

straight up

THE MAGAZINE OF THE BUILDING OFFICIALS' INSTITUTE OF NEW ZEALAND

JUNE 2014



How to fix the NZ Building Act – Page 4
47th Annual Conference & Expo Photos – Page 16 & 17
BCA Innovations – Page 18 & 19



SENIOR BUILDING CONTROL OFFICERS' FORUM (SBCO) REGISTRATION FORM

21– 22 AUGUST 2014

COPTHORNE HOTEL COMMODORE, CHRISTCHURCH

This significant two day event has been designed for Senior Building Control Professionals, government officials and others interested in this industry.

It provides a forum environment for discussions relating to Building Control issues, at a management level.

The **Senior Building Control Officer (SBCO) Forum** combines presentations, case studies and interactive sessions for attendees to share common challenges and joint solutions.

This assembly of current and aspiring leaders ultimately benefits the wider Built sector through a commitment to lifting quality and performance across the building industry as a whole.

The **SBCO Forum** ensures attendees are well briefed and enabled to provide strong and effective leadership at both strategic and operational levels. By enhancing the skills of attendees and providing a platform to lead, direct and motivate others, the value also extends through to employers.

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straight up

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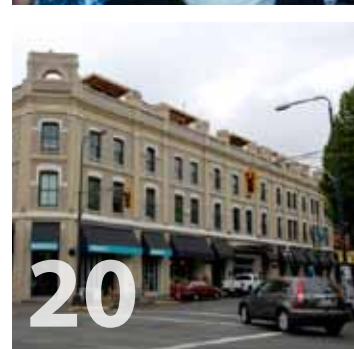
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From the President

Firstly I would like to thank all members for your support on behalf the incoming 2014-2016 Board. It is also with great pride I write this, my first article for Straight Up as President and update you on a number of activities the Board and Institute is engaged in.

Interestingly having just undertaken our own elections, this June issue of Straight Up comes at a time when our political leaders are positioning their parties for the public vote on Election Day 20th September.

It looks very likely a range of Housing and Construction issues will be to the fore. Of course in the macro environment of the housing and construction portfolios, our influence economically can only be substantiated, through our actions in ensuring buildings and renovations comply with the code and the quality outcome expected of the public and building owners. In the perfect world our roles as Building Surveyors would ensure the standards of required design and build practitioners always meets the expectations of the code. We are however a stretched resource and in my view one that needs continued support and training to keep on top of a rapidly changing and increasingly under skilled design and build work force. Having said that there is very good leadership in the sector that has a positive vision for the future, and I applaud the Construction Industry Council (CIC) who recently adopted "Quality" as their collective vision.

The Institute of course has strongly advocated within its own ranks over the last four years for professionalism and quality. The results have been increasingly recognised where the commitment to knowledge and skill uptake has been supported by both employer and employee alike. For those members in building control, the regulatory regime has proved a solid pathway which we as an Institute have chosen to support and invest in. In the area of pre purchase property inspection we will shortly be announcing new requirements for the need to be accredited. We will also be looking to Licensed Building Practitioners and their supporting organisations to invest in their skill sets and knowledge to ensure our collective future is about building quality, as there are far too many in the building chain that are still not accountable or have the required knowledge to do the work they contract for.

We all know that a building control process is the consumer's best safeguard for a quality building, and just prior to our April conference the then Minister of Building and Construction

visited a number of building sites in the Auckland area with a view to understanding the reality of where the built sector is in terms of building quality. With the recent announcement of the Hon Dr Nick Smith as the incoming Minister for this portfolio, we have extended an invitation to undertake a similar tour to appreciate the issues the building industry still has to address. He recently agreed to meet with us, and we propose to use our time with the Minister looking at joint pathways to improving design and build performance, with a view to a better economic outlook.

On a less political note, for those of you who attended our Conference in Wellington, you will have gained significant exposure to product technology, trending issues, regulatory direction and a valuable exposure to the operation that is BRANZ. We actively aim to ensure our two main annual conference events are as informative and value packed as possible. They are however no substitute for the in-depth training courses we offer to support the National Diploma in Building Control Surveying and ongoing competence requirements of a BCA. A testament to the value of this course material is the lift in uptake we are currently experiencing. Support is across the board in terms of subjects, and we are increasingly more engaged in a growing number of councils who see our role as complimentary in achieving BCA outcomes. That said we are aware of some geographic gaps where training is not to the forefront and, the Institute will look to provide opportunity and solutions that will assist in developing BCA staff. The ongoing professional development and employment of appropriately trained Building Surveyors is too

important for our economy to ignore.

Our Branch network is a vital link in developing the skill sets and knowledge of our membership. Our Vice President Ian McCormick and I recently had the pleasure of attending a Wellington Branch meeting where Ian facilitated a session on how the branch could be more engaging and benefit driven. The results are now being worked on by incoming Branch Chair Brenda Roberts and Secretary Richard London in tandem with National Office support. Suffice to say the enthusiasm for a branch system that is educationally focused was no surprise; the issues now in debate are about improving the process and accessibility.

Finally I would like to let you know that a collective meeting with our Branch Chairs and Secretaries in April put forward a proposal to extend the Branch election term from one to two years and alternate their elect cycle with the Boards. The drivers were around the need to develop continuity and engagement. The support for such a move was unanimous as was the consideration to moving the branch electoral month from February to November thereby allowing the incoming branch executive to commence activities from the start of the New Year. Work is now underway on this initiative.

I look forward to catching up with you all over the coming two years

Stewart Geddes
President



(Left to right: Stewart Geddes (President), Norm Barton, Ian McCormick (Vice President), Kerry Walsh, Phil Saunders (Past President), Phil Roberts and Peter Laursen)

PrefabNZ Top Five

First Light House features in new prefab book

The First Light House from New Zealand features in Sheri Koones' latest book Prefabulous World.

The First Light House was first designed as an entry in the 2011 Solar Decathlon event in Washington, DC by students at Victoria University at Wellington and came third overall out of 19 teams. The house now sits in the sunny Hawke's Bay.

Sheri's book is a well-illustrated, practical guide featuring innovative, eco-friendly homes from countries such as Australia, Canada, Japan, Switzerland.



Futuro takes off!

We all know that prefabrication of buildings are not a new concept - but to reflect on the history of prefab, Gizmodo showcases their Coolest Prefab Houses. Which just happens to include a Futuro - there are currently 12 in New Zealand and only about 60 in the world! One of these was recently auctioned off in Nelson. See here.



Flat pack pops up in four days

Check out the 'Pop-Up House' from Multipod Studio. This flat-pack house, which was completed in France, is made from lightweight and recyclable materials and can be built in four days. See here.



Photo courtesy of Gizmodo

KAIKOURA DISTRICT COUNCIL BUILDING TAKES SHAPE

The new Kaikoura District Council office is taking shape. The design incorporates a combination of cross laminated timber (CLT) and laminated veneer lumber (LVL) panels. The panels were delivered onsite in early March and were quickly lifted into place. The office is on a prominent site opposite the Information Centre and is due for completion in November this year.



Photo courtesy of sourceable.net



SHIP SHAPE CONSTRUCTION

Shipping containers are increasingly being used in commercial construction, such as the Re:START Mall in Christchurch and more recently in downtown Auckland. However more and more they are being used in the design and construction of residential buildings – including this three-story Brisbane house which uses 31 containers and took only six months to complete.

How To Fix The New Zealand Building Act



Conjoint Professor Kim Lovegrove FAIB and keynote speaker presented the following paper on "How to Fix the New Zealand Building Act" at the Building Officials Institute of New Zealand's 47th Annual Conference & Expo held in Wellington in April.

NO COMPULSORY INSURANCE

Building practitioners in NZ are not required to be insured by law. Compare this with some other antipodean jurisdictions like Victoria where every building practitioner has to be insured. I make this observation because there is a view harboured by some that it would not be possible to make insurance compulsory in NZ because offshore insurers are not attracted to the NZ construction insurance market. This is not correct; the impediment to compulsory insurance is the legislation in that there is no proportionate liability doctrine in operation. It is of course problematic that there is no mandatory insurance in NZ, reason being a lack of compulsory insurance makes accountability in the construction sector somewhat of a red herring, a furfey if you will. Yes, the recently introduced system of registration is laudable and progressive, but it is, to put it somewhat colourfully, half pregnant because absent compulsory insurance, the holistics of best practice building regulation did not make full term.

Accountability involves being held responsible for one's actions, but in the building industry where there is economic loss there can only be real accountability if there is a mechanism to pay for reparation. It is only in circumstances where one can pay for one's neglect that one can have real exoneration, a balancing of the books so to speak. NZ of all countries should know this more than most having been through the carnage of leaky buildings. The irony is that many of the perpetrators of this maelstrom were builders and contractors who erected compromised product but enjoyed the comfort of having companies that could be wound up with immunity and impunity. This enabled entrepreneurs to migrate profits to finance often profligate life styles. Absent a compulsory insurance regime, destitute and troubled home owners were left drowning in their wake.

Admittedly the regulatory framework of the then Building Act was an enabler, in that it allowed a laissez faire approach to building

control to gain expression. If, however, there had been a compulsory insurance regime in place, the liabilities and accountabilities would have vested with those primarily responsible, be they the design fraternity, the assessors or the constructors. Instead local government reached into its deep pockets as "the insurer of last resort" and assumed the lion's share of financial accountability even though local government had very little to do with it.

If one uses the case study of Victoria, it is a pretty good benchmark in terms of holistic building control. All of the principal actors in the construction line up are required to be insured. This embraces the engineers, residential builders, building surveyors, building inspectors, draftsman, quantity surveyors, construction managers and plumbers. This has been the status quo since the 1st of July 1994. The system is established and entrenched and it gives a plaintiff a great deal of comfort when it is about to embark upon a construction litigation. Equally it gives the insured defendant some solace when he, she, or it is sued. Reason being once the defendant claims indemnity assuming indemnity is granted, which in most cases it is, then the insurers will assume conduct of the defence of the claim.

12 months ago a Wellington architect was referred to me who had been caught up in a litigation where he was being sued for about half a million. The architect wasn't insured and was bereft of funds and couldn't afford legal representation, so needless to say we did not accept the brief. If the same person were domiciled in Victoria by law he would have been required to be registered and by law he would have been required to be insured. He would have simply claimed indemnity and the insurer's lawyers would have assumed conduct of the case, period. As it was he was potentially facing bankruptcy.

Compulsory insurance for registrants is a "no brainer" it provides protection for consumers and the capacity and ability to account to defendants. Furthermore it permits risk and accountability to settle where it should. As it stands councils and local government remain the insurers of last resort. In an environment where the flawed doctrine of joint and several liability holds sway, as is the case in our country, it is the last man standing that picks up the liability of the impecunious co-defendants and a multi-million dollar construction failure can bludgeon a council's bottom line. Further the irony is that absent insurance the consumer is often left bereft of redress unless there is some resort at law to local government but ultimately it is the rate payer who keeps local government accountable, so again the consumer "cops the caning".

