straight up

THE MAGAZINE OF THE BUILDING OFFICIALS' INSTITUTE OF NEW ZEALAND

DECEMBER 2014

We celebrate this year's APL Graduates from across New Zealand - Page 10

Building Officials Institute of NZ

48TH ANNUAL CONFERENCE &EXPO

19 -22 APRIL 2015

AUCKLAND

SKYCITY CONVENTION CENTRE

Building Officials Institute of NZ

ISSN 1175-9739 (Print)

ISSN 2230-2654 (Online)

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IN THIS ISSUE

From the President

Greetings everyone, as another year draws to a close.

As usual, in the world of Building Surveying and Building Control, it has been full on for everyone, with the usual Christmas rush well underway. There also appears to be no let up moving forward into 2015 and beyond, with the new Building and Housing Minister, the Hon Dr Nick Smith, predicting unprecedented growth in the Housing area over the next three years. A building boom, in other words.

And speaking of the Minister, I reflect on the recent general election. The National Party was re-elected for a further 3 year term, with Minister Smith retaining his Housing portfolio and adding the Building and Construction portfolio he held in an acting capacity leading to the election.

Theoretically, a returning Government should help in keeping some stability in the housing and construction industry. There are a considerable number of projects under way, not in the least, the wide ranging Canterbury Rebuild, and Auckland Housing initiatives. Not having a change of Government will bring certainty to these and other building initiatives. That being said, this sector must be very careful not to repeat the horrors associated with past commercial and political decisions that has, continues, and will continue, to cost New Zealand home owners.

The leaky home debacle will be intergenerational, and will likely cost more than the Canterbury earthquakes over time. It is therefore important the Building Surveying and Building Control sectors represented by BOINZ are at the table when crucial decisions are made. We do, and can see, the real issues, without the gloss of agenda driven lobbyists.

About 6 weeks prior to the general elections, Nick Hill and I met with Minister Smith not long after his acting appointment to the Building and Construction portfolio. This gave us an insight into his early thoughts on the building and construction environment.

Our message was simple. It was around how BOINZ was committed to a pathway of professionalising building surveying, both within local government and the private sector. How the poor quality of inputs in the LBP environment was compromising building compliance, quality and cost, and how BOINZ was prepared to work with the Minister to promote quality building on the back of better processes and an up skilled work force.

We have invited him to a hosted tour around Auckland building sites to see building and construction reality in action - what actually happens at the coal face. We have repeated this invitation since the election and his re-appointment.

Members will be aware of our close working relationship with our Australian counterparts, the Australian Institute of Building Surveyors (AIBS), given that many of their members attend our annual conferences. In October, Chief Executive Nick Hill and I attended the AIBS Western Australian Conference in Perth, which the theme "Wind, Fire & Flood."

What was apparent to me was that Australia, in building surveying and building requirements, is in many ways similar to New Zealand. As an example; we both use AS/NZ: 1170 for Structural Design. Australia has already adopted a risk based approach to inspections, with state differences. In Western Australia, they may only do 3-4 inspections on a new dwelling, whereas it could be 10 -12 inspections in other states.

Interestingly, there are both Private Certifiers and Councils providing plan processing and building compliance inspection on the continent. This dual approach appears to have its issues, especially within the Private Certifiers sector, where they price jobs against each other in a so called "race to the bottom". In New Zealand, we see this tardy pricing activity in the building sector, which comes at a cost on quality. While the initial cost may be attractive, the real costs associated with poor work surface some years later. In the certifying scenario in Australia, it was explained that a likely situation could be 6 Certifiers pricing a job, with huge price variations, resulting in discrepancies in the resultant winning level of service. The cheaper option is not without risk, particularly for the certifier, if they get it wrong.

That leads me to another interesting and associated area: insurance. Insurance brokers are recognizing risks, with the Private Certifier market having seen a reduction in suppliers across Australia, down from four to three. Associated with this is the inevitable increase in premiums as claims rise.

Talking about risk, 5 minutes before the WA conference started, the fire alarm was sounded, causing the complex to be evacuated. Apart from the fact it was one of the slowest evacuations I had been involved in, (some attendees subsequently advised me they knew something we didn't), the most notable part of this process, with all the delegates standing outside in the sun, was the relatively young age of the Building Surveyors in attendance.

Here in New Zealand, your Board has recognized that a severe risk for our sector is the increasing age of Building Surveyors, and likely replacement difficulty ahead of us, hence our Cadetship and Skill Recruitment projects.

In Western Australia, the majority of AIBS delegates were young people, many starting out in the industry, and loving it. I spoke during the conference to a couple of Building Surveyors in their early 20s, who had a completely different approach to Building Surveying. They embraced technology to make their every day jobs easier, by developing apps, and not being afraid to think outside the square. This was supported by the Western Australian Government. The Minister, when opening the conference, signaled that the second phase of Building Regulatory reforms following the move to a performance based regulatory system, would be an electronic enhancement of the consent and inspection process.

Looking back on my career, comparing the predominantly based paper systems of the past, with that of the recent electronic evolution, we need to embrace technology changes, as they do produce tangible benefits, such as easing the recruitment pathway of young people into our industry.

A key objective in my role as President is to motivate more people into seeing that Building Surveying is a professional discipline and career path worthy of undertaking. BOINZ is committed to professionalizing building surveying, and committed to being the sector's peak body and supportive Institute. The demographic changes that occurred in Australian building surveying have taken time, and are largely a result of their qualifications structure.

BOINZ has been, and will be, the future driver of building surveying excellence; not government or local governments, who have largely failed to invest in this critical area of our economy. That being said, we would relish a lift in involvement by way of partnership. We have the intellectual knowledge to make things happen in the appropriate way, and one that will deliver pragmatic and long term advantage to all.

Our strategic career pathway is not just about young people, but also about people who have been in the trades, and are willing to learn an exacting and higher building discipline: that of a Building Surveyor. We have our qualification review currently under way, and the outcome will be a better vehicle to attract new entrants with varied life exposures and skills to become a Building Surveyor. With approximately 60% of our experienced Building Surveyors in the 40-60 age bracket, another 20% over 60 years of age, and many considering retiring at some time in the next 5-10 years, career recruitment is an essential strategy for BOINZ, to assist both local and central government achieve critical mass, ensuring building performance and quality. I look forward to next year's conference in Auckland for some updates on this.

It is worth pointing out that the training arm of BOINZ is the unsung hero of building surveying in New Zealand. The Training Academy is recognized by forward thinking building managers, in both the private sector and local government sectors as delivering quality training and the level of knowledge skill and consistency needed to work in the profession. The Training Academy has again had a successful year. Support has been provided to the majority of Councils, who are benefiting from good quality training. It is great to see the level of staff support for the qualification process.

As we move into 2015, we will be investing in, and delivering a wider range of, supportive training and other services.

Finally, I would like to congratulate all our members who graduate with their diplomas this year. Our cover page has photos of many of you. What a great achievement, and a job well done.

I wish you all a Merry Christmas and Happy New Year.

Stu Geddes
President

The Block New Zealand – Behind the Scenes

"Despite the tight deadlines and tight budgets, quality and workmanship were not compromised in the professionally run The Block NZ. We talk to Craig Linn and Peter Wolfkamp about their experiences on Season 3 of the Block New Zealand".

Peter Wolfkamp – Site Foreman

This year's season of "The Block NZ" had audiences at home enthralled. Four couples competed to 'renovate' a newly built house on a tight budget, and on an even tighter 12 week deadline. Each week, the teams were allocated a challenge, and the audience watched as each couple experienced the highs and lows, successes and struggles of the renovation process.

But behind all of the drama on the show; the painting, the nailing, and the hard labour, were the people who were committed to ensuring that the renovations on "The Block NZ" went as smoothly and as safely as possible, so that the end result was not just a winning team, but a home that has been built with quality.

The two people who overviewed this process are Peter Wolfkamp, the site foreman on "The Block NZ" and director of Resident Builder, and Craig Linn, Building Inspector at the Auckland Council.

Peter's role as the site foreman on "The Block NZ" was wide-ranging. "I made most of the bookings with the Auckland Council for inspections, kept track of the building progress to ensure it ran on time, and made the applications for the Code Compliance Certificate at the end of it," says Peter. "A significant part of my role is the compliance side of it, and given we do four houses in 12 weeks, it's a big thing to keep a track of."

Craig's role on "The Block NZ" was just as extensive, with Craig completing a huge number of inspections on the four properties during the 12 weeks of the show. He would often spend 4-5 days a week on the site. "The Auckland Council gave me a lot of free range. We ended up doing (inspections) at an hourly rate. I think we did over 160 inspections on "The Block"," says Craig. "There's a lot of writing! I ended up with a callous on my finger, especially during bathroom week. For bathrooms, there's the pre lining, post lining, and tanking…that's three inspections, and they're generally in just the one day. That's times four (for each team)… so that's 12 pieces of paper that I've got to write up at the end of the day".

The sheer scale of "The Block NZ" meant that during production, there were a number of potential challenges for Craig and Peter to overcome. These challenges included the logistics of a large scale production, the number of people on site, and some consenting restrictions. However, through experience, excellent organisation, and a high level of professionalism, Peter and Craig managed these potential challenges on "The Block NZ" confidently and easily.

Logistically, "The Block NZ" is a flawless operation for Peter, despite the scale of the project and the number of people working on "The Block" site. "Because this is the end of my third series of "The Block", and for many of the production and construction staff, this is their second or third series too, so there's the beginning of a system that falls into place, so it's really simple stuff", says Peter. "We've got a desk for the inspectors to use, and we've got a whiteboard up where we mark up what inspections have been done, or what needs to come.

"It's just simple project management stuff, but we have just learnt to do it."
There were also two teams dedicated to either the inside or the outside of the house, therefore tasks, and the people assigned to those tasks, were well managed. Craig says that because "there was one group looking after the outside, which you didn't see on the show, and a whole other group was just looking after the inside", the management of the renovations was very efficient. A strong sense of teamwork and commitment from the construction crew also played a large role in the smooth running of "The Block". "On "The Block, everyone asks, "what do I need to do, what needs to be done". And I'll see them later on that day or tomorrow, and it's been done. There was never any arguing. I never saw any bad attitudes towards inspectors or Peter from the contractors, so I was quite impressed by that," says Craig.

Despite the enormous number of people on "The Block" site, safety was paramount, and only two minor accidents occurred during production. "There were about 3,000 people on site over the period of production for "The Block", says Craig, who contributes the low accident numbers on the site to everyone's commitment to safety. "I would say, "That needs a handrail", come back in 5 minutes time, and there would be handrail going up... these guys were all over safety, signing books up front, and everyone had steel cap boots." Peter agrees. "There would be days where there would be 80-90 people on site, and for that entire site, we had two small injuries. One was a fall minor in nature, where a guy fell off some scaffolding and hurt his ribs, and one guy who cut his finger and needed two stitches.

"For a building site, given all the concerns around health and safety, and the number of people on site, you could look at the industry stats, and compare... we would have thousands of hours with literally no problems." There were a number of complaints from some of the residents of Pt Chevalier, with a few people unhappy about "The Block" being in their neighbourhood. Some of the complaints included: the use of a drone, out of hours work, (season three of "The Block" had a curfew of 6pm) and the number of sightseers coming to view the properties.

"There were 111 complaints, and they all came from 5 people," Peter said. "Admittedly, there are four houses, and they are all being built at the same time, and quickly. But it's

done quickly and it's finished," says Craig. "It's no different to four houses being built at the same time in Herne Bay...there was a lot of resource consent restrictions on deliveries and working times and things like that."

