



## Determination 2020/026

### Regarding the compliance of a swimming pool barrier consisting of a pool cover and either of two proposed alarm systems at 2154 State Highway 1, Spring Creek, Blenheim



**Figure 1: Photograph of pool with cover closed**

#### Summary

This determination considers the compliance of a swimming pool barrier consisting of a pool cover and either of two proposed alarm systems. The determination discusses management practices and human behaviour with regard to the Building Code obligations, and considers whether a waiver or modification of the Building Code is appropriate in the circumstances.

## 1. Preliminary

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> (“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 the determination are:
  - the owner of the house, the trustees of the Cherrybank Trust (“the applicant”), who are represented by a lawyer (“the owner’s lawyer”)
  - Marlborough District Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.

<sup>1</sup> The Building Act and Building Code are available at [www.legislation.govt.nz](http://www.legislation.govt.nz). The Building Code is contained in Schedule 1 of the Building Regulations 1992. Compliance and guidance documents issued by the Ministry, as well as past determinations, are available at [www.building.govt.nz](http://www.building.govt.nz)

1.3 The trustees have formed an unincorporated association of interested property owners in the Marlborough District, described as the Marlborough Pool Cover Group or the Marlborough Pool Action Group – in this determination I refer to that group as MPAG. Two members of that group were present at and made an oral submission during a hearing that was held as part of the process for this application.

1.4 In this determination, unless otherwise stated:

- references to “sections” are to sections of the Act and of the Fencing of Swimming Pools Act 1987 (“FOSPA”), and references to “clauses” are to clauses of the Building Code (First Schedule, Building Regulations 1992). Relevant sections of the Act and FOSPA and clauses of the Building Code are provided in Appendix A
- references to “the pool cover” are to the existing pool cover that is compliant with ASTM Standard F1346-91<sup>2</sup>
- references to “the alarm standard” are to ASTM Standard F2208-08<sup>3</sup>. Refer to Appendix B for extracts from the alarm manuals and Appendix C for extracts from the alarm standard.

## **2. The background to the application and the matter to be determined**

2.1 This determination arises because:

- the Ministry previously issued a determination (2018/005)<sup>4</sup> that considered automatic pool covers that comply with ASTM Standard F1346-91 generally (not a specific existing pool and cover) and concluded that pool covers compliant with the ASTM Standard F1346-91 without any other physical barrier to the pool or immediate pool area do not meet the compliance requirements of Clause F9 of the Building Code nor section 162C of the Building Act
- the authority was the applicant for Determination 2018/005 and maintains the views it expressed in its submissions to that determination, i.e. that pool covers compliant with the ASTM Standard F1346-91 without any other physical barrier meet the requirements of Clause F9 of the Building Code and comply to the extent required under section 162C without a waiver or modification; however the authority did not appeal that determination to the District Court as entitled under section 208(1)(a)
- the applicant sought a decision from the authority whether it would accept as compliant the proposal of the applicant’s existing pool and pool cover either as is or with the addition of an alarm system, or if not, that the authority would grant a waiver or modification under section 67A of the Act of section 162C(1) or 162C(2)

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<sup>2</sup> American Society for Testing and Materials (ASTM) International Designation: F1346-91: Standard Performance Specification for Safety Covers and Labelling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs

<sup>3</sup> American Society for Testing and Materials (ASTM) Standard F2208-08: Standard Safety Specification for Residential Pool Alarms

<sup>4</sup> Determination 2018/005 Whether the use of automatic pool covers to swimming pools complies with Clause F9 of the Building Code and satisfies section 162C of the Building Act (21 March 2018)

- despite the authority being of the view that the pool cover achieves the necessary level of compliance, the authority refused to accept the proposal as a compliant solution (see paragraphs 3.3.1, 3.4 and 3.5) and refused to grant a waiver or modification without recourse to a determination.

2.2 The applicant is of the view that:

- the existing cover to the pool complies as a barrier to the pool to the extent required under section 162C of the Act;
- if the cover alone does not comply, then the addition of a pool alarm would mean it complies;
- if the cover and alarm together do not comply, a waiver or modification of section 162C should be granted.

2.3 I note here that a decision by the authority to refuse to grant a waiver or modification under section 67A of the Act, or its refusal to exercise that power of decision, is not a matter for determination under section 177 of the Act. However, under section 188(3)(aa) of the Act, a determination may incorporate a waiver or modification of section 162C(1) or 162C(2) along with any conditions that a territorial authority is able to grant or impose. A waiver or modification of section 162C(1) or 162C(2) may only be incorporated in this determination if I am satisfied that the waiver or modification ‘would not significantly increase danger to children under five years of age’ (section 188(3A)).

2.4 The matter to be determined<sup>5</sup> is therefore:

- whether the existing pool cover without any other physical barrier or alarm system complies as a barrier to the pool to the extent required under section 162C of the Act, and if not
- whether the existing pool cover without any other physical barrier but with the addition of either of the proposed alarm systems complies as a barrier to the pool to the extent required under section 162C of the Act, and if not

2.5 I have also considered the powers available to me under section 188 of the Act to incorporate a waiver or modification of section 162C(1) or 162C(2) in this determination.

2.6 In making my decision I have considered the submissions by the parties and MPAG, including oral submissions made at the hearing on 23 September 2019, and the other evidence in this matter. The views of the parties are summarised in paragraph 4.

### **3. The pool and background**

#### **3.1 The consented pool**

3.1.1 The applicant’s property is located in a rural area. The in-ground swimming pool is located to the north of the house. Doors lead from the house to a covered deck, with a short set of stairs from the deck to a patio, the pool, and the surrounding lawn and extensive gardens (see Figures 1 and 2).

3.1.2 Based on drawings from the 1999 building consent, the pool measures 10m x 4m, and has a maximum depth of 1.5m.

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<sup>5</sup> Under section 177(1)(a) of the Act



**Figure 2: Aerial view showing pool with cover closed**

- 3.1.3 Construction of the pool was consented by the authority on 18 November 1999 (No. 991740) under the Building Act 1991 (“the former Act”). The description of the building work on the consent was ‘Swimming Pool and ‘[proprietary name] Cover’. The plans and specifications did not include a fence around the pool, and an annotation on the drawing noted that the pool was “to be fenced temporarily – pending [proprietary name] cover”.
- 3.1.4 The building consent was issued subject to a number of conditions, including:
- The Fencing of Swimming Pools Act 1987 requires that a complying fence be constructed around the immediate pool area. The fence must be constructed and then inspected by [an authority] Building Control Officer BEFORE the swimming pool is filled. Pool is not to be filled until exemption is granted or a complying fence is installed.
- 3.1.5 In addition, the following annotation is on the building consent drawing:
- Pool is not to be filled until exemption is granted or complying fencing has been installed.
- 3.1.6 It is not clear what the authority meant in respect of an ‘exemption’. The authority does not appear to have granted a waiver or modification under section 34(4) of the former Act to modify Clause F4 Safety from falling of the Building Code<sup>6</sup> or an exemption under section 6 of FOSPA. There has been no information provided to indicate that a complying fence was constructed.
- 3.1.7 The authority issued the code compliance certificate for the construction of the pool on 5 September 2000 (No. 9796).

<sup>6</sup> At the time the consent was issued the relevant clause of the Building Code for pool barriers was Clause F4 Safety from falling. Parts of Clause F4 relating to pool barriers were repealed on 1 January 2017, at which time FOSPA was also repealed and the Act was amended to incorporate special provisions relating to residential pools (sections 162A to 162E).