Furthermore the post GFC world has demonstrated that councils are not infallible, some American councils are teetering on bankruptcy. Any forward thinking confederation

of municipalities would see the wisdom in compulsory insurance and the introduction of proportionate liability because such doctrine ensures that councils don't assume the liabilities of strangers if you will. But in recent decades in NZ the Gods of deregulation have enjoyed a very broad Crown fellowship and it's hard to keep these Gods at bay. The mantra of "let's cut costs", "lets deregulate" is resuming currency as evidenced with the deregulation of the consent process by way of the "new beaut" building consent exemptions that are proliferating like "randy rabbits". If the Crown is determined to cut the costs of building then it may consider creating a culture where construction quality improves, because better quality leads to less defects, less delays, less down time and more importantly a lower incidence of claims.

A more holistic approach would be to mandate insurance, increase the bar with respect to qualifications and introduce proportionate liability. Why would this cut costs? Because it would engineer a cultural shift. Compulsory insurance is always conducive to a higher professionalisation of an industry. Reason being insurers become defacto quality controllers as they won't insurer high risk practices and contractors. Higher qualifications lead to better product, be it intellectual or as built and removal of joint and several liability ensures that the Crown isn't bludgeoned by the liabilities that rightly reside with others, but instead fall where they were created i.e with the party that created them.

SO WHAT IS JOINT AND SEVERAL LIABILITY?

Joint and several liability is a doctrine that provides that in circumstances where there are a number of co-defendants in a legal proceeding, those defendants that are still standing or financially sound at the end of the proceedings will assume the adjudicated liabilities of any insolvent defendants in the same proceedings. This means that the solvent defendants assume the financial liability for other parties that throughout their own negligence occasioned economic harm. Councils are very popular defendants and an astute plaintiff will do his or her level best to find a way to implicate a council in full knowledge of the fact that in a country like NZ where insurance is optional unless you can embroil a deep pocket in the legal action, a litigated victory can be hollow because there will be no money at the end of the day.

Councils thus have come to be known as "insurers of last resort". In the early nineties, Australia launched an initiative called the National Model Building Act. The initiative was augmented by the nine Australian governments through the auspices of the previous incarnation of the Australian Building Codes Board. The culmination of the project was a Model Building Act for use as a template for jurisdictions intent on reframing their Building Acts, Victoria was one such jurisdiction. During the project

there was extensive consultation within local government in Australia and every council in Australia was sent a questionnaire fashioned to ascertain what local government considered to be meritorious reform ideas. Over 90 percent of councils were unanimous in their support for the removal of joint and several liability and the replacement of this doctrine with proportionate liability.

Local government was not enamoured with the vagaries of the “deep pocket syndrome”. Local government showed very little enthusiasm for being deemed the insurer of last resort. Bodies like BOINZ in Australia then lobbied their ministers to back proportionate liability reform and it was successful. In the early millennium, other jurisdictions, that is non-building sector jurisdictions adopted wholesale reforms to remove the application of joint and several liability.

WHAT IS PROPORTIONATE LIABILITY?

This doctrine ensures that no defendant is liable for any more than his judicially assessed proportion of liability. Case in point would be a multi party proceeding where there is a designer, a builder and a council. When the judgment is handed down the decision maker will divvy up liability on the basis of the given defendants’ contribution to the problem. Regardless of the pecuniosity of the co-defendants, no defendant assumes the liabilities of another defendant, or to put it another way, the liabilities can’t migrate, they stay within their judicially assessed silos.

Critics of the system “opine” that absent compulsory insurance the plaintiff will be left out of pocket if the defendants can’t pay. Correct, hence the critical importance of compulsory insurance and the only jurisdictions in Australia that have introduced such a scheme are the NT and Victoria.

NZ has proved to be resilient to holistic law reform and to date has not embraced proportionate liability. There have been Law Reform Commission investigations into the value in introducing proportionate liability to NZ but the conclusion has been one of little appetite.

It is my strongest contention that another enquiry into the mileage in introducing proportionate liability into the fabric of tort law in NZ would be timely. In a post GFC world local government funding has been under considerable pressure. This is none more so than the United States where there have been massive cutbacks in municipal services because of the destitution of the rate payers and the rapidly diminishing reserves of the public purse.

The case for tort reform on point is compelling because governmental institutions can ill-afford the burden of carrying the liabilities of other parties that occasioned failures that were not of municipal authorship. Furthermore as the rapidly growing parish of deregulationists expands with its fellowship with the accoutrements of building consent exemptions there could well be an overall compromising of the quality of construction which will in all

likelihood create more litigation.

For there is one truth that has merged in recent decades in NZ it is that deregulation and the relaxing of building controls has led to carnage in the as built sector. Leaky building is case in point. This, however, is not unique to NZ, as last year in Latvia you will recall the roof collapse that killed dozens of people. The Prime Minister resigned on account of this calamity because he felt that the post GFC austerity measures had led to an environment where building controls may have been less than optimal. One of the casualties of the austerity program was the dispensation of the national building inspectorate shortly after the GFC. Ominously in NZ there is a feeling of here we go again with the proliferation of consent exemptions and does not bode well.

THE VAGARIES OF LIMITATIONS DEFENCES UNDER THE BUILDING ACT

Section 393 of the Building Act provides: “Limitation defences

- (1) The Limitation Act 2010 applies to civil proceedings against any person if those proceedings arise from—
 - (a) building work associated with the design, construction, alteration, demolition, or removal of any building; or
 - (b) the performance of a function under this Act or a previous enactment relating to the construction, alteration, demolition, or removal of the building.
- (2) However, no relief may be granted in respect of civil proceedings relating to building work if those proceedings are brought against a person after 10 years or more from the date of the act or omission on which the proceedings are based.
- (3) For the purposes of subsection (2), the date of the act or omission is,—
 - (a) in the case of civil proceedings that are brought against a territorial authority, a building consent authority, a regional authority, or the chief executive in relation to the issue of a building consent or a code compliance certificate under Part 2 or a determination under Part 3, the date of issue of the consent, certificate, or determination, as the case may be; and
 - (b) in the case of civil proceedings that are brought against a person in relation to the issue of an energy work certificate, the date of the issue of the certificate.”

The New Zealand Building Act provides for dual regulation of the limitation defence under the Limitation Act 2010 and under s393 of the Building Act. The Limitation Act 2010 applies in respect to civil proceedings brought in relation to the design alteration and construction of a building.

However s393(2) of the Building Act caps liability at 10 years from the date of the act or

omission that gave rise to the proceedings.

Sub-section 3 of the limitation defence is a ‘deeming provision’ and is common sense in my opinion, in that it provides a clear date of an act or omission to trigger the 10 year ‘timer’. Sub-section 3 of s393, deems that the date of the act or omission in relation to proceedings that may be brought against a building consent authority or regional authority in regards to issuing a consent or a certificate under the Building Act, is the date that the certificate or consent is in fact issued.

The real “little pearler” however, is the profoundly different evidential burden for the building and construction fraternity of engineers, builders, architects, subcontractors and the like. The limitation period of 10 years begins to run from the date of the act or omission. As the reader would appreciate there is nothing certain about such a date and this type of ambiguity is a god-send to expert witnesses for plaintiff and defendant alike as they are allowed to spend many hours in Court debating the date upon which the catalyst for the malaise crystallised. Such ambiguity and uncertainty is the very vice that we sought to dispense with when 20 years ago we formulated the 10 year liability provisions in the National Model Building Act. This is how we did it as evidenced in the wording that found its way into the Building Act in Victoria

Section 134 “Despite anything contrary in the limitation of Actions Act 1958 or any other act or law, a building action a building action cannot be brought more than 10 years after the date of issue of the occupancy permit in respect of the building work (whether or not the occupancy permit is subsequently cancelled or varied) or, if an occupancy permit is not issued, the date of issue under Part 4 of the certificate of final inspection of the building work”

Note the brevity, the simplicity and clarity. This provision has been in operation for 20 years in Victoria and has proved to be robust and devoid of controversy, but the law reform team that I headed up cannot lay claim to authorship of the concept as 10 year liability capping was a concept that we adopted from the French. In fact the concept of liability decennial dates back to the Napoleonic code.

The beauty of the concept is the fact that the liability “guillotine”, to borrow French parlance, is sharp and decisive and clear. The liability long tail is chopped 10 years after a very clear and non-contentious start date, the issue of a statutory instrument that encompasses the “broad church of the construction fraternity”. Further, there is no differentiation between the governmental authorities and the construction fraternity.

For fear of labouring the point, the provision was specifically designed to do away with a trigger date, being a date upon which an act or omission occurred. This simple language and turn of phrase would conservatively have saved litigants millions and millions of dollars of adversarial adverse testimony over the 2 decades.

eHaus Design for Sustainable Living

*An article by Jon Iliffe,
Technical Director eHaus NZ*

My relationship with BOINZ started when a good friend of mine, Thomas van Raamsdonk phoned up asking if he could bring round a group of building control officials to the eHaus show home to demonstrate an air tightness test using a Minneapolis Blower Door. He explained that a live demonstration would brighten up a day spent in the classroom..... a good excuse to get out on the job!

The officials were from the Central Branch - Palmerston North, Wanganui and New Plymouth and arrived with the BOINZ Chief Executive, Nick Hill.

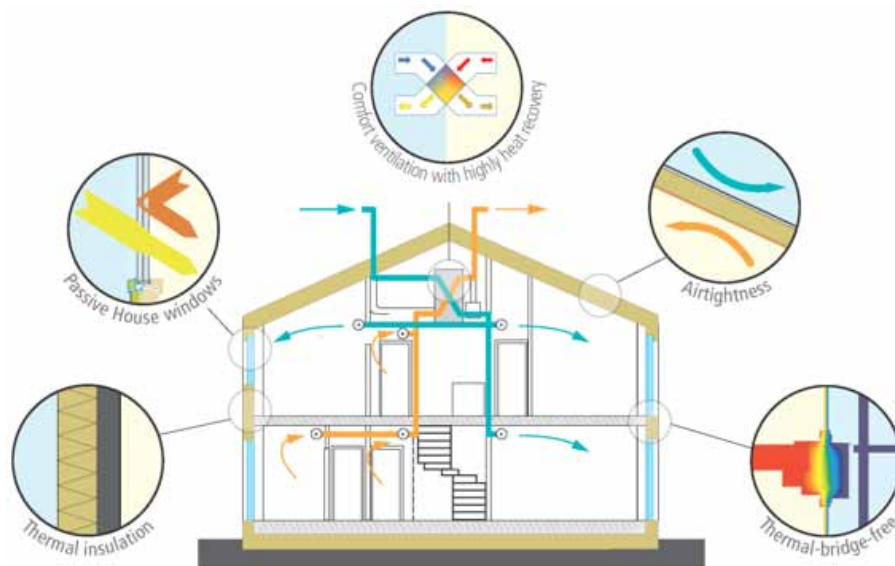
eHaus is one of the first companies in New Zealand that is building houses to the German Passive House Standard. Air tightness, or a draft free house is a very important factor in our energy efficient homes. In fact the showhome was when completed the most air tight house in New Zealand, so a great place to demonstrate what air tightness looks and feels like. After the demonstration test I was invited to explain how the Passive House Standard works and then an open question and answer time. Having been involved with eHaus for four years I am pretty familiar with the questions that people ask. The number one question is HOW MUCH MORE DOES IT COST? The standard answer is between 10 & 15% but the right answer is no more. Why? because when we work with clients right from the concept stage typically we are encouraging them to consider making the overall envelope a little smaller, in this way we are able to work to the clients original budget but still build a high performance home.

