

# PROPERTY & BUILD

Office space  
popular investment

*Where are the best yields?*

**THE ADVANTAGES OF USING A  
PUBLIC-PRIVATE-PARTNERSHIP**

**HOUSING CRISIS A SYMPTOM  
OF GREATER WOES**

# FIRST AID TRAINING



NEW ZEALAND  
**RED CROSS**

RĪPEKA WHERE AOTEAROA



- Red Cross offers a wide range of courses.
- Red Cross can organise courses to be run at your workplace.
- Red Cross have full time professional tutors delivering consistent training nationwide.
- Red Cross can tailor courses to suit you.
- Red Cross have the most up-to-date training techniques and training aids.
- Red Cross provide a variety of courses and are happy to discuss your needs.
- Red Cross stock a comprehensive range of first aid equipment including fully automated external defibrillators.

Use the Red Cross Advantage – first aid courses include: **Comprehensive Plus** (16 hrs), **Comprehensive** (12 hrs), **Essential** (8 hrs), **Save-A-Life** (4 hrs). **Revalidation** or **Tailored Training** to suit you at your place or ours.

Book Now: [www.redcross.org.nz](http://www.redcross.org.nz)

## AUTOMATED EXTERNAL DEFIBRILLATORS

Is your location prepared with a Powerheart G5?

- Real-time CPR feedback
- Rescue Ready® self-testing
- User-paced prompts
- Fast shock times
- Customised escalating energy

0800 RED CROSS

0 8 0 0 7 3 3 2 7 6

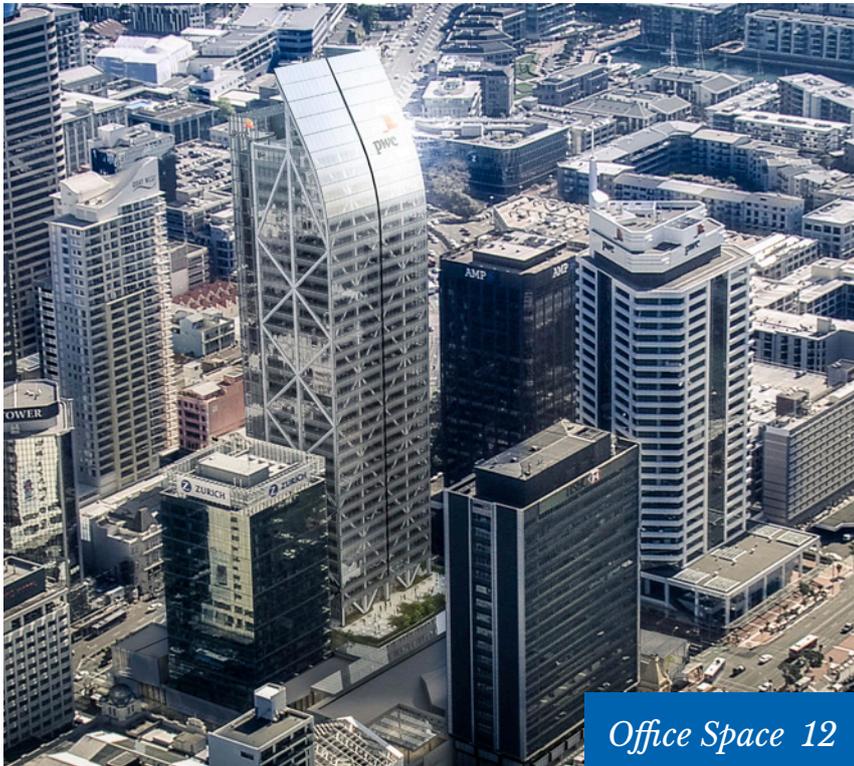
COMPARE OUR PRICES AND **SAVE**  
CALL FOR A FREE NO OBLIGATION QUOTE

*When a sudden cardiac arrest (SCA) strikes, the first few minutes are critical to survival...*



*The Powerheart G5 self checks over 62 items daily*

# PROPERTY&BUILD



Office Space 12



Achieving top marks 39

## Cover story

Strong demand fuels office sector yields ..... 12

## Compliance & legal

New earthquake-prone building regulations mean big changes ..... 22

## Construction

World's first modular construction building code drafted ..... 7

Growth in fleet investment reflects industry demand ..... 8

Engineered resin increases ground-bearing capacity ..... 9

Scaffolding tent helps build homes faster ..... 10

## Design

Regional design award winners offer striking showpieces ..... 19

## Engineering

Could the Grenfell disaster in the UK happen here? ..... 28

## Facilities Management

Dedicated trade show runaway success ..... 26

Australian company reinvents the street light ..... 27

Will we ever have enough car parking spaces? ..... 36

Self-driving cars will transform commercial property ..... 37

How to remove unsightly graffiti ..... 38

## Finance

Making the case for public-private-partnerships ... 4

## Materials

Timber standing tall in high-rise construction ... 16

## Property

What is impeding city development? ..... 6

Financing bigger price driver than the election ..... 24

Collaborative consents process to boost housing ..... 25

## Training & Management

Don't be caught by online anglers ..... 34

How to get top marks when it comes to procurement ..... 39

**Editor**  
Geoff Picken  
021 2 507 559  
geoff@infrastructurebuild.com

**Art Director**  
Lewis Hurst  
lewis@hcreative.co.nz  
021 14 66 404

**Published by**  
Media Solutions Ltd  
PO Box 503, Whangaparoa 0943  
09 444 5140, 09 489 8663

**Subscriptions**  
Free to qualified readers.

[www.propertyandbuild.com](http://www.propertyandbuild.com) Free access to searchable archives in key categories such as Local Government, Construction, Cities, Energy, Environment, Transport, Water, Communication, Property Development, Investment & Policy, Training & Management, Technology and Innovation. Free online access to daily news features, case studies and events. Original material may be reproduced with permission and acknowledgement contact [mike@infrastructurebuild.com](mailto:mike@infrastructurebuild.com).

ISSN 2324-3163 (Print) ISSN 2324-3171 (Online)

# What does a PPP for Dunedin hospital mean?

*The recent announcement that a public-private partnership (PPP) is to be considered for the new Dunedin hospital created some media attention, Hamish Glenn notes*

## **With that has remerged the confusion with privatisation and some very selective referencing of PPP performance.**

It seems like a good opportunity to again clarify what a PPP is and what one might mean for a hospital or other public asset.

A PPP is one way a public agency buys or “procures” infrastructure.

All new major public assets these days must be considered as a PPP.

They are one of the tools in the toolkit and, like alliancing, design and build or traditional contracting, must demonstrate greatest net value to taxpayers before getting the go ahead.

A PPP is a long-term contract to design, build, finance and maintain a public asset, potentially with operation of the asset included.

There is no operational (i.e. clinical services) component to the Dunedin hospital, so this project will just be evaluated as a ‘DBFM’.

This will still mean the project is procured in a radically different way to, for example, the Christchurch Hospital.

Under the more traditional Canterbury model, the government (represented by the Ministry of Health and Canterbury DHB) have paid a designer to design the hospital, paid a builder to build it and, once complete, will contract maintenance companies to keep it in good condition.

## **Problem areas**

This standard type of approach works well most of the time, but problems can arise when projects are especially large and complex.

Sometimes the designer and builder won’t agree.

Costs will go up and timeframes slip.

Other times, the client or the builder might cut back on quality to save money, increasing maintenance costs down the track.

Often, a government agency won’t have money available and so will defer a new build or cut back on maintenance with the result being a shoddy or rundown asset.

Interestingly, in spite of this whole process being managed by public agencies, it is very seldom that the public will ever be aware of any of these deficiencies.

Project overruns will only hit the headlines when they reach a level which horrifies.

Even then, there is no guarantee anyone will find out.

Overruns are normally the result of some variation or other issue which seems quite understandable, even when it is the result of poor planning and procurement.

It will be even less common for the public to become aware that cost minimisation on construction has led to far greater expenditure on asset maintenance.

Indeed, it is only when buildings start falling apart within a few years that such an issue attracts

attention.

Shoddy assets will be blamed on anything from bureaucrats for bumbling, politicians for not funding, local providers for lacking competence or just bad luck.

## **Little transparency**

The point here is that there is actually very little transparency in the delivery of most conventionally procured public assets and even less accountability.

The result is that it is the taxpayer who pays, either in higher long-term charges or sub-standard public services.

PPPs are designed to get around these issues.

Contracting a single party to finance, design, construct and maintain an asset over a long term – 30 or so years – forces a whole-of-life approach to infrastructure which disincentivises corner-cutting.

Or more accurately, a well-

designed PPP transfers the risk of corner cutting to the party who cuts the corners.

Because it’s the same party who will be managing the asset in 20 years’ time, it is up to them whether they want to lower their initial investment and spend more later, or the opposite.

The public sector client simply wants, expects and can enforce the outcomes which it contracts.

It’s not the taxpayer who picks up the tab, more often it’s the private partner.

The public sector, in this case the Southern District Health Board, will have just one contract to sign and its formal relationship will be with one party (a private partner representing a consortium of different companies) for the life of the agreement.

Whether a PPP or not, doctors and nurses will continue working for the DHB – it’s just the building and its maintenance which is being procured.





### Important difference

It is also important to note the difference between “procured” and “privatised”.

A PPP remains at all times a public asset.

Ownership sits with the crown (or a council, if it is the one buying the asset), the asset remains on the government’s balance sheet and no public service or asset is privatised.

In return for delivering and maintaining the hospital to the required standard, the private partner is paid a fixed amount every month until the contract is complete.

If the hospital isn’t meeting the contracted expectations, the private partner will be paid less until performance is back up to scratch.

Once complete, responsibility for maintaining the asset transfers to government.

At this point, the government will choose between recontracting

### “Contracting a single party to finance, design, construct and maintain an asset over a long term – 30 or so years – forces a whole-of-life approach to infrastructure which disincentivises corner-cutting”

the same facilities maintenance company to keep the building up to scratch, hiring a new one, or rebuilding the asset and starting over.

This arrangement can be attractive to governments because there is no large upfront capital cost to deal with, meaning public money can be used elsewhere, and if the hospital

building has problems it’s the private partner who is liable, not the taxpayer.

### Proven performance

Enabling private sector innovation and managing whole-of-life risks effectively is what PPPs are designed to achieve.

It’s the reason why multiple studies from Australia to Canada and even the UK (where a number of flawed PPPs were contracted) have shown that, when procured properly, PPPs do deliver value.

They don’t always.

Private sector debt costs more than public sector debt and PPP contracts are expensive to oversee.

The benefits of taking a whole-of-life approach (which are usually the result of efficiencies from bundling design, construction and maintenance) plus the price, timing and quality certainty of a PPP have to exceed this additional cost.

Government officials are diligently looking at whether this is the case for Dunedin Hospital.

They may determine that a PPP is unlikely to deliver this value, for any number of reasons, and so a more conventional approach may be preferred.

Alternatively, the decision may be taken to proceed with a PPP, but the feedback or proposals from tendering parties be such that a PPP does not add value.

Or PPP project tenders may deliver a better 30-year hospital than a 30-year hospital conventionally procured, in which case a PPP will be proceeded with.

As yet, it is not clear what the decision will be, but it is right and proper that they are asking the question.

*Hamish Glenn is Senior Policy Advisor at the New Zealand Council for Infrastructure Development (NZCID)*

# Housing crisis only the beginning if development roadblocks not addressed

*There is something very wrong with the way we plan and build our cities, Connal Townsend believes*

**We're seeing it manifesting in rising housing unaffordability in our main centres that will inevitably spread to the regions, underinvestment in vital public infrastructure and an inability to create enough homes to contain our growing population.**

All those factors together mean that for our industry getting projects to completion is expensive, difficult and increasingly lengthy.

The result is we are not building enough homes, commercial hubs, schools, transport and social spaces in our cities to cater for those who need them.

So, what's going on?

## **Our planning system is uncoordinated**

Our planning system and those within it are working at cross-purposes.

That results in frustrating, litigious and expensive processes for everyone from large developers to those looking to improve the family home.

The lack of coordination is largely driven by key Acts of Parliament such as the Resource Management, Building, Land Transport Management and Local Government Acts pulling in different directions, supported by officials doing the same thing.

The situation is exacerbated by policy settings which do not create the correct incentives for onshore private saving and investment.

Developed and tweaked over the years, the current development ecosystem polarises mutually dependant factors, manufacturing artificial conflict.

Environmental issues or development, public transport or roads, profits or prosperity.

No developer would see a quality building next to an unswimmable beach or in an area with undrinkable water as success.

The modern world is not a zero-sum game and to achieve success all interests must be assessed and balanced.

The system must be overhauled to reflect that reality.

## **Out-of-date funding mechanisms**

What is a zero-sum game, is how public infrastructure is funded.

Councils are under pressure to provide and maintain vital public spaces, facilities and amenities.

Despite huge advances in the way we live, communicate and work, alongside considerable population growth and a general rise in international living standards, they struggle with the same tools we were using 50 years ago.

Relying solely on rates, debt and development contributions caps the resources available to councils and actively disincentives investment in growth infrastructure.

Several large infrastructure projects such as Auckland's City Rail Link are acting as handbrakes to further development and require central government funding to relieve the bottleneck.

Without the provision of suitable infrastructure, cities cannot cater for forecasted growth, nor can they compete for skilled talent and investment.

New sources of funding such as venture capital, non-strategic asset recycling, sharing of central government revenue such as GST, road pricing and public-private partnerships will allow councils to select from a suite of funding options those most fit for purpose.

This ensures developing and improving public infrastructure doesn't come with such a sting in the tail.

## **Inefficiencies in construction process**

As with other industries, small-scale firms dominate New Zealand's residential construction industry, leading to little economy of scale and reduced productivity.

The Productivity Commission reported in its 2012 Housing Affordability Investigation that building costs in New Zealand are 15-25 per cent higher than in Australia.

While nothing can be done about our distance from key input producers, productivity measures such as scale building, working together to achieve economies of

scale and improved procurement methodologies will significantly reduce costs and barriers to new development.

There has been a great deal of tinkering over the years – new legislation tacked on, new working groups and organisations.

All it has achieved is additional complexity and lack of coordination.

To have modern, well-functioning cities with safe and attractive places to live, work and socialise in the future, we need to make changes now.

Property Council has 10 recommendations to address the barriers to our development ecosystem.

With the support of our members we continue to work closely with the government, local councils and the property sector to together address the issues that have created the current development bottleneck.

Making necessary changes now will allow the property sector to get on with the job of designing and building the 21<sup>st</sup> century cities that New Zealanders expect and deserve.

*Connal Townsend is Chief Executive of the Property Council NZ, which represents the interests of the commercial property investment industry – including commercial, industrial, retail and property funds*

## *Property Council's 10-point plan for removing urban development barriers*

- 1.** Replace the one-size-fits-all district planning system with a flexible, dynamic system that enables home and infrastructure affordability and is an effective response to growth and a changing future.
- 2.** Integrate the urban planning system to ensure alignment with economic development, environmental protection and infrastructure investment by making the Resource Management, Building, Land Transport Management and Local Government Acts work together rather than at cross-purposes.
- 3.** Replace traditional funding mechanisms such as rates with a suite of funding tools that can be used on their own or combined to reignite investment in public infrastructure.
- 4.** Review the commercial property tax system to ensure alignment with other capital-intensive sectors.
- 5.** Amend the overseas investment screening regime to level the playing field for investment in commercial property so funding is available for quality buildings in New Zealand cities.
- 6.** Simplify the building consent process so that it focuses on risk rather than detailed box-ticking so building better buildings (and upgrading existing ones) is more efficient and affordable.
- 7.** Improve construction industry productivity by building quality housing at scale near job hubs and multimodal transport connections to increase liveability and affordability of cities.
- 8.** Champion the role of technology and use of alternative products and innovative building construction methods.
- 9.** Liberalise the approved building products regime, especially for quality international products from reputable businesses and countries.
- 10.** Support upskilling and education within the construction industry to address lack of skilled labour and ensure employees are equipped with the skills they need into the future.

# First modular construction building code drafted

*The world's first Modular Code of Construction handbook for industry best practice has been developed in Australia*

**The document is the result of a strategic partnership between Monash University, the Victorian Government, Engineers Australia and industry.**

According to the Green Building Council of Australia, building construction uses nearly one-third of the world's resources and around 40 per cent of global energy while emitting 40 per cent of total greenhouse gas emissions.

Factory automation and innovation in modular construction can significantly reduce these impacts while improving safety and quality control.

However, the construction sector has been slow to adopt these processes and there is little guidance available for their inclusion in

a regulated way.

The *Victorian Modular Code of Construction Handbook* is the first comprehensive publication of its type in the world to address this issue in a holistic way.

The use of more efficient off-site manufacturing techniques in construction has the potential to improve economic and social outcomes through more efficient use of our limited resources and the ability to deliver more affordable, well-designed and durable construction.

Well-regulated modular construction will be a key contributor to the realisation of this potential.

