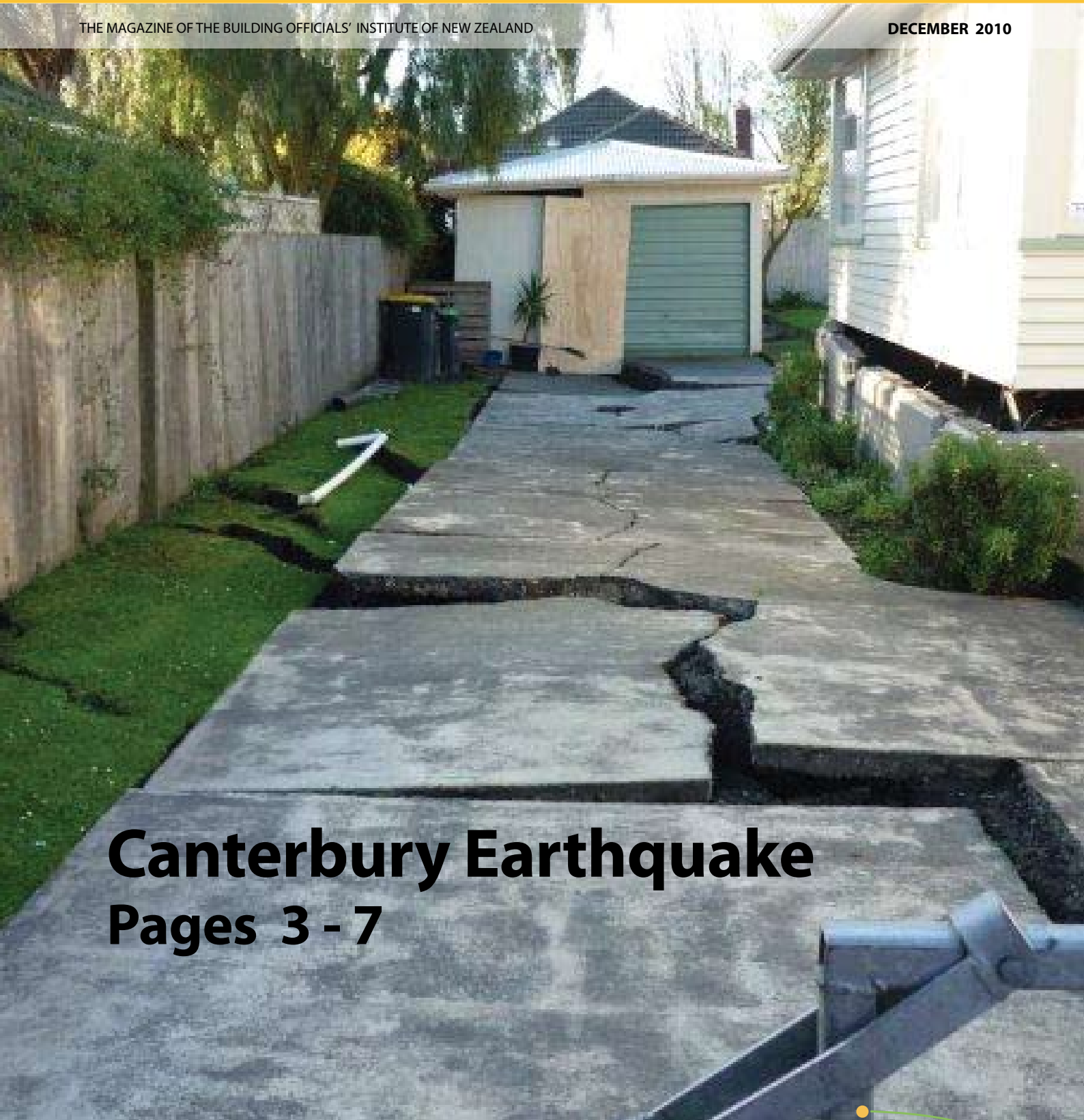


# straight up

THE MAGAZINE OF THE BUILDING OFFICIALS' INSTITUTE OF NEW ZEALAND

DECEMBER 2010



## Canterbury Earthquake Pages 3 - 7



# Pacific Coilcoaters New BOINZ CPD Provider

Pacific Coilcoaters, manufacturer and marketer of the ColorCote® range of pre-painted roofing and cladding systems, is now an approved BOINZ CPD provider.

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AS/NZS 2728:2007 and the use of ColorCote® products within the code.

The majority of the presentation covers common faults and design issues.

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Rob Armstrong's background in the construction industry includes a number of years as a builder and nearly a decade in both metal and membrane roofing.

Rob is available to do his presentation at a time convenient to BOINZ members - during or after normal work hours.

**Contact Rob at:**

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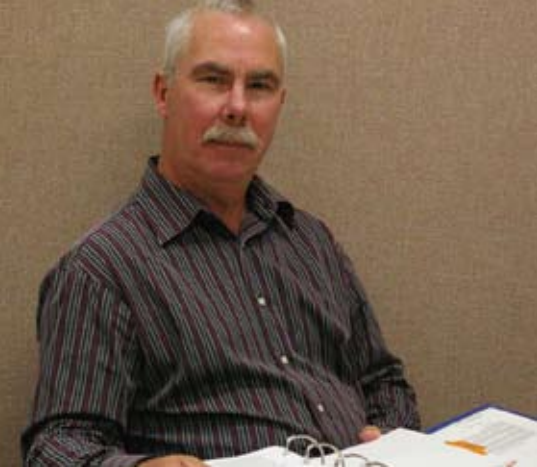
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# straight up

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## President's Desk

Since I last commented in *Straight Up* a lot has happened, and the information I provide in this column is but a snippet, and limited only by space. However I would encourage you all to attend your local branch meetings where there is opportunity to get regular updates from your chairman and your regions Board representative.

### AIBS

In October I was privileged to be able to attend the Australian Institute of Building Surveyors (AIBS) conference at the invitation of the AIBS Chapter President.

In addition to attending I was also asked to be part of the International speaking contingent and deliver a presentation about the New Zealand scene. This was well received and provided many attendees an opportunity not only to compare issues in their own jurisdiction, but chat with me privately on how we do things in New Zealand.

AIBS as an organisation, shares many similarities with our Building Officials Institute of New Zealand (BOINZ), and interestingly the size of their membership is similar to ours despite the size of their country. However they have to deal with two tier levels of government and the associated difficulties this structure imposes for them. State laws vary considerably in relation to building standards and practice and in one state there is no requirement to inspect buildings. Generally the processing of building permits/consents is similar to ours but they carry out a reduced number of inspections. There is also a greater mix of private certification and local authority/shire approval than we find in New Zealand.

A key objective for the visit was to network with the international contingent, including Ron Lynn, the President of the International Code Council and the Director of the

Department of Development Services for Clark County Nevada (his jurisdiction covers 1,800 square miles). Prior to AIBS Ron was hosted by BOINZ in Auckland and managed to meet with some of our Board and Nick Hill our CEO. I continued this association in Australia in conjunction with two Hong Kong representatives and Steve Bramich the AIBS President. My agenda was to consider mutual avenues of development and training for Building Surveyors/Officials and explore areas where we could share already developed resources. These high level discussions exhibited a willingness to share ideas and further investigate opportunities for members to attend international conferences, and to utilise areas for professional development and learning. Examples of where we could likely get some traction included the Australian learning institutes co-operation, job-sharing and forming a coalition providing avenues for cadets to learn on a more global basis. I will be working with Steve Bramich on some of these ideas over 2011 with a view to being positioned to offer some excellent learning opportunities to our members.

On a reciprocal basis I extended an invitation to all delegates to attend our 2011 conference. I can report that there is a lot of interest from our Aussie colleagues and we can expect to host at least 3 of the Australian Chapter Presidents and their National President next year.

All up I believe the trip was worthwhile as there are definitely opportunities for our members to gain in the long-term from us continuing to maintain a dialogue with our International colleagues. Steve Bramich and I will continue to work the prospects described above and report back in due course.

***From the Left: Nick Hill, BOINZ CEO, Ron Lynn, ICC President, Phil Saunders, BOINZ President during Ron Lynn's Auckland visit in October.***



## CONFERENCE 2011

This premier event is shaping up to be our best ever. The team at National Office Wellington are bringing fresh ideas to our 2011 event. Our Registration Brochure is now available online and bookings are starting to roll in. Our programme is highly informative and the networking opportunities for our industry are second to none. Exhibitor space is filling up fast with two thirds already allocated. We have also just produced a comprehensive Partnership Package which offers a wide range of opportunities for stakeholders to put their businesses, services and products in the spotlight. I look forward to seeing you there and invite you to introduce yourself not only to me, but to my fellow directors and staff.

## TRAINING

The TRAINING ACADEMY calendar for the first half of 2011 will be available by the end of December and I encourage you to confirm your registrations early so we can ensure our commitment to you and these courses.

