



Determination 2009/23

Balcony drainage for a multi-level apartment building at 8 Basque Street, Newton, Auckland



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, John Gardiner, Determinations Manager, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department. The applicants are 9 of the unit owners represented by Body Corporate 185632 Properties Ltd (“the applicant”) acting through a building surveyor (“the applicant’s building surveyor”).

1.2 The other parties are:

- the Auckland City Council (“the authority”) carrying out its duties and functions as a territorial authority or building consent authority
- Mr Koreneff and Mr Martin, the owners of Units 13 and 25 respectively, as parties separate from the group of owners represented by the applicant.

¹ The Building Code and the Building Act 2004 are available from the Department’s website at www.dbh.govt.nz.

- 1.3 I take the matter for determination, in terms of sections 177(a)², to be whether proposed reinstated barriers to balconies on levels 3 to 7 inclusive of a multi-storey apartment building (“the building”) need to incorporate a means of collection and disposal of surface water in order to meet the requirements of the Act.
- 1.4 In making my decision I have considered the submissions of the parties, the report of the independent expert (“the expert”) commissioned by the Department to advise on this dispute, and the other evidence in this matter.

2 The building work

- 2.1 The building work in question concerns the reinstatement of the barriers to the balconies of the building. The balconies are generally curved and in a stack arrangement, one directly above the other. The building itself consists of two main blocks (“the east and west blocks”). The proposed details show barriers constructed in stainless steel and aluminium, with proprietary panel linings, and include stainless steel box gutters set between the edge of the balcony and the barriers that discharge into downpipes through rainwater heads.
- 2.2 The west block contains the following balconies:
- West elevation: 16 balconies, each with an area of 18.4m² (levels 3 to 6).
2 balconies, each with an area of 56.5m² (level 7).
- East elevation: 1 balcony with an area of 3.9m² (level 7).
1 balcony with an area of 5.6m² (level 7).
8 balconies, each with an area of 5.8m² (levels 3 to 6).
1 balcony with an area of 21.8m² (level 7).
- North elevation: 4 balconies, each with an area of 2.6m² (levels 3 to 6).
- 2.3 The east block contains the following balconies:
- North elevation: 8 balconies, each with areas ranging from 18.4 m² to 22.7m² (levels 4 to 7).
- South elevation: 4 balconies, each with an area of 5.8m² (levels 4 to 7).

3 Sequence of events

- 3.1 From the information that I have received, I believe that the building was subject to a building consent in 1997, and that a code compliance certificate was issued on 23 November 1998 for all the apartments, with the exception of two apartments on level 7. I note that the existing balconies are not provided with gutters and downpipes, and any surface water discharge from the balconies simply spills over the balcony’s edge.

² In this determination unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

- 3.2 Following an inspection of the building by the applicant's building surveyor, documents were prepared showing the full extent of the remedial work required to reinstate or repair the existing balcony barriers. I have been informed that, based on these documents, a building consent has been issued by the authority for this remedial work. However, concerns have been raised by some of the owners, who have challenged the requirement shown on the documents that gutters and downpipes be installed.
- 3.3 The applicant's building surveyor prepared a "Report on Balcony Drainage at Basque Street Apartments" dated April 2008. The report described the background relating to the proposed reinstatement and the proposed reconstruction details. In summary, the report also considered:
- the catchment of the balconies
 - the damage resulting from surface water discharge from balcony to balcony
 - the aspects of nuisance and adverse affects in respect of the surface water discharge
 - two relevant earlier determinations, namely 2006/117 and 2003/4, issued respectively by the Department and its precursor, the Building Industry Authority ("the BIA").
- 3.4 The applicant's building surveyor concluded that "the current situation would not comply with the Building Code and that water collection and disposal from the balconies would be required to achieve compliance".
- 3.5 The application for a determination was received by the Department on 2 October 2008.

4 The submissions

- 4.1 The applicant forwarded copies of:
- some preliminary drawings supplied to the authority by the applicant's building surveyor
 - the applicant's building surveyor's report described in paragraph 3.3
 - some of the correspondence with the authority.
- 4.2 The applicant wrote to the Department on 18 November 2008 with information regarding the identity of the various unit owners as far as could be ascertained. The applicant also attached statements from 12 of the unit owners or tenants, which set out their opinions regarding damage, nuisance, and the adverse effects of surface water and liquid discharges off the balconies.
- 4.3 In general terms, the main concerns of these owners centred on the:
- concentration of spillage resulting in a "waterfall effect" that was noisy and which caused damage to outdoor items

- inability of owners to use the balconies to their full potential and the resulting stress
- damage caused to the building elements of the balconies themselves
- effects of discharge from upper to lower balconies as the result of cleaning and other operations.

