## BUILDINGTODAY



The official magazine of the Registered Master Builders Association

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Volume 33 Number 10



#### DISCIPLINARY ACTION — READY, STEADY, SLOW

Five essential steps to note before taking disciplinary action against employees

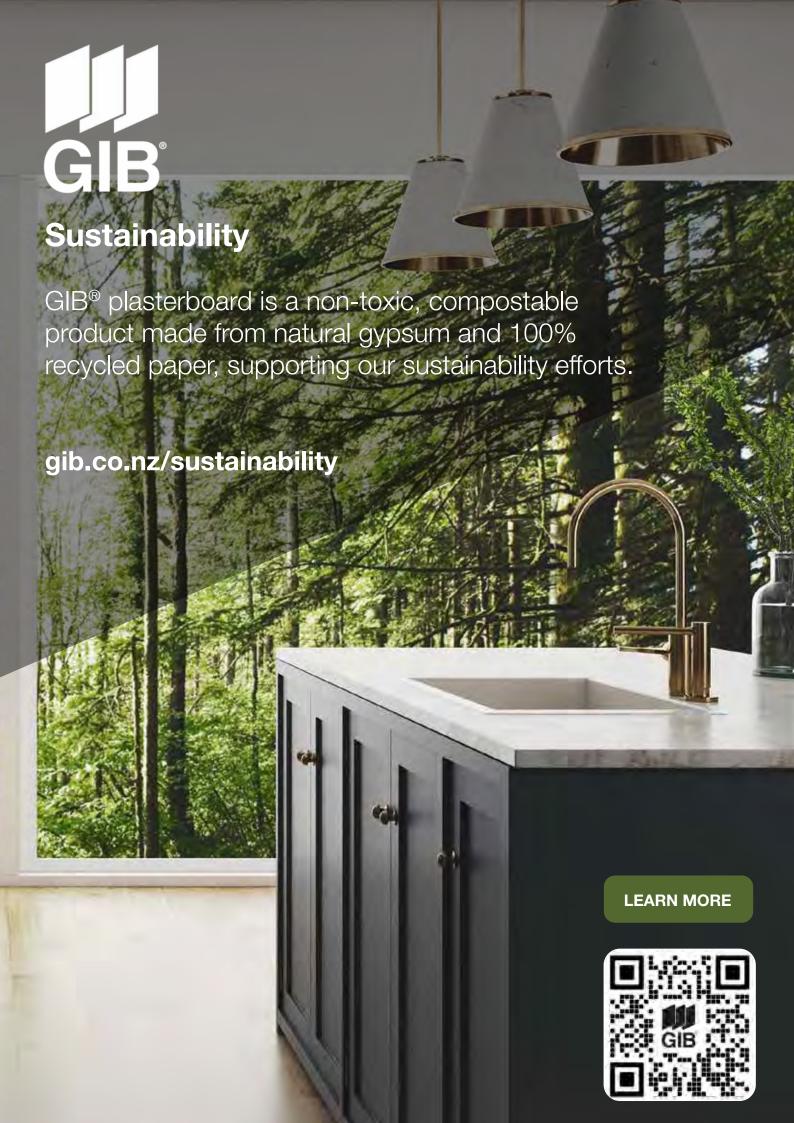
#### APPRENTICE OF THE YEAR REVEALED

Registered Master Builders CARTERS 2023 Apprentice of the Year named

#### RMBA PRESIDENT JOHNNY CALLEY OBSERVES:

A lot to unpack when looking over government proposals for the sector

**ALSO INSIDE: NZ'S FIRST FULLY 3D-PRINTED HOME COMPLETED** 



#### **BUILDING TODAY**

#### November 2023

Volume 33 Number 10

#### From the editor

This year's construction industry awards events are arriving thick and fast, with results from the concrete, timber and apprentice sectors featured in this issue.

Elsewhere, HR columnist Leigh Olsen outlines five essential steps employers should take before undertaking disciplinary action against employers — and what to do before things get to that stage in the first place.

Business columnist Andy Burrows weighs in with six very handy customer service tips from none other than Amazon boss Jeff Bezos — tips that can also be applied to your very own building business.

And RMBA president Johnny Calley unpacks the new National Government's proposals for the industry.

He ponders what the new leaders mean when they say they'll make housing "more affordable".

As he says, "more affordable" is very different to "affordable".

See if you agree with his further thought-provoking, pros and cons analysis on page 4.

Andrew Darlington

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RMBA president Johnny Calley says there's a lot to unpack when looking over the new National Government's proposals for the construction sector; 2023 RMB House of the Year National Supreme winners to be announced at a gala dinner in Christchurch on November 25; RMB CARTERS 2023 Apprentice of the Year winner revealed.

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## New government proposals — a lot to unpack

RMBA president Johnny Calley says there's much to take in when looking over the new National Government's proposals for the construction sector.

There's a lot to unpack when looking at what the new government has proposed for the construction sector, with some of the polices being extremely complex to integrate and having several funding obstacles to overcome.

One the other hand, the following three require only a change of behaviour, and will be positive in creating immediate efficiency:

- Streamlining building consents and making construction more efficient by requiring councils to accept video and photo evidence of work done.
- Fast tracking Code Compliance
   Certificates by requiring certificates to be issued within five working days of final inspections.
- Strengthening competition for building materials with automatic approval for appropriately-certified building materials from US, Europe, UK, and Australia.

Where it starts to get challenging is when talking about housing.

#### Broken system

As a country we are not short of land, but a broken planning and infrastructure funding system has artificially constrained housing growth, contributing to New Zealand's status as one of the least affordable housing markets in the world.

Like all previous governments, National has pledged that it will fix New Zealand's housing crisis and make housing more affordable. This is an interesting statement when you look a bit deeper.



"More affordable" is very different to just "affordable". Anyone in the sector knows the laborious regulatory system, and current approach of drip-feeding new land for housing development over a period of decades are two of the polarising factors in making unaffordable housing one of our greatest disappointments.

#### Great start

National's housing policy will require Tier 1 and 2 councils to zone enough developable land (housing capacity) to meet their 30-year long-term demand estimates — which is a great start, as is incentivising councils by paying bonuses for performance.

Councils will be required to publish their past five years of new residential building consents.

From July 1, 2024, any extra house built in a Tier 1 and 2 council above the long-

term average for the council will entitle the council to performance funding from National's Build-for-Growth fund.

Project delays and cancellations continue to plague the industry.

Financing for new projects in the residential and commercial sectors continues to fuel the prolonged downturn, causing construction companies to reevaluate their project pipelines.

The election result will no doubt inject some confidence, but with interest rates still rising, there is still some time to go before we will see activity levels grow.

#### Company liquidations no surprise

Some construction companies have faced financial difficulties and been unable to survive, which is unfortunate.

It is no surprise seeing company liquidations when you consider:

- the reduced number of new construction projects,
- competition increasing between construction companies,
- reduced profit margins through competitive tendering, and
  - under-pricing tactics.

The message remains to make sensible decisions through the next 12 to 24 months — so don't panic and underprice to keep mobile.

By diversifying, managing costs, staying informed, and continually improving, construction companies can increase their chances of weathering economic challenges and emerging stronger on the other side.

#### Awards season is here!

n November, the Top 100 homes in the 2023 Registered Master Builders House of the Year Competition will be narrowed down to the three National Supreme winners at a gala dinner in Christchurch on November 25

Each year, we are impressed by the levels of craftsmanship and innovation delivered by Master Builders across the country.

The awards are an opportunity to recognise the skill, passion and teamwork it takes to deliver quality homes for New Zealanders.

This year, the regional competition had nearly 300 entries across nine regions, so although we are in the middle of a quieter period of residential activity, our Master Builder members have still been busy building quality homes.

Another of our national competitions has taken place in November, with the eight top apprentices nationwide battling it out to become the 2023 Registered Master Builders Apprentice of the Year (see results, pages 6-7).

Now in its 20th year, the Apprentice of

the Year competition recognises excellence among carpentry apprentices, and raises awareness of career opportunities in the construction industry.

The competition tests our future sector leaders' project management, business, presentation, and practical skills.

The national final included a 45-minute interview with the national judging panel, and an additional six-hour practical skills test, followed by the national awards dinner, where the national winner was announced.









### Another brick in the wall

#### St Faith's Church

CATEGORY

Heritage and Restoration Project Award

#### ENTRANT

HRS Construction

#### PROJECT PARTNERS

Aurecon (Structural Engineers), HRS Construction (Construction Company), Tony Ussher (Heritage Architect)









#### About the build

St Faith's Church, an 1886 heritage building, suffered damage during the Christchurch earthquakes. In a dedicated effort to preserve its historical significance while ensuring structural safety, the church underwent a comprehensive seismic strengthening and refurbishment project. The key to the project's remarkable success was the significant collaboration between the design and construction teams.

This intricate project involved a meticulous and time-consuming process of carefully removing a layer of Oamaru stone from the top of the inner wall that was subsequently replaced with reinforced concrete. In various areas of the church, such as the chancel arch, the stone was replaced over a larger area with reinforced concrete. This was skillfully plastered and painted to closely resemble Oamaru stone, the difference discernible only upon close inspection. Despite these extensive modifications, the outcome was truly commendable, with the project executed to an exceptional level of quality.



#### Judges' comments

This project involved the restoration of a heritage building, left unusable for over a decade following the Christchurch earthquakes. The seismic strengthening of the building presented challenges throughout the project, with the structural engineers having to focus on preserving the building's heritage while also creating a safe space for the church's congregation.

Excellent work by the project's stonemasons helped in preserving this building's heritage and aesthetic, with some of the more serious strengthening work being painted to resemble the Oamaru stone used on the inner walls. Collaboration between all teams on this project was excellent and essential to the success of restoring St Faith's Church to the highest of standards.















Gathering in Auckland for the final stages of the competition, eight carpentry apprentices hailing from various regions across New Zealand came together to compete for the Apprentice of the Year national title.

The competition comprised of two components, a practical skills test, and a comprehensive interview. This year for the practical challenge, the apprentices crafted a work bench, with these being donated to early learning centres through Evolve Education Group.

After completing the practical challenge, the apprentices participated in a 45-minute in-person interview conducted by a national judging panel, consisting of prominent building experts. During this interview, the apprentices delved into their recent building projects, which they had submitted in the weeks preceding the national competition.