### **3.2 The 2017 amendments to the Act**

- 3.2.1 Prior to 1 January 2017, the legislation applicable to the safety of residential pools and pool barriers was the Fencing of Swimming Pools Act 1987 (“FOSPA”), which under section 8(1) required compliance with the Building Code. The relevant Building Code clause at the time was Clause F4 Safety from Falling.
- 3.2.2 On 1 January 2017 FOSPA was repealed, and the Building Act was amended to incorporate a set of special provisions for residential pools (sections 162A to 162E), and Clause F9 Means of restricting access to residential pools was inserted into the Building Code. The purpose of the residential pools provisions in the Act is to prevent drowning of or injury to young children by restricting access to residential pools by unsupervised children under five years of age.
- 3.2.3 Section 162C requires residential pools to have physical barriers to restrict access to pools by unsupervised children under five years of age, and sets out the extent to which existing pools must comply. Section 162D requires territorial authorities to carry out inspections at least once every three years to ensure ongoing compliance with the requirements of section 162C.
- 3.2.4 The savings and transitional provisions inserted in the Act are sections 450A and 450B. Section 450A provides for compliance with Clauses 1 to 10 of the Schedule of FOSPA as a means of establishing compliance with section 162C. And for in-ground pools installed before 1 January 2017 such as this one, section 450B provides compliance with section 162C by way of compliance with the Schedule of FOSPA subject to any exemption that was granted under section 6 of FOSPA or Clause 11 of the Schedule of FOSPA and meeting the conditions of any such exemption.

### **3.3 The 2018 failed pool inspection**

- 3.3.1 Sometime in 2018, the authority inspected the pool and reached the conclusion that the pool cover, as a barrier for restricting access to the pool, did not comply with section 162C of the Act. Though I have not seen correspondence relating to that inspection, it appears from later correspondence that the applicant put forward a proposal to add an alarm system in conjunction with the existing pool cover as a means of achieving compliance, with the idea being that the alarm system would be operating when the pool was not under supervision and would sound an alarm if a child was to enter the water.
- 3.3.2 On 1 August 2018, the authority wrote to the applicant advising that it had considered the applicant’s proposal. The authority advised that based on the outcome of Determination 2018/005, which considered compliance of a pool cover, the authority would not grant a waiver or modification in this case and recommended the applicant seek a determination.
- 3.3.3 The Ministry received an application for a determination on 5 October 2018.

### **3.4 The first alarm proposal**

- 3.4.1 The initial application for determination did not specify a particular proprietary pool alarm; rather it included specifications from a number of different products that the applicant proposed to use to construct an alarm system. The applicant proposed the system consist of an ultrasonic or passive infrared motion detector, a timer, limit switches for the pool cover, a warning light and sounder, and a test button.

3.4.2 The applicant stated that ‘a final proprietary system is yet to be developed’ but provided product information or data sheets for individual parts of the proposed system:

- a motion detector, available in wide angle lens, long range lens, or vertical barrier lens
- a beacon/sounder and related electrical components
- a ‘steel door contact’ designed to be linked to an alarm system.

3.4.3 The applicant described the expected functions of the system, including the following:

When the cover is not fully closed, the detector will become active. If there is no movement detected, the alarm will be activated after a pre-set time which is adjustable from zero to five minutes and cannot be accessed by the home owner. It will require either motion or the cover to be fully closed to be deactivated.

3.4.4 On 15 October 2018 the Ministry advised the applicant that there was insufficient information about the proposed alarm system to enable an assessment for compliance to be carried out, which meant the application could not be accepted for processing.

3.4.5 On 24 October 2018 the owner’s lawyer advised they would provide complete specifications for an alarm system.

3.4.6 The owner’s lawyer provided specifications for two alarm systems on 14 June 2019 (“the second alarm proposal”). In this determination I refer to those systems as “System A” and “System B” respectively.

### **3.5 The second alarm proposal**

3.5.1 In a submission dated 5 July 2019, provided to the Ministry on 15 July 2019, the applicant put forward the second alarm proposal, and provided a copy of the product manuals. These specifications were not available to the authority at the time the applicant requested consideration of compliance, however it is these alarm systems that I have considered in regard to the matter to be determined as described in paragraph 2.4.

3.5.2 The manuals for these systems include information that I consider is relevant in terms of their functionality. Appendix B contains extracts from those manuals.

#### **System A**

3.5.3 This alarm system consists of a motion and light detection unit (“the pool unit”) that permanently sits in the pool water and is tethered to the pool side, and an alarm sounder that is installed in the house (“the house unit”) – both units are battery operated.

3.5.4 The pool unit is designed to identify two types of activities – movement of the surface of the pool water and change in light levels (“light detection”). The intention being that the alarm would be triggered by disturbance of the surface of the water if an object weighing 9kg or more falls into the pool<sup>7</sup>, or by a change in light levels such as the cover being lifted. Once the system is triggered by movement of the water or by light detection, it sounds an alarm both at the pool unit and the house unit.

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<sup>7</sup> The manual recommends testing the unit with a 9 litre container into the pool from a 200mm height, and that the sensitivity can be adjusted.

- 3.5.5 The system has three modes of operation and can also be completely turned off at the house unit. The operative modes are: “on” which primes the system to sound an alarm if it detects movement of the surface of the water, “standby” which stops the alarm from sounding when there is movement in the water, such as while the pool is in use, and “on cover” which will sound the alarm when there is a change in light levels such as when the cover has been opened.
- 3.5.6 After being in standby-mode, the system automatically changes back to “on” if the water has been calm for 10 minutes.

### **System B**

- 3.5.7 This alarm system consists of sounder that is installed in the house and an “L” shaped unit that is manually placed on the edge of the pool. I refer to these as “the house unit” and “the pool unit” respectively.
- 3.5.8 The pool unit is manually placed in the pool with the 355mm long leg of the “L” in the water and the other leg secured to the pool coping or decking. The pool unit is designed to identify movement in the upper layer of pool water<sup>8</sup> through the change in water level in the hollow section of the leg of the “L” in the water. The intention is that the alarm in the house unit will sound if the system is triggered by disturbance in the pool water<sup>9</sup>.
- 3.5.9 The pool unit is in constant operation and must be removed when the pool is in use or otherwise likely to be disturbed for example by cleaning. On removal from the pool the unit is drained and stored in a particular position to prevent the alarm sounding unnecessarily. The alarm can be silenced briefly by using a key when the pool unit is being removed from or returned to the pool. The pool unit cannot be returned to the pool until the water is calm, which the manual states will vary but approximately 10 to 30 minutes. If the alarm is triggered it automatically resets after five minutes.
- 3.5.10 The manual does not indicate whether the unit could remain in place when the cover is placed over the pool.

## **4. The submissions**

### **4.1 Record of submissions received**

- 4.1.1 In addition to the submission provided with the application, the owner’s lawyer made written submissions and provided further information on the following dates:
- 8 October 2018: the applicant’s views regarding compliance and describing the component parts of a proposed alarm system (the first alarm proposal).
  - 24 October 2018: a copy of the letter from the authority dated 1 August 2018.
  - 13 February 2019: advising the applicant had not been able to find a person to adequately specify the proposed alarm system.
  - 14 June 2019: advising the applicant wished to proceed with the determination application and detailing the second alarm proposal.

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<sup>8</sup> Between 63mm and 139mm into the water

<sup>9</sup> The manual recommends testing the unit by dropping a 4 gallon jug of water into the pool. The manual does not recommend a height for this test. The manual also states that putting your feet in the pool, splashing with your hands, making waves with a leaf skimmer or dropping something into the pool that “does not have the proper size, weight and volume” will not trigger the alarm.

- 15 July 2019: a synopsis of the applicant's submission on the matter.
  - 23 September 2019: oral submission at the hearing, and provided an aerial image of the property and a copy of ASTM F2208-08.
  - 18 October 2019: supplementary submission.
- 4.1.2 The authority acknowledged the application by providing the completed application form on 8 October 2018, noting that it would attend and present a submission at the hearing if one was held. The authority made submissions on the following dates:
- 30 November 2018: a brief submission setting out the authority's view that the pool cover complies with Clause F9 of the Building Code<sup>10</sup>, or if not then a waiver could be granted based on the evidence of safety achieved by existing pool covers in use within the authority's district.
  - 15 July 2019: a more detailed submission
  - 23 September 2019: tabled a written submission at the hearing and spoke to that submission.
- 4.1.3 Two members of the MPAG made oral submissions during the hearing, which was held on 23 September 2019.
- 4.1.4 A draft determination was issued to the parties on 13 January 2020.
- 4.1.5 The authority responded on 5 February 2020. The authority did not agree with the conclusions in the draft determination, and provided a further submission.
- 4.1.6 The applicant responded on 13 February 2020, noting they did not agree with the conclusions in the draft determination for the reasons set out in previous submissions.
- 4.1.7 I have considered the submissions and information provided by the parties and by MPAG, including those made at the hearing, and I have summarised the key points by topic in the tables below.

