

Table 1: Definitions of risk levels
Paragraph 3.1.1, Figure 1

| Risk Factor | Score(5) | Risk severity | Comments |
|-------------------------------|----------|-----------------|---|
| A: Wind zone | 0 | Low risk | Low <i>wind zone</i> as described by NZS 3604 |
| | 0 | Medium risk | Medium <i>wind zone</i> as described by NZS 3604 |
| | 1 | High risk | High <i>wind zone</i> as described by NZS 3604 |
| | 2 | Very high risk | Very High <i>wind zone</i> as described by NZS 3604 |
| | | Extra high risk | Extra High <i>wind zone</i> as described in NZS 3604(4) |
| B: Number of storeys | 0 | Low risk | One <i>storey</i> |
| | 1 | Medium risk | Two <i>storeys</i> in part |
| | 2 | High risk | Two <i>storeys</i> |
| | 4 | Very high risk | More than two <i>storeys</i> |
| C: Roof/wall junctions | 0 | Low risk | Roof-to-wall intersection fully protected (e.g. hip and gable roof with <i>eaves</i>) |
| | 1 | Medium risk | Roof-to-wall intersection partly exposed (e.g. hip and gable roof with no <i>eaves</i>) |
| | 3 | High risk | Roof-to-wall intersection fully exposed (e.g. <i>parapets</i> , <i>enclosed balustrades</i> or <i>eaves</i> at greater than 90° to vertical with soffit <i>lining</i>) |
| | 5 | Very high risk | Roof elements finishing within the boundaries formed by the exterior walls (e.g. lower ends of aprons, <i>chimneys</i> , <i>dormers</i> etc) |
| D: Eaves width (1)(2) | 0 | Low risk | Greater than 600 mm for single storey |
| | 1 | Medium risk | 451–600 mm for single storey, or over 600 mm for two storey |
| | 2 | High risk | 101–450 mm for single storey, or 451–600 mm for two storey, or greater than 600 mm above two storey |
| | 5 | Very high risk | 0–100 mm for single storey, or 0–450 mm for two storey, or less than 600 mm above two storey |
| E: Envelope complexity | 0 | Low risk | Simple rectangular, L, T or boomerang shape, with single <i>cladding</i> type |
| | 1 | Medium risk | Moderately complex, angular or curved shapes (e.g. Y or arrowhead) with no more than two <i>cladding</i> types |
| | 3 | High risk | Complex, angular or curved shapes (e.g. Y or arrowhead) with multiple <i>cladding</i> types |
| | 6 | Very high risk | As for High risk, but with junctions not covered in C or F of this table (e.g. box windows, pergolas, multi-storey re-entrant shapes etc) |
| F: Decks(3) | 0 | Low risk | None, timber slat <i>deck</i> or porch at ground floor level |
| | 2 | Medium risk | Fully covered in plan by <i>roof</i> , or timber slat <i>deck</i> attached at first or second floor level |
| | 4 | High risk | <i>Enclosed deck</i> exposed in plan or cantilevered at first floor level |
| | 6 | Very high risk | <i>Enclosed deck</i> exposed in plan or cantilevered at second floor level or above |

NOTES:

(1) *Eaves* width measured horizontally from external face of *wall cladding* to outer edge of overhang, including fascias and external gutters/spoutings.

(2) *Balustrades* and *parapets* count as 0 mm *eaves*.

(3) The term *deck* includes balconies, as described in the Definitions.

(4) For *buildings* in Extra High *wind zones*, refer to Table 3 for rigid *underlay* and *drained cavity* requirements

(5) Refer also to Table 2.

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Aug 2011**Table 2: Building envelope risk score**
Paragraph 3.1.2, Figure 1Amend 5
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| Risk factor | Risk severity | | | | | | Subtotals for each risk factor |
|--|---------------|-------|--------|-------|------|---|--------------------------------|
| | LOW | score | MEDIUM | score | HIGH | score | |
| Wind zone (per NZS 3604)(1) | 0 | | 0 | | 1 | 2 | 2 |
| Number of storeys | 0 | 0 | 1 | | 2 | 4 | 0 |
| Roof/wall intersection design | 0 | 0 | | | 3 | 3 | 3 |
| Eaves width | 0 | 0 | | | 2 | 5 | 5 |
| Envelope complexity | 0 | 0 | 1 | | 3 | 6 | 0 |
| Deck design | 0 | | 2 | | 4 | 6 | 0 |
| (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: | 10 |

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

Very High wind zone.