A gala awards dinner, attended by the top eight fi nalists, their employers, family and friends marked the end of the competition. Jack Nevines, from Auckland, employed by Faulkner Construction and trained through BCITO, a business division of Te Pukenga, secured the title of 2023

Registered Master Builders CARTERS Apprentice of the Year. Judges were impressed with Jack's performance across all three categories of the competition.

"Jack showed a natural ability to lead, and the management of his project was faultless. Jack's extensive knowledge of the building code, methodology, and building products stood out, and showed his great interest and understanding of the industry," said the judges.

Runner-up honours went to Isaac Posthuma from Auckland's North Shore, and third place was awarded to Jess Nielsen from the Waikato. Both performed exceptionally, and the judges noted there were very few points between this year's winners.

"Isaac's performance in the practical competition was most impressive, surpassing any performance witnessed by the judges in the practical component of the competition to date. Isaac is an excellent craftsman, and at the young age of 20, he has a bright and fulfi lling career in construction ahead of him."

Jess is the first woman to place in the Apprentice of the Year competition, coinciding with the positive rise in female entrants' regional and now national placements. Judges were impressed by Jess — she displayed a great level of skill and scored very highly in the practical challenge.

our Bu<mark>lldi</mark>ng Partner







"Jess has a very in-depth understanding of her project, and she could speak confi dently about the entire build process. Well done, Jess, you have a very bright future ahead of you."

In the 20 years since the first Apprentice of the Year competition, the industry has more than doubled in size. Now the fifth biggest sector in New Zealand, Stats NZ reports there has been a 135% increase in jobs in the construction industry in the past two decades. This growth has also coincided with increased diversity.

Registered Master Builders National President Johnny Calley says the perception towards building and construction as a career has positively changed, with BCITO, Te Pukenga reporting that over 6% of the sector is now made up of women, alongside wider awareness of the benefits of a career in the trades.

"Not only are we seeing an increase of more female building apprentices, but many people are now entering the trade as a second or third career choice. A better understanding of the sector has led to the transition away from a traditional 'blue-collar' workforce to a widely respected industry that is attractive to a diverse range of people."

Over the past two decades, the competition has celebrated and connected apprentices and their employers.

"Recognising excellence is extremely important. From my experience, those apprentices that enter mentoring programmes and competitions like Registered Master Builders CARTERS Apprentice of the Year go on to become industry leaders. It is a natural progression of testing their ability whilst learning key skill sets that set them apart.

"I want to congratulate all of those who have had the courage to enter the competition in the last 20 years, and of course, this year's winners," Calley says.

The gala awards for the national competition signalled the end of the competition, and the finalists, employers, family, and friends came together to celebrate their success and hard work throughout the competition.

Committed to standing behind all apprentices as they start their careers, CARTERS Chief Executive, Mike Guy is impressed with the talent the competition brings together year-on-year.

"CARTERS are proud to partner with the Apprentice of the Year competition. It's great to be able to watch these talented apprentices giving it their all in the competition and growing from the experience.

"We're committed to supporting apprentices from across the country as they build their careers in the construction industry. Being involved in the competition is a great way to celebrate emerging talent and our future industry leaders."



Above: 2023 National Apprentice of the Year finalists at the awards evening.



## BUILDING FOR THE FUTURE: SUSTAINABLE HOMES



#### APL Sustainable & Environmental Excellence Regional Award Winners

When it comes to building a sustainable home, you are building with the future in mind. Each year, the Master Builders House of the Year competition sees a positive growth in sustainably-built homes across the country. Builders are using new building practices, sustainable materials, better waste management, and future-proofing to improve energy efficiency and protect the surrounding environment.

The APL Sustainable & Environmental Excellence Award recognises homes that have prioritised sustainable building practices, and highlights the importance of future-proofing our homes. The regional winners of this Award are magnificent homes that showcase the very best of sustainable home building.



#### **HAMR Home Building Contractors** Auckland

HAMR Home Building Contractors were awarded the APL Sustainable & Environmental Excellence Award at the Auckland/Northland/Coromandel Regional Awards for a stunning home in Whitianga. The home was thoughtfully designed with consideration to future climate and weather conditions. Steel and cedar cladding that is resilient against the elements was integral to the build, and covered deck areas ensured that outdoor living is prioritised, come rain or shine.

Solar panels with a capacity of 16kW capture sunlight for use in the home and an integrated battery system that allows for a surplus of energy to be exported, meaning the house can operate entirely on battery power during outages.



#### Throne Group Homes Bay of Plenty

Throne Group Homes took out the APL Sustainable & Environmental Excellence Award for the Bay of Plenty Region. The show home was crafted using natural materials such as limestone, oak, cedar, cork, sisal and wool. Environmentally-conscious design choices included low emissivity glass, high-spec foundation and wall insulation, and solar power with battery, ensuring that energy consumption is kept to a minimum.



#### **Versatile Hamilton**

Waikato

This stunning home in Taumarunui built by Versatile Hamilton won the Waikato Regional APL Sustainable & Environmental Excellence Award. This home is sleek yet simple and has incredible off-the-grid capabilities. The house has metal cladding and warm cedar accents that ground the house in the remote landscape.



#### Maridale Construction Wellington & Wairarapa

Maridale Construction have crafted a home that is the future of sustainable building. This off-the-grid residence is powered by solar energy and is positioned strategically on the property's highest point to maximise the solar panels' efficiency.

This eco-conscious home has an innovative rainwater collection system, with a holding tank and a solar-operated pump. The design and colour palette are harmonious with the surrounding area, with forest greens and recycled Rimu being central elements. Abundant natural light enhances the space, making it inviting and bright.



#### **Discovery Homes**Nelson/Marlborough/West Coast

Discovery Homes built a welcoming and elegant family home. The home is divided into two wings and wrapped around a sheltered courtyard and a pool. It has a cosy feel despite its polished finishes. Schist, painted brick and Abodo cladding make up the exterior, alongside large green spaces for kids to roam. The palate of grey, tan and white creates a contemporary ambiance that is complemented by warm timbers. The home embodies modern sophistication, combined with family-friendly living.



#### **Premium Homes**Canterbury

This beautiful home in the Akaroa hills was built by Premium Homes who were awarded the APL Sustainable & Environmental Excellence Award at the Canterbury Regional Awards. It is an eco-friendly paradise that is entirely solar powered, with a back-up generator alongside rainwater collection and wastewater management systems.

The home incorporates the Foreverbreathe Specification to manage indoor humidity. This provides pure air as natural building materials with low-toxins are used, such as wool insulation, Magnum Board and breathable, low-VOC paint.



#### **LOC Construction**Mid & South Canterbury

LOC Construction built a stunning Prebbleton home that was awarded the APL Sustainable & Environmental Excellence Award at the Mid & South Canterbury Regional Awards. It is an example of design and construction excellence, and the exterior is an elegant blend of Rockcote masonry cladding and LMA timber, giving a striking finish. The attention to detail is evident throughout, particularly in the bespoke Palazzo kitchen, which uses an interplay of black and white tones.



#### Caldwell & Highsted Southern

At the Southern Regional Awards, the APL Sustainable & Environmental Excellence Award went to Caldwell & Highsted for a home nestled in Broad Bay. The existing landscape littered in native plants and flowers was integrated into the design of the build, with the house layout determined by tree locale and the deck build around a native lancewood. The commitment to sustainability came through with the selection of locally-crafted materials and extensive use of regional products. Passive House design and construction principles exhibited a commitment to conscientious environmental conduct and energy efficiency.

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#### Tongan home erected at lightning speed

Salvation Army volunteer team builds quality Kiwi modular home in 12 days!

Leam of 15 volunteers from The Salvation Army New Zealand recently travelled to Kolovai, Tonga, to build and complete an EasyBuild home, with the team largely completing the home in just 12 days on site.

Lower Hutt-based firefighter Peter Walker led the volunteer team in Tonga and managed the project. Walker went with a plan to treat each hour on site as a full day's work, given the large number of skilled volunteers in the team.

Walker is no stranger to EasyBuild's unique building concept, having built one of the company's homes in Taita, Lower Hutt, as a DIY project in 2021.

The team, which arrived back in New Zealand at the end of October, hail from across the country, and took a range of practical skills to Tonga with them — including builders, an electrician, a plumber, and labourers. Six of the team are also firefighters.

EasyBuild's modular homes are partially manufactured off site in its Upper Hutt factory, and are shipped to site in a container.

Built using a unique portal and panel system, once the portal frame is in place, pre-finished panels with pre-installed windows and insulation are fixed between the portals, followed by ceiling sheets.

Typically, EasyBuild homes are enclosed and protected from the elements within as little as two weeks, and completed in just 12 to 14 weeks on site.

But the Salvation Army volunteer team in Tonga pushed EasyBuild's already fast build speed to the absolute max, enclosing the house in just four days, and reaching practical completion within 12 days on site!

"It was an ambitious goal to bring together a team of 15 people who'd never all worked together before to build a house



The bare site.



Interior work underway.

in just two weeks," Walker says.

"But it was a goal the team embraced with enthusiasm and energy, and it's amazing to see what we've achieved on the EasyBuild home in the planned time frame.

"It was a huge effort from our passionate team," Walker says.

The volunteer team in Tonga was supported by the local Kolovai community and other Salvation Army Church Centres who prepared generous meals for the volunteer team.

Everyone is thrilled with the new home being built, and was amazed by how quickly it was built. It will be used by the local Salvation Army officers who work out of the Kolovai Church Centre and Kindergarten.

In addition to building the home, the team took time out of its busy build schedule to visit three local kindergartens run by The Salvation Army.

They installed smoke alarms and donated a range of kindy toys, sports equipment and garden tools, which the kids loved. All of the donations travelled



Enclosed after four days on site.



The home on the final night before leaving.

to Tonga in one of the two 40-foot shipping containers loaded with the house components.

EasyBuild chief executive Scott Matthews says the company is proud to be supporting The Salvation Army with the project.

"We have loved seeing what the team achieved in such a short space of time. Their hard work really shows just what's possible with our homes, and what we can offer to people and communities across New Zealand and the Pacific," Matthews says.

"We're looking forward to seeing what the team might achieve next!" With hundreds of homes built across New Zealand, as well as having built in the Chatham Islands, this was EasyBuild's first home built in Tonga.

So what's next for The Salvation Army volunteer team? A small team will head back to Kolovai to put the finishing touches on the home before Christmas.

And as for building another EasyBuild home for their communities — watch this space!



