

## Codewords Issue 75

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9 DECEMBER 2016

### Welcome to our final edition of Codewords for 2016

There's certainly a lot in this issue and first up, I'm keen for you to complete a short survey on how well the new website is working for you – we value your opinion so please take part and have your say using the link in the first article below.

The recent earthquakes around the country have highlighted how important it is that our buildings are structurally sound. The website's [post-earthquake building assessment](https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/) pages have been updated and provide timely, useful information and resources for you and those you work with. They will continue to be updated if new information becomes available.

MBIE has also recently released two new practice advisories relating to earthquake performance that are well worth reading:

- [Read Practice Advisory 19: Improving earthquake performance of non-structural elements](https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/practice-advisory-19/)
- [Read Practice Advisory 20: Improving earthquake performance of secondary structural elements](https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/practice-advisory-20/)

This edition of Codewords looks at the Building (Pools) Amendment Act consultation and updates you on MBIE's Fire Programme. It also looks at the publication of ductile steel mesh clarifications, as well as the two new geotechnical guidance modules MBIE recently released with the New Zealand Geotechnical Society.

Our restricted building work campaign continues in the lead up to Christmas and our website now has RBW factsheets available in simplified Chinese, Korean and Hindi – please pass the details along to anyone you think might find these useful. The factsheets can be found at [www.lbp.govt.nz](https://www.lbp.govt.nz/projects-and-consents/planning-a-successful-build/scope-and-design/choosing-the-right-people-for-your-type-of-building-work/use-licensed-people-for-restricted-building-work/)

Right now the industry is busy – and getting busier – so it's important to concentrate on cash flow for your business because, as we all know, in the boom times cash flow is king. In addition, remember to keep an eye on your employees' health, safety and welfare, as well as your own. Post-earthquake stress can affect us in different ways, and with the pressure that this time of year can bring from both work and family, please keep looking out for each other.

Codewords will return in January 2017. Until then I hope your summer has plenty of sun, remember to wear sunscreen and if you're having a break – have a good one.

## Code and technical changes

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### How well is the building.govt.nz website working for you?

The redeveloped building.govt.nz website was relaunched in March 2016 with the aim of providing clear, accurate and easy to find MBIE information on building regulation.

The website supports those involved in building work – designers, building contractors, building officials and building owners. Whether you are a homeowner looking for information on 'Getting Started', to better understand the building process, or a designer looking for technical solutions under 'Building Code Compliance', you need to be able to find, understand and use the information.

Please take a few minutes to answer six survey questions about the new website to help us understand how well it is working for you.

The survey was open until the end of December 2016.

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### Retention provisions will not apply to existing contracts

To clarify that new legislation relating to retention money in construction contracts will not apply to contracts signed before 31 March 2017, the government has introduced the Regulatory Systems (Commercial Matters) Amendment Bill.

New requirements that all retention money must be held on trust come into force on 31 March 2017. Clause 138 of the Bill clarifies this will apply only to contracts entered into or renewed on or after that date.

You can read [clause 138 of the Regulatory Systems \(Commercial Matters\) Amendment Bill](http://www.legislation.govt.nz/bill/government/2016/0183/latest/DLM6971893.html) (<http://www.legislation.govt.nz/bill/government/2016/0183/latest/DLM6971893.html>) on the Parliamentary website.

### Proposed Acceptable Solutions for pool barriers

Consultation on proposed new Acceptable Solutions to support changes to residential pool barrier requirements made by the Building (Pools) Amendment Act 2016 is open until 16 December 2016.

The Amendment Act repeals the current Fencing of Swimming Pools Act 1987 (FOSPA) and instead includes pool safety provisions under the Building Act 2004. It also creates new Building Code clause F9, which relates to residential pool barriers. Changes under the Amendment Act take effect from 1 January 2017.

### Proposed new Acceptable Solutions

MBIE is proposing to issue new Acceptable Solutions F9/AS1 Barriers for residential pools and F9/AS2 Covers for small heated pools.

Currently, Building Code clause F4 requires swimming pools to have barriers that restrict access by young children. The Schedule to FOSPA is an Acceptable Solution for clause F4 and will still largely be reflected in the new Acceptable Solution 1.

The main differences between the proposed Acceptable Solutions and the existing Acceptable Solutions in the Schedule to FOSPA relate to:

- **safety covers for spas and hot tubs** – the Amendment Act provides that a safety cover can be used as a barrier. The proposed Acceptable Solutions contain specifications for safety covers
- **door alarms** – the Amendment Act provides for door alarms to be used to help ensure doors that form part of a pool barrier are kept closed. The proposed Acceptable Solutions contain specifications for door alarms
- **boundary fences** – Acceptable Solutions are proposed for boundary fences so that, if the fence is high

enough, owners will not need to ensure the other side of the fence remains clear

- **doors that open toward a pool area** – the proposed Acceptable Solutions would make doors that open towards a pool area acceptable if the door closer is strong enough to restrict access by a young child.