We are also seeking guidance on future training needs for the second half of 2011 and into 2012, so please contact National Office with your suggestions and ideas.

Next year we launch our In-House training packages for TA's and larger organisations looking for a more localised and specific training delivery. Information on this exciting new initiative is now available, so please free to contact Louise Townsend at National Office Wellington for further information.

## MERRY CHRISTMAS

Finally I wish you all the very best for the Christmas and New Year break, be safe and be merry.

***Phil Saunders - President***

# Response of Building Officials to the Christchurch earthquake

By Malcolm MacMillan, Dept of Building & Housing

**As most people are aware a 7.1 magnitude earthquake rocked Canterbury on Saturday 4 September 2010. Early estimates are putting the cost of the damage at around \$4 billion, but this could likely increase. This article provides a brief snapshot of the assistance provided by building officials during the few days immediately after the quake hit.**

The earthquake struck at 4.35 a.m. when the city's streets were largely empty and when most people would have been asleep. While thousands of people were impacted and forced to take protective action in their homes, thankfully there appears to have been few serious injuries and no immediate loss of life. However, in the days that followed the media was full of stories about the significant psychological and other effects on people and the impacts on their homes.

The earthquake hit at a depth of 10km, about 40km west of Christchurch, causing widespread damage to about 50,000 homes and major disruptions to water, power and sewerage services. Substantial ground movement occurred in some areas, with many buildings impacted by the 'liquefaction' of the ground beneath the buildings. Liquefaction occurred in parts of the city with the more sandy soil. The violent shaking during the earthquake caused water to rise through the shaken ground, turning previously firm ground into mush and then spewing it up and out onto the surface, in simple terms this is liquefaction. One comparison is when you jump on wet sand at the beach and it soon turns to a murky soup. Any buildings above the affected areas or pipes or cables below ground can be significantly damaged.

A state of emergency was declared, which lasted for 12 days. Many aftershocks continued

to shake the region weeks after the initial earthquake, with some over a magnitude of 5. As of 1 November over 1500 aftershocks had occurred since 4 September.

Given the widespread damage to buildings caused by the quake, the core building control skills and experience that building officials use on a day to day basis were urgently required with the initial emergency response – and will continue to be needed for a long time after.

## United response from building officials

An emergency operations centre was initially established in Christchurch on the day of the earthquake. While building issues are only one part of a co-ordinated civil defence and emergency management response, given the widespread damage to buildings, a call quickly was put out for extra building officials from around the country to provide support. The response was rapid, with around 100 building officials from around New Zealand arriving to assist their Christchurch colleagues over the coming days and weeks.

One of the first tasks was to assess the damage to buildings across the city and to prioritise the areas needing immediate help. Focus was initially given the central city area and the five main arterial routes to the inner city. Over the first few days around 9,000 inspections were carried out of buildings.

## Core 'triage' role – building evaluations

The main task for the building officials and structural engineers during immediate aftermath was to essentially conduct a triage type role. After the initial planning and briefing of staff, this involved quickly getting small teams out into the community to inspect

and evaluate the buildings to make an initial assessment on their status. Many buildings need to be secured and buildings were classified and marked with coloured placards:

- **RED** - people should not enter or occupy the building because it has been determined unsafe and requires a further detailed structural assessment by a building professional.
- **YELLOW** - the building has limited access and further structural assessment is needed.
- **GREEN** - the building has received a brief inspection only. While no apparent structural or other safety hazards have been found, a more comprehensive inspection of the exterior and interior may reveal structural or safety hazards. It is the homeowner's responsibility to set up this further evaluation.

In the first three weeks following the earthquake, approximately seventy-eight percent of building evaluated were given green placards. For those people who have not been able to move back into their houses alternative accommodation arrangements had to be arranged.

While the focus of building officials in the days after the quake was on their building evaluations, their interactions and engagement with the concerned people who lived in them was a significant issue to deal with. While the building evaluations were initially conducted by pairs of building officials and or structural engineers, it became quickly apparent that other forms of welfare and support were needed for many distressed home owners and occupiers.

The influx of building officials brought its own challenges with dedicated personnel charged with organising the arriving building officials and undertaking the key logistical and preparatory tasks to enable them to undertake their work. For example, survey maps and intelligence had to be generated and populated with data to assist planning and scheduling of building evaluations, and a communications and data management and record system needed to be set up. Managing and allocating resources according to priority (including people, equipment, and information) in its own right was a massive undertaking.

## Recovery – an ongoing role for building officials

The lessons learned from those early days after the quake, including the strengths and limitations of the building evaluation 'triage'



function will need to be fully considered and communicated back to the sector. The road to full recovery will likely take a couple of years and the journey is still really only just beginning for many effected people.

Even when just looking at the building control sector, there are some emerging indicators which are just starting to tell the story of the full effects of the earthquake. For example, early indications suggest that applications for building consents in Christchurch City to repair or rebuild buildings will more than triple from around 9000 per year to around 20-30,000 in the year after the quake – and it is still too early to say for sure. For some building work, the liquefaction process described above will further delay any remedial building work until the ground settles back or it put back to its former state through major civil engineering remediation works.

Managing such a huge influx of imminent building consent applications will require some intensive planning and resources by Christchurch City Council – particularly around its capacity and capability to cope with both its business as usual and the surge in demand. Early signs are that continued support from other building officials around the country will be needed. Undoubtedly such support will also be needed when building work occurs and the core compliance-checking is needed at the building inspection and certification phases over the coming months and years. Interested officials are encouraged to contact Christchurch City Council.

## Department of Building & Housing's ongoing involvement

Department of Building and Housing staff have been playing a leading role in the Government's response to the Canterbury earthquake recovery. Staff have been actively involved in the response to the Canterbury Earthquake since 4 September, initially on the ground in Christchurch assessing and placarding buildings, and in the National Crisis Management Centre in Wellington, and are now working with central government agencies, the building and construction sector and regional and local Councils in Canterbury to support the recovery and rebuilding of Christchurch, Selwyn, and Waimakariri.

Department staff have been undertaking the following activities, to name just a few:

- Working across central and local government to provide advice and support to other agencies. Staff have been working with the Canterbury Earthquake Recovery Commission, Earthquake Policy Response Team led by the Department of Prime Minister and Cabinet and with the Earthquake Commission (EQC), to name but a few.
- Working in Christchurch with the Canterbury Recovery Office, Fletcher's Project Management Office and with the individual BCAs and insurers to support evaluation of both building and land damage as well as the recovery and reconstruction, enabling the fast tracking of minor repairs to allow people to return to normality as soon as possible.
- Working with major construction companies and BCA staff to establish and formalise streamlined consenting process for the repair and rebuild work ahead.
- Running licensing 'clinics' and ramping up assessments to increase the number of licensed building practitioners (LBPs) in Canterbury, so that the quality of repair and rebuild work is of appropriate standard.
- Undertaking both structural and geotechnical engineering work, along with others, to assess the damage from liquefaction and consider options for remediation work and implications for future code requirements.
- Undertaking work on emergency and medium term legislation to support recovery efforts.



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- Providing support for landlords and tenants outlining their rights and responsibilities in the initial aftermath, as the Department also operate Tenancy Services for the country.
- Providing guidance and advice to BCAs and building practitioners about legislative and other building control requirements.

## A plug for New Zealand's modern building control system

One final positive note is that New Zealand's building control framework, the system of building standards, and the design, construction, and building control professionals responsible for adhering to and enforcing such standards is likely to have played its part in helping to ensure that many

buildings could withstand the earthquake – even if they were significantly damaged. Indications of this can be seen when you look at the types of buildings mostly affected during the earthquake. In many cases these were older buildings, built prior to the 1950s, that suffered full or partial collapses. The more

modern buildings, built to modern building standards and the building code, did not collapse, even if some have become write-offs with the ground movement and liquefaction described above being critical factors. The unsung hero here appears to be New Zealand building code and the standards its sets for building work in New Zealand.

## Some recent earthquake comparisons

EARTHQUAKE	MAGNITUDE	LOSS OF LIFE
Haiti earthquake 2010	7.0	230,000
Yushu, China 2010	6.9	2,698
L'Aquila, Italy 2009	6.3	294
Sichuan, China 2008	7.7	69,197
Java, Indonesia 2006	6.3	5,782
Christchurch, NZ 2010	7.1	0

# Personal experiences from the Christchurch earthquake

By Stewart Geddes (Building Control Team Leader Central Otago District Council)

## The personal experiences of Building Control Officers deployed to help out their counterparts in Christchurch.

11.46 am Wed 8th September 2010 - a nationwide call went out from Civil Defense in Christchurch via the Building Officials Institute of New Zealand (BOINZ) email database for 60 Building Inspectors to help assess houses damaged by the earthquake.

By 7am the next morning 60 were on the ground in Christchurch ready to start with a further 20 on standby.

