



Determination 2018/027

Regarding the refusal to issue a code compliance certificate for bored piles to a stadium building at 22 Surrey Park Road, Invercargill

Summary

The determination considers the authority's reasons for refusing to issue the code compliance certificate, and discusses the authority's concerns about aspects of PS3 and PS4 producer statements provided in support of the application for a code compliance certificate.

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

1.2.1 The parties to the determination are:

- Invercargill City Council ("the authority") as the applicant, carrying out its duties as a territorial authority or building consent authority
- Southland Indoor Leisure Centre Charitable Trust as owner of the stadium ("the trust"), acting through its legal advisor ("the trust's lawyer")

1.2.2 As Chartered Professional Engineers, I also consider that the project engineer and the local engineer are persons with an interest in this determination (refer Table 1).

1.3 The reasons for this determination

1.3.1 The application for this determination arises from the following:

- The original building ("the stadium") was completed in 2000 and extended in 2004 with a linked addition ("the velodrome").
- In 2010 part of the stadium collapsed after a heavy snow storm. It was reconstructed from 2011 to 2016 under a number of building consents and amendments.
- A building consent for Stage 1 of the reconstruction was issued in 2011 and was limited to some areas of the stadium foundations and piles ("the foundations"), with most work carried out during March and April 2011.
- From October 2011 to December 2013 various producer statements were provided for the foundation work.

¹ The Building Act, Building Code, Acceptable Solutions, 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 building opened in March 2014. Documentation provided up until March 2015 has not been accepted by the authority and a code compliance certificate has not been issued for Stage 1, which has resulted in subsequent stages also remaining unresolved. However I understand that a certificate of public use² has been in place to allow occupancy and use of the building for a number of years.
- 1.3.2 The matter to be determined³ is therefore the authority's exercise of its powers of decision in refusing to issue a code compliance certificate for the foundation work for the reasons given in the authority's application for this determination (refer to paragraphs 2.9 and 5.1).
- 1.3.3 The application for this determination is limited to the matter outlined above and this determination does not consider other elements of the completed stadium, or other clauses⁴ of the Building Code.
- 1.4 The evidence**
- 1.4.1 In making my decision, I have considered the submissions from the parties and the other evidence in this matter.
- 1.4.2 Evidence considered in this determination includes producer statements, records and guidance provided by a number of engineers, building companies and professional bodies. For clarity, this determination refers to these entities as shown in Table 1.

Table 1: Documentation

| Project role | Title in this determination | Producer statements & inspection records | Title |
|---|-----------------------------------|--|--------------------|
| Design, documentation and project management on behalf of the trust | "the project architect" | | |
| Design and construction review of foundations | "engineering company" | PS1 – Design | "PS1" |
| Review of foundation work on behalf of the engineering company | "project engineer" ⁵ | PS4 – Construction Review | "PS4" |
| Inspection of pile shafts, soil on behalf of the engineering company | "geotechnical engineer" | Inspection reports | |
| Inspection of foundation work on behalf of the engineering company | "the local engineer" ⁶ | Site Reports to the project engineer | |
| The pile drilling | "the drilling company" | PS3 – Construction | "PS3 drilling" |
| The building work | "the contractor" | PS3 – Construction | "contractor's PS3" |
| Institute of Professional Engineers New Zealand (now Engineering New Zealand) | "IPENZ" | Guidelines on Producer Statements (jointly produced) | "IPENZ Guidelines" |
| Association for Consulting Engineers New Zealand | "ACENZ" | | |

² Issued under section 363A of the Act

³ Under sections 177(1)(b) and 177(2)(d) of the Act

⁴ In this determination, references to clauses are to clauses of the Building Code, and references to sections are to sections of the Act.