View the proposed Acceptable Solutions and information on how to provide a submission on the MBIE Corporate website (<http://www.mbie.govt.nz/info-services/building-construction/consultations>).

The Building (Pools) Amendment Act 2016 (<http://www.legislation.govt.nz/act/public/2016/0071/latest/whole.html>) is available on the Parliamentary website.

## Ductile steel mesh testing clarifications published

MBIE has clarified that testing on Grade 500E ductile steel mesh must meet Australia/New Zealand Standard (AS/NZS 4671:2001). This clarification has been published as Amendment 14 to Acceptable Solutions and Verification Methods for Building Code clause B1.

The amendment follows Commerce Commission investigations which identified that some mesh marketed in New Zealand as Grade 500E ductile steel mesh was not achieving the required 10 per cent elongation when tested to the Standard.

Amendment 14 came into effect on 4 November 2016 and provides clarification on the testing methodology. It affects Acceptable Solution B1/AS1 and Verification Method B1/VM1.

The existing Amendment 13 will continue to have effect until 30 May 2017. This allows the use of mesh that has already been manufactured and meets the current requirements in Amendment 13.

Amendment 14 introduces a requirement that only accredited laboratories carry out testing of ductile steel mesh to AS/NZS 4671:2001. This requirement will take effect on 1 January 2017 to allow laboratories time to adjust their processes and gain accreditation.

[Amendment 14 to Acceptable Solutions and Verification Methods for Building Code clause B1 \(https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/b1-acceptable-solutions-and-verification-methods/\)](https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/b1-acceptable-solutions-and-verification-methods/)

## Rockfall protection structures guidance released

MBIE, the New Zealand Geotechnical Society (NZGS) and the New Zealand Transport Agency (NZTA) have developed joint guidance on passive rockfall protection structures. This joint guidance has been published as Building Act s175 guidance.

Passive rockfall protection structures, such as rockfall fences and embankments, act as barriers to intercept and capture or divert falling rock to prevent it from impacting a critical structure. The guidance focuses on:

- How passive protection fits within the overall scope of rockfall risk mitigation
- Site assessments
- Design approaches
- The design process, including inputs, site selection, structure selection, structure sizing and long-term inspection and maintenance
- Other non-technical design considerations
- Regulatory considerations.

This document is part of the general guidance on geotechnical engineering that is being developed in response to issues arising from the Canterbury earthquake.

This version is being issued for public comment. NZGS members are encouraged to make use of these documents and return comments to [modulefeedback@nzgs.org](mailto:modulefeedback@nzgs.org) (<https://www.building.govt.nzmailto:modulefeedback@nzgs.org>) by 29 May 2017 for consideration.

Comments are also welcome from structural engineers and others working in earthquake engineering.

NZGS has scheduled presentations to introduce the new guidance to their members at branch meetings from late November. The document is also available on the NZGS and NZTA websites.

[Rockfall: Design considerations for passive protection structures \(https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/rockfall-design-considerations-for-passive-protection-structures/\)](https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/rockfall-design-considerations-for-passive-protection-structures/)

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## Earthquake-prone building consultation: reminder

Consultation on proposed earthquake-prone building regulations and methodology is underway.

View the proposals and information on how to provide a submission on the [MBIE Corporate website \(http://www.mbie.govt.nz/info-services/building-construction/consultations\)](http://www.mbie.govt.nz/info-services/building-construction/consultations).

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## Update on MBIE's Fire Programme

Since launching in July 2015, the MBIE Fire Programme, which will be publicly consulted on next year, continues to make progress as those involved work towards developing improved fire safety solutions with stakeholders.

Updates to the programme in the last few months include:

- **Project 1: Review Fire safety requirements for supported housing**  
The first draft of the Design Guide and Code of Practice for fire safety for supported housing is being reviewed by the stakeholder governance group.
- **Project 6: Reintroduce alternative solutions**  
A draft guide for carrying out alternative solutions is currently with the Working Group for feedback.
- **Project 7: Review of Acceptable Solutions C/AS1-7**  
The programme received strong feedback during the series of workshops held in August and September to proceed with an alternative format for Acceptable Solutions. Work continues on developing the draft, with the intention to undertake testing on this in early 2017. Proceeding with any change to the alternative format will depend on stakeholders supporting the change.
- **Project 8: Build categorisation systems**  
Targeted consultation on a proposal to remove Purpose Groups from the "change the use" regulations has been undertaken. The response received so far has been encouraging and feedback and development of possible solutions are being considered.
- **Project 10: Structural performance in fire**  
A draft Practice Advisory on roles and responsibilities for structural performance in fire has received feedback from the Working Group. Further feedback is being sought from the Society of Fire Protection Engineers New Zealand (SFPE) and SESOC.