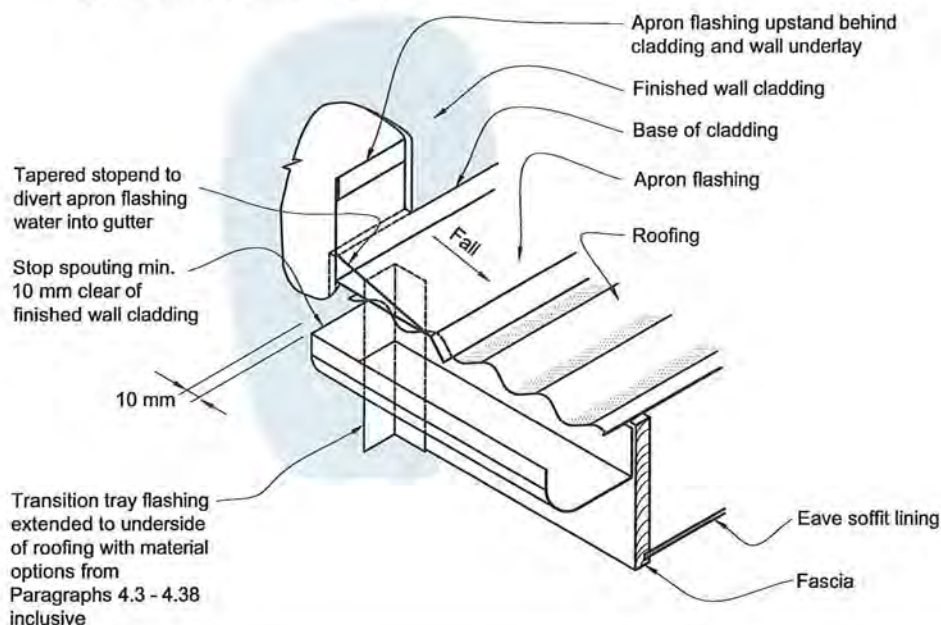
Table 3: Suitable wall claddings

Paragraphs 3.1.2, 7.4, 9.1.1, 9.1.7.2, 9.4.1.2, 9.4.1.3, 9.6, 9.6.1, Figure 1

| Risk Score from Table 2 | Suitable wall claddings(1) | |
|--|--|--|
| | Direct fixed to framing | Over nominal 20 mm drained cavity |
| | | <i>Claddings on parapets, enclosed balustrades, and in Extra High wind zones shall be installed over drained cavities.(5)(6)</i> |
| 0 – 6 | a) Timber weatherboards – all types b) Fibre cement weatherboards c) Vertical profiled metal – corrugated and symmetrical <i>trapezoidal</i> (3) d) Fibre cement sheet(4) (Jointed finish) e) Plywood sheet | a) <i>Masonry veneer</i> (2) b) <i>Stucco</i> c) Horizontal profiled metal(3) – corrugated and <i>trapezoidal</i> only d) Fibre cement – <i>flush-finished</i> e) <i>EIFS</i> |
| 7 – 12 | a) Bevel-back timber weatherboards b) Vertical timber board and batten c) Vertical profiled metal – corrugated only(3)(6) | a) <i>Masonry veneer</i> (2) b) <i>Stucco</i> c) Horizontal profiled metal – corrugated and <i>trapezoidal</i> only d) Rusticated weatherboards e) Fibre cement weatherboard f) Fibre cement sheet – flush and jointed finish g) Plywood sheet h) <i>EIFS</i> |
| 13 – 20 | a) Vertical profiled metal – corrugated only(3)(6) | a) <i>Masonry veneer</i> (2) b) <i>Stucco</i> c) Horizontal profiled metal – corrugated and <i>trapezoidal</i> only d) Rusticated weatherboards e) Fibre cement weatherboards f) Fibre cement sheet – flush and jointed finish g) Plywood sheet h) <i>EIFS</i> i) Bevel-back weatherboards |
| Over 20 | a) Redesign the <i>building</i> to achieve a lower score, or b) <i>Specific design</i> <ul style="list-style-type: none">– The design may need changing to reduce the risk– The <i>building consent authority</i> may require more comprehensive details and documentation providing evidence of <i>weathertightness</i>– The <i>building consent authority</i>, designer or <i>owner</i> may require more inspections– A third party audit of the design may be required. | |
| NOTES: (1) The wall claddings in this table are limited to those covered in this Acceptable Solution. (2) Traditional <i>masonry veneer</i> as per SNZ HB 4236, with minimum 40 mm cavity. (3) Refer Figure 38 for profiles. (4) Except <i>stucco</i> over a fibre cement backing. (5) <i>Claddings</i> in Extra High <i>wind zones</i> require rigid <i>underlays</i> – refer to Paragraph 9.1.7.2 (6) Direct fix vertical corrugated steel is included as cavity construction. | | |

Figure 8B: Gutter/wall junction
Paragraphs 5.1 and 5.2

- NOTE: (1) The upstand at the lower edge of the *apron flashing* may be preformed to a larger size and then trimmed on site to suit.
(2) The *transition flashing* bridges gap at the end of the fascia to protect the soffit framing.
(3) *Wall underlay* omitted for clarity.



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5.2 Gutters, barges and fascias

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Where *eaves gutters/spoutings, barges or fascias* terminate against *claddings*, these shall be installed after the wall *cladding*, and after any protective finishes have been applied.

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Eaves gutters/spouting, barges and fascias shall terminate so as to leave a gap of 10 mm from the finished *wall cladding* as shown in Figure 8B.

COMMENT:

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It is important to ensure the *wall cladding* behind *eaves gutters/spoutings, barges and fascias* is protected by the surface coating to prevent moisture penetration through the unsealed *cladding*.