With this approach the answer to the question of how much more looks quite different. It can cost the same and from day one you will be saving money, 80% on heating costs and 60% on primary energy costs. This money saved is then able to be put towards the mortgage or if the client is retired the money saved can supplement the daily living costs supporting a better lifestyle. After the demonstration and question time at the show home Nick Hill thought the work that eHaus was doing should be shared at the BOINZ conference and so in April this year I was given the opportunity to speak in Wellington.

The title of the presentation was **Creating buildings that perform to the highest levels.... a healthy environment whilst reducing the long term financial burden**

The presentation showcased what was already happening in New Zealand with a number of projects that have been built around the country and touched on the 5 principles that are the key to achieving the goal. These principles shown in the diagram have been well documented and proven to deliver outstanding results by the founder of the Passive House Institute, Wolfgang Fiest.

Sharing the presentation was Cyril Vibert who had just joined the team at eHaus from Strasbourg University in France. He is in the final year of five years' study for an efficient building science degree at Strasbourg University. But as a part of his studies he has to complete a six-month internship with a company that is incorporating energy-efficient design with the latest building techniques. He found our company by searching on the internet and after a few video calls we welcomed him on board!



Cyril's skills and experience match with our passion to deliver healthy homes that are kind to the environment. His area of specialisation in Thermal Bridge Modelling using software to model areas of buildings that have been identified as possible weak links and actually determining the impact local to the thermal bridge and also on the building performance as a whole. Cyril's presentation identified some of the common thermal bridge's that are present in our construction details and solutions that we are using to overcome the problem.

Although in their infancy in this country there is no doubt that as the information and skills develop in this country building to the Passive House Standard will grow especially when people have experienced the benefits of living in a high performance home.

For more information on ehaus visit <http://www.ehaus.co.nz/>



GIB® PLASTERBOARD SYSTEMS

BEST PRACTICE SERIES

No.4 WALL INSTALLATION

For best practice, and to avoid time-consuming and costly call-backs, Winstone Wallboards recommends the following best practice guidelines when installing GIB® plasterboard on walls. Framing dimensions and structure performance must comply with the requirements of NZS 3604:2011.

For full information, please refer to the latest edition of the GIB® Site Guide. Alternatively, contact the GIB® Helpline on 0800 100 442 during business hours.

For free on-site training, book online at gib.co.nz/training or call the GIB® Helpline.



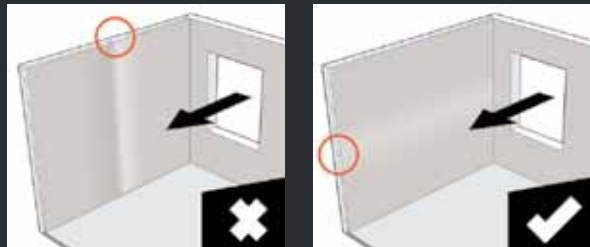
LOOK BEYOND THE SURFACE®

7 THINGS TO CONSIDER WHEN INSTALLING A QUALITY WALL.

These recommendations are not a substitute for the full information contained in relevant GIB® technical literature ('GIB® Site Guide - Jan 2010' & 'Interior Finishing - Mar 2013').

STEPS

- 1 Ensure timber framing is dry and straight before fixing GIB® plasterboard. This will help prevent shrinkage, cracks, nail popping or other problems in the future.
- 2 Fixing GIB® plasterboard sheets horizontally instead of vertically on walls reduces the number of joints, helping to achieve a more uniform appearance.



Horizontal fixing reduces the risk of shadowing from glancing light.

- 3 With curved walls, plasterboard sheets must be fixed horizontally.
- 4 Hold the plasterboard sheet tight against the framing and sink screws to just below the sheet surface, leaving the paper intact.
- 5 Do not fix nails or screws through; or closer than 200mm to adhesives. This can cause the nails or screws to 'pop' as the adhesive dries and shrinks.
- 6 Vertical joints must not coincide with the edge of windows or doors. These should be made above the opening, approximately 200mm to the edge of the opening.
- 7 AS/NZS 2589:2007 calls for control joints to be placed in walls at maximum 9m spacing in each direction or at other points which may be the subject of underlying structural movement. This is to relieve stresses imposed by structural movement or changes in humidity and temperature.



What Happens To Reinforcement In A Concrete Building During An Earthquake?

Author, Alistair Russell

Manager - Structural Performance & Engineering Systems

Cement & Concrete Association of New Zealand (CCANZ)

Reinforced concrete buildings inherently rely on the ductile characteristics of steel reinforcing to ensure a predictable and non-brittle response when subjected to loads. This is especially important for earthquake loading and where capacity design is utilised.

Steel reinforcement in buildings is generally designed to behave elastically during service loading, and to yield at ultimate loads. When the yield strain (corresponding to the yield stress) is exceeded, irrecoverable plastic deformation occurs, whereas the elastic portion of strain is recoverable. As deformation increases following yielding, the strain in the bar will increase but the stress remains constant, and this is known as the yield plateau.

As the strain in steel reinforcing increases beyond the yield plateau, strain hardening occurs and the remaining strain capacity becomes less. Following deformation of a steel reinforcing bar, such as during an earthquake, testing can be performed to estimate the amount of strain hardening which has occurred in the bar. Attempts can be made to correlate these results to determine the accumulated plastic strain, and thus the percentage of peak strain capacity remaining. When peak strain is reached, the bar will rupture.

As earthquake shaking tends to impose cyclic loads and deformations on structures, the phenomenon of strain hardening should more correctly be referred to as "low-cycle fatigue". Insurers are becoming concerned about a trend to cite strain hardening as a reason for demolition of damaged reinforced concrete buildings in Christchurch.

WHAT ARE THE DIFFERENT TYPES OF REINFORCEMENT USED IN NEW ZEALAND?

The types of reinforcing steel that can be used in New Zealand are governed by a joint Australian/New Zealand Standard, AS/NZS 4671:2001. This Standard outlines a number of types of reinforcing steel, of which two are most commonly used in New Zealand. These are Grade 300E and Grade 500E and the primary difference between the two types is the yield strength of the steel. Grade 300E reinforcement has a nominal yield strength of 300 MPa and Grade 500E reinforcement has a nominal yield strength of 500 MPa. Moreover, the strength of Grade 500E reinforcement can be achieved in two distinct processes: Microalloying or the Quenched and In-Line Tempered (QT) method. Engineers must be aware of significant limitations on the use of QT reinforcement, which because of its non-homogeneous cross-section, must not be cut, rebent, welded or threaded.

WHAT ABOUT HISTORIC REINFORCEMENT?

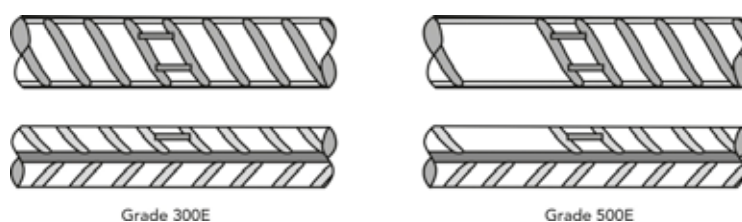


Figure 1: Bar marks identifying Grade 300E and Grade 500E reinforcement

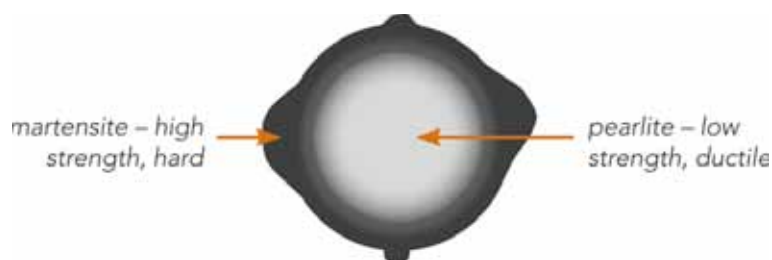


Figure 2: Cross section of a Q+T reinforcing bar

Although only two grades of reinforcement are used in New Zealand today, other types of reinforcement have been used in earlier times. While knowledge of these reinforcement types is irrelevant to the designer of new structures, it is vital that engineers understand older reinforcement types when assessing the performance of existing buildings. Some of the more prevalent previous reinforcement types are described below.

• Grade 275

Before 1989 New Zealand reinforcement was graded according to the “minimum” yield stress, rather than the lower characteristic yield stress as is used now. The steel used in Grade 300E reinforcement has a minimum yield strength of approximately 275 MPa, so before 1989 this reinforcement was referred to as Grade 275.

• Grade 430

Grade 430 reinforcement was the predecessor to Grade 500E. It was a high ductility micro alloy steel with a lower characteristic yield strength of 430 MPa. Grade 430 was withdrawn from New Zealand early in the 2000s to allow alignment of New Zealand and Australian reinforcing steel Standards.

• Grade 380

Grade 380 was a high strength, low ductility reinforcing steel used in New Zealand prior to 1989. It has much poorer properties than later high strength reinforcement types.

• Non-metric

Before metrification of reinforcement occurred in 1973 New Zealand used a variety of reinforcement to British and US Standards. Most common amongst these are Grade 40 and Grade 60 bars. These have minimum yield strengths of 40 ksi and 60 ksi respectively, corresponding to metric values of 275 MPa and 414 MPa.

WHAT IS HARDNESS TESTING OF REINFORCEMENT AND WHAT DOES IT MEAN?

Measuring the surface hardness of a steel reinforcing bar which has undergone strain hardening, and comparing that value with an equivalently determined hardness value of a bar which has not undergone strain hardening, provided that appropriate boundary conditions are maintained, may be used to provide an estimation of the residual strain of that bar. It is important that the limitations of the test method used are identified and understood. There is considerable complexity involved in correlating the surface hardness with the reinforcement deterioration due to cyclic loading, and correspondingly, with the expected future performance of the overall building. This is particularly important considering the different types of reinforcement available currently and historically in New Zealand, and why an understanding of the reinforcement characteristics and manufacturing process is valuable.

WHAT CAN BE DONE ABOUT BUILDINGS WHICH HAVE BEEN SUBJECTED TO LOW-CYCLE FATIGUE?

In theory, where some concentrated cracking has occurred, as long as that crack can be opened up, and filled with good quality, high strength epoxy, then any subsequent cracks should be initiated elsewhere, in a non-strain hardened region of the bar. Strain hardening correlates with some increase in strength, and any further yielding will occur where the strength is the least (or lower). Initial yielding of a reinforcement bar is likely to occur at a location of lower strength than other areas, and can be because of a minor random imperfection.

At locations of significant imperfections (defects), such as the result of spot welding or notching, highly concentrated deformations can occur leading to bar rupture or fracture. This highlights the importance of understanding the characteristics of reinforcement bars, and the limitations on handling and installation. Depending on the extent of damage, parts of the building may have to be replaced or retrofitted. The view could be taken that where any strain hardening has taken place, that portion of the building – usually a beam adjacent to a column – needs to be replaced so that it is in the same condition as when it was first constructed, as it may be considered that any strain hardening represents a reduction in total pre-existing capacity.

If there are enough of these regions in the frame that need replacing, the cost to do this work may tip over so that it becomes less economical to repair than to fully replace the building.