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#### Safe Digging Month a vital safety reminder

afe Digging Month launched earlier in ONovember, and with extreme weather literally shifting the ground around us this year, it's more important than ever to check where underground utilities are before digging or excavating.

Safe Digging Month was originally launched in 2022 by beforeUdig, a company that specialises in helping contractors and home owners dig safely by putting them in touch with the owners of underground assets, and providing a safety process to follow.

The month-long education and safety initiative is there to remind people to always do the correct preparation before digging, to protect crucial utility assets.

This avoids costly repairs and injury to the operator, and disruptions to electricity, gas, water, sewer and communications services.

It also protects the wider environment, with gas pipe leaks leading to substantial carbon emissions.

"Safe Digging Month is timed for November, when more people are likely to be undertaking work as the weather improves - and we really urge people to



beforeUdig operations manager and utilities damage prevention expert Phil Cornforth with essential equipment for safe digging prep.

do the necessary prep work," beforeUdig operations manager and utilities damage prevention expert Phil Cornforth says.

This is especially important in a year where New Zealand has experienced weather that has brought down houses and closed major highways, causing ground and, potentially, pipes and cables to move.

Phil says the correct process to follow is

straightforward, and it's important to take the time to do every stage of it properly.

"The first step is lodging a beforeUdig enquiry at least two full business days before starting work, then reviewing plans, doing visual checks and checks with an electronic locator, and marking out your site," Cornforth says.

"If permitted, you then dig test holes to determine the exact location of utilities in your worksite, put protection measures in place for infrastructure to prevent damage, and proceed only if you've done all of the above."

Eighty-five percent of New Zealand's utilities use beforeUdig

as their safe digging partner, so those digging don't need to contact every asset owner individually.

For the remainder, beforeUdig will tell you who they are, and provide their contact details so you can approach them directly.

You can download a simple guide to safety, and lodge your enquiry for free, at www.beforeudig.co.nz.



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## CodeMark status achieved across full range of products

Ideal for residential and commercial projects, State of Clad's product range has now achieved CodeMark status.



State of Clad's Territory Woodlands Teak product.

State of Clad, a leading supplier of pre-finished cladding systems in Australasia, has achieved CodeMark status across its full range of building products.

This comprehensive third-party certification means customers can be assured they are receiving guaranteed quality products that comply with the New Zealand Building Code, and are proven to perform in New Zealand's challenging climate.

State of Clad national lightweight systems manager Jonathan Brooks says the company is proud of achieving the CodeMark status.

"This is a big milestone for our company but, most importantly, for our customers, as this certification shows our products are compliant with Building Code requirements which can help save time, money and frustration during the consenting process," Brooks says.

Building Consent Authorities (BCAs) must accept a CodeMark certificate as evidence of compliance with the Building Code, and will not need to sight or assess any of the product's supporting information.

"By designing quality products in a transparent way, we want to give our customers accurate and clear information that can support them in their decisionmaking, and help speed up the overall building process."

State of Clad products are widely used in residential and commercial buildings around New Zealand for their versatility, durability and aesthetic designs.

They are pre-finished building products that are easy to install and built to last, making them a practical choice for customers who prefer low-maintenance options.

All products with a current CodeMark certification are exempt from the new Building Product Information Requirements (BPIR) regulations coming into effect on December 11.

"This certification will mean customers can spend less time dealing with compliance issues, while still having the confidence that what they are specifying will meet the requirements of the Building Code and perform in the future," Brooks says.



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#### NZ's first fully 3D-printed home completed in Paremoremo

orox's 3D printed concrete technology has achieved another first — the completion of New Zealand's first fully 3D-printed residential home in the Auckland suburb of Paremoremo.

It is also the largest fully 3D-printed building in the Southern Hemisphere, another groundbreaking achievement for Waikato-based Qorox.

The 252sq m family home was designed for a family of four to complement the site's natural contours and peaceful setting, and features 3D-printed concrete wall panels which provide the perfect backdrop for modern living.

The mastermind behind the home's unique design features was multi-award-winning architectural firm, Dorrington Atcheson Architects, who said the use of 3D-printed technology provided more flexibility than traditional concrete builds.

"It's pretty cost effective, and you can get the geometric proportions and shapes that you would have to spend a lot of money to get if you did it in traditional concrete construction," DAA director Tim Dorrington says.

Qorox managing director Wafaey Swelim says DAA provided an amazing design

which enabled it to fully use the design capabilities of its 3D concrete printer and produce a strong, secure and warm home for the owners to enjoy for many generations to come.

"People who visit the home are so impressed by its calmness and warmth," Swelim says.

To create the "printing ink" for the home, Qorox uses its own mortar recipe that is 80% locally sourced.

The final product was rendered internally and externally using full Resene Construction Systems handapplied Rockcote exterior and interior plaster and finishing coats, providing a natural look to the wall panels and providing the clients with their desired finish

Swelim says the flexibility of 3D-printed concrete allows home owners to add their own personal flair to their homes, without an additional price tag.

The Paremoremo house's 63 panels, with a total area of 360sq m, were prefabricated in Hamilton and transported to site for



Qorox's concrete technology has built New Zealand's first fully 3D-printed residential home in Auckland.

installation by Qorox's experienced team, with senior construction undertaking the rest of the build.

With 30% fewer emissions than traditional concrete builds, Swelim says achieving the fully 3D-printed home was another tick in the box for the next evolution in building.

"There are so many advantages to the technology. Our system allows the formation of wall cavities for insulation, plumbing and electrical wiring, and to apply patterns and design elements directly, without the need for additional work."





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#### Conference strikes right note with delegates and supporters

Concrete NZ's 2023 conference at Claudelands, Hamilton, offered an opportunity to connect with industry peers, and spend time discussing key developments in concrete materials, design, construction and research.

onference Organising Committee chair Moustafa Al-Ani welcomed more than 400 delegates from New Zealand's concrete industry and wider construction sector to Concrete NZ's 2023 conference at Claudelands, Hamilton recently.

Supported by exhibitors, delegates gathered to share knowledge, network and enjoy a range of social activities.

Al-Ani got proceedings underway by reflecting on how the diversity and depth of the technical programme echoed the complex and dynamic nature of the New Zealand construction sector.

#### Outstanding technical programme

The technical programme was headlined by three outstanding international construction experts — Andy Taylor from the University of Washington, Romilly Madew of Engineers Australia, and Maria Juenger from the University of Texas — who shared their experiences and insights.

Eager to keep the conference format



Conference Organising Committee chair Moustafa Al-Ani welcomed more than 400 delegates and supporters from the concrete industry and wider construction sector.

fresh, the organising committee arranged a sustainability panel discussion (see pic, above right) that featured Juenger and Madew, as well as Cyril Giraud from Holcim New Zealand and David Welsh from Fletcher Building. The outcome was an informative and thought-provoking conversation appreciated by delegates.



#### Concrete conference awards always a highlight



From left: Cyril Giraud, Romilly Madew, Maria Juenger and David Welsh take part in the sustainability panel discussion.

Always a highlight of the annual conference, the 2023 awards evening achieved a nice balance between acknowledging outstanding achievement and keeping guests entertained.

In addition to Sue Freitag of WSP being acknowledged with a Concrete NZ
Outstanding Contribution Award, Caleb Van De Westerlo of Formstress Precast taking home the Concrete Industry
Apprentice of the Year Award, and Daniel Blunden from the University of Auckland receiving a Concrete (Student) prize, the following awards were presented:

## Technical Excellence Award Firth Industries, for the Central Interceptor Low Viscosity Annulus Grout Supply

Firth Industries worked with the Ghella Abergeldie Joint Venture team to deliver the Lyon Avenue Caisson Wall, a critical project element of the Central Interceptor in Auckland. The caisson stands 39 metres high and weighs approximately 1000 tonnes.

The challenge was to design and place a grout to fill the 70mm annulus gap left behind by the cutting shoe, joining the external wall of the caisson with the ground to hold up the weight of the concrete.

• Hynds Pipe Systems took home a Highly Commended Award in this category for the Central Interceptor High Performance Jacking Pipe Supply.



#### Health, Safety & Wellbeing Achievement Award

#### Higgins Concrete, for its Golden Rules Programme

In 2020, after a period of not ideal performance in safety data, Higgins Concrete embarked on a strategy designed to lift and substantially improve the health and safety performance of the business.

Following employee feedback on current procedures and processes, the simple but effective statement — Start Safe, Stay Safe, Home Safe — led to the development of nine Golden Rules that set the evolving safety parameters for all staff.



#### Extra Distance Award Higgins Concrete, for the Turitea Wind Farm, Tararua Ranges

Consented back in 2011, the Turitea Wind Farm is New Zealand's largest, and consists of 60 wind turbines, each standing 125 metres high.

Managing pandemic disruption, extreme weather and difficult access, the mix and sustainability requirements of the project were met via Higgins' on-site batching plants.

Following the completion of the North Stage, the first plant had to be disestablished and removed from site. Protracted earthworks, along with planning obstacles, meant Higgins had to establish a second, temporary batching plant at the South Stage which, after certification, went on to supply concrete in a challenging environment to the project's completion.

• Allied Concrete (Fulton Hogan & Taylor Contracting JV) were presented with a Highly Commended Award in this category for the Waimea Community Dam.



## Diversity & Inclusion Award Allied Concrete — Diversity and Inclusion Initiatives

As part of the HWR Group, Allied Concrete considers itself a leader in terms of integrating diversity and inclusion across all aspects of the business, believing that it is their people that make the difference as they are the ones who "keep the wheels turning"

Amongst a range of factors, the judges were struck by Allied Concrete's "Get a Haircut" campaign to help recruitment in a competitive market, appreciating the use of hair as a metaphor to say "whoever you are, we want you just the way you are".

• ITW Construction took home a Highly Commended Award in this category for its Commitment to Diversity and Inclusion.



