



Determination 2018/041

Regarding the grant of a building consent for a conference centre at 115b Maunsell Road, Port Waikato, and the use of large building components prefabricated offshore



Summary

This determination considers the authority's refusal to grant a building consent in relation to a structure that uses large building components prefabricated offshore. The determination discusses what is and is not "building work" in relation to the scope of building consents that use prefabricated components, as well as authority's abilities to assess compliance of components that are prefabricated offshore.

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ ("the Act") made under due authorisation by me, Katie Gordon, Manager Determinations, Ministry of Business, Innovation and Employment ("the Ministry"), for and on behalf of the Chief Executive of the Ministry.
- 1.2 The parties to this determination are:
 - Waikato District Council, which applied for the determination, carrying out its duties as a territorial authority or building consent authority ("the authority")
 - Ngati Karewa, Ngati Tahinga Trust ("the owner").
- 1.3 I consider the designer of the conference centre ("the designer") to be a person with an interest in this determination.
- 1.4 The determination arises from the authority's refusal to grant building consent for a new conference centre comprising three large building modules ("the modules") prefabricated offshore, delivered in kitset/flat-pack form, and then assembled onsite.

¹ The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Ministry are all available at www.building.govt.nz or by contacting the Ministry on 0800 242 243.

The authority has not granted the consent pending resolution, via the determination process, of what it says are issues regarding what is properly considered “building work” for the purpose of this building consent.

- 1.5 The authority made the application for determination on the compliance of the proposed building work². However, I proposed, and the authority accepted, that the determination instead considers the authority’s decision regarding the building consent³. This enables the determination to address the authority’s key concerns as they relate to a building consent application involving substantial offshore prefabrication, the nature of “building work” in this case, and how the authority can be satisfied that the completed building will be compliant with the New Zealand Building Code⁴.
- 1.6 Accordingly, the matter to be determined⁵ is the authority’s exercise of its powers of decision in refusing to grant a building consent for the proposed conference centre.
- 1.7 In making my decision, I have considered the submissions of the parties and the other evidence in this matter.

2. The building and background

- 2.1 The owner proposes to construct a conference centre at an existing holiday park in Port Waikato. This comprises three separate modules, each opening onto an interconnecting timber deck. The total floor area, including decking, is about 195m².
- 2.2 On 9 April 2018 the authority received a building consent application for the conference centre, describing the scope of building work as “foundation only”. The application was accompanied by a set of drawings that included location and site plans; elevations; “phase drawings”; floor framing and foundation plans, and detailing for the piles and stairs to the deck. Figure 1 shows the floor plan submitted for building consent. Based on the information I have received, no details were provided at that time about the materials used for, or compliance of, the prefabricated modules.

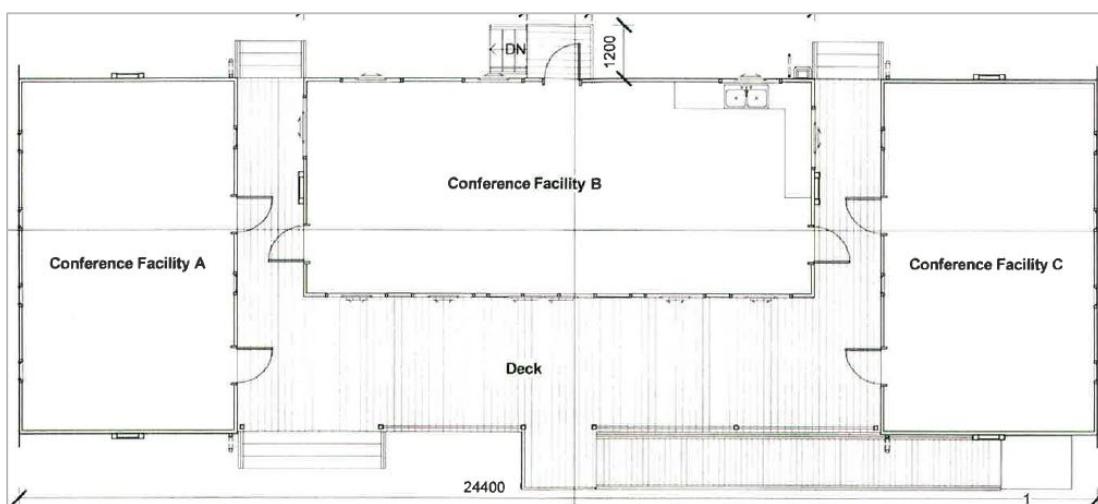


Figure 1: Floor plan for the proposed conference centre (not to scale)