#### **World-class**

Treasurer Tim Pallas says the project

represented the ability of the industry to collaborate and innovate to deliver world-class outcomes.

"We recognise that the construction industry is rapidly changing and that prefab construction can play an important role in delivering affordable housing, and that new technologies – if used correctly – can transform the industry, and further boost the Victorian economy".

Monash University director of industry engagement in the Faculty of Engineering, and past chairman of Engineers Australia, Victoria Madeleine McManus OAM, says the success of the code's development was in the collaborative work driven by the university.

"This collaboration brought

together stakeholders across government, industry and academia with a common focus of raising the bar for the modular construction industry and delivering an international outcome for significant impact," McManus explains.

A Modular Construction Codes Board (MCCB) was established by Professor James Murray-Parkes working with Dr Yu Bai from Monash University.

The handbook is a collaborative project that has been led by Monash and prepared with support from the Department of Economic Development, Jobs, Transport and Resources, within the State Government of Victoria, Australia and a range of industrial and university partners.

## WINNING IS EVERYTHING

Learn how to *win tenders* from the experts

*"Honestly, I don't think I have been to a better run or better presented course in all of my very long career. 10/10."*

In the past year, the 20-strong Plan A team wrote over 300 tenders – across almost every industry sector.

As a team we've:

- Developed winning bid strategy
- Written compelling content (often from scratch)
- Reviewed, edited, and designed tender responses for contracts in Australasia, Asia Pacific, North America, Europe, the Middle East and Africa

We've won billions of dollars' worth of work for our clients.

### LIFT YOUR GAME

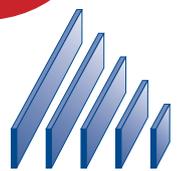
Training in Tender and Proposal Writing  
**ONE DAY COURSE**

Includes evaluation scoring & executive summaries

**AUCKLAND AIRPORT**  
5 December 2017  
NZ\$750 PLUS GST per person

**REGISTER NOW!** [info@planawriters.com](mailto:info@planawriters.com) or see [www.planawriters.com](http://www.planawriters.com)

Find out more: **NZ** 0800 752 622 +64 9 979 5121 **AUS** 1800 661 377

  
**PlanA**<sup>TM</sup>  
**TENDER SPECIALISTS**

# Construction companies planning fleet growth to meet growing demand

*A new survey has found that more than half of construction companies plan to increase their fleet size amidst growing demand*

**The Telematics Benchmark Report: Global Construction Edition survey found managing costs (46 per cent), growing revenue (30 per cent), and business expansion (26 per cent) were top business challenges, as the industry faces increased pressure to meet growing demand for its services.**

In fact, the global construction market is expected to grow by 85 per cent to US\$15.5 trillion worldwide by 2030 according to Teletrac Navman, a global software-as-a-service provider that leverages location-based technology for GPS tracking and fleet management solutions.

The survey also revealed technology disruption, economic optimism and labour shortage, in addition to several other key trends.

**Technology is beginning to disrupt construction, with a majority of companies looking for ways to improve efficiencies and reduce accidents**

A variety of emerging technologies are top of mind, including fatigue monitoring (27 per cent), machine vision technology (19 per cent), drones (16 per cent), and big data analytics (14 per cent). Only nine per cent cited autonomous/self-driving vehicles, despite the hype.

More than 80 per cent of organisations are already using telematics or plan to do so in the next year, citing equipment tracking as the most common use (75 per cent), followed by tracking speed (61 per cent), and driver hours (53 per cent).

More than half of organisations using telematics have seen reduced fuel costs, some attaining up to a 40 per cent reduction. Almost one-third have seen fewer accidents.



**Optimism in the construction market remains high as the economic recovery continues to pick up speed on a global scale**

More than 90 per cent of companies plan to invest in their business in 2017 by upgrading fleets (45 per cent), finding, retaining and developing talent (38 per cent), and/or integrating new technologies and systems (34 per cent).

Financial considerations, including reducing costs (41 per cent) and increasing profits (48 per cent), are top goals for 2017.

More than half of organisations will be increasing the number of equipment/fleet size over the next year as a result of more demand for services (64 per cent), replacing older equipment/vehicles (55 per cent), and domestic growth (34 per cent).

**A shortage of skilled labour is impeding growth while payroll remains a top expense for companies**

Finding, retaining and developing

talent was cited as a top business challenge for nearly a quarter of respondents, and more than half named increasing material and labour costs as a top concern.

Although payroll (55 per cent) is cited as the largest business expense area for organisations, followed up by equipment/vehicle maintenance (33 per cent), 54 per cent plan to hire more drivers/equipment operators and purchase new equipment this year.

To address the worker shortage, organisations are increasing pay (53 per cent), developing educational/training programmes (36 per cent), offering better benefits (33 per cent), and hiring freelance equipment operators (29 per cent).

"The construction industry has long faced pressures to do more with less – more output with fewer resources – to meet customer demands, while also ensuring the safety of its workers and profitability of the business," says Ian Daniel, vice president and managing director Asia Pacific, Teletrac Navman.

"It's no easy task to balance these competing interests, which is why so many fleets are turning to modern technologies, such as telematics, to find efficiencies.

"We're committed to supporting the industry by helping them understand and navigate these market shifts."

The 2017 Teletrac Navman Telematics Benchmark Report is based on a survey of more than 1,200 fleet operations and fleet management professionals from around the world, including 212 respondents from New Zealand.

Of the total survey respondents, 260 indicated that their primary industry was construction, mining, or oil and gas, 73 of which came from New Zealand.

The results described in the 2017 Telematics Benchmark Survey: Global Construction Edition, were compiled from those 260 respondents.

**The full report can be found at: [teletracnavman.co.nz/benchmark/construction](http://teletracnavman.co.nz/benchmark/construction).**

# Non-invasive ground improvement solutions for new builds and renovations

*Advances in releveling products and processes for buildings have created cost-effective and less invasive alternatives to traditional underpinning methods*



**For builders and developers, innovative solutions such as Teretek engineered resin from ground engineering specialist Mainmark can also increase the ground's bearing capacity.**

This ground treatment can help to relevel and resupport an existing structure and avoid the need to replace foundations or rebuild sections of a dwelling when renovating or adding the extra load of an extension.

Extreme weather events including periods of drought followed by heavy storms can affect the ground on which a house sits, with changing levels of moisture causing soils to contract and expand.

Many buildings in coastal areas also sit on sandy, shifting soils.

These are just some of the

environmental factors that can contribute to ground instability and weakness, leading to building subsidence.

The resulting damage this can cause to a home, including uneven floors and cracks starting to appear in the structure, is often a catalyst for property owners to decide to undertake a renovation or extension.

Teretek engineered resin is injected into the foundation soils beneath a structure's footings, in a process likened to keyhole surgery.

The unique two-in-one solution delivers both ground improvement and releveling of the building by increasing ground bearing capacity, filling voids, and minimising soil deformation, at a significantly lower

cost than traditional underpinning.

Mainmark technicians inject the resin beneath the sunken sections of the affected structure using their fast, precise and controlled method.

It's possible to raise and relevel strip footings, raft slabs, and 'waffle-pod' slabs, as well as infilling slabs and driveways, using Teretek.

"We have seen the issues that can arise when building works, from single dwellings to multi-residential and commercial developments, are carried out without the appropriate foundation ground support," says Mainmark Regional Sales Manager NZ James O'Grady.

"Defects such as cracks in walls and sinking foundations are likely signs of serious structural

issues that may present or be exacerbated if ground bearing capacity is not addressed prior to adding a second storey or an extension to an existing structure.

"Despite extensive use in a range of environments, including resolving complex ground engineering problems for civil infrastructure, residential, mining, commercial and industrial sectors, engineered resin is still an unfamiliar solution to some in the building industry."

Resins have been used for more than 25 years and have a proven performance history, O'Grady notes. "This is now internationally recognised as one of the most advanced ways to improve ground bearing capacity and relevel structures and a highly effective way to resolve issues quickly."

# Scaffolding tent helps builds homes faster

*The ever-changing Auckland weather is no longer an issue for Auckland-based design and build company, Jalcon Homes*

Constructing New Zealand's largest residential-build scaffolding tent at Hobsonville Point – the first of its kind in the industry – Jalcon are setting new innovative standards for all New Zealand building companies by helping build quality homes faster.

Jalcon Project Manager Matthew Hambrook says, although constructing the tent does cost more initially, costs are recovered by quicker construction times and lower overhead costs.

“It goes without saying Auckland needs more homes, and fast.

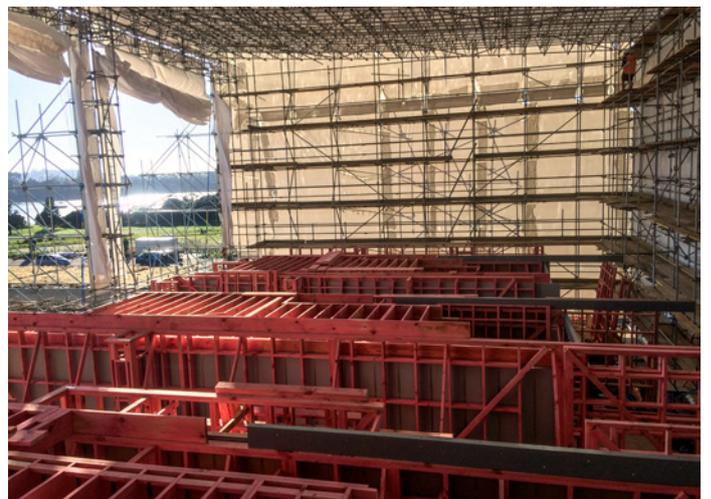
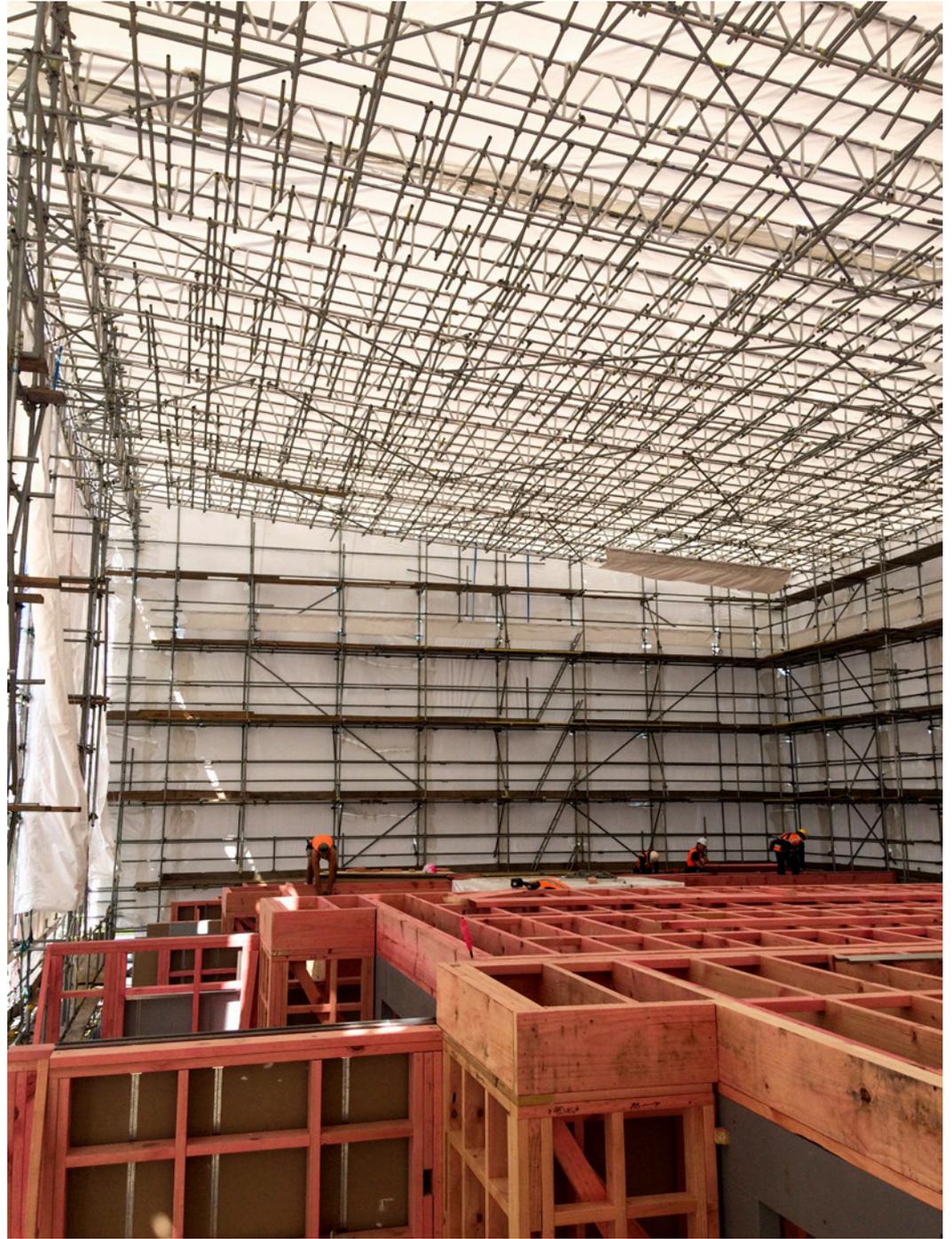
“We want to help make that happen, so have come up with a solution to avoid common building pitfalls such as unruly weather affecting a build's schedule and completion date.

“The tent also enables us to provide a safer work environment with no wet/slippery areas or high winds to contend with.

Sub-contractors prefer working here too, compared to exposed sites, due to no lost time.”

The scaffolding is installed before construction starts with a roof and gets covered in.

In this case, the tent is covering 12 residential apartments, and Jalcon will be using the tent on other future large-scale builds at Hobsonville Point.



# Developing Greater Melbourne

Transport, Infrastructure, Real Estate, Economic Development & Investment



30 - 31 October 2017 | Melbourne

Part of

**INFRACONSERIES**  
Transport • Infrastructure • Connectivity • Urban Development

**Bringing senior infrastructure leaders from Government and industry together to explore strategies in attracting investments and advancing development in the region**

**HEAR FROM 50+ EXPERT SPEAKERS FROM LEADING ORGANISATIONS, INCLUDING:**



**Hon. Jacinta Allan MP,**  
*Minister for Public Transport,  
Minister for Major Projects,  
Leader of the House,  
Member for Bendigo East,  
Victorian Government*



**Toby Kent,**  
*Chief Resilience Officer,  
Melbourne City Council*



**Ivan Colhoun,**  
*Chief Economist, Markets,  
National Australia Bank*



**Michel Masson,**  
*Chief Executive,  
Infrastructure Victoria*



**Jeroen Weimar,**  
*Chief Executive Officer,  
Public Transport Victoria*



**Brian Morris,**  
*Chief Executive Officer,  
Melbourne and Olympic Parks*



**Kate Cornick,**  
*Chief Executive Officer,  
LaunchVic*



**David Scrivener,**  
*Executive Director, Head of  
Infrastructure and Utilities,  
Westpac Institutional Bank*

**LEARN PRACTICAL STRATEGIES AND GAIN CROSS-INDUSTRY INSIGHTS ON:**



Enhancing collaboration between Government and industry to achieve sustainable economic growth



Major Infrastructure updates driving economic development in: Health, Housing, Hospitality, Tourism, Transport, Education and more!



Alternative funding models that improve PPP outcomes

**Exclusive 10% Discount for Property & Build Readers!**  
**Simply Quote: PROPERTY10 When Registering**

**To Book or Find Out More:**

● **Call:** 02 9188 8950 ● **Visit:** [www.dgm.avededge.com](http://www.dgm.avededge.com) ● **Email:** [info@avededge.com](mailto:info@avededge.com)

# Office space proving popular

*The office sector continues to provide investors with solid returns as a result of strong demand growth across the country, a new report has found*

**Employment growth is keeping tenant demand strong and high absorption rates are driving rental growth upwards, according to Colliers International's New Zealand CBD Office Report 2017.**

High-profile office buildings continue to be attractive to both local and offshore purchasers, especially for properties with attractive lease terms, high occupancy and low capital expenditure requirements.

Colliers International Research and Consulting National Director Alan McMahon says the report paints an overall positive picture of New Zealand's office markets.

"Office sales are much stronger than the other commercial property sectors, and investor confidence remains high.

"There is plenty of buoyancy in the market," he adds.

"Provisional figures show \$1.5 billion of office transactions of \$5 million or more took place in the year to June 2017, outpacing both the industrial and retail sectors.

"Much of this activity took place in Auckland, but we're still seeing strong demand and value growth across the country, with investors continuing to benefit from solid returns."

The current difficulty for prospective parties is finding flagship offices to purchase, which is leading to some parties to purchase developments off the plans, the report notes.

Provisional office sales over \$5 million in the first half of 2017 are well above the other commercial sectors.