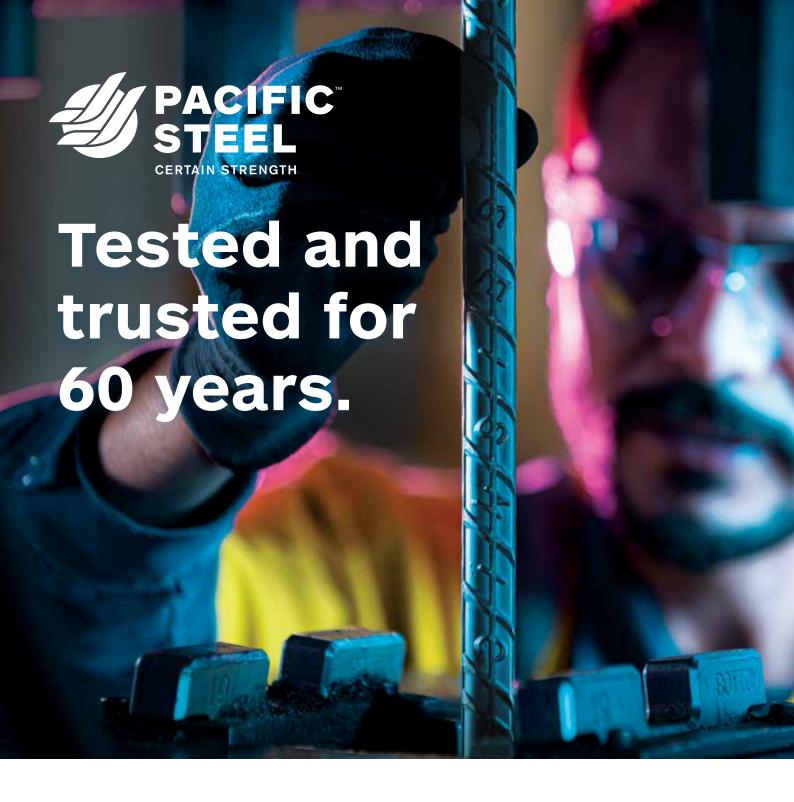
## Carbon Reduction Award Holcim New Zealand, for its Low Carbon Cement Replacement Facility and Verified Carbon Model

Holcim New Zealand recently opened a new low carbon cement replacement facility at the Ports of Auckland, which will enable the reduction of embodied carbon from the construction of the built environment.

Complementing this development, Holcim can now also provide project-specific, on-demand Environmental Product Declarations (EPDs), a service that represents a significant step in the company's sustainability journey.

 Golden Bay was acknowledged with a Highly Commended Award in this category for its Carbon Reduction at Scale Initiative





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## **Experience enhanced usability in compact vacuum cleaners**

The new Aero Safety takes compact vacuum cleaners to another level, with enhanced usability, premium performance and improved safety.

From construction sites to workshops, a versatile certified safety vacuum solution is a must to ensure safety standards on the job are met.

Nilfisk has upped the game with its latest members of the Aero family. It's kept compact versatility and added more premium and high-performing features to make users' working lives easier and safer.

First off, the new Aero Safety H range has a high-quality H-Class filter which handles all sizes and types of hazardous dust — wet and dry. These machines are fitted with a unique LongLifeFilter with an extremely durable PTFE membrane.

This filter is easier to clean and maintains performance for longer, so users get more reliable, safer dust extraction in the workshop. The rest of the Aero family has M-Class filters that also live up to global safety standards

Furthermore, throughout the series, a state-of-the-art system that measures air flow lets users know if they

need to clean the filter.

Truly unique is the Aero Safety's AutoSense universal feature, which automatically detects when any power tool is started, thanks to a Bluetooth remote control mounted on the vacuum hose or power tool — no matter what tool brand is being using.

Optimised from the bottom up to be more manoeuvrable, easier to use and, most of all, to meet all New Zealand safety standards, this is a compact vacuum cleaner that has the intelligence to work with any user.

#### Key benefits:

- The industry's first compact M & H-Class safety vacuum cleaner that helps users work safely, and can be moved around the workshop with ease
- Upgraded with the latest technology, including a state-of-the-art air velocity measurement system, and a double sealed filter, enabling high performance of the vacuum cleaner.
- Smart operation via Bluetooth remote control enables easier on/off functionality, auto detection of power tools, alarm notification, and more convenient operation.
  - Protects from electric shock with a fully antistatic hose system.
- Reduced noise level the latest Aero Safety series makes significantly less noise than previous models to ensure users' comfort and safety while working.



#### High-strength screw anchor designed for use in cracked and uncracked concrete

The Titen HD Heavy Duty Screw Anchor from Simpson Strong-Tie is a high-strength screw anchor designed for use in cracked and uncracked concrete, as well as masonry, and provides an excellent solution when a low-profile head is necessary.

It is suitable for use in sill/bottom plate applications, and can be countersunk to sit flush, allowing modular wall and floor systems to be installed on top without the need to notch the wall framing to accommodate the anchor.

#### **BRANZ-appraised**

The M12 x 150mm washer head screw anchor serves as an alternative fastening solution for proprietary fixed anchors in bottom plate applications.

It meets\* the requirements outlined



in NZS3604:2011 (7.5.12.3/7.5.12.4). Refer to BRANZ Appraisal 983 (2023) for applications related to bottom plate fixings and holdown applications per NZS 3604 using Titen HD Screw Bolts.

#### Titen anchor family

The Titen family of concrete and

masonry anchoring solutions from Simpson Strong-Tie offers a broad range of versatile, high-performance products designed for strength and reliability, with fast and easy installation for every application.

Backed by extensive code reports, rigorous testing and a long-standing legacy of expert engineering, each of the innovative screw anchors are designed for maximum ease and efficiency — ensuring a

quick, smooth installation the first time, every time.

\* Note: Based on third-party testing without serviceability consideration. Contact Simpson Strong-Tie for information on serviceability critical applications.



#### Be Compliant with new Nilfisk Aero **Dust Extraction Vacuums**



Nilfisk Aero M & H Class Dust Extractors deliver advance vacuum and filtration technology designed to achieve full compliance with New Zealand's workplace Health & Safety guidelines for extracting hazardous dust.

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AERO 26-W2H PC H-Class machine is fitted with a special LongLifeFilter constructed with a durable PTFE membrane. The filter is easy to clean and maintain, ensuring maximum efficiency in dust extraction.

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## New rebar tier range faster and more powerful than ever before

The new range of Max TwinTier rebar tiers are able to tie rebar faster and with more power than ever before.

Three new sixth generation Max Rebar-Tiers make up the TwinTier range.

They come with three new design features to provide the greatest efficiency and highest level of safety for reinforcing ironworkers.

The TwinTier's "dual wire feeding mechanism" increases tying speed by reducing

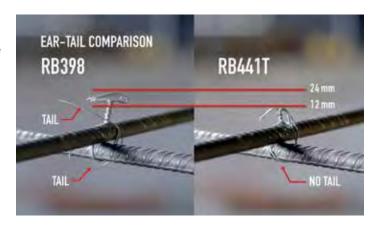
the time needed to twist and feed the wire, consequently reducing the cost, and shortening the time required for construction.

The tool's dual-wire wrap ensures each tie is reinforced for maximum hold.

The TwinTier's wire pull-back mechanism firmly pulls the tie wire in to adjust the tie to the rebar's size and maximise the strength of the tie.

When forming a tie, the tool makes a loop with the wire, and then pulls it to tightly secure and lock the rebar in place.

The TwinTier's wire bending mechanism feeds a precise amount of wire to match the thickness of the rebar being tied, cutting down on the use of unnecessary wire.



This bending mechanism consistently feeds, pulls back, twists and releases the perfect-sized tie for each application.

This generation's Max Rebar-Tiers produce ties that are approximately 50% shorter in height, allowing for thinner concrete pours.

Also, the ends of each tie are positioned downward to increase safety.

Additionally, wire spools now produce up to 240 ties (when tying D12 x D12 rebar).

- The RB441T Rebar Tier is designed to tie D10 x D10 up to D22 x D22 rebar.
- The RB611T Rebar Tier is designed to tie D16 x D16 up to D29 x D32 rebar.
- The RB401T-E Standup Rebar Tier is designed to tie D10 x D10 up to D19 x D19 rebar

The TwinTier's quick load magazine makes changing wire spools a piece of cake, and its frontward position provides improved balance/ergonomics, making flatwork easier.

A low battery power consumption design allows the tool to produce 5000 ties per charge using a 5.0Ah, 14.4volt Lithium-ion battery, which recharges in just 60 minutes.

The tool's six-step torque adjustment dial allows its user

to adjust the strength of the tie based on the application.

Steel, electrogalvanised and polyester ("poly") coated wire are all available for use with the Max TwinTier.

The tool works at double the speed and produces double the number of ties from a single roll of wire than the previous model, and far exceeds that of any of its competitors.

Overall, no matter the application, the Max TwinTier reduces the time it takes to complete a job, saves businesses money by cutting man hours needed for each project, and increases the productivity of its workers

For more information visit www.sifco.co.nz.











## AML to sell concrete plants to Allied Concrete and Holcim

ML Ltd has announced the intended sale of its concrete plants in New Zealand.

AML is a joint venture between Allied Concrete Ltd (ACL) and Holcim New Zealand I td (Holcim)

This joint venture operates a number of concrete plants which trade under the brands of Allied Concrete in the North Island, and Ashby's Ready Mixed in the South Island.

ACL and Holcim have mutually agreed to further their business strategies

independently and to conclude their joint venture.

Subject to New Zealand regulatory approvals, the new operational arrangements will be in place from November 2023

As a result of this, Holcim will operate the majority of plants (20) — which include Avondale, Bombay and Horotiu — in the North Island under the Holcim brand. Holcim will also operate Ashby's Ready Mixed in Christchurch, under its existing brand

ACL, owned by H W Richardson Group Ltd) will operate the remaining Silverdale, Penrose, and Hautapu (Cambridge) plants in the North Island.

The cessation of the joint venture will not affect any other Allied Concrete plants in the South Island.

Both ACL and Holcim are committed to continuing to deliver outstanding service, maintaining their high levels of health and safety, and ensuring continuity for staff, customers and suppliers.

## NZ company recognised on global Cleantech '50 to Watch' list

The companies on the list are creating new technologies that are poised to address the climate crisis.

N eocrete, maker of innovative low-carbon cement replacement, has been named on Cleantech Group's 2023 Cleantech 50 to Watch, an annual list of top global early-stage private companies showcased for their excellence in sustainable innovation.

The companies on the list are creating new technologies that are poised to address the climate crisis, from soil monitoring to solar to water scarcity, and everything in between

To create the list, inputs are combined from the Cleantech 50 to Watch expert panel of 32 leading global investors, and corporate and industrial executives who are active in technology and innovation scouting.

#### **High-impact solutions**

The panel nominated the companies that most impressed them with their early-stage high-impact solutions.

These were combined with Cleantech Group research on public early-stage awards, who then put the companies through qualitative and impact filters.