Peter was astonished at the number of complaints, despite the effort 'Eyeworks' (the production company that makes "The Block NZ") made to offer solutions to the neighbourhood.

"In all the years I've built, I've never seen such conditions around a residential build, in terms of contractor management," says Peter. "I would see 'Eyeworks' offering up solutions, saying ok, if one of the resident's concerns is traffic, we'll ensure that we all park on one side of the street, we won't park there, and we'll restrict traffic and deliveries and so on. We unfortunately had to ban two or three contractors from site because they just didn't get it, and chippies and tradies are pretty hard to corral like that". Craig jokes, "I think there would have been less resource consents and restrictions building the Sky Tower!" Peter noted that despite 111 complaints made, there was only one complaint that the council could actually action, and the site only received one abatement notice.

With these challenges successfully navigated, Peter and Craig could focus on the building work, and renovations being completed by the crew and the teams. A large component of ensuring an excellent result when "The Block" was finished was making sure that those who undertook work on "The Block" were Licensed Building Practitioners, and that workmanship and quality were not compromised despite the small budgets and very tight deadlines.

As project manager on "The Block," it was Peter's responsibility to ensure that each team's builder was a Licenced Building Practitioner (LBP). "The main contractor appoints a LBP to supervise the exterior build, the cladding and the windows, and each team must have an LBP,

so I check that they are licenced. So when they (the LBP) turn up, and the team says, "This is my builder", I'm like "Ok, give me your licence".

This means that if there are issues regarding the work completed during, or post "The Block," the LBP has put their LBP number to the work they have completed, says Peter. "In that sense, it's a good example of how the LBP system is working; that what you are asking for is that work is either being carried out by, or being supervised by, an LBP, so they are responsible for the work. Whether it's fixing plasterboard, or putting in insulation, they need to be entitled to do it, and they are responsible for it.

"Experienced, professional, motivated and licenced guys do good work, and they make it look easy. It may look deceptively simple to people watching, but in the end it's a reflection of the professionals at work who make it look easy.

"It's probably opened the eyes of the contestants, and some of the audience, that hey, building professionals who do a really good job, deserve to be recognised for doing a good job."

Post production, Peter will go through all the records of work with the LBP, and ensure that the records are accurate. "In the end, this is what you are signing, so I will go through and check. They'll say, (the LBP), "In the past, I've done that window and that one and that one, and somebody else did that one and that one", and we ensure that when it comes back to processing, that we have ticked off everything."

As the Building Inspector for "The Block", it was Craig's role to ensure that all work was completed, and completed to a high standard. There wasn't any major technical issue during "The Block," however unfinished work was the most common matter.

"For me, it was just unfinished stuff. Bits and pieces missing, that someone has got so busy, they've been dragged off to go do something else, and they haven't come back to finish it. But there was not one site instruction written, so that's a positive for any site.

"I think overall there were only five fails, and it was generally because they (the teams) weren't ready. It wasn't workmanship, it wasn't quality; it was just because no one was ready to go. I felt that in my side of the role, if they say they aren't ready, why should I say to Pete, "you check it off, make sure it's done, and we'll pass them all," says Craig.

"If you aren't ready, then I can't really turn around and say yes, when they (the other teams) have busted their guts and got it ready and you're not ready... sorry guys. But I'll be back the next day, so you give them a little extra 12 hour buffer... So I was lenient on time, but not on workmanship."

The long term value of these homes can be attributed to Peter and Craig's dedication to using LBP's, and a focus on workmanship throughout the entire building and renovating process. The result of this dedication to quality is four properties that Peter and Craig are very happy with.

"I think these are some of the coolest houses in the neighbourhood. You drive down and it's just like, wow, you can't miss them. They stand out beautifully, look marvellous from the front, good colours, and just the cladding on them looks great" says Craig.

"I think for me, personally or professionally, at the end of it, I feel pretty good about what we have constructed. As we left, the grass is growing and you know, it looks good. Everything is there, and the plants are in place. And you think, actually, these are really good houses" says Peter.

Season three of "The Block" has wrapped for this year, and after reflecting on their experience on this year's "The Block", Peter and Craig can offer one piece of advice to those who would like to participate in "The Block": learn to paint, laughs Peter.

"Anyone that wants to be a contestant or go on "The Block," that would be my advice, learn to paint!"

A look at Tiny Houses

Andrew and Gabriella Morrison completed the hOMe project, a 221 square feet tiny house on wheels. Although it's a tiny house, the Morrison's hOMe features a fully equipped kitchen, a ¾ bathroom and a full staircase to get up to the bedroom loft. The Morrisons spent around US $33,000.00 to build their house, furniture and appliances included. Below, Andrew Morrison gives his perspective on tiny houses.

The construction of tiny houses is a growing market the world over. To be clear, the word "tiny" is not used loosely. The average home sizes range from 7m2 to 20m2 while still providing all of the amenities one would require in a home. Of course, most homeowners expect limitations on the conveniences of a standard home. While in the smallest models this can be true, the larger homes can provide comfortable space and limit the compromises homeowners make in order to live a tiny lifestyle. Regardless of whether the average homeowner believes they could live in a tiny home, the reality is that many people have made the move to tiny and hundreds more join them each day.

It is important for builders, code enforcement officers, and other housing professionals to understand the implications of tiny home construction and its impact on the existing housing market. Often a concern for building officials, the size of the home itself does not have to be an issue. Minimum home size requirements have been used for years to manage property values and ensure that health and safety concerns are addressed. The fact is that a tiny home can meet all of the requirements of a larger home in these regards with ease when properly designed and built.

In regards to property values, the implementation of a tiny house code provision would be helpful in maintaining standards of living. For example, a design review board would be effective in ensuring that all designs meet the intentions and curb appeal of existing neighbourhoods. Further, tiny houses are often built with high $/m2 due to their size allowing for upgrades that reflect a high level of quality and can bring improved property values to a neighbourhood.

The construction details of a tiny home are very similar to those of standard construction; however, there are some details that require special attention. Managing interior air quality and moisture levels are perhaps the most important details to be considered. Because the space is small, condensation and poor air quality can quickly affect not only the occupants of the home but also the longevity of the home itself. As such, it is vital to provide adequate air circulation and ventilation. Although a bathroom and kitchen fan can mitigate much of the moisture, the installation of an energy recovery ventilation system can be very effective.

Mechanical systems are one way to address air quality and overall home efficiency; however, they must be used in conjunction with proper construction detailing. For example, it is important to properly seal all wall penetrations and transitions with the right materials. This could be specific air seal tape, expansion foam, plastic, or other approved materials.

The use of natural materials is highly recommended in a tiny house as the small footprint can concentrate off-gassing of toxic materials. Mechanical systems can, once again, draw stale and unhealthy air out of the home and replace it with healthy, conditioned air; however, they should not be solely responsible for the health and safety of the indoor air quality.

Because many tiny homes are built on mobile trailers, there are restrictions on both the height and width of the homes. Those restrictions vary by location, so be sure that local codes are considered. Maximising the interior floor space of a tiny home means that exterior components often don't take precedence in the design. This can be an issue if items such as gutters and/or reasonable roof overhangs are not included in the design. Ensuring that the exterior, weather tight envelope is not compromised in exchange for more floor space is essential.

Tiny homes built on trailers need to be designed to handle high wind, out of plane, and shear loads. The impact of highway speeds, cross winds, and road surface imperfections can wreak havoc on a portable home. Proper engineering and special attention should be placed on the wall to trailer connections, as well as the roof to wall frame connections. Proper tie downs and strapping should be employed per the engineer or manufacturer specifications. Further, I recommend the use of tempered glass in all windows and doors throughout the home as applicable. The potential for broken glass is obviously high during travel from road debris, but is also increased by the bumps and shaking of general driving conditions.

Tiny homes are not that different from larger homes once we look past the obvious size differential; however, the aspects of a tiny home that are different deserve focused attention to ensure that the home lasts a long time and its occupants are provided with a safe and healthy living environment. There is not a lot of oversight for tiny home construction

in many markets and there are a lot of people who argue that this is a good thing. After all, that is part of what makes the tiny house movement a movement: the fact that it is inspired by the people and built by the people.

I personally love the fact that the tiny house movement is so passionate and alive; however, I also want to make sure that the homes we build meet or exceed standard construction practices. I believe that reasonable oversight will improve both the quality and safety of tiny homes and the strength of the overall movement. After all, the better our homes are, the more inspired others will be to join us.

For more information visit http://tinyhousebuild.com/

Andrew Morrison.

PrefabNZ Top Five
Grand Designs comes to New Zealand

PrefabNZ's Pamela Bell headed to Japan for a mix of housing factories and Disneyland experiences, one dominated by dancing robots and the other by, well dancing robots…a visit to four different factories uncovered a mix of panel and volumetric production in both steel and timber. Check out the house models from Misawa Homes, their R & D Centre, and the Sekisui Heim showhome (images below).
Did you know that in Japan, two-storey standalone houses sell around $2,400 /m2 which is 8% above average house prices and the prefab industry produces 15% of annual housing - output is about 12,000 houses per manufacturer so it only takes two of these large manufacturers to make New Zealands total annual residential output.

ClickRaft at Kiwi Prefab Exhibition 2013 – Puke Ariki Museum

New designs highlight use of engineered timber

The Welhaus, the first modular home designed with lightweight timber panels and laminated solid wood was launched in Christchurch recently. Developed by Dan Tremewan, with architect Simon Blencowe, Christchurch-based engineer (and PrefabNZ member) Johann Betz and various architectural designer, the house is based on European designs and construction methodology.
http://www.stuff.co.nz/the-press/business/10667842/Prefabs-add-value-to-timber

PrefabNZ Co-Lab 2015

The annual PrefabNZ conference is being held in Wellington next April to coincide with the ANZAC commemorations. So block your diary now 22-24 April as this promises to be another 'not to be missed' PrefabNZ event! Keep an eye out on the website for more details. http://prefabnz.com/Events/Upcoming-Events/Co-Lab-2015/

Iconic Container House for Sale

This iconic Wellington house went on the market in November and whilst it didn't sell at its initial auction, it is a great opportunity to look at an amazing piece of architecture. Designed by Ross Stevens, this home delivers an efficient use of space while engaging directly with its surroundings. Take a look at here. http://www.containerhousenz.com/

Next iteration of prefabrication offered in Australia

As the use of 3D printing and offsite manufacturing technology increases, the next iteration is currently being offered in Australia. Onsite digital fabrication offers the precision of CNC cutting of factory based production, but done onsite using a mobile facility. http://www.architectureanddesign.com.au/news/revolution-for-prefab-homes-moving-digital-fabrica

Innovative Foundation System

In October this year, an innovative foundation system that provides high performance shallow voided biaxial slabs was released in Christchurch.

The Armadillo™ Foundation system was developed because of the Canterbury earthquakes in 2010 and 2011, when thousands of buildings, as a result of ground subsidence triggered by liquefaction phenomena, lost their horizontality and in many cases their structural integrity.
The traditional ring beam foundations of reinforced concrete, whether they were combined with a timber floor or a concrete raft, had shown their structural inadequacy in case of subsidence; on the other hand, the available alternatives were uneconomical (e.g. piles, deep ground improvement, hybrid systems timber/concrete), time-consuming and had limits of application both towards the weight of the building and the extent of failures to be recovered (such as double-slab structures equipped with re-levelling screws).