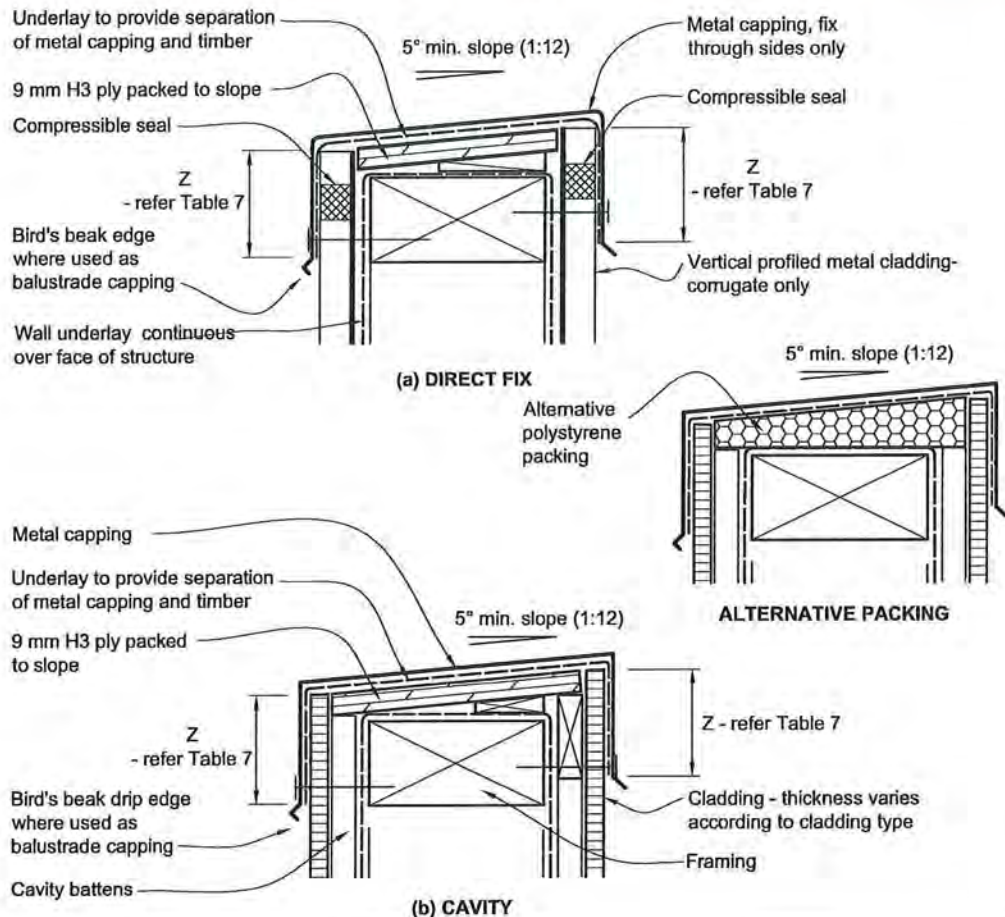
5.3 Soffits

Eaves shall be enclosed by installing soffit *linings* direct fixed to *framing* and comprising minimum 4.5 mm fibre cement sheet, or 7 mm H3 plywood, with joints, fixings and finishes as shown in Paragraphs 9.7 and 9.8. Soffit *linings* shall be finished to fascias, barges and *wall claddings* as outlined in Figure 8A generally, or Figure 114 for *flush finished* fibre cement. *Wall underlays* shall not be required behind soffit *linings*.

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Figure 10: General construction of parapet and enclosed balustrade
Paragraph 6.0, 6.2, 6.4, 7.4, 9.7.7 L, Figures 12, 13, 117, 126 and 130

NOTE: Capping joints and fixings - refer Paragraph 4.5.2 and Figure 9



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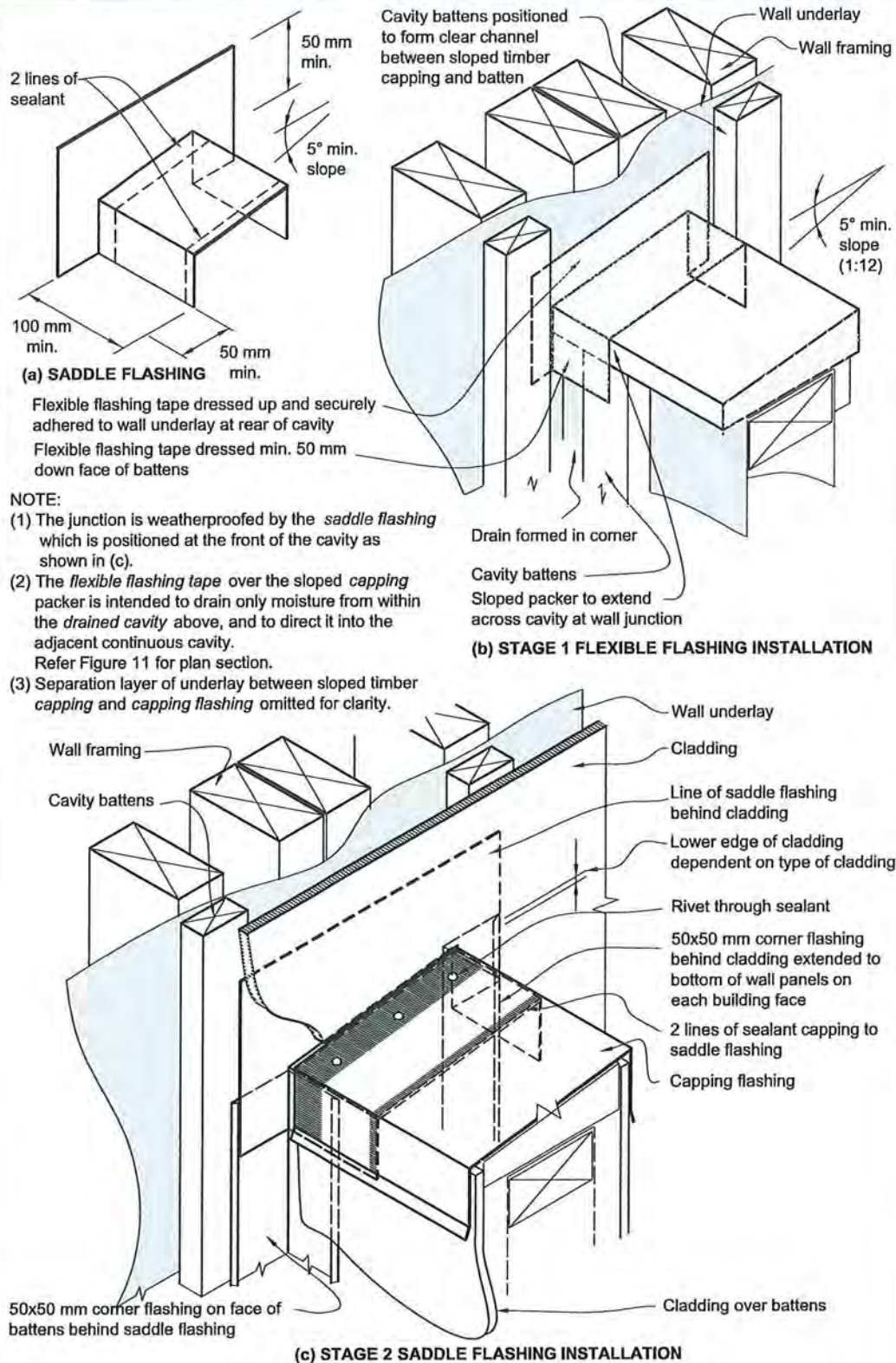
6.4 Metal cappings