Proposed amendments to Building Code Clause C6 have received comments from the Working Group. The proposals are now being revised accordingly and will go back to the Working Group in the near future.

- **Project 15: Review C/VM2**  
The Working Group met on 27 October 2016 to continue developing amendments to the Verification Method, including the addition of specific requirements for tall buildings.
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## New guidance on foundations and site investigation

MBIE and the New Zealand Geotechnical Society (NZGS) have jointly released two new geotechnical engineering guidance documents as part of the Earthquake Geotechnical Engineering Practice series.

The two new modules are:

- Module 2: Geotechnical investigations for earthquake engineering.
- Module 4: Earthquake resistant foundation design.

This joint guidance has been published as Building Act s175 guidance.

MBIE is seeking feedback on these documents, and geotechnical and structural engineers are encouraged to make use of these modules and return comments to [modulefeedback@nzgs.org](mailto:modulefeedback@nzgs.org) (<https://www.building.govt.nz/mailto:modulefeedback@nzgs.org>) within six months for consideration by the editorial committee. Comments are also welcome from others working in earthquake engineering. Feedback may result in the modules being updated after the six-month period.

For Module 4, feedback during this public comment period will inform decisions about the future direction of B1/VM4 (verification method for foundation design). B1/VM4 has not been updated for some time and has quite limited application. It does not address liquefaction-prone sites or those with other stability issues.

## Module 2

Module 2 provides guidance on appropriate investigations to assess the ground conditions to support the seismic design of new structures.

## Module 4

Module 4 provides the principles for good foundation design, including up-to-date practice and implementation of Royal Commission recommendations. MBIE recommends that practitioners make themselves familiar with the module and apply the guideline principles in their designs.

Some aspects of Module 4 may be perceived as being inconsistent with B1/VM4, particularly those related to strength reduction factors. However, shallow footing design is mostly governed by settlement considerations in the serviceability case, so change will be minimal in these cases. For deep foundations, Module 4 references Australian Standard AS2159: 2009 to provide a risk-based approach to strength reduction factors.

Modules 2 and 4 are part of a series being developed in partnership by MBIE and NZGS. They have evolved from the single NZGS document published in July 2010 (Module 1 - Guidelines for the identification, assessment and mitigation of liquefaction hazards). Modules already published are:

- Module 1: Overview
- Module 3: Identification, assessment and mitigation of liquefaction hazards
- Module 5A: Specification of ground improvement for residential properties in the Canterbury region

Modules on ground improvement and retaining wall design in the NZGS Earthquake Geotechnical Engineering series are scheduled for release in 2017.

[Geotechnical guidelines \(https://www.building.govt.nz/b1-structure/geotechnical-guidance-3/\)](https://www.building.govt.nz/b1-structure/geotechnical-guidance-3/) has further information on the modules.

## Geotechnical engineering education programme

A seminar series on Module 4 will be held at various centres around New Zealand in early 2017. This will be open to experienced professionals and cover foundation design and include worked examples.

An online presentation covering the content of Module 5A 'Specifications for Ground Improvement in residential areas prone to liquefaction' is now available on Engineering New Zealand's learning webpage. This is a free resource for geotechnical and related professionals.

If you view the presentation and take a quiz you can claim this as Continuing Professional Development (CPD) hours. You will need to register to access the module.

This learning module is the first release of a joint education initiative between MBIE, Engineering New Zealand and the NZGS. It will run over the next few years.

[Module 5A: Specifications for ground improvement \(https://www.building.govt.nz/building-code-](https://www.building.govt.nz/building-code-)

[compliance/geotechnical-education/module-5a/](#)

View the geotechnical educational programme (<https://www.building.govt.nz/building-code-compliance/geotechnical-education/>)

## LBP knowledge link

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### LBP Registrar update (Codewords 75)

Welcome again to the LBP section of Codewords.



### LBP reading material

The two LBP articles included in this edition will tell you what you need to know about the new skills maintenance programme, which took effect on 2 November 2015, and the changes to NZS 4246, which is a standard for effective and safe insulation installation methods.

### What's in the pipeline for LBPs?

The LBP scheme turns 10 next year, which is significant milestone for MBIE and those involved in the scheme. Many industry groups have thrown their weight behind the scheme and it is also great to see such a high level of engagement and participation across the sector.

The upcoming 10-year anniversary also makes this a good time for an update on what we are doing behind the scenes of the LBP scheme.