What was missing was a conceptually and structurally simple foundation, which couldn't be easily influenced by specific site conditions, but easily re-levelable in case of new subsidence and is also economically sustainable. This new system was able to meet all these needs, assuring success to the Italian/Kiwi team Holloway Builders, Anselmi Attiani and Cresco in the international "Breathe" competition organised by Christchurch City Council and key project for the reconstruction of the city centre.

This new way of thinking stands out from other systems on the market for at least five reasons. First, for the way in which the pod shapes the concrete at the bottom surface of the slab. The combination of an "archway" schema (typically used to make slabs with ventilated crawl space) and a biaxial one (as the most classical ground beam systems); results in a mesh of thousands of intertwined arches effectively spreads the vertical loads within the structure and, simultaneously, the flexural stresses are absorbed by biaxial ribs.

The Armadillo™ can bear such loads and spans to be lifted from the perimeter (together with the overlying building), without requiring internal reinforcing ribs at the points of load carried by the superstructure. The installation system is the second element of distinction.
In order to facilitate and speed up the placing, the pods are designed to avoid spacers and the traditional hardworking steel binding, thanks to the introduction of an innovative clip to help guiding and locking of the reinforcing bars.
The third reason is that, in addition to the more traditional polypropylene, the formwork is also offered in the fully "green" version of high-strength cardboard (HSC). This aspect has gained particular importance after the earthquakes in Christchurch, where the local community had to change their mind concerning the disposal of materials from the demolition of buildings. In normal conditions, this wasn't traditionally seen as an environmental problem, considering the rather long life cycle of buildings, and it was offhandedly postponed to future generations.

Thousands of foundations that needed to be demolished brought to the awareness of what would be the potential environmental and economic impact arising from the disposal of a huge amount of polystyrene if these foundations were built with the recently adopted system for waffle slab lightened with polystyrene.

In this case, a standard-sized house foundation would require a volume of polystyrene approximately equal to that of a 40ft container. New Zealand builds 20,000 homes each year, which would equal to more than 20,000, 40ft containers, which, stacked on top of each other, would reach the stratosphere, filled with non-biodegradable material containing highly toxic and potentially carcinogenic additives (such as HBCD) that is virtually unrecyclable when incorporated in a concrete casting.

A material like HSC cardboard, which can be disposed in landfills without harm to the environment, is a resource that certainly deserves to be taken seriously.
Another key factor is the thermal insulation performance, thanks to hundreds of special thermal mirrors that reflect air voids up to 90% of the heat radiation coming from above. In this way, while not using polystyrene or other insulating materials, the system is 20% more "hot" than a conventional waffle slab.

The last distinguishing feature lies in its perimeter, along which ultra high molecular weight polyethylene pads (UHMWPE) are placed at a distance of about three meters from each other. These pads can bear a load up to 250kN (25 tons), and using housings for the insertion of jacks, they make it re-levelable in case of subsidence of the ground.

Therefore, there is no use of heavy plinths and no requirement for interior lifting points, which can be either inaccessible or difficult to repair in case of damage.
When combined with indirect foundations, it has the ability to bear big spans (indicatively up to 12 meters in conventional reinforcing and even more through post-tensioning) and allows a reduction in the number of piles to support the foundation. Cost wise, for example for a two-storey building on subsident ground, the Armadillo is 30% cheaper compared to other double-slab systems on the market of Christchurch, and 50% cheaper compared to conventional waffle slab systems combined with deep ground improvement.

The thickness of a foundation is currently 585 mm, but in the near future, the range of formworks will be expanded (with lower height versions) in order to make the system competitive in price, even in sites not susceptible to the effects of subsidence.

For the first few months of 2015, also because of the exceptional response of the local market, the product will be exclusively marketed in New Zealand. Later on this year, the Armadillo™ will also be distributed to other countries.

Fabio Parodi

Fabio Parodi is a structural engineer, who studied in Genova and in Paris, and graduated with Honours. He is the cofounder and CEO of Cresco Group, an engineering firm that has worked in 29 countries in major projects such as the structures of two AP1000 Nuclear Power Plants in Sanmen (China), Aeroville Shopping Mall in Paris (a 355 million euro investment for the largest mall built in the last 20 years in the Ile-de-France) and several steel mill plants. Fabio has been a lecturer at the University of Genova, and is the inventor of the Armadillo System and the Seismat.

*Please note that this is a product technology update from the inventor of the system and that the Institute takes no responsibility for the accuracy of the claims made in this article.

Waterproofing Membrane Association Inc publication of Code of Practice for Internal Wet Area Membranes.

The Waterproofing Membrane Association Inc (WMAI) recently announced the publication of the Code of Practice for Internal Wet Area Membranes. The WMAI was tasked by the then DBH to develop a Code to fill a gap in ensuring compliance with NZ Building Code Clause E3, Internal Moisture.

This Code focuses on industry best practice, design, membrane selection and installation of membranes in internal wet areas, and is a must have for anyone in the design, installation and inspection of internal waterproofing membranes.
Along with the Code of Practice for Torch-on Membranes, this Code will become a valuable asset to the industry, and WMAI anticipate that it will be referenced as the industry standard for best practice for internal wet area membranes within the whole of the construction industry.

After 4 years of research and development by industry suppliers and at a cost exceeding six figures, this complete and concise Code will be available for purchase in December 2014 as either a download ($7.50 incl GST) or as hardcopy ($25 incl GST and p&p) from the WMAI website at www.membrane.org.nz.

Understanding the finer points of Internal Tanking - A view from Kevin Turley, Director Aquatite Enterprises

Following on from the press release from The Waterproofing Membrane Association Incorporated (WMAI) regarding a code of practice for Internal Wet Area Membranes, I thought I would focus in on an inclusion to this Code of Practice that addresses a major oversight in our current E3 Internal Moisture document from the New Zealand Building Code.

The importance of sealing wall penetrations in wet area linings: Previously, the non-inclusion of this action to the way we build our showers and wet areas has affected homeowners and the industry alike to the tune of 30 million dollars annually. That is the figure that is paid out by Insurance companies, which is also individually capped at $3000.00 while the average re build for a typical tile lined shower can exceed $10,000.

By simply addressing this oversight to the way we build we can now look to create a complete tanking of the walls and floors of a wet area.

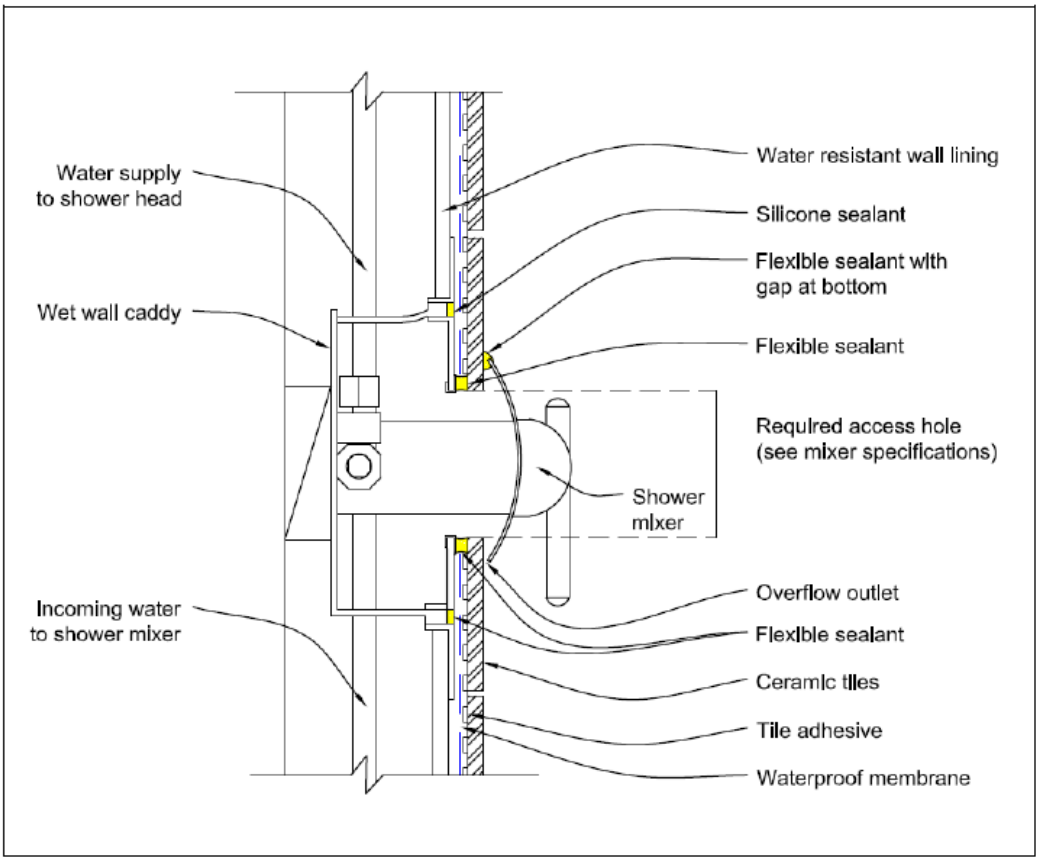


Figure 47: Membrane around wall penetration in shower

APL Success Story – Hamilton City Council.

Hamilton City Council staff - another great success story with achieving the National Diploma of Building Control Surveying.

On the 13 November 2014, 11 Hamilton City Council staff were awarded the National Diploma of Building Control Surveying. The Building Control Manager for Hamilton City Council, Phil Saunders says that the achievement is one of immense satisfaction for individuals, our building control team and Council.

Phil identifies that it has not been an easy road for the staff or the Unit and it all started some 12 months ago with a strategy to ensure that we were well placed to deliver the quality of service for our customers commensurate with customer's high expectations of quality service and healthy and safe buildings. The importance of all staff having a recognised qualification or working towards a recognised qualification was one critical element of our thinking; however we had a number of staff with qualifications that already met the Regulation 18 test. The strategy in our case was as much about being prepared for the future, investing in the ongoing professional development of our people and the quality of our built environment. We see the future in Hamilton as a very active period of growth and development and now is the time to invest in a qualification that benefits our city.

Phil says that a number of the staff had a long history of inspection and consenting work experience but some others did not. This posed problems in ensuring that the less experienced staff were given plenty of time to gather some experience by completing elements of work such as inspections or consent processing in order to provide the evidence required to complete their workbooks. Even the more experienced staff were working outside their comfort zone at times and it was certainly challenging for our people who were required to balance the day to day business and make time to complete their paperwork. We have been short-staffed and have a lot of large complex work on the go and there have been one or two moments when one or two staff were ready to throw in the towel. Fortunately we have a very supportive environment and the management team were right behind everyone assisting them to meet their targets.
The staff in the Unit who were not undertaking the APL played a critical role in the success of our people and they put in a lot of extra hours covering for other staff, supporting and assisting with the process. I think without the unselfish attitude of other members of the team in ensuring their colleagues were assisted and supported that some would have failed to complete their workbooks in time. For me as a manager there were moments where I questioned the decision to put my people through en masse, however when I saw people doing all night sessions in preparation I knew we were going to make it. Being part of the process myself and having to prepare like my staff meant a steep learning curve for me as in my role I don't carry out inspection or processing work. It was a great experience for me to work with my team and learn from them.

We had our challenges through the process including the resignation of the facilitator half way through the process. The new facilitator Dave Roberts took over and hit the ground running from Day 1. Thank you has to go to Dave and Otago CAPL for coming to the party and providing us with a great facilitator and an extra workshop. We also had the pleasure of a visit from the South Waikato District Council BCOs who were able to talk to individual staff about their experiences with the APL having been through it recently. Thank you for sharing your experiences and putting many of us at ease about the presentations process.