Metal *cappings* installed over *parapets* and *enclosed balustrades*, shall be as outlined in Paragraphs 6.0 and 7.4, and comply with the following requirements:

- Tops of *cappings* shall be free of any penetrations,
- Slope of top shall be 5° (1:12) minimum,
- The cover at the sides of the *capping* shall be in accordance with Table 7,
- All *cappings* shall have *drip edges*. The details shown in Figure 5 are acceptable minimum *drip edges* for *parapets*,
- Cappings* shall be separated from underlying timber by *roof underlay* as shown in Figure 10,
- Lengths of *capping* shall be joined as shown in Figure 9 (b) or Figure 9 (d),
- External corners of *cappings* shall be as shown in Figure 9 (e),
- Expansion joints* shall be provided for joined *cappings* with a combined length exceeding:

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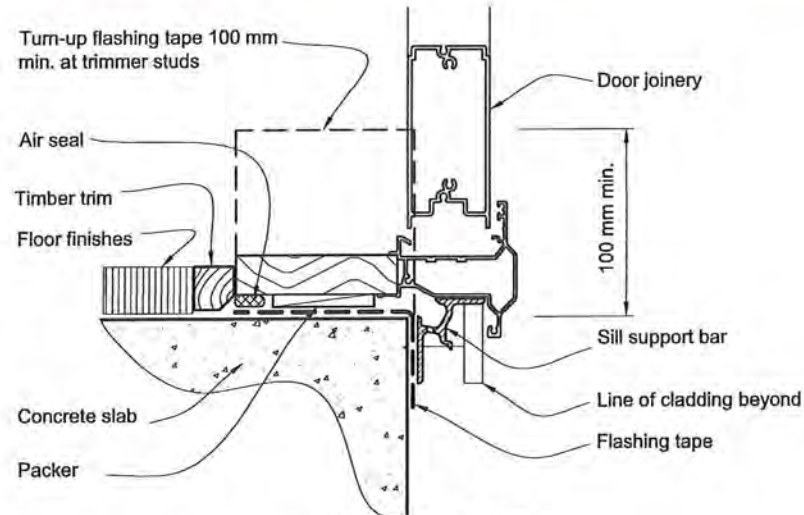
Figure 12: General junction of parapet and enclosed balustrade to wall
Paragraphs 6.4.1, 7.4.2, 7.4.4.1, 7.4.4.2 and 9.9.10.1, Figures 10, 12, 117, 129 and 130



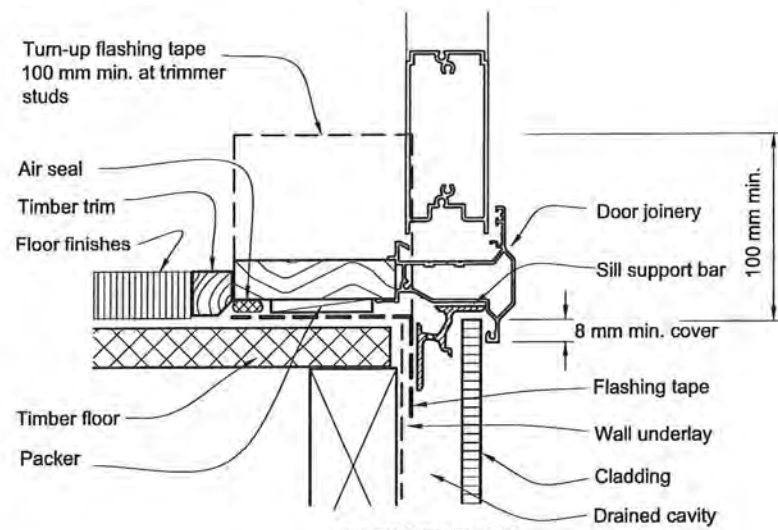
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Figure 17C: Door sills for cavity construction
Paragraph 9.1, 10.5, Figures 73C, 85, 86, 91, 99, 116 and 126