Building Inspectors came from Invercargill through to Auckland and to think within 24hrs, they were on the ground ready to go, This WAS incredible.

The Christchurch Art Gallery was the venue of the first briefing of the day, with everyone gathering at 7.15am.

Then, all were deployed by bus to the Linwood Service Centre, which became the base for Building Inspectors, Health and Welfare officers.

At the second briefing of the day, teams of 3 were established with a Building Inspector, Health Inspector or Plumbing Inspector, and a Welfare Officer, which were either Red Cross or volunteer helpers.

Fifty seven of these teams were then each assigned an area and sent to check the safety of the people in the buildings in their area.

Building Inspectors checked building structure, determining whether it was safe for people to remain in their buildings. Health inspectors checked sanitary conditions as to whether water or sewerage was available. Even if they didn't have water or sewerage they could still stay in their houses and this was what most people wanted to do. In the worst affected areas "porta-loos" were distributed around the streets and water made available. Welfare

officers asked questions like "how do you feel", "do you have food, money available" and just general well being questions.

Each of the 3 inspectors notes were then put together for that property to be picked up throughout the day by couriers and delivered back to the Linwood Service Centre to be entered into a database.

There was only 10 minutes allocated to each building so there was no spare time to stop and chat.

You can imagine this was hard, as some people just wanted to chat. Occasionally you just needed to stop and spend extra time as these people as they needed reassurance over their safety. Social workers were on call for extreme trauma situations.

Once an assessment was done the building received a green sticker if it was fine to remain occupied.

If a building had a yellow sticker, occupants had to move out of certain parts but could remain in the rest of the building E.g. a brick chimney was cracked and could topple over and down through the ceiling. The rooms around this were identified on the yellow sticker as not to be used.

A red sticker was used if there was to be no entry what so ever due to safety concerns over the structure of that building. This was for buildings that had huge structural damage and likely to be demolished.

Building Inspectors also had Engineers on call when a 2nd opinion was needed or an issue was outside their scope of expertise.

I personally found the first contact with home owners very humbling as I was often the first official they talked to and for most this was a huge relief, while for others they just broke down in tears as they described their

experiences. Here we were, strangers, delving right into people's personal lives and going right through their houses looking through all the rooms checking for damage.

Listening to people telling you they had no food and no money to buy food was extremely saddening and emotionally draining. For people to have the courage to tell a complete stranger this, often with no emotion, was amazing. Ninety nine percent of people we visited were so pleased to see us, however there were a few that weren't.

After 3 days of building inspection the operation was scaled back, as the worst affected areas had largely been covered.

The randomness of the devastation was amazing; with perhaps only 3 houses in a street affected some so badly they would have to be demolished.

Then there was the looting of houses by thieves, some of whom posed as Building Inspectors with orange "fluoro" jackets. This disgusted all involved in the emergency and recovery operation, causing Police to take a very hard line on this type of activity. One imagines that once a burglar sees a red sticker on a house they know it is unoccupied and therefore likely to be easy pickings.

No amount of planning can prepare you for a disaster of this magnitude.

Moving forward, I expect the whole country to benefit from the lessons learned from this disaster, once the emergency debriefing has been conducted.

I congratulate all Building Control Officers across NZ for helping Christchurch City in their hour of need and also continuing to help out with ongoing support.

Well done.

Stewart Geddes

## Emergency Operation Centre (EOC) Manager, Building Evaluation and Rescue Teams Perspective of the Christchurch Earthquake

By Tim Weight, Manager Central Building Control, Auckland Council

### Background

The earthquake at 4.35am on Saturday 4th September 2010 occurred during a period when the Christchurch City Council was moving its main office in the central city from Tuam Street to new premises in Hereford Street.

Some staff had moved into the new building, some in the process of shifting and the balance still based at Tuam Street.

The building evaluation and rescue team had all their civil defence management support equipment packed and ready to move at Tuam Street.

The following comments were recorded from staff on the 14th and 15th September 2010.

### Day One 0435

The 7.1 magnitude earthquake struck Christchurch causing building damage and substantial ground movement in some areas.

The Controller, Michael Aitken contacted the Earthquake Operations Control (EOC) Manager, Murray Sinclair at 0451 hours to ask if we should open the EOC, and the response was yes. Murray Sinclair had already tried the land lines and they were out.

Michael Aitken and Murray Sinclair met at Tuam St with a view to using the building as the EOC, but as the building was deemed not to be operational, Michael Aitken made the decision to move the operations to Hereford Street. Michael Aitken and

Murray Sinclair then met at the Hereford Street office at 0510 hours.

The Building Evaluation and Rescue Manager, John Buchan arrived at Hereford Street after first driving from his home to Princess Margaret Hospital to check on the condition of the building as a guide of the strength and possible damage the earthquake may have caused. It appeared that the lights on the building were undamaged.

He then undertook reconnaissance of the route from the hospital to Hereford Street arriving at 0530 hours to find the emergency power generator had failed, the smoke curtains had dropped in the building, and the building had sustained minor damage. It was difficult to locate any resources to start the generator and some time was spent on this without success. The generator was eventually started at 1100 hours. While driving to Hereford Street John Buchan noticed contractors were already clearing away fallen bricks, setting up barriers and cones around damaged buildings in the CBD.

The staff, Graeme Calvert and Aaron Hames who had already arrived at Hereford St had torches and were looking to set up the EOC. John Buchan and some Regulation Democracy Services (RDS) staff who had recently arrived then proceeded to Tuam Street to recover the civil defence equipment and bring it back to the Hereford Street site.

Mayor Bob Parker was on site at Hereford Street at 0530 hours.

At 0610 hours the decision was made to move from Hereford Street to the art gallery and security was contacted to gain access to this building.

The education room at the art gallery was then set up under the Co-ordinated Incident Management Services (CIMS) model. Planning and Intelligence, Logistics, Operations, Building Evaluation and Rescue, Public Information and Communications groups commenced with Welfare setting up an hour later. Due to the limited size of the Education Room, the building evaluation team was initially set up in a side gallery to the north of the main stairs, but relocated on Tuesday 7th September 2010 to the Large Gallery Room south and to the rear of the main stairs. The recovery team were also located in this area.

Initially staff and emergency services arriving at the gallery were checked in under the T card system but this was changed to an electronic model using a laptop. The login and logout process reverted back to manual when the NZ Army arrived to assist at the entry desk. Four folders each grouped to a section of the alphabet were used. Initially there was some confusion with staff as to whether they should register at the EOC to assist or stay at home. The website message was to stay at home until you were asked in. With no access to staff contact details while the servers were down this possibly reduced the day one effectiveness of the EOC operation.

The EOC manager, Murray Sinclair then proceeded to make sure the teams connected to operate effectively as a single unit.

### 4th September and onwards:

The Building Evaluation and Rescue manager, John Buchan tasked teams to designated areas of the city to establish the damage levels and report back. Primarily this action was taken to enable a more effective use of resources the following day. Customer service requests started arriving through the call centre during the day.

Council fire engineer, Wayne Roden arrived at the art gallery at 0700 hours on 4th September 2010. The rescue manager was out doing inspections and then I went out with senior building inspectors to check on the damage. Then we returned to the EOC to organise building inspectors to undertake an assessment of the entire city.

Planning and Intelligence member, Alanah Dalton arrived at Tuam St at 0700 hours on 4th September 2010 and proceeded to the art gallery where she was tasked to record information as it arrived at the EOC with the worst affected areas marked on a city wide map. Notes were updated as required. All data recording was moved to the electronic system once up and running and they started logging Customer Services Requests (CSRs) coming in from external organisations.

It was a few hours before Logistics arranged for water to be supplied to the EOC. V-Base provided sandwiches for lunch and a full catered service for an evening meal with hot food. After this, full



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catering was provided for all meals. An espresso coffee machine was located at the art gallery by the caterer providing all EOC staff and visitors with excellent service.

Building Consent team leader, Jill Ryan was asked to come to the EOC and arrived at 0800 hours on 4th September 2010 and was tasked to find the core CD packs and get underway as people appeared to be acting randomly without direction.

- Dave Brunson arrived on 4th September 2010 at 1930 hours by Hercules with the Palmerston North USAR (Urban Search and Rescue) Team.
- There was no overnight shift in the building evaluation and rescue team.
- No shifts had been set up at this stage to provide management or staff relief.
- Logistics liaison commenced with the logistics team.

Dave Brunson brought two members of the Kestrel Group to assist with building evaluation planning and before they had arrived they had already worked on setting up a data management system. On arrival a strategic decision was made in consultation with the EOC to start evaluating buildings in the area police had cordoned off the following day. The CBD was divided into 25 areas with 25 level one and 5 level two teams tasked to cover these areas. Level one teams consisted of a building inspector, engineer and a team member with level two teams having an additional engineer.

The staff were tasked to copy the level one and level two building evaluation forms and the three different coloured site placards, green, yellow and red. These were compiled into packs ready for the teams to use to undertake a building by building survey of the CBD.

