BUILDING PERFORMANCE

Determination 2023/027

Date: 19 October 2023

The pathway to demonstrate compliance with clause E2 of a proposed direct-fixed plywood cladding system on a building at 13 Pendene Place, Forrest Hill, Auckland

Summary

This determination considers whether the proposed direct-fixed version of a plywood cladding system complies with Building Code Clause E2.3.2, specifically considering the use of BRANZ Appraisal no 765 (2017) as evidence to show compliance. The scope of the appraisal requires a risk score of 0-6, as calculated in acceptable solution E2/AS1, and this determination assesses whether the proposed application falls within those bounds.

In this determination, unless otherwise stated, references to "sections" are to sections of the Building Act 2004 ("the Act") and references to "clauses" are to clauses in Schedule 1 ("the Building Code") of the Building Regulations 1992.

The Act and the Building Code are available at www.legislation.govt.nz. Information about the legislation, as well as past determinations, compliance documents (eg, Acceptable Solutions) and guidance issued by the Ministry, is available at www.building.govt.nz.

1. The matter to be determined

1.1. This is a determination made under due authorisation by me, Andrew Eames, Principal Advisor, Ministry of Business, Innovation and Employment ("the Ministry"), for and on behalf of the Chief Executive of the Ministry.[1]

1.2. The parties to the determination are:

1.2.1. the owners of the building, S Price and H Qu ("the owners").

1.2.2. B Simpson, the licensed building practitioner concerned with the relevant building work, also acting as the agent for the owners ("the designer").

1.2.3. Auckland Council, carrying out its duties as a territorial authority or building consent authority ("the authority").

1.3. This determination arises from the parties' differing views on the risk scores for a building, and the impact this has on the scope of use for the building's proposed cladding system. The proposed system is a proprietary direct-fixed plywood cladding system (the 'proposed cladding'), which is subject to a BRANZ appraisal and has been submitted as complying with Clause E2 External Moisture by way of an alternative solution[2]. The appraisal describes a scope for when it is suitable to use the system. This scope includes a requirement for buildings to have a risk score[3] between 0 and 6, as calculated in acceptable solution E2/AS1[4]. The parties disagree on the risk score, and the correct way to calculate it: the authority considers the score is higher than 6, while the owners consider it is lower.

1.4. The matter to be determined, under section 177(1)(a), is therefore whether the proposed direct-fixed version of a plywood cladding system complies with Building

[1] The Building Act 2004, section 185(1)(a) provides the Chief Executive of the Ministry with the power to make determinations.

[2] An alternative solution is all or part of a building design that demonstrates compliance with the Building Code, but differs completely or partially from the Acceptable Solutions or Verification Methods provided for in s19(1) of the Act.

[3] A score which assesses the weathertightness risk for a proposed building design using a risk matrix based on six key risk criteria or factors. This is further detailed later in the determination.

[4] Ministry of Business, Innovation and Employment. (2019). *Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3 for New Zealand Building Code Clause E2 External Moisture*. Author: Wellington.

Code Clause E2.3.2, specifically when considering the use of BRANZ Appraisal no 765 (2017) as evidence to show compliance.

1.5. In deciding this matter, I must consider the risk score for the building as calculated using acceptable solution E2/AS1.

Matters outside this determination

1.6. The determination is limited to the building's risk score, as it relates to the proposed cladding system's scope of use, as outlined in paragraph 2.1 of BRANZ Appraisal no. 765 (2017).

1.7. The determination does not consider other aspects of the cladding system's proposed compliance pathway. Nor does it consider other means of compliance with Clause E2 External Moisture, for example, an alternative solution where the BRANZ appraisal is not relied on.

2. The building work and background

2.1. The owners' property is in a residential area in Forrest Hill, Auckland. There is an existing two-storey dwelling and garage on the property.

2.2. On 28 June 2019, the designer applied for a building consent (BCO10290811) on the owners' behalf to construct a 66.3m^2 two-storey workshop and office building, as an addition to the existing dwelling ("the workshop addition"). The workshop addition was to be located to the south of the dwelling and connected to the dwelling, at the first floor level, via the existing deck, but was otherwise freestanding.