⁵ Chartered Professional Engineer – Structural

⁶ Chartered Professional Engineer – Civil, Structural

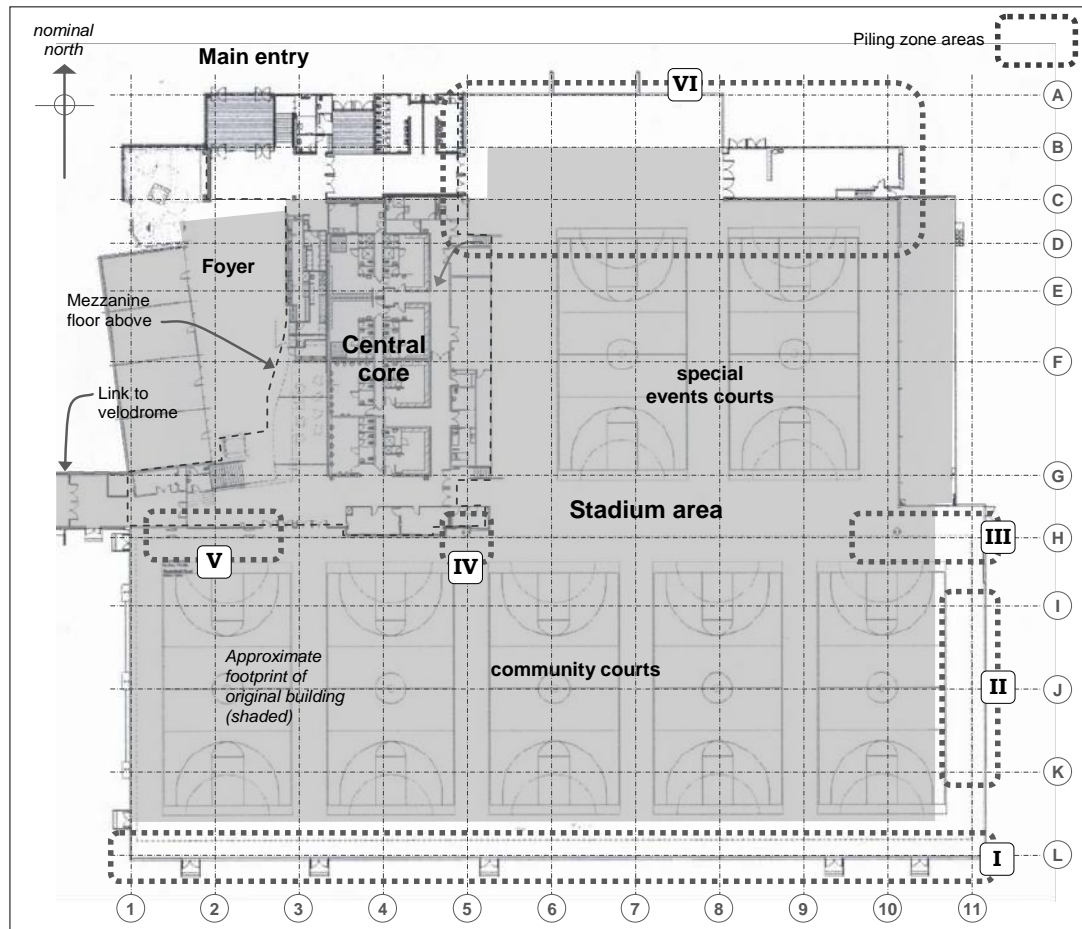
2. The building work and background

- 2.1 The original stadium was completed in 2000 and provided an indoor sports facility of about 9000m² for the Southland region, which included two main stadium spaces (community and special events courts) with associated service and support facilities. A velodrome was constructed and linked to the stadium in 2004.
- 2.2 The design of the original building featured clear spans over the two large inter-linked stadium areas. During construction of the stadium, excessive deflection or sagging was observed in some roof trusses above the community courts area and remedial work was undertaken before the building was completed.
- 2.3 The stadium roof collapsed on 18 September 2010 following a snowstorm. Subsequent investigations⁷ found that the collapse was due to a combination of factors, including heavy snow loading, construction defects, design detailing issues, problems with design changes and remedial works undertaken during construction.

2.4 The stadium redevelopment

- 2.4.1 The area of damaged stadium structure was demolished, and designs for reconstruction were developed to allow staged construction to commence as soon as possible. The work was planned to be carried out in three main stages, with a number of associated contracts from 2011 to 2013. The main stages were:
- Stage 1: Foundation and piles only (BC 2011/101)
 - Stage 2: Structure and building envelope (BC 2011/258)
 - Stage 3: Foyer upgrade and additions (BC 2012/629).
- 2.4.2 The building work carried out under Stage 1, which is the subject of this determination, included piling and foundation work over the footprint of the collapsed portion of the building and some expansion in other areas, mainly to the northern end of the building, located within six 'piling zones' (denoted I-VI) as indicated in Figure 1:

⁷ Technical investigation into the collapse of the Stadium Southland Roof, Department Report to the Minister for Building and Construction, May 2012

Figure 1: Site plan sketch

2.4.3 The piles were classified into 8 types (Type A to Type H) according to their dimensions. The 900mm diameter piles are Types A to D, which vary from 5m to 15m in length. Types E to H are smaller 600mm diameter piles which vary from 3m to 10m in length as shown in Table 2:

Table 2: The concrete piles

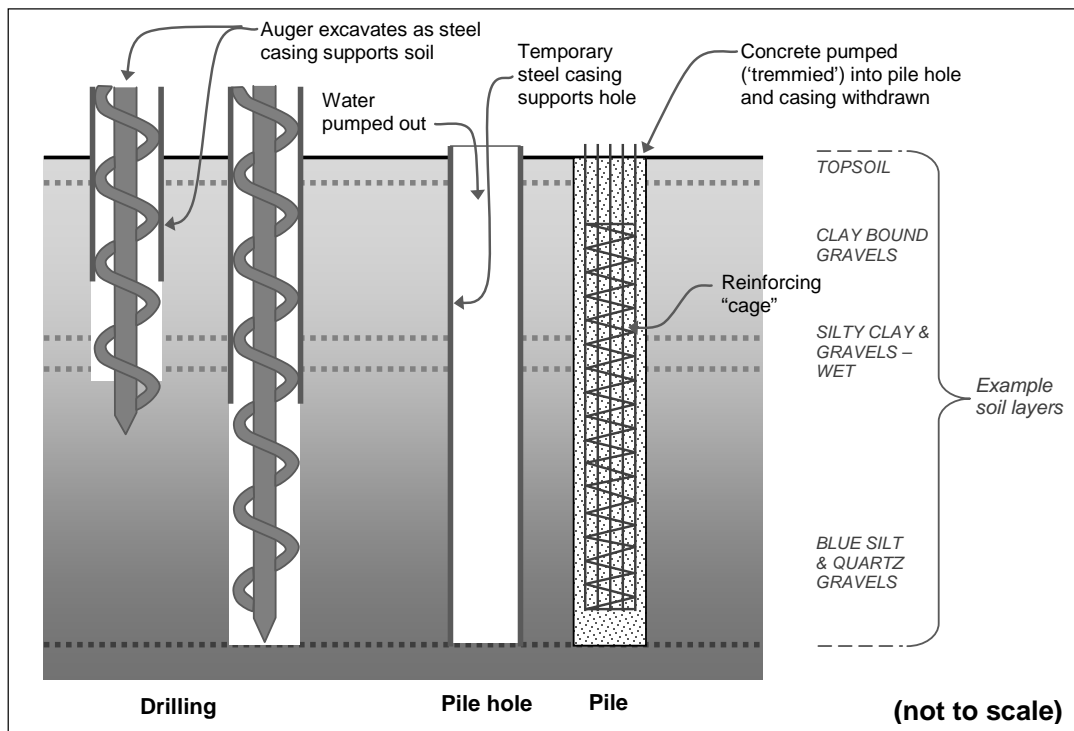
| Piling zones as per Figure 1 | Pile numbers | Types | Dimensions (diameter x length) | Locations |
|------------------------------|--------------------|-------------------------|---|---|
| I | P01 to P12 | G (1) D (11) | 600mm x 3m 900mm x 5m | L1 to L11 (the south wall) |
| II | P13 to P15 | D (3) | 900mm x 5m | I11 to K11 (the east) |
| III | P16 to P23, P31 | C (3) D (4) G (2) | 900mm x 13.2m 900mm x 5m 600mm x 3m | 10H to 11H (north end of south roof) |
| IV | P24 to P26 | D (3) | 900mm x 5m | 5H (SE under mezzanine) |
| V | P27 to P30, p32 | B (4) C (1) | 900mm x 15m 900mm x 13.2m | 1H to 2H (SW under mezzanine) |