A shortlist of 150 companies was reviewed and scored by the expert panel to reach the final 50.

The Cleantech 50 to Watch companies are located in 21 countries. These innovators are delivering sustainable solutions in these five industry groups:

- Agriculture and Food
- Energy and Power
- Materials and Chemicals
- Resources and Environment
- Transportation and Logistics

"The companies in this year's Cleantech 50 to Watch are younger, faster, and gutsier," Cleantech Group chief executive Richard Youngman says.

"This year's list is a testament to the dynamics that we are seeing slowly crescendo in the overall Cleantech innovation universe and, indeed, the same ones that will be necessary to tackle the most pressing climate challenges."

Neocrete co-founder and chief executive Zarina Bazoeva says



The Neocrete team at the lab in Parnell, from left: Zarina Bazoeva, Dr Oleg Bazoev, Dr Theresa Bischof, Ethan Quirk, Matt Kennedy-Good.

she was super excited to be recognised by Cleantech Group as a global innovator.

"It's a testament to the success we've had in reducing the carbon in concrete, while making it more durable and resilient to the impacts of climate change.

"Neocrete can already reduce carbon in concrete by 30 to 50% — and we're working towards carbon neutral concrete by 2027.

Our mission is to reduce global carbon emissions by 1% by 2033."

In its fifth year, this highly-anticipated annual report brings the complete list of leading companies with case studies on a subset of the group.

The Cleantech 50 to Watch companies were recognised at the recent Cleantech Forum Europe in Tallinn, Estonia.

Attendees had the opportunity to connect with many of the companies on the list, along with many other rising stars.

For more information visit www.cleantech.com/50towatch.

## BCITO launches Women in Trades campaign

Campaign is about providing practical approaches that can inspire women to enter the trades.

CITO, a work-based learning division of Te Pukenga, has recently kick-started its Women in Trades Campaign, which aims to empower and encourage women to pursue careers in the construction industry, breaking barriers and fostering gender diversity in traditionally maledominated fields.

"This is a critical issue facing our sector, and while we have made some progress, we still have a long way to go," according to Amanda Williams, Principal Advisor Women at BCITO Te Pukenga.

"This campaign is about providing practical approaches that can inspire women to enter the trades, and to help employers to attract and retain more women.

"The BCITO has experienced growth since 2015, when less than 1% of apprentices in construction were women. The number is now above 6%, with carpentry, painting and decorating, and timber joinery attractive trades for women.

"By 2025, the BCITO aims for women to make up 10% of apprentices. The sector goal for 2040 is to have women make up 30% of people in the construction trades.

"Together, we can forge a path of progress, breaking barriers and creating a future of equal opportunities," Williams says.

To help achieve this shift in the industry, the BCITO recently launched an online resource platform.

The platform encourages employers to better support female employees, while also fostering growth and helping to strengthen the businesses they work in.

More than 10,000 BCITO employers have already use these online resources, which include strategies for building workplace culture, improving communication, health and well-being, and building future leaders.

#### Series of profiles

To highlight opportunities available for women in construction, the BCITO has developed a series of profiles and case studies (bcito.org.nz/buildingwomen) to showcase the trades as a viable option for women, regardless of age and stage of life.

These highlight five women who share their experiences of working in the trades, and how they are defining their futures through the tools.

One of the case studies features Jessica



Jessica Packe pivoted from her job in hospitality and started an apprenticeship in construction to ensure greater stability and structure for her family.

Packe, who pivoted from her job in hospitality and started an apprenticeship in construction to ensure greater stability and structure for her family.

"I hope that my story will inspire other women to find their 'rocks' that give them the security they deserve," Packe says.

"My passion for building is so strong, but my passion to build other women up is even stronger."

Williams says the construction industry needs confident, capable and motivated professionals

"These women exemplify the extraordinary talent and determination of women in the trades," she says.

"Through their accomplishments, we hope to inspire and empower other women to pursue careers in trades, through a BCITO apprenticeship, knowing that they too can achieve great success."

The Women in Trades campaign comes at a time when there is a pressing need

to address the gender gap in the trades industry.

Despite significant progress in recent years, women still face challenges, and are under-represented in skilled trades.

Supporting gender diversity and providing more opportunities for women in construction is essential to future-proofing the talent throughout New Zealand.

"We're keen to create an all-inclusive and all-empowering environment where women feel comfortable, enabling them to thrive and contribute to the growth and success of the trades industry," Williams says.

With more than 35,000 BCITO Te Pukenga trade-qualified professionals and counting, the BCITO is passionate about changing people's lives and helping them create successful careers and lifestyles.

It says showcasing the amazing accomplishments of women in the trades will inspire others to follow in their footsteps.

#### Timber challenges traditional construction boundaries

NZ Timber Design Award winners announced at gala function in Auckland.

The fully subscribed gala function for the NZ Timber Design Awards was hosted by Timber Unlimited on November 2 at Auckland's Cordis Hotel.

Leaders across the industry celebrated the re-defining of timber as a modern construction material that pushes the boundaries of the possible for architects, designers, engineers and construction professionals alike.

Engineered timber featured strongly throughout, as did hybrid buildings (those incorporating other building materials in the finished project).

"The possibilities for timber aren't limited to traditional uses anymore," Timber Unlimited director Dr Robert Finch said.

"We all know timber can be aesthetically beautiful, as well as being an impressive building material — and it's sustainable too."

Awards manager Debbie Fergie said from residential and commercial architectural excellence, to innovative uses of engineered wood, to new ways to use specialty timbers — wood is now firmly established as a favourite of forward-thinking architects and engineers, and the NZ Timber Design Awards proved this.

#### Judging and choosing a supreme winner

Sorting another record-breaking number of entries into just 61 finalists, and ultimately into winners and runners-up over 12 categories (up 50% from category choices 10 years ago), required a profound understanding of architectural design, engineering skills and innovative thinking, as well as construction excellence.

The four judges are leaders in their sectors, and were uniformly impressed with the vision and expertise demonstrated by all the entries.



The 2023 NZ Timber Design Awards Supreme Award winner was Green School NZ's Kina project on a former farm in Taranaki, by Boon Ltd (Taranaki).

Convening judge David Carradine is a senior structural research engineer with BRANZ, and frequent Awards judge.

He confirmed that for him there is no limit to what can be done with this material, especially combined with the advances in digital and manufacturing technologies that cater specifically to wood and engineered wood products.

The other three judges were Jan Stanway, technical director for WSP in New Zealand; Andrea Stocchero, senior analyst, Sector and Bio-economy Te Uru Rakau -New Zealand Forest Service; and Judith Taylor, current NZ Institute of Architects president.

All judges felt the range of submissions demonstrated the innovation, dedication and creativity that exists within and across the New Zealand timber sector, from architectural and engineering design, manufacturing and fabrication, to "the builders and makers of these beautiful

examples of what can be done with one of our greatest national treasures, namely timber".

The judges agreed that the Supreme Award winner, Green School NZ's Kina project on a former farm in Taranaki, was an exemplary project that demonstrated the beauty, efficiency and sustainability of timber, and was a clear winner.

The materials' whole of life cycle was considered, from design process to execution to the end of its useful life, ensuring that timber was as sustainably sourced and manufactured as possible.

This allowed it to be a beautiful building now, and at the end of its long life most of the timber elements will be able to be recycled.

"Through sustainable material selection, and innovative building techniques and products, Green School NZ buildings have been by design faster to build, higher performing and less wasteful than most others by quite a margin, with up to 60% less going to landfill," selected design studio BOON Ltd explained.

Highly commended in the Supreme category was Nelson Airport, with judges recognising "the seamless fusion of architecture, engineering and timber," which "represents a global benchmark for timber architecture and engineering innovation".

The People's Choice Award showed Maori Concepts' Tomomai ki Ahipara in Northland to be a clear winner, with St Hilda's Anglican Church in Wellington highly commended.

 See page 30 for all winners and highly commended entries.

#### Expanding categories proof of technological advances

Creative architects and designers are continuing to challenge engineers with their demands to use timber in new and different ways that still maintain structural integrity.

And the entries for the 2023 Timber Design Awards are proof of just how far the industry has come in realising this.

The Awards feature 12 different categories and a People's Choice Award this year, reflecting the increasing number of ways timber is being used today, and its popularity among change leaders in the many sectors represented.

This has seen a 50% increase in the number of categories over the past 10 years.

The huge strides in engineered timber and its applications are clearly evident in the current award categories.

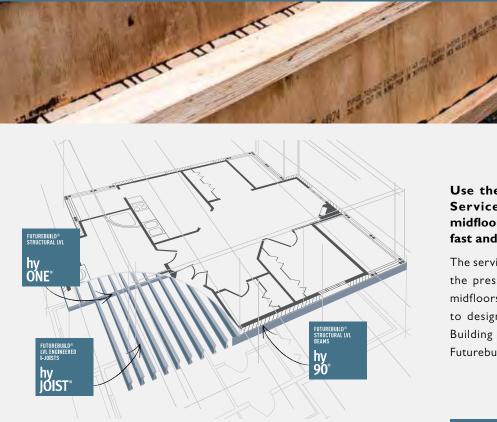
Multi-Unit Residential Buildings, Mid-Rise Building Design and the exciting Hybrid Building are all new awards.

This confirms that timber can be a modern, technologically-innovative material, while also highlighting ways it can be used in conjunction with more conventional materials.