I confess the last couple of weeks leading into the presentations (which are the final part of the APL process) were daunting for many and looking back many were simply over-prepared. The assessors in my view were extremely professional and put everyone at ease. These are people that have all been through the APL themselves and understand how the presenter is feeling.

We all have different thoughts about our experiences and every one of us has had the opportunity to learn about ourselves and others, including our strengths and weaknesses. The APL process is challenging, more so for some than others, but in my view is an excellent way for experienced people to gain a qualification. The result was that every one of our staff who completed the APL was awarded the National Diploma which for me is a testament to the technical competence, experience and professional attitude of my staff.

The Minister of Building and Housing Dr Nick Smith is on record as saying that he wants New Zealand BCOs to be on a par with Australia and the United Kingdom and we should have our people achieving the level of a degree in building surveying. We heartily agree with Nick and with what we see occurring around New Zealand with the APL process rolling out in our major centres, I would suggest to Nick we are well on our way, so watch this space.
What more can one say.

Phil Saunders
Building Control Manager
Hamilton City Council

Left to right starting at the rear – Phil Saunders Building Control Manager, Andrew McCabe Building Inspector, Lance Cuff Senior Building Inspector, Bryce Keogh Senior Quality Advisor, Wayne martin Building Inspector, Jacob Parker Building Review Officer, Kim Southcombe Senior Building Review Officer, Phil Roberts Inspections Team Leader, Todd Saunders Receiving Officer, Front row, Alister Arcus Senior Project Advisor, Alan Raitt Building Inspector.

Selwyn Council District APL Graduates

(Left to right – Philip Hector, John Clarke, Jenny Lilley, John Haddow, Chris Westwood, Tony Judd)

Christchurch City Council APL Graduates

Patrick Schofield (left) and John Richards (right)
Christchurch City Council has 38 of their Building Control Officials in four experience level groups working towards the National Diploma of Building Control Surveying qualification over the next three years. All 38 BCO's have passed their first three units towards the qualification, with Group One (16 BCO's) due to complete their Diplomas by December 2015.
Patrick and John (pictured above) are the Professional Development Assessors, and have completed their qualifications over the last year before they could roll out the entire assessment programme to assess each BCO.

An achievement of a lifetime - Auckland Council

52 building officials were presented with the National Diploma for Building Control Surveying at a special graduation ceremony held on 14 November. Auckland Council COO Dean Kimpton presented the diplomas at the ceremony held at Tamaki Yacht Club.

It was a proud moment for the graduates and their families, especially those who are approaching retirement and, although they have been working in the industry for much of their careers, it is their first ever formal qualification.

The diploma itself is a win for the industry, as many have lobbied for it for several years to recognise their skills. From 1 December 2013 all building officials carrying out a technical function (i.e. processing a building consent or carrying out a building inspection), are required to have, or be working towards a recognised qualification.

Using the Assessment of Prior Learning (APL), graduates were able to have their experience and skills recognised and assessed against unit standards. Council then supported the graduates to complete their diplomas with evening classes and mentoring throughout the year to complete the remaining unit standards.

Initially 13 employees gained both the diplomas and certificates in Adult Education and Work Place Assessment, to enable them to become workplace assessors and help their colleagues through the process.

Due to the large number of people in Building Control requiring this qualification, the APL process will be split over three years. This first tranche of graduates is a real 'feather in the cap' for Auckland Council as it is a massive undertaking and we are the first group to achieve this qualification nationally. Other councils (Territorial Authorities) now look to us for direction and guidance.

Special mention should be made of graduate, John Lawrence who sadly passed away before the ceremony. His sister and daughter attended the ceremony and accepted the diploma on his behalf.

Changes to Air Quality Regulations

Changes to the Air Quality Regulations in Auckland and Gore are proceeding, and thousands of households will be affected. The Auckland Council and Environment Southland have drafted proposals surrounding the use of domestic open fireplaces and pre-2005 wood burners, and these plans are to be phased in gradually over the next several years. There are several aspects within these proposed changes that are important for Building Officials to note.

AUCKLAND COUNCIL AIR QUALITY BYLAW

Auckland Council wishes to introduce an Air Quality Bylaw that will focus on the management of indoor fireplaces and old wood burners. Indoor fireplaces and pre-2005 wood burners are the biggest culprit of air pollution in winter, as indoor fires create fine particle emissions (known as PM10). These tiny particles are easily inhaled, and can become trapped in people's lungs. For Auckland, the social costs caused by indoor fire emissions are estimated to be at least $624 million per year.

It is the Auckland Council's responsibility to manage the air quality in the Auckland Urban Air Shed. This proposal aims to reduce emissions in order to meet national environment standards, and to improve public health.

THE AUCKLAND COUNCIL'S AIR QUALITY PROPOSAL

- The use of coal, indoor open fires, and non compliant (pre-2005) wood burners are to be phased out of use in the Auckland region. There are approximately 17,000 open fires and 64,000 old wood burners currently being used for heating in the Auckland region.
- The phased approach will allow for owners of open fires and old wood burners to plan and consider alternative types of heating. For most people, this will mean several more winters of an open fire.
- There are two main phases. Phase 1 is the Air Quality Bylaw in effect, and would commence 1 May, 2015. Phase 2 would begin 1 October, 2018, when the ban on open fires would come into full effect, and all pre-2005 wood burners are removed or replaced.
- Once these phases are complete, the council can issue a notice to an owner of an operational open fire requiring it to be permanently blocked or removed. They can also issue a notice that requires the removal of old wood burners after this time.
- The bylaw proposes that pre-2005 wood burners either need to be replaced or removed by 1 October, 2018, or once the house is sold ("Point of Sale Rule").
- New and existing wood burners installed from 2005 onwards that meet emission and efficiency standards will still be able to be used after the bylaw comes into effect.
- Installation of any new indoor home heating fire will require a building consent (already required under the New Zealand Building Code).
- The bylaw may allow applications to be made to obtain temporary exemption from some or all of the requirements of the bylaw. If special consideration applications are made, they can be made on the grounds that use would be reasonably necessary for an event of particular cultural, historical, or national significance. A temporary exemption may be granted for periods of up to three months; this is the discretion of the council.
- There are financial incentives to comply with the bylaw. The Auckland Council "Retrofit your Home" scheme complements the proposed bylaw. The scheme can provide a loan of up to $5,000 for insulation and clean heating alternatives. There is also the "Healthy Homes" scheme provided by the government, which provides free ceiling and under floor insulation for low income households.
- This bylaw applies to those who live in the Auckland Urban Airshed (the main urban areas of Auckland), and excludes rural and coastal towns.
- Public consultation commenced 10 November, 2014, and closed 10 December, 2014. The hearings process will commence in early 2015, allowing submitters the opportunity to speak about their submission to councillors.

ENVIRONMENT SOUTHLAND'S PROPOSED RULES

The Regional Air Quality Plan for Southland is being reviewed. The Air Plan was initially adopted in 1999, however there has been many changes in the last 15 years which has prompted Environment Southland to review how they manage existing problems, and how they will tackle new issues that have arisen. Since 1999, the Government has also introduced the Resource Management Regulations (National Environmental Standards for Air Quality), meaning that the current Air Plan is now out of date and requires revision in order to reflect national legislation. Like Auckland, the level of PM10 has been identified as an issue in Southland. During monitoring in winter 2013, (1 May-31 August), there were 12 confirmed instances where the level of PM10 exceeded national standards in Invercargill, and 3 exceedances in Gore. It is the role of Environment Southland to monitor air quality levels in Southland, and ensure that the quality of air in the Southland Air shed's comply with national standards.

ENVIRONMENT SOUTHLAND'S AIR QUALITY PROPOSAL

- Open fireplaces are still able to be used until the 1 September, 2015. After this date, the use of open fireplaces will be prohibited. Open fireplaces may be kept on the property.
-
- Multi-fuel burners and coal ranges are still able to be used in the interim; however, these are being phased out over time. If your multi-fuel burners or coal range were installed before January 2001, you will have until 1 January, 2016 to replace it with an approved burner or alternative heat source. From January 2021, newer multi-fuel burners will be phased out.
- •Wood burning stoves for cooking are not being phased out or banned, however it is recommended you refer to the Proposed Air Plan for the definition of a wood fire cooking stove. You are also able to continue to use your diesel burner and pellet fire.
- If you live outside of the Invercargill and Gore Airsheds, you are able to continue to use your multi-fuel burner.
- Non- compliant coal fired boilers and wood fired boilers are being phased out over time. These are required to meet particular specifications; if your wood or coal fired boiler emits more than 3 g/kg or less when tested to a method equivalent to AS/NZS 4013:1999 and was installed before January 2001, you will have until 1 January 2016 to replace it with an approved boiler or alternative heat source. New wood and coal boilers that don't meet the above standard will be phased out from January 2021 onwards.
- You may still burn all types of coal until the 1 January, 2015. Your coal merchant will be able to provide advice and supply you with appropriate coal.
- You can only burn dry wood from the 1 January, 2015. Dry wood is classified as being wood with a moisture content of less than 25% dry weight, has been stored and stacked correctly, and has been drying for at least 9-12 months.
- You cannot burn: chemically treated timber, painted/varnished timber, household rubbish, plastics, waste oil.
- Outdoor burning during winter in the Airsheds will be prohibited from 1 May 2015. Barbeques, braziers, hangi, fireworks are exempt from this rule. If you are outside of the Invercargill and Gore Airsheds you may continue to burn outdoors. You can burn vegetation, paper, cardboard and untreated wood outdoors.

Performance of rental housing

Beacon Pathway recently released comprehensive information regarding their thoughts on how New Zealand can improve the state of its rental housing:

The problem: New Zealand houses are, by and large, cold and damp – rental houses are amongst the worst. Poor quality houses affect health, wellbeing, education, welfare and employment, and tenants are disproportionately affected. Increasing numbers of New Zealander's rely on rental accommodation in a market that is facing housing shortages and has some of the most restrictive rental conditions in the world. Despite social housing and government accommodation supplements, an increasing number of New Zealand tenants are unable to afford their housing costs, and few landlords are able to afford the investment needed to improve housing outcomes all at once. The rental housing sector is complex: rules, roles and responsibilities for rental housing are spread across various government agencies and legislation.

HOUSE QUALITY: A substantial body of research shows that New Zealand housing is cold and damp, with temperatures and humidity regularly falling below the World Health Organisation's recommendations. House condition surveys indicate that, overall, rental stock is in the poorest state.

The quality of our indoor environment results from the interplay among four parameters: temperature, ventilation, relative humidity and sources of pollution. Beacon research indicates that significant upgrade of our housing stock is required to truly reach the indoor environment quality that supports health, i.e. occupants enjoy WHO temperature and humidity recommendations. House quality to achieve these outcomes includes: a good thermal envelope; no dampness; mechanical ventilation; and efficient heating (no unflued gas heaters). This demands a range of interventions determined by a whole-of-house perspective. House quality also takes into account typology, size and location – when mismatched with tenants, these characteristics can result in overcrowding and additional health needs.