WHAT DOES THIS MEAN FOR CONCRETE BUILDINGS IN THE FUTURE?

The design and construction of “traditional” Concrete Moment Resisting Frame (CMRF) structures will come under greater scrutiny, and this may create opportunities to further the use of new (or less widely used) technologies, which employ damage resistant design philosophies. Largely as a result of the Christchurch earthquakes, seismic design philosophies in New Zealand are tending towards limiting non-structural damage as much as possible, instead of focussing on just designing for life-safety. The requirements to limit building damage, non-structural

damage and building downtime are increasingly being given greater weighting in new structural design, particularly as a result of the cost of repairing and rebuilding many structures in Christchurch.

The New Zealand concrete industry has been at the forefront of such new damage resistant design concepts, with the development of both Base Isolation and PRESS technologies originating from this country, as well as other emerging technologies, such as non-tearing joints in concrete moment resisting frames. Based on its generally high mass and high stiffness, concrete as a material is naturally well suited to such design methods. This article first appeared in Vol. 57 Iss. 2 of Concrete magazine



BRANZ
DETAILS

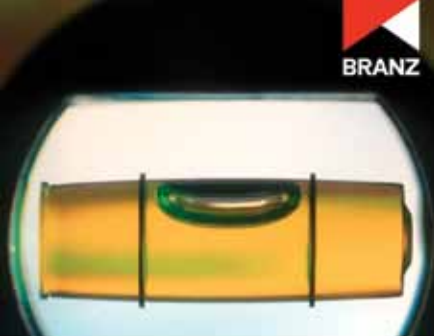
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level

Branch Executive Profiles

The Institute's Branch structure plays a vital role in providing a training and networking vehicle for its members. Without the commitment of the people holding positions on the Executive Committees for each branch the Branch Network would, without a doubt struggle.

The positions are voluntary and are filled by people who see the value in getting out of their Branch/membership what they put in.

For the 2014 year, we are pleased to raise awareness of the increased number of Women holding Executive Committee positions and provide an opportunity

for our membership to get to know these people a little better through their profiles, as provided below. Don't worry guys – we will showcase you in the next edition!

NORTHLAND BRANCH - JANE STACE – (BRANCH SECRETARY):



My name is Jane and I am in my second year as secretary of the BOINZ Northland Branch. I am technical adviser for the Kaipara District Council Building Team. Our main branch is in Dargaville but my office is in Mangawhai on the East Coast which was a sleepy little coastal village but has seen so much growth over the past few years it will soon be a suburb of Auckland!! I live in a barn house at Kaiwaka on the west coast so travel across for 25 minutes each day and the weather can change from one side to the other. I have 2 adopted cats whose owners went overseas and they rule the roost!

I have been with the Building Team for 7 years now and have enjoyed every moment. We are a close knit team of 11 and each do various jobs. We have just changed to online consenting with the Alpha One system, which has been a whole new learning curve for us all and of course not without the usual teething problems. It has been a lot of extra work but in the long run will be most beneficial.

I enjoy the contact with BOINZ and have learnt a lot about building methods and products from our meetings and conferences. The 3 councils involved up here are Kaipara, Whangarei and Far North. Our meetings are a time that we can get together and discuss all subjects across the board and enjoy some fellowship. We are all extremely busy and with the distances between us it can sometimes be hard to get the time set aside for our meetings but when we do they are most productive and enjoyable.

CENTRAL BRANCH – TRACEY SHAW – (BRANCH SECRETARY):



My name is Tracey and I've been working for the New Plymouth District Council Building Department for 15 years, how time flies! Originally I was employed in the Support Services Department, and after 18 months a position for a Building Administration Officer was advertised for which I applied, as the construction industry appealed to me. I was successful and I haven't looked back and never stopped learning, it's such an exciting and ever changing industry to be involved in.

After a few years learning the ropes, I transferred to the Approvals team to work closely with customers and provide technical support to this team which focused on new consents and amendments. I successfully completed the first ever Building Controls Course in 2003, there were only 4 of us on the course and in those days it ran for two weeks. This was followed by the 2 week Plumbing and Drainage course and many other courses since. I find the training offered by BOINZ, and supported by our council has provided me with a great

deal of knowledge and helped me grow within our team and kept me informed of the ever changing issues that have affected our industry over the years.

In 2005 the BOINZ Conference was held in New Plymouth, this was to be the last regional conference to be organised by the BOINZ Branch network. We had help from many people prior to and during the conference, and full support of our employer, but the main organising, sponsorship, speakers, registrations etc was done by Peter Watt, Rachele McBeth and myself. It was a huge undertaking but it all came together resulting in a very successful conference and was a very rewarding and empowering event to be so closely involved with.

Around this time, I was nominated and accepted the position of BOINZ Central Branch Secretary, a position I enjoyed and carried out for 3 years with the support of the then Chair, Murray Kidd. I took a break from the position for 3 years and then returned again in 2012 and continue in this role today. I find the meetings, speakers and networking provides me the opportunity to learn and keep up to date with the latest issues affecting our industry. By sharing and discussing information between members we all work together for better outcomes for our members, customers and industry partners. I was very surprised and privileged to be awarded the Resene Construction Systems Emerging Leader Award at the 2013 Conference for the work I had carried out for Central Branch over the years, and with the support of the Central Branch Chair – Craig White, we have worked towards improving the quality of information, speakers and hot topics that are presented to our members at our quarterly meetings.

I work with a great team at NPDC, everyone is always very supportive of each other and our manager ensures we all have access to any training we may require, many arranged and hosted by BOINZ. The support and encouragement I have received from BOINZ and fellow members during my Building Official Career has been just amazing, and I find that anything I put in, I get back tenfold. I would not hesitate to encourage anyone into this career path, I'm sure they would find the opportunities I have been presented with are very rewarding and definitely achievable.

WELLINGTON BRANCH – BRENDA ROBERTS – (BRANCH CHAIR):

I have been in building compliance for the last 10 years at Porirua City Council, currently holding the position of Senior Building Compliance Officer - Processing. Previous to joining council my experience in the building industry was as a designer/draftsperson after cutting my teeth in civil Engineering. This was long ago (1980's) when the building industry was booming. When the 1987 crash reached Wellington (1990) I relocated to marginally greener pastures in Britain, where I had some interesting occupations. However, I continued my career as a designer/draftsperson for a developer working on residential projects in and around London. My return to NZ was well-timed in 2004, I applied for the role as building compliance officer with the intention of learning everything I need to know about the NZ Building Act and 'the Code' to make use of the knowledge gained for a real job. Needless to say I am still learning!! I have however learnt no two days are ever the same and every building is different regardless of the similarities. Porirua City Council being a smaller

Territorial Authority has allowed me the opportunity to include BWOFF, swimming pool audits and related administration duties. I have also completed the Coordinated Incident Management System, Emergency Management through PCC and completed regional training/exercise scenarios.

Working for a Building Compliance Authority within a TA has its special challenges and rewards - the variety of people, working environments and roles. I would highly recommend the profession and look forward to continual learning! I have just been elected to the Wellington Branch Chairperson's role, along with an enthusiastic team on the executive and am looking forward to challenging our members with interesting agenda items for the meetings a head of us.

CANTERBURY/WESTLAND BRANCH – BRENDA MCINDOE (BRANCH SECRETARY):

On entering the workforce 37 years ago, mad keen on sport and the outdoors, this made me look at working outside the usual fields of employment for women.

My first position was land survey draughting then structural engineering draughting, where attention to detail was crucial.

While raising three children, I became involved in local organizations using my leadership skills to run meetings and arrange events.

I have been involved in designing and building two homes with my husband and during the build of the second house worked 40 hours per week in two part time jobs and grew and marketed asparagus. My organisational and time management skills were the only way I succeeded in coping with this for 14 years.

In 2004 I began work at Prime Building Compliance, as part of the administration team. Two years later I

transitioned into the consenting team and now work for Waimakariri District Council, where I work closely with the Building Unit Contract Consent Officers.

Having experienced the building consent and building process first hand, I have empathy with the clients I deal with.

I completed my Weltec Diploma of Building Surveying in 2012 and have been involved with training new staff in the Consenting Team. A BOINZ member since 2007 and Secretary of the Canterbury/Westland Branch for 3 years, I am constantly challenging myself professionally and personally.

I have travelled overseas and recently completed my greatest achievement of hiking to Everest Base Camp. Being a team player encouraged me to be part of a team competing in an All Girl Adventure Race event. I loved the rafting, mountain biking and hiking, so have competed in this four times. Keeping fit and healthy is key to me being on top of my game at both work and at home.

SOUTHERN BRANCH – CHRISTINE SCANNELL – (BRANCH SECRETARY):

Up until joining Mackenzie District Council as a BCO 2 years ago, I was blissfully unaware what a steep learning curve it would be. Even with having been in a building related trade for more years than I care to remember, it has still been a real challenge, but something I am really enjoying (now that the work load is looking a little more reasonable).

Over the years I have held various positions; Estimating (for both aluminium joinery, and full house packages) and sales (for aluminium, and house for McRaeway Homes); but mostly in architectural design (running my own business for many years).

Being born and bred close to this area and having raised 3 girls (and a few lambs and fawns) I suspect I am here to stay, other than some travel when time and finances allow, hopefully to South Africa again soon I hope! We have a bit of land and run Highland and Red Poll cattle, some Dorper and Poll Dorset sheep (my husband's interests), but my real passion are my horses (an Arab and an Arab/Warmblood Cross at this stage).

**AUCKLAND BRANCH – TINEKE DE VILLERS – (BRANCH SECRETARY):**

Building Officials Institute of New Zealand's 2014 Excellence Awards Winners

CARTER HOLT HARVEY

Innovator Of The Year Award

This award recognises a building surveying professional, or a team engaged in building surveying activities, who has demonstrated commitment to innovation in building surveying.

Award Presented by Cameron Scott, Carter Holt Harvey

"This award, is a new category for 2014, and recognises innovative thinking in building surveying.

The inaugural award winners, have been prominent as a group, presenting at our annual conference since 2012, on subjects that are passionate to them, but likely to be common place to building owners in years

to come.

They have developed a small but emerging networking of like individuals, who specialise in providing public support and sound advice to the public on sustainable buildings. With a focus on healthy building and improvements in regard to the living space this small group of individuals is gaining a reputation for elevating house performance.

Individually they are based in councils around the country and supported by enlightened managers in the BCA space".

**Innovator of the Year Award Winner:
Eco Design Advisor Network**



Winner: Eco Design Advisor Network

Left: Helen Oram, Ian Mayes, Phil Saunders

STANDARDS NEW ZEALAND

Contribution to Technical and Legislative Improvements Award

This award goes to the individual who has excelled in contributing to advancing the technical and/or legislative understand of members.

Award Presenter: Michelle Wessing, Chief Executive Standards NZ

"Over many years in the building and construction sector, this person has gained a body of knowledge that has allowed access to varying disciplines within which we work.

He has sat on the judging panel of architectural design competitions, has a building background within the military and worked in both central and local

government senior positions. He was also involved in the development of the BCA Competency Assessment system.

To many of you he would have been a visitor to your council offices. To those of you who supported operation suburb he was a constant "voice" during your early morning briefing session.

Importantly though he has been involved with the MBIE Performance and Capability group dedicated to understanding development compliance of building legislation.

