Determination 2007/23

Refusal of a code compliance certificate for a garage at 3 Oswald Crescent, Newlands, Wellington

1 The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004[1] ("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 applicant is the owner, Mr Jayasinghe ("the applicant"), and the other party is the Wellington City Council ("the territorial authority").

1.2 This determination arises from the decision of the territorial authority that it was not satisfied that a garage complied with clause E2 "External Moisture" of the Building Code[2] (First Schedule, Building Regulations 1992).

[1] The Building Act 2004 is available from the Department's website at www.dbh.govt.nz.
[2] The Building Code is available from the Department's website at www.dbh.govt.nz.

1.3 The matter to be determined is whether the garage complies with clause E2 of the Building Code.

1.4 In making my decision, I have considered the submissions of the parties and the other evidence in this matter.

1.5 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.

2 The building

2.1 The building work comprises the alteration of a detached single garage into a double garage attached to an existing house on a slightly sloping site. One wall of the double garage is an existing concrete block boundary wall, the other external walls are conventional light timber frame clad with timber weatherboards and a garage door. There is a length of internal wall between the garage and the house, but the garage is otherwise unlined. The existing concrete slab floor of the garage has been extended. The floor of the garage is 50 mm above the level of the drive.

2.2 The only matter raised for determination is the clearance between the concrete drive and the bottom of the timber cladding at each side of the garage door. The clearance varies from approximately 20 mm to approximately 80 mm.

3 Sequence of events

3.1 A building consent was obtained for the work and site inspections undertaken as the work progressed.

3.2 The garage has been built with the concrete floor slab 50mm above the level of the adjacent drive, which is described as being level immediately outside the garage and then sloping down to the road.

3.3 A "Scope of inspection sheet" dated 18 September 2006 was issued by the territorial authority and included the following:

> Ground clearance to front of garage does not comply to E2/AS1 of a min of 100 [mm] around garage…
>
> A determination can be requested by the owner from [the Department] in relation to the ground clearances and compliance with the NZBC E2/AS1 third edition and NZS 3604 1999.

3.4 As there had been no application for a code compliance certificate, the territorial authority was not required to issue a notice to fix under section 164.

3.5 The application for determination was received by the Department on 10 October 2006.

4 The submissions

4.1 In a cover note to the Department dated 2 October 2006, the applicant described the location and construction of the garage and forwarded copies of:

- the plans
- sketches showing the garage slab and driveway levels and a proposed channel
- the territorial authority's inspection sheet.

The owner subsequently submitted information from the builder to the effect that all bottom plates are H3.1 treated timber with a damp proof course (DPC) under, studs attached to blockwork are also H3.1 treated, and all other timber framing is H1.2 treated.

4.2 The applicant also said that the "garage floor has no 100 mm clearance to comply with E2/NS1 [*sic*] but it has 50 mm clearance above the driveway" and that water could not enter the garage front entrance due to the driveway being either level or sloping away towards the kerb.

4.3 Copies of the submissions and other evidence were provided to each of the parties.

4.4 A copy of the draft determination was sent to the parties for comment on 20 December 2006. Both parties accepted the draft without comment. However, because I am aware that there is some general interest in the application of E2/AS1 to unlined garages, I have amended the draft by deleting some unnecessary material and by expanding the discussion of the application of E2/AS1, but without altering the substantive decision.

5. The Building Code

5.1 The relevant provisions of the Building Code Clause B2 "Durability" are:

Provisions	Limits on application
FUNCTIONAL REQUIREMENT	
B2.2 Building materials, components and construction methods shall be sufficiently durable to ensure that the building, without reconstruction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.	

PERFORMANCE	
B2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or: (a) The life of the building, being not less than 50 years, if: (i) Those building elements (including floors, walls, and fixings) provide structural stability to the building . . . (b) 15 years if: (i) Those building elements (including the building envelope . . .) are moderately difficult to access or replace . . .	Performance B2.3.1 applies from the time of issue of the applicable code compliance certificate. Building elements are not required to satisfy a durability performance which exceeds the specified intended life of the building . . .