On the 5th September 2010 at 0800 hours the evaluation teams were organised.

At 0930 hours a full briefing for all staff took place in the auditorium, followed by a presentation by Dave Brunson on the building evaluation process to be followed when undertaking this task. By this stage the local USAR team had already marked the front entry of some CBD buildings with orange spray paint designating the current state of access to these buildings. There was three staff available on 5th September 2010 to roster for the position of building evaluation and rescue manager.

These are some of the EOC Manager, Murray Sinclair's comments:

- Saturday 4th September 2010 was a bit of a blur.
- Training cut in and provided an effective response in a short time period.
- Emergency services were wonderful
- Fire Service Command Unit set up outside the gallery with full communications links
- Police liaison staff set up promptly on site with radio communication.
- With the server down at Hereford Street land lines were unavailable this was a communications issue for the EOC. As part of the communications pre-planning cell phones were to be used and this worked well. Once power was restored to Hereford Street the server was in action and land lines made available.
- 168 RDS staff out of a total of 220 were utilised during the event. Rosters for staff in the EOC are a must.

- Recovery management should be part of all future training exercises; very important.
- The recovery plan for council had been under review for some months and Murray Sinclair intended on spending time on Friday 3rd September 2010 and time over the weekend reviewing the feedback on the draft.
- A year's water supply repairs were completed in four days!
- Observation: The predominance of demolition in the CBD was of properties situated on street corners.

## Project East

This project was commenced as a result of student Sam Johnston and his Facebook page.

1,700 students arrived at the corner of Avondale Drive and Alloway Street with shovels on Monday morning to remove sand that had risen as a result of liquefaction, from resident's properties. This was a cause for concern to the controller and operations manager as such a task needed to be managed, so a project manager was appointed. It was agreed to use the Avondale Golf Course as an assembly point for car parking and Chisnelwood Hall as a rally point for students.

Fred Mecoy, Wellington City Council CD Emergency Manager was asked to assess the situation on site. The main issue was piles of sand at the road edge which had become a traffic hazard. These were removed by City Care, but required resources to be managed to achieve this. On one day 4,300 tonnes of sand was removed from the streets in this area. It was a positive outcome for the students and with management control, a positive benefit for the community.

The management of the building evaluation phase of this project was transferred to Linwood Service Centre for ease of operation and closeness to the sites affected. Feedback from the Inspectors bought in from outside the region to achieve this task was that it could not have been undertaken without the management and supervision of Kelvin Newman, Barry Lightbown and Kevin Pointer.

## Major Aftershock

After the 6.0 magnitude aftershock at 0755 on 8th September 2010, the controller, Michael Aitken and EOC Manager, Murray Sinclair discussed whether the art gallery should be vacated.

All staff were ordered outside for a briefing and advised to ring home to confirm the safety of family members and ensure they felt safe personally.

Dave Brunson and Dr Kelvin Berryman were asked to address all staff at the EOC on the integrity of the building. Dr Berryman spoke to staff about aftershocks and the ramifications and what could be expected.

## EOC Relocation

The art gallery had organised a major exhibition for 20th September 2010 and a decision was made to relocate back to Hereford Street. The project manager appointed was Fred Mecoy and he provided an excellent project plan which he ensured was executed with precision. The different EOC groups were provided with a new location at Hereford Street which had been expertly prepared by the communications team to receive phone and computer communications. This shift was undertaken with the aid of NZ Army personnel on site and in approximately 60



Photography: D Townsend (Geologist)

minutes the majority of the EOC had transferred seamlessly to Hereford Street and were operating in the function room on the first floor.

## Recovery Phase

The move from emergency management to the recovery phase commenced on day one with the assembly of a team of staff previously involved in this with assistance from David Brunson and the two Kestrel Group staff.

## Comment

Residents spoken to by myself were reassured with the location of the EOC in the Art Gallery given the confidence by Council of the integrity of the very large front wall of glass. This was seen by the community as a measure of support for their own personal circumstances.

Most residents visited by the evaluation teams were pleased to see a council member or representative and very pleased to see a green placard fixed to their house. Many congratulated the Council on the speed of the emergency response delivered.

## Learning Points

- A second EOC location is most important. Good decision in the CD pre-planning to decide eight years ago to make the Art Gallery the backup EOC. Art Gallery staff should have been directed to stay away from the building after their initial security of the artwork had been completed. Their ongoing work, noise and activities to prepare for the next exhibition was very unsettling to those operating the EOC.

Continued on page 10

# Support the people that support you!!

It never ceases to amaze the Board and staff at National Office how many members and industry stakeholders support us at a local level. Getting events up and going can be a thankless task, but the reality is our Institute would be a much poorer organisation without these champions of the Building Officials Institute of New Zealand. Recently our Auckland Branch Convenor of Venues, Grant Brown advised that the venue sponsorship for the November 2010 meeting was proving difficult to secure at the last minute. Times are tough for the building sector, but without a second thought Grant offered the services of his company

Conqra Ltd to sponsor the meeting. Check out Grant's company on <http://www.conqra.co.nz/> From the board, staff, and all the Auckland members present at the November 17th meeting at Alexandra Park we thank you for your company's generosity in providing the platform that guaranteed the evening was the success it was.

*Each publication of Straight Up will acknowledge a "Champion of the Institute". If you are aware of someone who has gone the extra mile to add value to our member's well being, we want to hear from you.*

## CONFERENCE 2011 PARTNERSHIP PROPOSAL – A Personal Invitation

We invite our organisational stakeholders to view our new Conference 2011 Partnership Proposal.

This new and exciting range of opportunities is aimed at delivering partnership opportunities on a win-win basis to advantage and maximise your organisations visibility and access to the building sectors Building Officials at the building industry event of the year.

Our Conference 2011 brings together New Zealand's leading building officials, thinkers, academics and product suppliers and is a magnet for all involved in industry excellence. This is an opportunity without comparison to reach and influence key industry professionals.

Please feel free to visit our website [www.boinz.org.nz](http://www.boinz.org.nz) or contact Ainsley Button, Events Manager - directly at [events@boinz.org.nz](mailto:events@boinz.org.nz) for a Partnership Proposal and application document.


Nick Hill - CEO

December 2010

# "Champion of the Institute"

Is

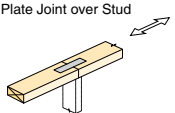
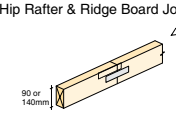
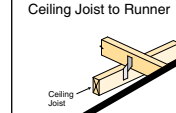
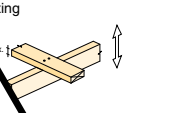
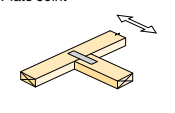
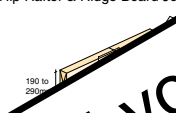

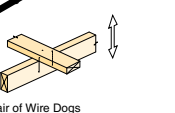
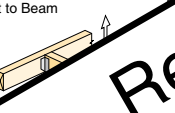

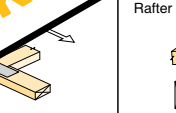
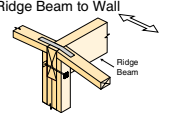
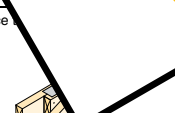
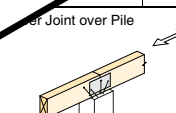
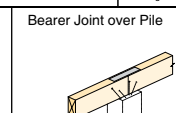
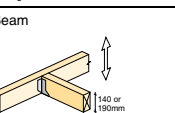