**Table 1: The pool cover**

Compliance	
Applicant	<p>Determination 2018/005 accepted that a pool cover is an adequate barrier when closed. In terms of the objective of Clause F9, the only factor preventing the pool cover from achieving compliance is the potential for a supervising person to leave the pool area without closing the cover.</p> <p>That determination compared a pool cover requiring a positive action to reinstate the compliant barrier, with a fenced pool area where no positive action is required to close the gate. However, a supervising person leaving the pool area can leave that area through a gate without first removing children from the pool.</p> <p>The premise in Determination 2018/005 that at a supervising person cannot be relied on to close the pool cover is not rational when that same supervising person is relied on to supervise a child in the pool and to remove the child from the pool area before leaving themselves.</p> <p>The Building Code anticipates the building owner will comply with regard to not placing an object to prevent a self-closing door or gate from closing, or disabling a door alarm; it follows that the expectation a supervising person will be vigilant in shutting the pool cover after use is consistent with these obligations.</p>

<sup>10</sup> With regard to section 162C(2)(b), I have taken references to Clause F9 to also include Clause F4.3.4(f) prior to 1 January 2017



	There are multiple benefits to shutting the cover in addition to safety, such as maintaining water temperature and preventing debris being blown into the pool.
Authority	<p>Determination 2018/005 was incorrectly decided.</p> <p>Pool covers alone<sup>11</sup> without any other physical barrier comply with Clause F9 of the Building Code:</p> <ul style="list-style-type: none"> <li>- satisfy the purpose of barrier requirements for residential pools, namely to prevent injury or death to young children involving residential pools, and</li> <li>- provide the necessary physical barrier that restricts access to the pool, including surrounding or enclosing the pool.</li> </ul> <p>Unlike other barriers such as fences, pool covers isolate the pool water from the pool deck and the surrounding area, and unlike a partially closed gate it is easy to identify if a pool cover has not been fully extended over a pool. Pool covers also hide the water from view – eliminating a natural attraction water poses to many children.</p> <p>In reference to previous determinations that found that pool covers do not comply when they are open, while the pool cover is open the pool is in use and therefore children are under supervision. The responsibility to close a pool cover is no different to a property owner’s responsibility to ensure that pool gates are closed and not temporarily held open and alarm systems are not turned off for convenience.</p> <p>The risk to unsupervised children in the event the pool cover is left open is not dissimilar to other situations involving human intervention or inaction that may arise where a fence or alarmed door form part of the pool barrier, ie. in the event a gate or door is propped open and alarm turned off.</p> <p>The risk pools present to young children cannot be eliminated and there is always a need for supervising persons to remain vigilant to ensure that Clause F9 is complied with – that risk is not increased by the use of pool covers.</p> <p>The other benefits to having a pool cover closed when not in use provide a real incentive – in contrast there are no such additional incentives relating to gates.</p> <p>The risk identified in the draft determination of an absence of a defined immediate pool area in the event the cover is left open only arises to children who are in close proximity to the pool. The area of risk remains the same, and the same risks exist when children are within the fence area as when the swimming pool cover is open.</p>
<b>Statutory interpretation</b>	
Applicant	<p>Drafters of the Building Code and the transitional provisions in the Act have not given any guidance on the status of pool covers on larger pools and there is nothing to suggest that the drafters turned their mind to pool covers generally – this must colour the interpretation of the Act and the [Building] Code. In accordance with the Interpretation Act 1999<sup>12</sup>, the approach should accord with the general intention of the drafter, and the Building Code provides for structures which are safe for use when used appropriately – pool covers meet this requirement.</p> <p>It does not follow that by including specific rules for spa pools the drafter intended to limit the application of the general rules for other pools – the <i>expression unius</i><sup>13</sup> rule should not be applied slavishly.</p> <p>The term “barriers must ... surround the pool” can be read as including a pool cover even though the special rules for small heated pools have been included. In order to interpret Clause F9.3.2 as excluding pool covers for pools other than small heated pools, it is necessary to read in the words “and not otherwise” (or similar) into F9.3.2(b).</p> <p><b>Human behaviour</b></p>

<sup>11</sup> The authority’s submission does not concern a specific proprietary pool cover, but pool covers in general that comply with ASTM Standard F 1346-91.

<sup>12</sup> Section 5 Ascertaining meaning of legislation (1) The meaning of an enactment must be ascertained from its text and in the light of its purpose. (2) The matters that may be considered in ascertaining the meaning of an enactment include the indications provided in the enactment. (3) Examples of those indications are preambles, the analysis, a table of contents, headings to Parts and sections, marginal notes, diagrams, graphics, examples and explanatory material, and the organisation and format of the enactment.

<sup>13</sup> *Expression unius est exclusion alterius*: a principle in statutory construction: when one or more things of a class are expressly mentioned others of the same class are excluded.

	<p>It is inconsistent with the theme of responsibility expressed in section 3 of the Act to ignore owner accountability after construction is complete. Accountability (as expressed in section 3 of the Act) implies an element of regulating behaviour.</p> <p>The regulatory regime is set up for structures to be safe when used appropriately (in particular by adults). To compare, Clause F4 requires the installation of barriers to prevent the risk of a person falling from stairs and injuring themselves. This is only effective if the banister is used appropriately – if a person was to sit on/slide down the barrier, then it would no longer be effective. The Building Code assumes a person to have the sense not to climb onto the barrier and risk a fall, and it assures that children will be supervised once given access to a pool area. Similarly it assumes a supervising person has the sense to close a pool cover when leaving the pool area.</p>
Authority	<p>Traditional barrier solutions (fences and walls) are reflected in the Building Code, but are not always the most appropriate solution. The Building Code should not be read as limiting barriers to a particular solution. Requiring fences to the exclusion of other options does not account for developments in pool safety systems.</p> <p><b>Human behaviour</b></p> <p>There is always a need for management practices to ensure safety around pools, and the purpose of a barrier is to prevent inadvertent access.</p> <p>To rely on a supervisor to remove a ladder from an above ground pool is, in essence, no different than reliance placed on the supervisor to close the pool cover after use.</p>

**Table 2: Data set of existing pools in the Marlborough district**

Applicant	<p>There are more than 200 pools in Marlborough using pool covers.</p> <p>There were eight preventable fatalities involving residential pools in 2018 in New Zealand, and an average of five deaths a year from 2014 to 2018<sup>14</sup>.</p> <p>The absence of preventable fatalities where the pool covers are in use suggests that pool covers are safer than other forms of barriers.</p>
Authority	<p>Site audits have confirmed that proportionately more pool barriers (e.g. traditional fence type) fail to meet compliance requirements because gates were not working, than pool covers not being operational (refer Appendix D for data, I note this data set has only 100 pools with covers). The safety value in fencing the pool area is lost when barriers are not maintained to the required standard.</p> <p>There is no reported incident over the extended period of use of these pool covers of a young child drowning in a residential pool where there is only a pool cover as a barrier.<sup>15]</sup></p>

**Table 3: The alarm system**

Applicant	<p>The proposed alarm system will address the concern of a pool cover potentially being left open.</p> <p>The alarm system is analogous to Clause F9.3.4(a) which requires doors to immediate pool areas to be either self-closing or alarmed and is an adequate substitute to a barrier. The drafter of the Building Code contemplated that an alarm system was sufficient in certain circumstances to raise an alert that the barrier to the pool is breached.</p> <p>With the additional support of an alarm system, the burden of vigilance on a supervising person is equal to, if not less than, that imposed on a person supervising children in a fenced pool area.</p> <p>“The [first alarm proposal] would detect if no one is in the pool vicinity. It is not only triggered to sound when a child falls into the pool. This gives adequate time for response by an adult.”</p> <p>System A engages when the pool water is calm for 10 minutes, and the Building Code assumes that the supervising person will remove children from the pool at the end of the period of supervision.</p>
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<sup>14</sup> Water Safety New Zealand: NZ drowning fatalities 2019 YTD (provisional as at 8 November 2019) accessed on 15 November 2019 at [https://cdn-flightdec.userfirst.co.nz/uploads/sites/watersafety/files/WSNZ\\_YTD\\_Drowning\\_Fatalities\\_08\\_November\\_2019.pdf](https://cdn-flightdec.userfirst.co.nz/uploads/sites/watersafety/files/WSNZ_YTD_Drowning_Fatalities_08_November_2019.pdf)

<sup>15</sup> The submission did not indicate whether this was only in the authority’s district or New Zealand.