2.3. The designer provided plans with the building consent application dated 20 June 2019 ("the original plans"). The plans show the workshop addition to be roughly hexagonal in shape, with the ground floor extending beyond the upper or first floor at the "rear" or southern side of the building. Other details shown on the plans are as follows.

2.3.1. All of the elevations contain windows and/or doors.

2.3.2. The south-west, north-west and south-east elevations all have multiple level roofs, with 600mm eaves on the upper first-floor roof, and 450-600mm eaves on the lower ground-floor roofs.

2.3.3. The south-east and south-west elevations have decks that adjoin the existing house deck and are built over the roof of the ground floor of the workshop addition. The decks are built on 190x45mm joists, on top of the 140x45mm roof joist for the ground floor below, with the lower joist having a 40mm fall. The joists were separated by 20mm H3 treated plywood coated with a fibreglass waterproof deck membrane.

2.3.4. The north-east and south-east elevations have a narrow architectural folly ('folly balconies') added to give the appearance of a balcony/extension of the decks. The floor of the folly balcony is also built on cantilevered joists with a graduated 45mm fall, with the balcony formed from 19mm H3 treated plywood coated with a flexible waterproof deck membrane.

2.4. With respect to the external cladding, this was to be a proprietary direct-fix plywood sheet cladding system. The system was subject to a BRANZ appraisal (No. 765 [2017]), representing a technical assessment of its suitability as "an external wall cladding system for residential and light commercial type buildings where domestic construction techniques are used". The appraisal is limited to buildings falling within a particular scope, as set out in paragraph 2.1 of the appraisal, which included buildings "with a risk score of 0-6, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2".

2.5. On the plans, the proposed cladding was stated to comprise 12mm "ultra grooved" plywood, with the cut edges treated with one coat of a timber preservative treatment. Each sheet was to be direct fixed over building wrap to the external wall framing using ''D head 50x2.8 ring shank nails", spaced at 150mm on the sheet edges and 300mm on the intermediate studs. Horizontal joints between plywood sheets would be flashed with proprietary flashings as part of the overall cladding system.

2.6. A further notation on the plans (drawing 1), applies the E2/AS1 risk matrix to give an overall risk score for the workshop addition of 5, calculated as follows.

E2/AS1 Risk Matrix

Wind zone:	Low risk	0
Number of storeys	medium	1
roof / wall intersection design	low risk	0
eaves width	low risk	0
envelope complexity	low risk	0
deck design	high	4
		5 – direct fix

2.7. Based on the risk score, the plans note that the proposed cladding is to be direct fixed.

2.8. Between July and November 2019, the authority issued a number of requests for information regarding the proposed use of the proposed cladding, with the authority holding the view that several elevations required the cladding to be installed over a cavity.

2.9. In particular, the authority considered the designer's risk score calculations needed to be revised to reflect the "very high risk (5)" junction between the walls and lower storey roofs on "multiple elevations", the "medium risk (1)" for the 600mm eaves on a two-storey building, and the need for a gutter on the membrane decks of the

folly balconies. The authority completed its own risk score calculations of the elevations, taking these factors into account and giving three of the four elevations risk scores of 7 and above. Given these revised risk scores, the authority concluded that the external cladding system needed to have a drained cavity, in line with the BRANZ appraisal of the cavity system and E2/AS1, table 3.

2.10. The designer subsequently amended the proposed cladding in accordance with the authority's requests, and revised plans were submitted showing the cladding constructed with a cavity ("the revised plans"). The revised plans were largely the same as the original plans in terms of the workshop addition's overall construction, except now detailed that the external cladding was to be installed over 20x45mm cavity battens, fixed to the wall framing using 40x2.5mm flat head nails at 800mm centres, with the cavity closed at the bottom with stainless steel closures. Cavity drainage channels were also added in places where the first floor wall terminated within the ground floor walls.