4.4 The owner of Unit 13 emailed the Department on 11 November 2008 attaching a copy of a report (“the consultants’ report”) also dated 11 November 2008 from a firm of consultants (“the consultants”). The report described the background to the dispute and the building, noting that, in the context of Clause E1.3.1, “[d]amage and nuisance can only occur due to the spillage [from surface water discharge] that may occur from the balcony/balconies onto the balconies below”.

4.5 The consultants’ report described the spillage calculations used in terms of rainfall intensities and the climatic conditions prevailing in Auckland. The “worst scenario” run-off figures for all the balconies, except the stack of west block west elevation balconies topped by the two larger level 7 ones (“the west elevation stack”), were in the vicinity of 0.06 litres per second per metre length of balcony (l/s/m). The run-off figure produced for the west elevation stack was 0.11 l/s/m, which reduced to around 0.06 l/s/m when rainfall from the level 7 balconies was not included.

4.6 The consultants were also of the opinion that:

The balconies have sufficient fall to cause water to run off at an even rate with the wind discharging it as part of the falling rain. Whilst this will intensify the rate of rainfall it will not be such as to cause damage to a balcony below as evidenced by lack of reported damage over the past 10 years.

5 The expert’s report

5.1 As mentioned in paragraph 1.4, I engaged an independent expert, who is a Chartered Professional Engineer, to provide a report regarding the code-compliance of the balconies. The expert also reviewed the submissions provided by the applicant’s building surveyor, (as described in paragraph 3.3), and the consultants’ report (as described in paragraphs 4.4 and 4.5, and produced a report dated 20 November 2008.

5.2 The expert described the configuration of the building and balconies. The expert generally agreed with the quantum calculated by the applicant’s building surveyor and the consultants, but noted that neither person had established a quantum for what constituted a nuisance or what will cause damage.

5.3 The expert also noted:

However, if the 0.06 l/sec/m width is accepted as a reasonable criteria then I would agree with [the consultants] that all the balcony stacks generally meet that figure with the exception of those below [the two larger level 7 balconies to the west elevation stack]. Collection of stormwater from [these two larger level 7 balconies] only would be required.

6 The legislation

6.1 The relevant parts of the Act are:

112 Alterations to existing buildings

- (1) A building consent authority must not grant a building consent for the alteration of an existing building, or part of an existing building, unless the building consent authority is satisfied that, after the alteration, the building will—
- (a) comply, as nearly as is reasonably practicable, with the provisions of the building code that relate to—
 - (i) means of escape from fire; and
 - (ii) access and facilities for persons with disabilities (if this is a requirement in terms of section 118); and
 - (b) continue to comply with the other provisions of the building code to at least the same extent as before the alteration.

6.2 The relevant parts of the Building Code are:

Clause A2—INTERPRETATION

Other property means any land or buildings or part thereof which are—

- (a) Not held under the same allotment; or
- (b) Not held under the same ownership.

Surface water All naturally occurring water, other than sub-surface water, which results from rainfall on the site or water flowing onto the site, including that flowing from a drain, stream, river, lake or sea.

Clause E1—SURFACE WATER

Performance

E1.3.1 Except as otherwise required under the Resource Management Act 1991 for the protection of other property, surface water resulting from a event having a 10% probability of occurring annually and which is collected or concentrated by buildings or siteworks, shall be disposed of in such a way that avoids the likelihood of damage or nuisance to other property.

7 The draft determination

- 7.1 Copies of a draft determination were forwarded to the parties on 14 January 2009.
- 7.2 The draft concluded that surface water collection and disposal was necessary for all balconies over 18m² in plan area. The draft decision was, however, “in order for the building to comply with the provisions of the Clause E1 of the Building Code” and on reflection I realise I had considered the matter as if the building was a new one.
- 7.3 That is not the case here and I need to address the situation before me; namely, an existing building on which it is proposed to replace failed balcony barriers. The building work then at issue here is the barriers, and, as a direct result of their construction, the altered building. My considerations of this are given in paragraph 8.1 below.