	<p>If the pool cover is inadvertently left open, any disturbance of the water will sound the alarm (for either system).</p> <p>The pool alarm system is equivalent to where a child has opened a door not readily opened by children (Clause F9.3.4(a)) and that child may be two or three steps away from the pool. A door alarm indicates a “potential incident” and is one to which people may become habituated, whereas the pool alarm sounds in a genuine emergency.</p>
Authority	<p>A pool cover in conjunction with a pool safety alarm system as proposed by the applicant would satisfy the requirements of the Act and the Building Code.</p> <p>The reliance on the behaviour of the supervising person to ensure the safety of children under the age of five years by never forgetting to close the pool cover, and the ‘positive step’ required to close the pool cover was identified in the first determination (“Determination 2018/005”) as a weakness in the use of pool covers. The proposed alarm system (System A) provides the necessary ‘back up’, ensuring that total reliance is not solely on the supervising person, and the authority is in support of the alarm system as an additional safety measure.</p>

**Table 4: Waiver**

Authority	<p>Section 67A provides for authorities to grant a waiver or modification of section 162C(1) or (2) where it would not significantly increase danger to children under 5 years of age. This power recognises that the Building Code cannot account for all situations, and authorities have the power to exercise discretion on a case-by-case basis.</p> <p>If the pool cover does not comply with the Building Code, then it is the authority’s view that granting a waiver or modification to allow for a pool cover in lieu of fencing is reasonable in the circumstances and is supported by the evidence of safety achieved by these covers.</p> <p>The authority considers there is evidence that the use of pool covers does not increase the danger, rather the danger is reduced.</p> <p>The authority has already granted a number of modifications of Clause F9.3.2(a) allowing pool covers as an alternative barrier to fences (prior to Determination 2018/005 being issued). This reflects the authority’s position that pool covers are a ‘modification’ of the performance requirements, that still meet the functional requirements and objectives of Clause F9.</p> <p>For a number of properties that were issued an exemption under FOSPA, it would be difficult to comply with Clause F9 due to positioning and landscaping around the immediate pool area. The cost would be disproportionate to the cost of a new fence in a new build situation.</p>
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## 5. Discussion

### 5.1 The legislation as it applies to existing pools

- 5.1.1 Section 162C(1) provides every residential pool that is filled or partly filled with water must have “physical barriers” that restrict access to the pool by unsupervised children under 5 years of age.
- 5.1.2 Section 162C(2) provides that the physical barriers restricting access to the pool must comply with the requirements of the Building Code:
- (a) that are in force; or
  - (b) that were in force when the pool was constructed, erected, or installed (after 1 September 1987) and in respect of which a building consent, code compliance certificate or certificate of acceptance was issued (in relation to the means of restricting access to the pool).
- 5.1.3 Given the date of construction of the pool, the transitional and savings provisions in sections 450A and 450B (refer to Appendix A1) are also relevant. These provisions cite the Schedule of FOSPA as a means of establishing compliance with section 162C. However, the schedule is drafted in terms of “fences” and these fences being

a minimum height of 1200mm above ground and/or including walls of buildings; the schedule does not provide for the use of pool covers. Accordingly I consider sections 450A and 450B are not relevant to this discussion.

5.1.4 There are two compliance pathways available to establish compliance of the pool barrier for the purpose of section 162C:

- compliance with Clause F9 of the Building Code as it is currently in force (section 162C(2)(a))
- compliance with Clause F4 of the Building Code as it was in force at the time the pool was consented (section 162C(2)(b)).

5.1.5 While there are some differences in the wording of Performance Clauses F4.3.4(f) and F9.3.1, I am of the view they are equivalent in terms of their criteria being restriction of unsupervised access to the pool or immediate pool area for the purpose of preventing death or injury to young children. Therefore, instead of referring to both code clauses in this discussion I simply refer to compliance with section 162C.

## 5.2 Compliance using the pool cover only

5.2.1 The first question I must consider is whether the existing pool cover, without any other physical barrier and without an alarm system, complies with section 162C of the Act as a physical barrier to the pool.

5.2.2 The question of whether a pool cover that complies with ASTM Standard F1346-91 (“a pool cover”) complies with section 162C without any other physical barrier to the pool or the immediate pool area has been discussed in previous determinations<sup>16</sup>. Those determinations concluded a pool cover without any other physical barrier to the pool or the immediate pool area does not achieve compliance.

5.2.3 For the benefit of the parties I reiterate the following key points reached in the previous determinations:

- A pool cover is a barrier and has the same effect as a pool fence, or door/window in an external wall, but only when the pool cover is closed.<sup>17</sup>
- When a pool cover is opened so that people can use the pool, the requirements of the Building Code are no longer met.<sup>18</sup>
- A person must take active steps to close the pool cover and it must be closed whenever there is no supervising person in the pool area, even if the supervising person only leaves temporarily.<sup>19</sup>
- In contrast, a pool fence that incorporates compliant self-closing gates enables a supervising person to leave the pool area and not have to do anything positive to ensure the barrier is in place because a compliant pool gate will close automatically behind them. Young children cannot then enter (or re-enter) the pool area because compliant gates cannot readily be opened by children under five years of age.<sup>20</sup>
- The requirement for gates that self-close recognises that people are not infallible and the effectiveness of the pool barrier should not be reliant on their behaviour.<sup>21</sup>

<sup>16</sup> Determination 2018/005 Whether the use of automatic pool covers to swimming pools complies with Clause F9 of the Building Code and satisfies section 162C of the Building Act (21 March 2018), Determination 2018/052 Regarding whether an automatic pool cover complies with Building Code Clause F9 (26 October 2018), and Determination 2010/119 The use of a cover as a barrier to a swimming pool (3 December 2010)

<sup>17</sup> 2010/119 [5.2.4] and 2018/052 [5.2.2]

<sup>18</sup> 2010/119 [5.2.4] and 2018/052 [5.2.2]

<sup>19</sup> 2018/005 [5.2.5] and 2018/052 [5.2.4]

<sup>20</sup> 2018/005 [5.2.6] and 2018/052 [5.2.5]

<sup>21</sup> 2018/052 [5.2.4]

- Total reliance on the behaviour of the supervising person to ensure the safety of children under five years of age by never forgetting to close the pool cover is the weakness of the pool cover system that does not exist with a barrier with a gate or door that is opened only briefly to provide access into the immediate pool area and then closes automatically.<sup>22</sup>

5.2.4 I concur with the approach taken in those previous determinations and the points noted above are relevant to this case.

5.2.5 I also consider it is relevant to note that Clause F9 of the Building Code contains a number of provisions that specifically provide for pool covers in respect of small heated pools<sup>23</sup>, see for example, Clauses F9.3.2(b), F9.3.5 and the limits on application provisions for Clauses F9.3.1 and F9.3.2. These provisions suggest that the application of Clause F9 to pool covers for other larger pools such as residential swimming pools should be approached very carefully in the absence of any specific provisions regarding the compliance of pool covers for such larger pools. Before a conclusion is reached that a pool cover for such a larger pool complies with Clause F9 there should be evidence that a pool cover for such a larger pool provides a similar or better level of protection for the safety of children than is provided by the specific provisions of Clause F9 that provide for pool covers for small heated pools.

