

Webinar about key changes to C/AS2

Posted: 3 December 2019

MBIE Fire Engineer, Saskia Holditch, discusses the key changes made in the 2019 edition of C/AS2.

C/AS2 is an acceptable solution for fire for buildings other than simple residential (C/AS2) or complex (C/UM2 possible).

Further amendments may be released in June 2020.

Duration: 36 minutes and 23 seconds

Presentation format: Live webinar

Date: 10:30am, 30 May 2019

Video transcript

Visual

Image of camera.

Audio

Introductory music.

Visual

Black screen with woman.

Audio - Jill

[00:19] Kia ora, I'm Jill from Equip. Welcome to the Key Changes to the C/AS2 Webinar, brought to you and sponsored by the Ministry for Business, Innovation & Employment. You'll shortly be joined live by Saskia Holditch from MBIE. The Ministry's presentation today provides you with the opportunity to learn about the new single Acceptable Solution that provides a new means of compliance for the Fire Provision aspect of <http://mbie5.cwp.govt.nz/about-building-performance/news-and-updates/all-news-and-updates/key-changes-to-cas2-webinar/>

the Building Code.

We'll also give you the opportunity to ask questions. You can add your questions at any time through the ChatBox function on your screen. There will be time for your questions to be answered at the end of the presentation.

Visual

On-screen message: Follow Us! FACEBOOK.COM/EQUIPLGNZ

Audio - Jill

But for now, please sit back and enjoy today's webinar.

Audio

Background music

Visual

On screen text: Equip presents, in association with MBIE, Key Changes to C/AS2. We are LGNZ, Equip.

Visual

Image of woman (Saskia Holditch) sitting in communal table area. On screen text overlay, Saskia Holditch, Fire Engineer, MBIE

Audio - Saskia Holditch

Thank you for joining us as we talk about the new Acceptable Solutions for Fire C/AS2 that's coming out this year, 2019 .

Good day. My name is Saskia Holditch, I'm the Fire Engineer at MBIE and before we go any further, I'll tell you a little about my background. I grew up in the Caribbean, in St Marten and attended University in Rotterdam, went back to St Marten to work and a huge hurricane destroyed everything there, part of the revamping of the Island was revamping the fire services so I got tired and went back to Holland to the Dutch Fire Academy to learn about Fire Management and fire prevention, worked in St Marten for a number of years in fire prevention, developing fire prevention regulations there, met my Canadian husband, we moved back to Canada and for about ten years I worked in Ontario, and doing planned review inspections enforcement before we came to New Zealand. So, I'd just like you to know that I understand frustration when regulation is ambiguous and not clear and you don't know how to interpret it, I've been on the other side of the table and yeah, we should work on that.

Visual

Slide: Building performance. Key Changes to C/AS2. Saskia Holditch, MBIE Fire Engineer.

Audio - Saskia Holditch

As we go along you're able to send through the questions, and then we'll have a Q and A session at the end.

Visual

Slide: Learning outcomes. By the end of this webinar you will:

- have increased familiarity with C/AS2;
- understand the key changes; and
- know the in-effect date and transition period.

Audio - Saskia Holditch

So today we'll talk about the new C/AS2 document and we'll help you increase your familiarity with that, understand the key changes that are coming up and know about the transition period and when the new document will come into effect.

Visual

On-screen slide: 'ABC' with a pile of books

Audio - Saskia Holditch

So first a little bit of history of how we came about to develop this new document. In 2012 we had for Fires, C/AS1, just one Acceptable Solution and then we split them up into seven as per the risk groups. So we had the simple housing, C/AS1, the Larger Housing, the Care and Attention, the public buildings, the business buildings etc all the way to vehicle parking, we split them up into seven documents which is what we have right now.

Visual

Slide: 2012 C/AS1

Visual

Slide: 'Your Concern is noted'

Audio - Saskia Holditch

After that we got some feedback from the sector, there were concerns about the quality of all these separate Acceptable Solutions, so in 2014 MBIE started to review and a couple of years after that held workshops all across the country to discuss whether we should merge them, and a lot of attendees from those workshops supported that...

Visual

Slide: Man holding magnifying glass

Visual

Slide: 2019 C/AS1

Audio - Saskia Holditch

So we listened, and here we are, 2019, we are merging the C/AS2 through to C/AS7, six of those documents back into the new C/AS2. C/AS1, the Acceptable Solution for Simple Housing, we haven't changed anything, that will remain as is for now.