² Under section 177(1)(a) of the Act

³ Under section 177(1)(b) of the Act

⁴ Schedule 1 to the Building Regulations 1992

⁵ Under section 177(1)(b) and 177(2)(a) of the Act

- 2.3 The conference centre is slightly elevated (by less than a metre) and has a ramp plus several steps down to ground level. A large pitched roof incorporating steel trusses and purlins bolted together onsite covers the whole structure. The roof is fixed to each building module and is supported by veranda poles. The foundations are timber piles which the designer describes as designed to NZS 3604⁶.
- 2.4 The modules, including their doors, windows and flooring, the decking and the roof (apart from its cladding and underlay), are supplied by a New Zealand supplier (“the supplier”). The modules are prefabricated offshore and delivered to the site in kitset (panelised) form, ready to be assembled and incorporated into the final structure.
- 2.5 On 7 May 2018 the authority wrote to the building consent applicant (the owner) to request further information, including:
- various requests for clarification and / or further details regarding the proposed foundations, roof, veranda etc (e.g. about the intended configuration of piles and bearers; roof bracing and underlay details; the truss manufacturer’s design, layout and fixing details) and for an assessment of the existing wastewater system from a suitably qualified person
 - notice of other requirements in relation to the building’s intended use, e.g. a fire safety design report and accessibility details, and advising that land use consent was required under the Resource Management Act 1991
 - the authority advised it intended to apply for a determination as the project included imported kitset structures, and “given the level of inconsistency or misinformation around what is or isn’t ‘building work’ under the Building Act, and therefore the extent of such works being included in a building consent application”.
- 2.6 On 9 May 2018 the designer wrote to the authority on the owner’s behalf, providing amended plans. His response included drawings with additional details from the manufacturer (e.g. for the veranda posts, trusses, the purlin type and fixing details), and said a fire and accessibility report / design had been submitted. He also responded to some of the authority’s requests (e.g. for roof bracing details and cladding details to the gables) by saying that: “The entire structure is a pre-manufactured structure that is imported as a unit. Some of these units have already been constructed and been in service in New Zealand for some time”.
- 2.7 On 21 May 2018 the authority emailed the designer and owner requesting further clarification on some matters; to say it awaited the fire and accessibility report; and that the whole timber sub-floor foundations, structure and connections to the (imported) steel sub-frame ‘should be confirmed by specific engineering with a PS1 [Producer Statement – design]’. The authority also said some matters would be confirmed via the determination process.
- 2.8 On 24 May 2018 the Ministry received an application for determination.

⁶ New Zealand Standard NZS 3604:2011 Timber-framed buildings

3. Submissions

3.1 The authority

- 3.1.1 The authority included a submission with its application for determination and provided copies of:
- floor and elevation plans, phased construction drawings, and the supplier's catalogue extract on "foldable cabins" showing how to assemble its panelised modules
 - a social media discussion (from 4 May to 21 May 2018) on what the authority considered a similar concept – a different supplier's expandable containerised building
 - the authority's enquiry to the Ministry on 24 January 2018 about the importation of completed buildings and how to treat these, and the Ministry's response on 29 January 2018.
- 3.1.2 On 29 May 2018 I requested from the authority all material received with the building consent application and any advice given to the owner or their agent in response. On 30 May 2018 the authority provided copies of:
- the first two pages of the application form and the accompanying plans and specifications (12 pages)
 - its request for further information dated 7 May 2018, the designer's response dated 9 May 2018 and amended plans, and a subsequent request for information on 21 May 2018
 - email correspondence between the authority, owner, and designer about the decision to apply for a determination (from 24 to 28 May 2018).
- 3.1.3 In its submission, the authority:
- requested a determination to clarify the extent to which the authority was "obliged to ensure that prefabricated kitset structures, designed and built offshore but assembled from various components onsite, are indeed structurally competent, weathertight and durable as required by the NZ Building Code and as such could be considered 'Building Work'"
 - said it had reviewed 'various legal and Ministry opinions' and determinations, but considered none applied directly to this case and that there appeared to be some mixed messages. It said there were examples of what could happen when buildings/building products were "exempt from the building consent process and any sort of oversite [sic]". There was also a public expectation that buildings constructed or assembled onsite were compliant with the Building Code and an assumption that building consent authorities are the "gatekeeper" to ensure such buildings are compliant
 - said the three modules, did not have a national multiple-use approval (also known as a MultiProof certificate)⁷ and the consent application did not include any structural details, construction specifications or statements of conformation to known construction standards. It noted that the supplier's catalogue (paragraph 3.1.1) was not part of the consent application but was supplied on request for an example of the intended concept.