Colliers' analysis of sales shows there were 56 office transactions worth over \$1.5 billion in total in the year to June 2017 across New Zealand, with the majority occurring in Auckland.

According to the Ministry of Business, Innovation and Employment's latest *Short-term Employment Forecast* report, demand will be strongest for highly

skilled workers in the three years to 2020.

The Auckland and Waikato regions are forecast to see the largest growth of highly skilled employment by 2020 of 10.5 per cent and 9.3 per cent respectively, driving the demand for office space.

Statistics New Zealand's building consent data for the year to July 2017 showed the value of new building consents for offices including administration and public buildings across New Zealand increased 7 per cent to \$894 million compared with a year ago.

The Auckland region saw an increase in both number (up 3 per cent) and value of building consents issued (up 28 per cent), while increases in Wellington were more modest.

In contrast, fewer consents are being issued (down 18 per cent in Canterbury as construction demand eases).

Colliers' latest *Investor Confidence Survey* for Q3 2017 shows that office sector sentiment for Auckland and Christchurch is only slightly lower when compared with a year ago whereas Wellington is slightly higher.

The net score of optimists minus pessimists was 42 per cent in Auckland, 38 per cent in Wellington and -14 per cent in Christchurch.

## Auckland

**Strong population and employment growth plus investment in infrastructure all point to a positive outlook for Auckland and its central business district.**

The completion of new office stock has helped to ease some of the city's demand pressures.

Auckland's prime CBD office vacancy rate increased to 3.8 per cent in June 2017, up from 1.9 per cent a year earlier.



Commercial Bay, Auckland

Sam Gallagher, Director of Auckland CBD Office Leasing at Colliers International, says positive rental growth is expected to continue.

"Although a substantial amount of new office stock is due to become available in 2019, this will only address pent-up demand," he believes.

"In fact, demand remains so strong that new office developments are being pre-leased well before they are completed."

Gallagher points to Precinct Properties' 39,000sq m office tower development, Commercial Bay, which is already 66 per cent pre-leased as of August 2017 – well ahead of its mid-2019 completion date.

## Supply & Demand

Major developments in the CBD including Precinct's Commercial Bay office tower and the City Rail Link are underway.

Mansons TCLM has recently announced its plans to build a six-level office building at 155-167 Fanshawe Street with construction expected to commence late 2017.

Approximately 17,900 sqm of new prime office stock is expected to be completed by the end of 2017, which will slightly increase secondary vacancy rates as tenants migrate to newer premises.

A greater focus on attracting and retaining staff through quality workplaces has seen a reshuffle of tenants from secondary stock



to newer, more efficient floor plates.

Auckland's CBD overall office vacancy has increased for the first time in four years, edging up to 5.7 per cent in the June 2017 survey from 5.5 per cent a year ago, as a result of the completion of two office buildings in the prime sector.

Overall vacancy is likely to remain between 5 per cent and 6.6 per cent over the next five years, which is still well below the 20-year average of 10.6 per cent.

### Rents & Incentives

Average net effective office rents have increased over the last year to \$425 per sqm (up 5.5 per cent) for prime and \$218 per sqm (up 12.2 per cent) for secondary in June 2017.

Rental growth is expected to continue in the short term; in particular rental rates for new builds will remain elevated when compared to existing product.

### Yield & Investment

Average CBD office yields have firmed across the board in the last year with prime currently at 6.4 per cent (down 40 bps) and secondary at 7.6 per cent (down 70 bps) in June 2017.

Two large office properties sold in the first half of 2017 (46 Sale Street and 205 Queen Street) went to offshore investors, and both reflected strong yields.

Further yield compression is expected in the short term as yield-hungry investors continue to be active, heightened by few

opportunities available for purchase.

## Wellington

**A consequence of last year's Kaikoura earthquake was a large reduction in Wellington CBD office stock, and noticeable tenant churn over the last 12 months.**

Steve Maitland, Associate Director of Commercial Leasing at Colliers International in Wellington, says tenants are finding it increasingly difficult to find the perfect option.

"Once they overlay their requirements for seismic, size, location and budget there may be very few realistic properties to consider, of which one is a

standout and the remaining properties require compromises," he says.

"Tenants are accelerating their processes to lock down conditional contracts on premises and then undertake due diligence in relatively short periods of time.

"This gives them control over the option and blocks competition from other tenants.

"Tenants who are able to do their 'homework up front' and work through their internal approvals in a timely manner are nimbler when dealing with the reduced capacity and the competition from other tenants."

McMahon says there has been a significant reduction in CBD office stock and noticeable tenant churn over the last 12 months.

"Virtually no prime stock is available, with only 0.1 per cent vacant, as a consequence of buildings being removed from the total stock due to seismic damage," he explains.

"This has driven up average prime gross rents, which have increased 5.5 per cent over the past year to \$481 a square metre."

### Supply & Demand

Colliers' post-quake January 2017 survey showed that total office stock had reduced by nearly 100,000 sqm, intensifying the demand for prime CBD office space.

The June 2017 survey shows overall vacancy remaining at a tight 7.8 per cent and prime vacancy reducing to 0.1 per cent, the lowest it has ever been.

Uncertainty regarding the future of the buildings affected by the earthquake means supply, in particular prime office space, will continue to be tight over the next few years.

Over 79,200 sqm of office stock is currently under construction, with 31,400 sqm to be completed by the end of 2017.

Tenant enquiry for new builds has been buoyant and is unlikely to leave any significant vacancy upon completion.

### Rents & Incentives

Low vacancy has directly impacted office rents, with average prime gross face rents increasing by 5.5 per cent over the past year to \$481 per sqm and secondary increasing by 13.8 per cent to \$248 per sqm in June 2017.

Fewer incentives are being offered to office tenants as the market turns in favour of the landlord; a fact that is unlikely to change until more supply becomes available.

New prime office premises will reach new rental benchmarks upon completion.

### Yield & Investment

Large CBD office transactions over the last 12 months included the sale of the ASB Tower, 2-16 Hunter Street in August 2016 for \$32 million, reflecting a 7.75 per cent yield, and 96 The Terrace in June 2017 for \$20 million reflecting a 7.6 per cent yield.

Colliers expect investors to remain cautious over the next 12 months, as the cloud of uncertainty around seismic issues remains, with potential purchasers undertaking a longer due diligence process.



Christchurch's Innovation Precinct

## Christchurch

**Christchurch's CBD rebuild is moderating. Investor confidence is starting to pick up to pre-2011 earthquake levels and both private and public-sector tenants are now settling into new premises.**

Brynn Burrows, Director of Commercial Leasing for Colliers International in Christchurch, says the existing office surplus is likely to take several years to absorb.

"As a result, there are unlikely to be any major office development projects for another five years, at least, unless a large tenant opts for a design build."

Burrows says there is strong demand from medium-to-small local firms wanting to be in the CBD.

"However, these firms don't have many options, as developments to date have focused on larger floor plates, many of which can't be easily subdivided.

"This has created a potential opportunity for the sale or lease of smaller units."

Burrows says the substantial number of office workers now in the CBD has been a welcome boost to the retail and hospitality sectors.

"A number of large retail stores have opened recently, while The Terrace hospitality precinct is due to open at the end of the year.

"All of this is incredibly positive for Christchurch's CBD."

### Supply & Demand

Christchurch's Innovation Precinct is nearly completed and leased, housing a variety of corporate tenants including Vodafone,

Kathmandu and co-working and collaborate office space for tenants like BizDojo, GreenHouse and EPIC.

150 Lichfield Street is the last office development to be completed in the precinct with completion due later this year.

Leasing activity has been buoyant and includes Spark securing 5,000 sqm at 2 Cathedral Square, and Regus and BDO at 287-293 Durham Street.

Even though the construction pipeline is slowing down, supply is expected to exceed demand in the short-to-medium term.

### Rents & Incentives

Due to oversupply, prime office net face rents have seen a pull back to \$370 per sqm in June 2017 from \$395 per sqm a year ago.

Incentives being offered sit between 8 per cent to 12.5 per cent per year of lease term in June 2017.

Some landlords are providing fit-out as an alternative to rent-free periods.

### Yield & Investment

Average prime (7 per cent) and secondary (7.5 per cent) office yields in June 2017 are likely to remain stable over the next 12 months.

Offshore interest in the market has been demonstrated with the offshore sales of the Duncan Cotterill Plaza at 148 Victoria Street and the PwC Centre at 60 Cashel Street.

Syndicators are also taking an interest in the market, with the purchase of 32 Oxford Terrace and 104 Victoria Street.

Colliers predicts purchasers' confidence will continue to increase, especially towards new builds, driven by the increase in building quality, and secured by new long-term leases.

## Hamilton

**A lack of prime stock available in Hamilton's CBD has triggered new office developments in the city.**

### Supply & Demand

New buildings such as the Genesis Building on Bryce Street and the former Farmers Centre redevelopment will provide the city with some much-needed office stock by the end of 2017.

Finding large contiguous floors is difficult in the CBD, the Ministry of Business, Innovation and Employment having completed one of the few large leasing transactions in the past year by securing 2,550 sqm at 426 Victoria Street at the start of 2017.

### Rent & Incentives

Hamilton's CBD office net face rents over the last year have experienced a slight increase with the average prime/new build rent up from \$266 per sqm to \$269 per sqm in June 2017, while incentives for new buildings remain low.

### Yield & Investment

The average prime/new build office yields declined from 7.83 per cent to 7.25 per cent in the last year, reflecting significant investment demand and sales such as 241 Anglesea Street, the Fairfax on 520 Anglesea Street and the ANZ Centre on 21 Grantham Street.



JWL Investment Trust's The Reserve in Tauranga



Dunedin's The Grainery

## Tauranga

### A lack of available office stock continues to be a major constraint in central Tauranga.

However, the current development pipeline may alleviate some of the demand pressures.

### Supply & Demand

Late last year, Manor Group Investments and Auckland-based Watts Group Investments completed the 7,800 sqm office and retail complex at 306 Cameron Road in central Tauranga.

The majority of the building is occupied by Inland Revenue, Housing New Zealand and Tauranga City Council.

Recent announcements of office developments may alleviate demand pressures central Tauranga is facing.

These developments include JWL Investment Trust's The Reserve on the corner of Willow

and Harrington Street which is currently under construction with completion in mid-2018, and Craigs Investment Partners' head office at 2 Devonport Road, which is due to be completed in early 2020.

### Rent & Incentives

Average net office rents in the CBD have risen to \$293 per sqm for new build/prime grade and \$175 per sqm for secondary grade in June 2017.

Average new build/prime grade net office rents have increased by around \$20 per sqm and \$25 per sqm for secondary space over the last year.

### Yield & Investment

Over the last year, average new build/prime and secondary grade yields have firmed by over 100 basis points, a reflection of the strong investment demand driven by purchasers inside and outside the Tauranga market.

## Dunedin

### Tenant enquiry is at an all-time high in Dunedin's CBD, with overall vacancy dropping to 10.5 per cent, the lowest rate recorded since the Colliers survey started in 2011.

### Supply & Demand

Prime office vacancy has dropped substantially since 2011 from 11.8 per cent to 1.1 per cent.

Take-up of prime office space in the last six months included Regus at 218 George Street, ACC at Otago House, Wilkinson Adams Lawyers at 10 George Street and WorkSafe New Zealand at 193 Princes Street.

The recent completion of The Grainery at 115 Cumberland Street, 77 Vogel Street and Harvest Court Mall at 218 George Street have added 8,240 sqm of new stock.

### Rent & Incentives

Prime and secondary net face

office rents and incentives in the Dunedin office market have remained stable over the last year, but vacancies at record lows mean rents may edge upwards in the short-term.

### Yield & Investment

With no significant investment sales indicating market direction in the Dunedin CBD office market, prime and secondary yields have remained stable.

## Outlook

CBD office development has shifted into gear across the main centres, as well as in smaller markets, stimulated by strong demand, Colliers concludes.

As these prime developments are completed over the next few years, new rental benchmarks will be reached, the firm predicts.

The next few years will also see a reshuffle of prime tenants around the CBD but the underlying economic drivers – strong population and employment growth – suggest that vacancy will not spiral upwards across Auckland and Wellington.

New Zealand is also increasingly becoming a globally attractive market as evidence of real asset value growth becomes embedded.

Colliers expects investor confidence to remain buoyant for prime trophy assets supported by the appetite from interest offshore.

The difficulty continues to be the availability of stock for sale, although regional yields are expected to stabilise over the short-term.

## Key findings

- Strong population and employment growth plus investment in infrastructure all point to a positive outlook for Auckland and its central business district.
- A consequence of last year's Kaikoura earthquake was a large reduction in Wellington CBD office stock, and noticeable tenant churn over the last 12 months.
- A lack of available office stock also continues to be a major constraint in central Tauranga, though the current development pipeline may alleviate some of the demand pressures.
- Christchurch's CBD rebuild is moderating, and investor confidence starting to pick up to pre-2011 earthquake levels as both private and public-sector tenants now settle into new premises.
- A lack of prime stock available in Hamilton's CBD has triggered new office developments in the city.
- Tenant enquiry is at an all-time high in Dunedin CBD with overall vacancy dropping to 10.5 per cent, the lowest rate recorded since the Colliers survey started in 2011.



# Tall timber stacks up in commercial terms

*Canny property investor Sir Bob Jones's announcement of his plan to build a tall timber building in Wellington reinforces timber's claim to use in commercial buildings*

**Jones has clearly done his homework on the advantages of wood for large commercial buildings, reflecting major overseas trends.**

Australian and Canadian developers and building companies are well ahead of their New Zealand counterparts in using engineered wood to commercial advantage.

A recent announcement for another large building – a multi-family residential building, at the University of BC, in Vancouver Canada (adera.com) – saw the development company clarify why they chose wood for the project.

They said new engineered wood components like cross-laminated timber (CLT) meet or exceed the structural properties of concrete.

Wood components are seismic-

ally superior as they don't crack or shatter like concrete.

Mass timber components are resistant to fire because the material self-chars, meaning oxygen can't get at it.

It's more sustainably produced, requires less energy to recycle, and since the panels are pre-assembled offsite, there's virtually no on-site waste.

## **Quick construction**

Quick construction is a highlight of CLT.

Cross-laminated timber panels weigh much less than concrete equivalents and are easily transported to their site for craning quickly into position.

Only two construction workers

are needed to guide panels into place onto the building frame.

A typical floor for a multi-residential mid-rise building consists of 160 to 200 CLT panels.

They are lifted at a rate of one every 12 minutes.

The onsite crews erecting CLT panels can work at high rates – installing 400 m<sup>2</sup> of floor space in less than three hours.

Brock Commons, currently the world's tallest CLT building at 18 stories, was erected in nine weeks, at an average rate of two floors per week.

## **Silent assembly**

The on-site assembly of engineered wood structures is also virtually silent — a definite bonus for

the neighbours, say experienced managers like Karla Fraser from Urban One Builders in Vancouver..

CLT construction is predicted to continue to make inroads as a viable, environmentally superior alternative to traditional "stick-on-stick" construction or concrete and steel design in the multi-family and high-rise market.

"One of the primary benefits of engineered wood structures is the way they influence design and scheduling," Fraser explains.

"Unlike conventional construction, where you build the shear walls and then frame with plywood, CLT panels are tilted up and connect directly to the columns – an accurate method that's simple, fast and very precise."



**BROCK COMMONS TALLWOOD HOUSE, UBC, VANCOUVER, BC**

## World's tallest wooden office building for Wellington?

**Property mogul Sir Bob Jones is aiming high with plans to erect the world's tallest wooden office building in central Wellington.**

Jones plans to demolish the Leader's Building on Featherston St to make way for a new 12-storey, 52-metre-tall office block that is due to be completed in 2018.

The property mogul decided to construct the building having become irritated by design errors in his New Zealand, Australia and UK portfolio.

"We spend millions of dollars each year tidying up design errors," he says.

"I can't think of a single office building in New Zealand or Sydney in which design errors are not evident.

"So, as an exercise, we decided to build a faultless office building which I've personally designed."

Made from laminated timber columns and beams, it has been designed to perform better in an earthquake than steel or reinforced concrete as the materials are less likely to buckle.

The timber can also withstand extreme heat, charring on its outer surface if a fire breaks out in the building.

The building will accommodate office suites for commercial tenants.

Timber structure is used for gravity columns, beams and floor slabs and is pioneering for a building of this scale and height in New Zealand.

design and engineering specialists to the project managers who lead commercial construction work, says Conference Director John Stulen.

### Enthusiastic experts

"The one thing they have in common is their new-found enthusiasm for the attributes of engineered wood as a revolutionary new building material."

"Every single speaker has gained their early work experience with traditional materials, so they are well-placed to recognise that wood meets or exceeds both



However, it is unlikely to remain as the world's tallest such building for long as Australian company Lendlease has begun construction of the world's tallest office tower in Brisbane.

In addition, a new 12-storey office building has been announced in Portland, Oregon, as America's tallest wooden office building.