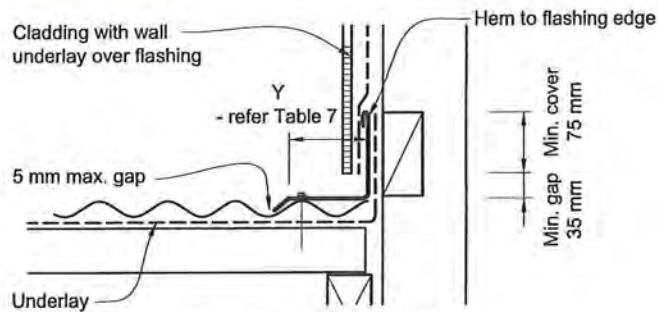
(a) CONCRETE SLAB



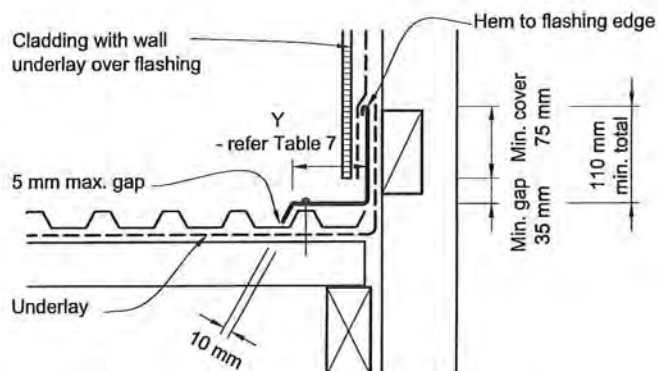
(b) TIMBER FLOOR

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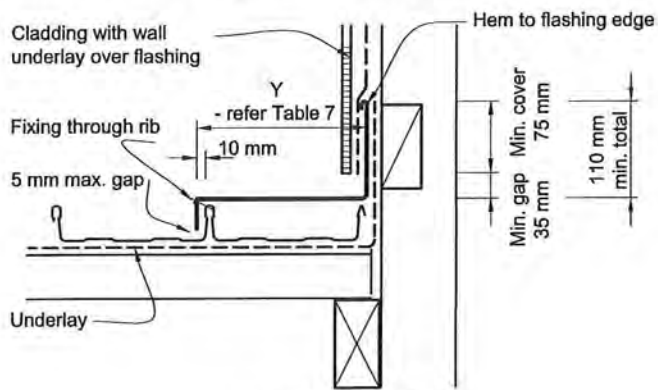
Figure 48: Parallel apron flashings for profiled metal
Paragraphs 8.4.11, 8.4.12, Table 7



(a) CORrugATED PROFILE



(b) TRAPEZOIDAL PROFILE



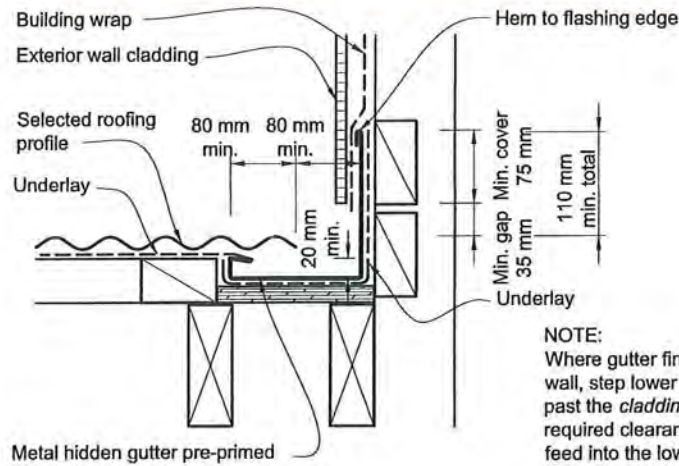
(c) TROUGH PROFILE

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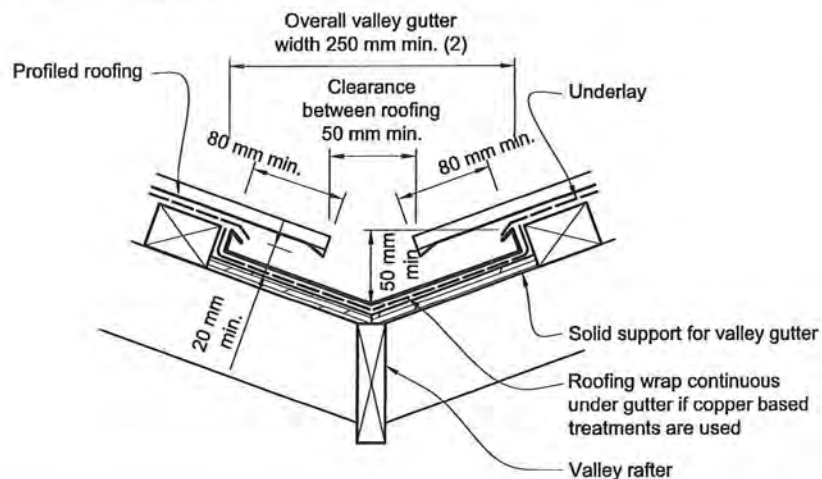
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Amend 2
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Paragraphs 4.3, 4.5, 8.1.6.2 and 8.4.16

NOTE:
Where gutter finishes within the length of the wall, step lower part of gutter out to 10 mm past the *cladding* line, while maintaining required clearances, to allow the gutter to feed into the lower eaves gutter.

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Paragraphs 4.3, 4.5, 8.1.6.2 and 8.4.16

NOTE: (1) Refer to Table 8 for maximum roof catchment areas for *valley gutters*.
(2) Minimum width of *valley gutter* may reduce to 160 mm, providing roof catchment area is in accordance with Table 8. In this case, cover of roof cladding over gutter shall be reduced to 60 mm to provide a clearance gap of 40 mm.

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8.5 Membrane Roofs and Decks

8.5.1 Limitations

This Acceptable Solution is limited to *membranes* composed of butyl or EPDM installed over plywood substrates for:

- Amend 5
Aug 2011 a) Roofs with a minimum fall of 2° (1:30),
- Amend 5
Aug 2011 b) Decks with:
 - i) a minimum fall of 1.5° (1:40),
 - ii) a maximum area of 40 m²,
 - Amend 2
Jul 2005 iii) no steps in level within *deck* area except into gutters,
 - iv) no integral roof gardens, and
 - v) no downpipe direct discharge to *deck*,
- Amend 5
Aug 2011 c) Internal gutters with a minimum fall of 1 in 100, with no cross seams in the gutters, and
- Amend 5
Aug 2011 d) Decks with removable raised surfaces to give level access as shown in Figure 17A.