- We are developing criteria that new licence classes and areas of practice should meet. These will help individuals, industry groups and government have a meaningful conversation about possible new licence classes or areas of practice, and ensure that any changes to the scheme enhance the integrity and value of the LBP brand.
- Access to New Zealand Standards is another area under consideration and we are investigating what future Standards access might look like for the LBP population.
- We're also having a look at making qualifications mandatory for new LBPs. This work is at an early stage and there will be plenty of time for the industry to have its say before any decisions are made. Watch this space next year.
- Intelligence gained from the complaints function and feedback from LBPs and industry bodies is being used to improve the scheme. Improvements include more targeted education around regulatory knowledge and common issues.
- Better and more robust auditing of skills maintenance is on the horizon and is projected to begin late next year.
- A wider review of many occupational regulations is underway. The review will look for similarities in these regimes and how they can be aligned and simplified. This is at a fairly high level, but may have long-term influence on the scheme's direction.

As this is the last Codewords for the year I wish you a happy, safe and restful break over the summer holidays – 2017 looks set to be another busy one.

### Skills maintenance: What you need to know

If you're a licensed building practitioner (LBP), skills maintenance helps you grow your skills and knowledge and keep up with important changes in your industry.

After consulting with the sector, MBIE introduced a new skills maintenance programme, including compulsory and elective activities, on 2 November 2015. When you start (or you may have already started) a new skills maintenance period after that date, you will move into the new programme – so it's important you understand how it works.

Licensing class - All

## Compulsory activities

The compulsory section of the programme requires you to do two things:

1. Read the LBP articles in Codewords for your licence class. These articles cover technical and regulatory change, and are published when there is important information related to a specific licence class. Reading the articles for your licence class is compulsory, as is completing a short quiz that will help to reinforce what you have learned.
2. Use your on-the-job learning as evidence of skills maintenance – the skills maintenance programme recognises that LBPs pick up new skills and learnings in the workplace. For example, you can record new health and safety knowledge gained at work as on-the-job learning.

## Elective activities

The elective part of the new skills maintenance programme is the same as before except we've halved the number of points you have to earn. You can submit as many hours of learning as you want, but make sure you provide at least the minimum amount for your licence class.

Licence class	Minimum hours of learning - elective activities
Carpentry, Foundations, Bricklaying and Blocklaying, Roofing and External Plastering licences	12
Site or Design licence in area of practice 1	15
Site or Design licence in area of practice 2 or 3	18

It's important to remember that the hours you submit must relate to your learning from the elective activity. For example, if you are teaching an apprentice, you can only claim learning hours for the time you spent teaching where you gained or refreshed your own knowledge. You can't claim the hours they worked for you.

Licensed building practitioner installing insulation

## Keep a record as you may be audited

As part of the new programme, if you are audited you may be asked to provide evidence of your learning, so you should keep a record of the skills maintenance activities you do. This can be done by:

- logging in to the LBP portal and submitting the information
- using a third-party provider to log the information
- keeping a written record of your learning.

You will be notified in advance if you are selected for audit and MBIE will provide you with information to help you understand what is required.

## Summary

You can find information about possible elective activities and tips on keeping records for skills maintenance on [www.lbp.govt.nz](http://www.lbp.govt.nz) (<http://www.lbp.govt.nz>). If you have any questions about which programme you are in or what you need to do for skills maintenance, call 0800 60 60 50 or email [info@lbp.govt.nz](mailto:info@lbp.govt.nz) (<https://www.building.govt.nz/mailto:info@lbp.govt.nz>)

## Quiz

- 1) When does the new skills maintenance programme start for me?
  - a. 1 November 2015
  - b. When you next renew your licence
  - c. When your next skills maintenance period starts after 2 November 2015
- 2) How many hours of relevant elective learning do I need to do in the new programme?
  - a. 24 hours
  - b. Trade licences: 12 hours; Site/Design 1: 15 hours; Site/Design 2&3: 18 hours.
  - c. Trade licences: 24 hours; Site/Design 1: 30 hours; Site/Design 2&3: 36 hours.
- 3) What should I do with my skills maintenance evidence?
  - a. Submit it or keep it in case you get audited.
  - b. Put it in the rubbish bin.
  - c. Give it to mum or dad to look after.
- 4) What are the compulsory activities?
  - a. Reading the paper and lifting weights.
  - b. Doing your hair.
  - c. Reading Codewords and on-the-job learning.
  - d. Doing 12 hours of elective activities.

Check the answers (<https://www.building.govt.nz/about-building-performance/news-and-updates/codewords/codewords-issue-75/skills-maintenance-what-you-need-to-know/quiz-answers-skills-maintenance-what-you-need-to-know/>)

## Installing insulation in residential buildings

The New Zealand Standard for installing insulation in residential buildings has gone through a major revision. The new Standard is NZS 4246:2016 Energy efficiency – Installing bulk thermal insulation in residential buildings. This replaces NZS 4246:2006 Energy efficiency – Installing insulation in residential buildings.