Visual

Slide: Firefighter with a fire axe

Audio - Saskia Holditch

So with our draft document last year we gave it to Fire and Emergency New Zealand, their engineering department and said here, this is the new Regulatory document can you run it past live projects, see if you can break it; we also had about sixty people who did who do fire engineering and asked them to run it against actual projects as well, and based on the feedback we got from them, we got the document that we sent out for public consultation.

Visual

Slide: Graph of consultation respondents by sector

Audio - Saskia Holditch

So we received the results from the feedback from the public consultation back end of 2018, there were about 38 organisations that responded to us, most of them, and that's the red part you see in the graph are private consultancy and then we have local government, which is you, the BCA's, and also some industry bodies research and government agencies that responded as well.

Visual

Slide: Will the new edition of C/AS2 be easier to use?

Audio - Saskia Holditch

So one of the questions we had on that feedback form we sent out was will the new edition of C/AS2 will it be easier to use? What do you think? And an overwhelming, sixty one percent of you said yes, we do think it will be easier, so we felt justified in going this course and merging those documents.

Visual

Slide: Now tell us how you really feel!

Audio - Saskia Holditch

What we also did with that public consultation in 2018 is we also asked for additional feedback

Visual

Slide: Bar graph of comments

Audio - Saskia Holditch

The additional feedback was 700 additional comments. We split them up so we did review all of them, the References and Definitions we didn't get back as much commentary but on Part 3 for The Means of Escape, Part 4 which is the Internal Fire and Smoke Spread and Part 5 External Fire Spread we received a lot of comments. Where we could, we made the changes in the new document, and those would primarily be about editing; You've got the figure number wrong, you've got the page number wrong, you referred to a wrong paragraph, which is editing, formatting, so we incorporated that in the new document coming up. Um, some of them were about interpretation where we could change the wording to clarify the intent we did, where the intent wasn't clear but changing the wording would mean a technical change to the document, we couldn't do that without going back to public consultation, so we left that for what it is, and some of the comments were out of scope for this edition so we have noted them, we are working on them in the background but they just weren't we just weren't able to put them into this new document coming up.

Visual

Slide: Changes road sign

Audio - Saskia Holditch

I'd like to go over some of the main changes that were made and that were uhh also specified on the feedback form.

Visual

<http://mbie5.cwp.govt.nz/about-building-performance/news-and-updates/all-news-and-updates/key-changes-to-cas2-webinar/>

Slide: Horizontal fire spread from external walls

Audio - Saskia Holditch

So one of them is the dispensation for do all water supply sprinklers when you have unprotected areas in external walls so in 5.2.1. we say if you have an unprotected area in an external wall you have to protect it. And 5.2.2. a through b, c, d, e, we tell you how to protect it, so that you can keep that unprotected area. However, if you are protecting it with a dual, a sprinkler with a dual water supply, then you cannot apply it when that unprotected area is within one metre of the boundary, property boundary, or if you intend to store higher than 3 metres. Its sort of a double negative, pretty hard to word it, but bear with me.

Visual

Slide: Image of derelict building and foliage

Audio - Saskia Holditch

This is your new build, that big hole there is your unprotected area in your external wall, and you've got sprinklers,

Visual

Slide: images of fire sprinklers and water tanks pop up on top of image of building

Audio - Saskia Holditch

You've got dual water supply both from the town main and you've installed a water tank, do you need to block up that wall? Yes, if you intend to store higher than 3 metres in this room and also yes if that building that you see in the background is closer than one metre.

Visual

Slide: As required by D1/AS1

Audio - Saskia Holditch

Another change that was made was instead of repeating the text from D1/AS1 on accessible routes, we've just referred to the Acceptable Solution for that, so it's not repetitive and should be easier.

Visual

Slide: Image of glass building towers 5.8.1 External wall cladding system

Audio - Saskia Holditch

External wall cladding system, we put in if the building height is seven metres or less and we realised that contradicted to what was in the Building Code Clauses, where we specified building heights from zero to ten metres so we just changed that so we see point 3.2 and 3.5 that we're on the same page there, that we're not contradicting our own clauses, so we've changed that wording.