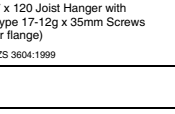
## Grant Brown, Conqra Ltd



# LUMBERLOK® EASY-FIX

11/2009

A SIMPLE ON-SITE GUIDE FOR 3kN, 6kN & 12kN LOADS AS SPECIFIED IN NZS 3604:1999

FIXING LOAD	CONNECTION TYPE			
<b>3kN</b>	Top Plate Joint over Stud  Single Tylok 6T5 Ref. Fig. 8.15 NZS 3604:1999	Hip Rafter & Ridge Board Joint  Pair of Tylok 4T5 Ref. Fig. 10.2 NZS 3604:1999	Ceiling Joist to Runner  Single Tylok 3T5 Ref. Fig. 10.1 NZS 3604:1999	Joist to Beam  Pair of LUMBERLOK Wire Dogs Ref. Fig. 10.10 NZS 3604:1999
	Top Plate Joint  Single Tylok 6T5 Ref. Fig. 8.16 NZS 3604:1999	Hip Rafter & Ridge Board Joint  Pair of Tylok 4T5 Ref. Fig. 10.2 NZS 3604:1999	Rafter to Beam  Single Tylok 6T10 Ref. Fig. 8.16 NZS 3604:1999	Ridge Beam to Wall  LUMBERLOK Sheet Brace Strap with 6 x 30mm x 3.15 dia. nails each end Ref. Fig. 10.7 NZS 3604:1999
<b>6kN</b>	Joist to Beam  Pair of Wire Dogs & 1 x 90mm x 3.15 dia. nail Ref. Table 10.10 NZS 3604:1999	Rafter to Beam  Single Tylok 6T10 Ref. Fig. 8.16 NZS 3604:1999	Rafter to Beam  LUMBERLOK Sheet Brace Strap with 6 x 30mm x 3.15 dia. nails each end Ref. Fig. 10.5 NZS 3604:1999	Ridge Beam to Wall  LUMBERLOK Sheet Brace Strap with 6 x 30mm x 3.15 dia. nails each end Ref. Fig. 10.7 NZS 3604:1999
	Joist to Beam  Pair of Wire Dogs & 1 x 90mm x 3.15 dia. nail Ref. Table 10.10 NZS 3604:1999	Rafter to Beam  Single Tylok 6T10 Ref. Fig. 8.16 NZS 3604:1999	Bearer Joint over Pile  Single Nailon Plate 1mm x 110 x 160mm with 10 x 30mm x 3.15 dia. nails each end & 4 x 100mm skew nails Ref. Fig. 6.19 NZS 3604:1999	Joist to Beam  JH47 x 120 Joist Hanger with 8 x Type 17-12g x 35mm Screws (2 per flange) Ref. Fig. 7.7 NZS 3604:1999
<b>12kN</b>	Brace to Stud  Single Nailon Plate 1mm x 110 x 160mm with 10 x 30mm x 3.15 dia. nails each side of joint Ref. Fig. 6.7 NZS 3604:1999	Rafter Joint over Pile  Single Nailon Plate 1mm x 110 x 160mm with 10 x 30mm x 3.15 dia. nails each end & 4 x 100mm skew nails Ref. Fig. 6.19 NZS 3604:1999	Bearer Joint over Pile  Single Nailon Plate 1mm x 110 x 160mm with 10 x 30mm x 3.15 dia. nails each end & 4 x 100mm skew nails Ref. Fig. 6.19 NZS 3604:1999	Joist to Beam  JH47 x 120 Joist Hanger with 8 x Type 17-12g x 35mm Screws (2 per flange) Ref. Fig. 7.7 NZS 3604:1999

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# Guidelines for repairing GIB® plasterboard linings in wind or earthquake damaged properties

## SCOPE OF USE

This technical bulletin provides general guidelines for carrying out remedial work to plasterboard wall and ceiling surfaces following damage sustained after a severe wind or earthquake event.



### Significant Sheet fracture

The information is aimed at;

- homeowners
- trades people
- territorial authorities
- insurance assessors

## NOTE

These guidelines are by necessity of a general nature. Detailed investigation needs to be carried out on a case by case basis to establish the extent of damage to the structure and linings, and before commencing repairs.

Prior to carrying out remedial work to plasterboard walls and ceilings, buildings must be checked for structural adequacy, safe entry and working conditions, as well as being straight, plumb and level.



**Lining detached from the framing requiring replacement of the bracing element**

## INTRODUCTION

Severe wind or earthquake loading can subject buildings to intense forces and movements placing significant strain on wall and ceiling planes. Resulting damage to wall and ceiling surfaces can often include;

- cracked joints and fastener popping
- sheets being forced from walls
- sheets breaking independently of joints

## REMEDIAL WORK

It is important to note that even if remedial work is carried out to a high level of workmanship, the aesthetic finish may not be exactly as it was prior to the event. Building owners need to take this into consideration when having repair work carried out to their properties.

Ensure a safe working environment before carrying out any remedial work and ensure that there is no danger from items such as;

- contents or cabinetry that has been loosened
- ceiling sheets that might collapse
- damaged electrical services and outlets

## WALL BRACING

A key part of remedial work will be to check the original bracing schedule for the building. Any damaged sections of wall forming part of a bracing element must be replaced with an equivalent sheet material fastened as a bracing element.

Although not essential, it is highly recommended that all other wall sheets being replaced are installed as if they were bracing elements with fastenings as described in GIB® bracing publications. After all, these sheets have been damaged due to high stresses in certain locations.

## FIRE RATED SYSTEMS

Consult the original building plans to establish the location of fire rated walls which form part of the building's fire safety system. GIB® Plasterboard Fire Rated systems are common in commercial or multi-unit residential construction and their performance is dependent on strict compliance with the installation instructions contained in GIB® Fire Rated Systems publications. Damage sustained to passive fire resistant walls could seriously compromise the effectiveness of the building's fire safety system. Fire rated walls need to be carefully inspected and if damage is noted, they need to be reinstated in full compliance with GIB® Fire Rated Systems specifications.



**Repair using the carbide blade**



**Sheet breakage requiring full sheet replacement or overlay**

## PLASTERBOARD SHEET JOINT CRACKS

Plasterboard sheet joints placed alongside and above or below door and windows are susceptible to cracking due to structural movement. Minor damage is relatively easy to remedy but is unlikely to resist cracking as a result of any future movement. Cracking can be categorised as;

**Minor hairline cracks** in joints that do not appear to have broken the paper tape and have caused no visible damage to the plasterboard surface. These can be repaired by firstly sanding the surface to remove any loose paint or plaster and then applying an air drying compound such as GIB Plus 4®, GIB ProMix® Lite or GIB® Tradefinish™ with a trowel or spatula knife. When dry, lightly sand the surface and paint as per paint manufacturers requirements

**Significant cracks**, larger than hairline, which occur when the paint surface is broken and loose plaster or the sheet joint is visible. These cracks should be scraped out with a carbide blade to recreate a recess approximately 60mm wide. Clean out and remove any loose plaster, paper or paint. Embed paper tape using a plaster-based compound, such as GIB Tradeset®, into the joint. Finish with an air drying compound such as GIB Plus 4®, GIB ProMix® Lite or GIB® Tradefinish™. This final coat will extend over the scraped area onto any adjacent painted surfaces. When dry, lightly sand the surface and paint as per paint manufacturers requirements. The remedial process is described in some detail on page 92 of the GIB® Site Guide which can also be viewed on [www.gib.co.nz](http://www.gib.co.nz)



## FASTENER POPS

Firstly ensure that the original fastener is slightly below the surface of the board. If not, nails can be punched and screws can be driven to suit. Place another fastener approximately 50mm from the original ensuring that it is just below the surface. Stop both penetrations using GIB Plus 4<sup>®</sup>, then sand and paint. The remedial process is described in some detail on page 95 of the GIB<sup>®</sup> Site Guide.

## SHEET BREAKAGES

Sheet breakage differs from a joint crack in that the plasterboard itself has actually fractured. Often these will have occurred where a sheet has been cut at a corner of a door or window opening or at a change of direction in a ceiling. Sheet fractures can sometimes occur between framing members and are obvious when the sheet is pushed.

Small breakages in general applications (e.g. smaller than 300mm in any direction) can be ground out with an angle grinder and filled using paper tape with a plaster based compound such as GIB Tradeset<sup>®</sup> and finished with an air drying compound such as GIB Plus 4<sup>®</sup>, GIB ProMix<sup>®</sup> Lite or GIB<sup>®</sup> Tradefinish Lite<sup>™</sup>. It is sometimes more efficient to cut out the damaged area and fix following the procedure for repairing holes as described in some detail on page 90 of the GIB<sup>®</sup> Site Guide.

Sheets with breakages larger than this should be removed and replaced.

If any sheet breakage occurs in a bracing or fire rated element, sheets must be removed and replaced.



**A further example of sheet breakage requiring replacement**

## WALL OR CEILING SHEETS LOOSE

Occasionally pressure from movement may have forced sheets to part company with the supporting wall or ceiling framing. This will normally be quite obvious as the surface could appear to be bulging or fasteners have popped or pulled through. Ceilings could feel "drummy" or loose. Ceilings especially should be checked as the symptoms may not be quite as obvious as walls. Apply light pressure to the ceiling surface with a stick that has been fitted with some cushioning to prevent surface damage. It will soon be apparent if the bond between plasterboard and substrate has been compromised. This can be repaired either by simply re-screwing the sheet whilst applying pressure. Alternatively if substrate damage is suspected or if the sheets have fractured, they should be removed and replaced.

Another option to consider for ceilings is to overlay the existing ceiling with new plasterboard. This reduces inconvenience to the homeowner and results in less waste and mess on site. Longer screws will be required to take into account the thickness of plasterboard already in place. Plasterboard thickness should match that of the existing ceiling. The decision whether to replace or overlay significantly damaged ceilings will be a cost-benefit consideration depending on the size of the damage and ceiling area.

Damage may have occurred to the wall framing that could render it out-of-plane. Sheets should be removed before remedial work to framing can be carried out. Replacement plasterboard sheets can then be fitted to the repaired substrate as per the installation instructions in the GIB<sup>®</sup> Site Guide.