He recently moved to Christchurch as part of the Crown Management Team to support Christchurch City Council and was recently appointed General Manager of Building Control and Rebuild at Christchurch City Council. I understand his new title is Director Building Control and

Rebuild – just shows you how fast things are moving in Christchurch!!"

Standards New Zealand Contribution to

Technical and Legislative Improvements Award Winner:

Peter Sparrow – Christchurch City Council



Winner: Peter Sparrow – Christchurch City Council

RESENE CONSTRUCTION SYSTEMS

Emerging Leader Award

This award is given to an individual who has shown exceptional leadership skills at a local and / or national level and whose actions have grown the value of BOINZ among members.

Award Presenter: Mike Olds General Manager of Resene Construction Systems

"This individual has quietly but surely taken the reins of one of our branches. With an ever practical and passionate

approach, focused on providing our members with a legacy of learning and understanding at a local level, the branch has progressed under this considered guidance.

Fittingly this person doesn't take credit, rather, acknowledges the people around him, particularly their Branch Secretary.

A person with a passion for the land, after work phone calls can be often taken in the paddock as he attends to his stock.

"Resene Construction Systems Emerging Leader Award Winner" -

Stu Ferris – Whanganui District Council



Winner: Stu Ferris – Whanganui District Council

Left: Phil Saunders, Mike Olds, Stu Ferris

PACIFIC STEEL GROUP

The Young* Building Control Professional of the Year

Young defined as under the age of 35 as at 31st December 2012. This Award goes to an individual that reflects strong professional growth and has dedicated their time to enhancing the Building Control profession.*

Award Presenter – Andrew Hibbert, Pacific Steel Group

“This individual has made a lasting impact on one of the country’s smaller councils. This person has only been a BCO for a relatively short time, but this person’s commitment and contribution to their BCA has seen them step up to be the Building Control Manager for a BCA which requires a large amount of restructuring, Compliance monitoring and policy writing work.

This individual has successfully taken their BCA through IANZ auditing at a time when considerable doubts were held relating to the continuation of the BCA.

This council is only small but makes up for its geographical size with the influx of Building Consents it processes; last year that number was 320.

In his personal time, this person gives back to his community where he can.

He also enjoys time with his young family and blasting the cob webs with a bit of dirt biking.

Ladies and gentleman, it is with great pleasure I welcome to the stage to accept the

Pacific Steel Group

“The Young* Building Control Professional Of The Year Award” - Steve McLellan - Mackenzie District Council



Winner: Steve McLellan - Mackenzie District Council

Left: Phil Saunders, Steve McLellan, Andrew Hibbert

KOP-COAT NEW ZEALAND

Contribution to BOINZ Award

This award is given to the individual or organisation that has made a significant impact to the advancement of BOINZ in the market place.

Award Presenter Cameron Scott, KopCoat NZ

“This individual calls himself a passionate Kiwi, however his accent may give his heritage away.

Starting off in building and construction in the UK, he is passionate about the smooth running of building projects, regularly seeking to dive into the problem solving area.

He supports his passion having completed a Bachelor Science in Construction and

graduated with a Bachelor of Engineering.

For the last two years he had had an involvement with the Institute on two levels. He has been Technical Chair for the Institute’s Events programme, and been at the helm of the local centre as Wellington Branch Chairman”.

“Kop-Coat Nz Contribution To Boinz Award Winner” -

Rob Tierney – Holmes Farsight



Winner: Rob Tierney – Holmes Farsight

Left: Phil Saunders, Robert Tierney, Dionne Yates

BRANZ

Outstanding Commitment to Information, Skills Development and Education of Building Officials

This Award is given to the individual or organisation who demonstrated outstanding commitment to providing information, developing skills and advancing the education of Building Officials within the Industry.

Award Presenter – Chelydra Percy, BRANZ Chief Executive

“A member for 25 years, this person is a tireless advocator of BOINZ and the promotion of professionalism amongst all her colleagues. This individual’s commitment to improvement within the BCA sector and ensuring building legislation was understood and embedded in the psyche of building surveyors has gained her a awesome reputation.

As an Auckland Branch past President this person played a significant part in helping

organise funds through their branch to assist in the establishment of the BOINZ National Office.

As a leader in her organisation she is passionate about staff training to the highest standards.

She’s shown not only a commitment to skills and education but also to supporting the Institute’s Diploma Course development. She is a representative on the TRoQ Governance Committee where her years of experience and insight are highly regarded.

Her approach is as a true professional in her own right, and she has never sought recognition for the enormity of the work that she does. She works tirelessly to achieve the right outcome for all involved. As dedicated to her work as she was 20 years ago, she and her partner found the time to move a beautiful 1900’s old villa to her current home in south Auckland. Over the next 20 years she and her partner have lovingly restored this grand home to what it is today. Now that is what I could call a labour of love.

“Branz Outstanding Commitment To Information, Skills Development And Education Of Building Officials Award” -

Rose McLaughlan –Auckland Council



Winner: Rose McLaughlan – Auckland Council

Left: Phil Saunders, Rose McLaughlan, Chelydra Percy

MITEK NZ

Training Commitment Award

This award goes to the individual or organisation that has committed to significantly improving the position of training in their field.

Award Presenter, Daniel Scheibmair, Mitek NZ

"Unusually this year, the award goes to a collective, as opposed to an individual.

This region has been and is committed to ensuring that their staff are equipped with the skills they need to do a professional job. These BCA's are passionate and determined and have worked together to source the appropriate training courses thus ensuring they progress towards completing their National Diploma in Building Control Surveying.

This Region meets on a regular basis to discuss training for their BCO's which shows a proactive stance when looking at the development of their team.

The determination for some courses to proceed is quite remarkable even in the winter storm in 2013 with the threat of being snowed in, some of BCO's drove quite some distance to get to the training.

These BCA's are always seen to be encouraging their staff to ensure they develop and progress professionally and

are committed to having teams that have a variety of knowledge and expertise.

They also support the scheduled training calendar and supplement this by asking BOINZ to deliver these courses out in their region to ensuring the ability to get a larger number of their staff to attend.

Their support of BOINZ in terms of Cluster Training is to be commended.

"Mitek Training Commitment Award" - The "Southern Building Controls Group"



Group Photo of Southern Building Controls Group that attended the Conference Gala Dinner.



Winner: Southern Building Controls Group
Left: Phil Saunders, Neil McLeod (accepting award on behalf of Southern Building Controls Group), Daniel Scheibmair

WINSTONE WALLBOARDS

Branch of the Year Award

The Branch Award is considered by the Institute's Board each year based on participation, innovation and member value at a local level

Award Presented by Dayle Merson, Winstone Wallboards

"This branch has over many years brought innovation to the thinking around their branch meetings.

The aim has been to add considerable value to their membership, ensuring that each member can return to their work environment stimulate with the knowledge they have gained and can apply.

The format is unique in that the Branch meetings are a day in duration, with training being the foremost delivery occupation. Four of these meetings are held annually; ensuring not only the educational aspect as priority but also the value networking brings to the occasion – sharing ideas, opinions and experiences.

This is one of the Institute's largest branches representing over 12% of the

membership.

Please welcome to the stage representatives of the Waikato/Bay of Plenty Branch and their Chairman Ian Mayes to accept the Branch of the year Award".

"Winstone Wallboards Branch Of The Year Award" - Waikato/Bay Of Plenty Branch



Ensuring compliant imported steelwork: the building official's role

The globalisation of the structural steel supply chain has sparked concern over the quality of fabricated steelwork in New Zealand building projects when sourced from low-cost economies. Demonstrating compliance of imported material with the requirements of the New Zealand structural steel and welding standards can be very challenging: there are cultural, geographical and language barriers, and often a lack of independent quality assurance associated with offshore fabricator workshops.

A proactive approach by building officials, however, can help to avoid unpleasant surprises and costly delays for parties lodging code compliance applications, and reduce the risk of non-complying steelwork.

Structural steel procurement in New Zealand Traditionally, steelwork in New Zealand has been procured through a local supply chain of over 80 fabrication companies across New Zealand. The local steel construction sector is principally a value-adding industry, converting imported structural steel long and plate product into office buildings, warehouses, shopping centres, stadia and bridges. Local steel making at the New Zealand Steel mill is limited to plate, coil and small-diameter hollow sections; imported steels, manufactured to AS/NZS material standards, are for the most part of Australian, Taiwanese and Thai origin.

Our local fabrication sector is familiar with the technical and quality assurance requirements of the New Zealand Steel Structures and Welding Standards, including New Zealand-specific seismic requirements.

A relatively recent change in procurement practice has seen fabricated steelwork imported from low-cost economies, principally for low-rise industrial buildings. Typically steel grades not recognised in the steel structures standard are used, making it difficult to demonstrate the material and welding are compliant with the New Zealand's rigorous fabrication standards. This has led to delays in obtaining building consents and Code Compliance certificates and, no doubt, aggravation for building officials who are charged with processing these applications.

Getting it right at consent time Sourcing fabricated product from low-cost economies requires a reasonable degree of

technical and quality assurance expertise to ensure the steelwork is code compliant. This requires setting up appropriate quality assurance systems and having trusted independent QA personnel involved in all stages of the procurement process, including material testing to demonstrate product conformance, tracking material and components to ensure traceability, and observing all the critical fabrication processes such as welding. The expertise to set up and implement these QA systems does not typically reside with organisations procuring offshore, such as builders or the project structural engineer.

Building officials have an important role to play to aid the procurement process. By establishing clear expectations of the quality assurance requirements for imported steelwork, building officials can help building consent applicants avoid the expensive pitfalls and reduce the likelihood of non-complying fabricated steel.

There has already been an example of a local project where destructive material and weld testing was required of the as-built structural steelwork to establish code compliance.

An additional consideration at the building consent stage, unique to imported fabricated steelwork, is the use of alternative steels not recognised in the steel structures standard. NZS 3404 provides clear guidance on the use of alternative materials. They must either be treated as unidentified steel and have their design strength down rated or, on the basis of expert assessment, the steel is assessed as being equivalent to a grade of steel identified in NZS 3404. The project structural engineer is unlikely to possess the necessary welding engineering and metallurgical expertise to make this assessment.

If the building consent authority is unsure if the proposed QA procedures will be adequate, independent industry expertise is available to assist – SCNZ and HERA have the expertise to help building consent authorities review QA submissions prepared by parties importing fabricated product.

A better long-term approach may be for industry, in conjunction with regulators (MBIE) and IPENZ, to develop compliance guidelines for imported structural steelwork.

NEW ZEALAND STRUCTURAL STEEL STANDARDS

The New Zealand performance-based building regulations for steel construction are centred on NZS 3404: Steel Structures Standard. For complete guidance, NZS 3404 refers to a series of material, welding (AS/NZS 1554.1) and related standards, and key design documents. In respect to materials and their fabrication, the current key document is NZS 3404: Part 1:2009. (There are New Zealand-specific seismic requirements that, in the interests of brevity, will not be addressed in this article.)