⁷ Under section 30A of the Act. A national multiple-use approval establishes that the plans and specifications to which it relates comply with the Building Code.

3.1.4 Regarding the description of building work on the consent application:

- The authority said the consent was described as “foundations only” but, as the components were supplied as a flat-pack type kitset, there was significant on-site assembly and connection to create a structurally sound and weathertight structure. The authority contends all works to create the completed building onsite should be considered building work including module assembly and securing, connections to the substructure and roof framing, and weatherproofing. The roof structure and deck would also be assembled with individual components and were in no way part of a completed and re-sited structure.
- While the building was intended to be used as a conference centre, the authority said the consent application / scope of works did not provide for features that would be required for this use (e.g. emergency lighting, requirements to limit fire / smoke spread etc).
- As the building consent application was for a public building, it said other Building Code clauses also required consideration that may not be viewed as building works under the current scope of the consent application (e.g. Code clauses⁸ F6 visibility in escape routes, F7 warning systems, F8 signs, C1-C6 fire safety, and D1 accessibility).

3.1.5 Regarding the offshore prefabrication:

- The authority said previous determinations 2016/039 and 2016/040⁹, which also considered imported building modules, were not directly comparable to this case as those modules were covered by a MultiProof certificate and the building consent applications included full plans and construction specifications. It said determination 2016/040 included general advice on considering off-site fabrication, but it was still not clear whether the conference centre’s “upper structure” might be considered building work.
- In the authority’s view, onsite assembly and connection of components should be included in the consent application and be subject to the same review and oversight as any other works, regardless of whether individual elements (e.g. walls) were manufactured offshore. It said structural behaviour/connections, durability and weathertightness were of primary concern.
- Correspondence from the Ministry (refer paragraph 3.1.1) suggested that a building consent authority (BCA) could seek evidence as to the building’s or components’ compliance before issuing a consent. However, this advice appeared to apply to consent applications including plans and specifications submitted to a recognised standard, and in the authority’s view would probably not apply in this case unless all intended works were included in the consent application.

⁸ In this determination references to clauses are to clauses of the New Zealand Building Code and references to sections are to sections of the Building Act 2004.

⁹ Determination 2016/039 and 2016/040, both regarding the grant of a building consent for a modular house, and the use of modules designed locally but prefabricated offshore (issued on 25 and 26 August 2016 respectively)

3.2 The designer

- 3.2.1 On 10 June 2018 I asked the designer for more details about the proposed conference centre. This included identifying all work to be carried out onsite to assemble the modules, and the evidence to be provided that the components used in the construction of the conference centre satisfied the relevant clauses of the Building Code.
- 3.2.2 The designer said the modules were effectively built overseas (and he supplied photos of that process) including doors, windows, flooring, individual ceilings/roofs, decking and deck cladding. They were then reassembled on the site. He said the modules were often built ‘with only these components to give a watertight design’.
- 3.2.3 The owner had chosen the option of a pitched roof over the whole structure for extra shade and improved appearance. This roof was supplied as individual steel trusses with purlins, and then bolted together onsite. Roof underlay and cladding, both sourced in New Zealand, were then added.
- 3.2.4 Other work to be carried out onsite was the foundations (piles and bearers), the access stairs and ramp, and all drainage from the sink that was part of the offshore construction. All electrical work would be installed in New Zealand by a registered electrician, allowing an electrical certificate to be issued, and the manufacturer had allowed for conduit pipes for this.
- 3.2.5 The designer also said the floors of the modules had a built-in “support system” that only required supports at the piles where shown in the plans. With the manufacturer’s consent, the designer had adapted the piles from 200x200mm concrete piles specified by the manufacturer to 125x125mm timber piles more commonly used here, and had ‘also added additional bearers over the piles to allow more tolerances’. He said this also allowed for additional fixings to follow an NZS 3604 sub-floor design. He said bracing also followed NZS 3604 requirements.
- 3.2.6 In an email dated 26 June 2018 the designer advised that the importer was engaging a registered building surveyor to carry out an assessment to demonstrate compliance with the Building Code, but that this report was not yet available. The designer subsequently provided me with copies of additional compliance-related information (refer paragraph 3.3.5).