- 7.4 Rather than simply leaving matters there, and in the interests of being helpful, there is discussion in paragraph 8.2 below as to what would be the situation if the building was a new one. Comments received on the draft are discussed below as they are relevant to those considerations.
- 7.5 Both the applicant and the authority accepted the draft determination. The applicant's building surveyor, in a letter dated 9 February 2009, indicated its agreement with the draft along with providing some comments and suggestions.
- 7.6 The owner of Unit 13 did not accept the draft determination. In a letter dated 17 January 2009 the consultants, on behalf of this owner, suggested, as the draft particularly noted that flows over a balcony's edge would be concentrated due to inevitable low points, that a site survey establishing the balcony levels be conducted. The letter also suggested an investigation of rainfall records. The consultants carried out the level survey and that is commented on later in paragraph 8.2.11. I consider the gathering of rainfall records is not necessary given that we have the benefit of the knowledge of a number of the owner's actual experiences over the last 10 years.
- 7.7 The consultants forwarded a second comprehensive submission dated 7 February 2009 on behalf of the owner of Unit 13. The submission was set out under the following sub headings:
1. General comments on the draft determination.
 2. Background, analysis and comments on the residents' submissions.
 3. An analysis of the balcony survey.
 4. Discussion on the size of the balconies.
 5. Discussion on the Building Code requirements and interpretations.
 6. The reasons cited for the request for a determination and possible remedies.
 7. The reasons given for the decision in the draft determination and comment.
 8. Conclusion

The consultants concluded that while it would be desirable to have no spillage from balconies, they were of the opinion that the spillage that is occurring up to the rate of 0.06 l/s/m is not causing injury or illness to people, nor damage or nuisance to other property in terms of the Building Code. The consultants reiterated their early view that all that was necessary was to provide gutters to the two larger Level 7 west block balconies.

- 7.8 In an email to the Department dated 10 February 2009, the owner of Unit 25 stated that he did not accept the draft determination and that he endorsed the consultants' submissions.

- 7.9 I have carefully considered the points raised in the applicant's building surveyor's and the consultants' submissions and have amended the determination, or have commented on the matters raised, as I have deemed to be appropriate.

8 Discussion

8.1 The proposed reinstated barriers and the altered building

- 8.1.1 I hold the view expressed in previous determinations that in this situation the Act requires that all new building work comply with the Building Code, subject to any waivers or modifications granted under section 67, and the altered building met the requirements of section 112. These two aspects are discussed below.

The consented work

- 8.1.2 The issue for determination is limited to whether or not surface water collection and disposal is necessary, in other words, to considerations of Clause E1. Accordingly, I have confined myself to that matter and as a result have not turned my mind to whether the proposed barriers:

- are structurally adequate and comply with Clause B1 'Structure,
- are non hazardous in terms of Clause F2 "Hazardous Building Materials'
- are effective in preventing falling and therefore comply with Clause F4 'Safety from Falling'.
- will be durable in meeting all relevant Building Code requirements and therefore comply with Clause B2 'Durability'.

- 8.1.3 The work for which building consent is sought and which must comply with the Building Code is comprised of the barriers and, as submitted for building consent, the gutters and downpipes . In terms of Clause E1.3.1, the building work must be such that, in an event having a 10% probability of occurring annually, any surface water that is "collected or concentrated" by that building work must be "disposed of in a way that avoids the likelihood of damage or nuisance to other property".

- 8.1.4 It is generally accepted by the various experts and consultants that rain water, if not collected and disposed of but allowed to freefall over the balcony edge, will result in flows of the order of 0.06 l/s/m. It is also considered that this flow would, at the very least, be noticeable but there is some doubt as to whether it has reached the threshold for causing a nuisance. That matter is considered further in paragraph 8.2, however, at this juncture I must decide whether rain water shed from the barriers alone will cause a nuisance. Given, in this case, that the barriers represents about 40% of the floor-to-floor height and therefore only receive a corresponding proportion of rain water falling on the building then I am prepared to accept, without further consideration, that surface water shed from the barriers alone will not cause a nuisance if it is not collected and disposed of.

- 8.1.5 The building work as submitted and approved for building consent includes gutters and downpipes for the collection and disposal of surface water that arrives on the balconies. I have not been given sufficient detail, nor have I been asked to check the details here, but as the building consent was granted I assume that the authority has checked that they are properly sized and detailed, including with adequate provision for overflow and maintenance, and considers they comply with Clause E1.
- 8.1.6 I must now, however, consider the situation if the proposed building work did not include the gutters and downpipes but was limited simply to the construction of the barriers themselves. The details submitted show the barriers positioned 100 mm clear of balcony edge and supported by 50 x 50 mm outriggers at 660 mm centres. In this situation, the only impediment to the free flow of surface water over the balcony edge is the outriggers; however, I do not believe these will have a significant effect on the overall flows. In other words, surface water is not collected or concentrated to any significant degree by the barriers. This, with paragraph 8.1.5, leads me to the conclusion that the barriers, without gutters and downpipes, comply with the requirements of Clause E1. I note this would not be the case if other associated construction, such as balcony soffit linings, impinged on the gap between the balcony and the barrier and offered a restriction to the free flow of surface water over the balcony edge.