| Piling zones as per Figure 1 | Pile numbers | Types | Dimensions (diameter x length) | Locations |
|------------------------------|--------------|--|--|------------------------------|
| VI | P100 to P135 | A (3) D (5) E (14) F (2) G (1) H (11) | 900mm x 10m 900mm x 5m 600mm x 5m 600mm x 8m 600mm x 3m 600mm x 10m | A5 to D10 (the north end) |

2.5 The piling process

2.5.1 Bored cast insitu concrete piles are used for supporting heavy vertical loads. The construction method involves boring circular holes into the ground to the designed depth and diameter, installing steel reinforcement and pumping the bore hole with concrete to form a pile as indicated by the sketch in Figure 2.

Figure 2: The bored piles



2.6 The foundation consent

2.6.1 It appears that the building consent for the foundation work (No. 2011/101, which I have not seen) was issued in early 2011. The drawings included structural drawings prepared by the engineering company, which showed:

- S1.01 Pile Plan: Locations of code-numbered piles (revised 22 June 2011)
- S1.03 Pile Schedule: Pile types and dimensions (revised 22 June 2011)
- S1.04 Pile Elevations: 900mm pile types A to D (revised 12 April 2011)
- S1.05 Pile Elevations: 600mm pile types E to H (revised 12 April 2011).

2.6.2 The pile construction involved drilling circular shafts and recording soil conditions, followed by the installation of 600mm or 900mm diameter reinforced concrete piles

that varied from 3m to 15m deep. The work was carried out by a specialist drilling company (“the drilling company”) under a subcontract with the architect in conjunction with the main contractor for the redevelopment.

2.7 Records and supervision of the piling

2.7.1 The piling work was carried out from late March to mid-June of 2011. Although the authority carried out various inspections during construction⁸, I have not seen copies of the authority’s inspection records.

2.7.2 Detailed records were maintained and cross-referenced during the piling process. Reinforcing cages and other materials were delivered to site on 17 March 2011, with the steel supplier’s delivery dockets identifying the pile number, the pile type, cage dimensions and the attached ‘tag’ number of the delivered cage.

2.7.3 Signed and dated records were kept of every pile number during onsite operations as part of the quality assurance requirements (“the pile logs”). Copies of the pile logs were provided to the engineering company and included the following details:

- personnel involved (names of ‘driller’ and ‘offsider’)
- shaft depth and water level
- reinforcing cage length with supplier’s pile ‘tag number’
- concrete volume with docket identification number
- ‘log of pile’ showing soil layers and types (see Figure 2 for sample bore logs relating to pile P09).

2.7.4 During the drilling process, a local geotechnical company inspected sample pile holes, providing inspection reports which confirmed soil layers, pile shaft dimensions and water levels. Reports were provided as follows:

- P09 and P11 on 22 March 2011
- P02, P22 and P123 on 23 March 2011.

At the same time, ‘Piling Survey Reports’⁹ were prepared for the drilling company and submitted to the engineering company. I have not seen the reports, but I understand they provide surveyed positions and top levels of installed piles.

2.7.5 During the piling installation, the local engineer¹⁰ carried out regular inspections of the reinforcing and concrete process, with 25 detailed site reports provided to the project engineer between 21 March and 20 April 2011. The site reports included the following details:

- identification of piles
- description and photographs of items inspected
- requests to drillers and additional comments.

⁸ Referred to in the local engineer’s Site Report 14.

⁹ Referred to in site engineer’s reports

¹⁰ Chartered Professional Engineer – Civil, Structural

Table 3: The local engineer's 2011 site reports on concrete pile construction

| Rpt No. | Date | Piles | Zones (Figure 1) | Rpt No. | Date | Piles | Zones (Figure 1) |
|---------|----------|-----------------|------------------|---------|----------|------------------|------------------|
| 1 | 21 March | P08, P09 | I | 2 | 22 March | P07, P04 | I |
| 3 | 23 March | P02, P22, P128 | I, III, VI | 4 | 23 March | P02, P22, P128 | I, III, VI |
| 5 | 23 March | P24 | IV | 6 | 24 March | P119 | VI |
| 7 | 25 March | P130, P131 | VI | 8 | 28 March | P21 | III |
| 9 | 29 March | P107 | VI | 10 | 29 March | P110 | VI |
| 11 | 30 March | P111, P129 | VI | 12 | 30 March | P29 | V |
| 13 | 4 April | P122 (cage) | VI | 14 | 4 April | P30 | V |
| 15 | 4 April | P122 (concrete) | VI | 16 | 5 April | P124 | VI |
| 17 | 6 April | P01, P133 | I, VI | 18 | 7 April | P103, P113, P125 | VI |
| 19 | 8 April | P13 | II | 20 | 11 April | P15 | II |
| 21 | 12 April | P19, P20, P101 | VI | 22 | 13 April | P108, P116 | VI |
| 23 | 15 April | P100 | VI | 24 | 18 April | P18, P117 | III, VI |
| 25 | 20 April | P16 | III | | | | |