5.2 The relevant provisions of the Building Code Clause B2 "External Moisture" are:

Provisions	**Limits on application**
FUNCTIONAL REQUIREMENT	
E2.2 Buildings shall be constructed to provide adequate resistance to penetration by, and the accumulation of, moisture from the outside.	Requirement E2.2 shall not apply to buildings in which moisture from outside would result in effects which are no more harmful than those likely to arise indoors during normal use.
PERFORMANCE	
E2.3.2 Roofs and exterior walls shall prevent the penetration of water that could cause undue dampness, or damage to building elements.	

5.3 The relevant paragraphs of Acceptable Solution E2/AS1 are:

1.2.1 Outbuildings

Outbuildings, such as garages and other unlined structures, do not come within the scope of this Acceptable Solution.

COMMENT:

Details contained in this Acceptable Solution can be used for unlined spaces, but the requirements may be in excess of the minimum required by the building code.

This is particularly the case in regard to unlined and uninsulated buildings, where a drained cavity is unlikely to be necessary.

However, care must be taken, as some weathertight details depend on the presence of an internal lining to provide pressure equalisation behind the cladding.

9.1.3.4 Openings to garages

Garage spaces within, or attached to, the building envelope shall have:

a) Openings provided with a 50mm minimum total level change between the interior and exterior paving, and

b) Provision to drain water away from the threshold of the building. . . .

Refer to Figure 65 and Table 18 for overall level change requirements.

Figure 65: Levels and garage openings
Paragraphs 9.1.3 and 9.1.3.4

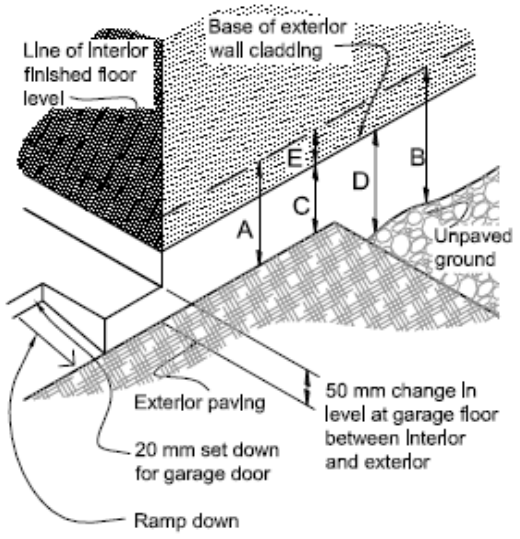

Table 18: Clearances
Paragraphs 9.1.3, 9.1.3.2, 9.1.3.3, 9.1.3.4 and 10.3.5

Minimum clearances (mm)	Masonry veneer		Other claddings				
	A	B	A	B	C	D	E
Concrete slab	100	150	150	225	100	175	50
Timber floor	Refer Note		Refer Note		100	175	50

NOTE: Refer to NZS 3604 for requirements.

For the reasons set out in 6.1.5 and 6.1.6 below, I take paragraph 9.1.3.4 to refer to lined garages but not to unlined garages. For timber weatherboard cladding, Figure 65 and Table 18 require ground clearances of 100mm to paved surfaces.

6. Discussion

6.1 Do clause E2 and the acceptable solution E2/AS1 apply?

6.1.1 As regards the garage as a whole, the limits on application of clause E2.2 provide in effect that if moisture from outside is no more harmful than moisture from inside then clause E2.2 does not apply. The first question is therefore whether moisture from outside will result in dampness or damage to building elements no more

harmful than those likely to arise indoors, specifically from moisture carried in by cars plus rain entering while the garage doors are open.

6.1.2 Obvious examples of buildings to which clause E2.2 does not apply are open barns, and so on. In such cases there is no need for the cladding, if any, to be weathertight. Of course, even if the cladding is not required to be comply with clause E2 it is still required to comply with other clauses, in particular clauses B1 and B2.