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## 2023 NZ Timber Design Awards winners and Highly Commended entries

#### Category 1: Residential Design, Single Family Dwelling

Winner: Studio house, by William Samuels Architects (Nelson) Highly Commended: Kauri house by Context

#### Cat 2: Residential Design, Multi-Unit Dwellings (< three storeys)

Winner: 90 Carrington Road, by RM Designs & Engco (Auckland) Highly Commended: Parawai Crescent, by RM Designs & Engco (Auckland)

#### Cat 3: Commercial and Public Building Design

Winner: Green School - Kina, by Boon (Taranaki) Highly Commended 1: St Hilda's Anglican Church, by First Light Studios (Wellington) Highly Commended 2: St Kentigern's Preschool, by Smith Architects (Auckland)

#### Cat 4: Mid-rise Building Design

Winner: Clearwater Quay Apartments, by Pacific Environments NZ (Christchurch) Highly Commended: Homeground, Te Tapui Atawhai, by Stevens Lawson Architects (Auckland)

#### Cat 5: Interior Design

Winner: Learning from Trees, by Andrew Barrie Lab (offshore) Highly Commended: Taunga Waka Rererangi o Kirikiriroa -Hamilton Airport, by Archimedia Waikato Architects (Hamilton)

#### Cat 6: Exterior Structure Design

Winner: Horoeka, by David Trubridge (Rotorua) Highly Commended: The Elms - Te Papa, Heritage Garden Pavilion, Tauranga, by Matthews & Matthews Architects, Tauranga

#### Cat 7: NZ Specialty Timber Award

Winner: Te Rau Karamu Marae, by Athfield Architects and Te Kahi Toi (Wellington) Highly Commended: Venice Benches, by Michael Davis (offshore)

#### Cat 8: Sustainable Development Award

Winner: Te Whare Nui o Tuteata - Scion Timber Innovation Hub, by Irving Smith Architects, RTA













Studio and Dunning Thornton Consultants (Rotorua) Highly Commended: Te Noninga Kumu - Motueka Public Library, by JTB Architects (Tasman)

#### Cat 9: Hybrid Building Award

Winner: Wall-E, by Irving Smith Architects (Nelson) Highly Commended: Dowie Rose house, by Dowie Architects (Auckland)

#### Cat 10: Innovative Timber Engineering Award

Winner: Nelson Airport, by Studio Pacific Architecture, Dunning Thornton Consultants, Gibbons Naylor (Nelson) Highly Commended 1: Gunyama Park Aquatic and Recreation Centre, by Kirk Roberts (Australia) Highly Commended 2: Te Whare Nui o Tuteata – Scion Timber

Highly Commended 2: Te Whare Nui o Tuteata - Scion Timber Innovation Hub, by Irving Smith Architects, RTA Studio & Dunning Thornton Consultants

#### Cat 11: Innovative Timber Manufacturing Technology

Winner: Lightweight Timber Research Structures, by Andrew Barrie Lab and Batchelar McDougall (staff & students at a New Zealand University) Highly Commended: Te Whare-iti / Dorking Road house, by Aonui Architecture (Wellington)

#### Cat 12: Student Design Award

Winner: The Vertical Stage, by Gregory Mann (independent) Highly Commended: The Saucer (Summerhill Charitable Trust), by Thomas Nguyen University of Auckland

#### Supreme Award

Winner: Green School - Kina, by Boon Ltd (Taranaki) Highly Commended: Nelson Airport, by Studio Pacific Architecture, Dunning Thornton Consultants, Gibbons Naylor (Nelson)

#### People's Choice Award

Winner: Tomomai ki Ahipara, by Maori Concepts (Northland) Highly Commended: St Hilda's Anglican Church, by First Light Studio (Wellington)















#### **Advertorial**

#### Structural strength, stability and safety are features of new boardwalk

An impressive new timber boardwalk traversing the estuary at the Northland coastal community of Mangawhai has been enthusiastically welcomed.

ff | t feels very strong and stable."

"A real pleasure to walk or ride along here now."

"So much safer without worrying about all the traffic."

"Looks fantastic. Worth waiting for."

These paraphrased comments from early users of a new boardwalk connecting Mangawhai Heads with Mangawhai Village make it clear that local residents and visitors alike are delighted with it.

Opened to the public on August 22, 2023, the completion of Phase 2 of the shared path (Te Ara o Te Whai, "path of the stingray") is a significant milestone for developers Kaipara District Council and Northland Transportation Alliance.

It is part of a five-part plan to better connect Mangawhai Heads with Mangawhai Village, making it safer to walk, run, cycle or scoot from one to the other.

Structural engineering work carried out by Stellar Projects occurred through Covid in 2020 and subsequent lockdowns.

Physical works in the hands of vastly experienced Fulton Hogan began in November 2022 with the creation of a timber retaining wall, then paused briefly over the frantic summer holiday season.

The resumption was then affected by some extreme wet weather, including Cyclone Gabrielle.

#### Solid timber a natural choice

Waipu-based manufacturer Northpine supplied nearly all the solid timber. In a salt-laden estuarine environment such as Mangawhai, the structural strength, stiffness and durability of Northpine's specialist product range, Northbeam, comes into its own.

Sustainability advantages and timber's inherent resistance to corrosion is key.

Also important is the proven technical skill of Northpine's milling team — winners of multiple forestry awards for wood processing excellence.

Instantly appealing, even to the casual onlooker, is the ramrodstraight line of the 420m boardwalk parallel to the bridge and busy coastal road.

Auckland landscape architects Resilio Studio worked with the developers, local environs group Te Uri o Hau, and the Mangawhai wayfinding group, to design a path that was not only structurally

#### **Key contributors:**

**Project:** Mangawhai Shared Path — Phase 2 **Developer:** Kaipara District Council/Northland

Transportation Alliance

Project Manager: Stellar Projects
Landscape Architects: Resilio Studio

Contractor: Fulton Hogan





Photos: pdccreative.co.nz

sound but which integrates and reflects Maori design principles.

The midpoint of the causeway features a unique and innovative fishing platform, which takes on the fin shape from various fish species found in the estuary (eg flounder and parore).

Their names are anodised into hardwood inlays that form a taniko pattern, while schools of fish are represented by recessed crosses along the boardwalk.

Smaller vertical balusters, cut to varying heights on site, create an undulating effect that symbolises the movement of the stingray.

This new publicly-owned asset is a triumph not only of structural strength but of community collaboration and innovative design.

Northpine congratulates everyone involved in its planning, funding, design and construction.

• Watch video: https://www.northpine.co.nz/project/mangawhaishared-path#Video



Freephone 0508 432 115 www.northpine.co.nz





# German manufacturer and building products supplier deliver exciting mass timber fastening options

arshall Innovations, a supplier of building products in New Zealand, has partnered with the German manufacturer Eurotec to offer a new range of mass timber fastening options to the New Zealand market.

Marshall Innovations is known for its quality and service, and has been supplying the construction industry in New Zealand for 25 years, establishing strong relationships nationwide.

The partnership with Eurotec aims to provide the New Zealand market with a selection of cost-effective and high-quality screws and connectors.

According to Marshall Innovations sales and marketing manager Israel Ellis, this collaboration gives the market access to a new supplier with a focus on quality and cost-effectiveness.

Many projects have already started using Eurotec fastening solutions

#### Locally-available solutions

Marshall Innovations emphasises its commitment to providing excellent service and working closely with the industry to offer locally-available solutions.

Eurotec, with its in-house engineers, can assist with questions about fixings, and may even offer more cost-effective alternatives in some cases.

Both companies share a commitment to quality, innovation and service, and are poised to contribute to the growth of the mass timber market in New Zealand.

• For more information, visit www.mwnz.com or phone 0800 776 9727.



## Passive Fire Protection — what is it?

By Allproof specifications manager Andrew Smith

Passive Fire Protection (PFP) was born out of the need to prevent loss of life and property by containing or minimising the spread of fire.



Although working in tandem with Active Fire Protection (AFP) elements such as automatic fire detection and fire suppression systems, PFP is one of the best forms of fire protection as it promotes "Safety in Design".

The major benefit is that PFP is effective regardless of the actions taken by individuals or active safety systems.

The New Zealand Building Code (NZBC) C/AS4 defines a fire separation as "any building element which separates firecells or firecells and safe paths, and provides a specific fire resistance rating".

Walls, floors and ceilings are examples of building elements that can be part of a fire separation system. These fire separations are used to form compartments which inhibit the spread of fire and smoke, buying time for occupants to escape and firefighters to work.

#### Fire Resistance Level

The efficacy of passive fire products is determined by their "fire rating" or, more specifically, as defined by AS1530.4: 2014, the "Fire Resistance Level" or FRL. Fire Resistance Level is split into three metrics:

- Structural Adequacy (SA): This metric evaluates whether a product or system can continue to be load bearing or carry a predetermined load during fire conditions. It is only relevant for wall/floor systems and does not apply to sealants and fire collars as they are not designed to be load bearing.
- Integrity (INT): This metric evaluates the product's or system's ability to prevent and restrict the passage of flame and fumes. This is measured by the auto-ignition of a cotton pad on the non-fire side of the wall or floor. The test standard does not evaluate the smoke leakage.
- Insulation (INS): This metric evaluates the thermal insulation properties of the product or system. This is measured by a series of thermocouples on the non-fire side of the wall or floor.

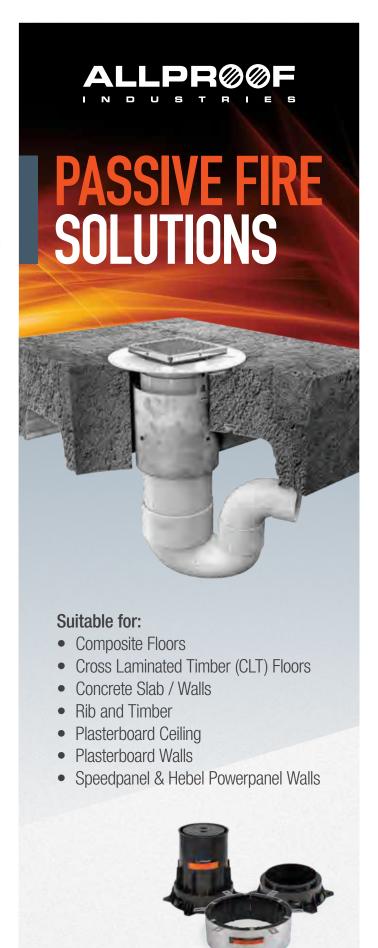
Fire resistance levels are usually expressed on product brochures and test reports as "SA/INT/INS". Fire-resisting systems with structural properties such as walls, floors or ceilings must maintain an FRL in all three categories — for example, 30 minutes would look like 30/30/30.

When looking at an FRL rating of fire collars for example, they will look like this: -/120/120, only featuring integrity and insulation ratings as they do not have any structural adequacy.

A building's FRL is decided by a fire engineer by placing the building into a risk group based on the activities, age and mobility of the occupants, along with the building's design (materials and access), and proximity to other properties.

A fire engineer will ensure that the building's FRL provides sufficient time for the occupants to safely evacuate and fire fighters to control the fire without causing risk to adjacent property or further spread.

Fire engineers work to clause "C - Protection from Fire" of the New Zealand Building Code (NZBC).



allproof.com

**NEW** large diameter

fire collars available.

## Window and door installation critical to the performance of any home

Windows and doors are one of the primary areas of a home's heat loss in the winter and heat gain in the summer, so installing high-quality, high-performance windows and doors is critical to the performance of any home.