The building has an elegant vertical proportion that is a

result of its height and relatively small footprint.

A glass façade will accentuate the vertical proportion with recesses at every structural module.

The vertical recesses act functionally as vents that will bring air into the office floors, allowing the building to be naturally ventilated should the occupants choose.

structural and aesthetic design requirements," adds Stulen.

"Many companies, like Lendlease, one of Australia's largest developers, are discovering hugely positive reactions from employees of their new office tenants to these new wood-rich office environments.

"Their world-class office building, International House at Barangaroo, has set new standards for commercial and environment benchmarks.

"One of the leading community and home builders, Strongbuild, has just won an award for their

Macarthur Gardens residential apartments as well – so there is wide acceptance of these new engineered wood buildings and techniques."

Rotorua was the obvious choice as host city for an international commercial building conference with its 'Wood-First' policy making it a local leader in encouraging sustainable commercial buildings.

The conference was part of a wood technology week of events that came to the city in September, including the FIEA WoodTECH 2017 two-day conference and trade expo.

# Timber construction on the rise

*New York-based design studio DFA have created a concept for a timber-based structure that would filter a contaminated reservoir and function as a public observation tower*



**Built to be a temporary structure, DFA's "Central Park Tower" spans 220 metres and would sit in the Jacqueline Kennedy Onassis Reservoir, a 106-acre man-made lake that encompasses one-eighth of the park's area and contains one billion gallons of contaminated water.**

"Here we combine architecture, recreation, resiliency, and tourism in a project millions of New Yorkers and visitors would benefit from," DFA studio founder Laith Sayigh explains.

"Aside from supplying water to the pool and Harlem Meer, the reservoir sits stagnant and fenced off due to its current state as a health threat to millions of New Yorkers, tourists and animals.

"DFA envisions a temporary landmark that is remarkably of its time to creatively transform the reservoir into one of New York's boldest urban amenities.

"By filtering and cleaning the reservoir, 106 acres of previously inaccessible park area is transformed into a place for swimming, sailing and other aquatic activities.

"This conceptual project pushes the boundaries of what we perceive is possible in a city as dense, historic and environmentally vulnerable as ours."

## Tallest timber

At 220 metres high, Central Park

Tower would become the world's tallest timber structure, featuring a 56-foot-wide viewing platform and a glass oculus that showcases the tower's functional elements.

Central Park Tower was conceived as a competition submission by the studio.

In order to construct the tower DFA would use a glue-laminated timber known as Glulam, which requires one-third the energy and creates less than one-tenth of the fossil fuels compared to steel manufacturing.

This would allow the structure to be manufactured off-site and erected in the park in less than six months.

## Global competitor

DFA have also submitted a number of other conceptual designs to various international competitions.

The studio created a detailed concept for Italy's Castle Resort Competition in Rocamandolfi, with different types of accommodations depending on every traveler's needs.

"The visitors follow the pre-designed path, experiencing each accommodation designed to host a different program, immersing themselves in the story," the studio said.

"At ... Castle Siege Retreat each visitor is transformed from



Images © DFA

a tourist, into a soldier protecting and experiencing this beautiful and rich region of Italy."

DFA also submitted a concept for the 2012 Olympic Pavilion in Trafalgar Square, an Olympic pavilion which incorporated interactive multimedia design, as well as basic concessions for event tickets, information, and food.

The structure was designed to be fully self-sustaining, and consistent with a "net-zero" energy footprint.

The studio said the entire structure would have been wrapped in a rubber skin, and electricity was generated as visitors circulate over its lead zirconate titanium (PZT) surfaces.

# Stage set for exciting design competition finale

*Several imaginative creations came to the fore at the lower North Island regional finals of one of the country's leading architectural design awards*

**A kiwi bach, a supermarket converted into a Sikh temple and a designer's own home were among the projects celebrated at the 2017 Wellington, Wairarapa Regional ADNZ | Resene Architectural Design Awards and the 2017 Taranaki, Whanganui, Manawatu Regional ADNZ | Resene Architectural Design Awards.**

Michael Holmes of Holmes Architecture (Wellington) won the Residential New Home over 300m<sup>2</sup> Architectural Design Award for a Martinborough house designed to accommodate a retired farming couple, their visiting grandchildren and guests.

The judges were impressed by how a white loggia consolidated three separate volumes of the home.

'As a simple ordering device, it works to both

reduce the scale and increase the usability of the forms.

'Use of recycled materials furthers the strength of this building as a home,' the judges said.

As well as receiving a Commended in the Residential New Home between 150m<sup>2</sup> and 300m<sup>2</sup> Architectural Design category, Ben Gilpin of Gilplans Architecture received the Resene Colour in Design Award for the design of his own home in Raumati South on the Kapiti Coast.

'Dark and light neutral tones showcase the extensive use of rich timber, creating warm and inviting spaces for relaxing and entertaining,' the Resene judges said.

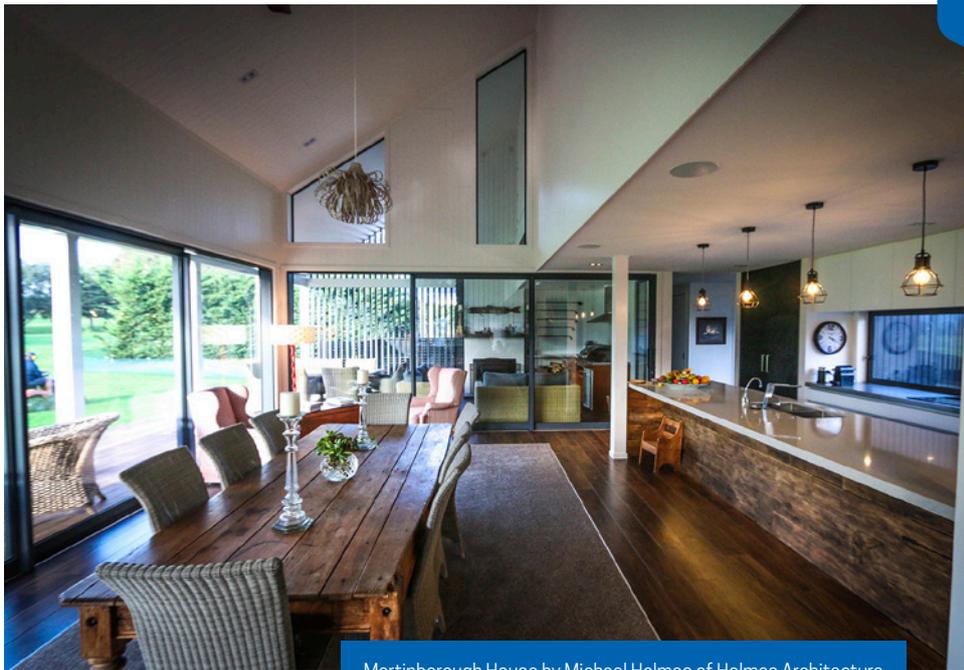
Jonathan Ambler of AD Architecture was Highly Commended for his work on a Waikanae

Beach bach, also located on the Kapiti Coast.

Ananth Sharma of Arc Design was Commended in the Commercial/Industrial Architectural Design category for what judges described as a 'miraculous transformation' of an old Lower Hutt supermarket into a Sikh Temple, comprising library and teaching area, prayer hall, dining and kitchen area and accommodation for the priest.

ADNZ CEO Astrid Andersen said she was delighted by the variety and exceptional skill set presented by Wellington and Wairarapa ADNZ members at the award ceremony.

'Each designer's understanding of the brief, of the needs of inhabitants, as well as context and setting is reflected in these very impressive designs.'



Martinborough House by Michael Holmes of Holmes Architecture

## WELLINGTON WAIRARAPA WINNERS

**Award:** Residential New Home over 300m<sup>2</sup> Architectural Design Award

**Designer:** Michael Holmes of Holmes Architecture

**Project:** Martinborough House

**Location:** Martinborough

**Description:** This home was designed for a recently retired local farming couple, and is situated within the Martinborough Estate residential development on

a large, flat, open site bordered by established trees and adjacent to Martinborough Golf Club.

The brief was to create a home that could accommodate visiting grandchildren and guests, connected with outdoor living, was sheltered from the significant prevailing winds and connected to the park-like settings beyond.

**ADNZ judges' comments:** Three separate volumes contribute to a legible whole via the white loggia.

As a simple ordering device, it works to both reduce the scale and increase the usability of the forms.

Use of recycled materials furthers the strength of this building as a home.

**Award:** Commended in the residential New Home between 150m<sup>2</sup> and 300m<sup>2</sup> Architectural Design category and Resene Colour in Design Award

**Designer:** Ben Gilpin of Gilplans Architecture

**Project:** Matai Road

**Location:** Raumati South, Kapiti Coast

**Description:** This home is designed for a young family that required space and a layout in which to grow into. It provides separation for kids and adult spaces and can be an entertainer's home for both adults and children.



Wellington Sikh Temple by Ananth Sharma of Arc Design

The home had to be light and contemporary in an edgy style with a focus on exterior connectivity. (designer's own home.)

**ADNZ judges' comments:** A clear intention to settle and distribute a large house sympathetically into its landscape.

**Resene judges' comments:** Dark and light neutral tones showcase the extensive use of rich timber, creating warm and inviting spaces for relaxing and entertaining.

**Award:** Highly Commended in the Residential Alterations and Additions Architectural Design category

**Designer:** Jonathan Ambler of AD Architecture

**Project:** Saunders Additions

**Location:** Waikanae Beach, Kapiti Coast

**Description:** The owners of this classic Kiwi bach in the Old Beach area of Waikanae Beach, wanted to develop the property further, while not taking away from its simple charm.

The new building has an indoor-outdoor flow and is perfect for socialising – either by the pool table or outside in a game of cricket.

The interior of the house has

been transformed to create a warm and inviting environment.

**ADNZ judges' comments:** The project scrubs the existing bach down and opens it up.

New decks bed the design into its site and draw the occupants outside into a courtyard and lawn, framed through the addition of two new pavilions.

This outdoor space becomes a focus of summer activity.

The well-understood tactic of a white-on-black colour scheme brings coherence to the whole.

**Award:** Commended in the Commercial/Industrial Architectural Design category

**Designer:** Ananth Sharma of Arc Design

**Project:** Wellington Sikh Temple

**Location:** Naenae, Lower Hutt Wellington

**Description:** This project involved converting the existing New World supermarket in Naenae which resembled a large warehouse into a Sikh Temple comprising a library and teaching area, prayer hall, dining and kitchen area and accommodation for the priest.

The design hides the existing building structure by creating a new façade, and making a

prominent entrance into the building.

**ADNZ judges' comments:** An almost miraculous transformation of an existing industrial building into a recognisable edifice holding a space of worship.

### Stand-out entries

**Further afield, Susie Elms of Chapple Architecture's bold, playful business designs were the stand-out entries recognised at the 2017 Taranaki, Whanganui, Manawatu Regional ADNZ | Resene Architectural Design Awards.**

The Palmerston North designer was Commended in two categories for two different commercial projects.

Her work on the Lenvo building in Palmerston North was recognised in the Commercial Interior Architectural Design Award category and earned Susie Elms the Resene Colour in Design Award.

The ADNZ judges noted a broad, 'yet well-managed range of materials and textures, successfully articulates a central path through an open plan building'.

The Resene judges were impressed by her clever use of colour in a commercial space.

'Areas have been defined with interesting amounts of lighting, creating effects on individual spaces,' they said.

Susie Elm's PKF Rutherfords project was also Commended in the Commercial/Industrial Architectural Design Award Category.

In the Residential New Home – up to 150m<sup>2</sup> Architectural Design Award category, Maurice Reeger of MnM Design was commended for his Kowhai Heights pad in Ohakune, on the edge of Tongariro National Park.

The judges were surprised by what had been achieved on the tight site with a small budget.

'This lock-up-and-leave bach makes the most of the morning sun and the view with a limited palette of materials,' the judges said.

ADNZ CEO Astrid Andersen said each winning design showed considered and creative responses to design challenges and functionality.

'Architectural design should strive to constantly improve how we live, work, play and utilise our built environments.

"So much of our lives is taken up at work and it's fantastic to see colour, creativity and connectivity celebrated boldly in workplace settings."



Lenvo by Susie Elms of Chapple Architecture

DESIGN

## TARANAKI, WHANGANUI, MANAWATU WINNERS

**Awards:** Commended in the Commercial Interior Architectural Design category, sponsored by GIB and Resene Colour in Design Award

**Designer:** Susie Elms of Chapple Architecture

**Project:** Lenvo

**Location:** Palmerston North

**Description:** Moulding the existing layout has provided a mix of open plan and secluded hub spaces.

The finished product has achieved the desired outcome of bringing a group of companies together, and has given a positive culture shift in the working environs.

**ADNZ judges' comments:** A broad, yet well-managed range of materials and textures, successfully articulates a central path through an open-plan building.

**Resene judges' comments:** Clever use of colour has been used throughout this commercial space. Areas have been defined with interesting amounts of lighting, creating effects on individual spaces.

**Awards:** Commended in the Residential Compact New Home – up to 150m2 category sponsored by Ministry of Business Innovation and Employment

**Designer:** Maurice Regeer of MnM Design

**Project:** Kowhai Heights

**Location:** Ohakune

**Description:** The brief was to build a 'cool pad' to be enjoyed all year round and which made the most of the mountain outlook from the deck in the beautiful surroundings of the Central Plateau.

**ADNZ judges' comments:** A surprising amount is achieved on a tight site with a small budget.

This lock-up-and-leave bach makes the most of the morning sun and the view, with a limited palette of materials.

**Award:** Commended in the Commercial/Industrial Architectural Design category

**Designer:** Susie Elms of Chapple Architecture

**Project:** PKF Rutherfords

**Location:** Palmerston North

**Description:** The shell of a tired



existing utilitarian building now creates a new experience in a new era of workflow and business developments.

The dark exterior is like a black suit with bright colours suggesting a tie, and the playful interior within.

**ADNZ judges' comments:** Dual compositional strategies of strong, contrasting colours and heavily varied material palette, combine to create a lively office environment.

The 2017 ADNZ | Resene Architectural Design Awards panel included Michael Davis – Director of Architecture Programmes at the University of Auckland, new judge Melanda Slemint and past ADNZ Supreme Award winner, Graeme Boucher.

Architectural Designers New Zealand (ADNZ) is a leading professional body for architects and architectural designers in New Zealand.

Every year, the ADNZ | Resene Architectural Design Awards recognise outstanding, creative and innovative residential, commercial, alterations and multi-use projects designed by ADNZ members throughout New Zealand.

*Regional ADNZ | Resene Architectural Design Awards have been held across the country before the national award winners and the Supreme Award winner are announced on Friday 27 October 2017.*

# A new era for earthquake-prone buildings

**These include a national register, new forms of EPB notice that must be displayed prominently on all EPBs and set time frames for assessment and strengthening.**

The Building (Earthquake Prone Buildings) Amendment Act 2016 (Amendment Act) was passed in 2016, and the final regulations (Regulations) underlying the legislation have now been released.

Together the Amendment Act, Regulations and EPB methodology set the approach all councils will take when dealing with EPBs going forward.

Councils, engineers and commercial building owners are each assigned key responsibilities in connection with the implementation of the new system.

These can be summarised as follows:

- The initial identification of EPBs by councils do not involve a detailed engineering assessment of the buildings.
- Councils are required to look at building features at a high level in making their initial assessments (as set out in the EPB methodology).
- It is up to building owners to undertake detailed engineering assessments as required.

## What commercial building owners need to know

The Amendment Act brings with it significant changes to the way EPBs will be identified and managed.

However, the following is an overview of the principal aspects.

## What happens now the new rules have come into effect?

Councils must identify potential EPBs within their regions.

They must do this using criteria and building profile categories established in the EPB.

This identification process must take place within the timeframes established for low risk (15 years), medium risk (10 years) and high risk (5 years) seismic areas.

Priority buildings (such as schools and emergency facility buildings) in high and medium-risk areas must be identified in half the time.

Councils can also take steps to identify EPBs not fitting within

the categories set out in the EPB methodology at any time.

Owners of buildings identified as potentially earthquake prone must be notified of this fact by the council and must also be informed of the basis on which that assessment has been made.

## What must I do if I receive a notice that my building may be earthquake prone?

The council will request that you provide them with an engineering assessment of your building.