Visual

Slide: Image of two hospital beds in hospital ward

Audio - Saskia Holditch

Group sleeping areas, we had the restriction before that the partitions that you put in a group sleeping area have to stop below the ceiling for four hundred millimetres, and now we've said you know what, never mind, you can go full height with that. The original intent was that if you had a group sleeping area and smoke would spread through it, that people would see it coming over the top of the partition, that really should be covered by proper placement of smoke alarms or smoke detectors, so there is no restriction anymore on the height of the partitions.

Visual

Slide: Image of factory with green machine doors

Audio - Saskia Holditch

There was a very generic clause in 4.18.1 where we said all HVAC has to be shut down for any smoke detection and that doesn't work for everyone. If you look at hospitals for example, where isolation wards, operating theatres have their stand-alone HVAC systems, there is no reason that these have to be shut down when you have smoke detection in a totally separate fire cell or totally separate section of the building, so we removed that very generic clause out of the documentation and then in 4.18. it will explain when HVAC has to be shut down and what the regulations are.

Visual

Slide: 3.11.5, 3.11.6 Balcony ventilation

Audio - Saskia Holditch

Balcony ventilation which is in 3.11.5 and 3.11.6 we'd put 1100 millimetres minimum for the balustrade, maximum, sorry, and we've changed it back to minimum because we contradicted what it said in clause F4. So we've changed it back and it now complies with the other clauses, so F4/AS1 and this one are now on the same page.

Visual

Slide: Table 2.2 and 2.3 Buildings with more than one risk group

Audio - Saskia Holditch

Another change we made was we used the table method to determine if you had separate risk groups in one building what fire safety system you would need in there. So bear with me, I'd like to run through an example to see how that table method is applied. So in this case I've made up a totally fictional building, you can't find it anywhere in New Zealand so please don't go looking for it, and this building has on the ground floor retail, some shops on the ground floor, offices on a level above, and the rest of it is apartments.

Visual

Slide: 2.2.3: Steps 1, 2 and 3 with image of a building

Audio - Saskia Holditch

So we use section 2.2.3: Steps 1, 2 and 3 where it is where you determine what your risk group is and you determine the number of occupants for each risk group and the escape height. So our retail in this case has between two fifty and a thousand occupants with an escape height zero. The offices have less than one hundred occupants and the escape height is less than four metres, and the apartments, they are permanent occupancy, and our highest escape height is over ten metres. So those are the facts about my building and then I go into the tables.

Visual

Slide: Table 2.1a

Audio - Saskia Holditch

Table 2.1a in this case for our apartment risk group SM and SI and I can't emphasise enough make sure that you apply the correct table to the correct risk group so make sure the risk group is the one you are looking for and then we've got apartments permanent occupancy, our escape height was more than ten metres and less than twenty five so what we need is a Type five system in this case which is a fire alarm with smoke detection and separate special smoke detection in the sleeping areas, possibly a Type fifteen and possibly a Type eighteen. So Type fifteen is the Fire Service Lift Control and Type eighteen is your Building Hydrants. For fifteen and eighteen you'll see the notes below for each table, please read the notes especially if you have the reference to it to see if it applies to your building.

Visual

Slide: Saskia's building with image of building

Audio - Saskia Holditch

So I've done those tables 2.2 for each of my risk groups in my building, so I've come up with my retail area on the ground floor would need a Type four system and a Type eighteen, so Type four is smoke detection, manual call points, fire alarm system; and my offices WB, needs a Type two, which is manual call point only and possibly a Type eighteen and again the apartments was five, fifteen and eighteen. So with these systems, fire safety systems, we've determined and with our risk groups we now take it to table 2.3

Visual

Slide: Step 5: Table 2.3

Audio - Saskia Holditch

And you only have to run through this table once, but you take all the risk groups, all the various combinations and you go through the list, so we have our apartments, SM, we specified it was a Type five, and then we look for our retail combination, its Type four you now need, combining it with the offices would give you a Type four fire alarm system and we repeat that for the other risk groups. So we have the CA is again Type five, with SM and a Type four and the offices would be a Type two, and a Type two with the other risk groups.

Visual

Slide: Table 2.3: listing the Types

Audio - Saskia Holditch

So to recap, in Tables 2.2 we came up with a list of systems that would be needed for each risk group and then Table 2.3 we either needed Type two only manual fire alarm or a Type two with additional requirements for SM, or a Type four or a Type five. So in this case in this list, Type four and a Type five for the apartments, those are the most onerous, and these are required for the rest of the building, so you have to install a Type four in the entire building and make amendments for a Type five in the apartments.