With an ever-changing climate, it's just as important to design to reduce heat gain, as it is to try and reduce heat loss.

With an enormous range of profiles and finishes from Europe, combined with almost endless glass formats in double and triple glazing, Neuffer has a solution for every project.

Neuffer joinery is made in Germany, and has been installed in projects throughout New Zealand and Australia for a number of years, including a range of Certified Passive Houses with stringent thermal and air-tightness requirements.

Neuffer is part of the IFN Group which is Europe's leading provider of window solutions, with a multi-billion dollar turnover.

Neuffer joinery is represented in New Zealand by Enveloped Solutions, who provide support to home owners, designers and builders.

The joinery arrives assembled and glazed ready to go, and installation from the inside or outside can be handy on difficult sites or multi-storey buildings.

Once the joinery arrives from Germany,

Enveloped personally oversees unloading of the container, and follows the delivery to site where it provides personal on-site support.

As you would expect from Germany, the joinery is packed on solid A-frames and nested in air-bags, and Neuffer has never experienced a damaged frame or

broken glass in transit to New Zealand or through to the final building site.

Joinery is ordered off the plans rather than using site measures which can be unreliable, and will arrive to the exact dimensions as the shop drawings.

Neuffer has a suite to match every budget, from very cost-effective uPVC, uPVC with foil, uPVC with aluminium skin, wood, wood with aluminium skin, and a vast range of advanced thermally broken joinery to suit even the most elite and prestigious projects.

The composite wood aluminium profiles have been tested locally in Wellington,

and can be used in projects right up to the harshest SED wind zones.

Not only is Neuffer joinery thermally efficient (typically double the new H1 Building Code levels), it also has superior air-tightness, acoustic and security performance.

To find out more about how Neuffer joinery can improve the project you're about to work on, organise a video presentation or a showroom visit with the team at Enveloped Solutions for yourself, or with your clients.

#### • https://enveloped.co.nz

## Passive Fire Protection — what is it?

From page 33

Product selection and installation depend on design and construction methods. The designer/installer may select from either cast-in fire collars that create a fire-rated penetration prior to the installation of services (eg pipe work), or retro fit products that are installed once the service is in place.

A cast-in system is fixed to formwork in the location where the pipe or other service will be located.

Once the concrete is poured, the formwork is removed from around the collar, leaving a fire-rated penetration for the service to be installed through.

This method takes some planning but removes additional fittings on the underside of the slab and a large labour component.

A retro-fit solution will require the penetration to be cut to the exact

specification for a supplier's product.

Once the plastic pipes/services are in place, the low-profile fire collar, drop-in fire collar or fire wrap can be installed.

The installation of these life-saving products requires attention to detail — from the penetration hole size and type of sealant, to the type of fixings, it is important that the systems are installed to the exact specifications as those tested, to ensure the performance meets the building's FRL requirement.

A detailed record/schedule of the systems used in each location is then generated and submitted to the local authorities.

Allproof Industries is a leader in the passive fire protection market. Their range includes the low-profile pipe collars, castin fire collars, drop-in fire collars and pipe wraps.

Allproof's New Zealand-made advanced intumescent technology works when the intumescent is exposed to heat, and the volume increases at a significant rate and pressure.

The expanding intumescent fills the penetration void as the plastic pipe/service

melts away, creating a seal.

The char formed is stable and a poor thermal conductor, retarding heat transfer while maintaining the insulation and integrity of service penetrations.

Allproof Industries tests its products in accordance with AS1530.4 - 2014 and AS4072.1 - 2005 at independent IANZ-accredited fire-testing laboratories, and has a BRANZ Appraisal [No.1088].

Passive fire protection is crucial as part of the fire protection system of a building, and there is a considerable amount of evidence to show that if the right product is correctly installed, passive fire protection can have a substantial effect on the amount of lives saved and damage done to properties.

All aspects of the passive fire industry, from design, specification and installation to inspections, certifications and maintenance, require knowledge and understanding of products and their testing before making the right decision.

With a good understanding of PFP and planning, the occupants of your projects can greatly benefit from these systems.

## Vast range of sliding door systems



S Cavity Sliders (CS For Doors) is one of New Zealand's premier manufacturers of cavity sliding doors.

It has a vast range of sliding door systems to choose from, suitable for residential and commercial applications.

CS Cavity Slider products are designed with the highest attention to detail, and engineered to overcome the traditional issues encountered with sliding doors.

 Visit www.cavitysliders.co.nz, or contact a Cavity Slider expert at info@csfordoors.co.nz or phone 0800 754 337 to learn more.

## Draper products trusted worldwide







Praper Tools is a family business that has been operating for four generations.

It is a distributor of tools for consumer and professional use across several industries, including construction, engineering and automotive.

It boasts a huge range from accessories to consumables, with hand tools for enthusiasts and professionals, as well as a comprehensive range for construction.

Hundreds of thousands of people worldwide put their trust in Draper products, so you're in good company when choosing Draper Tools.

• Visit www.toolware.co.nz and search for Draper Tools.

# WIN







We've got another great prize to give away to the lucky winner of this month's Building Today
Trivia Question — a range of
Draper Tools products, courtesy of
Toolware Sales, worth

\$375

Visit www.buildingtoday.co.nz, hit the Competitions link and correctly answer the Building Today Trivia Question to go into the draw to win this fantastic prize!

BUILDING TODAY

Congratulations go to James Leddy, who won last month's Camo Marksman Tool and 700 Camo Stainless Deck Screws prize, worth \$440

## Ready, steady, slow — taking time before disciplinaries!

Tradie HR director Leigh Olsen advises employers to slow down — and save themselves possible grief — before taking disciplinary action against employees.



ately, I have been getting a lot more calls from managers and business owners asking for help with urgent disciplinaries.

It's in this moment that I say to them — slow down and take some time before you head down the disciplinary path.

#### 'Kind of' warning is not enough

Recently a manager wanted to immediately get rid of his employee for their poor punctuality. Mr "I'll come in when I want to" had been turning up to work at 8.30am, despite his official start time being 8am.

My first question to the manager was if he had raised it with the staff member. His reply? "Kind of".

"Kind of" is not enough to rush straight into a disciplinary process. I advised the manager that the first step was to raise the issue with Mr Late-to-work from a coaching angle.

The manager needed to pull the employee aside and say they wanted to have a chat privately. From there, during the private conversation, they could remind the employee of their contractual hours of work, followed up with an email confirming what was discussed.

With this approach, the manager is well on his way to success, reducing his risk of doing the wrong thing.

If he follows this process, then after that discussion, if the employee fails to show up for work on time without a good reason, the manager has grounds to start a formal disciplinary process.

#### Getting the steps right

So, what do you need to do to get the steps right to a disciplinary? Potentially saving a huge amount of stress, time and money for everyone involved, let's look at how a more measured approach can yield you better results:

#### 1 Gather all relevant information

Take time to gather your facts. Rushing into a disciplinary process without a full understanding of the situation can lead to unfair decisions, potential legal consequences, and damaged employee morale.

Keep an open mind and consider multiple perspectives of events. Being too quick to judge can be detrimental to you, your employee and your company.

#### 2 Meet and provide clear expectations

Before moving forward with disciplinary actions, always communicate your expectations clearly to your employee. Start by scheduling a meeting to discuss their behaviour or performance concerns. Allow them time to explain their side of the story and ask questions. Then outline your expectations and the potential consequences of not meeting them.

Within that, provide guidance on how the employee can improve their behaviour or performance, and offer any necessary resources or training to support their development.

Always make sure you send the right letter inviting them to the meeting — this documentation is really important.

#### 3 Consider alternative solutions

Not every issue requires immediate punitive action. Better results can sometimes be achieved through a supportive approach such as coaching, mentoring or additional training.

For example, one client overheard his apprentice talking about him to another staff member while working on a customer's house. He called me wanting to start a disciplinary process asap! Again — ready, steady, slow.

Let's be honest — most employees complain about their managers at some

stage, and what the apprentice said was not bad, but more out of frustration that the manager was never around.

My advice to my client was to talk to the apprentice first to understand what the problem was, and to use this as an opportunity for coaching.

This was the apprentice's first job, so the manager had a great opportunity to talk about what you can and can't talk about on site. The apprentice was surprised and grateful that he was not going to be told off, and has become one of their best employees.

#### 4 Weigh up the consequences

Disciplinary actions can have a lasting impact on an employee's career, and could lead to grievances or legal challenges if not handled properly. Pause and assess the potential consequences of your decisions thoroughly.

Also evaluate the impact on the team and workplace morale. Rushed disciplinary actions can create tension and negatively affect other employees.

By keeping it fair and consistent, you can reduce future consequences on how the team see you as a boss, and reduce inconsistencies around how you handle disciplinaries. If there are inconsistencies, it can also lead to legal issues and accusations of bias and favouritism.

#### 5 Document everything

One of my main recommendations is to document everything, as it's essential for a fair and legally defensible disciplinary process. Rushing through this step can lead to incomplete or inaccurate records.

Remember to keep detailed records of all interactions, such as meetings, discussions, emails and any evidence connected to the disciplinary or performance issue. Follow your company's established policies and procedures for documenting disciplinary actions.

Finally, document steps taken to address the issue and the employee's response to the process. Note dates, times, and what was said.

#### It's reality - but get support

Let's also not forget that issues with your staff are a reality of being a boss. Things will happen, and conflicts are going to arise. Sometimes, you just might have to

Continued page 37



## Contractors and subbies better protected under new retention changes

On October 5, 2023, the Construction Contracts (Retention Money) Amendment Act 2023 (Amendment Act) came into force, bringing about significant changes to the way construction contract retentions are required to be handled. Tanya Young of Auckland legal firm Greenwood Roche summarises the key changes, providing practical advice for parties dealing with retentions.

In 2017, a statutory regime was introduced under the Construction Contracts Act 2002 in recognition of the need to better protect contractors and subcontractors against the mismanagement and/or misuse of retention money.

The Amendment Act has substantively strengthened this regime with the following important changes:

**Statutory trust over retentions:** A statutory trust is automatically created over all retentions, imposing fiduciary obligations on the withholding party for the benefit of the relevant contractor or subcontractor.

**Use of retentions:** Retentions may only be used to remedy defects in the performance of the other party's obligations under the contract, but even then, only if this is permitted by, and the retentions are applied in accordance with, the contract terms.