The altered building

- 8.1.7 I now turn to consideration of the balcony barrier reinstatement as being an alteration to an existing building in terms of section 112. In this instance, and as the building does not come within Schedule 2³ of the Act, there are no issues relating to access and facilities for persons with disabilities. In addition, as the authority has not raised any issue relating to means of escape from fire I have not considered this aspect further. My considerations are therefore confined to whether, after the barrier alteration, the building will continue to comply with the other provisions of the Building Code to at least the same extent as before the alteration. Further, and as noted in paragraph 8.1.2, my considerations are limited to Clause E1.
- 8.1.8 The current barriers allow surface water to free fall over the balcony edge. Clearly, as long as that situation is maintained then the altered building will be no worse than present. This will be the situation where the barriers are installed without gutters and downpipes provided that the barrier's outriggers represent no more of an impediment to free flow than currently exists. I believe this to be the case and therefore consider the barriers without gutters and downpipes meet the requirements of section 112.
- 8.1.9 The installation of gutters and downpipes will represent an improved situation provided they are designed appropriately to ensure not only avoidance of nuisance to other property in the disposal of surface water from an event having a 10% probability of occurring annually, but also that no surface water

³ Schedule 2 'Buildings in respect of which requirements for provisions of access and facilities for persons with disabilities applies'

enters the apartments in an event having a 2% probability of occurring annually. As noted above in 8.1.5, I assume that the authority has checked that this is the case including that the gutters and downpipes have adequate provision for overflow and maintenance. This being so, I consider the barriers with gutters and downpipes meet the requirements of section 112.

Conclusion

- 8.1.10 I conclude that the building work for which building consent is sought and the subsequent altered building comply with the requirements of the Building Act irrespective of whether the gutters and downpipes are installed.
- 8.1.11 It is not for me to decide whether the gutters and downpipes should be installed. That is a decision for the unit owners to make. If the option without gutters and downpipes is chosen, then an application needs to be made to the authority to withdraw the current building consent and an application made for a revised consent based on amended plans and specifications.

8.2 If this was entirely a new building

- 8.2.1 Although paragraph 8.1 resolves the matter for determination, this discussion is provided so as to make use of the unit owners' experience over the past 10 years and to provide some guidance for the design of new buildings with stack balconies.
- 8.2.2 In general terms, there are 3 types of balcony on the building. These are as follows:
- a) The two larger level 7 balconies, with areas of 56.5m².
 - b) Balconies with areas exceeding 18m².
 - c) Balconies with areas of less than 6m².
- 8.2.3 In Determination 2006/117 the expert commissioned by the Department considered that a 0.06 l/s/m flow over a balcony edge would be noticeable, although it might not constitute a nuisance in the context of that determination. In Determination 2003/4, an expert commissioned by the BIA was of the opinion that balconies "with less than 10m² do not require their rainwater runoff to be calculated as this can be considered nominal only". However, in reaching its decision, the BIA accepted that the applicant had not demonstrated that nuisance would not occur without the need to consider the 10m² issue.
- 8.2.4 While the various experts and consultants in this determination have taken different approaches there appears general agreement with the quantum of surface water calculated as being discharged over the balconies if there are no gutters. This is of the order of 0.06 l/s/m except for the west block's western balconies which discharge around 0.11 l/s/m. This figure, however, reduces to around 0.06 l/sec/m per metre length if gutters are provided to the level 7 balconies. An officer of the Department has also carried out some calculations on my behalf and is in broad agreement with these figures.