2.11. The revised plans were accepted by the authority and a building consent was issued. However, the designer maintained that the proposed cladding, as shown in the original plans (direct fixed without a cavity), would have achieved compliance with the Building Code and that the authority wrongly interpreted the risk matrix in E2/AS1. The designer wanted the matter resolved, to provide clarity for future projects.

2.12. An application for a determination on this issue was made on 12 October 2021.

3. Submissions

The designer

3.1. The designer made a submission, in support of the application for a determination, dated 31 August 2021. The submission requested a determination on whether the authority was correct to demand that the "cladding be fixed over a cavity as opposed to direct fix".

3.2. The designer did not accept the authority's assessment of the risk of score of the building for the following reasons:

3.2.1. The design of the cladding elevations mitigated for higher risk junctions, such as on the north-west elevation where the wall of the upper storey office junctions into the roof of the workshop below. The design was not the same as the examples shown in paragraph 3.4.2 or figure 7 of E2/AS1 (of a moderately complex building, with roof-to-wall intersections), where a cavity is required for the wall below the flashing, not the one above. The designer challenges the authority's decision that the apron flashings at the roof/wall junctions are "very high risk".

3.2.2. The membrane decks on the folly balconies and the new decks are lower risk than described by the authority in its requests for information, as they are not enclosed to the underside and are otherwise sufficiently ventilated. These decks were designed as flat roofs, not decks. Their flashings are positioned in the sheltered area of the overhang. The designer challenges the authority's definition of these features as "enclosed decks".

3.2.3. There is no gutter required for the membrane decks on the folly balconies, as the folly balconies breaks up the wall face and reduces its risk score, is under the top roof line, only discharges rainwater off the wall above it, and discharges onto a pavement and from there onto a permeable surface, so places no burden on the stormwater system.

3.2.4. It is appropriate to use the wall face approach to assessing the external elevations of the building, rather than the overall elevation approach. The authority's approach of assessing the risk of the two-story elevations is not supported by E2 and is challenged.

3.2.5. For these reasons, the E2/AS1 risk matrix scores fall below 7, meaning the proposed direct-fixed plywood cladding can be used.

3.3. The designer did not accept the draft determination issued to parties. They reiterated their submissions regarding the risk associated with the apron flashing junction and that ventilation to the deck substructure means they should not be considered to be enclosed decks.

The authority

3.4. The authority made a submission dated 18 July 2022. It noted that the determination hinged on the risk assessment matrix in E2/AS1 and whether this required the cladding to be installed over a cavity, and that two methods could be used when assessing the matrix:

- the "elevation approach", where each elevation is considered.
- the "wall face approach", where each face on an elevation is considered separately from the other wall faces, even when the faces are within the same elevation.

3.5. The authority stated that the elevation approach was "most common" and referred to the Ministry's guidance on using the risk matrix[5], which notes that the elevation approach works best for simple building designs, and the wall face approach can artificially lower risk score as it does not take into account junctions and corners. The authority then went on to calculate the risk scores for the workshop addition's

[5] Ministry of Business, Innovation and Employment. (2013). *External moisture – a guide to using the risk matrix: A companion guide to Acceptable Solution E2/AS1.*

elevations, using both approaches. The scores under both approaches required the cladding of some elevations or faces to be installed over a cavity and showed some could have cladding direct fixed.

3.6. The authority concluded that the elevation approach is more appropriate for the workshop addition as, and in line with the Ministry's guidance, the building is a "relatively simple design", but that regardless of which approach is taken, the cladding would "still have needed to be installed on a cavity". An entirely face-fixed system would not comply with E2/AS1. If the owners had wanted direct fixing for the elevations where that was possible, the designer should have presented the details for how that was to be achieved.

3.7. The authority accepted the draft determination without further comment.

The owner

3.8. The owner made no specific submissions with regard to the matter to be determined and accepted the draft without further comment.

4. Discussion

4.1. The owners have applied for a determination about the compliance of the proposed cladding, with clause E2.3.2 of the Building Code.