2.7.6 During the work, the project engineer¹¹ responded to queries raised with him by the contractor and others by issuing 'Consultant Advice Notes'. These notes were provided to the project architect and included the following:

- 21 March 2011: approval of the drilling company's proposed piling record
- 22 March 2011: approval to pour concrete 300mm low (with roughened surface) to allow installation of column hold down bolts before topping up
- 11 April 2011: variation to pile foundation conditions for P16–18 (zone III)
- 12 April 2011: P16–18 shortened to 13.2m, with P31 Type C added (zone III)
- 18 April 2011:
 - response to 4 April survey of position of P02 and level of P03 to P10 (zone I), with follow-up action required
 - piling record for new P31 not consistent with drawings (zone III)
 - variation to P16 depth is structurally acceptable
- 20 April 2011: variation to P16 length to 11.5m structurally acceptable
- 27 April 2011: response to 21 April survey showing concrete top level to some piles higher than acceptable vertical tolerance, with action required.

2.8 The engineering producer statement (PS4)

2.8.1 The project engineer provided a PS4 Construction Review for 'Stage 1 (Piling)' dated 19 December 2013, which referred to the following attachments:

- Schedule A: 'Authorised Instructions / Variations', which listed:
 - Drawing numbers with issue numbers
 - Structural specification sections
 - Consultant Advice Notes

¹¹ Chartered Professional Engineer –Structural

- Schedule B: which noted that the following had been relied upon:
 - PS3 Construction from the drilling company
 - PS3 Construction from the contractor
- Schedule C: the local engineer's site reports 1 to 25 (see Table 3).

2.8.2 Based on the above, the PS4 stated:

...on behalf of the firm undertaking this Construction Review, I [the project engineer] believe on reasonable grounds that all of the building works have been completed in accordance with the relevant requirements of the Building Consent and Building Consent amendments identified above, with respect to Clause(s) B1 of the Building Code.

I also believe on reasonable grounds that the persons who have undertaken this construction review have the necessary competency to do so.

2.8.3 The PS4 also stated that the 'Construction Review Company' issuing the statement is a member of ACENZ¹² and 'holds a current policy of Professional Indemnity Insurance no less than \$200,000', with a footnote that stated:

Note: This statement shall only be relied upon by the [authority]. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the [authority] in relation to this building work, whether in contract, tort or otherwise (including negligence) is limited to the sum of \$200,000.

(I note here that this wording, including the amount of the sum, is provided in a template PS4 in the IPENZ Practice Note 1: Guidelines on Producer Statements, dated January 2014 – refer also paragraph 5.2.)

2.8.4 The attached PS3 Drilling was dated 14 October 2011 and stated that the author representing the drilling company believed 'on reasonable grounds that [the drilling company] has carried out and completed 100% of the building works in accordance with the contract.'

2.8.5 The attached PS3 from the contractor was dated 25 March 2015. This date is after the date the PS4 was issued, however related documentation references are dated prior to the date of the PS4. The contractor's PS3 identified the 'attached [engineering company] drawing register file no. 9745 dated 20.08.12' with authorised variations 'AD01 to AD336' and stated that the author had 'sighted building consent No. 2011/101 and the attached conditions' and believed:

...on reasonable grounds that all as specified in the attached particulars of the building work under the above building consent has been completed to the extent required by that building consent.

2.9 Refusal to issue a code compliance certificate

2.9.1 As noted above, I have seen no copy of a formal refusal to issue a code compliance certificate for Stage 1, nor reasons given for the refusal as required by section 95A of the Act. However, reasons for refusal were provided by the authority in its application for a determination (as below).

3. The application and the authority's submissions

3.1.1 The Ministry received an initial application from the authority on 31 January 2017 for a determination on whether 'quality information received including PS3 and PS4

¹² The Association of Consulting Engineers New Zealand

statements provides substantial evidence for [the authority] to issue a [code compliance certificate]'. That application was not accepted because the matter described was not considered to fall within the scope of section 177 of the Act.

3.1.2 The Ministry received an amended application on 14 July 2017, which sought a determination ostensibly under section 177(1)(a) on

...whether quality information received including PS3 and PS4 statements provide reasonable evidence for [the authority] to issue a Code Compliance Certificate for Building Consent 2011/101

3.1.3 However a determination was also sought in terms of section 177(1)(b) and s177(2)(d) of the Act on the refusal of the authority to issue a code compliance certificate, for reasons which including concerns about the 'quality' of information. Therefore the application proceeded on the basis that I would determine whether the authority had correctly exercised its power of decision when it refused to issue a code compliance certificate for the reasons given.

3.1.4 In the statement accompanying its application, the authority explained the reasons for refusal. It gave those reasons as a series of questions or concerns about documentation provided in support of the application for a code compliance certificate. I have summarised these as follows:

- whether the authority could accept a producer statement from a practitioner whose firm was under criminal investigation for the collapse on 22 February 2011 of the Canterbury Television building in Christchurch
- whether the amount of professional indemnity insurance stated in the PS4 was sufficient
- a 'lack of clarity' and 'possible conflicts' in the attached Schedule B:
 - Schedule B of the PS4 relies on the driller's PS3, although this was issued to the architect, not to the engineering company
 - the PS3 refers to 'the contract' (rather than the consent), so it is unclear what it verifies.
- The quality control documentation:
 - Schedule B of the PS4 relies on quality control documentation
 - some records are incomplete and/or unsigned
 - the cage docket references are unclear
 - the author of the pile records is unknown
 - it is difficult to cross reference documentation.