The key compliance requirements from the steel structures and welding standards that are relevant to imported fabricated steelwork are as follows:

1. Use of alternative steels (steels not recognised in NZS 3404.1)
2. Product conformance assessment (testing and acceptance of structural steels and bolts)
3. Traceability of product and components (through all stages of the structural steel supply chain)
4. Weld quality management (qualified weld procedures, qualified welders and welding supervisors, independent weld inspectors etc)

About Steel Construction New Zealand Steel Construction New Zealand Inc. (SCNZ) aims to advance the interests of New Zealand's diverse steel construction industry by promoting the benefits of steel solutions in building and infrastructure projects. Members include manufacturers of structural steel and steel products, distributors, fabricators, designers, detailers, galvanisers, and paint and building supply companies. SCNZ provides its members with technical advice on the latest in steel design trends and standards, networking opportunities and a representative voice with key industry and government decision-makers. For more information, including imported steelwork case studies,

please visit www.scnz.org





Award-winning Solution for Building Inspectors

A Marlborough District Council technology solution has been judged the best digital and web project of the year inside local government.

The award was made by the Association of Local Government Information Management (ALGIM), which represents all the country's metropolitan, district and regional councils.

Council chief executive Andrew Besley said the award recognises that the Marlborough District Council is right at the front of the local government field in the way it is using technology to benefit the region.

The award comes in the wake of the council's long-term decision to digitise all property files.

"That was a big job but it has set us up for the council to create the kind of efficiencies that are delivered by this project, saving time and money for council and customers alike," said Mr Besley.

The judges agreed, stating that the mobile building inspection project "really emphasised the value that is added from these innovations as a whole and as part of the digital journey".

The mobile building inspection solution took the 2014 ALGIM Web and Digital Project of the Year Award. The solution utilises a shared services platform used by several other New Zealand councils, and allows building inspectors to complete digital building consent inspections. It saves time, is easy to use, and automates the process of updating council systems with inspection information, providing a major improvement in efficiency.

Because all files are digitised, all required information from the relevant building consent is downloaded to an inspector's device so there is no need to take physical files out in the field. Other benefits for the building team include inspectors not having to spend office time writing up field notes after inspections, and automated updates to council systems. This includes the automated generation and filing of a PDF of inspection data and photographs, which is then immediately available to customers via the council's website. Another popular customer benefit is text reminders – these can be set as part of an inspection booking.

The mobile building inspection app is easy to use, with minimal training required. Just weeks into the new system it is evident that

the time saved by doing inspections this way has decreased the turnaround time for customers between inspection booking and completion.

While the process is still relatively new, Building Control Group Leader Bill East estimates that administration time for officers completing inspections has been reduced by approximately 70-75%.

This has had an impact on the busy building team – "I've had comments from our customers that my officers appear to be more relaxed and not so rushed!"



From left: (front) Michelle Johnston, Bill East, Jeff Atkinson (standing) (rear) Mandy Evans, Brendon Robertson

Thames Coromandel District Council open forum for discussion.

Thames Coromandel District Council Building Manager John Kardas gives an overview of the first of a series of builders' stakeholders meetings held aimed at opening a forum for discussion amongst the community.

"Thames Coromandel District Council has been holding stakeholder meetings every quarter for several years and this time we opted for a newer format; a more open forum with a wider target audience including homeowners and sectors on the fringe of the building industry, such as the Legal, Insurance and Real Estate sectors.

The meeting was very successful with around 40% new attendees, offering a chance for people to have an informal chat with our building team and a chance for us to share the latest changes to the building legislation that may affect those involved.

The meeting covered topics around how the new exempt work schedule had diminished the role of small jobbing carpenters, and the effect it could have on the licensing scheme, as parts of the Restricted Building Work Order had been undermined by the latest schedule.

Also covered was the likely impact on future property prices of existing homes, due to diminished control over and quality of building work undertaken, and the limited understand of code compliance by those doing the work. The net effect on vendors and insurance cover is yet to be seen.

Robust discussion was had on the new complaints

system under Regulations introduced March 1st 2014 could have a "traffic cop" effect on a BCA with downstream possibility of eroding relationships between Council and industry employees. Comments were also made that the industry also viewed this as indication of a strengthening of the LBP scheme. The length of time the Building Practitioners Board took to process and resolve matters was also discussed, and a speedier resolution was called for.

General comments were also made noting there were now wider concerns and interest from solicitors resulting in a higher level of research required when property purchases were made. Insurance companies are also being more cautious and thorough around natural hazards, associated with buildings and properties.

This forum proved so successful we will be using it in our other meetings in the area throughout the year."



L-R in the photo: Steve Higgins, Melanie Brownlee and Hammond Wickliffe - the TCDC team behind the stakeholder meeting.



The Commission has created a 'one-stop shop' website where you can get a quick summary of the key elements of competition and consumer law that you need to know about for your business – including what are your biggest risks, and helpful tips to manage those risks.

The site will also give you an idea of the kind of behaviors to keep an eye out for in your day-to-day dealings with your competitors and suppliers.

Visit www.construction.comcom.govt.nz today

A Survey on the Fire Safety Building Regulations in New Zealand and Sweden

In 2012 the fire safety building regulations in both New Zealand and Sweden were significantly revised. The revisions included changes to the mandatory provisions, such as Clause C of the New Zealand Building Code, as well as the guidance for prescriptive design known as Acceptable Solution in New Zealand. In addition to these changes a new guidance document was introduced in respective country for specific fire safety

design. These documents were the first of its kind in both New Zealand and Sweden. Before 2012 there had been no complete official guidance documents for a more performance based fire safety design method. The Verification Method C/VM2, created and issued by the Ministry for Business, Innovation and Employment, was presented as a framework for what can be described as performance based fire safety design. The Swedish Boverket (Swedish National Board of Housing, Building and Planning) introduced the document BBRAD in order to provide general recommendations on performance based fire safety design.

A number of studies and reviews done before 2012 had found that the fire safety building regulations in both New Zealand and Sweden were lacking in clarity and quantifiability. Performance based designs were therefore difficult and complicated to verify against the building codes which resulted in uncertainty in regards to compliance, and inconsistent designs. The revisions intended

to address these problems while maintaining an acceptable level of safety and promoting innovative designs. The New Zealand revision had the additional objective of lowering building costs related to the fire safety design process, and this was to be achieved through a less complicated and less time consuming Building Consent process.

A Bachelor's Thesis was published in May 2014 that set out to analyse and evaluate the 2012 fire safety building regulations in Sweden and New Zealand in a qualitative manner and from a user perspective. In order to achieve this two surveys were created, one was sent out in New Zealand and one in Sweden. The survey method had successfully been used for similar purposes before 2012 and the results were part of the conclusion that changes to the fire safety building regulations were needed, and therefore it was believed that another survey would be beneficial. The goal of the survey, and the Bachelor's Thesis, was to show if the revised regulations had achieved the major purposes and objectives that had been set out during the revisions. Online surveys were distributed to users of the regulations in November 2013, such as to fire engineers, Building Consent Authorities and the Fire Service. A total of 89 people participated in the New Zealand survey, and 155 people in the Swedish survey. A large majority of the participants were fire engineering consultants of some kind.

The results from the Swedish survey indicated

that the 2012 revision was to a large degree a success as it achieved many of its primary objectives. The general opinion was that the development set out was a step forward for fire safety within buildings in Sweden. The results from the New Zealand survey were however not as clear and the revision could not be described as a success. The survey results indicated that a majority of the main objectives set out before the 2012 revision had not been fully achieved. The general feedback indicated that the changes made and the introduction of the C/VM2 was not a step in the right direction for fire safety design in New Zealand. It is important to note that the results did not indicate that the level of safety had in any way declined or was seen as not acceptable as a result of the 2012 revisions in either New Zealand or Sweden. No conclusion was made on how the fire safety building regulations in New Zealand could be improved, however it was noted that it could be of value to take note and inspiration from the Swedish model of approach to creating performance based fire safety building regulations.

Author: Christofer Wickmark, Fire Engineer at Holmes Fire.

References: Wickmark, C. (2014). A User Evaluation of the 2012 Fire Safety Building Regulations in Sweden and New Zealand. Lund: Lund University.

Commerce Commission's new construction website

Some of you may already be aware of the educative work the Commission has been doing with the construction sector since 2010. The Commission's new website <http://construction.comcom.govt.nz> is the product of their interactions with the sector over the last few years.

They set out to develop a user-friendly, down-to-earth guide specifically tailored to the needs of the construction sector to help you better understand and comply with New Zealand's consumer and competition law. They've made the language used on the site really user-friendly, and practical – a 'one-stop shop' for busy people to find out more about these laws. And they've put in lots of construction examples to help make the concepts easier to understand.

Why is the Commission focussing on the construction sector in the first place? The wider construction sector is seen as very important for a number of reasons. The National Construction Pipeline report, released in December 2013, predicts that New Zealand is on the brink of its biggest construction boom in 40 years. That boom is predicted to peak in 2016 with an

estimated \$32 billion investment for that year alone. Activity includes:

- An expected national peak in residential construction
- Extremely high levels of construction activity in Auckland, Waikato and Tauranga
- The Christchurch rebuild. Rebuilding New Zealand's second largest city is a Government priority, and is expected to cost \$40 billion, making it the largest and most complex single economic project in our history.

"The forecast construction boom will result in unmet demand, which may affect competition, pricing, and/or quality in the construction sector", according to Kate Morrison, Competition General Manager. "Overseas experience indicates that the construction sector is particularly susceptible to cartel or price fixing conduct - mainly due to certain structural characteristics of many construction markets. And internationally it is widely acknowledged that fraud, corruption, and anti-competitive practices, like price fixing, bid rigging, and market sharing, occur after natural disasters."

"Practices like these harm us all – business owner and home owner alike. Prices are kept artificially high, businesses aren't encouraged to be efficient, and customers may have limited choice and receive poor quality services or low quality materials. As all businesses and their staff are consumers at the end of the day too, we all lose out," states Ms Morrison.

Under competition law, agreements that reduce competition in the marketplace are illegal. This includes any agreements between competing businesses that interfere with the pricing of goods or services, or agreements that determine which business wins a particular bid or contract.

"It's also important to remember that under consumer law, the claims you make about your goods or services must not be misleading. And you must disclose all important information to your customers. Getting these things right means consumers can make informed choices about the goods and services that they buy from your business. It also helps ensure everyone competes on a level playing field."

Clever ways to increase housing supply

Author: Nick Collins, Beacon Pathway

Beacon has been busy recently making a submission to the Auckland Unitary Plan. It's a huge document – there's lots to say about it – but the one aspect we commented on is increasing housing supply.

This goes to the crux of housing affordability in Auckland. The Auckland Plan identifies the current shortfall in houses to be in the order of 20,000 to 30,000. With Auckland's population growing, around 400,000 additional dwellings will be required by 2040, with at least 13,000 additional houses built each year. That's a big ask!

There's a lot of resistance to increasing the density of our city. Perhaps that's because our current experience of denser housing is not a great one. Shoddy building, noisy environments, little storage and personal space, ugly out-of-character developments – all things we associate with higher density.

However, Beacon's 2013 study tour to Canada and the US looked at how three North American cities have increased density by developing additional housing in existing properties in a way that is invisible and does not compromise the character and amenity value of neighbourhoods.

We saw some great examples in Portland, Seattle and Victoria BC of providing additional homes in existing neighbourhoods. Portland, for example, calculates there is about a 20 year land supply within the urban growth boundary, by counting infill development as much as greenfields. A third of all residential development is what they call refill – a mix of infill and redevelopment.