4.2. The pathway for establishing the compliance of the proposed cladding put forward in the building consent is by way of an alternative solution, based on a BRANZ appraisal No. 765 [2017] ("the BRANZ appraisal").

The legislation

4.3. Section 17 states that all building work must comply with the Building Code to the extent required by the Act.

4.4. The clause of the Building Code that is at issue in the current determination is Clause E2 – External moisture, specifically clause E2.3.2, which reads:

> **E2.3.2** Roofs and exterior walls must prevent the penetration of water that could cause undue dampness, damage to building elements, or both.

4.5. The owners are of the view that the proposed cladding complies with clause E2.3.2 as an alternative solution, as demonstrated by the BRANZ appraisal.

4.6. The authority is of the view that the proposed cladding falls outside the scope of the BRANZ appraisal, and hence the appraisal cannot be relied on to demonstrate compliance, and the cladding must be installed over a cavity.

The compliance pathway

4.7. The Building Code is performance based. Compliance with a particular clause of the Building Code can be demonstrated using an Acceptable Solution or Verification Method developed for that clause (where one exists), or by other means (known as an alternative solutions). One way of showing compliance is by proposing an alternative solution that provides evidence specifically about the performance of a particular design or product.

4.8. The proposed cladding is a proprietary product that aims to achieve compliance with the Building Code by way of an alternative solution. This proposed compliance pathway includes the use of the BRANZ appraisal, which outlines the scope for which the product has been tested and appraised as suitable for use.

4.9. Appraisals are technical opinions of a building product or system's fitness for purpose. They involve testing, assessment, and verification of Building Code compliance, and are done by an independent appraisal organisation (not the product's manufacturer or distributor). An appraisal will look at any specific installation systems or processes and will recognise any limitations on a product's intended scope of use. It is important to note that appraisals have no legal standing and do not have to be automatically accepted as evidence of compliance. They can, however, form part of the evidence establishing compliance.

4.10. In the current case, the parties are not disputing the general compliance of the proposed cladding system, provided it is being used within the scope of the appraisal. The dispute arises from whether it is being used within that scope, with differing views on the risk score for the owners' workshop addition.

4.11. Paragraph 2.1 of the appraisal sets out the scope within which the proposed cladding is suitable for use. This includes buildings with a "risk score of 0-6, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2".

4.12. Certain features of claddings on buildings, such as junctions within and penetrations through the claddings, and claddings that have a limited capacity to drain and dry out any water that gets in behind them, are known to increase the likelihood that the cladding will leak. One of the ways that acceptable solution E2/AS1[6] addresses these problems is by assessing the level of risk presented by buildings that are within its scope. Based on the overall risk score, the acceptable solution permits different types of cladding to be used and outlines whether those claddings can be installed direct fixed to the wall framing or if they must be installed over a drained cavity.

4.13. Part 3.0 of E2/AS1 sets out the process used to establish the level of risk that a building or its proposed design represents. In essence, a risk matrix is used to assess

[6] The relevant version of E2/AS1 is the 3rd edition, amendment 9, which was in force at the time the building consent was applied for and granted.

the risk presented by a particular building envelope. Different risk levels are associated with aspects of the building's location, complexity and design features. Risk levels associated with these aspects are aggregated to give an overall risk score, with risk scores calculated for each external face of the building. Claddings can then be selected for each face, or the highest risk score can be used to determine a cladding for all the walls.

4.14. Table 2 of E2/AS1 sets out the risk matrix that is used to define the risk score for buildings that are within the acceptable solution's scope, while Table 1 provides definitions of the risk levels for each risk factor assessed in the matrix. Table 2 is set out in Figure 1 below. See Appendix A for the full text of part 3.0, including figures and tables.

