



# General Practitioners September 2022

## Newsletter

Welcome to our third newsletter for 2022.

Noticing a dip in the industry, particularly residential? The talk of a recession seems to have slowed the housing market and in turn residential engineering. Don't get me wrong, it is great to feel like we can finally catch our breath again, but with it comes the anxiety of *Can we keep the work flow moving?* Perhaps time to step out of your comfort zone and explore new options. [Slack](#) is also a great tool where work sometimes get passed on from those that don't have capacity. Or if you are struggling to keep up but don't want to disappoint your clients, have a look if you can pass work on.

In this quarter's newsletter we have examined and provided links to a few useful tools for the industry. We have an update on what's been discussed on the Slack channel, upcoming webinars and a great article by Martin Pratchett on using P21 Bracing Units Outside of NZS3604.

Take a look at the lessons learnt article on quick alterations, I think we can all take something away from it. Another lesson learnt is on building around trees and there is also a learning opportunity from a complaints study undertaken by Engineering New Zealand, I think we could all learn from that We also have another great lessons learned article on a splice installed by the contractor due to no detail being provided. Again, **I would like to encourage you all to submit your lessons learned to include in our following newsletters.** This is anonymous and a great tool to help other engineers to not repeat the same mistakes. We are also asking for you to submit photos that you think best describe Engineering General Practice, so that we can showcase exactly what we as EGPs do. Nick has created a new channel on Slack where anyone can add their photos, or submission can be sent to [general.practitioners@engineeringnz.org](mailto:general.practitioners@engineeringnz.org).

**Tamlyn Adams**

Editor

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# Message from the Chair

The last 6 weeks have seen some interesting developments.

The regulators are rapidly advancing changes to some of our codes and regulations. These include:

- The revision of NZS 3604.
- NZBC changes to B1 (and other sections) These include the approach to design for particular ground conditions; liquefaction and expansive soils to name two.
- A review of consenting requirements.
- Changes to the RMA allowing considerably more leeway in development for residential purposes.
- The application of the NES, particularly in regards to development within 100m of a natural wetland.

All this places extra load on us as engineers to firstly keep up with requirements and secondly to ensure that the things we design fit with the requirements, old and new. This is in turn leading to longer design and processing times as TA's and designers come to grips with the rapidly changing regulatory environment.

For us this means having a hard look at our pricing regimes and trying to stay ahead of the costs of design and processing RFI's without alienating clients and potentially finding ourselves with bad debts.

The committee is working to keep the perspective of these changes within common sense bounds, but our voice is only one of many. In this environment, it is even more important to be a member of Engineering New Zealand and the SIGEGP. Even if you wonder at times what these organisations do for you it is important to add your voice by way of the numbers.

Many benefits accrue from having a larger group. These include the power of numbers and the likelihood that someone among our group takes a special interest in one aspect and steps forward to present their view – it might surprise you to know that your views are widely shared.

Please, if something seems important to you, contact us via email or the slack channel (carrier pigeon or smoke signals!). We would love to discuss it with you and it may become the base of a wider presentation. It is immensely rewarding to give back to our profession and the spinoff is that it is the best professional development bar none.

To this end we need more examples of incidents (always anonymized) that have given you a learning experience in your professional practice. I always believe that we learn much less from our successes than from our failures (and how we have negotiated these). Sharing these with your colleagues (us) will help all improve in the profession.

As yet another year races into spring, driving us into the pre-Christmas rush to get projects finished we must not forget to take pause and contemplate the bigger picture. I believe that taking a little time out of our busy lives to look at ourselves, both personally and professionally, is vital to our ongoing wellbeing and the wellbeing of our profession.

I want to thank the members of the committee - they have stood up to be instrumental in cementing our place in professional engineering. I am grateful for their support and the hard work they are doing. I look forward to working with many more of you, our members, as you step forward.

There's much of interest in this newsletter – enjoy.

Nga Mihi,

**Pete van Grinsven**

Chair



## The EGP One Question Survey

This issue, we are asking Engineering General Practitioners:

How often do you write off time when Clients won't pay or argue the bill?

- Never
- Often
- Only charge fixed fee to avoid this
- Only write off to match accepted quote
- Go after every cent
- Write off if it is below a certain value
- Other \_\_\_\_\_

**TAKE THE SURVEY**

In the last issue we asked:

How confident are you that professional insurance would protect you against a claim?

- I have complete confidence and sleep like a baby!
- I pay the premium and cross my fingers.
- Personal liability is one of the reasons why I choose my current employment.
- Other \_\_\_\_\_

The results from this survey are interesting, with majority of respondents not confident in their insurance. Our [EGP Webinar by Craig Lewis](#) highlighted a lot of important information and facts most are probably not aware of. If you missed it have a look at the recording on our website under [Presentations](#).