Converting a house into several dwellings can provide affordable options, new rental opportunities and cater for the changing needs of households. In Canada these are called secondary suites, and zoning specifically caters for areas where this is allowed, for example, in the City of Langford, Canada (www.cityoflangford.ca/EN/meta/departments/building-department/secondary-suites.html). Secondary suites are incentivised with a \$5k grant per unit. Conversions must stay within the existing footprint but the house can be raised by up to 600mm to include a basement unit (many of the older houses had basements but with insufficient head height). Under the residential conversion programme, you don't need a permit if you divide your house into a number of flats. However, more than 3 units on a site requires a design review.

Even new houses are encouraged to include secondary suites: Victoria calculates 90% of new houses have secondary suites, or capability thereof. This policy in Victoria has

delivered 20,000 suites, contributing to more affordable housing options for residents.

In Portland, Oregon, a small second unit, separate from the main house, can be built on larger sites (over 600m²). These are called accessory dwelling units (also known as laneway houses) where the second unit is in addition to, and smaller than, the main dwelling. Accessory dwelling units can be created in a variety of ways, including converting part of an existing house, adding to an existing house, converting or replacing an existing garage, or constructing an entirely new building. (www.portlandoregon.gov/bds/36676).

Subdividing larger sites enables additional houses, each with smaller footprints and often with shared outdoor spaces. In the inner suburbs of Victoria, larger sites have been rezoned for 2 smaller dwellings. Most noticeably, these are built in a style which is in keeping with the existing neighbourhood.

One striking aspect of inner city redevelopments in Victoria BC, was the inclusion of residential apartments alongside retail and amenities. This is of particular interest for Christchurch as the two cities are of similar age and seismic risk. Victoria has used heritage tax incentives to encourage the seismic strengthening of many downtown buildings on the condition that they are redeveloped for residential purposes at the same time. A 100% waiver of property tax for 10 years is offered for seismic upgrading to earthquake code which includes converting upper floors to residential use. For a \$1m property that represents \$25k per annum.

Using often vacant upper floors or adding floors are both ways inner city housing can be added to existing buildings. Victoria calculates 631 residential apartments have been added through this initiative.

Our experience of these North American cities suggests there are options there for Auckland Council – and indeed other city councils around New Zealand - to encourage less visible development of existing neighbourhoods. Not only will this help housing supply and therefore affordability, but also local businesses and services will benefit from higher concentrations of people, and the City's footprint need not extend.

INTERESTED IN LEARNING MORE?

Come along on Beacon's 2014 study tour to Vancouver, Victoria, Portland and Seattle 'Delivering Medium Density Well'. We'll be looking at successful examples of medium density housing and mixed use development.

Find out more at www.beaconpathway.co.nz/further-research/article/study_tour

ABOUT BEACON PATHWAY

Beacon Pathway is an Incorporated Society committed to transforming New Zealand's homes and neighbourhoods through research and demonstration projects that show how to make homes more resource efficient, healthier to live in, adaptable, resilient and affordable.

For further information about Beacon Pathway visit www.beaconpathway.co.nz.



This Victoria CBD building has had penthouse suites added unobtrusively, set back from the road.



This house, in Victoria, Canada, has been raised and converted into three homes, yet remains unchanged from a street perspective



A rear garage has been converted into a laneway house at the back of this home.



This site has been subdivided and replaced by two houses, both in keeping with other houses in the neighbourhood.

Leaky Vendor Warranties



Gareth Lewis considers recent case law on the interpretation of vendor warranties in relation to building work under the REINZ/ADLS agreement for sale and purchase.

A property owner arranges for a building to be constructed on his or her property. The owner then sells. The issue of who as between vendor and purchaser bears the risk of the building being defective is of fundamental importance to the parties.

The vendor warranties in the REINZ/ADLS agreement are drafted in such a way that purchasers of leaky homes have been able to argue that some or all of this risk lies with the vendor. However, the correct interpretation of these warranties has been a matter of significant debate and the outcome of the vendor warranty claims is difficult to predict. With so much at stake, the way in which the Courts interpret these warranties is worthy of examination.

REINZ/ADLS AGREEMENT

In New Zealand the principle of caveat emptor applies to contracts for the sale and purchase of land. This principle is subject to the terms of the agreement between the parties.

The seventh edition (2) July 1999 of the REINZ/ADLS agreement includes the following warranty:

“6.2 The vendor warrants and undertakes that at the giving and taking of possession:

(5) Where the vendor has done or caused or permitted to be done on the property any works for which a permit or building consent was required by law:

- The required permit or consent was obtained; and
- The works were completed in compliance with that permit or consent; and
- Where appropriate, a code compliance certificate was issued for those works; and
- All obligations imposed under the Building Act 1991 were fully complied with.

In the seventh edition (3) July 1999 clause 6.2(5)(d) was amended to read: “all obligations imposed under the Building Act 1991 and/or the building Act 2004 (together the “Building Act”) were fully discharged.” Otherwise, clause 6.2(5) remained the same. The eighth edition 2006 states at clause 6.2(5):

Gareth Lewis, Partner, Grimshaw & Co. Gareth has represented leaky home owners in trials before the High Court, District Court and Weathertight Homes Tribunal (“WHT”) and regularly attends mediations and judicial settlement conferences in these forums. Gareth also represents clients in adjudications under the Construction Contracts, building dispute arbitrations and body corporate disputes).

“(5) Where the vendor has done or caused or permitted to be done on the property any works:

- Any permit, resource consent, or building consent required by law was obtained; and
- The works were completed in compliance with those permits or consents; and
- Where appropriate, a code compliance certificate was issued for those works.

In the ninth edition 2012 clause 6.2(5)(b) was amended to read: “to the vendor’s knowledge, the works were completed in compliance with those permits or consents.” Otherwise the clause remained the same as the eighth edition.

WORK REQUIRING BUILDING CONSENT

An issue which can arise in vendor warranty claims is whether work requires a consent. In *Newton & Ors v Stewart & Ors* [2013] NZHC 970 the Court considered whether work fell within an exemption in schedule 3 of the Building Act for the lawful repair of a component or assembly that has not failed the durability requirements of the building code. Justice Williams decided:

- The work was a “repair” as it was an attempt to prevent water pooling on window moulds.
- In order to be “lawful” the repair had to meet the performance requirements of the building code, including clause E2 (external moisture), and the repair did meet code requirements.
- The moulds had not failed the durability requirements of the code (clause B2). They continued to serve their decorative purpose with or without the repair
- Accordingly, the work did not require building consent and the vendor warranties did not apply.

Interestingly, in *Ford v Ryan* (2007) 8 NZCPR 945 (HC) Justice Mackenzie decided that the warranty in clause 6.2(5)(d) (seventh edition) applied to building work which did not require building consent (a retaining wall) as it was part of a wider project for which a building consent was required.

COMPLIANCE WITH BUILDING CONSENT

The issue of whether building work complies with the consent has proved to be a difficult issue.

In *Aldridge & Ors v Boe & Ors* (HC AK CIV-2010-404-7805 [10 January 2012]) Justice Potter considered an appeal from the Weathertight

Homes Tribunal regarding an agreement which contained clauses 6.2(5)(a) and (b) from the seventh edition (but not (c) and (d)). There was also a clause which excluded liability “in respect of the condition of the property” including the “condition or structural soundness of the buildings”.

Justice Potter decided:

- it followed from the provisions of the Act that a warranty that building works were completed in compliance with a building consent includes a warranty that the works comply with the building code because the consent has been issued on this basis.
- the intention of the parties was not such that the clause should be read down. However, the work was covered by the exclusion clause so the vendor warranty did not apply.

Justice Woodhouse considered the meaning of clause 6.2(5)(b) in another appeal from the Weathertight Homes Tribunal, *Keven Investments Ltd v Montgomery & Ors* [2012] NZHC 1596. The agreement was the eighth edition of the REINZ/ADLS agreement (which does not include clause (d)). At issue was whether clause (b) required compliance with the building code, in addition to the building consent plans. Justice Woodhouse held:

- the house only had to be built in accordance with the consented plans. Although the consent stated the work was to be undertaken in accordance with the plans and specifications “so as to comply with the provisions of the building code”, this was merely an objective and not a directive.
- it is possible for a building to be constructed in accordance with the consented plans but not meet the building code so it would be unfair to require the vendor to comply with both.
- if the parties intended to warrant compliance with the building code or more broadly all obligations imposed under the Building Act, they would have inserted an express provision to that effect.

In *Brebner & Ors v Collie* [2013] NZHC 63 Justice Peters considered an appeal from the Weathertight Homes Tribunal relating to a vendor warranty in the eighth edition of the REINZ/ADLS agreement. She agreed with Justice Woodhouse that compliance with the building consent did not require compliance with the building code. The consent means the consent itself, the consent conditions and the plans and specifications. Justice Peters decided that clauses in the specification regarding the standard of work, including conformity with

good trade practice, did not form part of the consent as they were matters of concern to the contracting parties only.

Justice Asher addressed the issue of what forms part of the building consent in another appeal from the Weathertight Homes Tribunal, *Saffioti v Ward & Ors* [2013] NZHC 2831. The consent stated that “all endorsements on plans form part of the building consent and must be adhered to”. The plans included “Architectural Notes”, one of which required compliance with the building code. Justice Asher decided the architectural note was not part of the consent as it did “not have the flavour of a condition or endorsement, and was no more than a general observation as to the standard to be observed by the builder”. An “endorsement” in this context meant an endorsement imposed by Auckland City or where relevant the private certifier.

ALL OBLIGATIONS IMPOSED BY BUILDING ACT

The vendor warranty at clause 6.2(5)(d) of the seventh edition is drafted in very wide terms. The ADLS subcommittee which removed clause (d) in the eighth edition of the agreement stated: “The subcommittee considered, particularly in light of the litigation arising out of the “leaky home” crisis, that it is inappropriate for a vendor to give a blanket warranty that all obligations under the Building Act have been fully discharged, especially as the obligations...are not limited to those imposed on the vendor...”. The first High Court decision on a vendor warranty which included clause (d) was *Ford v Ryan*. The purchaser in that case was unaware that a code compliance certificate had not been issued but was aware of significant building defects. Justice Mackenzie held there was a breach of clause (c) only. In his discussion of whether the defective exterior cladding system constituted a breach of clause (d) he stated that where a consent is required for the building works clause (d) only concerns building code matters to the extent that it prevents the issue of a code compliance certificate.

Justice Ronald Young reached a different conclusion in *Hoofft v Woodley & Ors* [2012] NZHC 2685, another appeal from the Weathertight Homes Tribunal. He stated there was no reason to read down clause (d) so that it only related to the vendor’s obligations regarding building consents and code compliance certificates. The narrow approach would render clause (d) superfluous. Irrespective of whether there was compliance with clauses (a)-(c) the vendor warranted compliance with the Act, and therefore through section 7 of the Act, compliance with the building code.

Justice Ronald Young expressed concerns that vendors may be liable for a leaky home which shows defects the vendor has no knowledge of many years after construction. He stated there was an inherent restriction in clause (d) in that the vendor only warrants the work meets the building code as judged by the knowledge of construction work at the time. He decided the work in that case met that standard and there

was no breach of warranty.