The Standard provides guidance for the correct installation of insulation products by any installer, including DIY installers, in order to achieve high-quality and safe insulation installations in buildings.

### How has the Standard changed?

The Standard has been updated and extended, and now provides additional guidance on installing insulation:

- in steel-framed installations
- under concrete slabs on the ground
- around downlights, particularly where there have been significant technology advances.

Additional diagrams, photos and figures have been included to provide easy-to-understand, step-by-step guidelines for installing insulation in new homes, and for the retrofit of insulation in existing residential buildings.

Products and applications covered:

- loose-fill (such as wool, mineral wool or cellulose fibre) for insulating walls and ceilings



- segments and blankets (such as polyester, wool or mineral wool) for insulating in walls, ceilings and floors
- rigid sheet insulation (such as expanded or extruded polystyrene (EPS or XPS) and polyisocyanurate (PIR) for insulating walls, ceilings and floors)
- semi-rigid insulation (such as wool, mineral wool, polyester) for insulating walls, ceilings and floors
- pipe insulation (such as pre-formed tubular foam)
- hot water cylinder wraps (such as wool, mineral wool or polyester blanket with cloth or foil-backing)
- on-ground vapour barriers.

### Ban on foil insulation (retrofit or replacement)

Foil insulation continues to be excluded from the scope of the revised Standard. A ban on retrofitting or replacing foil insulation in residential properties came into force on 1 July 2016 to reduce safety risks associated with installing this product.

[Ban on installing or repairing foil insulation in residential buildings \(https://www.building.govt.nz/about-building-performance/news-and-updates/all-news-and-updates/bc-update-188/\)](https://www.building.govt.nz/about-building-performance/news-and-updates/all-news-and-updates/bc-update-188/)

### Meeting everyone's needs

Installing insulation correctly means it performs effectively and doesn't compromise the durability of your building, or put the health and safety of installers and occupants at serious risk.

In addition, the Standard is cited in the Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016. If you have rental properties it's important you read and comply with the Standard when installing insulation in those properties.

### Where to find the revised Standard

The revision of the Standard was commissioned by the Energy Efficiency and Conservation Authority. Remember, familiarising yourself with this Standard could be counted as skills maintenance where it is relevant in an elective sense.

[Read the revision of the Standard on the Tenancy Services website \(https://www.tenancy.govt.nz/maintenance-and-inspections/insulation/\)](https://www.tenancy.govt.nz/maintenance-and-inspections/insulation/)

### Quiz

1. NZS 4246:2016 updated and extended NZS 4246:2006 to include the installation of insulation in concrete slabs on the ground, in steel-framed installations and where else?
  - a. Rental properties
  - b. Cars, trucks and trailers
  - c. Around downlights.
2. What has been banned and is outside the scope of NZS 4246:2016?
  - a. Concrete slab insulation
  - b. Foil insulation
  - c. The Residential Tenancies Act
  - d. Segmented and blanket products.
3. NZS 4246:2016 will guide you to?
  - a. Install insulation products correctly so they perform efficiently and are safe
  - b. Choose the right insulation product for your situation
  - c. Specify the correct amount of insulation for compliance
  - d. Drive your car safely.

[Check the answers \(https://www.building.govt.nz/about-building-performance/news-and-updates/codewords/codewords-issue-75/installing-insulation-in-residential-buildings/quiz-answers/\)](https://www.building.govt.nz/about-building-performance/news-and-updates/codewords/codewords-issue-75/installing-insulation-in-residential-buildings/quiz-answers/)

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### Designer disciplined for negligence and disrepute

The Building Practitioners Board (the Board) recently made a significant disciplinary decision regarding negligence, incompetence and disrepute that is particularly relevant to Design Licensed Building Practitioners (LBPs). The decision related to design work carried out and issues experienced throughout the build as a result of the design work.

The matter came to light through an earlier complaint about a carpenter, which prompted the Board to initiate a Board Inquiry into the designer. The Board upheld the disciplinary sanctions against the designer and his licence was cancelled as a result. He was also ordered to pay costs.

The Board has directed the Registrar to publish an article in Codewords that summarises the decision.

## Negligent or incompetent design work

The design work

The design included incomplete drawings and notes done by hand with limited site-specific detailing. While drawings and notes done by hand are acceptable, they must be legible and complete. In this case the notes on the drawings were not specific enough and the drawings were effectively incomplete. While the builder should discuss any issues with the designer, the Board noted:

“...a designer’s plans should be able to stand by themselves, should not require clarification, and should document how the building work is to be undertaken so that code compliance is achieved. The Board has also consistently conveyed in previous decisions the message that it is not appropriate for licensed building practitioner designers to use the building consent process as a peer review or quality assurance mechanism and/or rely on the building consent authority to pick up any anomalies in the design documents.”