ANSWER CHOICES	RESPONSES
I have complete confidence and sleep like a baby!	19.05%
I pay the premium and cross my fingers.	61.9%
Personal liability is one of the reasons why I choose my current employment	4.76%
Other _____	14.29%

Some other comments were:

- I trust my insurance provider but still have the odd sleepless night
- I think personal liability of employees is the single biggest issue affecting our industry that Engineering New Zealand ignores and leaves it to our dear lawyer friends to look after instead.
- I have confidence but sometimes wake up thinking of the worst-case scenario.

# Have you Heard About Checkwind?

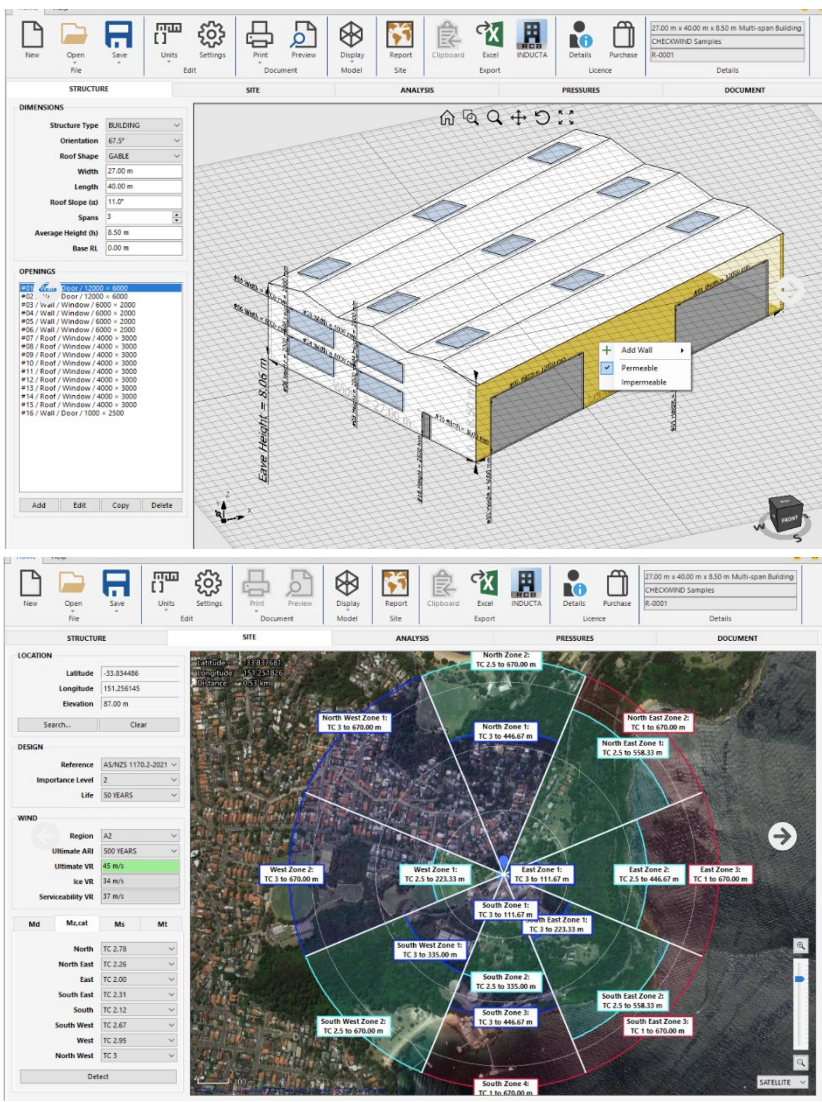
Tamlyn Adams

BRANZ maps is a useful tool, but tests have shown it to be inaccurate, especially near escarpments and cliffs. NZS3604 is due to be updated, which BRANZ maps is based on, so ultimately it can be seen as outdated. Also, if you do not have an NZS3604 structure, BRANZ maps is not applicable. Yes we may use it when initially pricing a job or to do a quick check against our own Wind Loading Calculations, but should we be basing our designs off of it and considering it to be true? I cannot answer that for you but I can tell you about another tool that I have found to be very accurate.

[Checkwind](#) is a tool I and many others have started using when it comes to wind loading design. It is a wind calculation package used for determining all site-specific wind load parameters. It is easy to use and has great output features and diaphragms, see the examples below. You can get site specific wind speeds and pressures in a few seconds.

Checkwind is used all over the world. There is even a free trial version, so give it a go for yourself.

**DOWNLOAD CHECKWIND**



# Auckland Council Soakage and Stormwater Tools

Auckland council have provided some tools intended to help developers design soakage and groundwater recharge devises in accordance with GD2021/007 Stormwater Soakage and Groundwater Recharge in the Auckland Region. Below is a link to the tools:

**AUCKLAND COUNCIL TOOLS**

## Learning Opportunities

The biggest opportunities to learn from are not when things go right, but when they go wrong. The best way to learn from your mistakes is to recognise what went wrong and how you (and others) can avoid making the same mistake again.