If you receive such a request, you must either:

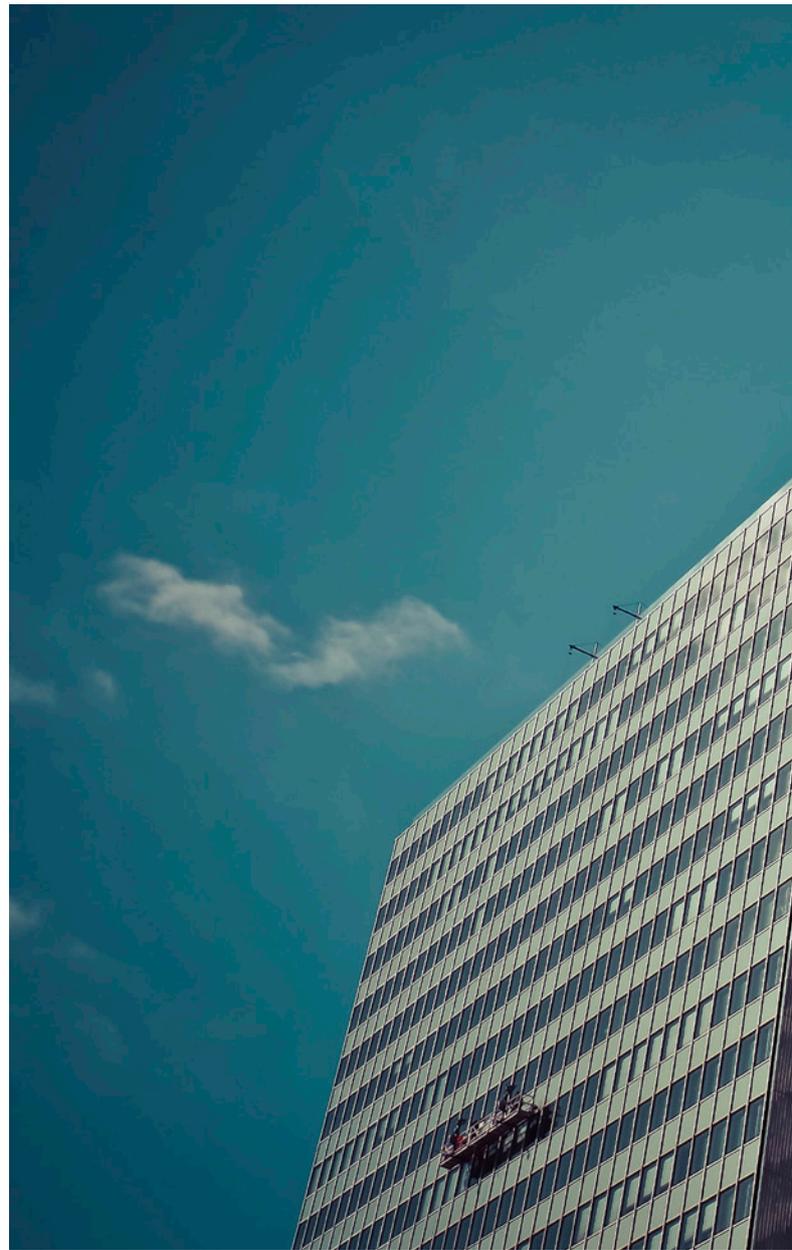
- Within 12 months, provide an engineering assessment that meets the requirements of the EPB methodology (this may be a previous assessment that meets the criteria set out in the methodology). An extension of time may be granted in certain circumstances; or
- Provide evidence to the council of a factual error with respect to the building's identification as being potentially earthquake prone; or
- Notify the council that an engineering assessment will not be obtained, in which case you will effectively be accepting the classification of the building as earthquake prone by default.

In the event of a dispute with the council over the earthquake status of a building these issues can be addressed through the determinations process in the Building Act 2004 which in itself can also be appealed to the courts.

## How will a final decision be made about whether my building is an earthquake-prone building?

The council will use the information provided in the engineering assessments and its property files, and will seek any additional engineering support that it may need, in order to make a decision whether the building is in fact to be classified as earthquake prone.

Generally speaking, as is currently the case, an existing building will be required to achieve at least 34 per cent of the new building standard (NBS) in order not to be regarded as earthquake prone.



## What happens if my building is determined to be an earthquake-prone building?

If the council decides that your building is an EPB, or if you don't provide an engineering assessment and the building is determined by default to be earthquake prone:

- The council must assign an earthquake rating for the building. The earthquake rating system aims to provide a measure of a building's expected performance during an earthquake. Two possible ratings are currently proposed, one being for buildings 20-33 per cent of NBS and the other for buildings less than 20 per cent NBS or where the

percentage of NBS is unknown;

- An earthquake-prone building notice will be issued to you as the building owner and you must display this notice prominently on the building until the building is upgraded or otherwise determined not to be earthquake prone. This notice will be A4 in size, contain the information prescribed by the Regulations and have a border (with a uniform width of between 12.5mm and 15mm) that uses the colour and design prescribed. Notices for EPBs in the earthquake rating category of 0 per cent to less than 20 per cent NBS must have a border of orange and black diagonal lines. Notices for EPBs in the earthquake

*The new national framework for managing earthquake-prone buildings (EPBs) that became effective on 1 July 2017 has brought several changes, Duncan Cotterill partner Paul Calder advises*



rating category of 20 per cent to less than 34 per cent must have a border of black and white diagonal lines, and notices for EPBs for which no earthquake rating can be assigned must have a solid orange border; and

- Information about the building will be published on a national earthquake-prone buildings register to be developed and managed by MBIE.

Earthquake ratings, earthquake-prone building notices and the earthquake-prone buildings register are key features of the EPB framework.

They are designed to disclose risk to the public so that individuals can make their own risk assessment.

Commercial building owners may find that the display of an earthquake-prone building notice has a negative impact on the ability to tenant the building and on the value of the building.

In order to have their building tenanted it may be necessary to strengthen earlier and to a higher standard than the legally imposed requirements.

### **What strengthening work must I do?**

If your building is an EPB, you must take action to either demolish your building or strengthen it within the defined time frames.

The time frames are for low risk areas – 35 years; medium risk areas – 25 years; and high risk

areas – 15 years.

This time frame runs from the date upon which the council issues you with an earthquake-prone building notice.

You may apply for an extension of time if your building is a heritage building, or for an exemption from having to undertake strengthening work if you have a building with low risk characteristics set out in the regulations.

If an exemption is granted your building must still display a notice on the building identifying it as earthquake prone.

It is open to building owners to undertake strengthening work earlier than the required time frame.

You may also be required to

undertake seismic upgrades earlier in circumstances where you are planning to undertake “substantial alterations” to the building (as defined by the Regulations) or where there is a change in use of the building.

### **What happens if I don't do anything within the required time frame?**

Councils are provided with powers to take action regarding seismic strengthening where a building owner does not.

In particular, councils may apply to the courts for orders allowing them to carry out the required work if it is not completed on time or is not proceeding with reasonable speed in light of the relevant deadline.

This might include demolishing the building, rather than upgrading it.

In addition, non-completion of required seismic work within the deadlines set is an offence with a maximum fine of \$200,000.

The new EPB framework will give commercial building owners lots to factor into their decisions going forward.

In relation to any building stock that is earthquake prone, owners will need to consider the timeframes for and costs involved in strengthening those buildings against projected periods where the buildings may not be tenanted, rental returns and ongoing insurance costs.

Once the final EPB methodology is released, Owners should also check the status of any engineering reports they have already commissioned to determine if they would continue to stand up under the new regulatory requirements.

As always, landlords and tenants of commercial buildings should act to ensure that their lease arrangements deal with any strengthening requirements and that they understand their obligations, both under the Building Act and in terms of health and safety.

Parties should seek early advice on the potential impact of these changes to the regulatory environment.

*Paul Calder is a partner at Duncan Cotterill, a law firm with a full service offering and locations in Auckland, Wellington, Nelson and Christchurch*

# Are sales affected by politics and elections?

*A slowing of commercial property sales activity earlier this year was not mainly due to politics but to other factors, says John Church, national commercial director of Bayleys*

However, he says 'pre-election positioning' might be responsible for more recent increased market activity.

Writing in Bayleys' latest *Total Property* magazine, Church says there was a drop in sales activity in the first five months of this year compared with the same period in 2016 and this drop might be seen as reinforcing a perception that the market traditionally slows in an election year.

"However, you'd be drawing a long bow to suggest it had anything to do with the forthcoming election," Church believes.

"The main reason the market slowed was the banking sector constraints on access to finance.

"There have been other factors at play as well.

"The past few years have seen year after year of record sales activity, which wasn't sustainable longer term.

"The market was bound to take a 'breather' at some stage.

"There has also been a shortage of good quality listings taken to market.

"And another perception - that the commercial property market is close to the peak of its current cycle - has made buyers more cautious."

A recently released Bayleys Research report indicates residential sales don't exhibit the drop off widely believed to occur in the lead up to an election.

An analysis of the five elections held since 2000 shows little variance between sales in the election quarter compared to the pre-election quarter in most election years.

The 2011 election showed the biggest variance, but this was actually a rise of 7.1 per cent in sales during the election quarter from the previous quarter.

Lower turnover means there is no similar research on the commercial property market, says Church.

But, he says, the commercial market perked up again mid-year, with both the value and volume of sales showing an improvement in June and July, with August also



**Of most importance to commercial property owners will be a continuation of the good level of economic growth that has served the sector well in recent years**

exhibiting solid activity - particularly in Auckland.

"Perhaps most encouraging - given that they generally entail a significant amount of leveraging - has been the increase in \$5m-plus sales," says Church.

"Recently, Bayleys agents have negotiated a \$36.8m-plus industrial sale in Mt Wellington, a large provincial industrial sale for in excess of \$20m and the biggest yet industrial land sale in the Tauriko business estate in Tauranga for just over \$12.5m.

"We have also been involved in two central Auckland office building sales for close to \$19m and \$14.1m; and two substantial CBD land sales for hotel development totalling in excess of \$70m."

Church says some of this increased activity could be the result of pre-election positioning.

Neither National nor Labour ended up with enough seats to form a government, leaving NZ First and Winston Peters as "kingmaker".

"In a worst-case scenario, it could take several weeks, even months, for a coalition government to be formed.

Investment markets don't like the uncertainty regarding the time it takes for a coalition government to be formed.

"It is therefore perhaps not surprising that more vendors are putting their properties up for sale and that some are prepared to accept offers they may not have taken a few months ago."

Church says while Labour's policy on a capital gains tax is unclear at this stage, it is advocating an extension of the current "bright

line test" from two years to five.

This would require investors to pay tax on any capital gain arising from the sale of an investment property within five years of purchasing it.

Labour's tax policy also includes proposals to close what it describes as a loophole allowing investors to write off losses made on rental properties against other sources of income.

"This will have more impact on negatively geared residential property investors rather than commercial investors," says Church.

"Labour's economic policies are also generally regarded as likely to be more inflationary than National's which may push up interest rates - and hence commercial property yields - faster.

"However, of most importance to commercial property owners will be a continuation of the good level of economic growth that has served the sector well in recent years.

"This is what fills up buildings and puts upward pressure on rentals and property values."

# Collaborative consents process exactly what is needed



**A new aligned, online consents building process brings the coordination and consistency between councils necessary to enable successful development and maintenance of New Zealand homes, Property Council New Zealand says.**

More than 20 councils have signed up to GoShift, which is led by Wellington City Council with the support of the Ministry of Business, Innovation and Employment.

Property Council New Zealand Chief Executive, Connal Townsend, says more than 20 councils collaborating to improve

performance, consistency and service across the building consent system is a “monumental step change” in enabling the cities New Zealand needs.

“To date owners, investors, developers and builders have struggled with navigating differing documentation, processes and timeframes dependent on where they are building.”

This takes time, adds cost and is frustrating, which all deters home owners and developers from improving their homes and building new ones.

“GoShift not only provides a simple, streamlined process

for builders and developers, but it represents an attitude of collaboration between councils.

“That collaborative approach is critical to enable the property sector to get on with the job of building the homes, workplaces and public spaces we need.”

Townsend is “absolutely delighted” to see Wellington City Council lead this evolution.

“I encourage other councils to get on board so those building and developing our future cities have the process they need to get projects from conception to completion effectively.”

Townsend says standardised processes and systems will

make participating cities more attractive to investors, as a consistent system removes the risk and time to navigate an unfamiliar process.

Lowering barriers to investment would particularly benefit smaller regional cities and towns.

“Developers and investors will have assurance that they are engaging with best-practice processes and standards whether they’re building in the Bay of Plenty, Nelson or in between,” Townsend believes.

“This will make investing in new regional areas more palatable and less risky.”

## One newsletter

# 3 great news sites



SCAN HERE  
to sign up in a minute  
or go to  
[eepurl.com/cSeR-b](http://eepurl.com/cSeR-b)

Stay updated with the latest news in Infrastructure, property, construction and industrial safety with the free weekly newsletter for YOUR industry or follow @InfraNewsNZ on twitter for daily updates

 @InfraNewsNZ

# InfraNews

AsiaPacific  
**INFRASTRUCTURE**  
[infrastructurenews.co.nz](http://infrastructurenews.co.nz)

INDUSTRIAL  
**SafetyNews**  
[safetynews.co.nz](http://safetynews.co.nz)

**PROPERTY&BUILD**  
[propertyandbuild.com](http://propertyandbuild.com)

# Facilities Integrate 2017 delivers a great show

*It has gone from strength to strength and the third annual Facilities Integrate exhibition has impressed delegates and exhibitors alike*

**The two-day event attracted thousands of visitors, generated hundreds of leads, and saw an unquantifiable amount of knowledge exchanged and multiple connections made.**

Run by North Port Events, Facilities Integrate is the only show of its kind, drawing together the building and construction professions with the information technology and services industries into a single event.

North Port Events CEO Dona White says this year's fixture at the ASB Showgrounds "met and exceeded" all expectations.

"Exhibitor numbers were up and more visitors were drawn to the show, with plenty on offer including a wide variety of lectures, continuous professional development opportunities, special offers and new products."

She adds that the newly-introduced Tech World component of the exhibition proved a hit, with the increasing integration of advanced information technology into buildings and facilities management making for a fascinating display.

"Our exhibitors have remarked on the high-quality visitors who came to their stands, with strong leads generated," White says.

That's confirmed by Peter Green, Healthsafe Group Marketing Director.

"Facilities Integrate has provided HealthSafe with the opportunity to showcase our services to an audience of facility managers who collectively manage thousands of commercial and residential properties.

"We were highly impressed with the quality of visitors and the companies which they represented," he notes.

Alicia Rayer, Commercial Business Manager at Precision 3D Printing, says her organisation was proud to be a part of Facilities Integrate 2017.

"We had nearly close to 400 leads from the show and were very impressed with the quality of the visitors."

Meanwhile, Peter Sandston



Business & Channel Development Manager at GoodMeasure adds that the exhibition provided an ideal opportunity to exhibit the business to the building services industry.

"The show was well-attended by both suppliers and customers and our booth had a steady stream of inquiries.

"We completed the show with a long list of potential leads and opportunities and would be happy to attend again," he says.

From a numbers point of view, White says visitors increased by 152 on the 2016 show, with a

"whopping" 50 per cent increase on attendance in the VIP category and a total of more than 2600 delegates attending over two days.

"Whilst this increase in attendance is of nominal quantity, our focus has been and will continue to be on quality; this is a trade-only show which has as its core purpose the facilitation of business between industry operators."

White adds that the success of the 2017 has driven strong interest from large businesses that attended the event as visitors this year and are ready to join the show for 2018.

"All of this bodes well for a bigger and even better fourth-year show" she believes.

"The response to the event concept over the past three years has confirmed demand for an event of this nature.

"We look forward to gathering and analysing feedback and continuing to grow this unique and essential event for the facilities management and system integration industries."

**Facilities Integrate 2018 will take place on 25-26 September.**

# Australian company reinvents the street light

*An Australian company is expanding across the globe with an innovative replacement for the unassuming street lamp, embedded with IoT technologies — charging stations, speakers and cameras*



**Ene-Hub's "Smart Node" is a modular and scalable product system described as a beginning-to-end product system for smart cities.**

"In cities all around the world [electronic] functions are coming into streets in a very uncontrolled way," says Ene-Hub Director Robert Matchett.

"Equipment is being strapped on to street lights and on to buildings in a very ad hoc, very ill-considered manner.

"This product allows the city to

take control of the smart city agenda."

Ene-Hub designed their Smart Node to include amongst other functions WiFi, data capture, smart-wireless LED lighting, floodlights, CCTV, beacons and electric-vehicle charging.

The Smart Node can also incorporate a 4.5m x 1.5m vertical banner for marketing and advertising activities, a wayfinding banner for directions and a public speaker capable of broadcasting community messages.

Ene-Hub adds this can be linked to event announcements in town centres, and can be integrated into an emergency broadcast system.

The Smart Node also features a power outlet and a two-way communication function that acts as a help button.

Due to its design and appearance, the Smart Node also has the capability of performing traditional pole functions like signage, traffic and lighting.