- 8.2.5 I now need to consider whether these discharges have created a nuisance or caused damage in terms of Clause E1. In so doing, I note that the terms “nuisance” and “damage” are not defined in the Act or in the Building Code.
- 8.2.6 Neither Determination 2003/4, issued by the BIA, nor Determination 2006/117, issued by the Department, analysed the meaning of a “nuisance” in terms of the 1991 and 2004 Building Acts or the Building Code. However paragraph 6.5 of Determination 2003/4 noted:
- The [BIA] agrees with the territorial authority that nuisance must be considered in the broadest sense of the word.
- 8.2.7 In simple terms, the common law definition of nuisance is ‘the substantial interference in the personal use or enjoyment of land’, which in this case relates to the balconies in question.
- 8.2.8 My considerations, as required by Clause E1.3.1, are limited to issues of “surface water” coming from the balconies above. Therefore, the discharge of liquids resulting from balcony cleaning, plant-watering or similar operations, while possibly creating a civil nuisance or damage, cannot be considered as a nuisance or as damage in terms of Clause E1.
- 8.2.9 Unlike the previous determinations relating to surface water discharge from balconies, the current situation relates to a building that has been in use for some 10 years. There is, therefore, practical evidence as to the effect such a discharge has had on the building, and in particular the balconies and adjoining areas, over that period of time.
- 8.2.10 Various unit owners have described the effect of surface water discharge from the balconies, which lack surface water collection, onto their properties. In this respect, I summarised their major concerns in paragraph 4.3 which includes the “waterfall effect” of concentrated surface water arriving on their balconies from higher levels. I note here that discharges from balcony edges will inevitably not be uniform as there will normally be imperfections in the construction of the balconies leading to low points and concentrated flows. Accordingly, any calculated discharge from an upper balcony onto a balcony below would be concentrated in these circumstances.
- 8.2.11 In this regard I note the consultants’ survey of balcony levels included in its submission of 7 February 2009. In my view, that survey demonstrated the existence of such imperfections. I also note that a number of unit owners, in the applicant’s submission received 18 November 2008, mentioned problems with water ponding on their balconies which further indicates that the balconies are less than perfect in providing uniformly sloping surfaces.
- 8.2.12 The consultants contend there would be no issues if gutters were installed on the two larger west elevation level 7 balconies only. It is generally agreed this would have the effect of limiting all balcony discharges to around the 0.06 l/s/m mark. However, in order to decide if flows of this order have caused a nuisance, I have only to look at the experience of the east block which has been subjected to these very flows. Specific advice received in the applicant’s submission of 18 November 2008 from owners of units in the

east block in regards to the effects of surface water discharges from the balconies above stated:

Apartment 16, Level 5

Continual dripping from above has caused damage to:

- Balcony railing resulting in discoloration and rusting
- Dirt accumulation on outside of balcony from runoff
- Mould and moss growth.

Rain cascading down hits the railing at night causing a disturbance

This effect feels like living under a waterfall

Water from above runs and pools on ceiling above and drips down . . .

The lack of guttering restricts our use of our balconies

Living with wet, dripping balconies is very stressful.

Apartment 15, Level 5

Discolouring of inner walls – top of balustrades

Leaving of residue – constant grit

Damage to walls

Water pouring down from above from both rain and cleaning . . .

Damage to furniture and plants on deck

Lack of guttering] has caused immense stress.

Unightly damage to walls and top of balustrades

Apartment 10, Level 4

Water damage to the interior of the balustrades and dirty staining of the exterior

Whenever it rains . . . we suffer a waterfall of dirty water flowing down onto our terrace

8.2.13 Considering this together with the other advice submitted by 12 owners of units in the building, some of who have lived there up to 10 years, I believe there is sufficient information to demonstrate that the flows from upper balconies, calculated to be of the order of 0.06 l/s/m but no doubt increased locally somewhat due to concentrations at low points, substantially interfere with the owners' enjoyment of their property. As such, they can be considered as nuisances in terms of Clause E1.

8.2.14 Accordingly, taking all the relevant factors into account, I am of the opinion that, in the context of the building being a new building a means of collection and disposal of rain water, such as gutters and downpipes, would be needed on all balconies other than those less than 6m² in area in order to prevent nuisance to other property and to comply with Clause E1. In other words, I believe that the balconies described in paragraph 8.2.2a) & b) above would require a means of collection and disposal of rain water to be code compliant. In coming to this conclusion, I am not suggesting that there is some general threshold area for balconies, applicable to all buildings, above which rain water collection is necessary for code compliance; nor that 18m² is the

particular threshold area for balconies on this building. I am merely saying that the balconies on this particular building with areas greater than 18m² have exceeded the threshold area whatever it might be.

- 8.2.15 I do not consider that it is necessary to install a means of collection and disposal to the balconies that are less than 6m² in area. This is in part due to the practicalities of installing a means of collection and disposal on such small balconies and in part due to the derived benefit given that in rainfall events it is likely that the entire balcony, as well as much of the adjoining exterior wall, will be fully involved. Accordingly, and without considering whether the 10m² rule proposed by the expert in Determination 2003/4 or some other figure is correct, I accept that these smaller balconies would not require a means of collection and disposal, such as gutters and downpipes, to comply with Clause E1.

9 The decision

- 9.1 In accordance with section 188 of the Act, and in terms of section 112 of the Act, I determine that a means of surface water collection and disposal is not required to be installed to the proposed reinstated balcony barriers.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 27 March 2009.

John Gardiner
Determinations Manager