A NUMBER OF INTERVENTIONS HAVE BEEN LAUNCHED IN RECENT YEARS:

- Five Councils (Auckland, Tauranga, Wellington, Christchurch and Dunedin) have trialled a Warrant of Fitness developed by University of Otago, Wellington (UoOW), alongside the New Zealand Green Building Council (NZDBC) in 2014. The aim of the pre-test was to analyse the practicalities, utility and cost of a draft rental WoF scheme. Items on the WoF are recorded as either a pass or fail: a home fails the WoF if 31 criteria are not met. Of the 144 assessed, only 6% passed.
- In 2014 HNZ trialled a Warrant of Fitness scheme designed to ensure all houses are meeting a minimum health and safety standard. If the trial is successful, the intention was to complete a Warrant of Fitness for every state house every three years. The Warrant of Fitness is being developed by the Ministry of Building, Innovation and Employment with a Technical Advisory Group.
- A new programme certifies Home Performance Advisors to provide a full assessment, diagnosis and recommendation to homeowners, landlords and tenants suffering from cold, damp or resource-hungry homes. Advice provided is independent and based on best practice, ensuring New Zealanders get the information they need in order to move towards a warmer, drier, healthier and more energy efficient home.
- Rate My Flat is a new enterprise started by Otago University graduates to support the upgrade of Dunedin student rental accommodation. In its pilot stage, the team is currently asking subtends to rate their flats via an online questionnaire. The aim is to share information about flats within the student community and engage with landlords.
- Homestar™ is New Zealand's only residential rating tool, and while not just for rental housing, it is a housing intervention that could help landlords and tenants share information about housing quality.

POLICY AND LEGISLATIVE CONTEXT:

Despite the critical role housing plays in supporting New Zealand families, particularly our most vulnerable communities who have no choice but to rent, the rental housing market is unregulated and fragmented. Institutionally, the rental housing sector is complex: no single central government agency is responsible for housing quality; multiple Ministers have a role in rental housing; formal rules governing rental housing are spread across different pieces of legislation; and, roles are played by several agencies within central and local government. Rental housing is subject to a range of key pieces of legislation, with an associated complex picture of responsibilities divided among four Cabinet Ministers, two Ministries and one Crown Agency as well as Local Authorities and District Health Boards. In addition, local government has several important responsibilities for rental housing and acts as both legislator and landlord. The rental housing sector is the subject of significant new policy direction as the government seeks to grow the third sector of Community Housing Organisations. The result is lots of change and uncertainty as new relationships and responsibilities are playing out.

In addition, existing information is scattered: BRANZ and Statistics NZ hold some rental house condition survey data; MSD holds information and tenants receiving Accommodation Supplement; and MBIE holds bond information. Central government agencies are not allowed, due to privacy rules, to align their datasets. The outcome is that no one agency holds all the parts of the jigsaw: home, tenant and landlord. This undermines the development of a good evidence base from which to make policy decisions.

RECOMMENDATIONS:

Beacon recommends that health and well-being outcomes be considered alongside any Warrant of Fitness. Warrants of Fitness proposed to date are very low standard, designed to capture the worst stock, which we acknowledge is important. However, homes that pass such a WoF may still be cold and damp, so the health and well-being outcomes sought will not be met.

If a WoF is under serious consideration Beacon strongly recommends there is only one measure for all New Zealand homes. We would also advocate that the WoF is only the first step for New Zealand homes that should all be on a longer pathway towards the warm, dry, efficient homes all residents need. A first step would be to share the Warrant of Fitness developed for HNZ to inform the market and provide leadership that prevents multiple schemes being developed.

A New Zealand Rental Housing Strategy for social housing would improve planning and management of this critical national asset. This would provide essential structure to address the fragmentation of rental housing across ministers, ministries, Acts of Parliament, councils, policies, Community Housing Organisations.

Beacon recommends that all New Zealand rental housing must met the Building Code by 2025 with a pathway that requires social housing meet the Code, followed by all rental properties in the mixed market (tenant receives a government subsidy) and finally all rental properties (and perhaps all houses!). The trigger could be the sale of home. Councils could explore how they might engage with rental housing from within their existing safe and sanitary obligations. Councils could start by interpreting the rules to develop a checklist, trial it on their own properties before engaging with the private sector landlords. Central government could share its insight from decades of providing and maintaining social housing stock with other stakeholders who provide social housing (and ultimately the mixed rental and private market). Government could use the information and insight it has from managing its own stock and understanding the links between home performance and health, to raise national awareness of warm, dry, well-maintained homes as a means of improving housing outcomes.

Further research is recommended into the best models for improving housing outcomes and a comprehensive analysis of the true costs of New Zealand's poor housing on taxpayer funds, particularly on health, well-being, productivity, resource efficiency (water and energy), and affordability.

Greater connectedness is suggested particularly in ensuring information across government, and Beacon recommends that Government considers developing a single agency which holds all parts of the jigsaw together: health, building standards, social housing, liaison and support to Community Housing Organisations and tenant support.

Beacon recommends that any upgrade scheme is based on independent whole-of-house advice, so any taxpayer-funded intervention programme that changes performance of homes relies on appropriately trained providers.

Assistance From Building Consent Officials Needed To Help In BRANZ Research

A two year research project undertaken by BRANZ has been launched to determine the quality of new homes being built in New Zealand. BRANZ consultants (Realsure Ltd) needs assistance and expertise from Building Consent Authorities (BCAs) to establish whether the build complies with the building code, and the adequacy of the drawings, quality of buildings produced for New Zealand. Building Consent Authority assistance is required during progressive stages of construction, and ready for inspection.

In the first phase of the project, over 100 newly-built detached homes inspected at various stages had a number of quality and code compliance issues in a range of areas including paint finishes, flashings, claddings, framing and joinery quality. More houses and Consent Authority expertise are needed for the next stage of inspections.

Nick Hill, chief executive of the Building Officials Institute of New Zealand (BOINZ) says, "Local authority building inspectors are on the front line ensuring compliance of every house built."

"We realise that Inspectors in main centres are often tasked with high workloads, and have limited time to carry out each inspection. Their task is not helped when the drawings are inadequate, which often happens."

Nick encourages all Building Consent Authorities and its BOINZ members particularly in the Wellington and Bay of Plenty regions where more new home building sites for evaluation are needed, to assist in this valuable research project.

"Our Institute exists to encourage code compliant work, that meets the rigorous quality standards of New Zealand buildings that the community and occupiers expect."

Ian Page, economics manager for BRANZ says, "Where defects do arise, they are generally isolated and relate to components such as framing claddings, flashings and windows, which can be resolved through education and better enforcement."

"To date, we've had a good response from councils in the Auckland and Christchurch regions, but are still looking for greater coverage across the country. The aim of this project work is to identify defects to help designers and builders produce good housing by better understanding the problems they face on-site and adjust their practices accordingly."

The second phase next year will report on the findings from an inspection and evaluation of 200 houses currently being built.

About the research

The research is being funded by the Building Reaseach Levy and managed by BRANZ. House inspection company, Realsure Ltd, was commissioned to inspect houses at different stages of construction. The first is an inspection at pre-wrap before the wall cladding is place. Other inspections occur at pre-lining when the floor, frame,wrap, windows/ doors and initial work on plumbing and electrical are inspected. Defects and compliant work will be recorded, and photos taken of areas of interest, both good and bad. Some of the same houses are inspected later on completion. The regions chosen for inspection are Auckland, Hamilton, Christchurch, Tauranga and Wellington.

Details of the first stage is on the BRANZ website (Study Report 316). We would encourage you to look at this and check progress to date.

Accredited Building Surveyor Training Course 20th – 22nd of April 2015

The Pre Purchase House Inspection market has been the subject of public scrutiny for many years. BOINZ established the Accredited Building Surveyor Programme to professionalise this sector.

If you are an experienced building practitioner, and wish to enter the field of residential property inspections and reporting, then this is for you. The Accredited Building Surveyor programme, initiated by BOINZ, will provide you with the training and professional support you require to enter this field with the confidence that you have the knowledge and skills to carry out thorough inspections, and produce top quality reports to NZS 4306: Residential Property Inspection.

The BOINZ Accredited Surveyor programme is gaining in recognition to the real estate and legal professions as providing surveyors with the ability to provide reports that prospective buyers can rely on.

The course content will include the following:

1. Understanding of NZS 4306 Standard
2. Site Observation
3. Recording Observations
4. Weathertightness
5. Report writing for Property Inspection
6. A customised Report Template
7. Off-site visit

This 3 day course will be run by industry experts, so the learning that you and your peers will receive on the course will be invaluable. Applicants for accreditation must complete this course.

If you are interested in attending this course and would like register your interest, please contact Victoria at accreditation@boinz.org.nz , or call Victoria on 04 4736003 for more details. A more detailed outline will be released shortly.

GIB® PLASTERBOARD SYSTEMS

BEST PRACTICE SERIES

No.2 BRACING REQUIREMENTS

GIB EzyBrace® Systems comply with the requirements of NZS 3604:2011. When designed and installed in accordance with GIB EzyBrace® Systems 2011 and the GIB® Site Guide 2014, they provide resistance to wind and earthquake forces.

For your FREE copy, call the GIB® Helpline on **0800 100 442** or view it online at **gib.co.nz/systems** The website has further bracing information including the 'Efficient Bracing Design' Bulletin.

To book free on-site training, go to **gib.co.nz/skills-maintenance-request-form** or call the GIB® Helpline.

7 THINGS TO CONSIDER WHEN INSTALLING GIB EZYBRACE® SYSTEMS.

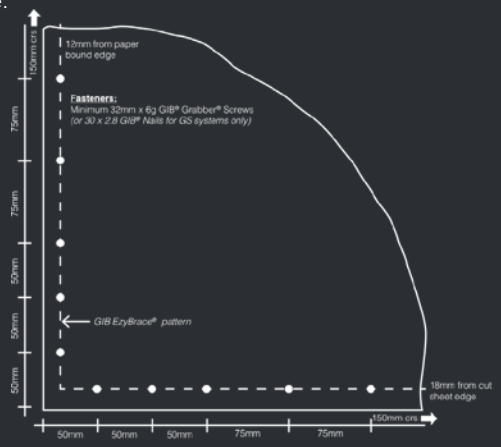
These recommendations are not a substitute for the full information contained in relevant GIB® technical literature. Please familiarise yourself with the literature before proceeding with any project.

DESIGN

1. Check that full length wall panels have been designated as bracing elements. Using part walls is inefficient and can cause finishing issues due to different lining requirements and unnecessary fastener lines.
2. Check that GS1-N and GS2-N bracing elements have been used where available and that high performance bracing elements have been specified efficiently and only where needed (e.g. building corners, narrow panels supporting lintels over window or openings).
3. Discuss the bracing layout with your designer or call the GIB® Helpline for assistance.

INSTALLATION

4. Fasten the perimeter of GIB® plasterboard in bracing elements with nominated fasteners at 150 mm centres using the bracing corner fastener pattern as illustrated.



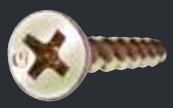
5. The nomination of GIB® bracing elements is simple.

   The most common elements are:
   GS1-N: inside of external walls (GIB® Standard one side and no special hold-down brackets)
   GS2-N: commonly for internal walls (GIB® Standard both sides and no specific hold-down brackets)

   High performance elements include:
   GSP-H: GIB® Standard one side and plywood the other
   BL1-H: GIB Braceline® one side
   BLP-H: GIB Braceline® one side and plywood the other
   BLG-H: GIB Braceline® one side and GIB® Standard the other

6. The 'H' indicates that all these have special hold-down brackets at the ends of the element. Winstone Wallboards recommends using the GIB Handibrac®. The BOWMAC screw bolt has a minimum characteristic uplift strength of 15Kn.

7. GIB® Grabber® screws (with the 'G' on the head) have been tested for use in GIB® Bracing systems.



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GIB®

Wet Plates - 'Confrontation' – Avoidable!