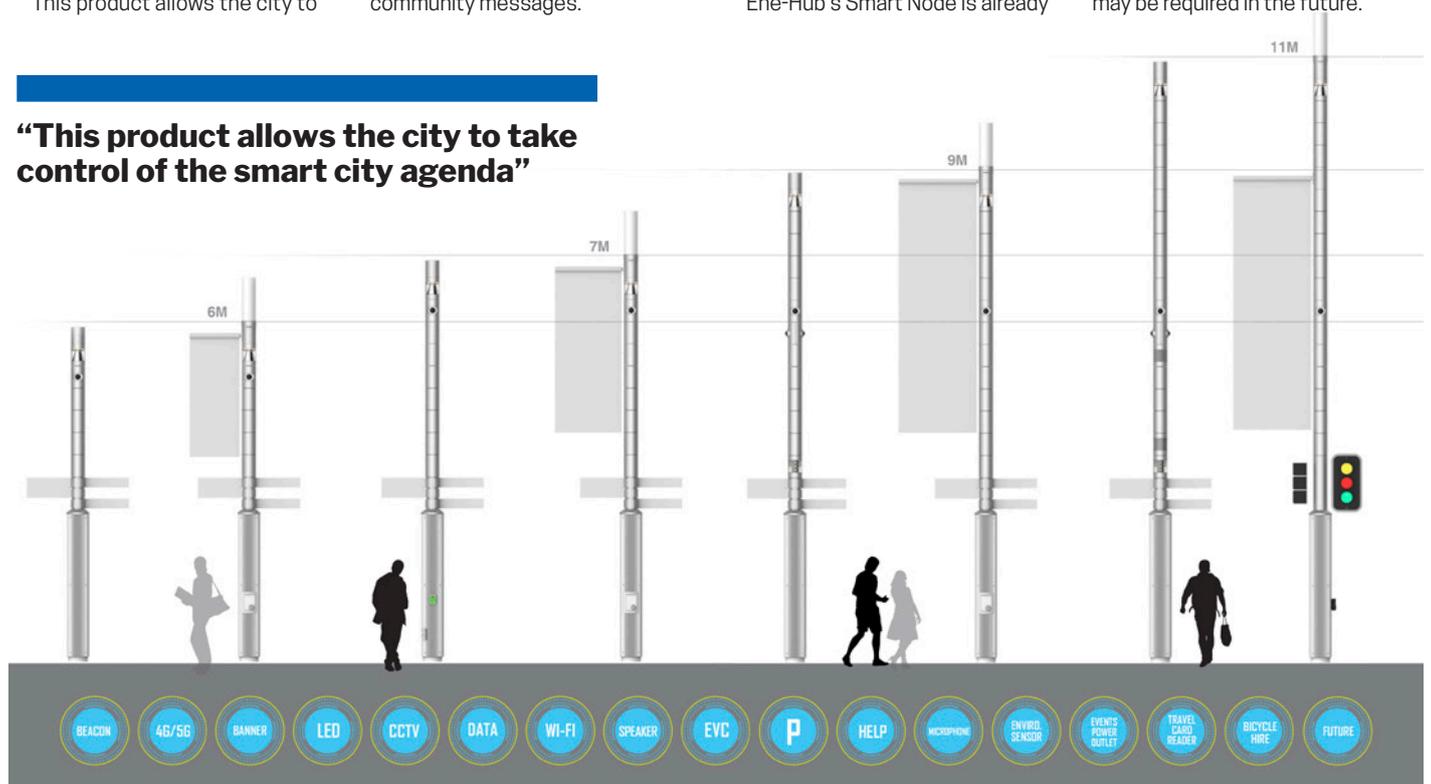
Ene-Hub's Smart Node is already

established in Sydney's Royal Botanic Garden and airport.

It has also made its way to Canada and most recently LA, where it is being piloted at a site on Wilshire Boulevard.

Ene-Hub says that local and state governments have embraced their product because it reduces street clutter, invisibly accommodates smart city functions, can accommodate all current smart city technologies and allows for new public domain technologies that may be required in the future.

**"This product allows the city to take control of the smart city agenda"**





PART OF THE TOP FLOORS OF THE GRENFELL TOWER  
BLOCK OF COUNCIL FLATS IN WHICH AT LEAST  
80 PEOPLE ARE THOUGHT TO HAVE BEEN KILLED  
FOLLOWING A FIRE IN KENSINGTON, WEST LONDON

# Are New Zealand's buildings safe from the effects of fire?

*The recent Grenfell fire tragedy in the UK is a timely reminder about the importance of the fire protection features that exist in the buildings we live and work in, says Dave Hipkins*

**While I don't claim to be an expert with regards to the fire regulations or construction techniques used in the UK, I do have a good grasp on the fire protection industry in New Zealand, its current state and the rules and regulations in which it is bound.**

I am of the opinion that New Zealand's commercial and multiple occupant residential building stocks built to current standards are safe in terms of protecting people from the effects of fire – if all the correct processes and legal requirements are followed.

This can be put down to the multiple layers of both regulation and non-regulatory controls that exist in New Zealand's construction and fire protection industries.

However, before exploring the various aspects of the controls and regulations that contribute to New Zealand's fire safety we need to understand some of the components and systems that typically make up a building's fire safety system.

When evaluating how safe a building is in terms of its fire safety effectiveness, no one system or building element can be singled out as being the "kingpin" – rather it is a combination of fire safety systems and building features that combined with regular testing and maintenance equate to give the whole package.

Fire protection professionals often refer to active and passive forms of fire protection.

Active fire protection systems include the likes of automatic sprinkler systems, fire alarm systems, fire hydrant riser systems, stairwell pressurisation systems and smoke extraction systems.

Passive fire protection features, on the other hand, include the likes of fire and smoke doors, fire-rated linings for walls, ceilings, columns, beams or ducts and specialised service penetration techniques for the likes of cables and pipes to ensure that the fire resistance rating of the penetration remains as per the parent wall, floor or ceiling.

## Many myths

There is often a lot of misunderstanding or myths associated with the role that each building fire protection system plays in the overall safety of the building.

I once had a CEO tell me that although his fire alarm and passive fire protection system needed urgent maintenance and were not fully functional, he felt safe because he was aware that the sprinkler system was fully operational.

This perception is wrong.

While statistics have shown that over the years there is unlikely to be multiple fatalities in a sprinkler-protected building, the other building safety features play an equal part in providing overall building safety.

Another such myth is that automatic sprinklers are engineered to automatically extinguish all fires.

This is not true.

A sprinkler system is typically designed to suppress and prevent the spread of fire.

New Zealand Standard, NZS4541:2013 states, "...so that systems reliably achieve their fire control function.

That function is twofold: firstly, the fire should be controlled within a specified area and secondly, control should be achieved before levels of toxic by-products of combustion become life-threatening."

Fire alarm systems play a critical role in building safety.

Their function is key to detecting smoke or heat from a fire and alerting the building occupants so that building evacuation can occur in a safe, logical and timely manner.

There have been many technology advances in fire alarm systems over the years.

The majority of these improvement have been made in making the systems not only safer but also more reliable by reducing "nuisance type" false alarms.

## Synchronised systems

What the general public may not be aware of is the critical aspects fire alarm systems play

with regards to interfacing with other fire protection systems, building controls, initiating a signal to the Fire Service (now called Fire Emergency New Zealand) and interfacing with the building management system.

This can include the likes of a relayed signal to start the stairwell pressurisation system or the activation of a mechanical smoke extraction system.

The fire alarm panel itself, or the mimic indicating panel, provide firefighters with excellent information as to the exact location and the extent of a fire.

For such reasons, state-of-the-art fire alarm panels are critical to modern firefighting operations.

The importance of having adequate quantities and the correct type of portable fire extinguisher is also often overlooked.

Having staff that are well-trained and confident in the operation of these devices in combination with well-maintained units is key to their success.

Often small fires can be extinguished by the use of a handheld extinguisher.

Such early intervention can see the fire controlled or extinguished at an early stage of development.

### Passive power

There has been much published in recent times about the importance of correctly installed and maintained passive fire protection features.

These critical building elements are relied upon by fire engineers as part of their overall fire design philosophy for containing smoke and heat associated with a fire to the "fire cell" of origin.

The inspection and maintenance of these systems is often a challenge as they may be located in hard-to-find places such as in ceiling or wall voids.

What is common to both active and passive building fire protection systems is that they both require regular testing and maintenance.

The Building Act (2004) outlines the overall objectives, which includes the fundamental requirement that, "people who use a building can escape from the building if it is on fire".

The Building Code has dedicated acceptable prescriptive-type solutions titled "Protection from Fire".

Alternatively, fire engineers have the option to utilise "fire engineered" or verification methods-type solutions based

Handheld fire extinguishers can be effective for extinguishing small fires but ensuring you have the correct type of portable fire extinguisher is important

**"It is very pleasing to see the great fire saves and successful alarm activations that can be attributed to the likes of well-maintained and tested sprinkler systems, alarm systems, gas flooding systems and portable extinguishers"**

on a first-principles approach if the building is deemed complex or does not fit into the model of the prescriptive code based solutions.

### Associated regulations

In addition to the above, what is also often overlooked by employers and building owners when considering the overall building safety features is the likes of the Health and Safety at Work Act, the Fire Service Act and the Fire Safety and Evacuation of Building Regulations.

While the above are examples of regulatory control, New Zealand is fortunate to have multiple degrees of no-regulatory or voluntary structures in place that all play a valuable role in contributing to safer fire protection within our buildings.

Organisations such as the Fire Protection Association of New Zealand (FPANZ) have a healthy and growing membership base.

This industry-based association acts for the general good of the fire protection industry and has a number of subgroups dedicated to common interest areas such as handheld fire equipment, passive fire protection, building evacuation and general contracting.

One of the key roles of FPANZ is the education of its members in order to raise the industry



performance levels.

In a similar manner, the Association of Building Compliance (ABC) has a national network where members attend regular meetings on topical and current industry topics associated with the building compliance and the building warrant of fitness process.

While the ABC is open to a wide variety of groups and professions, it is pleasing to see a number of its members are working in the fire industry.

### World leader

It is interesting to note that New Zealand was one of the first countries in the world to provide an avenue to allow for the design of building fire safety features by using a "performance-based" approach.

In order to meet this need it was recognised by industry leaders and engineering academics alike that such an approach would require future engineers to have a high degree of understanding of the likes of fire behaviour, fire science and how people react in fire situations.

To meet this need, the University of Canterbury established a postgraduate Master Degree in Fire Engineering in the mid-1990s. These days the bulk of the

professional engineers operating in the fire consultancy sector have gone through this path.

### Lifelong learning

However, the learning is not over once the qualification is obtained.

The Institute of Professional Engineers of New Zealand (IPENZ) has set requirements in terms of continued professional development (CPD) for its Chartered Professional Engineering (CPEng) members.

Members are required to provide proof of their development and training in order to retain their CPEng status.

This has the effect of keeping such professionals current and well-versed in fire engineering matters.

In addition to education, the University of Canterbury fire engineering team plays a huge role in fire research and behaviour.

The university is well connected to a number of universities and fire-based research organisations overseas and makes a healthy contribution to international fire engineering and fire science development.

### BRANZ busy

The activities of the BRANZ based in Wellington also plays a key role in fire safety in New Zealand.

BRANZ undertakes specific independent fire and evaluation testing of specific products and materials.

This provides the industry with a wealth of information when it comes to decisions such as what materials and products can and can't be used in certain circumstances.

Often BRANZ's work is closely linked to New Zealand Standards.

In addition, BRANZ has spearheaded industry research and consultancy projects on specific topics.

This information is made freely available in the public sector, again with the key objectives of making buildings safer in a fire.

Peer review has also been a key part of the controls and safety nets that the New Zealand fire protection industry has adopted.

A fire engineer may undertake a complex engineered solution (referred to as a "verification method") that may involve the likes of multiple computer software simulations and detailed calculations in order to arrive at a final fire design solution. This work is required to be peer-reviewed.

What the fire engineer is required to do is to provide the peer reviewer with sufficient evidence that his/her proposed design has meet the criteria required under the building code relating to fire.

This requires the engineer's fire report to address each of these set criteria in a logical and quantitative manner - e.g. that the occupants on level 9 of the building can exit the building in an acceptable period of time while tenability conditions remain acceptable.

### Accredited audits

In a similar manner, New Zealand's fire protection installation processes require that fire protection contractors have their work audited by an accredited third-party inspection body in the case of automatic fire sprinkler systems, fire hydrant systems or fire alarm system installations.

Furthermore, sprinkler and hydrant systems are also required to have their key design parameters agreed and approved by an independent organisation - i.e. the Sprinkler System Certifier (SSC) or Hydrant System Certifier (HSC).

This additional layer of control assists with quality and ensures that the system is installed in accordance with the specific standard nominated by the likes of the project specifications and building consent requirements.

The system discourages fire protection contractors from taking short cuts, as any such attempt would more than likely be detected during the third-party inspection process, hence the contractor would have to return to site to fix any non-complying defects at their own cost.

Although New Zealand's population is relatively small, we have our own set of national standards that covers most aspects of fire protection hardware, design, installation and commissioning.

Some building professionals may argue, "why bother - why not just adopt suitable overseas based standards?"

The counterargument to such statements is that our conditions are different.

### Climatic conditions

We have a vast array of climatic conditions, most of our major cities and towns are located within close proximity to the sea, the building materials we use often differ from what is specified overseas and most of the country is subjected to varying degrees of seismic activity.

In addition, our cities and town infrastructure also have contributing factors that need to be considered, such as the available water supplies for the likes of firefighting or automatic sprinkler systems.

It's my opinion that our unique standards are an asset to making our buildings safer for people from the effects of fire.

Our standards relating to various aspects of fire protection, materials and hardware have been around for many years, and aspects such as new technology and lessons learnt have been adopted with subsequent editions to ensure that continued improvement is implemented in the industry.

In New Zealand, we are fortunate that legislation does exist that requires building owners to undertake regular testing and maintenance of both active and passive fire protection systems.

This is covered by the Building Act that stipulates that any building that contains life safety features is required to obtain a Building Warrant of Fitness (BWF or Form 12) on an annual basis.

In order to obtain a BWF a Form 12A is required to be provided by an Independently Qualified Person (IQP) for each building safety feature listed on the building's Compliance Schedule.

These signed documents are legally binding and are essentially

a declaration by the IQP that the particular system "will continue to perform".

### Key objectives

While this system often is the cause of much aggravation between the likes of the building owner, the IQP and the Building Consent Authority/local council, the system overall in my opinion works well at meeting the Building Act's key objectives - keeping buildings safe for people.

Further control is held by the local Building Consent Authorities in that they have the right to issue fines in the case of minor offences or, in the situation of a major breach of the act, prosecute the likes of building owners and/or the IQPs that act on their behalf.

As outlined above, New Zealand has a mature well-regulated fire protection industry with multiple levels of controls and audit processes in place.

Hence it is my opinion that if the correct steps and process are followed by all parties associated with both the installation and maintenance of fire protection systems, we are unlikely to see a tragedy like the world witnessed with Grenfell in the UK.

This view is backed up by statistics and records.

As part of the Wormald Quality Management Process, a brief fire report is undertaken for all fire incidents/fire saves that occur with the buildings we service.

It is very pleasing to see the great fire saves and successful alarm activations that can be attributed to the likes of well-maintained and tested sprinkler systems, alarm systems, gas flooding systems and portable extinguishers.

In a similar manner, Fire Emergency NZ also keep detailed records of such fire incidents and the conclusion is the same - i.e. the sprinklers and fire alarms installed throughout the buildings in New Zealand do their job.

*A chartered professional engineer and a member of the Institute of Professional Engineers of New Zealand employed by Wormald as National Technical Manager, Dave Hipkins has been involved in the fire protection industry for 30 years and has sat on a number of New Zealand Standards committees relating to various aspects of fire protection within New Zealand*



Regular testing and maintenance is required for both active and passive building fire protection systems



FIRST IN LINE  
FOR A COFFEE

NEXT IN LINE  
FOR SENIOR  
PARTNER

## GO PLACES

### Where are you going?

You might want to answer, 'to work', or 'to the shops'. But we're all going somewhere bigger than that. We're heading there with every action, every decision, every seemingly insignificant step.

Well, we're here so you can keep moving. Wherever you need to be, you'll find us.

Wherever you're going,  
**stay with Quest.**

**0800 9444 00**  
[questapartments.co.nz](http://questapartments.co.nz)

  
**QUEST**  
APARTMENT HOTELS

# Be prepared best defence for fleeing fires

*Horrible events such as the Grenfell disaster serve as a timely reminder to review or implement simple safety guidelines and easy-to-follow drills*

An obvious first step is the preparation of a fire evacuation plan (FEEP), a written document that details the actions to be taken by staff if there is a fire and the arrangements for calling the fire brigade.

A FEEP can take various forms such as a:

- **General Fire Notice** – ideal for small premises, they can take the form of a simple fire action sign posted in positions where staff and relevant persons can read it and become familiar with its contents
- **Staff Fire Notice** – high fire risks or large premises will need a more detailed emergency evacuation plan which takes account of the staff significantly at risk and their location while notices giving clear and concise instructions of the routine to be followed in case of fire should be prominently displayed.