5.2.6 I have considered the submissions of the parties and MPAG, and I address additional points raised in those submissions below.

***Management practices / human behaviour / human agency***

5.2.7 Various lines of argument have been presented by the parties and MPAG with regard to management practices, particularly as they relate to supervising persons. In summary the views are:

- A supervising person can leave a pool area through a compliant gate without removing children from the pool/pool area; the Building Code relies on the supervising person to supervise children in the immediate pool area and to remove them from that area before leaving themselves, and for this reason the supervising person can also be relied on to close the pool cover.
- The expectation that a supervising person will be vigilant in closing the pool cover is consistent with the expectation that a person will not place an object to prevent a self-closing door or gate from closing or will not disable an alarm.
- There are multiple benefits to shutting the cover in addition to safety, such as maintaining water temperature and preventing debris being blown into the pool that would reinforce the behaviour of closing the pool cover when the pool is not in use.

5.2.8 In a recent district court decision, *Palmerston North City Council v Brian Green Properties (1971) Limited*,<sup>24</sup> Judge Rowe considered human factors and the role of ‘human agency’ in the Building Code (also referred to as human behaviour or management practices in this determination):

[57] The scheme of the Building Act, Building Code and Clause C4.2 itself, are concerned with how a building is designed and constructed to achieve its functional requirements [set out in the Building Code].

<sup>22</sup> 2018/005 [5.2.5]

<sup>23</sup> Defined in section 7 of the Act as “a heated pool (such as a spa pool or a hot tub) that – (a) has a water surface area of 5m<sup>2</sup> or less; and (b) is designed for therapeutic or recreational use”.

<sup>24</sup> [2020] NZDC 1828

[58] It is therefore incorrect to measure the functional and performance requirements of a building against the likelihood of human error. The [Building] code is not concerned with whether persons using a building will act or respond in a particular way, but **whether the building facilitates the functional requirement [set out in the Building Code] [my emphasis]; ...**

- 5.2.9 The Act is concerned with the design and construction of buildings and the Building Code seeks to accomplish the purposes and principles of the Act by setting objectives and prescribing functional requirements and performance criteria with which aspects of buildings such as building elements and materials, spaces and amenities, and building systems must comply. Clause F9<sup>25</sup> is concerned with how pool barriers are designed and constructed to achieve the functional requirement of restricting access by unsupervised children under 5 years of age.
- 5.2.10 The legislation does not manage the actions of the building users – there is nothing in the Act or the Building Code that will ensure a supervising person removes young children from the pool area when they leave or that a person does not carry out an action (such as propping open a gate or disabling an alarm) that would render an otherwise compliant barrier non-compliant. Rather the legislation manages building work to ensure the building does not contribute unnecessarily to risks of people using buildings. One of the purposes of the Act<sup>26</sup> is to ensure that people who use buildings can do so safely, and the mechanism for achieving that purpose is the regulation of building work and setting of performance standards.
- 5.2.11 With regard to pools, this is managed through:
- the provisions of the Act that require all residential pools, including existing pools, have physical barriers to restrict access to the pool by unsupervised young children (section 162C(1)) and the requirement that particular persons, including owners and occupiers of buildings, must ensure compliance (section 162C(4))
  - the requirement that building work must comply with the Building Code (section 17 of the Act), and in relation to pools the building work must comply with Clause F9 to prevent injury or death to young children by providing a physical barrier that meets certain criteria to restrict access to the pool or immediate pool area by unsupervised children under five years of age
  - the requirement that territorial authorities must ensure pool barriers are inspected once every three years to check ongoing compliance of the barrier (section 162D), and provision for authorities to issue notices to fix for pool barriers that do not comply with section 162C.
- 5.2.12 As noted in previous determinations, one of the key features of using a pool cover to restrict access to the pool by unsupervised young children is that its effectiveness relies on human behavior. The use of a solution that must be repeatedly reinstated through the actions of a person to maintain compliance is not consistent with the scheme of the Building Act and Building Code in the regulation of building work.
- 5.2.13 In respect of the need to reinstate the pool cover when the supervising person is no longer in the pool or immediately pool-side, and considering the comments noted above in the *Palmerston North City Council v Brian Green Properties (1971) Limited* decision regarding the role of human behaviour when assessing Building

<sup>25</sup> Likewise Clause F4.3.4(f) prior to 1 January 2017

<sup>26</sup> Section 3 This Act has the following purposes: (a) to provide for the regulation of building work, the establishment of a licensing regime for building practitioners and the setting of performance standards for buildings to ensure that – (i) people who use buildings can do so safely and without endangering their health; ...

Code compliance, I consider it would be inconsistent with the principles on which the Building Code has been drafted to rely on the actions or behaviour or ‘management practices’ of the owner, occupier, or supervising person rather than the features of the building to attain the objectives of the Building Code.

5.2.14 This view is consistent with conclusions reached in previous determinations<sup>27</sup> about other proposed solutions that rely on management practices to reinstate a pool barrier, such as doors opening into an immediate pool area that must be manually bolted on closing. Such management practices have been considered in a number of past determinations, such as Determination 2011/112<sup>28</sup> in which it was stated:

4.4.1 In essence, buildings must comply with the performance criteria in the Building Code in their intended use, and this includes both current and future owners of the property. As a result, management practices cannot be used to achieve compliance (except in limited circumstances dictated by statute), because current owners cannot vouch for the behaviour of future ones.”

5.2.15 That is not to say management practices cannot be relied on for the purpose of keeping young children safe around pools in particular circumstances, such as public swimming pools and other unique environments like early childhood centres. In such circumstances there are a number of legislative and other requirements that rely heavily or solely on management practices. However the provisions of the Act concerning restriction of access by unsupervised young children to pools do not apply to pools other than residential pools and I must take into account the principles in section 4(2) of the Act as they relate to household units and the importance of the Building Code and the need to ensure that household units comply with the Building Code.

***Reliance on supervision obligations is problematic***

5.2.16 In coming to this view I also consider it important to note that in circumstances where there is no other physical barrier restricting access by young children to the pool, there is no defined “immediate pool area”. The risks inherent in this are:

- an adult using the pool may not be aware of a child present on another part of the property, and thus believe there is no risk in leaving the immediate vicinity of the pool (even temporarily) without first replacing the pool cover
- leaving a cover open will mean that a young child present anywhere on the property, which in this case is extensive, may be able to access the pool without supervision and would be at risk of injury or drowning
- there is no defined area in the vicinity of the pool from which a supervising person knowingly leaves or in which a supervising person is knowingly responsible for children present.

5.2.17 In my view this is relevant with regard to section 162C(1) and the functional requirement in Clause F9, ie that of restricting access by unsupervised young children to the pool. Without a defined area in which that supervision need occur, the question of whether a young child is in fact under supervision becomes problematic.