3.1.5 The authority provided copies of documentation, which included:

- the list and status at 12 July 2017 of consents issued for the stadium rebuild
- Stage 1 pile drawings
- the supplier's delivery dockets for the reinforcing cages
- pile logs, with geotechnical inspection records of sample shafts
- site reports from the local engineer
- the consultant advice notes (CAN's)
- the engineering company's PS4 – Construction Review dated 19 December 2013

- the drilling company's PS3 – Construction dated 14 October 2011
- the contractor's PS3 – Construction dated 25 March 2015.

3.1.6 On 19 October 2017 the Ministry asked the authority to clarify the reasons for its view that it was not satisfied on reasonable grounds that the building work complies with the Building Code. The authority responded on 24 October 2017, stating:

... [the authority] is of the opinion that the acceptance of a producer statement is part of building code compliance and therefore forms part of what [the authority] consider when issuing a code compliance certificate.

In this instance ... there have are (*sic*) some inconsistencies as noted in the application for determination.

3.2 The trust's submissions

3.2.1 In a letter to the Ministry dated 30 August 2017, the trust set out the background to the situation and described the difficulties it encountered in attempts to resolve the authority's requirements for documentation.

3.2.2 The trust included the following comments (in summary):

- The design of the stadium followed the Christchurch earthquakes, with a heightened structural awareness resulting in the building being 'engineered to a very high level'.
- The trust's view is that it has met all Building Code requirements and supplied all necessary supporting information to the authority but, despite the stadium opening more than three years ago, the authority has not issued code compliance certificates.
- The significant delay causes difficulties in maintaining necessary certification for public use and could undermine confidence in the building and the trustees.

3.2.3 The trust concluded:

We have been told, and we believe, that our building team have gone above and beyond their duty in providing all required information (several times) to the [authority]. The completion of all Code Compliance Certificates is an absolute priority and we are hopeful that this determination will enable [the authority] to very quickly complete the compliance of our building.

3.2.4 The trust attached copies of:

- a submission from its lawyer on its behalf (see paragraph 3.3)
- a letter from the architect dated 28 August 2017 (see paragraph 3.4)
- IPENZ 'Guidelines on Producer Statements'¹³ (see paragraph 5.2)
- a previous determination (Determination 2015/024) .

3.3 The trust's lawyer's submission

3.3.1 The trust's lawyer made a submission dated 31 August 2017 on the trust's behalf, which noted that the trust had engaged 'professionals to design, supervise and construct' the stadium and considers that the completed building was constructed in accordance with the building consent and meets the requirements of the Building Code.

¹³ Version 3, January 2014, produced with the Association for Consulting Engineers New Zealand (ACENZ)

3.3.2 The lawyer noted that there are a range of code compliance certificates for various building consents issued for the stadium development, and these await the outcome of this determination. The lawyer responded to the authority's grounds for refusing to issue the code compliance certificates for Stage 1 as follows (in summary):

- The status of the engineering company providing the PS4:
 - Section 94 of the Act states that an authority must issue a code compliance certificate 'if it is satisfied on reasonable grounds that the building work complies with the building consent' and the role of producer statements is to assist the authority in forming an opinion on that matter.
 - Whether the engineering company is under any form of investigation for a different building in a different city is irrelevant to the compliance of the subject building.
 - Whether the engineering company 'is still trading or changed names again is entirely irrelevant' to compliance.
- The liability noted in the PS4:
 - Professional indemnity insurance is a risk management decision for each engineer to determine for themselves and existence of insurance does not determine code-compliance of the associated work.
 - The statement in the PS4 is a standard note in the form, which follows IPENZ recommendations (see paragraph 5.2).
- In regard to 'other issues' raised by the authority:
 - The PS4 is the key document that provides the engineer's professional opinion that the subject building work complies with the building consent and the relevant part of the Building Code; it was issued by a named Chartered Professional Engineer on behalf of the engineering company.
 - The architect has explained the process followed in resubmitting documentation (see paragraph 3.4) and the PS4 remains in effect.
 - The drilling company's PS3 was provided to the architect, because the company was engaged under a subcontract with the architect.
 - The drilling company's PS3 simply identifies that drilling was carried out under the supervision of the architect and the engineer; it is one of the records supporting the PS4.
 - The other inspection records, dockets and piling reports identified in Schedule B of the PS4, are the engineer's record of what is relied on in part in issuing the producer statement.

3.3.3 In regard to the range of documentation supporting the PS4, the lawyer stated:

Ultimately though it is the inspection and certification of the work that it complies with the building consent and the Building Code that is critical. Photographs, documents and the like are factors that support that opinion but do not substitute for the opinion itself. The opinion is obviously informed by those records but also the inspections and supervision that occurred onsite while the construction was taking place.

3.3.4 The lawyer concluded:

Overall it is the Trust's firm position that the building work has been completed in accordance with the building consent and the Building Code. It relies on the engineering opinion of the chartered engineer who provided the PS4.

Issues raised by [the authority] relating to the status of the engineer's employer subsequent to the PS4 being issued are entirely irrelevant to a determination by [the authority] under the Building Act 2004 and the decision to issue code compliance certificates. The Trust considers the decision to refuse a code compliance certificate (and the others that rely on this one) is not justified in these circumstances.

3.4 The architect's letter

3.4.1 In a letter to the trust dated 28 August 2017, the architect provided some clarification of matters raised by the authority, noting that he had spoken with the project engineer. The architect included the following comments (in summary):

- The contractor reformatted the 'code of compliance document' to make it 'easier for the [authority] to follow' and resubmitted this in March 2016. The updated version incorporated 'minor amendments and some amended PS3's'.
- The contractor's PS3 dated 25 March 2015 was added to documentation at that stage. The word 'all' in the statement is taken to refer to the drawings with authorised variations listed within the statement and attached to the PS3.
- The project engineer (PS4 author) emphasises that his opinion is based on his site inspections and all the received information listed in attached schedules.
- The project engineer added the contractor's PS3 dated 25 March 2015, but did not change the date of his PS4 19 December 2013 – because inclusion in Schedule B 'means those producer statements have been considered.'
- The project engineer also noted that 'all supporting information does not necessarily need to be signed in order to be considered'.

