland
Hyland Fatigue + Earthquake Engineering
 P 09 262 0203 F 09 262 0243 M 021 348 352
 W www.fatigueandfracture.com

This email message together with any attachments is confidential. If you are not the intended recipient do not copy or disclose the contents in any way. Please also advise us by return email that you have received the message and then delete it. Communications sent by email can be intercepted or corrupted. For this reason Hyland Consultants Ltd do not accept any responsibility for a breach of confidence arising through the use of this medium. We use virus scanning software but exclude all liability for viruses or anything similar in this email or any attachment.

From: Rob Jury [mailto:rob.jury@beca.com]
Sent: Friday, 14 October 2011 10:28 a.m.
To: Nigel Priestley; 'Clark Hyland'
Cc: Vicky.Newton@dbh.govt.nz; David.Hopkins@dbh.govt.nz; Mike.Stannard@dbh.govt.nz; Pam.Johnston@dbh.govt.nz; David Hopkins Consulting; 'Sherwyn Williams'; stefano.pampanin@canterbury.ac.nz; ashley@structuresmith.co.nz; adam.thornton@dunningthornton.co.nz; Richard Sharpe; helen@hjanderson.co.nz; george.skimming@wcc.govt.nz; pmillar@tonkin.co.nz; p.fehl@auckland.ac.nz; marshall@cooksargisson.co.nz; Richard Sharpe
Subject: RE: CTV Analyses and Collapse Scenarios

Nigel,

As my note suggested yesterday I am certainly leaning towards the scenario you have outlined below. I also believe it likely, as you have suggested, that the slab could have been cracked in the Darfield event, and possible that it had cracks adjacent to the wall prior to Sept.

I agree that it is important that this somewhat obvious scenario be fully investigated.

Clark

Has any thought been given to the shrinkage stresses that might have been generated in the slab adjacent to the wall due to restraint between the north wall and the rest of the structure (particularly the stiff infill wall)? I accept that the infill may have followed sometime after the slab was constructed but the shrinkage stresses would have needed to be carried by the mesh perpendicular to the hibond. If this was sufficient to crack the slab or at worse fracture the mesh this would place the tensile capacity of the slab below Nigel's lowest estimate. I note also that the slab steel on at least one of the levels was found to be sitting on the hibond.

Rob

From: Nigel Priestley [mailto:nigelpriestley@xtra.co.nz]
Sent: Friday, 14 October 2011 7:02 a.m.
To: David Hopkins Consulting; 'Clark Hyland'; 'Sherwyn Williams'; stefano.pampanin@canterbury.ac.nz; Rob Jury; ashley@structuresmith.co.nz; adam.thornton@dunningthornton.co.nz; Richard Sharpe; helen@hjanderson.co.nz; george.skimming@wcc.govt.nz; pmillar@tonkin.co.nz; p.fehl@auckland.ac.nz; marshall@cooksargisson.co.nz
Cc: Vicky.Newton@dbh.govt.nz; David.Hopkins@dbh.govt.nz; Mike.Stannard@dbh.govt.nz; Pam.Johnston@dbh.govt.nz
Subject: Re: CTV Analyses and Collapse Scenarios

David/Clark,

As will be obvious from previous comments I have made, I fully support your request for displacement capacity and demand of various columns to be provided in the report. This information is available in the input for the ITHA, and in calculations that Ashley and I have separately made. Some rationalization of these different approaches needs to be