In *Saffioti v Ward* Justice Asher also considered the issue of whether clause (d) includes a warranty by the vendor that the work complies with the building code. He decided:

- clause (d) only refers to the obligations specifically placed on owners under the Building Act.
- section 7 of the Act, which states all building work is required to comply with the code, sets out a general purpose and principle and does not place any obligation on the owner to ensure compliance with the building code. Clause (d) cannot not create such a duty. In addition, the code is a schedule to the Act and not part of the Act.
- If the parties intended a radical departure from the caveat emptor principle they would have inserted an express warranty requiring compliance with the code.

COMMENT

The argument that compliance with a consent requires compliance with the code has been losing ground in the High Court. The main difficulty with the argument is that consented plans and specifications may depict construction that does not comply with the building code. Under the 1991 and 2004 Building Acts the way in which the building is to achieve compliance with the building code is determined at the consent stage. Thereafter the focus is on compliance with the consent. Under both Acts the Council “inspection” means checking compliance with the consent. Under the 2004 Act Councils issue code compliance certificates based on compliance with the consent, not the code.

Accordingly, it will not be surprising if the final word on this topic is that a building consent does not automatically incorporate the requirements of the building code. The approach of the Courts by which they decide parts of the plans or specifications do not form part of the consent, either because they only appear relevant to the contract between the parties or because they do not have the “flavour” of a consent condition, is likely to be problematic. It requires that judges and adjudicators engage in an arbitrary exercise which is likely to create significant uncertainty. The consent is granted on the basis of the plans and specifications so the full content of both should be regarded as part of the consent. If the specification contains contractual provisions the Council does not wish to be included in the consent, it is free to require that these be removed before consent is issued. To the extent that the content of the consent may be internally inconsistent, the Court is able to interpret the consent as a whole as it often does in the case of contracts with inconsistent provisions. As for onerous requirements in the plans/specifications, the vendor has the ability to check for these and delete clause 6.2(5)(b) if necessary.

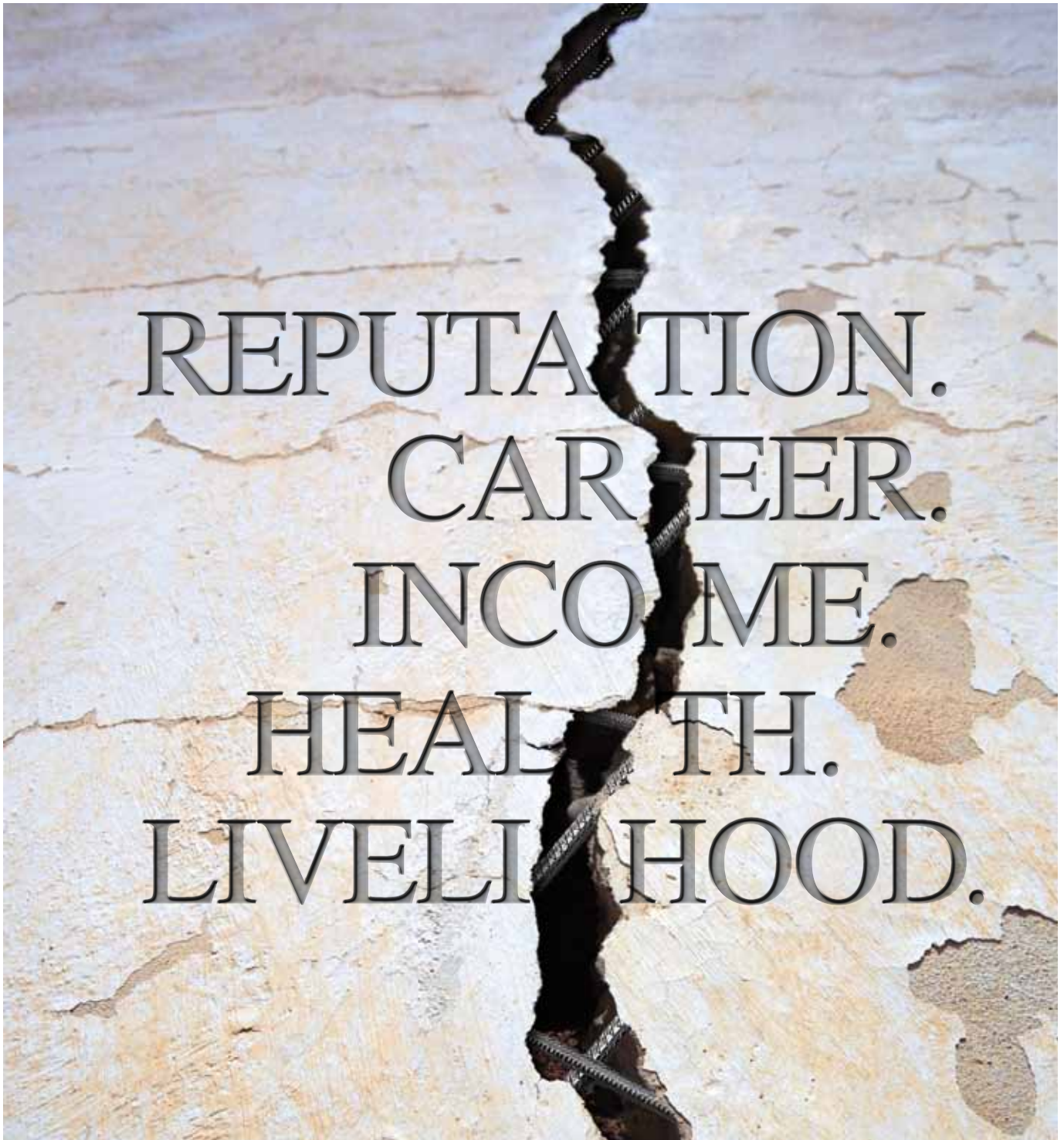
It remains to be seen which reading of clause 6.2(5)(d) in the seventh edition will prevail. If

Justice Ronald Young is correct that the clause requires compliance with the building code, it is submitted that the building work should be judged by the performance requirements of the building code not the “knowledge of construction work” at the time. Contrary to popular belief, the building code requirements relating to external moisture (E2) have not changed in any significant way since 1992. There are a number of discussion points arising from Justice Asher’s interpretation of clause (d) in *Saffioti*:

- In stating that clause (d) only applies to the “vendor’s” obligations the Court did not follow the ordinary meaning of the clause. There does not appear to be anything in clause 6.2(5) as a whole or the reported facts of the case to warrant the clause being read down in that way.
- It is true that section 7 of the Building Act 1991 is within the “purposes and principles” in the Act and does not place a specific obligation on any party. However, “all obligations” under the Act relating to the building work need to be taken into account. If the Council complies with its obligations in issuing consent and the code compliance certificate and the owner and builder comply with their obligations to build in accordance with the consent one would ordinarily expect the building to comply with the building code.
- The Court effectively said the obligations of the vendor in statute and the common law suggested an intention by the parties that was contrary to the wording of the clause. This appears to run counter to the freedom of the parties to reach their own agreement as to the allocation of risk between them.

If an appropriate case comes before the Court of Appeal many of these issues may be resolved. Claims which originate in the Weathertight Homes Tribunal cannot be appealed beyond the District or High Court, so it will require a High Court claim which is appealed to resolve these areas of contention. As time passes, further rulings on clause 6.2(5)(d) become less likely because of the removal of clause (d) in the eighth edition of the REINZ/ADLS form and the 6 year limitation period. The change to clause 6.2(5)(b) in the ninth edition will significantly restrict the ability of purchasers to claim. In the meantime, leaky building claims will continue to generate debate as to how the vendor warranties should be interpreted.

Author: Gareth Lewis, Partner, Grimshaw & Co. Originally printed in ‘BuildLaw Issue 20’.



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2014 Training Academy Public Schedule Calendar

JULY		
1,2	TA008 NZS 3604 Timber Framed Buildings - Second Session	Nelson
24-25	TA013 E2 Weathertightness	Wellington
21,22,23	TA002 Building Controls	Wellington
23,24	TA005 Plan Processing	Christchurch
28,29,30,31	TA008 NZS 3604 Timber Framed Buildings	Christchurch
29,30	TA006 Site Inspection	Auckland
31	TA004 Accreditation	Auckland
AUGUST		
4,5	TA009 NZS 4229 Concrete & Masonry Building	Auckland
5	TA010 Light Steel Framing	Auckland
11,12,13	TA020 Fire Documents	Auckland
28	TA015 Clause D1 Access Routes/ TA015 Clause F1 Safety of Users	Wellington
SEPTEMBER		
1	TA001 Communication/TA003 Ethics	Christchurch
2,3	TA013 E2 Weathertightness	Christchurch
4	TA004 Accreditation	Christchurch
8,9,10	TA002 Building Controls	Christchurch
8,9,10,11	TA008 NZS 3604 Timber Framed Buildings	Wellington
15,16,17,18,19	TA019 Plumbing Drainage & Compliance	Wellington
15-16	TA009 NZS 4229 Concrete & Masonry Building	Wellington
OCTOBER		
13,14	TA005 Plan Processing	Wellington
15,16,17	TA020 Fire Documents	Wellington
16-17	TA006 Site Inspection	Christchurch
29	TA010 Light Steel Framing	Christchurch
NOVEMBER		
3	TA001 Communication/TA003 Ethics	Wellington
3,4	TA009 NZS 4229 Concrete & Masonry Building	Christchurch
10,11,12	TA002 Building Controls	Auckland
10,11,12,13	TA008 NZS 3604 Timber Framed Buildings	Auckland
13	TA015 Clause D1 Access Routes/ TA015 Clause F1 Safety of Users	Auckland
DECEMBER		
1,2	TA013 E2 Weathertightness	Auckland
3,4	TA005 Plan Processing	Auckland
5	TA010 Light Steel Framing	Wellington
8,9,10	TA020 Fire Documents	Christchurch

The Training Academy also provides an Inhouse training option for many of our courses. This has been utilised by individual councils and cluster groups of councils. Should you wish to customise a course please don't hesitate to discuss options to allow us to assist you meeting your objectives.

Please be aware that for various reasons we may have to change our dates so just keep checking the BOINZ website for the most up to date information. For more information, course details and to register please visit our training calendar

<http://www.boinz.org.nz/training-academy/calendar.php> or email training@boinz.org.nz

NEW IN AUGUST 2014 H1 ENERGY EFFICIENCY COURSE

The Institute is pleased to bring to members and clients this new three day course, which will provide an understanding of the mechanics of heat transfer and how to provide insulation of various types to ensure a building provides a safe and warm environment that is energy efficient and meets the requirements of the New Zealand Building Code (NZBC). It will also detail information necessary for efficient use of energy for heating, efficient storage of hot water and efficient use of energy for artificial lighting.

A student will be able to apply this knowledge in assessing designs for compliance and also be able to ensure that an energy efficient design is faithfully implemented on site to ensure compliance of the completed construction.

This course is designed to give participants the technical knowledge they need to assess consent applications and ensure that the building as constructed complies with the consent documentation.

Member Rate will be \$1300.00 plus GST

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The first course is likely to be scheduled from August 2014 so if you are interested in attending or have any queries you can email **Victoria at training@boinz.org.nz** or phone on **04 473 6003**

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