Visual

Slide: Saskia's building with Type 4

Audio - Saskia Holditch

And again, Types fifteen Fire Service Lift Control and Type eighteen Building Hydrants, go through the notes, see if your building falls within the requirements for these types and adjust accordingly.

Visual

Slide: Intended storage use v. storage capacity

Audio - Saskia Holditch

One other change that was not incorporated was intended storage versus storage capacity, so if you built a storage building um that by its floor area and the size within it you were able to store higher than five metres but you didn't intend to, for instance, a grocery store, that is quite large but just by the amount of items stored in there doesn't fall under a WS, could you lower your fire safety system requirements to comply with as a WB risk group and the response was.

Visual

Slide: Intended storage use v. storage capacity REJECTED

Audio - Saskia Holditch

We can't enforce that, was the overwhelming feedback we got, it's difficult to enforce, to police, so if you built a building that size with a storage capability of WS you'll have to put the fire safety systems in as required by WS.

Visual

Slide: Image of a green pencil

Audio - Saskia Holditch

Throughout the document other changes were made, one of them we will now refer to the most current versions of the Fire and Emergency Legislation and the Hazardous Substances Legislation, we did not include the external cladding guidance because we felt it wasn't ready yet to be incorporated in the Acceptable Solution in the form that it is now, we reverted some wording to clarify that hazardous substance regulations not only apply to WS for the storage risk group but all the other risk groups as well, we removed the dispensation for travel distance extensions for intermediate floors and household units, we added back the luminaires we left those requirements out by mistake so we put them back in so that's as it currently is, it just didn't make it into the draft document, so there might be some other tweaks that you might find in there that have changed that we didn't mention out loud but they're in there and you would have seen them in the draft document.

Visual

Slide: June 27

Audio - Saskia Holditch

So this is all going to happen on June 27th is when the new CS2 becomes live and in effect and there will be a three month transition period so when both the old and the new versions of the Fire Acceptable Solutions are applicable and then new CS2 will apply to all the other risk groups except for SH.

Visual

Slide: What's Next?

Audio - Saskia Holditch

So, what's next? I previously, we will be presenting at the Architects NZIA in June, we'll be presenting for the Fire Engineers SFPE throughout with a webinar in the next couple of weeks in June, the webinar should be available for about a year so people can log in and get a refresher, we'll also do a presentation at Fire NZ in September and at the BOINZ conference in May this year I did a live presentation of these slides you've just seen and we've taped some reactions from the audience, so we'll see you in a minute as you view those reactions.

Visual

Video clip of Peter Laurenson, Auckland Council

Audio - Voiceover (Rosalind Barry)

Good Afternoon Pete Laurenson from Auckland Council, now can you just give us your take on the C/AS2 presentation at the BOINZ conference?

Audio - Peter Laurenson:

Thanks, well for me it was really good to have an update on the process and we're ahead of time before things becoming live. What was interesting was the feedback that was obviously received through these changes and across industry it seemed like there was a lot of ideas and so not so many questions because it was well put across, think its going to make it easier for the design community ahead of having to come through to BCAs, so really appreciated the effort that went into coming today.

Audio - Voiceover (Rosalind Barry)

Thanks very much Pete.

Visual

Video clip of Wayne Goodfellow, Fire & Emergency New Zealand

Audio - Voiceover (Rosalind Barry)

Good afternoon Wayne

Audio - Wayne Goodfellow

Good afternoon

Audio - Rosalind Barry

Now you've been at the BOINZ conference, and listened to the C/AS2 presentation, give us your take on it.

Audio - Wayne Goodfellow

I think it was fantastic, I think its great to have Saskia to obviously talk with the BOINZ membership here, its really important not just in terms of the content but in terms of those relationships as well and having you know, somebody to go and ask questions about it because I'm sure that a lot of the information answered a lot of questions today but I'm sure there's more questions out there and um, its great to hear that kind of, those questions coming through and over the next kind of couple of months how we can help developing these documents to go forward.

Audio - Rosalind Barry

That's great, thanks a lot Wayne!