3.3 The draft determination and submissions received in response

- 3.3.1 A draft of this determination was issued to the parties for comment on 3 July 2018. The draft concluded that the authority correctly exercised its powers in refusing to grant the building consent because the building consent application did not identify all the building work involved.
- 3.3.2 The designer responded on 20 July 2018, noting that the consent application was for foundations and drainage only and the designer had already demonstrated code-compliance with respect to fire safety and accessibility for the entire structure.
- 3.3.3 The designer also said, based on his understanding of the draft determination, that it would not be possible to get a building consent for the structure. The designer also questioned how it was possible to get building consents and code compliance certificates for the construction of a slab only, which he said was not uncommon, without having to demonstrate that the building it will support will comply with the Building Code.

- 3.3.4 The designer referred to another building consent authority (BCA) working on “standards with processes required for these types of structures”. Accordingly, he and the owner had decided to wait for a draft document from that BCA “to get at least an idea of what the process could look like”.
- 3.3.5 On 23 July 2018, in response to my request for the compliance-related information, the designer provided copies of:
- an accessibility report and a fire design report for the proposed conference centre, both prepared by the same engineering consultancy firm and dated 28 May 2018
 - a specification document dated 1 August 2017 for foundations, drainage and electrical works; manuals for a water purification system; and a CodeMark certificate and appraisal for the roofing underlay
 - further photos including the module assembly, an installation manual for the modules and bracing details
 - drawings submitted for building consent.
- 3.3.6 The authority emailed on 19 July 2018 saying the draft determination was “generally in accordance with [the authority’s] position on the construction of this kitset type structure”. It then sent a written submission dated 27 July 2018 (in summary):
- The authority’s contention was that the proposed scope of works was greater than the “foundations only” stated in the owner’s building consent application.
 - In the authority’s view this restriction of scope was made on the basis that because the individual componentry of the conference centre’s upper structure was imported, it did not have to be included in the consent application.
 - The kitset modules, deck and roof structure were not designed in New Zealand and there were no construction details or plans from the country of origin or any specifications.
 - There had been no proposal to stage the works for the upper structure and it was not clear if this was now intended.
- 3.3.7 The authority also commented on further information provided by, and queries from, the designer. In particular, it said if the configuration of any upper structure was not known at the time of a consent application for only a sub-floor, then the foundation design could not be confirmed. The authority noted some apparent inconsistencies between recent photos of the module construction and the diagrammatic consent documents, and expressed some concerns about loading details.
- 3.3.8 The authority concluded:
- While [the authority] will need to satisfy itself that components will conform to the [Building Code], it is expected that this determination will at least clarify the requirements for including imported components and/or disassembled kitset type structures into the building consent documentation along with verification of their suitability. We also believe that a timber subfloor structure could not be applied for in isolation when there was a question mark over the design basis of the upper structure that it is intended to support.
- 3.3.9 On 30 July 2018 the owner emailed the authority regarding advice received before submitting the application for building consent and with their concerns regarding the consent process for the conference centre.

4. Discussion

4.1 General

- 4.1.1 The authority has questioned the extent of building work covered by the building consent, which it believes should cover more than the foundations. It is concerned about the compliance of the prefabricated components and, if prefabrication offshore is not considered building work, the authority's ability to assess them.
- 4.1.2 The authority also has outstanding requests for information from the consent applicant, including some regarding additional Building Code requirements relating to the building's intended use. I have not addressed these issues as they can be managed through the normal consent process.
- 4.1.3 Determinations 2016/039 and 2016/040 considered the extent to which the Act and its regulations apply to building modules prefabricated offshore, what a building consent should cover, and the range of information building consent authorities can seek to satisfy themselves that any such modules will comply with the plans and specifications. Although the authority does not regard those determinations as directly comparable, I consider they have much in common with this case and have set out some of their key points to aid the discussion in this case.