4. The draft and submissions in response

4.1 A draft determination was issued to the parties for comment on 12 December 2017. A copy was also sent to the project engineer and the local engineer as persons with an interest in this determination.

4.2 The authority responded to the draft determination on 15 January 2018. It did not agree with the draft, stating (in summary):

- it was prudent for it to check, by seeking a determination, whether criminal investigation into an engineering firm associated with the design of the building was a reason for questioning statements about compliance in the PS4 provided by a member of that firm
- it interpreted comments in the draft as meaning producer statements should not be relied on any longer, and this would mean building consent authorities would be 'forced to hire expert staff or hire consultants to assess [...] specialist areas that building consent authorities would otherwise use the producer statement system for'
- the PS4 in this case pre-dates the PS3s to which it purports to refer. If the PS4 was changed so that it had a later date than the PS3s, the authority would accept the determination and issue the code compliance certificate.

4.3 The trust responded on 12 December 2017, accepting the draft determination.

4.4 The project engineer acknowledged receipt of the draft determination and sought more information, but neither he nor the local engineer as persons with an interest indicated whether they agreed or disagreed with the draft determination.

5. Discussion

5.1 The authority's refusal to issue the code compliance certificate

- 5.1.1 Section 94 of the Act provides that an authority must issue a code compliance certificate if it is satisfied on reasonable grounds that the building work complies with the consent. Section 95A requires the authority to give the applicant written notice of a refusal and the reasons for it.
- 5.1.2 This is a determination under section 177(1)(b) of the Act and therefore turns on whether the authority correctly exercised its powers when it refused to issue a code compliance certificate. This involves consideration of the reasons given for refusal.
- 5.1.3 While the authority did not provide the trust with written notice in terms of section 95A, it did provide reasons for refusal in its application for this determination. I have assessed the reasons given in the application for determination, and as modified by the authority's response to the draft determination.
- 5.1.4 The authority set out its reasons for its concerns about the producer statements and inspection records (refer paragraph 3). Those concerns related to:
- the credibility of the engineering company
 - the stated limit of indemnity insurance on the producer statement
 - aspects of the drilling company's PS3.
- 5.1.5 I discuss these grounds for refusal in paragraphs 5.3 to 5.6. As the concerns relate to producer statements, I have considered the IPENZ Guidelines for producer statements, and set out the relevant recommendations from these guidelines below.

5.2 The IPENZ Guidelines

- 5.2.1 Practice Note 1 (Version 3, January 2014) was produced by IPENZ (as it was then known) and ACENZ to reflect recommended good practice for Chartered Professional Engineers who write producer statements, with guidance on the information producer statements should contain and to guidance for authorities receiving those statements.
- 5.2.2 Although the guidelines are not binding on Councils or on me in making this determination, they provide important context for this determination, particularly in the absence of a statutory framework for the provision of producer statements.
- 5.2.3 Regarding the role of producer statements, comments include (in summary):
- Producer statements signal the involvement of a competent practitioner and can assist authorities to establish compliance, but they have no statutory status. A producer statement along with supporting documents is a means by which a professional opinion can be expressed.
 - The level of reliance and weight placed on producer statements depends on the work involved, the statement's form and content, and the author's competence.
 - Although an authority can decide on the level of its reliance, a producer statement should not be the only means of establishing compliance as the authority remains responsible for its compliance decisions.
 - An authority cannot refuse to issue a code compliance certificate simply because it cannot be provided with a producer statement.

- The author must be a person rather than a company, because the value of the statement depends on the individual competence of the author.
- Engineers should always use the standard IPENZ/ACENZ/NZIA¹⁴ forms and the wording of standard forms should not be amended, except where instructions indicate this is permissible.
- Authors should consider what information is relied upon in reaching their opinion and clearly state any limitations that may apply as a result.
- A PS4 is based on reasonable and stated grounds, which:
 - should record the level of monitoring by the engineer (or by persons acting under their control)
 - should be accompanied by monitoring records
 - may include the contractor's construction monitoring records confirming compliance with the building consent.
- A PS4 shall include reference to the consent number and (as attachments) inspection records, including instructions and any amended drawings issued during construction.

5.2.4 With regard to professional liability, comments included (in summary):

- A producer statement is not intended to act as 'a risk transfer mechanism'. Producer statements are expressions of professional opinion and not a means of transferring risk and liability from the authority to an engineer.
- The level of an engineer's insurance should have no direct relevance in assessing code-compliance – minimum insurance levels are not prescribed in the Act or in regulations.
- Limits on liability are not appropriate measures of the confidence to be placed in the work and cannot be a determining factor on whether completed work will meet the performance requirements of the Building Code.

5.2.5 Regarding producer statements for construction (PS3), the guidelines state:

It is noted the 6th Schedule of NZS 3910 "Conditions of Contract for Building and Civil Engineering Construction" is a fourth "Form of Producer Statement – Construction" which is also in common, current use by contractors and is typically referred to as a PS3. There are also many other variants of producer statements that are used by designers, applicators, constructors and suppliers who are not Chartered Professional Engineers. This guide does not cover these alternative types of producer statements.