Additionally, 10 working days' prior notice must be given to the other party allowing them to remedy the defects before retention money may be applied.

#### Separate account or complying

**instrument:** All retention money must be held in a compliant New Zealand bank account or be protected by a complying financial instrument, such as an insurance or bank bond, issued for the value of the retentions under the relevant contract.

From page 36

look at using a disciplinary process.

Yet by following the steps above, you can significantly reduce the impact of this process.

At Tradie HR we have the key tools to help you get this stuff right — by being a strategic partner walking alongside you in your journey to help grow your people, correct behaviour, and maintain a healthy work environment.

By taking a measured and thoughtful approach to discipline, you can move with confidence from Ready Steady Slow to Ready Steady Go.

• **Note:** This article is not intended to be a replacement for legal advice.



Tanya Young

Funds held in a bank account cannot be comingled with working capital of the withholding party.

**Intermingled retentions:** A single bank account may be used to handle multiple parties' retention funds provided separate ledgers are maintained in respect of each individual construction contract.

If money is withdrawn/deposited through an intermingled retentions account without identifying the party it relates to, that money must be apportioned to all parties with retentions in the account, in proportion to their respective ledger balances at the time of the transaction.

Records and reporting: Section 18FC now has more rigorous accounting requirements and, in addition to making account records available to the relevant counterparty, a party withholding retentions must also report on certain information when money is first withheld, and at least once every three months thereafter, including:

- each amount retained, the relevant construction contract, the date of retention, and the total amount of retentions held; and
- details of the bank account or complying instrument relating to the retentions.

**Offences:** The Amendment Act creates offences for failing to comply with the new regime, with fines for companies of up to \$200,000, and for their directors of up to \$50,000, for each offence.

These changes serve to increase the transparency, consistency and efficiency

of retentions management in the New Zealand construction industry.

They provide assurances to contractors and subcontractors that validly-earned income will not be lost due to insolvency or mismanagement by upstream parties, or unfairly withheld as leverage at the end of a contract.

Parties to commercial construction contracts entered into, or renewed after, October 5, 2023 should ensure they understand their obligations under this regime, and are able to comply. Some key tips and considerations are set out below.

**Trust accounts:** A dedicated trust account should be the first consideration for any party likely to withhold retentions under a construction contract.

This should involve discussion with the withholding party's bank, including in relation to accounting and reporting requirements, and how trust accounts and transactions will be managed.

#### Consider "complying instruments":

Parties can exempt themselves from some requirements of the new regime if maintaining a complying instrument rather than holding retentions in a trust account.

However, withholding parties will still be required to report on the particulars of any complying instrument, and make a copy of the instrument available to the counterparty.

Maintain accurate ledgers: It is important to establish processes to ensure transparent and compliant account ledgers are maintained, and reports are issued on time.

#### Review and update contract terms:

Contract terms should, at a minimum, permit retentions to be called on to remedy defects in contract performance, including defects in the contract works (preferably using express terms), and allow contractors a 10 working day cure period to remedy defaults.

While not strictly necessary to comply with the Amendment Act, setting out record keeping and reporting requirements in contracts may also help contract administrators remain cognisant of reporting requirements under the new regime.

## Six customer service principles from Amazon CEO Jeff Bezos to apply to your business

Andy Burrows — The Trades Coach — outlines how you can apply the same six principles to your business that Amazon boss Jeff Bezos has used to build Amazon.



Perhaps more than any business leader, Amazon chief executive Jeff Bezos has taken the philosophy of truly focusing on the customer experience and brought it into the digital age.

Bezos has built a company from the ground up purely based on the unbending philosophy of serving the customer across all departments.

With more than 300 million Amazon customers, Bezos is perhaps the greatest example of success in building an authentic, customer-centric company.

Obviously, online retail is a bit different to construction. However, we can all take some lessons on customer service from Bezos and apply them to our business.

Here are six of his top philosophies on customer service:

#### • "Everyone has to be able to work in a call centre."

As part of a training session each year, Bezos asks thousands of Amazon managers, including himself, to attend two days of call-centre training.

The reason here is for managers to immediately be placed in the mindset that Amazon's philosophy is about listening and, most importantly, understanding the customer. It's easy to listen to customers. It's harder to understand them.

**Application:** Involve site management team members in customer meetings so they can hear the voice of the customer and understand them better.

#### • "We're not competitor obsessed, we're customer obsessed. We start with what the customer needs and we work backwards."

The Kindle tablet came into existence purely defined by customers' desires rather than engineers' preferences and personal preferences.

What was remarkable was that Bezos

hardly faltered in creating a product built for the customer, even after it took years to construct the right hardware.

One finance executive, in particular, learned quickly of his philosophy when he asked Bezos how much he was prepared to spend on the Kindle project. The quick reply was: "How much do we have?"

**Application:** Ask better questions of your customers at the start of their journey to find out what they really need or want, and can afford. Then customise your service offering to match.

#### "Focusing on the customer makes a company more resilient."

Early on, Bezos brought an empty chair into meetings and informed his top executives that they should consider that seat occupied by their customer — "the most important person in the room."

Throughout these meetings, a different weight was held on all decisions as the invisible but clear presence of the customer was always accounted for.

**Application:** When making decisions or plans in your business, ask everyone, "how will this add value to our customers?"

#### • "We're not satisfied until it's 100%."

Amazon typically achieves a 99.9% success rate in its delivery operation. To Bezos, though, there is still room for improvement as he stated: "We're not satisfied until it's 100%."

Not sure I agree totally with this one. Absolutely, it is important to strive for constant improvement in what you do, but I also believe that "perfection is the enemy of progress".

Most customers aren't prepared to pay the additional cost to achieve total perfection, so you need to establish what totally satisfied looks like. Then systemise its delivery.

#### Application:

Implement a philosophy and process for constant improvement in your business to always look for ways to get better.

 "If you make customers unhappy in the physical world, they might each tell six friends.

#### If you make customers unhappy on the internet, they can each tell 6000."

Today's customer is listening to peers, researching heavily online and posting complaints on social media — changing everything business owners thought they knew about customer relationships.

Ensure you have a clear and concise plan for how you deal with bad reviews or customer complaints (it's going to happen).

Above all else, no matter how frustrated you may be with a customer who takes a complaint to the internet, never fail to respond, and always say thank you.

**Application:** Ask for 5-star Google reviews, and if the customer is not able to do that, ask them what you can do to earn one. Develop a procedure for handling negative feedback in a positive and proactive way.

#### "We will use the scar tissue from this painful mistake to help make better decisions going forward, ones that match our mission."

Never be afraid to apologise. Even if it was probably not your mistake or responsibility, be quick to apologise for the concern or inconvenience the situation has caused for the customer.

It's often embarrassing and frustrating, but a problem well handled can turn an angry customer around, or at least stop the issue blowing up further.

When Amazon made some bad decisions earlier on in its journey, they could have just put out a well-crafted press statement. Instead, Jeff Bezos sent a personal email to the affected customers and gained way more positive comments and support as a result.

**Application:** As leader you should take key responsibility for customer complaints, and make a personal apology to the customer. Add in how you are making changes to rectify the situation or ensuring it does not happen again.

You are unlikely to need radical changes in your business as a result of reading this article. At least I hope that is the case!

Instead, look at how you truly view your customer, and imagine they are in the room with you when conducting company meetings — or even when you are personally putting your business plans together for the next few years, and want to make your operation better.

If you need help in this process, reach out to me at andy@tradescoach.co.nz.





#### STRESS!

Is that what you went into business for?

If not, call Andy 027 688 6721 www.tradescoach.co.nz

#### **Building Consents Information**

#### For all authorisations, September 2023

Dwellings	\$1,423,454,851	Total All Buildings	\$2,099,143,896
Domestic Outbuildings	\$16,619,218	Non-building Construction	\$58,000,103
Total Residential	\$1,440,074,069		
Non-residential	\$659,069,827	Total Authorisations	\$2,157,143,999

#### Number of new dwellings consented

	Sep 2023	Aug 2023	Aug 2022
Far North District	18	20	29
Whangarei District	32	56	201
Kaipara District	6	3	15
Rodney District	70	75	99
North Shore/AlbanyWards	251	148	371
Waitakere Ward	249	202	206
Auckland Wards	244	345	572
Manukau/Howick Wards	285	190	303
Manurewa-Papakura Ward	142	150	202
Franklin Ward	48	32	129
Thames-Coromandel District	21	26	31
Hauraki District	9	2	6
Waikato District	51	63	151
Matamata-Piako District	16	23	17
Hamilton City	70	141	201
Waipa District	25	57	57
Otorohanga District	4	1	6
South Waikato District	5	7	16
Waitomo District	1	0	3
Taupo District	46	46	17
Western Bay of Plenty District	24	42	33
Tauranga City	54	71	88
Rotorua District	47	14	38
Whakatane District	7	13	20
Opotiki District	3	1	2
Gisborne District	11	11	26
Hastings District	22	32	44
Napier City	10	36	17
Central Hawke's Bay District	4	4	7
New Plymouth District	19	18	27
Stratford District	3	4	3
South Taranaki District	8	5	7
Ruapehu District	2	2	3
Whanganui District	11	4	19
Rangitikei District	1	1	3
Manawatu District	5	9	18

	2023	2023	2022
Palmerston North City	36	26	32
Tararua District	1	2	10
Horowhenua District	12	153	25
Kapiti Coast District	62	41	38
Porirua City	14	28	19
Upper Hutt City	11	21	15
Lower Hutt City	45	96	95
Wellington City	26	45	52
Masterton District	24	20	6
Carterton District	1	1	7
South Wairarapa District	12	4	9
Tasman District	21	16	74
Nelson City	7	34	39
Marlborough District	34	12	26
Kaikoura District	0	0	2
Buller District	1	13	3
Grey District	5	4	0
Westland District	12	2	14
Hurunui District	6	15	16
Waimakariri District	79	83	57
Christchurch City	411	272	528
Selwyn District	46	187	185
Ashburton District	12	10	16
Timaru District	7	19	16
Mackenzie District	6	4	11
Waimate District	1	0	2
Waitaki District	7	8	8
Central Otago District	15	15	28
Queenstown-Lakes District	82	87	114
Dunedin City	40	61	50
Clutha District	8	5	6
Southland District	11	14	19
Gore	5	2	7
Invercargill City	11	16	19
Area Outside TA	0	0	0
Total	2898	3170	4547

Sep | Aug | Aug

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