Managers or supervisors should also take the initiative and nominate persons to implement the fire action plan and give them adequate training in fire fighting and evacuation procedures.

Whatever the approach, the following items should be considered:

- fire evacuation strategy
- discovering a fire
- hearing the fire alarm
- calling the fire brigade
- power/process isolation
- key escape routes
- fire wardens/marshals
- assembly and roll call
- firefighting equipment
- training
- personal emergency evacuation plan
- liaison with emergency services

## Fire evacuation strategy

It is important to consider how the evacuation of the premises should be arranged in the light of the risk assessment and the other fire precautions that are or will be put in place.

## Simultaneous Evacuation

Normally initiated by the general alarm over the fire warning system, a simultaneous evacuation simply sees everyone making their way by a designated escape route to a place of safety away from the premises.



## Vertical Phased Evacuation

The emergency arrangements in some larger complex premises are designed to allow people who are not at immediate risk from a fire to delay starting their evacuation.

It's often appropriate to start the evacuation by initially evacuating only the area closest to the fire and warning other people to stand by – normally by immediately evacuating the floor where the fire is located and the floor above.

The other floors are then evacuated one by one to avoid congestion on the escape routes and the rest of the staff are then evacuated if it is necessary to do so.

The fire warning system should be capable of giving two distinctly different signals (warning and evacuation) or give appropriate voice messages.

## Horizontal phased evacuation

Larger facilities such as hospitals, care homes or retirement villages may have the floor divided into a number of fire-resisting compartments, with the occupants moved from the compartment involved in fire to the adjacent compartment and if necessary moved again.

Depending onto the fire situation it may eventually be necessary to consider vertical evacuation. Because of the extra time this type of evacuation takes, other fire precautions may be required.

These include:

- voice alarm systems
- fire control points

- compartmentation of the premises using fire-resisting construction
- sprinklers in buildings where the top floor is 30 metres or more above ground level.

## Staff Alarm Evacuation (Silent Alarm)

In some cases such as cinemas and theatres it may not be appropriate for a general alarm to start immediate evacuation because of the number of members of the public present and the need for the staff to put prearranged plans for the safe evacuation of the premises into action.

If so, a staff alarm can be given by fire records, personal pagers, discreet sounders or a coded phrase on a public-address system.

Following the staff alarm, a more general alarm signal can be given and a simultaneous or phased evacuation started.

The general alarm may even be activated automatically if it hasn't been sounded manually place within a predetermined time.

## Defend in place

This strategy may be considered in blocks of flats or hospitals where each flat is a minimum 60 minutes fire-resisting compartment or hospitals or nursing homes where patients are connected to life-supporting equipment and cannot be moved.

The concept allows the occu-

pants to stay put and allow the fire service to extinguish the fire, but if the fire spreads and it cannot be controlled then they will initiate a full evacuation.

If patients are connected to life-supporting equipment then a decision has to be made which option is the best – stay or move.

Either way the patient would be at serious risk.

Defend in place, phased evacuation schemes or a staff alarm system should only be used on the advice of a competent person such as a fire safety engineer and/or the fire and rescue service.

## Discovering a fire

Everyone should sound the nearest fire alarm immediately he or she discovers a fire, and the plan should therefore include the method of raising the alarm in the case of fire.

## Hearing the fire alarm

The plan should instruct all personnel upon on hearing the fire alarm to act in accordance with the agreed FEEP strategy, and if a fire warden's scheme is in force they should proceed to predetermined positions to assist members of the public and staff to leave the building by the nearest safe route.

Lifts and escalators should not be used due to possible electrical failure unless they are part of a Personal Emergency Evacuation Plan.

Staff shouldn't re-enter the building with the possible exception of the Fire Team.

### Calling the fire brigade

The Fire Service should also be informed immediately, either by the receptionist or the person discovering fire.

- work time – the receptionist should be conversant with the emergency evacuation plan, and should also ensure necessary extensions are switched through when the switchboard is unattended.
- other times – staff such as cleaners and caretakers should also be conversant with procedure. In any case the senior official should ensure that the fire service is called in the event of an outbreak of fire.

### Power/process isolation

Individual close-down procedures should be adopted and implemented as appropriate and responsible staff made fully aware of their responsibilities in the event of fire.

### Key escape routes

The best escape routes should be clearly signposted – especially in premises where members of the public or people unfamiliar with the building's layout are present.

Key escape routes could, for example, include schematic drawings supplemented with emergency escape signs.

### Fire wardens/marshals

Responsible employees should be appointed fire wardens or fire marshals to implement fire safety measures, which will include fire.

The need for fire wardens depends on the size and complexity of the premises – it may only require one on each floor or department with a chief fire warden coordinating their actions to make sure all persons are accounted for in the event of a fire.

Fire wardens or fire marshals also require special training above the needs of the normal employee – either in-house or by an external fire training organisation.

- They should be:
- competent in the use of fire extinguishers and be capable of extinguishing small fires
  - have some knowledge of fire prevention and be able to identify possible fire hazards to prevent fire from occurring
  - should have an in-depth knowledge of the FEPP and their role in implementing it.

A senior official in each building should be appointed Chief Fire Warden and given the responsibility of maintaining a high standard of fire precautions and the overall

responsibility for the action in the event of fire.

He/she should also have a nominated deputy capable of taking responsibility when the Chief Fire Warden is not present, on leave or ill.

Evacuation fire wardens should be appointed for each room/department/floor as applicable and each warden should also have a nominated deputy.

Fire wardens/marshals should be responsible for

- fire routine and evacuation drill procedure
- ensuring personnel know the location of fire alarm points
- ensuring regular use of primary and secondary escape routes
- the close-down procedure
- procedure for nominated staff to assist employees and members of the public to nearest exits.

A Senior Fire Warden/Marshal should be made responsible for ensuring that notices are correctly sited and the fire emergency evacuation plan is properly distributed and understood by all.

## “Managers or supervisors should take the initiative and nominate persons to implement the fire action plan and give them adequate training in fire-fighting and evacuation procedures”

### Assembly and roll call

Staff and visitors should assemble at a predetermined assembly point and a roll call of staff and visitors taken.

The person in charge of the assembly point should report to the person who has been nominated the fire service liaison person, indicating all persons accounted for or who's missing and where they were last seen.

A thorough understanding of the fire emergency evacuation plan is essential when selecting the location for an assembly site.

The number of staff and possible visitors that need to assemble should be calculated and the other occupants consulted if it's a multi-tenanted building.

It is also very important to be familiar with the surrounding area – the assembly point should be far

enough away from the building not to put staff in danger of radiated heat and falling debris.

There should also be ample room so that the assembled staff don't interfere with fire-fighting operations and don't jeopardise the fire service.

The assembly point should be close enough to the building to ensure that the nominated person in charge of the assembly point can communicate with the nominated fire liaison person, who should be located near the main entrance.

This could be as simple as talking to him or her directly or using runners or mobile phones.

The area chosen should be large enough to accommodate all the staff – if this cannot be found additional sites may have to be considered. Open areas such as footpaths and car parks are ideal.

The assembly point shouldn't be in an enclosed area and the staff should be able to disperse without having to pass close to the fire.

The weather also has to be taken into consideration, and some form of shelter or other weather protection may be necessary as staff are most likely to have evacuated without collecting outdoor clothing.

Finally, remember to use appropriate signs where feasible as they leave no doubts in the minds of staff.

### Firefighting equipment

A nominated fire team if available or any trained competent person should, where possible, attack the fire with appropriate equipment such as fire extinguishers – however firefighting is always secondary to life safety.

The cardinal rule is, as always, **DON'T PUT ANYBODY AT RISK!** If in doubt or even as a precaution, call the fire brigade.

### Training

The emergency evacuation plan should be the subject of frequent training so all employees are familiar with its contents and there should also be regular evacuation drills.

Employers, managers and supervisors are required to carry out this fire training. It's recommended that they keep a record of the results of that training, which will be useful if they are ever required to prove their actions in the future.

The FEPP must be included in the instruction and training given to employees.

Effective fire routine is dependent on regular instruction, training and practice.

Regular drills should be carried out using various escape routes in case the normal evacuation route is not available.

Fire drills should consider the following points:

- regular intervals
- records kept
- drills should be completed at least once a year – from sounding the alarm to roll call procedure
- fire alarms and firefighting equipment should be tested at weekly intervals and records kept
- fire equipment should be regularly serviced.

### Personal Emergency Evacuation Plan (PEEP)

Staff may have to be trained in the correct procedures to help disabled or sensory-impaired people escape from fire.

Advice on the specific needs of disabled and sensory-impaired people can be obtained from the relevant organisation, the contact details of which can be found in the telephone directory or online.

Management and supervisors must take account not only of the people on the premises (employed or otherwise) who may be able to make their own escape, but also those who may need assistance to escape – for example, by having adequate staffing levels, especially in premises providing treatment or care such as hospitals, care homes and retirement villages.

### Liaison with emergency services

A responsible employer, manager or supervisor should arrange all the necessary contacts with external emergency services and ensure they are familiar with the fire action plan.

A senior person should be nominated to meet the fire and rescue service when they arrive to provide them with any information they require.

He or she should have an intimate knowledge of the premises and be in contact with the person conducting the roll call at the assembly point.

These are all basic, common sense fire safety drills but all too often they are either not developed in the first place or they're gradually shelved in favour of the good old Kiwi “she'll be right” approach.

However, implementing, following and regularly practicing these simple steps will go a long way to ensuring the safety of staff, visitors and customers in the event of fire – and surely that's the priority in any business.

# Don't take the bait

*They call it phishing, but it's not much fun if you or someone in your organisation takes the bait and becomes the catch*



## The word *phishing* was originally coined around 1996 by hackers stealing America Online accounts and passwords.

By analogy with the sport of angling, these Internet scammers were using e-mail lures, setting out hooks to “fish” for passwords and financial data from the “sea” of Internet users.

They knew that although most users wouldn't take the bait, a few likely would.

And many Kiwis are, according to New Zealand CERT or Computer Emergency Response Team.

CERT's first report earlier this year revealed that it received 364 reports of cyber security incidents in its first quarter of operations, referring 70 of these to the police.

Phishing scams made up a significant percentage, the 96 phishing incidents reported comprising 34 per cent of the total reports.

“New Zealanders have suffered financial losses totalling more than \$700,000 due to cyber security incidents in the last three months alone, according to the reports we have received,” CERT NZ said.

Only 28 per cent of those reporting incidents reported their direct financial losses, which totalled \$730,000.

The most common category (8 per cent) was losses of data, followed by operational losses (7 per cent) and financial losses (5 per cent).

CERT's findings echo those the *2016 Norton Cyber Security Insights Report*, which found that 70 per cent of New Zealand SMEs had been subject to the phishing attacks that are the most common method used to breach an organisation's perimeter.

Almost half (47 per cent) had also been subject to other types of hacking attacks.

KPMG's Cyber Security practice national leader Philip Whitmore says New Zealand is particularly attractive to offshore cybercriminals – given both the high proportion of small businesses, and the fact the country is seen as a “soft target” among developed nations for phishing attacks.

He says it's becoming “increasingly critical” that smaller businesses develop resilient defenses to cybercrime.

“As our larger corporates are entering a mature phase of protection, we are seeing attackers turn their attention to the ‘low-hanging fruit’ of exposed SME-size businesses.”

New Zealand's small-to-medium businesses

are faced with three big reasons to boost their cyber security, KPMG warned earlier this year.

As well as being a growing target for cybercriminals, they need to prepare for future mandatory reporting of data breaches, and increased sensitivity from customers and business partners.

In response to these growing threats, KPMG New Zealand has launched a cyber security service tailored to the needs and resources of smaller and medium-sized businesses.

“Many smaller businesses think they are covered by their antivirus software, or that their IT provider will protect them; but in reality, that's wishful thinking.

“Good security is not just an IT issue; it's a business issue.

“Every business owner should have oversight across it.”

Another issue is that New Zealand is likely to follow Australia's lead and introduce mandatory reporting when a data breach occurs.

This will have implications for New Zealand businesses of all sizes.

“If your data security is breached, you may be required by law to disclose this,” says Whitmore.

## Three tips to prevent employees from getting phished

### If your organisation suffers a cyber-attack, chances are it originated with a user opening an email and clicking something they shouldn't have.

Phishing has become the top delivery vehicle for ransomware and other malware, largely because attackers have been getting much better at crafting convincing messages.

### Why is phishing so effective?

The majority of today's phishing emails are a far cry from obvious spam messages from fake Nigerian royalty.

Criminals now do their homework, utilising information they find on company websites and users' social networks to create highly believable, customised attacks.

When you also consider that many attacks take the form of urgent requests from one of your company's executives or customers, it's hard to blame untrained users for getting duped.

That said, users aren't the only ones to blame for phishing attacks getting through.

According to a recent survey of IT pros who had experienced successful phishing attacks, the traditional security solutions most organisations rely on are having a hard time holding up their end of the bargain, too:

- 90 per cent of successful phishing attacks bypassed the victim's antivirus and email filtering
- 83 per cent bypassed the victim's firewall(s)
- 55 per cent were successful even though the victim had conducted security awareness training.

Phishing criminals are clearly capitalising on a big gap in security, and it's up to you to fix it.

On the technology side, the best defence is investing in a solution that provides an additional layer of real-time, behavior-based protection.

Think of it this way: you can surround your castle with a (fire)wall and a moat (antivirus), but you still want to have a guard stationed on your side of the gate should anything start going wrong *inside* your castle.

In addition to technology, though, this is still clearly a people problem, too.

How do you train employees to avoid phishing emails?

The best way to avoid a malware infection is to prevent it from being triggered in the first place.

And the way you do that is by helping employees understand how they're vulnerable and what they can actively do about it.

Here are three tips for giving your users the tools and know-how they need to better protect themselves and your company.

### 1) Show them real phishing examples

Telling users to be more watchful isn't going to do much good if they don't know what to watch out for.

The solution? Show them what phishing emails actually look like by sharing real-life examples and pointing out red flags.

Not only will this help you explain phishing tactics far more effectively by giving you visuals to work with, your users are also going to be much more likely to recognise tactics when they've actually seen them in use.

Two places to pick up examples of real-life phishing emails are:

- UC Berkeley's Phish Tank
- Cornell's Phish Bowl

### 2) Have a process — and rewards — for reporting suspicious emails

In addition to showing (not just telling) users how to spot potential phishing emails, be sure to give them clear instructions on what to do next.

Not only should you provide them with a simple reporting procedure (ex: Don't click any links or download any attachments, just forward the entire email to IT, then delete it from your inbox), you should also actively reward users for using it.

Rewards can be simple and don't have to break the bank.

They can range from company-wide shout-outs (no budget needed) to gift cards to free lunches to chances to win bigger prize drawings.

The point is to keep awareness and watchfulness up beyond one training session.

A little incentive and encouragement can go a long way.

### 3) Actually put users to the test

In addition to being visual creatures, we also tend to learn best through experience.

To help you provide your users with a first-hand learning experience with phishing, several vendors, including KnowBe4 and Gophish, offer free opportunities to create your own simulated phishing campaigns and test how your users react.

These tests can be effective at reducing open and click rates for phishing emails, but they need to be administered mindfully.

If users feel fooled they're likely to lose trust and see the exercise as an example of IT being out to get them in trouble or make them look dumb.

When a user fails a mock phishing test, the challenge then becomes moving the focus from "here's what you did wrong" to "here's how we can get better."

"This could have serious implications for your brand, loss of trust with your customers, and even your ability to win clients in future."

Similarly, KPMG also warns SMEs that having robust cyber security is fast becoming an issue for customers, and a supply chain issue.

"Increasingly customers and business partners are asking SMEs questions about the cyber security controls they have implemented, to ensure that their information is protected.

"Demonstrating that you have effective controls in place builds upon the trust you have already established, and may also provide a competitive advantage."

KPMG has accordingly launched a 'Cyber Accelerate' service designed to help SMEs protect themselves from cyberattack – covering everything from phishing, whaling and ransomware attacks; to breaches by disgruntled employees or competitors.

"We've designed a suite of nine products that are low cost yet deliver a high return in terms of protection," Whitmore explains.

"It's important to remember that every business has something of value to cyber criminals – whether it's money, database information, or other intellectual property."

# The big drive to make car parking more versatile

*Creating car parking space for new property developments in metropolitan and regional areas is a challenge for any local authority, Dominic Da Cruz observes*



**Moreover, in an age of environmental awareness there is increasing pressure for car-parking land to be multipurpose.**

Take, for example, Australia where there are an estimated 18.8 million vehicles on the road – an 8 per cent increase in the last four years.

This coupled, with frequent media headlines complaining of a lack of quality public transport services, means the issue of car parking space is always on the radar.

Just last year, mathematician Professor David Percy from Salford University in England came up with a formula which he claimed would make car parking more efficient.

Car parking spaces are usually arranged at a 90-degree angle to the access lane, but by placing the bays at a 45-degree angle more parking space would be freed up.