Table 2: Building envelope risk scores
Paragraph 3.1.2, Figure 1

	Risk severity								
Risk factor	**LOW**	**score**	**MEDIUM**	**score**	**HIGH**	**score**	**VERY HIGH (1)**	**score**	**Subtotals for each risk factor**
Wind zone (per NZS 3604)(1)	0		0		1		2		
Number of storeys	0		1		2		4		
Roof/wall intersection design	0		1		3		5		
Eaves width	0		1		2		5		
Envelope complexity	0		1		3		6		
Deck design	0		2		4		6		

(Enter the appropriate risk severity score for each risk factor in the score columns. Transfer these figures across to the right-hand column. Finally, add up the figures in the right-hand column to get the total risk score.)

Total risk score for use in Table 3:

NOTE: (1) For *buildings* in Extra High *wind zones*, refer to Tables 1 and 3 for rigid *underlay* and *drained cavity* requirements.

Figure 1. Table 2, E2/AS1 – building envelope risk score matrix

4.15. It should be noted that the scope for using direct-fixed plywood sheeting as an acceptable solution under E2/AS1 is the same as that in the appraisal, in that, under E2/AS1, direct fixing to framing can be used for buildings or faces of buildings with a risk score between 0 and 6. Those with a risk score of 7 and above must be fixed over a drained cavity (see E2/AS1 Table 3, and paragraphs 3.1 and 9.8).

4.16. The Ministry has issued a guidance document, *External moisture – a guide to using the risk matrix*[7], which explains the risk factors considered when assessing a particular building's design and provides guidance on using the risk matrix in E2/AS1. The guidance also identifies acceptable wall claddings and design requirements. The guidance notes that, by completing the risk scoring in E2/AS1, it can quickly be determined whether a drained cavity is needed with wall claddings,

[7] Ministry of Business, Innovation and Employment. (2013). *External moisture – a guide to using the risk matrix: A companion guide to Acceptable Solution E2/AS1.*

and that the approach in E2/AS1 is based on managing an appropriate balance of deflection, drainage, drying and durability.

The risk matrix applied to the proposed cladding

4.17. The current dispute revolves around the application of the E2/AS1 risk matrix to the proposed cladding. The authority has assessed the proposed cladding and, using the elevation approach to applying the risk matrix, has insisted on the inclusion of a drained cavity. The building consent has been issued on this basis. The designer, maintains that the authority has applied the risk matrix in error, and that by using a wall face approach to applying the risk matrix, a drained cavity is not required.[8]

4.18. The key question is whether by applying the risk matrix in E2/AS1, the risk scores for the external faces of the workshop addition fall between 0 and 6, and therefore whether the proposed cladding system is within the scope of the appraisal.

4.19. Within the E2/AS1 risk matrix, there are six aspects or factors of a building's design that are categorised as being between low and very high-risk severity, with an associated risk score given to each. These are:

- wind zone
- number of storeys
- roof/wall intersection design
- eaves width
- envelope complexity
- deck design.

4.20. Figure 1 sets out the steps to follow for assessing the risk of a building, with step two assessing each external face of the building against the risk factors. Part 3 of the Ministry's guidance[9] on applying the E2/AS1 risk matrix explains that the term "external face" in this context can be taken to mean either each external elevation of the building or each individual wall face within an elevation; with the associated risk assessment approaches known as the elevation approach and the wall face approach, respectively.

4.21. The elevation approach assesses each elevation as a single area, offering a straightforward approach for "uncomplicated" buildings. However, for more complex buildings, the elevation approach can have the drawback of "defaulting to

[8] Both the elevation and wall-face approach to applying the risk matrix in E2/AS1 are explained further in paragraphs 4.21 and 4.22.
[9] Pp 7–15.

the higher risk values", leading to increased costs and "over-design".[10] The wall face approach is more nuanced, breaking out each separate plane in a given elevation into its own face, each of which is assessed separately. This can result in a more precise assessment in certain situations, but also runs the risk of not properly accounting for higher risk junctions and corners, and hence should be treated with caution when assessing a complex elevation design.

4.22. The assessment approach that should be adopted for a particular building is "a question of judgement" based on the complexity of the building's design. While the parties debated the best approach to use, both provided assessments using the wall face approach. This determination also uses this approach as I am of the view that it most accurately identifies the risks of this particular building's design.