6.1.3 I have no specific information about the harm likely to arise from internal moisture in garages. In the absence of such information, I am not willing to assume that clause E2 does not apply. In other words, I take the view that the garage is required to comply with clause E2.

6.1.4 However, that does not mean that E2/AS1 applies, and indeed paragraph 1.2.1 of E2/AS1 excludes "garages and other unlined structures". That can be read as assuming that all garages are unlined, which is clearly not the case. Accordingly, I take the view that it excludes only unlined garages. In other words, that E2/AS1 does not apply to this unlined garage. That does not mean that clause E2 itself does not apply but, as noted in the comment to paragraph 1.2.1 of E2/AS1, the requirements of E2/AS1 may be "in excess of the minimum required by the Building Code" for this garage.

6.1.5 As I understand it, that is because in an unlined garage any moisture that reaches the framing from outside is not likely to cause undue dampness or damage to building elements contrary to clause E2.3.2, because:

(a) A higher level of dampness is acceptable in a garage than in a habitable room.

(b) Framing timbers (with the possible exception of bottom plates) are less likely to be damaged by moisture because they are exposed to the atmosphere and the moisture is likely to dissipate before it can result in any damage.

However, although a lesser degree of weathertightness is acceptable for unlined garages, framing members and claddings must still comply with clauses B1 Structure and B2 Durability.

6.1.6 In this case, even though some of the provisions of E2/AS1 might be in excess of the minimum required, it may still be used as a benchmark or guideline.

6.1.7 In this case, the only requirement of E2/AS1 that needs to be considered is the clearance between the bottom of the cladding and the adjacent ground or paved surface. I consider that the purpose of that clearance is:

(a) To protect the bottom plate against water splashing up behind the cladding, and

(b) To protect both the bottom plate and the cladding itself against moisture in direct contact with the bottom of the cladding, including free water and moisture in any debris that might accumulate.

In this case, the bottom plates are H3.1 treated and are protected by damp proof course against external moisture accumulating on the garage floor. I have no information about the weatherboards, but would expect them also to be H3.1 treated.

6.1.8 The applicant submitted in effect that there was no need to provide the specified clearance to the bottom of the cladding because the slope of the driveway meant that water could not reach the front of the garage, see 4.2 above. I do not accept that submission because the slope of the drive does not affect rain splash and water running off the face of the building, and does not prevent debris from accumulating beneath the cladding, so that it would be unwise to assume that the bottom of the cladding will never be affected by water.

6.1.9 I also note that the clearance between the cladding and the adjacent ground or paved surface is relevant to clause B2 not only to protect against moisture but also to facilitate normal maintenance such as painting.

6.2 Compliance with the Building Code

6.2.1 From the details provided, together with an investigation undertaken by an officer of the Department, I am of the opinion that the garage opening complies with the two requirements of paragraph 9.1.3.4 of E2/AS1. However, I consider that the base of the weatherboard cladding at each side of the opening does not comply with the clearance requirement for lined garages. I recognise that some clearance less than the 100 mm required by E2/AS1 could well provide adequate protection in the case of this unlined garage, but I am not prepared to decide that the current clearances are sufficient to comply with the Building Code.

6.2.2 I therefore conclude that the clearance between the drive and the bottom of the weatherboard cladding on the front of the garage does not comply with the Building Code.

6.3 What is to be done?

6.3.1 It is not for me to decide how building work is to be brought to compliance with the Building Code. That is for the owner to propose and the territorial authority to accept or reject.

6.3.2 The applicant has proposed to install a drainage channel running across the front elevation of the garage, hard up against the garage slab and deep enough to achieve the desired clearances, and discharging through a new drain into the territorial authority's road drainage system. In the absence of proper plans and specifications for such a channel, I observe but do not determine that it could well bring the garage to compliance with the Building Code.

7. The decision

7.1 In accordance with section 188 of the Building Act 2004, I determine that the building work does not comply with clause E2 of the Building Code, and accordingly confirm the territorial authority's decision to that effect.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 23 February 2007.

John Gardiner
Determinations Manager