<sup>27</sup> See for example Determination 2015/037 Regarding the compliance of pool barriers for a swimming pool (18 June 2015), Determination 2010/104 Safety barriers to a swimming pool and spa pool (1 November 2010), and Determination 2010/097 Safety barriers to a swimming pool and a spa pool (22 October 2010)

<sup>28</sup> Determination 2011/112 Compliance of a pool barrier with a gate opening inwards to the immediate pool area (22 December 2011)



***Data set of pools in the district and maintenance***

- 5.2.18 The authority has presented data it has collated during inspections of pool barriers in its district over the last three years, and has drawn comparisons between pools with pool covers and pools with other types of barriers.
- 5.2.19 I do not agree with the premise that simply because the data shows there are more instances of failed inspections carried out under section 162D of the Act involving other types barriers than pool covers, that this supports the argument a pool cover as a barrier presents less of a risk, or that this is evidence that pool covers comply with the section 162C.
- 5.2.20 The data the authority is relying on indicates issues around maintenance for all types of barriers, including pool covers, and it is this that is identified during the inspections required under section 162D. The purpose of the obligations under section 162C and of the inspections once every three years (section 162D) is to ensure that barriers that were compliant at the time of construction or installation continue to perform at the standard that applied when installed and approved.
- 5.2.21 The data presented is from the first cycle of inspections under section 162D since the new residential pools provisions came into force in 2017, and the results of the authority's inspections highlight a significant problem with existing barriers, many of which relate to ongoing maintenance that is the responsibility of the owner. While it is expected that the number of issues related to maintenance in second and ongoing inspection cycles for the same properties would be reduced, where there are ongoing issues with non-compliance the authority has enforcement powers available to it to address this.
- 5.2.22 I note also that in the most recent audit, the reasons for some barriers failing an inspection were described as "unsuitable materials" or with "openings exceeding maximum". This may be an indication that either the barriers were not constructed in compliance with the Building Code or have subsequently been altered without approval. Again, it is expected that these non-compliances will be addressed and the second and ongoing cycle of inspections for these properties will not return numbers of failed inspections as high as this first cycle.

***Conclusion on compliance using the pool cover only***

- 5.2.23 In conclusion:
- when a pool cover is opened the requirements of section 162C(1) and Clause F9.3.1 of the Building Code are no longer met
  - a person must take active steps to close the pool cover after using the pool and it must be closed whenever there is no supervising person in the pool area
  - it would be inconsistent with the principles on which the Building Code has been drafted to rely on the actions or behaviour or 'management practices' of the owner, occupier, or supervising person rather than the features of the building to attain the objectives of the Building Code
  - there are inherent risks in having no physical barrier separating the pool or immediate pool area from the rest of the property.
- 5.2.24 I therefore consider the existing pool cover, without any other physical barrier and without an alarm system, does not comply as a barrier to the pool to the extent required under section 162C of the Act.

### 5.3 Compliance of pool cover with the addition of one of two proposed alarm systems

- 5.3.1 Having reached the conclusion that the pool cover without any other physical barrier does not comply with section 162C, I must now consider whether the pool cover would comply with the addition of one of the proposed alarm systems.
- 5.3.2 In order to achieve compliance with section 162C, the addition of the alarm system to the existing pool cover would have to mitigate for the failure of the pool cover to achieve the requirement to “restrict access to the pool by unsupervised children under 5 years of age”.
- 5.3.3 I note the following points about the two systems that I consider are relevant in terms of their function:
- System A when set to detect changes in light is active once the cover is in place, but its effectiveness is limited as it is not intended for use when outside lighting is weak e.g. at dusk or night.
  - System A when set to detect surface water movement activates only after the water has been still for 10 minutes. No warning would be sounded if an unsupervised young child entered the pool during that time.
  - The manual for System B recommends not installing the pool unit for 10 to 30 minutes after the pool is used to avoid false alarms. This means the pool cover would likely be left open and the unit is not in operation until this period has passed and the unit can be installed.
  - System B has similar issues inherent in the use of pool covers as a barrier, with reliance on a supervising person (who may not be an adult) to take an active role and set up the pool unit once everyone is out of the pool and the recommended period of time has passed.
  - The alarm standard requires all such devices to come with a warning that these types of devices are not intended to replace other safety features and that some devices may not detect gradual entry. Refer Appendix C.
- 5.3.4 Both systems (System A set to detect motion) provide warnings only once the child has entered the water, at which point the child is in immediate danger of death or serious injury.
- 5.3.5 The event of a child drowning or suffering serious injury is fast moving, and the settings in the Building Code are designed to manage the risks to young children from residential pools by restricting access to the pool, not mitigating risk (if that is possible) once a child is in the pool.
- 5.3.6 For this reason I cannot accept that either of the alarm systems, i.e. System A (set to detect motion) or System B, in combination with the pool cover is sufficient to achieve compliance with section 162C or Clause F9.3.1.
- 5.3.7 Alarm systems may be useful as an additional or secondary measure to detect unintentional, unsupervised or accidental entry into a pool. However the alarm systems rely on human behaviour in their use and in terms of the proposal to use an alarm in conjunction with a pool cover, in my opinion the alarm systems do not compensate for the matters raised in paragraph 5.2.23 and in previous determinations that have considered the use of pool covers.

5.3.8 I conclude that the addition of either proposed alarm system to the existing pool cover is not adequate to address the risk to young children of the pool cover being left open and the proposal does not comply with section 162C.

## 5.4 Waiver or modification

5.4.1 The applicant is of the view that if the cover in combination with an alarm system does not comply, a waiver or modification of section 162C should be granted. The authority is of the view that a modification to allow the use of the pool cover alone is reasonable in the circumstances and would not increase the danger to young children.

5.4.2 In considering whether to incorporate a waiver or modification of section 162C(1) or 162C(2) in this determination, I must take into account the role that household units play in the lives of the people who use them, the importance of the Building Code as it relates to household units and the need to ensure that household units comply with the Building Code<sup>29</sup>. In this context, I must be satisfied that the use of the pool cover and one or other of the proposed alarm systems in place of a compliant physical barrier to the swimming pool would not significantly increase danger to children under five years of age.

5.4.3 Waivers and modifications have been discussed in a number of previous determinations. Those determinations have set out factors for consideration in granting a waiver<sup>30</sup> and established a waiver or modification may be granted when compelling reasons exist that support the view that a waiver or modification is appropriate, and it is reasonable to do so in the circumstances.

5.4.4 Those previous determinations concerning waivers and modifications have all concerned section 67 of the Act. Section 67A specifically concerns waivers and modifications in respect of residential pools and was added to the Act by the Building (Pools) Amendment Act 2016. The two provisions are different, as section 67 concerns waivers and modifications of the Building Code, and section 67A concerns waivers and modifications of the provisions of the Act, which now set out in the Act the specific requirements that residential pools have a means of restricting access. (Refer Appendix A)

5.4.5 Section 67A includes the express requirement that a waiver or modification may not be granted if it would significantly increase the danger to children under 5 years of age. The emphasis in section 67A is clearly on the effect of the proposed waiver or modification on the level of protection provided for unsupervised children under 5 years of age. In addition, section 67A(2) requires a territorial authority to have regard to all of the relevant circumstances when deciding whether to grant a waiver or modification. In my view, this makes the criteria considered in the previous determinations concerning waivers and modifications under section 67 still relevant to waivers and modifications under section 67A. As can be seen from the criteria noted in the table 1 below, much of the focus of the criteria from the previous determinations is on the effect of the proposed waiver or modification on the level of protection for provided for unsupervised children under 5 years of age.

5.4.6 Determination 2018/005 provided commentary on waivers or modifications for the use of pool covers without any other physical barrier. While that determination did not consider a specific case, I reached the view that in principle a waiver or modification would not be appropriate to allow the use of automatic pool covers in

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<sup>29</sup> Refer section 4 of the Act

<sup>30</sup> See for example Determination 2015/010 Regarding the authority's refusal to grant a modification of Clause C3.4(a) of the Building Code in respect of materials used for internal surface linings at a new school hall (31 March 2015)

place of a compliant physical barrier to a pool where it would be feasible to construct or erect a compliant barrier. I continue to hold that view.