4.2 The building consent, building work and building components

- 4.2.1 Regarding the scope of the building consent and what is, and is not, building work:
- “Building work” is defined as work for, or in connection with the construction of a building (section 7 of the Act); where to “construct, in relation to a building, includes to design, build, erect, prefabricate and relocate the building”. In my view, “to construct” covers not only the activity of construction but also the installation or assembly of the building components – products, elements or other materials – which combine to create the building as a whole.
 - A building consent, then, covers the carrying out of building work and the installation of components to construct or erect a building that will satisfy the performance obligations contained in the Building Code.
 - The prefabrication of any components outside New Zealand does not involve “building work”, as there is no power in the Act to regulate building work carried out offshore. Therefore – even if these components are very large, such as wall panels or whole building modules – they are just like any other component to be used in the construction and erection of a building and included within the building consent.
 - While offshore prefabrication does not involve building work there will still be building work associated with these components once they arrive onsite. This could include their assembly / installation, foundations, drainage and connection to services.

4.3 Prefabrication of components

4.3.1 Regarding the authority's ability to assess the compliance of building components prefabricated offshore:

- The plans and specifications submitted with a building consent application give the authority the information to decide whether, if the building work is carried out and the components are assembled, installed or incorporated in accordance with those plans and specifications, the building will meet the performance requirements of the Building Code.
- An important aspect of the authority's consent decision is the requirement for it to assess the relevance, credibility and comprehensiveness of the information provided about the performance of the building components. It is up to the authority in each case to decide what level of information and assurance is required. If the components are novel or unknown to the authority, it would be prudent to examine the claimed performance more carefully and seek further evidence of performance if required.
- In deciding whether to grant a building consent the authority must also consider the proposed methods that will be used to check whether the building work will be carried out, and the components will be assembled, installed or incorporated, in accordance with the plans and specifications.

4.3.2 In particular (quoting from Determination 2016/039):

[6.5] A BCA is entitled to impose conditions on building work and the use of components to assure itself that these will comply with the plans and specifications accompanying a building consent application. If a BCA is not satisfied that prefabrication work will comply with the plans and specifications or that particular components will comply with the Building Code, it should seek further information or assurances from the building consent applicant. The information and assurances could concern controls on, third party oversight of, or assessments on completion of, the prefabrication work; e.g. in relation to the prefabricator's quality assurance plan, plant audits, project records, and LBP^[10] supervision. The information and assurances available are likely to depend on the degree of supervision and quality control of the prefabrication work. They could be sourced in New Zealand or overseas.

[6.6] Assurances regarding completed prefabricated components could include independent assessments or appraisals, product technical statements, test results, product certificates, compliance with Acceptable Solutions or Verification Methods, or testing against relevant New Zealand or international standards or industry codes of practice.

[6.7] ...If satisfactory information and assurances regarding the checking of building work or components are not forthcoming, a BCA should consider refusing to grant the building consent. It is not for a BCA to take upon itself the risk that completed prefabricated components might not comply with the plans and specifications. A BCA has all the tools it needs to manage any potential liability arising from the risk that the completed prefabricated modules may not comply with a building consent.

4.4 The owner's building project

4.4.1 Regarding the owner's application for building consent, I agree with the authority that the scope of building work is wider than the "foundation only" described on the application form and that compliance of a subfloor structure would require consideration of the structure it is intended to support.

¹⁰ Licensed Building Practitioner.