5.3 The PS4 and the credibility of the project engineer or engineering company

- 5.3.1 The IPENZ Guidelines state that the level of reliance and weight to be placed on producer statements depends on the work involved, the statement's form and content, and the author's competence.
- 5.3.2 This approach has been reflected in caselaw such as the 'Nautilus' decision (named after the apartment building the subject of proceedings) in the High Court at Auckland. In that case¹⁵ the judge made the following comments about

¹⁴ New Zealand Institute of Architects

¹⁵ *Body Corporate 326421 v Auckland Council* [2015] NZHC 862 [29 April 2015]

considerations for a Council when accepting a PS4 (and producer statements generally)

“[...] the extent to which a particular producer statement should be relied on in considering whether code requirements¹⁶ had been met depend on all relevant circumstances. These would include, for example, the skill, experience and reputation of the person providing the statement, the independence of the person to the works, whether the person was a member of an independent professional body and subject to disciplinary sanction, the level of scrutiny undertaken and the basis for the opinion. The [authority] would also need to consider any other information relevant to whether the works had been carried out to an appropriate standard [...] (at paragraph 115 of the decision)

- 5.3.3 Applying those principles, in my view it is clear that in many cases a building consent authority may not need to look beyond the opinion of a competent practitioner, as long as it is also satisfied that the practitioner has the requisite skills, qualifications, and experience, and knowledge and expertise in the particular field, and that the views expressed apply directly to the building work in question.
- 5.3.4 In this case the authority has not expressed concern about the professional opinion provided in the PS4, or the statements about the construction monitoring which has occurred and how compliance with the consent is established. Instead, the authority questions whether it can accept a producer statement from a practitioner who worked for a firm which was ‘under criminal investigation for its part in CTV building collapse’ on 22 February 2011.
- 5.3.5 Following the tragedy on 22 February 2011 in which 115 people were killed in the collapse of the CTV building in Christchurch, there was extensive enquiry into the reasons for the collapse and the role engineering design played. A Royal Commission inquiry into the collapse delivered its findings in 2012 and drew a number of conclusions on that point in its report.¹⁷
- 5.3.6 Regarding the design of the CTV building, the report included the following findings (in summary):
- the building’s design was deficient in a number of important respects
 - a primary reason for the non-compliant aspects of the building’s design was that the engineer was working beyond his competency and experience
 - The engineer’s employer, a principal in the engineering firm, was aware of the engineer’s lack of relevant experience and should have realised the design was outside the engineer’s competency.
- 5.3.7 I note here that the engineer’s employer (who is named in the Commission’s report) is a principal in the engineering company in the present case for determination.
- 5.3.8 I am aware that the NZ Police considered for some time whether criminal charges would be brought as a result of the deaths which occurred. I am also aware that IPENZ considered disciplinary proceedings arising out of the building’s collapse. However, as is common in such cases, details of any enquiry or investigation were not made public and I note that both have since been discontinued.
- 5.3.9 The question is whether these matters were relevant considerations for the authority in its decision on whether to issue the code compliance certificate. I note that in submissions the authority’s only stated concern was about accepting a PS4 from an

¹⁶ In the Nautilus case the Court was considering PS4 producer statements provided under the Building Act 1991 which required compliance with the Building Code, whereas the 2004 version of the Act requires the authority to satisfy itself as the compliance with the building consent. The same principles apply.

¹⁷ Royal Commission of Inquiry into Building Failure Caused by the Canterbury Earthquakes (2012).

engineer in a firm ‘under criminal investigation’ but for completeness I have considered related concerns arising from the design and supervision issues contributing to the collapse of the CTV building.

- 5.3.10 In my view the Royal Commission’s findings (and, arguably, related matters such as the now discontinued investigation) were a relevant consideration for the authority to take into account in considering the PS4 and the information referenced by it. In my view it is possible to see cause for concern by drawing parallels with the Royal Commission’s finding that the engineer designing the CTV building was working beyond his competency, and that his employer should have known this.
- 5.3.11 However, in light of such concerns the authority has an obligation to enquire further, rather than simply refuse at that juncture to issue the code compliance certificate.
- 5.3.12 The authority may already have information about the project engineer’s relevant skills and experience such that concerns about possible supervision issues flagged by the Royal Commission’s findings in relation to the CTV building could be addressed. If not, the authority should ask for more.

Certificate of public use

- 5.3.13 As an aside I note that the stadium has now been open to the public for a number of years, under a certificate of public use (CPU), and that in order to issue a CPU the authority is required by section 363A of the Act to be satisfied that the building was safe to use by members of the public.

5.4 Professional indemnity insurance cover

- 5.4.1 In its application for this determination, the authority expressed concern about the level of professional indemnity insurance stated as being held by the project engineer. Although the authority appears no longer to see this as an impediment to issuing a code compliance certificate (given its response to the draft determination, as noted at paragraph 4.2), I address this issue here for completeness as it was raised in the application.
- 5.4.2 The choice of a specific level of professional indemnity insurance is a commercial decision that is expected to be included in an engineer’s producer statement and is not a measure of the confidence that may be placed in the statement.
- 5.4.3 Through the development of industry practice over time, producer statements such as those here include a standard reference to the amount of professional indemnity insurance the practitioner carries in respect of a project (and usually also a statement that limits the designer’s liability to a building consent authority to a specified sum).
- 5.4.4 The IPENZ Guidelines note that the existence of professional indemnity insurance may assist a building consent authority when deciding the extent to which it will rely on a producer statement. In legal terms, this is the weight the building consent authority may give to the producer statement. The weight that is given to a producer statement is distinct from the facts that are established by that producer statement.
- 5.4.5 Therefore, while the information about insurance and/or liability is provided for the building consent authority’s information, the level of insurance cover is not a determining factor in a decision as to compliance in terms of section 94 of the Act. Decisions by a building consent authority whether to grant a code compliance certificate under section 94 of the Act concern compliance with the building consent (and, by extension, the Building Code) and can only take into account those parts of a producer statement that also pertain to compliance.