John Oliver
Marketing Manager
HIANDRI Solutions Ltd
www.hiandri.com

Having been a building inspector myself, I fully understand the often difficult task of checking the moisture levels in framing timbers, especially bottom plates, knowing usually before you even test it, that it will not meet the Acceptable Solution, and then relaying this information to a builder, who is invariably under huge time and financial pressures to complete the project. Conveying a message no one enjoys or wants to do, let alone hear, but it's an important part of the job, as we all know.

Let's take a minute to think about the costs of wet bottom plates, some obvious, some not so obvious. We live in a very wet country, just about regardless of where you live. The stats, for example, show us that the average monthly rainfall between Rotorua and Cape Reinga (includes Kaitaia, Whangarei, Auckland, Tauranga, Hamilton, and Rotorua) over a 29 year period, in the winter months (April to November), was 111.6mm/month. In contrast, the average rainfall in the summer months (December to March), in the same region is 89.02mm or a drop of only 20% on the winter period. The result is that frames can still get very wet, and have high moisture content, during the summer period.

It is not uncommon for uncompleted dwellings to sit for several weeks waiting for the moisture content in the frames to reach the legal requirement. As a result, builders resort to using heaters and dehumidifiers. The cost of this is in the order of $1000-$2000 per week per dwelling, and the end result, apart from a large bill, can be a lot of warped studs that need to be straightened, and it still does not solve the problem of the exterior bottom plates sucking up moisture from the outside blockwork. Then there is the holding costs, that is the total amount of funds invested in the project including land, that is costing in the order of 5% adding another $400 - $500/wk to the bill. Re-inspection costs, approximately $175 a visit . And of course, for every weeks delay, someone is paying either another week's mortgage payments or another weeks rent. On an average New Zealand house, HIANDRI bottom plate packers add only $420 or 0.014% to the initial build cost, supplied and fitted by a frame manufacturer, not to mention, no damp proof course is needed.

There is now no excuse for moisture levels in bottom plates that exceed the requirements. HIANDRI bottom plate packers are the 'solution' to this costly problem. Water can now freely drain not only off the floor, but off the frame, air can circulate around the bottom plate allowing both the concrete or particle-board floor to dry plus the bottom plates. In addition, it makes life so much easier for both councils and building inspectors – it removes the potential for confrontation and dramatically improves the relationship between councils and their clients, who they deal with on a daily basis. Another big bonus is, it frees up inspection time reducing the pressure on councils to perform; and of course, not to forget the elephant in the room – dramatically reduces 'liability' risk, which everyone in the building industry tries to avoid.

We make the statement that installation of HIANDRI bottom plate packers virtually solves the 'leaky home' problem – grammatically incorrect of course, it is not going to stop homes leaking, but it certainly in my opinion, goes at least 80% of the way to preventing timber frames that do get wet, from rotting, as the bottom plates will always remain relatively dry. Any building supported by HIANDRI bottom plate packers, a 'Patented' and CODEMARKED system, raises the building industry to a new level in more ways than one – HIANDRI is a simple low cost answer to a major problem, - wet plates, and the industry is already embracing this innovation. There are lots more benefits to using HIANDRI ,

visit our website www.hiandri.com

When is a product not a product, or building work not building work?

Here in New Zealand, there is growing interest and visibility in prefabrication (also known as offsite manufacture) of construction elements. This is an exciting time as more efficient and effective prebuilt technologies move from the periphery to mainstream – effectively leaping out of the Grand Designs TV shows in our living rooms and out into our neighbourhoods.

At the BOINZ Senior Officers Forum in Christchurch in August, we heard from Peter Jenson of Spanbild and Mike Greer of Mike Greer Homes about their organisations' joint venture in a panelised manufacturing plant called Concision. Their ground-breaking factory is set up using Weinmann panel manufacturing technology imported from Germany by W&R Jack. A combination of computer numerically controlled (CNC) saws, bridges and frame assembly units mean that timber frames can be constructed using both automated and manual methods. Butterfly tables flip the panels so they can be pre-lined and pre-clad with conduit in place ready to take utilities at site. A vast improvement on traditional pre-nailed wall frames.

Higher quality is the key outcome of completing a substantial amount of work in the controlled conditions of an indoor facility. The Concision plant is leading the way as only one of two timber panel manufacturing factories in New Zealand. This could be the tipping point that will see greater uptake of manufactured building solutions to create more efficient, safer and more productive building sites (see Box Two).

WHAT IS PREFAB / OFFSITE?

Prefab is a way to create innovative high-quality buildings on time and within budget. Prefab is short for prefabrication. It refers to any part of a building that is made away from the final building site, which is why it can also be referred to as offsite construction or manufacture (OSM).
Prefab applies to all scales of buildings, from homes to commercial to infrastructure. There are five types of prefab; components (such as pre-nailed roof trusses and wall frames), panels, volumes and complete buildings. Hybrid prefab is a mixture of several systems, or prefab with traditional construction. These elements can be made of a range of materials; timber, concrete, metals, plastics, or any combination of these.
See more info at www.prefabnz.com/About/

So how can the building official community assist the uptake of better construction technology? PrefabNZ worked with the Productivity Partnership and Registered Master Builders Association to host a workshop identifying the barriers, opportunities and successes around 'Levers for Prefab'. The participants were large-scale builders and established prefabrication manufacturers who agreed that the top three areas for opportunity to increase prefab uptake are Scale, Liability and Show-and-Tell.

1. Scale – collaborating to improve consistency of workflow, through smoothing boom-and-bust, more appropriate procurement processes, supply chain improvements, factory-share options and visible pipelines of demand in areas such as social housing.
2. Liability – clarifying the regulatory compliance process around product versus building work, inspections regime, risk and liability around restricted building work, more flexibility in pre-approvals, joint venture guidelines, shared intellectual property for open source standardised building information modelling (BIM) details, and panelisation technologies.
3. Show-and-Tell – communicating prefab benefits to change perceptions through display showcases (such as HIVE Home Innovation Village www.homeinnovation.co.nz), web-based time-lapse comparisons, and better communication to builders, consumers and developers.

The importance of clarifying the building compliance process cannot be stressed enough.

Currently, manufacturers use a myriad of methods depending on the strength of their personal relationships with local building officials. In the case of 'building work', inspections occur in the factory and at the final building site. In the case of 'products', pre-approval or self-inspections occur in the factory only. There is currently a lack of clarity around what constitutes building work and what constitutes a product. This is particularly important for the growing range of panelised product manufacturers in the marketplace, which is why MBIE's Determinations area is looking to issue guidance in this area (see Box Three).

WHY USE PREFAB / OFFSITE?

Prebuilt construction is first and foremost a higher quality solution as parts are built in a controlled environment, not on an exposed construction site. Secondly it is an efficient and quickly assembled solution that saves time. Thirdly it is a cost-effective solution as 'saving time is the fastest way to save money'.
PrefabNZ's Value Case for Prefab was launched in March 2014 with the Productivity Partnership (MBIE) and BRANZ. Shifting from traditional frame-and-truss component based methods to higher prefabrication methods (such as bathroom pod plus wall panels) can save 15% of total construction cost – this equates to $32,000 for a 157m2 house. Other important qualitative benefits are increased health and safety (both at factory and at site), reduced disruptions to neighbourhoods (less noise, transport and dust), and reduced environmental waste through more careful planning up front.
Download the Value Case at www.prefabnz.com/News/ValueCase/

New Zealand's building official professionals can learn from what other countries with established construction manufacturing industries do.

In Germany, 15% of houses are panelised today and the industry has been well-established since the 1960s. The manufacturers are independently certified by a quality assurance organisation and then self-certify their own panel production, followed by a site-based assembly certification. German timber panel expert, Johann Betz says, "The process is somewhat similar to

(NZ) product certification where a third party audit/certification authority reviews materials, processes, systems and documentation of a prefabricator based on a certain sample size. This ultimately enables them to say with a certain amount of confidence that the system will perform, without having to do repeat checks on every single panel being produced." German-speaking Europe has other distinctions from NZ in that their construction industry is quality and reputation based, and there are many more standard details universally used – it is seen as more collaborative. See image of panel manufacture in Germany

In Sweden, 80% of detached housing and 15% of multi-residential housing is panelised – it is very much the traditional form of house assembly and ensures a weather-tight envelope is achieved in just a few days.

Scott Hedges of Bygghouse advises that the Swedish industry runs on top-level trust and accountability without a heavy inspection regime, which reaches back to the 1920s. Construction manufacturing factories adhere to the same rules that apply

to any manufacturing company. They also adhere to technical standards from the Government body, but overall the emphasis on quality is driven by self-regulation and a high ethos of integrity to meet social expectations – a potent mixture of collaboration and trust.

WORD FROM MBIE

John Gardiner, Manager Determinations and Assurance, Infrastructure and Resource Markets Group at MBIE, has provided this update for Straight Up: MBIE are currently working to develop some guidance for those providing manufactured building solutions on how to manage their Building Act obligations covering both the building work and non-building work elements. This guidance will also assist Building Consent Authorities in how to process consents that contain manufactured solutions. The Guidance will be issued as a draft for comment in the new year. It will be promoted extensively by MBIE with a campaign targeted at both manufacturers and building consent authorities. In order to get the guidance out early, some case studies of current projects containing manufactured solutions will be added to the guidance at a later date.
For more information on this please contact
John – john.gardiner@mbie.govt.nz

WHO ARE PREFABNZ?

PrefabNZ is the hub for prebuilt construction in New Zealand. It is a non-profit member-based design and construction industry association representing a wide range of specifiers (architects, designers, engineers), producers (manufacturers, builders, distributors) and construction professionals (quantity surveyors, building officials, researchers, policy-makers).

PrefabNZ has three key roles as a catalyst for prefab collaboration, a front-door-portal for prefab information and an incubator for prefab innovation. The organisation works at the interface between government, industry organisations and members. It provides a forum for members to make wider contacts, form collaborations and learn new skills.

See PrefabNZ.com for information about professionals in the Directory, upcoming Events, the latest News and how to become a Member www.prefabnz.com

PrefabNZ supports MBIE's move to provide clarity on the spectrum of building work versus product, and will work to increase manufacturer awareness of risk, liability and inspections regimes through News, Website and the annual Co-Lab Event on April 22-24 in Wellington (see Box Four).

PrefabNZ is keen to hear from building official professionals who are interested in the area of prebuilt technologies or who may have a question or comment. Please feel free to get in touch info@prefabnz.com

Building Inspectors

Earlier this year Paul Robertson and Shyrelle Mitchell entertained the BOINZ conference with a presentation on the role of council inspectors. In part 2 of that presentation they consider producer statements and the importance of good record keeping.

PRODUCER STATEMENTS

In Sunset Terraces the high court held that the council was entitled to place reasonable reliance on producer statements when deciding whether to issue a code compliance certificate (just not the one provided by the tiler in Sunset Terraces for reasons we explain below). Sunset Terraces was decided under the 1991 Building Act. The Building Act 2004 doesn't refer to producer statements and whether a council can rely upon them. Helpfully, MBIE has provided guidelines confirming producer statements are still relevant to establishing compliance with the building code. MBIE has also described the processes needed to ensure that the person providing the statement can be relied upon.

Relying on the cladding installer

Producer statements from engineers are commonly provided to councils and the courts have confirmed that a council can rely upon then. There are few cases where the courts have considered other kinds of producer statements, especially when the council is also inspecting the same construction detail.

Zagorski is one. The case concerned a second generation leaky as the house had leaked and had been re-clad, and the new cladding then leaked again.

After the first leaks were indentified the council wanted to ensure that the job was done right. Apart from inspecting the cladding carefully, in Zagorski the council required producer statements from the cladding manufacturer and installer – Hitex.