- 4.4.2 In this case, onsite building work with respect to the prefabricated components includes incorporating, installing or assembling those components. Further, even if they are whole buildings delivered to the site, there is onsite work connecting them to foundations and services.
- 4.4.3 Based on the information provided to me, it appears that the building work carried out onsite to construct the conference centre will include the foundations and subflooring; assembling the floors, wall panels and individual ceilings/roofs of each module; constructing the deck, ramp and steps; constructing the pitched roof and support framing over the whole structure; electrical works and drainage and connection to services.
- 4.4.4 I note also the building is a conference centre and is very likely to have one or more fire safety systems that are “specified systems”¹¹. Specified systems should be included in the plans and specifications and are subject to provisions in the Act concerning inspection, maintenance and reporting procedures.
- 4.4.5 Regarding the compliance of the modules and other prefabricated components:
- Before granting a building consent, the authority must be satisfied that the plans and specifications submitted with the consent application (e.g. drawings of the proposed building, component specifications, identification of standards the building work and components will comply with, any proposed inspection procedures, and other supporting material) will lead to a compliant building.
 - The authority must also assure itself that the building work will be carried out, and components assembled / installed / incorporated, in accordance with those plans and specifications. It can impose conditions on the consent for this purpose; such as requirements for onsite inspections, third party assurances and the like.
- 4.4.6 The plans and specifications for the modular homes considered in determinations 2016/039 and 2016/040 were covered by a Multiproof certificate. That meant the building consent authority in that case already had the assurance, and had to accept, that those plans and specifications meet the performance requirements of the Building Code (refer also paragraph 4.3). In this case, the authority does not have the assurance of a Multiproof certificate so still needs sufficient information to satisfy itself that the plans and specifications for the conference centre incorporating the prefabricated components are compliant.
- 4.4.7 As discussed in the Ministry’s earlier response to the authority of 29 January 2018 (refer paragraph 3.1.1):

Suppliers who import buildings into New Zealand must comply with consumer legislation including the Fair Trading Act [1986]. The section 14G obligations in the Building Act¹² are a replication of the Fair Trading Act obligations (that claims made about products are correct and not misleading) and breaches of these are enforced by the Commerce Commission.

¹¹ As defined in the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005

¹² 14G Responsibilities of product manufacturer or supplier

- (1) In subsection (2), product manufacturer or supplier means a person who manufactures or supplies a building product and who states that the product will, if installed in accordance with the technical data, plans, specifications, and advice prescribed by the manufacturer, comply with the relevant provisions of the building code.
- (2) A product manufacturer or supplier is responsible for ensuring that the product will, if installed in accordance with the technical data, plans, specifications, and advice prescribed by the manufacturer, comply with the relevant provisions of the building code.

- 4.4.8 The designer has provided me with copies of compliance-related information (refer paragraph 3.3.5) and I note any new material should be submitted to the authority as part of the consent process.
- 4.4.9 Next, for the authority to satisfy itself that the modules and other prefabricated components used in the conference centre have been, and will be, made and assembled / installed in accordance with the plans and specifications, the authority can seek a range of further information and assurances as described in paragraph 4.3.2. I also understand there is a prefabricated building from the same company on show locally that the authority can view.
- 4.4.10 I note here that the judgment following the appeal of determinations 2016/039 and 2016/040 to the District Court¹³ commented (at paragraph 44):
- ...Where the building work will involve the construction of a building by use of prefabricated components, no matter to what degree of substance, there is really no difference required in approach whether the prefabricated component is made in New Zealand or offshore. As a prefabricated component made in New Zealand can or should be subject to an inspection or certification process imposed or required by the building consent authority as a condition of the building consent, so too a prefabricated component made offshore can, and I suggest should, be made subject to a similar inspection or certification process. If the applicant for the building consent is either not able to or not willing to accept the inspection or certification requirements, then that will result in either the building consent not being granted or a CCC^[14] not being issued.
- 4.4.11 Once the modules and other prefabricated components are delivered to site, the authority can also carry out a range of useful checks. For example, it can perform visual inspections of these components and their construction (including before they are assembled) and further inspections and testing (e.g. taking off electrical plates, testing for insulation etc) if considered necessary.
- 4.4.12 To conclude, in my view, the authority was correct to refuse to grant the building consent for the conference centre because the application did not identify all of the building work involved. The owner can address this by amending the scope of building work and providing relevant information relating to the prefabricated components (noting that there are also outstanding requests for other information regarding the application).
- 4.4.13 Regarding the prefabricated modules, I consider the authority has sufficient tools to assess their contribution to a compliant building regardless of their offshore manufacture. However, it is for the authority to decide whether it can be satisfied of this compliance based on information and assurances obtained from the owner and any conditions (e.g. inspections, third party verifications) it includes in the building consent.

¹³ The decisions in these determinations were confirmed on appeal: see Auckland Council v S Liaw (District Court, Auckland, 30 June 2017, CIV-2016-004-001575).

¹⁴ Code compliance certificate: refer Part 2 Subpart 5 of the Building Act 2004

5. The decision

- 5.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the authority exercised its powers correctly in refusing to grant the building consent and I confirm that decision.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 31 August 2018.

Katie Gordon
Manager Determinations