For drafting plans or carrying out design work, plans must be of a high enough standard to be used and buildable.

The site conditions

Designers need to understand and research the site they are working on. Design competencies require Design LBPs to carry out or acquire site investigations and research matters relating to ground conditions, topography and existing services. In this case, the designer did not check the district plan or obtain a project information memorandum, so they were unaware that the site in question was subject to a natural hazard.

## Working outside of your competence

Two of the other major aspects of the complaint relate to amending Acceptable Solution details and the performance of a penetrometer test used to test ground conditions.

Amending Acceptable Solution details

Acceptable Solutions and cited Standards are construction pathways that have been established to comply with the Building Code. If you design and/or build to an Acceptable Solution, there should be no problems. Acceptable Solutions are developed using a variety of specialist skills that may be outside the realm of a designer. These may include specialist engineers, researchers or scientists. In this case, the designer amended details taken from an Acceptable Solution, which essentially ‘watered down’ the requirements. As these Acceptable Solutions were created using engineering calculations, the Board consider amending Acceptable Solutions to be outside the competence of a Design LBP.

Performing a penetrometer test

The Board heard from a special adviser who stated that a penetrometer test is not limited to an engineer and there is no limitation on who can perform this test. In this case, the designer carried out the test but failed to penetrate deep enough or allow for lateral movement in his calculations. He also determined that good ground had been established from his test when, due to the deficiencies in the test, good ground could not be confirmed. The land was also subject to a natural hazard (slippage and inundation) which further complicated design considerations.

If you are going to perform a penetrometer test, you either need to be competent in all aspects of the test or engage an engineer to assist and/or supervise you in carrying it out. The Board stated:

“The Respondent, in determining that the ground bearing capacity was adequate (as opposed to carrying out the tests themselves) and in carrying out specific design by amending the

provisions of an Acceptable Solution in relation to decks, has gone beyond the competence of a designer and into that of an engineer.”

### Bringing the LBP regime into disrepute

The designer used an engineer’s Producer Statement (PS1) for a balustrade system in the building consent application without consulting the engineer. In his response to the Inquiry, the designer stated that he “altered the Engineer’s PS1 [in terms of address and date] and ... that it would not have affected the integrity of the overall system”.

The PS1 was a declaration made by the signee (the engineer) that he had personally confirmed that the system was appropriate for use in this circumstance. As he had not been consulted, this document should not have been submitted. The Board stated:

“Given these factors the Board considers the producer statement was, in essence, a false or misleading document and that to provide such an important document in the way that it was is something that could bring the regime under the Act into disrepute.”

### What we can learn from this decision

It is clear that one of the key failings in this situation was that the Design LBP failed to stay within the limits of his competence. He also developed some questionable behaviour in his work processes, including his use and adaption of documentation and his detailing in plans and specifications.

A reasonable level of care is required when carrying out your work. If you take shortcuts or carry out work that you are not competent to carry out, then you risk disciplinary action from the Board. The resulting non-compliance is another area of concern.

Key points to take from the decision:

1. Designers need to research the site before any detailed design is initiated.
2. LBPs must work within their training, experience and therefore competence.
3. Acceptable Solutions are one means of showing compliance with the Building Code. If a designer changes an Acceptable Solution then they are no longer working to a ‘deemed compliance pathway’. Compliance with the Building Code must be identified and demonstrated in the documents submitted for the building consent.
4. Understanding the regulatory environment and responsibilities around third-party verification is vital. Producer statements should be site specific and should not be modified, unless this is done by the author.
5. Quality of documents, plans and specifications need to be sufficient to demonstrate compliance with the Building Code and be comprehensive enough for competent practitioners to follow and build to.

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## LBP profile – Reginald Litherland

“I’ve been in the building trade since 1947; I’ve seen a lot of things come and go,” says Design LBP Reginald Litherland.

At 85 years old, Reginald is one of the most experienced LBPs in the scheme. He was actively building right up to 15 years ago, but now focuses on his design work.

“I started as an apprentice builder in 1947 and learned all aspects of the trade – from joinery to cabinetry through to design drawing.

“LBP is the law, but it’s only part of the picture,” he says. “Training on the job leads to better outcomes, and it helps to have a good teacher.

“My original teacher was very modern for the time, right after the war. He virtually pioneered concrete floors. In 1947 these were virtually unheard of – everything was wooden floors – but now they have taken over.”

When asked what he wishes more builders knew, he says: “Many builders should learn a little more about scaling from a plan – some don’t seem to be able to read plans correctly.” He also suggests a few more builders could keep NZS3604 Timber-framed buildings in their toolbox.