Visual

Video clip of Saskia Holditch, Fire Engineer, MBIE

Audio - Rosalind Barry

Good afternoon Saskia, you're presenting the new edition of this C/AS2 at the BOINZ Conference 2019, tell me, how did that go?

Audio - Saskia Holditch:

Pretty exciting to be a part of it and presenting to the BCAs, they are the executive arm so they are the main stakeholders when it comes to new regulations coming from MBIE, so it was good to be up there to explain what has changed, what hasn't and get some questions from the crowd.

Visual

Saskia with office background

Audio - Saskia Holditch:

So we're always happy to hear from you if you have any comments or further feedback please take note of the email address you seen on the screen and contact us through there.

Visual

Slide: Image of a question mark and a blackboard with 'feedback' written on it with info@building.govt.nz above it

Audio - Saskia Holditch:

If you have queries we are happy to answer them, if they are about specific projects we cannot answer them because that might be a matter more for Determinations but if you have any questions on how to interpret certain sections send us an email and we'll respond to you. If you put in your email that you are actually a BCA asking this question you will be prioritised because you are our executive arm and we're trying to keep you happy.

You will now get a chance to send us any questions about this presentation and we'll answer them after a short break, so we'll see you in a minute.

Audio - Music

Visual

Slide: Question Time

Visual

On screen: Seth Campbell and Saskia Holditch.

Audio - Saskia Holditch:

Right, so now we're in the Q and A section of this webinar and Seth, thank you for joining us.

Audio - Seth Campbell:

Great, thanks, good to be here Saskia. So I'm Seth Campbell, a colleague of Saskia's, I also work in Building System Performance Branch and we are going to jump into hopefully a few questions that you all have firing through.

We'll go to our first one, Saskia will pick this up. Will the commentary document from 2013 to support C/AS1 through to C/AS7 be reviewed and updated to reflect the new C/AS2?

Audio - Saskia Holditch:

Great question. The commentary because of the changes that were made throughout the years and now with the new document will be out of date. It is our intention to not have to rely too heavily on a commentary document to interpret Acceptable Solutions, so we're hoping that the wording for the Acceptable Solutions will be clear enough that we don't need an additional commentary document because truth is, they can

start leading a life of their own and that's what we want to guard against.

Audio - Seth Campbell:

Great. We've got a few more coming in. Let's see. We've got a question around do we consider how to align the risk groups to uses of building groups, that is, one set of letters? Anything on that Saskia?

Audio - Saskia Holditch:

I'm not sure what one set of letters refers to, we do realise and not just within the Fire Group but within our building systems that there's a lot of classification for buildings. We have changed the use of which class classification, we have importance level, we have risk groups, and we have purpose groups so in the background we are looking into reviewing that and trying to come up with some method that is less ambiguous and clear for all, but it's a big job, so.

Audio - Seth Campbell:

Indeed. Let's see. We've got a few more coming in. Is there also a table to confirm what FRR construction will be required between different risk groups in the same building?

Audio - Saskia Holditch:

The whole passive fire safety section is on the agenda to be reviewed and perhaps that would come up as well as to between different risk groups, same risk groups, and perhaps even make a table but I can't look that far ahead, but it's certainly on our radar, we do have a long list of items that we agree need reviewing so where it fits on the list and how we prioritise it that's also still being worked on.

Audio - Seth Campbell:

Thanks for that Saskia. Just going to our list, we've got a question around Type five system requirements under F7 as a G4/AS1 requirement which might or might not be a specified system. Any work in this area regarding mandatory SS like a kitchenhood now becoming SS. Is that something we can grip up?

Audio - Saskia Holditch:

It sounds like various questions in one, if you're talking about Type five, are we looking at Type five fire alarm system which is amended smoke detectors in bedrooms so I'm missing that link with kitchenhoods, so, yeah not quite sure how to answer that in one go, I need some more clarification; the kitchenhoods per say, protection of, is not something we are looking at, at this moment. If you have a good authority that we need to, please send us an email with some justification and we'll gladly take it up.

Audio - Seth Campbell:

Sounds good. Alright, go to a question, Saskia if you could explain why the Standards you referenced in the new C/AS2 are not the latest version?