He claims that by using this method a large car park accommodating 500 cars would be able to add another 119 cars into the same space.

There will always be a need for car parking, but how can we maximise car-parking opportunities?

## **Solar panels**

Organisations that have large campus areas are looking for new

ways to tick the environmental box in response to a growing sense of social responsibility amongst consumers and corporations.

An example is Northam Boulevard Shopping Centre about an hour east of Perth, where part of the upgrade to the centre includes a solar-powered car park and is a prime example of how car parking can have a dual purpose.

This car park with 900 solar panels together with a roof-mounted array provides 40 per cent of the shopping centre's annual power requirements, bringing down electricity bills for the owner and tenants.

A driver for this was the anchor tenant Woolworths, which understood the need for a shaded car park area to encourage consumers to stay and shop longer in the knowledge their vehicles would be protected from Western Australia's blazing heat.

Owners of existing neighbourhood shopping centres and larger suburban centres all have the same need.

Solar car park provides the opportunity for shade to improve amenity and customer satisfaction without owners having to incur a cost.

Northam car-park developer Perdaman Advanced Energy is now moving into key regional areas.

## **Turn otherwise dead space that turn cars into ovens into an asset that attracts customers, generates clean power and reduces costs**

In the resources-rich Pilbara region for example, the hot and sunny climate, vast spaces and local infrastructure projects such as community sports centres make it an area where solar panels that provide shade makes practical, economic and environmental sense.

## **Follow China**

When it comes to renewable power, China is one of the most forward-thinking countries.

A report published by the World Health Organisation in 2016 revealed that China was the world's deadliest country for air pollution, and the country is tackling this problem by using renewables as a solution.

From 2005 to 2016, deployment of solar power expanded 100-fold.

In east China's Jiangxi Province, a mass of solar panels has been installed on top of a parking lot over an area of 69,000 square metres and generates enough electricity for 5000 households a year.

The parking lot was already established and the panels were fitted within four months. The electricity was sold and fed into the local grid.

China has now become the biggest producer of solar power in the world.

There is equally great potential for commercial projects closer to home.

Community hubs, sports centres, sporting ovals, shopping centres, hospitals, aged care, schools and universities would all benefit from car parks with solar panel facilities. Turning otherwise dead space that turn cars into ovens into an asset that attracts customers, generates clean power and reduces costs.

*Dominic Da Cruz is the managing director of Perdaman Advanced Energy with 20 years' international consulting experience and has been involved in a range of clean energy projects as consultant and project director across government, property, education, manufacturing and not-for-profit sectors*

# Self-driving cars set to change commercial property

*Autonomous vehicles will change the way commercial properties are designed, the facilities they offer, and where they are located, an occupier services expert believes*

**Chris Farhi, Strategic Consulting Director at Colliers International, says it is too soon to predict exactly what impact driverless cars and trucks will have on commercial property.**

But he says there's no doubt tenants will need adaptable spaces to cater for a mix of parking, electric charging, and autonomous pick-up and drop-off zones.

Driverless cars are also likely to have a noticeable impact on congestion, allowing a rethink of where premises are located.

"Autonomous vehicles will dramatically change the way people and goods are moved about, which will inevitably have an impact on commercial property," Farhi says.

"All the major vehicle companies are investing heavily in driverless technology, as well as deep-pocketed tech companies like Google, Apple, Tesla and Uber.

"The question isn't if, but when, autonomous vehicles come to dominate our roads – and commercial property tenants and owners need to be ready to adapt."

## Changing needs

Farhi says parking needs will change as driverless cars become the norm.

"Automotive and tech industry experts predict autonomous vehicles will radically shift current car ownership patterns," he notes.

"People will no longer need to own private cars – instead, they will be able to make use of shared autonomous vehicles, when and where they are needed.

"That is likely to prompt a shift away from individually assigned car parks towards more shared parking spaces.

"It could also reduce the overall number of car parks that commercial premises need.

"We're already seeing some tenants worrying about locking in large amounts of parking for a long time because they may not need it.

"From a leasing perspective,

tenants should look at achieving flexibility from their landlord over the number of carparks that they lease – for example, the rights to drop carparks that aren't needed."

## Adaption needed

Farhi says building owners and developers will also need to adapt to the design challenges that autonomous vehicles will bring.

"We'll need more electric charging stations, as the shift towards hybrid and electric vehicles goes hand in hand with driverless technology," he predicts.

"Investors should also be careful that their buildings are future-proofed for changes.

"For example, substantial basement car parking with low floor-to-floor heights could become problematic because it is difficult to repurpose for alternative uses."

Driverless vehicles could also change the way goods are delivered and picked up, Farhi says.

"Ideally, driverless cars will enable fully automated pick-up and

delivery – but the automation of the final exchange of goods could be challenging.

"The idea of a courier walking a package to a receptionist on level 27 of a building won't work.

"Office buildings may need to be designed with exchange points so that parcels can be automatically picked up and dropped off securely.

"Logistics companies and large format retailers may also need to redesign their inward and outward goods facilities to allow for greater automation in the supply chain."

## Conflicting views

Farhi says current research has conflicting views about the impact of driverless cars on congestion.

"Some predict a major reduction in congestion, while others predict an increase – particularly in the transitional years where driverless cars are the minority.

"I support the idea that congestion will reduce, if anything

**"Logistics companies and large format retailers may also need to redesign their inward and outward goods facilities to allow for greater automation in the supply chain."**

because you'll get rid of distracted drivers causing delays and accidents."

## Location changes

Farhi says autonomous vehicles could have an impact on where businesses choose to locate.

"For freight and logistics, the choice of locations is super critical because it impacts both the travel time and the risk of delays – for example, longer journeys with high congestion are more exposed to delays.

"Driverless vehicles may enable businesses to be more flexible about their choices of locations.

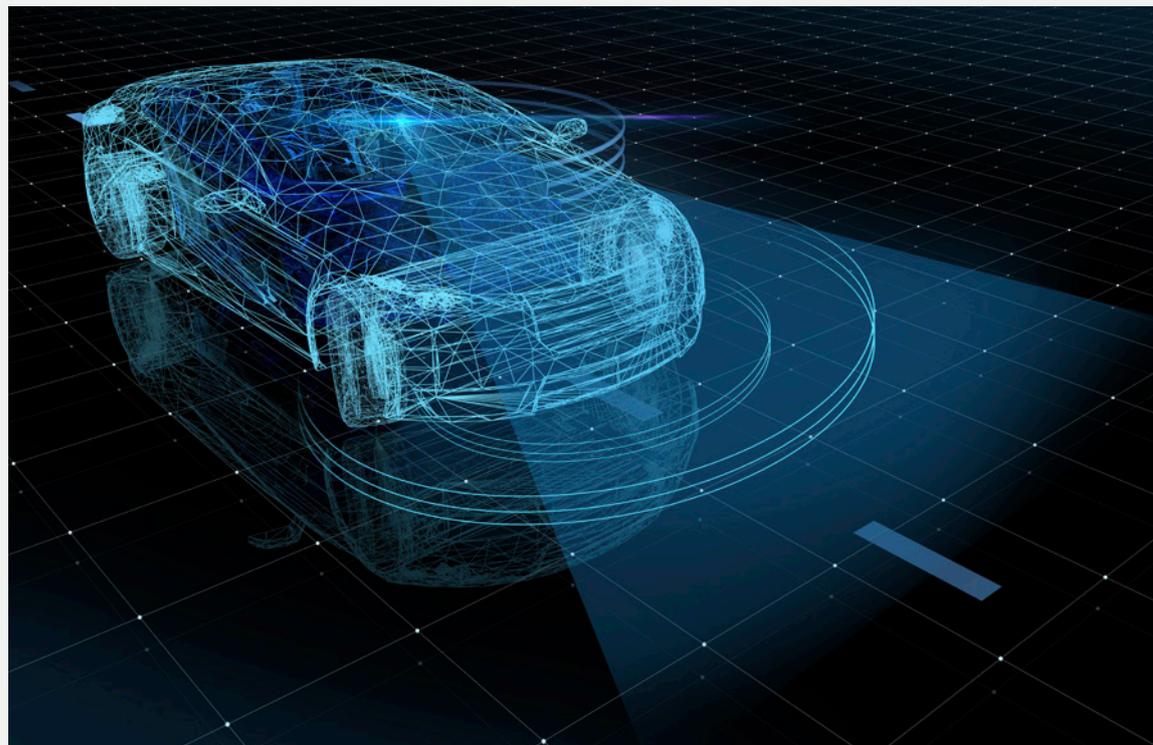
"Companies could move further out into cheaper locations, or even reconfigure their network of depots."

Autonomous vehicles are being extensively tested on public roads overseas, but their use in New Zealand has been limited so far.

Volvo announced plans to test an autonomous vehicle on public roads in Tauranga last year, while Christchurch International Airport began testing a fully driverless electric shuttle in January.

The Ministry of Transport says changes to road infrastructure won't be needed, given that autonomous cars rely on their own sensors and computers to navigate.

However, the ministry and the New Zealand Transport Agency are reviewing current legislation to clarify the legality of testing driverless cars in New Zealand, particularly when it comes to liability.



# Keeping dirt and stains off walls and surfaces

*Global chemical giant WACKER has developed several novelties for dirt-repellent treatment of mineral surfaces*

The company's PRIMIS SAF 9000 dispersion has a special composition that is both oleophobic and hydrophobic.

This makes wall paints resistant to many different types of stains – from coffee and red wine to colored pencils.

WACKER has also developed a new anti-graffiti concentrate SILRES BS 710 that offers a long-lasting protective silicone film – any graffiti can simply be washed off with water.

Stickers, posters or signs that have been pasted onto walls can easily be removed as well.

PRIMIS SAF 9000 can ideally be used to formulate so-called "easy-to-clean" interior wall paints which are resistant to a whole host of substances – from tea and coffee to lipstick, mustard or coloured pencils.

Just adding 10–20 per cent of the dispersion in relation to the main binder is enough to allow dirt to be simply wiped off the wall without trace just using a sponge.

The dispersion also increases the blocking resistance in



paint formulations so that dried surfaces do not adhere if they are pressed together.

Adding PRIMIS SAF 9000 to exterior wall paints minimizes the dirt pick-up and prevents the soluble additives like emulsifiers in the paint from leaching and creating so-called "snail trails".

PRIMIS SAF 9000 is exempt from labeling requirements and according to the German Federal Institute for Risk Assessment (BfR) is even suitable for contact with food and drinking water.

The new dispersions are thus an environmentally compatible option

for formulating easy-to-clean coatings.

## Anti-graffiti coatings

Anti-graffiti concentrate SILRES BS 710 is a one-part silicone rubber formulation that cures to form a silicone elastomer at room temperature and upon exposure to moisture.

The difference between SILRES BS 710 and traditional silicone-based anti-graffiti coating compounds is its unique formulation concept, which completely eliminates the need for tin catalysts and oxime crosslinkers.

Coating materials made from SILRES BS 710 can be sprayed onto surfaces or applied with a roller or brush.

A single treatment is generally enough.

Surfaces will be reliably protected from graffiti and posters after a curing time of one day.

Furthermore, the silicone film is permeable to water vapour.

Studies conducted on adhesive properties have shown that porous mineral substrates like concrete or bricks do not need to be primed prior to the application of a coating material made from SILRES BS 710.

The cured silicone film is strongly adhesive, which means that other substances adhere either poorly to its surface or not at all.

Graffiti can be easily removed from the surface, and stickers, posters or signs either fall off on their own or can be peeled off effortlessly.

Cleaning the surface with cold water using a sponge or a pressure washer is all it takes to remove graffiti.

## Get graffiti gone for good!

*Rare would be a local body in New Zealand that does not have a problem with graffiti or tagging*

Sometimes, depending on the skill of the artist and the location, graffiti can add vibrancy to a public area.

But everyday tagging is a different story and an expensive eyesore to keep on top of.

However the cost of removing tagging can now be substantially reduced and even tagging itself discouraged, thanks to a new anti-graffiti product from chemical specialty company Sika.

Sikagard-850 AG (for Anti-Graffiti) is a permanent, transparent coating that can be easily applied by brush, roller or professional spray equipment to most building substrates including wood and metal.

It's a bit like a transparent paint.

The finish is slightly gloss so it will change the appearance of a matt natural stone for example, but that effect can have visual advantages too.

On most substrates the visual effect is almost invisible.

Once a substrate has been coated with Sikagard-850 AG, tagging can be removed quickly just by using basic water jetting, hosing with cold water, or simply rubbing the tag with a wet cloth.

There is no need to use hot water or any aggressive, environmentally unfriendly cleaning agents.

As well as its easy-clean properties, its other beauty is that it is a permanent coating, so removing the graffiti does not remove the protection.



The substrate does not need to be recoated after graffiti removal like alternative sacrificial systems.

The average tagger should soon get tired of having their "artistic expressions" quickly and easily removed again and again.

Posters are prevented from bonding too: they will just fall off

on their own after a few days.

Sikagard®-850 AG is UV and heat resistant and water vapour breathable too.

**For more information, and to see videos of how easy it is to remove graffiti from many different Sikagard®-850 AG coated substrates, visit [sika.co.nz](http://sika.co.nz).**

# Why tendering is like sitting an exam – and how to get top marks

*Hands up – who enjoyed sitting exams in their younger days, asks Kerrie McEwen*

**Chances are that if you broke into a nervous sweat just at the thought of having to endure an exam, you probably don't enjoy responding to tenders in your working life.**

But believe it or not, some people's hands would have shot up straight away with a feeling of excitement and anticipation bubbling at their fingertips.

And yes, there are people like that out there that really did like sitting exams – I'm one of them! No surprise then that I'm a professional tender writer.

The thing about tendering is that it's quite like sitting an exam.

There's a time limit; specific questions to be considered and answered (and marked); something important at stake at the end of the process.

Without adequate preparation it can also be stressful, which can often have a bearing on the quality of the final submission.

Having the right solution is important in securing good marks, and so is having the right strategy – a plan for how you will spend your allotted time (whether it's three hours, or three weeks).

So how else do you get top marks?

## **1. Think about the evaluator**

Just as you would with an exam paper, read the whole of the RFP – from start to finish – before you start preparing your response.

(You might be surprised at what you'll find on page 123 that could help in how you approach the questions on page 23.)

If there's a marking sheet, use it as a checklist when organising your response.

This will help to align your content with the evaluator's marking framework.

Make it easy for them, especially if you think they'll have a lot of submissions to mark.

If weightings vary according to the RFT sections, use your time and resources wisely.

If the deadline is looming and you've already got a compliant proposal, spend the time you have left on those areas that will attract the most marks – or where you can have the highest proportional impact.

Answer each and every question directly.

Don't waffle or provide a generic response that doesn't address this particular contract opportunity.

And consider that evaluators come in all shapes and sizes

when it comes to information processing.

It's best to cover all bases by having balance in your response between headlines, written content, and diagrams or visuals.

## **2. Show your working to demonstrate your understanding**

Using the classroom as an analogy, maths teachers are always saying "don't just give the answer, show your working" – the idea being that the 'working' provides evidence of your understanding of the concept, even if you've made an error in your arithmetic.

The same idea applies in tendering.

Let's take the example of writing the Methodology section of a tender response.

If time is short (and page limits are an issue), you'll of course be tempted to just have a bare bones Methodology description which outlines what you'll do to meet the Contract Specifications.

That approach might get you a pass mark, but in a competitive tender, being 'good' is not 'good enough'.

To achieve top marks and put your submission in the lead, you need to really demonstrate that

you understand your client's needs: what's critical for success on this project, and what risks will need to be managed.

Consider your solution and responses in this context and you're well on the way to the top of the class.

Go a step further and be specific about what this will mean for your client (and their stakeholders).

This means you need to not only describe the 'how' but also the 'why', such as the benefits of your solution for your client.

## **3. Check your answers**

Just like in an exam, review your response before you submit it.

Firstly, it sounds obvious, but check for errors such as typos by doing a thorough proofread – it's surprising what can slip through when we rely just on the computer spell check alone!

Secondly, use the 'yes, but so what?' question to test the robustness of your solution and client focus in your submission.

An independent reviewer can add a lot of value at this stage, but be wary of leaving this process until the closing stages of the bid.

## **4. Revisit your marks**

If a client debrief is available take this as an opportunity to learn where you might have done better in the marking – even if you've been named as preferred bidder.

It's extremely rare to be awarded a 100 per cent score, so there's always room for improvement on the next one.

Have a pre-prepared list of questions to make the most of the debrief, and capture this information for use on future bids.

Following these tips will greatly increase the chances of higher Non-Price Attribute scores. Good luck with your upcoming tenders!

*Kerrie McEwen is a senior consultant with Plan A – Tender Specialists and part of a 15-strong team which provides bid management, strategy, tender response writing and review for clients across New Zealand and internationally*



**“You need to really demonstrate that you understand your client's needs: what's critical for success on this project, and what risks will need to be managed”**