4.23. Figures 2-5 on the following pages show the various elevations of the owner's workshop addition, with the individual wall faces of each elevation, and the notation I will use to refer to them. Note that because elevations E and S are at an angle, they appear on two elevations each.

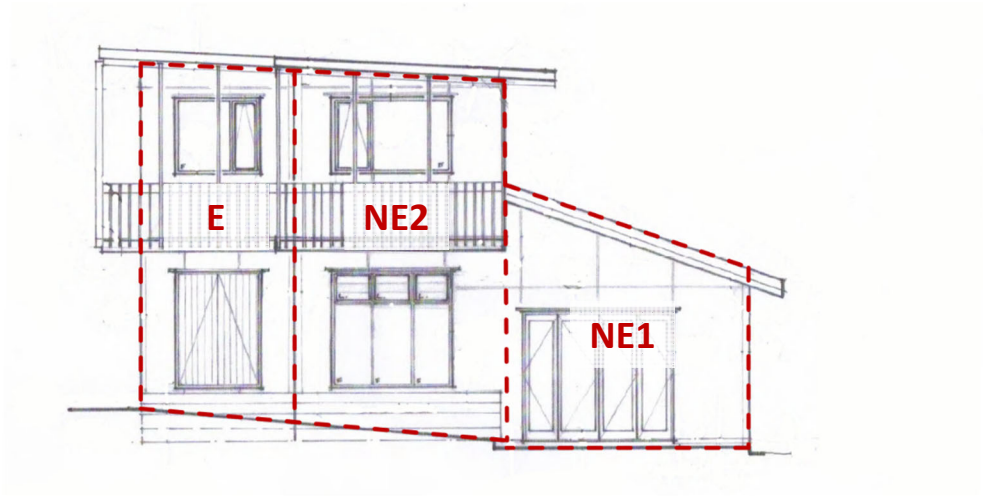

Figure 2. The north-east elevation

[10] Pp 13

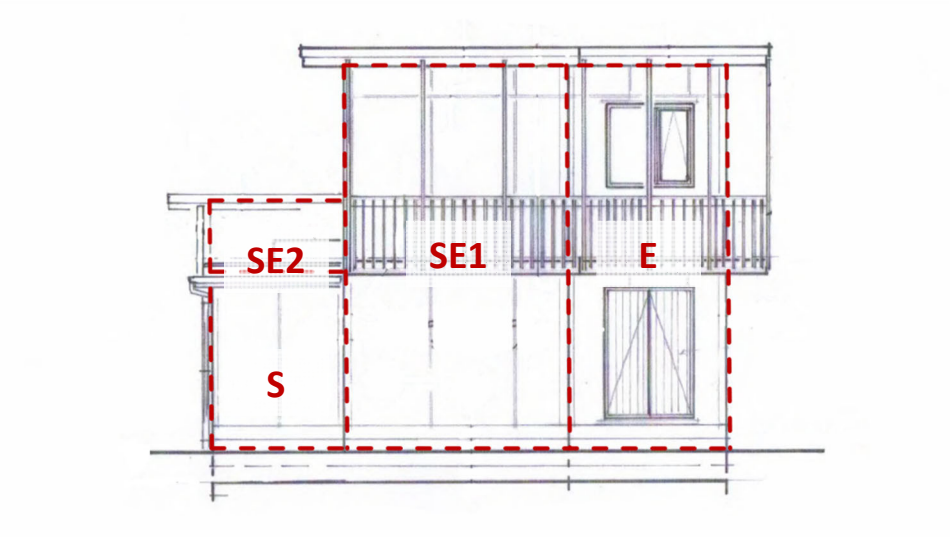

Figure 3. The south-east elevation

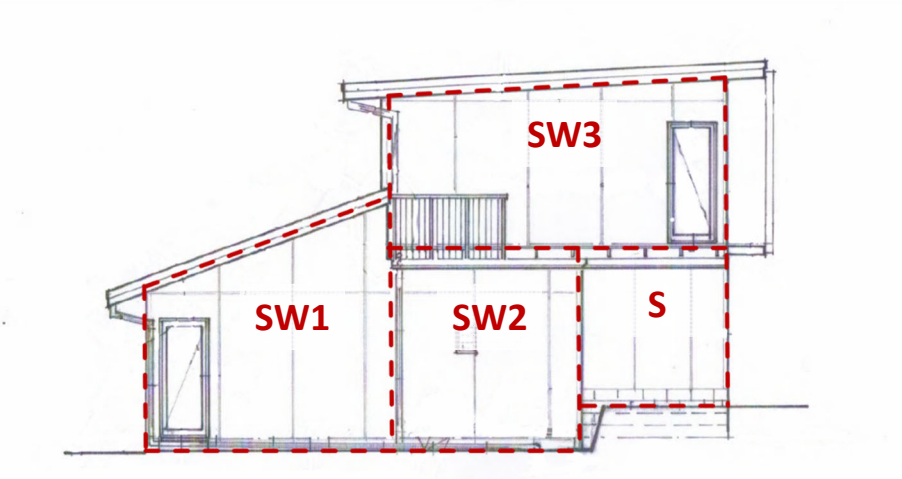

Figure 4. The south-west elevation

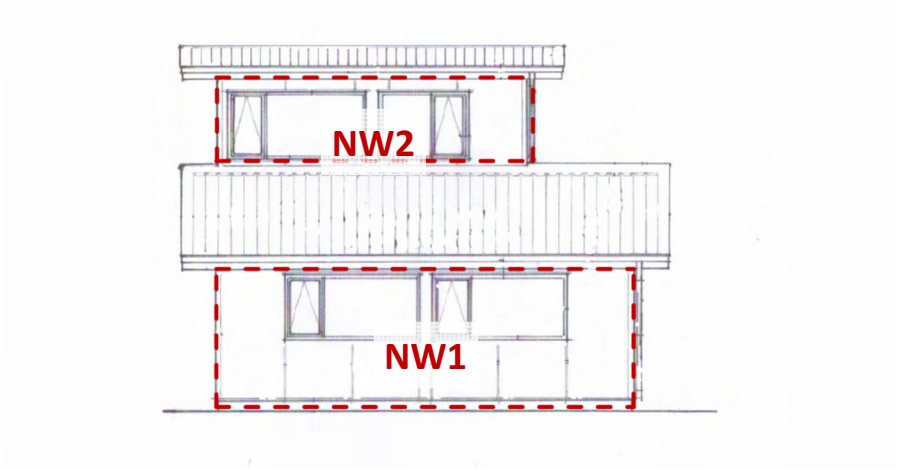

Figure 5. The north-west elevation

4.24. The parties agree over the risk scores that should apply for the building's wind zone, number of stories, and eaves width. The factors that the parties dispute are the levels of risk posed by the roof/wall intersection designs and the deck designs.

4.25. Looking first at the roof/wall intersection design, the Ministry's guidance[11] outlines that very high-risk roof/wall intersection designs include situations where "upper roofs or walls terminate within lower exterior walls or roofs". These elements are very high risk because they require careful design and installation to prevent leaks that could cause failure of the cladding system.

4.26. The design for the workshop addition includes multiple level roofs intersecting with the external walls at several different levels. These types of very high-risk junctions are seen on wall faces SE2, SW3, and NW2.

4.27. With respect to the deck design, the designer submits that the decks included in the building are not enclosed decks, as defined in E2/AS1. This definition is:

> **Enclosed deck** A *deck*, whether over an interior or exterior space, that has an impermeable upper surface and is closed on the underside. May also be known as a balcony.

4.28. The Ministry's guidance notes[12] that there are risks associated with decks as they "have a strong correlation with leaks", and where the underside of the deck is enclosed by a soffit or ceiling lining there are additional risks of moisture accumulating within the deck structure, with any damage being difficult to detect.