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## Recent determinations

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### Determination 2016/021 – Summary

This determination considers what constitutes reasonable and adequate access for people with disabilities to one of three different pools in a proposed aquatic centre. It considers the intended use of the pool, and the functionality of the proposed platform lift in comparison to other means of providing access for people with disabilities.

The matter to be determined was whether the proposed platform lift, as a means of access to the one of three pools in an aquatic centre, complied with D1 of the Building Code to the extent required by section 118 of the Act. Section 118 requires (in part) a newly constructed building to provide reasonable and adequate access to be made for persons with disabilities who may visit or work in that building and/or carry out normal activities in that building.

### The building work and background

The proposed aquatic centre comprised three indoor pools with a single building. The pools had distinct uses: a learn-to-swim pool, a teaching pool, and a water polo/high-performance pool. The polo/high-performance pool measures 34.5x25m, and has a uniform depth of 2.2m. The learn-to-swim pool measures 20x8m, and varies in depth from 700 to 950mm. The teaching pool, which was the subject of this determination, measures 25x11.5m, and varies in depth from 950 to 1100mm.

This determination followed an earlier determination (the first determination) which considered what reasonable and adequate access was for people with disabilities to the three pools. The first determination concluded that the means of access to both the water polo/high-performance pool and the learn-to-swim pool complied with D1 of the Building Code:

#### Water polo/high-performance pool

This pool's intended use was for competitive swimming and water polo and had recessed step-ladders and an access hoist. The first determination concluded that a person with a disability using this pool is likely to be a confident swimmer, who would be able to enter the water or use the hoist unaided.

#### Learn-to-swim pool

This pool's intended use was as a learn-to-swim pool and had shallow fixed steps along the full length of the shallow side, a moveable hoist and a set of removable stairs. Its users, who were likely to be young children, would be subject to a greater level of supervision and assistance – adults would be taught in the slightly deeper teaching pool. A child with a disability using this pool is likely to be assisted into the pool by an adult should they not be able to use the steps or the hoist unassisted.

In regards to the teaching pool, however, the first determination found that Clause D1 was not satisfied:

#### Teaching pool

The pool's intended use was as a teaching pool, and had removable stairs, recessed ladders, and a removable hoist. The first determination found that the deeper teaching pool is more likely to be utilised by older children and adults for lessons, games and fitness classes, and concluded that the pool did not comply with Clause D1. The proposed access features were considered insufficient, and a permanent means of access was required that was able to be used unaided by people with a wide range of disabilities. The determination suggested a fixed ramp as a possible compliance option.

Following the first determination, the applicant proposed to provide access to the teaching pool by using a platform lift and recessed ladders. The applicant sought guidance from MBIE on whether this proposal would comply with the Building Code.

### Discussion

The platform lift's compliance with D1 of the Building Code

The proposed platform lift is fixed to the pool's edge. The manufacture's specification for the platform lift includes the following features:

- a platform able to take a submersible wheelchair or several people standing
- powered by rechargeable batteries with 50 cycles before recharging, 20 seconds to lower to a 0.9m depth
- user-operated, with a descent, ascent, and depth controlled by the user
- can be raised manually.

The applicant submitted that the platform lift provides an equal level of access to a ramp which would be deemed compliant with NZS 4121. When comparing the functionality of the lift with a ramp, the applicant submitted that:

- the size of the pool and its intended use means that the platform lift would be adequate in terms of capacity.
- a ramp can take people out of their depth
- water resistance, when using a ramp, can present a difficulty
- the platform lift can be operated solely by the user, whereas a ramp can require assistance.

The determination also considered the test of "reasonable and adequate", which is a requirement of both Clause D1 and section 118. The determination concluded that the term adequate would take into account the modest volume and capacity of the pool. As to reasonable; the platform lift is able to be used by ambulant users and those in wheelchairs.

In addition, there was nothing apparent in the proposal that would limit any reasonably foreseeable use if the operation or ownership of the aquatic centre changed. The determination referred to standards and guidance on pool access from England, Australia and the United States. These contemplated the use of platform-style lifts, and the use of a platform lift as an alternative to a ramp for a pool of this size.

It was concluded that the platform lift alone would provide reasonable and adequate access for people with disabilities to the teaching pool. This conclusion was based on the lift's comparison with a ramp, the pool's capacity and intended use, and because the lift is a means of access for both wheelchair users and those that are ambulant.

## The Decision

This determination confirmed that the proposed means of access by way of recessed ladders and a platform lift to the teaching pool as part of the pool complex complies with Clause D1 to the extent required by section 118 of the Act.

## Determination 2016/048 – Summary

The determination concerns construction defects that were exposed during building work undertaken to remediate weathertightness issues to an apartment building.