- 5.4.7 I have used the methodology established in previous determinations to assess whether it is reasonable to grant a waiver in this case to allow for the use of the pool cover with the addition of the proposed alarm system:

**Table 5: assessment for a waiver or modification**

<b>Factors</b>	<b>Comment</b>
The extent of the non-compliance with the specific performance clause.	<p>Non-compliance when the pool cover is open.</p> <p>Alarm system does not mitigate danger to unsupervised child when cover is open.</p> <p>Directly related to management practices of the occupants of the property, both now and in the future, whether temporarily, long term or permanently residing.</p>
Possible consequence of the non-compliance with the specific performance clause.	Risk of access by unsupervised young children accessing the pool resulting in possible death or injury.
The availability of other reasonably practicable solutions that would result in the building work fully complying with the Building Code and associated costs.	<p>There are other reasonably practicable solutions that would result in a compliant barrier.</p> <p>There are no apparent constraints that would prevent the installation of a compliant barrier.</p> <p>While there is a cost associated with the installation of a compliant barrier, this does not outweigh the life safety risk.</p>
Any special and unique circumstances of the building work subject to the waiver or modification.	There are no special or unique circumstances in respect of the construction of the pool or its immediate surroundings that would limit the ability to have a compliant barrier or that would mean the non-compliance would not significantly increase the danger to young children.
The extent to which the waiver will still be consistent with the purposes and principles of the Act.	<p>The matter concerns the life safety of children under the age of five, and a waiver would not be consistent with the purposes and principles of the Act.</p> <p>Furthermore the proposal relies on human behaviour, which is inconsistent with the scheme of the Act and Building Code.</p> <p>The proposal does not adequately address the risk to young children.</p>
The extent the waiver complies with the relevant objective and functional requirement of the specific clause of the Building Code.	To waive or modify the performance criteria would not be consistent with the objective of Clause F9.1 or section 162C(1) when compared to the risks associated with a compliant pool barrier with gates or doors that automatically close or doors that have alarms to remind users to close them.

- 5.4.8 I have concluded that the pool cover without any other physical barrier does not comply, and that the addition of the proposed alarm system is not adequate to address the risk to young children of the pool cover being left open. Compelling reasons must exist to support the applicant's view that a waiver or modification is appropriate. I do not believe the reasons provided are compelling.
- 5.4.9 I acknowledge that homeowners often do not want to install a fence around a pool for various reasons; because it negatively impacts the view, or will increase building costs. There is a balancing act inherent in the Building Code between amenity and ensuring the safety of all occupants. Sacrifices are required when a feature that increases risk, such as a swimming pool at a residential property, is incorporated into a building's design.
- 5.4.10 For the reasons set out in the table above, I am not satisfied that the applicant's proposal would not significantly increase danger to children under five years of age. I am of the view a waiver or modification would not be appropriate to allow the use of the pool cover and proposed alarm system in place of a compliant physical barrier to this pool where it is feasible to construct or erect a compliant barrier.

## 6. The decision

- 6.1 In accordance with section 188 of the Building Act 2004, I hereby determine that:
- the existing pool cover without any other physical barrier or alarm system does not comply with section 162C(1) of the Building Act 2004 as a physical barrier to the pool, and
  - the pool cover without any other physical barrier but with the addition of either of the proposed alarm systems does not comply with section 162C(1) of the Building Act 2004 as a physical barrier to the pool.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 2 October 2020.

Katie Gordon  
**Manager Determinations**

## Appendix A: The legislation

### A1 Sections of the Building Act 2004 referred to in this determination

#### **67 Territorial authority may grant building consent subject to waivers or modifications of building code**

- (1) A building consent authority that is a territorial authority may grant an application for a building consent subject to a waiver or modification of the building code.

#### **67A Territorial authority may grant waivers or modifications in relation to means of restricting access to residential pools**

- (1) A territorial authority may grant a waiver or modification of section 162C(1) or (2) (which requires residential pools to have means of restricting access by unsupervised children) if the territorial authority is satisfied that the waiver or modification would not significantly increase danger to children under 5 years of age.
- (2) In deciding whether to grant a waiver or modification under subsection (1), the territorial authority must have regard to all of the relevant circumstances (including the particular characteristics of the pool and the land on which it is situated).

#### **162C Residential pools must have means of restricting access**

- (1) Every residential pool that is filled or partly filled with water must have physical barriers that restrict access to the pool by unsupervised children under 5 years of age.
- (2) The means of restricting access referred to in subsection (1) must comply with the requirements of the building code—
- (a) that are in force; or
  - (b) that were in force when the pool was constructed, erected, or installed (after 1 September 1987) and in respect of which a building consent, code compliance certificate, or certificate of acceptance was issued (in relation to the means of restricting access to the pool).
- (3) In the case of a small heated pool, the means of restricting access referred to in subsection (1) need only restrict access to the pool when the pool is not in use.
- (4) The following persons must ensure compliance with this section:
- (a) the owner of the pool:
  - (b) the pool operator:
  - (c) the owner of the land on which the pool is situated:
  - (d) the occupier of the property in or on which the pool is situated:
  - (e) if the pool is subject to a hire purchase agreement (as that term is defined in the Income Tax Act 2007), the purchaser of the pool:
  - (f) if the pool is on premises that are not subject to a tenancy under the Residential Tenancies Act 1986 but the pool is subject to a lease or is part of premises subject to a lease, the lessee of the pool or the premises.

#### **162D Periodic inspections of residential pools**

- (1) Every territorial authority must ensure that the following residential pools within its jurisdiction are inspected at least once every 3 years, within 6 months before or after the pool's anniversary date, to determine whether the pool has barriers that comply with the requirements of section 162C:
- (a) residential pools other than small heated pools:

- (b) small heated pools that have barriers that are not exempt, in terms of Schedule 1, from the requirement to have a building consent.

...

#### **188 Determination by chief executive**

...

- (3) A determination may incorporate—
  - (a) waivers or modifications of the building code; and
  - (aa) waivers or modifications of section 162C(1) or (2); and
  - (b) conditions that a territorial authority or regional authority, as the case may be, is able to grant or impose.
- (3A) The chief executive must only grant a waiver or modification of section 162C(1) or (2) if the chief executive is satisfied that the waiver or modification would not significantly increase danger to children under 5 years of age.

...

#### **450A Transitional and savings provision for residential pools**

- (1) Fencing of a residential pool in accordance with clauses 1 to 10 of the Schedule of the Fencing of Swimming Pools Act 1987 (as that schedule was in force immediately before 1 January 2017) is an acceptable solution for establishing compliance with the building code for the purpose of section 162C.
- (2) Sections 22(2) and (3), 23, 24, and 25A apply to the acceptable solution in subsection (1) as if it had been issued by the chief executive under section 22(1) of this Act.
- (3) In this section and the Schedule of the Fencing of Swimming Pools Act 1987,—
  - fence** includes any part of a building, and any gate or door, that forms part of a fence
  - fencing** means any barrier or barriers used to enclose a pool (or an immediate pool area) so as to restrict or prevent access to the pool.

#### **450B Savings provision for existing residential pools**

- (1) This section applies to a residential pool that was constructed, erected, or installed before 1 January 2017 (an existing pool).
- (2) An existing pool is deemed to have barriers that comply with section 162C if the barriers—
  - (a) complied with the Schedule of the Fencing of Swimming Pools Act 1987 (as that schedule was in force) immediately before 1 January 2017; and
  - (b) continue to comply with those requirements subject to—
    - (i) any exemption that was granted under section 6 or clause 11 of the Schedule of that Act and that was subsisting immediately before 1 January 2017; and
    - (ii) the conditions of any such exemption.

...

## **A2 Sections of the Fencing of Swimming Pools Act (repealed) referred to in this determination**

### **6 Special exemptions**

- (1) A territorial authority may, by resolution, grant an exemption from some or all of the requirements of this Act in the case of any particular pool where the territorial authority is satisfied, having regard to the particular characteristics of the property and the pool, any other relevant circumstances, and any conditions it imposes under subsection (2), that such an exemption would not significantly increase danger to young children.
- (2) In granting an exemption under subsection (1), the territorial authority may impose such other conditions relating to the property or the pool as are reasonable in the circumstances.
- (3) Any exemption granted or condition imposed under this section may be amended or revoked by a territorial authority, by resolution.

### **Schedule**

#### **Means of compliance for fences under this Act**

##### *Doors in walls of buildings*

- 11 Where any building forms part of a fence and the pool is not contained within the building, any door that gives access to the immediate pool area need not comply with the requirements for gates or doors set out in clauses 8 to 10 to the extent (if any) that the territorial authority is satisfied that such compliance is impossible, unreasonable, or in breach of any other Act, regulation, or bylaw, and the door is fitted with a locking device that, when properly operated, prevents the door from being readily opened by children under the age of 6 years.