4.29. For the owner's workshop addition, there are two aspects of the decks that are in dispute: the first-floor folly balcony on the north-east and south-east elevations of the building, and the first-floor deck to the south-west of the building that connects to the existing deck and residential dwelling.

[11] Pp 18–20.
[12] Pp 30–33.

4.30. I note that while the first-floor folly balcony does not allow for pedestrian access, its construction is still similar to a cantilevered balcony. Accordingly, I am assessing the projection as a deck. The soffit to the underside of this projection is composed of 80mm-wide timber boards, with 5mm gaps to provide ventilation and drainage. The designer submits that these ventilation gaps mean the "bottom side linings are not sealed". While I agree with the designer that the ventilation gaps will assist in drying and draining the projection's substrate and structure, I am of the view that they still enclose the underside of the projection. There are still risks associated with moisture ingress and accumulation, and difficulties in detecting any potential damage in any areas hidden by the lining.

4.31. The first-floor deck to the south-west of the building consists of a removeable slat and joist timber frame sitting over a waterproof membrane deck structure. This deck is situated over the stairwell and hot water cupboard on the ground floor of the building. The deck is enclosed to the underside, with internal ceiling linings supporting internal insulation. The designer submits that the presence of cavity closer vents, located at the verge of the deck, means the deck is not enclosed. I do not agree. While the vents may aid in ventilating the decking substrate, the deck is still enclosed to the underside, and in my view comes within the definition of an enclosed deck.

4.32. Therefore, there are high-risk deck elements present on the following wall faces: NE2, E, SE1, SE2, and SW3.

4.33. While wall faces NE2, E, and SE1 are two storeys in height they have been assessed as having a low risk with regard to the number of storeys. The Ministry's guidance[13] notes that a higher number of storeys means more water will be caught and run over vulnerable junctions on lower levels. However, these wall faces are horizontally split by the folly balcony at the first-floor level. Any water caught by the cladding on the first-floor level is diverted away from the cladding on the ground floor. Therefore, the cladding is functionally one storey in height and a low risk.

4.34. Based on the above assessments of the roof/wall intersections and decks, and the definitions of risk levels given in E2/AS1[14], I consider that the scores for the various risk factors and the overall risk matrix scores for each of the building's wall faces are as shown below.

Wall face	Wind zone	Number of storeys	Roof/wall junctions	Eaves width	Envelope complexity	Decks	Total risk score	Within scope?
NE1	0	0	0	1	0	0	1	Yes
NE2	0	0	0	1	1	4	6	Yes
E	0	0	0	1	1	4	6	Yes

[13] P 17.
[14] Table 1, p 29.

SE1	0	0	0	1	1	4	6	Yes
SE2	0	0	5	2	0	4	11	No
S	0	0	1	2	1	0	4	Yes
SW1	0	0	0	1	0	0	1	Yes
SW2	0	0	1	2	1	0	4	Yes
SW3	0	0	5	1	0	4	10	No
NW1	0	0	0	1	0	0	1	Yes
NW2	0	0	5	1	0	0	6	Yes

4.35. From the risk matrix scores calculated above, it is evident that the proposed cladding was outside the scope of the BRANZ appraisal for wall faces SE2, and SW3.

4.36. I note again that this determination is limited to a consideration of whether the proposed cladding complied with Clause E2.3.2 as an alternative solution specifically based on the scope of BRANZ Appraisal no. 765 (2017). There is nothing to prevent an assessment of the proposed cladding's compliance with E2.3.2 being made, factoring in that the system is being used outside the scope of the appraisal. However, such an assessment has not been made by the parties and is outside the scope of this determination.

5. Decision

5.1. In accordance with section 188 of the Building Act 2004, I determine that the proposed direct fixed plywood cladding system does not comply with Building Code Clause E2.3.2 based on the scope of BRANZ Appraisal no. 765 (2017) with regard to the risk score.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 19 October 2023.

Andrew Eames

Principal Advisor Determinations