Click on the links below to read some anonymous Learning Opportunities submitted by two different contributors:

1. [Lessons learnt from an Engineering New Zealand complaint case study: Diaphragms on different ceiling levels and Driven pile information not noted on drawings.](#)
2. [Building damage from ground heave](#)
3. [Quick Alterations and Time Pressures](#)

Do you have a learning opportunity that would be of interest to your fellow EGP members, please submit your examples for others to learn from? Download the [Learning Opportunities form](#) and send it to [egp.sig.anonymous@gmail.com](mailto:egp.sig.anonymous@gmail.com).

## EGP Slack Channel Update

*Nick Calvert*

The [SIGEGP Slack channel](#) provides a useful forum for technical discussion. The committee recommends that all our members are active on the slack channel. There are many ways to know when content has been posted, but I find the best way is to get a notification through the system tray on my computer.

Since the last update we have started a new dedicated civil channel for discussion on civil engineering topics. We have also started a channel for photos of interesting or unusual projects that you have been involved in, this could bring up some outside questions, find new work opportunities or just give you an opportunity to show off your work and interest others.

Technical topics that have been discussed in the last few months include the following:

- Re-bending of incorrectly bent reinforcing bars
- Stainless steel design standards and questions
- SCNZ and the relationship with residential PFC portals frames
- Alternative piling systems to NZS3604 type piled foundations
- Capacity of buried pipes to carry imposed loads at ground level

- Discussion around the shear capacity of grouted piles
- The differences between NZS1170.2, NZS3604, BRANZ Maps and CheckWind
- Crane runway fatigue loading
- AS/NZS1664.1 Aluminium standard experience
- Access track structures and platform design guide

If you missed out on any of these, go have a look at the discussions and feel free to add your input.

## Upcoming EGP Webinars

*Tamlyn Adams*

We have recently been rolling out a few great webinars for our members with a few other exciting ones lined up. Below are some webinars and courses that may be of interest to our members coming up soon, otherwise visit the [Engineering New Zealand Learning & Events page](#) for a full list of upcoming webinars:

Upcoming EGP webinar:

### 10 Tips for starting your own practice

When: Tomorrow, 12 Oct | 12–1PM

Where: Online via Zoom

Register: [Here](#)

**REGISTER NOW**

Date	Webinar/Course
Sept-Oct	SESOC 10 Tips for Better Designs of Low-Rise Structures (Course)
Sept-Oct	SESOC Revised NZ Standards for Wind Loading AS/NZS1170.2:2021 (Course)
Thursday 13 Oct	Concrete NZ Conference (Conference)
Thursday 13 Oct	Timber Design Society   9
Tuesday 18 Oct	Water New Zealand Conference and Expo (Conference)
Tuesday 18 Oct	Timber Design Roadshow (Course)
Tuesday 18 Oct	Embedded Retaining Walls (Course online)
Tuesday 1 Nov	Pile Design and Analysis of Single Piles (Course)
Wednesday 16 Nov	Temporary Works: Risk and Awareness
Wednesday 30 Nov	Fundamentals of Pile Design in Liquefiable and Expansive Soils (Course)

As a voluntary committee, we want to bring you quality content to support your work as a General Practitioner and we hope you'll join us for our next webinar. If you have ideas for future webinar topics, please get in touch, we would love to hear from you.

Missed any webinars and not sure where to find them, I find the two links below very useful from Engineering New Zealand and the Timber Design Society where you can find some of the recent webinars:

**ENGINEERING NEW ZEALAND YOUTUBE CHANNEL**

## Using P21 Bracing Units Outside of NZS3604

*Martin Pratchett*

Bracing Units (BU) were introduced in 1978 for builders and architects to easily calculate wind and seismic demand and resistance of light timber-framed structures such as residential dwellings used within the design scope of NZS 3604. In 1978, New Zealand houses were usually smaller than today, with more regular plan shapes and, consequently, high redundancies. More recently, and in response to designer-led aesthetic demands, engineers have begun to use BU-rated systems outside of their intended use for specific engineering designs, potentially without understanding the associated implications and risks.

This article discusses the background to bracing systems that have undergone P21 testing and the limitations when engineers use BU-rated systems to design structures outside the scope of the New Zealand Building Code (NZBC) Acceptable Solution B1/AS1, which calls up NZS 3604. The article provides examples of structures that comply with the intent of NZS 3604 and those that do not. Some examples are the same as provided by Wouter van Beerschoten and the Timber Design Society in their 2021 webinar. The author is grateful for the input provided by various engineers and organisations.

[READ MORE](#)

## Construction Monitoring Advice and Report Template

*Martin Pratchett*

I'm frequently asked what should be included in a construction monitoring report. As a result, we've produced a [template spreadsheet](#) you can download and use. It will be available on the Engineering New Zealand website soon under the Guidelines section. For now, you can get it here, from the Engineering General Practitioners Group. Use it in conjunction with the [construction monitoring site advice](#) we produced.

[DOWNLOAD SPREADSHEET](#)