## A3 Clauses of the Building Code referred to in this determination

### Clause F4 Safety from falling (revoked 1 January 2017)

#### Objective

**F4.1** The objective of this provision is to safeguard people from injury caused by falling.

#### Functional requirement

**F4.2** *Buildings* shall be constructed to reduce the likelihood of accidental fall

#### Performance

**F4.3.3** Swimming pools having a depth of water exceeding 400 mm, shall have barriers provided

**F4.3.4** Barriers shall:

...

(f) In the case of a swimming pool, restrict the access of children under 6 years of age to the pool or immediate pool area.

**F4.3.5** Barriers to swimming pools shall have in addition to performance F4.3.4:

- (a) All gates and doors fitted with latching devices not readily operated by children, and constructed to automatically close and latch when released from any stationary position 150mm or more from the closed and secured position, but excluding sliding and sliding-folding doors that give access to the immediate pool surround from a building that forms part of the barrier, and
- (b) No permanent objects on the outside of the barrier that could provide a climbing step.

### Clause F9—Means of restricting access to residential pools

#### Objective

**F9.1** The objective of this provision is to prevent injury or death to young children involving residential pools.

#### Functional requirement

**F9.2** Residential pools with a maximum depth of water of 400 mm or more that are filled or partly filled with water must have means of restricting access that prevents unsupervised access by a child under 5 years of age.

#### Performance

**F9.3.1** Residential pools must have or be provided with physical barriers that restrict access to the pool or the immediate pool area by unsupervised young children (ie, under 5 years of age).

**F9.3.2** Barriers must either—

- (a) surround the pool (and may enclose the whole or part of the immediate pool area); or
- (b) in the case of a small heated pool, cover the pool itself.

## Appendix B: Extracts from the alarm manuals

### System A

- The system is tested in accordance with ASTM Standard F2208<sup>31</sup>.
- The system is designed to warn when an object weighing 9 kg or more falls into a pool<sup>32</sup> (designed for pools up to 6m x 12m) and to warn when the cover over a pool is opened based on entry of light into the pool.
- The manual includes the statement required by ASTM F22008, i.e. that the product is not intended as a substitute for other means of safety, ‘such as a lifeguard, parental supervision, fences, gates and so on’.
- The product ‘may not sound a warning in cases of gradual entry into the pool’.
- The operation of the light sensor requires the use of a cover that is lightproof and is not intended for use when outside lighting is weak e.g. at night.
- In order to prevent the alarm system activating while the pool is being used, the alarm system has a “standby” mode – the alarm system will reactivate automatically 10 minutes after the surface of the water is calm.
- The alarm system requires manual activation to detect change in light levels once the cover is on the pool.
- The alarm system is able to be completely shut down.
- The alarm sounds for 3 minutes when activated.
- After the alarm sounds, without manual intervention the alarm system will cease operating (i.e. it will not identify movement or change in light) for 30 minutes, and will reactivate providing no movement is sensed during the last 10 minutes.
- If the pool unit is not horizontal, for example if it is out of the pool or encounters a physical obstruction) it will not operate properly – the home unit will continuously beep until the system is shut down and the pool unit repositioned.

I note that the manual also states the alarm system will not ‘properly activate’ if the pool and house units are too far apart, but there is no information in the manual about maximum distance between the two units.

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<sup>31</sup> American Society for Testing and Materials ASTM International Designation: F 2208 Standard Safety Specification for Residential Pool Alarms. I note here that the current version is F 2208 – 08 (2014), but it is not clear from the manual which version of the standard the product was tested against.

<sup>32</sup> The manual recommends testing the unit with a 9 litre container into the pool from a 200 mm height.

## System B

- The system is tested in accordance with ASTM Standard F2208-2008.
- The pool unit must be removed from the pool when the pool is being used and stored in an “upright position” (illustrated in the manual) away from pool activity, i.e. kept dry.
- The pool unit reactivates when re-installed into the pool.
- The remote receiver will operate up to 200 feet from the pool alarm, but is not designed to work outdoors.
- The manual includes the statement required by ASTM F2208 i.e. that the product is not intended as a substitute for other means of safety, such as ‘adult supervision, lifeguards, fences, gates, pool covers, locks, etc. and some devices may not detect gradual entry.’
- Under the heading “swimming pool safety tips”, amongst other tips such as ‘Supervise children at all times’, it also states:
  - Have your pool area fenced and the gate locked to prevent unauthorized entry to the pool, and install a gate alarm
  - Lock and secure all doors in the house which permit easy access to the pool, and install a door alarm.
- The manual also describes a number of factors that can lead to false alarms, including:
  - Before installing the alarm, after swimming, the pool must be given time to calm. Time will vary (around 10 to 30 minutes) ...
  - Wind may trigger a false alarm if it is strong enough or steady enough that it causes the water in the pool to rock or bounce up and down the pool wall. ... On extremely windy days when the pool water is rocking it is advised to remove the [pool unit] from the pool.

## Appendix C: Extracts from ASTM F2208-08 (reapproved 2014)

### 1. Scope

- 1.1 This safety specification covers safety and performance requirements for pool alarms for residential swimming pools and spas.
- 1.2 This safety specification describes devices intended to improve personal safety and reduce injuries or deaths.
- 1.3 This safety specification covers devices that provide for rapid and automatic detection and alarm in cases of unintentional, unsupervised or accidental entry of a child one year of age or older in the water of swimming pools or spas.
- 1.4 This safety specification is not intended to replace other standard safety requirements that should be in place, that is, adult supervision, fences, gates, locks, and so forth.
- 1.5 This safety specification covers four different types of alarms. [Surface/floating alarms, subsurface alarms, movement detectors (at perimeter or above water surface), and personal immersion alarm.]
- 1.6 The detection criteria for this safety specification is for a child one year of age and older.

...

- 1.8 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

...

### 5. Performance requirements

#### 5.1 General

- 5.1.1 Alarms shall sound both at poolside and inside any adjacent residence or building of occupancy via a remote receiver within 20 s or less ...

...

- 5.1.3 Pool alarms shall have a minimum sound pressure rating of 85 dBA at 10 ft (3.5 m) for 3 min.

...

- 5.1.5 Pool alarms shall automatically reset.

### 8. Instructions

- 8.1 Instructions shall be shipped with each unit and ..., shall address, at minimum:

...

- 8.1.8 *Statement* –“This device is not intended to replace any other safety consideration; that is, adult supervision, lifeguards, fences, gates, pool covers, locks, and so forth, and some devices may not detect gradual entry.

## Appendix D: Data from pool audits

The following information was provided from the authority based on its inspections of existing pools from 1 January 2017 to 2 September 2019:

**Table 6: Audit results 1 January 2017 to 2 September 2019**

	1 January 2017 to December 2017			1 January 2018 to December 2018			1 January 2019 to 2 September 2019		
	No. properties	Failed first audit	%	No. properties	Failed first audit	%	No. properties	Failed first audit	%
Pools with fences	388	158	40.7%	429	229	53.3%**	247	141	57%**
Pools with covers only	41	2*	4.8%	16	2*	12.5%	43	3***	6%
Total	429	161	37.5%	445	231	51.9%**	290	144	50%**

\*In both 2017 and 2018, one owner had failed to close the pool cover and one required maintenance of the cover.

\*\* Includes failures due to there being no backflow device.

\*\*\* One was unable to be closed (broken mechanism), another had become separated at the seams, and the third had a seat constructed below the switch for opening the cover.

**Table 7: Causes of failed audits in pools with fences 1 January 2019 to 2 September 2019**

Cause of failed audit	No. of properties
Gate not self-closing or self- latching	86
Climb points around the barrier	58
Fencing maintenance, unsuitable materials, openings exceeding maximum	70
Doors or windows with unsuitable locks in place	19