## Further Support

For any further information regarding remedial work to plasterboard installation and finishing please visit our website [www.gib.co.nz](http://www.gib.co.nz) or contact the GIB<sup>®</sup> Helpline on 0800 100-442.

*Continued from page 7*

- Clear direction to the media regarding aftershocks and their possible effects is most important to reduce the scaremongering that the big one is still coming. This created major concerns with residents already nervous after the main event was still fresh in their minds.
- Ongoing CIMS training over the past 15 plus years to give a core group of 170 people experience in an EOC paid off immediately as the operation centre once set up moved smoothly into the response phase of the emergency.
- Early tasking of competent people to create at least a one week shift register for all participants across all teams. These would be individual for each team.
- Managing offers of assistance is a difficult issue to deal with. Resources offered were huge with approximately 3,500 offers of assistance. This did not include offers through the local government network.
- Local government network support offered to Christchurch was tremendous.
- Welfare needs strong leadership with the welfare centres run by skilled professional staff supported by volunteers. This would require managers to manage this process at a senior level.
- The CEO had arranged pre-event for the council to delegate power to him to appoint additional controllers and recovery managers if required. All councils should do this.
- Bringing people in from outside the area to assist staff was a win/win result and beneficial to all local government staff.
- Data capture issues need careful planning and consideration to achieve accuracy and consistency in the captured information.
- PA assistance is required for all EOC managers for the critical phase of the response.
- Minute taking is required at all meetings with decisions captured and the reason for the decision. Controller meetings have their own minute taker.
- Controller briefings should be to the point with pertinent information only presented. Controller support is required with an assistant to provide continuity.
- There should be an assistant building evaluation and rescue manager with bib.
- Shift changes require a good handover of information to the next shift detailing any ongoing issues with records on decisions made. This requires a detailed logbook to be kept. It causes problems downstream if any decisions made are not clearly recorded.
- Demolition of historic buildings requires a pre-determined detailed approach with the property owner, their consultant, building evaluation and engineer, controller, heritage advisors, media, police and welfare all being part of the decision process.
- With specific heritage buildings going through this process and being demolished specific information is required across the shift changes to keep all parties informed.
- Processes and process maps are required for all stages of the response to achieve a managed outcome.
- Staff and engineers undertaking sector building evaluation in the CBD should be reallocated to those areas to cover any aftershock evaluations to provide continuity and speed of process.
- Signing in and out each day is a key element of staff management.
- Sewerage information updates should be provided in the early stages of emergency response, to the building evaluation teams venturing out in the community. Not all residents have access to the website for this information which may be site specific.
- The control of barricade placement, movement and removal is a task requiring considerable pre-planning and interaction with several EOC groups to achieve a consistent approach across the CBD and city.

This information was gathered by speaking with staff at the EOC and some comments added from members of the community. I have endeavoured to use their own words but have added some for clarity of reading.

## Wood is the way of the future for Canterbury

**Lockwood Group CEO, Bryce Heard, says the evidence is very apparent that solid wood is the superior building material to cope with New Zealand's shaky ground as Lockwood homes in the Canterbury region withstood Septembers major earthquake and sustained no structural damage.**

"The Christchurch earthquake of 7.1 on the Richter scale, provided the company with a very valuable scientific study of just how well Lockwood homes coped during the initial quake and through out the many aftershocks," said Heard.

Lockwood have been designing and building solid, secure homes for the past 60 years in many cyclone and earthquake prone parts of the world, such as Asia, the United States, the Pacific Islands and the Middle East. Most recently the company has been invited by Chilean authorities to help rebuild the city of Concepcion after its major earthquake earlier this year, which Bryce Heard says is testament to the reputation and experience of the company. In the wake of the Christchurch earthquake, the Rotorua-based company quickly dispatched teams to the area offering to inspect all Lockwood homes in the stricken region, and found the homes had taken the quake in their stride.

"Of over 80 homes inspected, there has been no structural damage reported. This is a fantastic testament to the multiple benefits of building using solid wood.

"Seismic experts tell us there's a 60 percent chance of another major earthquake in New Zealand in the next ten years. We need to learn from this terrible disaster and re-build a more full-proof city for the future and we see our earthquake proven homes as part of the solution," said Heard.

One of the reasons for Lockwood's reputation for strong, safe homes is its alternative system, which means no nails or timber frames are used during construction.

"The Lockwood system ties adjoining pieces of wood together using aluminum X profiles. These profiles are slid into precision cut dovetails in opposing pieces of solid timber. By using vertical tied rods within the walls at regular intervals, the walls are tied to both the roof and the floor, providing a six sided locked together structure that can withstand most things that nature throws at it," Heard said.

All structural components are machined to precise specifications, inspected, numbered and treated to meet the New Zealand building standards.

"Lockwood homes have endured rigorous testing to provide the ultimate earthquake

and wind resistance. We've subjected a standard Lockwood to 22 simulated quakes up to 7.0 on the Richter scale, over six gruelling weeks of laboratory testing. The home came through completely undamaged. Even glass remained intact and windows opened freely," Said Heard.

Residents in Darfield, the epicenter of the earthquake, relived their experience of the quake and Christine Robertson said; "Because of the all the aftershocks after the 7.1 earthquake at 4.35am, my husband went next door to see if our neighbour was alright, he then decided it would be safer if ourselves and several other neighbours stayed at her home as being a wooden Lockwood home, we would all be fine to stay there until we felt able to return to our own homes. My husband is a Licensed Builder."

Fellow Darfield resident Peter Eddy is relieved he has a Lockwood house, "I heard a roar like a freight train coming through the house walls. Then it shook violently for over a minute. The house stood up to the shake very well and the aftershocks since with no damage as it moves," said Mr. Eddy.

Lockwood participated in a team lead by Prof Andy Buchanan (Department of Civil & Natural Resources Engineering University of Canterbury, to review timber buildings and the consequential results of the recent earthquake to ensure Christchurch is quickly and safely built back. This report was recently released and it was noted that Lockwood style solid timber homes – 'performed excellently in the earthquake'.

### What makes a Lockwood so solid?

- Lockwood's patented locking system.
- High strength to weight ratio.
- Use of vertical tie-rods.
- Continuous load paths. Critical for withstanding earthquakes, they tie the structural frame of the house together.
- Wall panels on both axes for bracing rather than excessive glazing.
- Our designers and builders always take site conditions into account, making sure you have the strongest foundations for the slope and soil type.
- The roof angles are designed to prevent excessive wind uplift.
- Lockwood experts have engineered each and every plan for maximum strength.

**For further information contact Sarah Alexander-Willcox from PR ink Ltd, mobile 021 400 458 or email sarah@pr-ink.co.nz**



*A great resource for your office or car.*

## Building Controls Fundamentals 2010

Updated for 2010

### Book Contents:

The Building Act 2004 and amendments (consolidated with history notes). As at 14 May 2010.

The Building Code – Schedule 1 of the Building Regulations 1992 consolidated with history notes). As at 14 May 2010.

Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005 – SR 2005/32 with history notes and consolidated amendments of the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Amendment Regulations 2005 – SR 2005/338.

### Book Size:

A5 (approx.) Pages: 300 (approx.)

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**AVAILABLE NOW**

# Building control reforms on the go

By Malcolm MacMillan, Manager Consent Authority Capability & Performance, DBH



This article outlines recent decisions arising from a review of New Zealand's Building Act in 2010. As a result, the Government plans to amend the Building legislation to:

- make it clearer that builders and designers are accountable for making sure building work meets the minimum requirements set out in the Building Code.
- make it easier for homeowners getting building work done to hold building contractors accountable through mandatory written contracts, supported by information disclosure, clearer legal obligations and remedies and improved dispute resolution options.
- make it quicker and easier to get a building consent approved for low-risk building work provided other quality assurance measures are met.
- exempt a broader range of minor low risk work from needing a building consent approval.

Undertake further work on:

- a preferred approach to deliver a nationally consistent and more administratively efficient building consent and inspection system utilising technology solutions (e.g. on-line consenting)
- whether or not changes are needed to the way liability is allocated in negligence cases in the building and construction sector.

In addition to these new measures, the following existing initiatives will continue:

- clarify Building Code requirements and improve education and access to the Building Code and supporting standards and related information
- encourage building practitioners to become licensed, to promote, recognise and support professional skills and behaviour
- develop a joint work programme with building and construction sector leaders to improve sector productivity.

## Clearer accountabilities

The review found that designers, builders, consumers and building officials are not always clear on who is accountable for meeting Building Code requirements and what they can rely on others for. For instance, many designers believe that they should be able to rely on builders to construct their designs to meet Building Code requirements without the designer needing to specify much of the necessary compliance detail. At the same time, many builders do not believe they need to know relevant Building Code clauses or legislative requirements.