5.4.6 As an aside, I also note that professional indemnity insurance generally is established by contract between the insured party and the insurer. As such, the stated level of insurance cover provided in a producer statement cannot provide a level of comfort to a building consent authority because it may be conditional on matters unknown to an authority and outside its control. In any case:

- a producer statement is not a means of transferring risk and liability from an authority to the designer, and
- insurance cover is a contractual matter between an insured and an insurer that assists the insured to meet claims against them. It is not a consumer protection mechanism, nor is it held just for the benefit of a building consent authority
- the terms and conditions of an insurance policy and the insured's compliance with those terms and conditions are matters between the insured and the insurer, and may mean that an insurance policy does not respond to a particular claim by the insured for reasons which are unknown to a claimant or building consent authority
- the choice of a specific level of professional indemnity insurance in a designer's producer statement is a commercial decision
- a commercial decision on the part of the design engineer cannot be a determining factor in whether the work covered in a producer statement has been carried out in accordance with the building consent or whether it will meet the performance requirements of the Building Code.

5.5 The drilling company's and the contractor's PS3s

5.5.1 The IPENZ guidelines cover the use of a PS1, PS2 and PS4 and only provide comment on the possible use of a PS3 (see paragraph 5.2.5).

5.5.2 In contrast with other types of producer statement, the industry requirement to use a standard format for a PS3 appears to be dependent on the conditions of contract and any requirements or guidelines provided by individual industry bodies.

5.5.3 The drilling PS3 is a simply a statement that confirms that the company carried out the work in accordance with the subcontract with the architect. Therefore:

- as the trust's 'project manager', it was the architect's responsibility to ensure the contract accorded with the building consent
- the engineer's construction review in turn ensured that the drilling operations accorded with the building consent.

5.5.4 The above applies similarly to the contractor's PS3, although the contractor chose to use a standard format prepared by a combined industry committee¹⁸.

5.5.5 The later date of the contractor's PS3 was explained by the architect as being part of reformatting of documentation. As noted at paragraph 3.4 the project engineer confirmed, in response to concerns raised by the authority, that the opinion he provided in the PS4 was based on all the information listed in the schedules to the PS4, including the PS3 of a later date. It was simply that he chose not to amend the date of the PS4 when he later added the PS3, being of the view that the PS3's inclusion in the schedule meant by definition that he had considered it.

¹⁸ Consisting of members of NZIA, IPENZ, ACENZ, Building Officials Institute, Master Builders and the Contractors Federation

5.5.6 Given this explanation, in my view it is clear that the discrepancy in dates does not affect the substance or integrity of the information provided in the PS3 or PS4, or of the records and documentation underlying either producer statement.

5.6 Other supporting documentation:

5.6.1 Although several of the 68 pile logs contain minor omissions (such as the weather conditions), these logs appear to form a comprehensive record of drilling as described in paragraph 2.7.3 and provide an audit trail of the process, with a local geotechnical company inspecting sample pile shafts to confirm log details.

5.6.2 At the same time, the local engineer carried out regular inspections of the reinforcing and concrete process on behalf of the project engineer; providing 25 detailed site reports to the project engineer as shown in Table 3, which the project engineer responded to when necessary by issuing 'Consultant Advice Notes' to the project architect.

6. Conclusion

6.1.1 I find the decision to refuse to issue the code compliance certificate for Stage 1 to be incorrect because the authority did not consider all relevant matters, and instead made a decision based on matters which should not have been determinative in its decision.

6.1.2 I therefore conclude that the authority incorrectly exercised its powers when it refused to issue the code compliance certificate for Stage 1 for the reasons it has provided.

7. Establishing compliance of the foundation work

7.1.1 There are various means by which an authority can be satisfied as to the compliance of the completed building work. In making its new decision the authority should take into account the following relevant matters:

- the completeness or certainty of information submitted
- the expertise of the drilling company that carried out the work
- the credentials of the project engineer and the local engineer
- the level of oversight provided for the work
- the evidence of compliance:
 - the foundation drawings
 - the authority's inspections of the foundation work during construction¹⁹
 - inspections provided by the local engineer, the drilling company and others.

¹⁹ Though I have not seen records of inspections carried out by the authority, the local engineer's Site Report 14 refers to inspections during construction.

8. The decision

- 8.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the authority incorrectly exercised its powers of decision in refusing to grant a code compliance certificate for building consent 2011/101 for the reasons provided in its submissions to this determination. Accordingly I reverse the authority's decision, and require the authority to make a new decision taking into account the discussion in this determination.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 15 June 2018.

Katie Gordon
Manager Determinations

Appendix: The legislation

A.1 Relevant provisions of the Building Act 2004

A1.1 The relevant sections of the Act discussed in this determination include:

14F Responsibilities of building consent authority

A building consent authority is responsible for—

- (a) checking, in accordance with the requirements of this Act for each type of building consent, to ensure that—
 - (i) an application for a building consent complies with the building code:
 - (ii) building work has been carried out in accordance with the building consent for that work:
- (b) issuing building consents and certificates in accordance with the requirements of this Act.

94 Matters for consideration by building consent authority in deciding issue of code compliance certificate

- (1) A building consent authority must issue a code compliance certificate if it is satisfied, on reasonable grounds,—
 - (a) that the building work complies with the building consent; and...

95A Refusal to issue code compliance certificate

If a building consent authority refuses to issue a code compliance certificate, the building consent authority must give the applicant written notice of —

- (a) the refusal; and
- (b) the reasons for the refusal.

188 Determination by chief executive

- (1) A determination by the chief executive must—
 - (a) confirm, reverse, or modify the decision or exercise of a power to which it relates; or
 - (b) determine the matter to which it relates.

392 Building consent authority not liable

- (1) No civil proceedings may be brought against a building consent authority for anything done or omitted to be done in good faith in reliance on any of the following documents:
 - (a) an acceptable solution or a verification method:
 - (b) a determination made by the chief executive...