The council had a schedule of cladding manufacturers and cladding products that had been vetted so that certain cladding types were acceptable even though they were alternative solutions. The Hitex cladding was on that list.

The council took comfort from the fact that one of the producer statements was signed off by Ian Holyoake, the inventor of the cladding system. Unfortunately, the house leaked for a second time. A number of cladding problems were upheld by the Weathertight Homes Tribunal. The Tribunal found that council wasn't at fault for the poorly installed control joints; they appeared to be fine visually. The council was entitled to rely upon the producer statements for the control joints.

> "[138] Hitex provided the producer statement and Advice of Completion which certified that the Hitex had been correctly installed carried out by registered applicators. The Council was permitted to rely on these documents and we find that it was reasonable for them to do so.
> [139] Having noted the presence of control joints we consider that it was reasonable for the Council to rely on the producer statement/Advice of Completion as proof that they had been properly installed. We do not consider the inspector was negligent in failing to notice the defects in their installation."

The council avoided liability for the control joints, but not for cladding problems that were visibly obvious. The tribunal held the council liable for problems with the fascia being buried in the plaster.

> "[143] This defect is attributable to failure in workmanship by the Hitex installers. As noted earlier the buried fascia defect is associated with the roof to wall junction defect. In his evidence Mr Smith noted that the consented plans included a standard Hitex detail which provided for an apron flashing to protect the edge of the roofing.
> [144] The Council has submitted that in respect of these details they were entitled to rely on the "Hitex assurances". This is a reference to the Advice of Completion which states that registered Hitex applicators installed the Hitex system in accordance with Hitex trade practices. While we accept Hitex should take primary responsibility for these defects, [because "…it is also a defect that should have been apparent from a visual inspection of the property"] we also conclude that the Council together with [the builder] are also liable."

Everyone was relying on Hitex so the decision was that Hitex and Mr Holyoake should pay 73% of the cost of recladding the house.

How reliable is that producer statement?
This issue arose in Sunset Terraces. In Sunset Terraces the relationship between the inspectors and the developer had been rocky. At one point the developer complained that an inspector was being too pedantic and the developer practically ordered the officer to leave the job. At the time the council hadn't completed its inspection of the deck membrane. So at the end of the process the council asked for a producer statement.
A producer statement was supplied by Mr Joo, the tiler. It stated that:

> *"Producer Statement PS 3.*
> *The tiles were laid on fibreglass with Dexx sealer on slate and turned 75 mm up walls.*
> *This gives a complete waterproof seal between tiles and flooring."*

Mr Joo came to court to defend his producer statement. The judge noted that the PS3 appeared to be typed on the same typewriter used by the developer. Mr Joo confirmed that it had been typed up by the developer and that, as a matter of fact, the developer had given it to him to sign. The court perhaps not surprisingly found that the council could not rely upon the PS3.
Justice Heath found that:

- The council had not seen any visible evidence of the waterproofing having been undertaken in accordance with the code;
- The council was aware that the council inspector had been removed from the site by the developer at the time he was inspecting the decks;
- There was no evidence that Mr Joo was known to the inspectors; and
- There was no contemporary evidence of the general quality of work he had performed on other projects; and
- In those circumstances there was no rational basis for the council to consider it could rely on a letter by Mr Joo regarding the nature and quality of the work that had been undertaken.

RECORD KEEPING BY THE COUNCIL OFFICERS

Earlier this year the High Court delivered a wide ranging decision focussing on inspections with comments on the record keeping of inspectors - Glenmore. This case concerned a multi-unit development. The original consent was 'lapsed' by the council because of a lack of progress. The council later issued a further building consent relating to

- minor plumbing,
- handrails to stairwells and
- some safety rails and then issued a code compliance certificate.

The owners claimed that the code compliance certificate related to the entire property, including the original building work. The council argued that only the work covered by the certificate was for the minor work in the second building consent.
The wording of the certificate was ambiguous.

To investigate what had been approved by the council the court looked at the inspection records and the inspectors gave evidence. It was important to prove what the council had been inspecting. Unfortunately, it was unclear to the court what the inspectors were inspecting; the inspectors only noted problems on site, not what they had passed without question and the inspection checklists were not always completed.

The court held that based on the inspection records, and the number of inspections, the council appeared to be inspecting the whole building, and not just the handrails etc.

> "[145] The inspection records from 2001 show the inspectors inspected what they could see and required remedy where they believed there was no code compliance. Based on the Council's records it is now effectively impossible to know what the inspectors did inspect. They listed problems in their inspection sheets. But they did not list building work which they inspected which passed code compliance. Even based on these limited inspection records the inspection of the property was wide ranging."

A second issue was that an inspector said that he told the owners that;
(a) Any new code compliance certificate would only relate to the new work; and.
(b) No retrospective building consent could be issued for the work that had lapsed.

This evidence was rejected by the court. It wasn't supported by the letters to the owners. The judge did not believe that the inspector could remember the discussions.

> "[115] I did not find [the inspector's] evidence in this regard convincing or reliable. It is extraordinary to think that [the inspector] can now recall events 12, almost 13 years ago in the detail claimed, including detailed discussions with a particular owner with regard to a particular development."

For all these reasons the council was found liable for the defects relating to building work forming part of the 'lapsed' building consent.

Not always fatal

So it is very important to have records to prove what has been inspected. But a lack of records is not always fatal.
In a decision known as Hooft there were very few inspection records and both inspectors were unavailable; one was deceased and the other was mentally unwell, he was last seen running down the main street of the town without any clothes on.

The owners' lawyers argued that the council had to prove that it had inspected, and what had been seen during those inspections, or else the claim must succeed. The court said no, it was appropriate to look at every defect and what would have been seen and other assurances, such as the details on the plans.

The council escaped all liability. The court found that for each defect alleged either:

- The defect particular would not have been seen / appreciated as a problem by the inspector; or
- The plans were appropriate, and the as built details followed the plans.

The Future – A Picture Never Lies

When defects are discovered after a building is completed the court must reconstruct the inspections carried out by council officers. Proving what could and couldn't be seen is made easier if there is a clear record of the inspections.

Having producer statements from properly vetted building parties, manufacturers, suppliers and experts such as engineers is also highly relevant. The Building Act 2004 also allows a council to place reliance on certificates from Licensed Building Practitioners.

Electronic record keeping ought to make life easier. A picture of a construction detail will confirm whether that the detail was checked and that it was appropriate. Tablet computers can be used to keep notes, complete checklists and record site instructions. The same tablet allows access to the rest of the consent documents and manufacturers information. Solutions provided by companies such as Go Get system are being purchased by councils. Hopefully these electronic aids will ensure that in the future there is no doubt about what was inspected, and what could or couldn't be seen.

Modifying Durability

Can a council issue a code compliance certificate some years after the original inspections? MBIE's advice is that a territorial authority can retrospectively amend the original building consent to modify the building code as it relates to durability (refer to Codewords Issue 39, August 2009). Then, with the agreement of the building owner, the durability periods commence when the building was completed. In this way a code compliance certificate can be issued for a building that was completed many years in the past, and in some cases back to 1991.

Is this practice risky?

THE RISKS

This practice carries with it increased risk for councils including the following:

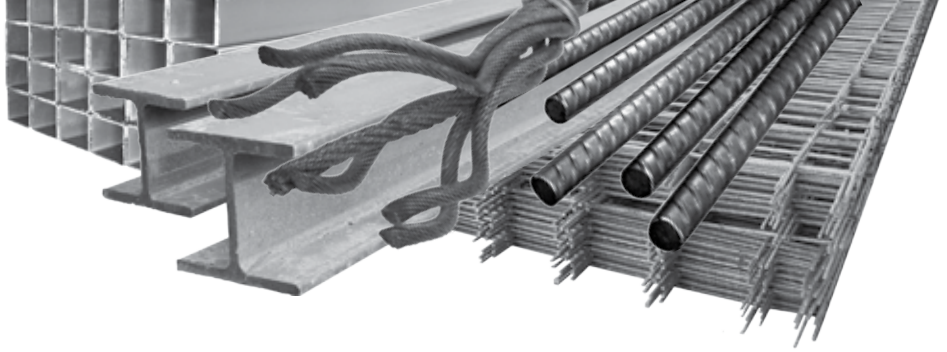
- How can the council be reasonably satisfied that the building work is code compliant? The council is being asked to issue a code compliance certificate in relation to building work that was completed some years in the past. The council will be relying upon historical records from a time when, for instance, weathertightness issues were not so well recognised. Re-inspecting all the building work may be also difficult because the council officers will only be able to see the completed work, not what has gone before.
- The code compliance certificate may be taken as evidence that the council has approved all building work, including unconsented building work. Given the passage of time it may be unclear what building work was consented and what is being approved by issuing a 'retrospective' code compliance certificate.
- A subsequent purchaser may be misled by the decision to issue the code compliance certificate. Unless the code compliance certificate unambiguously explains what has happened, purchasers will treat the certificate as a 'normal' certificate. Even if the alteration to durability is noted, the limitations on the certificate may not be obvious to a purchaser.

The final problem has to do with time and limitation. The Building Act 2004 has a 10 year "long stop" period, which prevents claims being made against territorial authorities more than 10 years after the issue of the code compliance certificate. The decision by a council to issue a code compliance certificate many years after the building work was completed may expose it to fresh liability, and may extend the time it is able to be sued to ten years after the issue of the code compliance certificate.

Overall, the decision to issue a code compliance certificate with modified durability is risky; a council may prefer to go the determination route where the council can rely upon the decision of MBIE.

Every application needs to be considered on its own facts. Heaney & Partners is happy to provide advice on a case by case basis.

Paul Robertson,
Partner, Heaney & Partners



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Acceptable Solutions and Passive Fire

Readers will be aware of the current Fire Documents course which covers the six Fire clauses of the NZBC C1 – C6, the seven Acceptable Solutions C/AS1 – C/AS7, Fire Design Review, Alterations and C/VM2. Another area related to fire which is crucial for the safety of the users of a building is the installation of passive fire features. A new course is being prepared, in conjunction with Ron Green of Building Compliance and Fire Consulting Ltd, who will also be presenting the course.

These courses will be complimentary and are designed to raise a BCA Building Surveyor's competency to a level where they can actively participate in the fire design, assessment and on-site observation processes. In addition to a basic understanding of fire design issues, the courses will provide a surveyor with the ability to:

- competently assess a design for compliance with the Acceptable Solutions
- manage the Fire Engineering Brief process
- better understand VM/2 or specific design fire solutions
- understand and manage the Fire Design Review process
- understand and observe special construction requirements on-site
- observe and ensure compliance of passive design features on-site.

The passive fire protection course will be a two day course which will include practical demonstrations of the correct installation of passive fire elements and a site visit to observe the correct installation and the practical problems encountered on site associated with their installation.

BOINZ has undertaken to provide these courses due to pressure from its members and has worked hard to deliver them at a very competitive rate without compromising its commitment to quality.

New Training Academy Courses For 2015

The Institute is pleased to bring members and clients a range of new courses from our Training Academy.

007 SIMPLE HOUSE COURSE

The concept of Simple House revolves around a dwelling that will satisfy requirements of Level 1 LBP (Licensed Building Practitioners).
This course is designed to give participants more of an of the acceptable solution that will allow those that design and build to this level of dwelling such that it provides the solution for all clauses of the code that apply to a low risk dwelling.
The modules covered include scope, site, foundations, wall framing, roof framing, wall claddings, roofing, services, facilities and sustaining resources.
Member Rate will be $870.00 plus GST
Non Member Rate will be $1265.00 plus GST

So don't miss this course for 2015

1-2 of April in Wellington
5-6 of August in Christchurch
10-11 of December in Auckland

014 B2 DURABILITY COURSE

This course will discuss the Building Code requirements around the durability of various building components, ensuring the continued safety and health of building users.