The determination considers the code-compliance of the use of intumescent sealant without plasterboard patches for penetrations in intertenancy walls, and discusses the application of section 112 of the Act in respect of the defects in existing construction including those not exposed as part of the proposed building work. This article summarises the determination findings regarding section 112.

The matter to be determined was whether the building consent authority (BCA) correctly exercised its decision powers in accordance with section 112(1)(a)(i) in requiring all of the penetrations and gaps in the intertenancy walls to be remediated, including those not exposed during the consented alterations, and whether the proposed solution using intumescent fire sealant without plasterboard patches would comply with the Building Code.

## The building work and background

The property is an existing development of 56 three-storey terraced town houses, in four blocks. The fire rating between the adjacent units is achieved with a mix of conventional fire-rated

plasterboard lining to timber framing, and solid timber blocking above the wall framing. The units have Type 1 smoke alarms in the bedrooms and above the landing on the building's third level.

In 2013 the BCA issued a building consent for alterations to be carried out to address weathertightness issues (the planned works). While these alterations were being carried out, construction defects in the intertenancy walls were discovered. These included unsealed cable penetrations and framing gaps within the intertenancy walls. The BCA held the view that in order to comply with section 112, all of the defects required remediation, despite the fact that this work was not included in the scope of the building consent. The consultant for the owners was of the view that it was not "reasonably practicable" to remediate all the penetrations and gaps, but instead remedial work should only be carried out on the areas that were exposed as part of the planned works.

## Discussion

The application of section 112

When a building consent for an alteration is lodged, section 112 of the Act requires the BCA to make an assessment of the building's compliance with the building code, after the alterations.

In this instance there was a dispute as to whether the remediation of the underlying construction defects were included within the scope of the building consent, which was issued to address weathertightness issues, and also whether the BCA could require remediation to all of the intertenancy walls rather than only those areas uncovered as part of the planned works.

Scope of the building consent and whether the BCA can require remediation to the whole of the intertenancy walls

The authority has limited power under the Act to require remediation of original construction work that has been issued with a code compliance certificate. That said, the authority can address remediation of the original construction work where the code compliance of the subsequent alterations or new building work relies on the original construction work (for example the building's existing structure must provide adequate support for any new structure).

At the time the building consent was lodged, the existing defects to the intertenancy walls were not apparent. The remediation of the unknown defects was therefore not included in the scope of the building consent. However, once the defects were uncovered, it became apparent that the building, after the alterations, would not comply with the Building Code in respect of means of escape from fire. At this point, in such circumstances, the BCA may issue a site notice or a notice to fix requiring an amendment to the building consent to address the non-compliant building work.

If a BCA issues such notices requiring an amendment to the building consent, the application for an amendment will be considered under section 112 as if a new building consent is being granted. Accordingly, under section 112, the authority must assess whether following the alterations the building as a whole will comply with the Building Code "as nearly as is reasonably practicable". In this case this means that the performance of the intertenancy walls as a whole must comply "as nearly as reasonably possible" with the Building Code. Consideration was required of the penetrations and framing gaps exposed during the planned works, as well as in those areas not exposed.

Do the penetration and framing gaps comply with the Building Code as "nearly as is reasonably practicable"?

The approach for deciding if a building as a whole complies "as nearly as is reasonably practicable" with the Building Code involves the balancing of sacrifices and difficulties of upgrading, against the advantages of upgrading. The Determination concluded that it was reasonably practicable to remedy the penetration and framing gaps exposed during the planned works.

In regards to the penetration defects not exposed during the planned works; the Determination concluded that it was not reasonably practicable to remedy these. This view was based on the fact that the remedial work carried out during the alterations would have addressed the majority of the penetrations, given their location adjacent to the remediated exterior walls, and the significant costs in removing the linings in each unit to check those areas that had not been uncovered as part of the planned works.

With regards to the unexposed framing gaps, it was unclear how widespread, or significant an issue this was. Given the lack of information regarding the extent, severity and effect of this defect, and that there were no other building or fire safety features in place or proposed that would mitigate the reduction in fire separation performance, the Determination concluded that there was insufficient

information to support the finding that the compliance “as nearly as is reasonable practicable” will be achieved. Additional information on this, along with a cost/benefit analysis, would be required in order for the Determination to reach a conclusion as to whether the building work would comply with 112(1)(a)(i).

### The decision

In regards to compliance with section 112(1)(a)(i), the determination:

- confirmed that the BCA correctly exercised its powers in respect of consideration of construction defects in both areas that were going to be exposed and those that would not be exposed during the planned works; and
- concluded that it was not reasonably practicable to remedy the penetrations to the intertenancy walls in areas not exposed as part of the planned works; and
- concluded there was insufficient information on which to make a determination about the compliance of the work to the extent required under section 112 with regard to framing gaps in the intertenancy walls that were not exposed as part of the consented alterations.

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### Issues for 2018



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