Both believe that they can rely on building officials to identify and correct all the inadequacies in their work. NZ's Building Act, including the purpose and principles, will be amended to make the accountabilities of all parties much clearer.

## More support for consumers in the residential construction sector

Many consumers only rarely commission building work, and have very limited knowledge of how best to manage the risks involved.

The Building Act 2004 will be amended to require mandatory written contracts between building contractors and consumers for all projects above \$20,000 in value supported by more information disclosure, clearer obligations and new legal remedies. Every contract will have to include the already-existing warranties in the building legislation that require building work to be fit for purpose, meet the Building Code and be undertaken with reasonable care and skill (among other requirements).

Moving forward the building contractor will be required to fix any defects in their work that the consumer reports within 12 months of completion, on top of the existing obligation to 'put things right' for up to 10 years (provided there has not been misuse or negligent damage by the consumer). At the same time, consumers will get more information about what maintenance they need to carry out and the importance of reporting any defects as quickly as possible.

The building contractor will also have to give the consumer information before the contract is signed, designed to help consumers make informed choices based on the skills and background of the contractor. This will include information about what insurance or surety backing they have to cover the cost of fixing any fault. Further work is being done on how best to provide for fast, effective disputes resolution.

These measures are intended to help consumers who are building or renovating homes to hold builders to account and get any faults fixed more quickly and cheaply. They are also intended to encourage builders to 'build right first time' because they will be clearly accountable for fixing their own mistakes, at their own cost.

## Exempt more minor work from needing a building consent approval

Significantly more minor low-risk building work will be able to be done without needing a building consent approval (for example decks, carports, some internal alterations in buildings, and some plumbing work etc). Full list available online at: [www.dbh.govt.nz/buildingactreview](http://www.dbh.govt.nz/buildingactreview)

## Change the building consent approval and inspection system

The review identified that there is scope to reduce compliance costs if building consent and inspection requirements could be reduced without compromising quality. It is important to get the balance right between expecting builders and designers to be

accountable for designing and building Code compliant work, and providing adequate assurance they are doing so through third party monitoring, currently done by building surveyors.

It is proposed to move to a stepped risk based building consent system where the amount of plan checking and inspection is aligned with the risk and complexity of the work and the skills and capability of the people doing the actual design and building work. This system will be prescribed in law. However this will only begin once certain pre-conditions are met. These pre-conditions are aimed at ensuring quality is not compromised by any change and include:

- greater awareness and understanding of the performance requirements of the Building Code and of how to comply with them
- a base of competent licensed building practitioners in the sector
- strengthened contracting requirements and related measures in the residential construction sector
- an effective monitoring regime.

The key elements of the proposed stepped risk based building consent system are:

- a streamlined building consent approval process for some low-risk work (such as a free-standing garage or large rural farm shed) that simply checks that certain conditions are met (for example the work is undertaken by a licensed building practitioner) but involves no further inspections by building surveyors
- a simplified and more prescribed consenting process for certain simple residential building work at the lower-risk end of the spectrum (such as a simple single-storey house built using proven methods and designed with low structural and weathertightness risks)
- existing consent and inspection requirements for moderate to high risk residential building work, such as a multi-story house of complex design, and for lower risk building work not involving suitably qualified licensed building practitioners
- new building consent processes and requirements for complex commercial buildings, to provide for reliance on third-party (non-building surveyor) review and quality assurance checks and processes as an alternative to the current consenting and inspection requirements.

## A nationally consistent building consent and inspection system

The review concluded that there is potential for significant improvements to productivity and efficiency from moving to a more nationally consistent and efficient building consent and inspection system. Currently

75 building consent authorities (city, district and regional Councils) process around 100,000 building consents per year, an average of less than 1,000 per authority. Each separately establishes and manages regulatory systems and processes and is required to be accredited to a set of performance standards.

The Department of Building and Housing will work with local government representatives and other central government agencies to develop a preferred approach to delivering a more nationally consistent and efficient system. This could see nationally consistent decision making, back office support and IT systems in support of efficient local delivery.

## Liability

The NZ Government is going to review whether there is a need for change to the current joint and several legal liability framework as it applies in the building and construction sector. 'Joint and several' applies when someone, for example the owner of a faulty home, sues for negligence. It means that all the parties who have contributed to the specific problem with the building, by not doing their job properly, are legally obligated to meet the full cost of fixing the problem. This may include for example the building consent authority, the developer, architect, builder and subcontractors. When more than one party has contributed to the problem, the full costs can be shared between the parties. In the event that one or more of the parties is unable to meet their share of the costs (for example if they have gone out of, or wound up their business) then their share must also be covered by those who can pay. This can sometimes leave the 'last man standing' carrying the full costs.

In practice in weathertightness / leaky building cases, this has seen consenting authorities carrying a large proportion of the total cost of settlements. It has also seen other parties being found liable for amounts that they perceive as out of proportion to their actions or involvement in the project.

Many of those who made submissions during the review expressed the view that the application of joint and several liability in weathertightness cases may be contributing to:

- building professionals and trades people seeking to protect themselves through measures such as limited liability companies and a reluctance to take on some types of work
- risk averse behaviour by consenting authorities that is resulting in more and more inspections and greater-than-necessary compliance costs.

Consultation also identified that any change would potentially leave homeowners more vulnerable, because if one party is unable to pay then the homeowner would be left 'out of pocket'. The work ahead will look at all perspectives including the impact on homeowners of any change.

Further information on these reforms and their detail is available on line at:

[www.dbh.govt.nz/buildingactreview](http://www.dbh.govt.nz/buildingactreview)

## 2010 MEMBER QUESTIONNAIRE SUMMARY

We wish to extend a big thank you to all the members of the Institute who took time out of their busy days to complete our 2010 Member Questionnaire, all the feedback we received is essential to the way in which the Institute operates and what services we offer.

As the new CEO to the Institute I am pleased to see that overall, you as members are happy with the services offered by the Institute, support the Institute as a whole and see a bright future.

Both the Board and I appreciate the candid comments received and moving forward wish to address areas where concerns have been raised.

Overall the membership supports:

- The electronic version of Straight Up and read it every quarter
- All the services offered by the Institute.
- The website as it is easy to navigate and you are telling us the Situations Vacant page is becoming more popular.
- You are collectively very supportive of the BOINZ Licensing Programme.
- The Training Academy continues to gain member support and we will be making further enhancements to the programme for 2011 and beyond.
- Conference continues to be well attended. Conference 2011 will further add to the value of your attendance with a focus on the legal, technical and practical relating to the Canterbury Earthquake.
- Branch meetings were seen by many as an ideal way to gain up to date knowledge on a local basis. Already we are looking at ways to enhance how branch both contribute at a local level as well as to the Institute as a whole.

Areas in which further review is to take place:

- You have told us you would like to see more market information in Straight Up.
- You would also like us to provide more reasons for regular visits to the BOINZ website. So on the BOINZ website home page is a question "what more can we do to improve the value of the BOINZ website to you" just click on the question and enter your feedback.
- Many members indicated they were not using the Forum. So for the ease of use, we recently installed a "How to" guide (PDF) that can be downloaded from the Forum page of the website to allow you to walk your way through the processes of accessing and utilising the forum.

Finally we also wish to congratulate Jason Dean of Christchurch City Council on winning the prize of a Partner Registration for the 2011 Conference and Expo.

## "We've been thinking..."

Every day we pick up on member comments about activities and events that affect our industry. Some reflect the views of many, others get us thinking. Some are serious; some just bring to our attention the ridiculousness of certain positions.

We thought it would be a good idea to post some of these so you can get a feel for the sentiments of your colleagues

"Though I am not employed in Building Control I am concerned that Building Officials who experience the dismal building standards around the country and the pitiful skills so exhibited they are not taken seriously by DBH."

**Do you have something to say about:**

[The Building Act Review...](#) [The Auckland Super City...](#) [The aftermath of the Canterbury earthquake ...](#) [The ethics of the Construction sector](#)

Send us your "We've been thinking..." thoughts on issues that you feel strongly about by emailing us at [office@boinz.org.nz](mailto:office@boinz.org.nz).

*Merry Christmas*

From all the team at the Building Officials Institute of New Zealand's National Office we extend Season's Greetings and a Happy New Year to all our members and clients.

Have a happy and safe Christmas break and we will see you all in the New Year

*Nick, Louise, Ainsley and Lorraine.*

### HOLIDAY CLOSURE

Like the rest of the country, we will be taking advantage of both the festive season and the "good weather"!!!

Our office is closed from

**noon on Friday 24th December 2010 to Monday 17th January 2011**

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## All BCAs Accredited to Quality Assurance Standards

BOINZ congratulates all building consent authorities (BCAs) who have been successfully accredited by Internal Accreditation New Zealand to the standards in the Building (Consent Authority Accreditation) Regulations 2006. All council BCAs achieved Phase 2 accreditation before the deadline of 1 December 2010.