This course is designed to give the building surveyor an insight into the essential role they play in ensuring a building is fit for purpose, by meeting the code requirements with only normal maintenance.
The modules covered include durability and building controls, classification of exposure zones, timber, steel fastenings and fixings, concrete, structural steel, claddings, membranes, sealants and tanking.
Member Rate will be $870.00 plus GST
Non Member Rate will be $1265.00 plus GST

So don't miss this course for 2015
11-12 of May in Christchurch
10-11 of August in Auckland
3-4 of December in Wellington

012 H1 ENERGY EFFICIENCY COURSE

This course 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).

The course outlines and explains the various means available to establish compliance with NZBC clause H1. It will also provide the information necessary for the efficient use of energy for heating and the efficient storage of hot water and the efficient use of energy for artificial lighting and meet compliance through the use of the Acceptable Solution.
A student will be able to apply this knowledge in assessing designs for compliance and also be able to ensure that the energy efficient design is faithfully implemented on site to ensure compliance of the completed construction.
The modules covered include building controls and efficiency, how energy insulation works, the schedule method, certifying the R-value of building components, the calculation method, BPI for Housing and ALF, Modelling methods, hot water and artificial lighting.

Member Rate will be $1300.00 plus GST
Non Member Rate will be $1695.00 plus GST

So don't miss this course for 2015

9-11 of March in Christchurch
9-11 of June in Wellington
21-23 of September in Auckland
7-9of December in Christchurch

If you are interested in attending any of our courses you are welcome to register online through our brand new website Training Calendar.

If you have any queries about any of our courses you can email Victoria at training@boinz.org.nz or phone on 04 473 6003.

2014 Training Academy Public Schedule Calendar

MARCH		
9,10,11	TA012 H1 Energy Efficiency (NEW COURSE)	Christchurch
12,13	TA013 E2 Weathertightness	Christchurch
16,17,18	TA020 Fire Documents	Wellington
23,24,25,26	TA008 NZS 3604 Timber Framed Buildings	Wellington
30	TA001 Communication/TA003 Ethics	Wellington
31,1-2 April	TA002 Building Controls	Wellington
APRIL		
1	TA010 Light Steel Framing	Auckland
1,2	TA007 Simple House (NEW COURSE)	Wellington
1,2	TA009 NZS 4229 Concrete & Masonry Building	Christchurch
28	TA004 Accreditation	Wellington
29,30	TA006 Site Inspection	Wellington
MAY		
4,5,6	TA002 Building Controls	Christchurch
7	TA015 Clause D1 Access Routes/ TA015 Clause F1 Safety of Users	Christchurch
11,12	TA014 B2 Durability (NEW COURSE)	Christchurch
18,19	TA013 E2 Weathertightness	Auckland
20,21	TA005 Plan Processing	Auckland
25,26,27	TA020 Fire Documents	Christchurch
JUNE		
8	TA010 Light Steel Framing	Wellington
9,10,11	TA012 H1 Energy Efficiency (NEW COURSE)	Wellington
15,16,17,18	TA008 NZS 3604 Timber Framed Buildings	Auckland
22,23,24,25,26	TA019 Plumbing Drainage & Compliance	Auckland
23,24	TA009 NZS 4229 Concrete & Masonry Building	Auckland
JULY		
20,21	TA006 Site Inspection	Auckland
20,21,22	TA020 Fire Documents	Auckland
22,23	TA013 E2 Weathertightness	Wellington
27	TA001 Communication/TA003 Ethics	Auckland
28	TA004 Accreditation	Auckland
29,30,31	TA002 Building Controls	Auckland
AUGUST		
3,4	TA005 Plan Processing	Christchurch
5,6	TA007 Simple House (NEW COURSE)	Christchurch
10,11	TA014 B2 Durability (NEW COURSE)	Auckland
10	TA015 Clause D1 Access Routes/ TA015 Clause F1 Safety of Users	Wellington
11	TA010 Light Steel Framing	Christchurch
SEPTEMBER		
1,2	TA009 NZS 4229 Concrete & Masonry Building	Wellington
3,4	TA013 E2 Weathertightness	Christchurch
7,8,9	TA002 Building Controls	Wellington
7,8,9,10	TA008 NZS 3604 Timber Framed Buildings	Christchurch
14,15,16	TA020 Fire Documents	Wellington
21,22,23	TA012 H1 Energy Efficiency(NEW COURSE)	Auckland
OCTOBER		
12,13,14,15,16,	TA019 Plumbing Drainage & Compliance	Wellington
19	TA001 Communication/TA003 Ethics	Christchurch
20	TA004 Accreditation	Christchurch
21,22	TA006 Site Inspection	Christchurch
29	TA010 Light Steel Framing	Auckland
NOVEMBER		
2,3,4	TA020 Fire Documents	Christchurch
5,6	TA009 NZS 4229 Concrete & Masonry Building	Christchurch
9,10,11,12	TA008 NZS 3604 Timber Framed Buildings	Wellington
16	TA015 Clause D1 Access Routes/ TA015 Clause F1 Safety of Users	Auckland
18,19	TA005 Plan Processing	Wellington
23,24,25	TA002 Building Controls	Christchurch
DECEMBER		
1	TA010 Light Steel Framing	Wellington
3,4	TA014 B2 Durability (NEW COURSE)	Wellington
7,8	TA013 E2 Weathertightness	Auckland
7,8,9	TA012 H1 Energy Efficiency (NEW COURSE)	Auckland
10,11	TA007 Simple House(NEW COURSE)	Auckland

LIGHT STEEL FRAMING COURSE

BOINZ in close partnership with NASH have developed a new course on Light Steel Framing, being offered by BOINZ as part of the Diploma in Building Control Surveying.

The one day course offers the delegate a thorough immersion and understanding of Light Steel Framing and will include manufacture, distribution, quality control, roll-forming as well as specifying documents such as the NASH Standard, which was the first to be officially cited as a method of compliance in the Building Code . The course will also cover all the essential building elements and assist in developing the delegate's competency when considering compliance issues to be considered prior to the granting of a building consent and practical processes for on-site inspections.

The course is a mix of presentations, group work, discussion and assignment. It will ensure that delegates that come from organisations with differing approaches to Light Steel Framing are comfortable with the topic and have a common approach to compliance in this emerging sector of our economy.

The next Light Steel Framing course confirmed to run is in Auckland on the 1st April 2015. There is also a course scheduled for the 8th June 2015 in Wellington.
Please visit our training calendar on our website to register, or contact Training Manager Victoria Purdie on 04 473 6003 or training@boinz.org.nz

2015 Annual General Meeting

The Institute's 2015 Annual General Meeting will be held at the Skycity Convention Centre,
88 Federal St, Auckland, in the Main Plenary (New Zealand Room 3 - 4) on Monday 20th April 2015 commencing at 4.00pm.
Access to the 2015 AGM will be done by identification via your current Membership Card, proving your current membership status.
AGM Timelines
Notices of Motion to Chief Executive to be received by 3rd March 2015

Notices of Meeting, agenda and any notices of motion to members will be conveyed to members by 23rd March 2015

Branch AGM Update

At the 2014 Branch Chairs and Secretaries Forum, there was significant debate around both the timing of branch AGM's in relation to the operational period of a Branch year and the term of the Branch electoral year.
November/December 2015 will see the launch of newly scheduled branch AGM dates. This will be accompanied with the Branch Executive term extending out to two years from the existing one year term. These changes are expected to streamline the Branch AGM process.

Advantages behind adopting the November/December date for Branch elections and the AGM are:

- All members are financial as opposed to being in the transition paying period over December - February
- The incoming committee can prepare activities for the new year (without 1/4 or 1/3 of the year having disappeared)
- Higher meeting attendance during November/December as opposed to February/March when there is a higher annual leave uptake
- A greater "lead up" time in terms of nominee consideration and also nominee preparation for the election process.

The table below gives an indication of how the timings of this process over successive years will work

Electoral Term	Branch AGM Election Date	Branch Executive planning period for year ahead
1st January 2016 – 31st December 2017	TA013 E2 Weathertightness X(day) - Nov/Dec (month) - 2015	Christchurch Nov/Dec 2017
1st January 2018 – 31st December 2019	TA008 NZS 3604 Timber Framed Buildings X(day) - Nov/Dec (month) - 2017	Wellington Nov/Dec 2019
1st January 2020 – 31st December 2021	X(day) - Nov/Dec (month) - 2019	Nov/Dec 2021

The Training Academy also provides an In-house training option for our courses. This has been utilised by individual councils and cluster groups. Should you wish to customise a course please don't hesitate to discuss options with us to allow you to meet 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 website www.boinz.org.nz or contact Victoria on training@boinz.org.nz for queries on next year's course dates.

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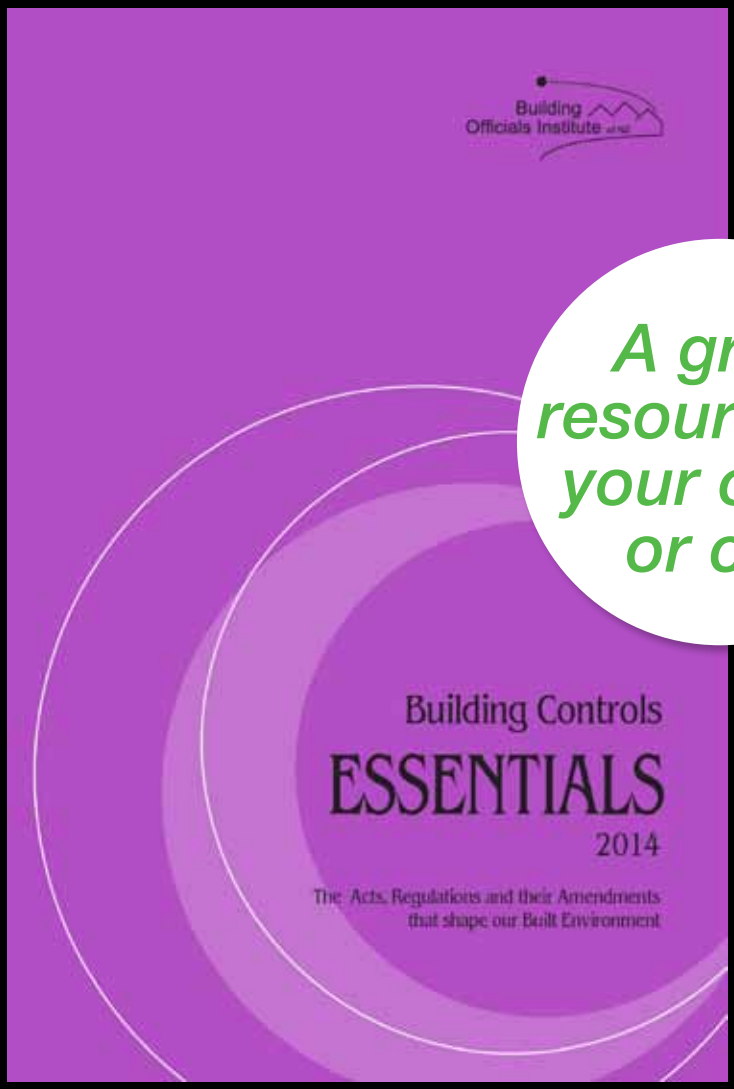

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