The application of directly applied wearing or decorative surfaces to *membranes* is not covered in this Acceptable Solution.

COMMENT:

EPDM and butyl rubber *membranes* are subject to damage when on trafficable roof-decks. A suitable wearing surface will help reduce such damage.

Increases in slopes from the previous version recognise deflection tolerances in NZS 3604 and in-service loadings by *building* owners.

8.5.2 General

Closed-in *construction* spaces under *membrane roofs* and *decks* require adequate ventilation to prevent the accumulation of moisture under the *membrane*. Maintain a minimum gap of 20 mm between the underside of the substrate and any insulation, and for *membrane roofs* greater than 40 m², refer to manufacturer's details for *roof* cavity vents and/or substrate vent requirements.

COMMENT:

Refer to Paragraph 1.5 for qualification of installers.

8.5.3 Plywood substrates

Plywood shall be:

- a) A minimum of 17 mm complying with AS/NZS 2269,
- b) At least CD Grade Structural plywood with the sanded C face upwards, and
- Amend 2
Jul 2005 c) H3 with treatment type compatible with *membrane* and adhesives used, and kiln dried after treatment.

COMMENT:

The compatibility of LOSP-treated timber must be checked with *membrane* suppliers.

If using plywood containing copper-based preservatives, check the compatibility of adhesives and *membranes* with copper with the product manufacturers.

8.5.4 Butyl and EPDM

Butyl rubber and EPDM rubber sheet and system components used for *membrane* roofing or *decks* shall:

- a) Be a minimum thickness of:
 - i) 1 mm for roofing, or
 - Amend 2
Jul 2005 ii) 1.5 mm for *decks*, and

Refer to Paragraph 8.1.6.1 for *membranes* to gutters

- b) Comply with the following parts of Table 1 in ASTM D6134:
 - i) tensile strength,
 - ii) elongation,
 - iii) water absorption,
 - iv) water vapour permeance, and
 - v) heat aging followed by:
 - a. tensile strength
 - b. elongation, and
- Amend 5
Aug 2011 c) Have adhesives, primers, seam tapes and pre-formed components where supplied by the manufacturer that:
 - i) comply with BRANZ EM 5, and
 - ii) are part of a complete system approved by the manufacturer or supplier of the *membrane*.

8.5.5 Installation

8.5.5.1 Plywood

Substrates must be dry when *membranes* are applied. The plywood and timber substructure must be a maximum moisture content of 20% when a *membrane* is adhered.

COMMENT:

This will generally require substrates to be covered to prevent rain wetting, or to be pre-primed to avoid moisture uptake.

Manufacturers' recommendations should be consulted, as some require a lower moisture content in order to validate guarantees.

Plywood substrates shall be fixed according to the following requirements:

- a) Panels shall be laid with staggered joints (brick bond),
- b) Panels shall be laid with the face grain at right angles to the main supports,
- c) Supports in b) shall be at 400 mm maximum centres,
- d) The edge of sheets shall be supported with *dwangs* or *framing*,
- e) External edges shall be chamfered with a minimum radius of 5 mm,
- f) A 20 mm H3.2 triangular fillet shall be used at the base of any 90° upstand, and
- g) Shall be fixed:
 - i) with 3 mm gaps between all sheets,
 - ii) using 10 g x 50 mm stainless steel countersunk head screws,
 - iii) at 150 mm centres on edges, and
 - iv) at 200 mm centres in the body of the sheets.

8.5.5.2 Butyl and EPDM

Seam tapes shall be used on all joints of:

- a) *Roofs* or *decks* with falls less than 5° (1:12),
- c) Penetrations through the *membrane* where butyl or *EPDM flashing* is required,
- d) *EPDM membrane*, and
- e) Butyl *membranes* that contain *EPDM*.

COMMENT:

Coloured butyl *membranes* contain *EPDM*, which makes them more difficult to adhere properly.

Seams should be aligned parallel to the fall of the *deck* to minimise ponding.

Where a penetration is made through the *membrane* subsequent to laying, the *flashing* should be installed by the applicator of the *membrane* system.

All joints in the plywood and junctions of plywood with other materials shall have 25 mm polyethylene release tape applied before application of the *membrane*.

8.5.6 Roof and deck drainage

Membrane roofs and *decks* shall be constructed to provide:

- a) Falls as shown in Figure 56 and details in Figures 57–64
- b) A minimum of 100 mm below an adjoining threshold as shown in Figure 62
- c) *Membrane upstands* against all *walls*, *parapets*, or *enclosed balustrades* extending to a minimum level of 150 mm above *deck* level as shown in Figure 62.

COMMENT:

If the clearance of the *cladding* from the *deck* or *roof* surface is at the minimum of 35 mm, give an overlap of 115 mm to the *cladding*.

d) Water discharging either:

- i) into a *roof* or gutter outlet with a minimum diameter of 75 mm as shown in Figure 64 with either:
 - an overflow as shown in Figure 63 (c) or
 - an extra outlet, with both outlets sized to take the full required capacity.
- or,