Audio - Saskia Holditch:

Because just changing the date on it would have, could have, major implications for everyone using it, so we have the Test Standards which if we change the date and it meant a whole new test method for these products or systems, does that mean every the previously tested products would be revoked and need to be retested so that's something we'd literally have to sit down and read through line by line all these Standards; there's a Standard that's being reviewed on I think home heating appliances that we're not quite sure would work in New Zealand, so we have to see whether there are any changes that are coming out of that, whether that is applicable here or not. So it's not just change the date and she'll be fine, we really have to sit down and review the Standards; that's definitely on our radar, just a laborious task.

Audio - Seth Campbell:

Some work, yes. (Laughs). Great. I'll just get back to our questions. Existing CVM2 commentary for external fire spread that is enclosing rectangles is now to be part of Acceptable Solutions?

Audio - Saskia Holditch:

No, not yet. We have for external fire spread we have the external cladding guidance, that we didn't incorporate in the Acceptable Solutions, um what we are doing um and we've started we're in the very early phases of reviewing the CVM2, the external fire spread is part of one of the tasks that will be incorporated in this review, and um if anything comes out of that research that we can apply in the Acceptable Solution then that would be awesome and we'd surely do so, so I'm going to park that for now that's under the new CVM2 review project and hopefully within the next year we'll hear more about that.

Audio - Seth Campbell:

Great, thanks Saskia. I might jump to a question on why does it take so long to make technical changes to the Acceptable Solutions and verification methods?

Audio - Saskia Holditch:

The whole process takes a long time because we have to incorporate public consultation and all their research in the review of the public consultation because we do realise we are not writing in a stylo here, it does affect a lot of people throughout the country, so if we have a technical change we have to research it, we have to justify it, and then we can put it in the new document and then that document has to go out for public consultation for a number of weeks and months and then we get it back and then we can say, oh yes, they liked it, or no, they didn't like it, so that's why it takes that long, I think any change we would think of today would not make it until June or November next year, we did the math

and it is a long time if you look at it that way.

Audio - Seth Campbell:
Doing the work properly.

Audio - Saskia Holditch:
Yeah.

Audio - Seth Campbell:
Right. Let's see, why don't we go with the newly published fire performance of external wall cladding systems guidance, why has MBIE decided not to incorporate this into the new C/AS2?

Audio - Saskia Holditch:
Yeah, like we previously mentioned, it's not quite robustly written yet, we've got some feedback on the guidance document in itself that we think yes this requires further review, further research so we'll be doing that before we put it into the Acceptable Solution and make it more regulatory. Yeah.

Audio - Seth Campbell:
OK, sounds good. Let's see, we don't seem to have any new ones coming in.

Audio - Saskia Holditch:
We missed one on transient and permanent uses that I am happy to pick up.

Audio - Seth Campbell:
Yes there we go, shall we pick that up Saskia? Let me just push it out to the audience, will new Acceptable Solutions, or commentary, provide better clarity in interpreting between transient and permanent uses?

Audio - Saskia Holditch:
So, the bad news is no, not this edition. The good news is we at MBIE do recognise there's different types of housing going out there with Airbnb, and the pods, sleeping pods, and tiny houses so we are looking at that in the background how to better define them and how to better regulate if needed based on all these different choices that people now have.

Audio - Seth Campbell:
OK. Let's have a quick refresh to see if any further questions come in from our audience. It doesn't look like it at this point.

Audio - Saskia Holditch:
So if that's all for the questions I'd like to emphasise again, use the email address if you come up with further questions based on this webinar or anything else pertaining to Acceptable Solutions or Verification Methods. I'd like to point out that MBIE does have a website.

Visual

Slide: Image of Building Performance website: www.building.govt.nz

Audio - Saskia Holditch:
If you go there and you hit 'Subscribe' in the search bar then you can choose whether you want subscriptions on Determinations, Codewords etc and they will be sent to your email, they will be emailed to you direct. Perhaps, do you want to talk on that?

Audio - Seth Campbell:
Yeah, absolutely, we are definitely trying to push some of our channels to make sure that all of you out there are getting the right information at the right time, so absolutely, would love to have you get in there and make sure you subscribe to the right parts of our information push.

Audio - Saskia Holditch:
Thank you, thanks Seth.

Audio - Seth Campbell:
Thank you Saskia and thanks to everybody out there and keep the questions or comments coming through, in terms of the email address we'll try to get any answers back to you.

Visual

Slide: Building Performance logo and email address

Visual

Slide: List of LGNZ social channels

END OF VIDEO



**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI

New Zealand Government