This brings to a successful conclusion the implementation of phase 2 of the BCA Accreditation Scheme. While BCAs had to maintain their accreditation status against the Phase 1 standards (regulations 5-16 about business systems and process, competency and resources and equipment), a key focus in Phase 2 was to develop a sound quality assurance system for their BCA building control functions and then demonstrate that they are implementing it successfully (regulation 17).

Over the last two years a number of BCAs have taken the opportunity to streamline, refine, and improve some of their business systems and processes developed during Phase 1 of the BCA Accreditation Scheme. This has resulted in considerably less unnecessary paper work, a refocus on key risk issues, and helping to ensure their core building consenting, inspection, and approval functions are carried out more efficiently and effectively.

While there is always room for further improvement, the benefits of the BCA Accreditation Scheme are being realised and BOINZ recognises the hard work and effort that building officials around New Zealand have put into achieving this milestone.

## BOINZ are proud to be resellers of NZ Standards



As a further membership benefit the Institute has negotiated with Standards New Zealand to become an official Reseller. What this means is that members now have access to a range of published standards and standards related products (Hand books, Codes of Practice etc).

Purchasing these vital products allows you to understand and comply with legislation more easily, and what's better is that they are available to you at a discounted rate off the RRP by purchasing through BOINZ.

It's easy —contact the National Office at [office@boinz.org.nz](mailto:office@boinz.org.nz) attaching your order, along with your name, member number and postal address.

Take advantage of your Institute's ability to offer you discounted NZ Standards including:

- **NZS 3604:1999**  
**Timber Framed Buildings**
- **NZS 4306:2005**  
**Residential property inspection**

(Standards New Zealand is on course to publish the revised Timber-framed buildings NZS 3604 in early 2011)



# Have Your Say – Requests For Submissions

## PROPOSED CHANGES TO BUILDING CODE DOCUMENTS

**29 November 2010:** The Department of Building and Housing is consulting on proposed changes to documents that the majority of designers and builders use day-to-day, and is asking for submissions. There are also proposals dealing with steel-framed and concrete buildings.

Download the Summary of the proposed changes which you are welcome to circulate to others who may be interested.

Please study the proposals and make submissions. Consultations close 4 February 2011; so please get your submission underway before the Christmas break.

### B1 (Structure)

The Department proposes to: cite the next published version of the widely-used timber structure standard NZS3604 in B1/AS1; cite new standards for steel-framed residential and low-rise buildings and seismic restraint of engineering systems in buildings in B1/VM1; and delete B1/AS2, an Acceptable Solution for timber barriers.

NZS3604 is the Standard used to design most timber-framed homes and other low-rise timber-framed buildings such as residential care buildings and commercial offices. The current Standard dates from 1999; Standards New Zealand has consulted the building industry and is updating the Standard to reflect the latest design methods and construction practices. The next version will include changes resulting from AS/NZS1170: Structural Design Actions.

Other proposed changes to B1 documents are to:

- Delete Acceptable Solution 2 (B1/AS2). This is a design solution for timber barriers. Design loads for residential barriers have increased and timber strengths and stiffnesses have reduced and B1/AS2 is now out of date.
- Amend Verification Method 1 (B1/VM1) to refer to two new documents:
  - NZS4219:2009: Seismic performance of engineering systems in buildings. This deals with restraints for building contents and engineering systems which are critical, or may be a hazard, in an earthquake.
  - NASH Standard Residential and Low-rise steel framing Part 1: Design Criteria Version 2: October 2010. This document explains how to comply with the performance criteria of B1 for steel framing of low-rise buildings such as houses and commercial buildings.

### E2 (External Moisture)

The Department proposes to: update Acceptable Solution E2/AS1, dealing with weathertightness of timber-framed buildings, and Verification Method E2/VM1; and introduce a new Acceptable Solution for weathertightness of concrete.

E2/AS1 is a key document dealing with cladding and the weathertightness of timber-framed buildings. The Department is proposing to:

- Update the technical content to reflect recent studies and research
- Respond to changes in building practices
- Align E2/AS1 with the next version of NZS3604.

Minor changes are proposed for E2/VM1 which tests the performance of claddings with drainage cavities on timber framed buildings

The Department proposes a new Acceptable Solution E2/AS3 for weathertightness of concrete and concrete masonry, that would cite the Cement and Concrete Association of New Zealand document CCANZ - S01: Weathertight Concrete and Concrete Masonry Construction which is presently in draft.

For more information on the proposed changes to B1 and E2 documents go to [www.dbh.govt.nz/current-consultations](http://www.dbh.govt.nz/current-consultations).

People who have already registered for the Department's recent consultations can make an online submission using their existing login details.

Remember, anyone designing, constructing or altering a building must have a thorough knowledge of the current Building Code. Acceptable Solutions and Verification Methods published by the Department provide one way of complying with the relevant part of the Building Code. Please become familiar with the proposed changes and have your say.

BOINZ sees this as a critical document and is concerned that it may not be scrutinised by all who need to be aware of its implications. We therefore encourage you to urgently look at this proposal to determine the implications in your roles and for the community for which you serve.

As the collective body for Building Officials in New Zealand, BOINZ is the respected voice of our sector. We would encourage you to provide BOINZ with feedback to enable us to collate a representative submission.

Additionally if appropriate we would also encourage you to bring this matter to the attention of your local TA. You may also consider contributing your own individual submission.

**Please email us at [office@boinz.org.nz](mailto:office@boinz.org.nz), with a copy of your individual submission to DBH, for inclusion in the Institute's collated submission by 21 January 2011.**

## Training Academy establishes an early registration scheme for its new 2011 courses

The Training Academy will be providing a series of new courses for members in 2011.

We are NOW taking expressions of interest for the following courses:

- **H1 (Wood Treatment)**
- **NZS3604 (Revised)**
- **NZS4229**

We plan to deliver these in Auckland, Hamilton, Rotorua, Wellington, Nelson, Christchurch, Dunedin, and Invercargill during 2011.

Don't miss out as places will be secured on a first in first served basis. Register now and you will be guaranteed a place on the course(s) of your choice.

As with all our training an In House Course option is available for our TA and organisational clients.

**Register now on an obligation free basis by sending an email to [training@boinz.org.nz](mailto:training@boinz.org.nz), expressing your interest for any of the Training Academy courses including any in our new programme listed above.**

## Strategic Partner training

The Training Academy has a goal to provide leading edge training to the building sector. Over recent years we have developed relationships with industry suppliers who deliver best practice techniques and compliance information to the industry.

A good example of this is our relationships with MiTeK, whose expertise cover areas of timber truss, wall frame, and timbers fixings. MiTeK have worked with The Training Academy to deliver best practice to the industry and as such lift the quality of our building stock.

If your company, as a supplier of products, preaches best practice and you have a strategic vision to contribute to the professionalism and quality of the building industry through compliance training then we would like to hear from you. **Contact Louise Townsend Training Academy Operations Manager on (04) 473 6003**

## BARRIER FREE TRUST REVISED DATES:

### 2 Day Barrier Free Seminar

<b>24-25 February</b>	Christchurch
<b>31 March -1 April</b>	Auckland
<b>19-20 May</b>	Rotorua
<b>23-24 June</b>	Wellington
<b>22-23 September</b>	Christchurch
<b>13-14 October</b>	Auckland
<b>24-25 November</b>	Wellington

### Module 5 – Becoming a Barrier Free Advisor

<b>15 July</b>	Auckland
<b>2 December</b>	Wellington

### Half Day Barrier Free Seminar for Architects and Designers

<b>23 February</b>	Christchurch
<b>20 May</b>	Hamilton
<b>22 June</b>	Wellington
<b>12 October</b>	Auckland

## IPENZ TRAINING:

[www.ipenz.org.nz/ipenz](http://www.ipenz.org.nz/ipenz)

for enquiries contact [cpd@ipenz.org.nz](mailto:cpd@ipenz.org.nz)

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## EVENT CALENDAR - 2011

### FEBRUARY

7 - 11 Plumbing Inspection  
**AUCKLAND**

### MARCH

8 - 9 Complex Fire Designs  
**AUCKLAND**

29 - 31 Fire Documents C/AS1  
**AUCKLAND**

### APRIL

10 -13 Building Officials Institute of NZ  
Annual Conference and Expo  
**AUCKLAND**

### OTHER TRAINING OPTIONS:

#### “ON DEMAND” Training

“On Demand” training courses are available to be delivered In-House or at a location of your choice.

Contact us at [training@boinz.org.nz](mailto:training@boinz.org.nz) to discuss our In-House training packages.

*At the time of publication, the Training Calendar was still being worked on. For a current version of the Training calendar visit [www.trainingacademy.org.nz](http://www.trainingacademy.org.nz)*

*Courses are subject to change, if booking flights well in advance of the course start date please keep this in mind.*

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2011

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or visit the Institute's website [www.boinz.org.nz](http://www.boinz.org.nz).

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