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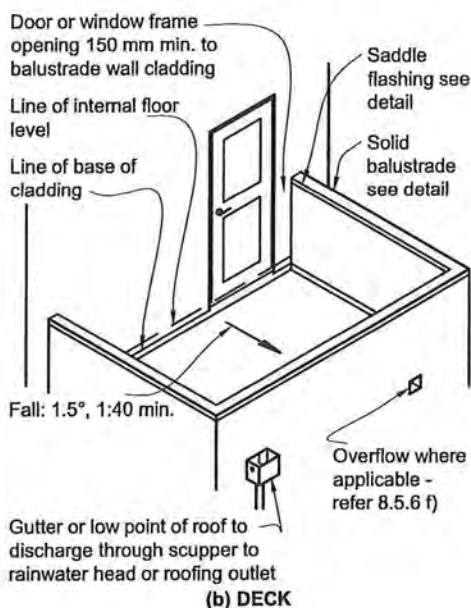
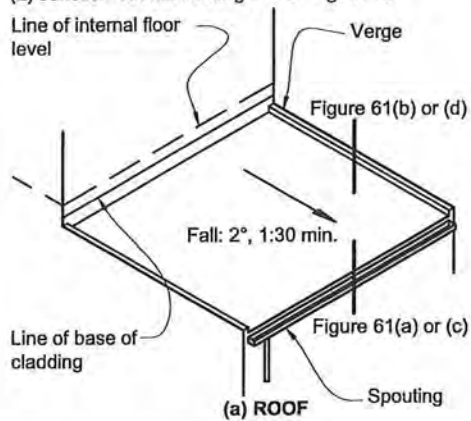
- ii) a *scupper*, into a gutter, or rainwater head, as shown in Figure 63 (a) and (b).
- e) Gutters formed with continuous butyl or EPDM strip complying with Paragraph 4.3.9, with no cross-joints.

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Figure 56: Falls in membrane roofs and decks
Paragraph 8.5.6, Figures 61, 62, 63 and 64

NOTE:

- (1) Refer Figure 62 for thresholds and clearances.
(2) Junction *saddle flashing* - refer Figure 13.



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COMMENT:

Refer to E1/AS1 for specific drainage requirements outside the scope of this Acceptable Solution.

Seams in gutters are particularly difficult to form at outlets through *enclosed balustrade walls*, and the risk of failure is high. Failure of a seam can result in damage to underlying *walls*.

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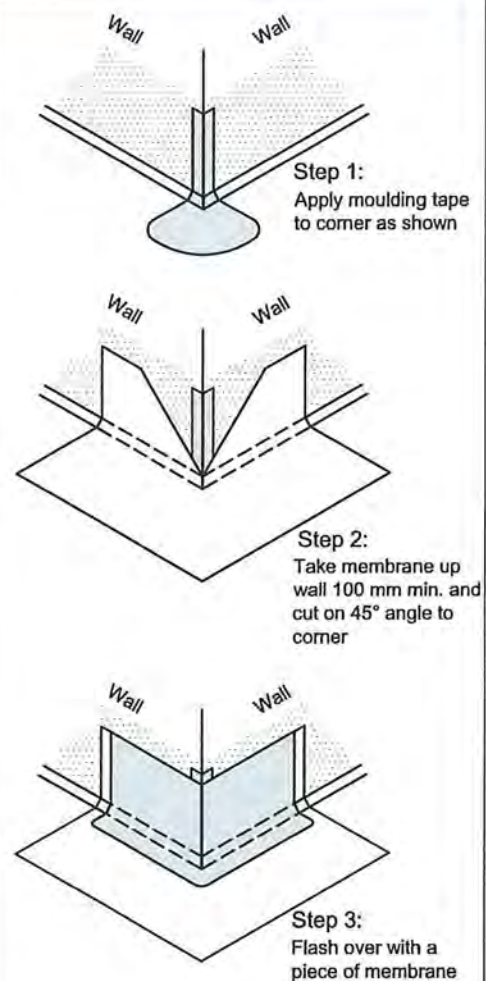
8.5.7 Control joints

All *control joints* in the substrate shall be accommodated in the *membrane roof* design.

The design of *control joints* for *membrane roofing* is subject to *specific design* and is outside the scope of this Acceptable Solution.

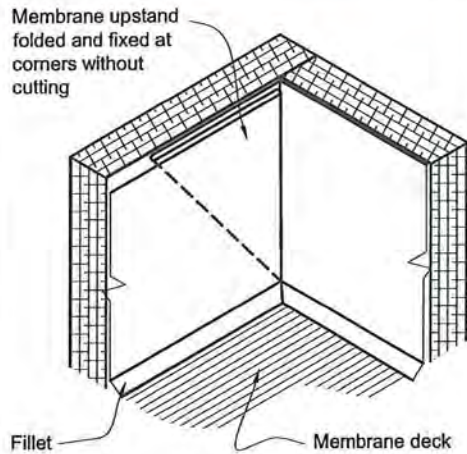
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Figure 57: External corner in upstand
Paragraph 8.5.8, Figures 59, 62, 63 and 64



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Figure 58: Internal corner in upstand
Paragraph 8.5.8, Figures 62 and 64



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8.5.8 Junctions

All junctions of *roof or deck to walls, parapets and enclosed balustrades* shall be made *weathertight* using the following appropriate details:

- Figure 57: External corner in upstands,
- Figure 58: Internal corner in upstands,
- Figure 61: Verges and eaves,
- Figure 62: Junctions of *decks and walls*, and
- Drainage details to Paragraph 8.5.6.

8.5.8.1 Junctions with walls

Junctions of *membrane decks* or walls shall be formed as shown in Figure 62.

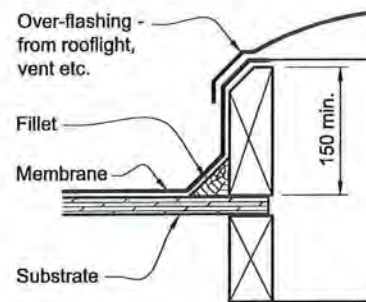
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The bottom of the wall *cladding* above the *deck* or *roof* surface shall be sealed prior to fixing.

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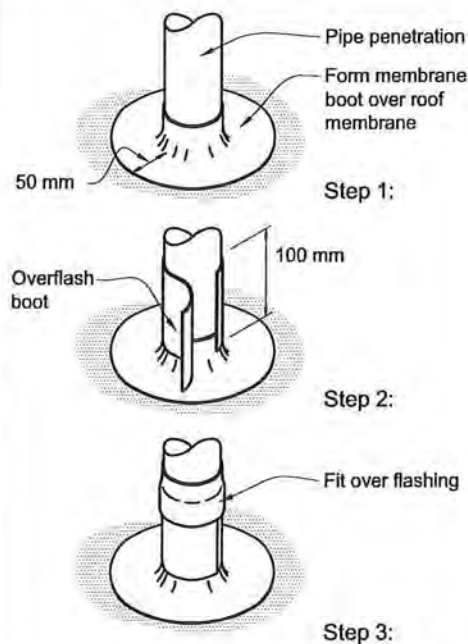
Figure 59: Roofing penetration in membrane
Paragraphs 8.5.8 and 8.5.9

NOTE: (1) For maximum penetration size of 1200 mm x 1200 mm.
(2) External corners to be formed as shown in Figure 57.



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Figure 60: Pipe penetration in membrane
Paragraph 8.5.9

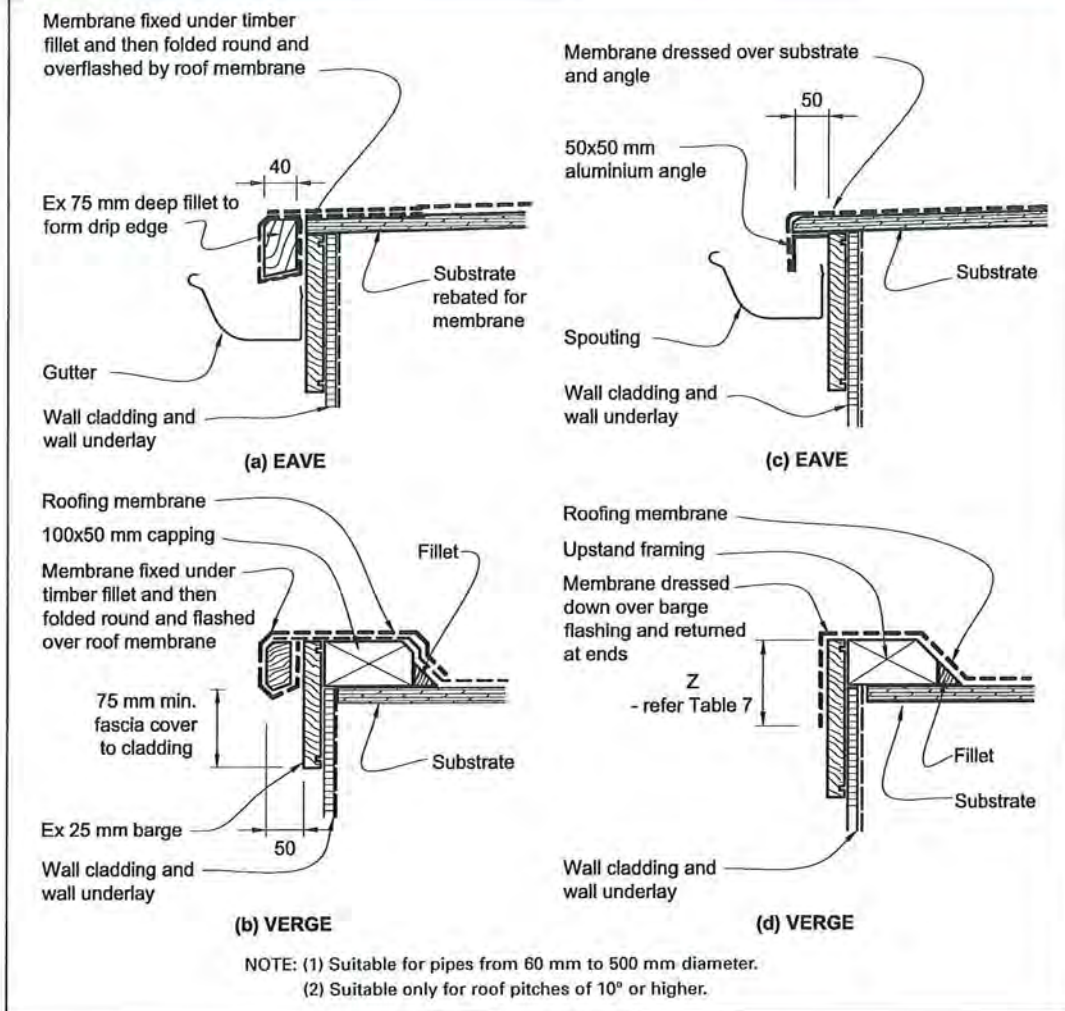


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8.5.9 Penetrations

Penetrations through *membrane roofs and decks* shall be as shown in Figure 59 and Figure 60.

Figure 61: Verges in membrane
Paragraph 8.5.8, Figure 56



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8.5.9.1 Handrails

Fixing of posts for *handrails* into *membrane roofs* or *decks* is not covered by this Acceptable Solution.

COMMENT:

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Any fixing of posts into *membrane roofs* or *decks* will require *specific design*.

The fixing of posts into tiles over a *membrane* is particularly risky, and should be avoided.

COMMENT:

Internal outlets should have a dome-type cover to reduce risk of blockage, except where this could constitute a pedestrian hazard.

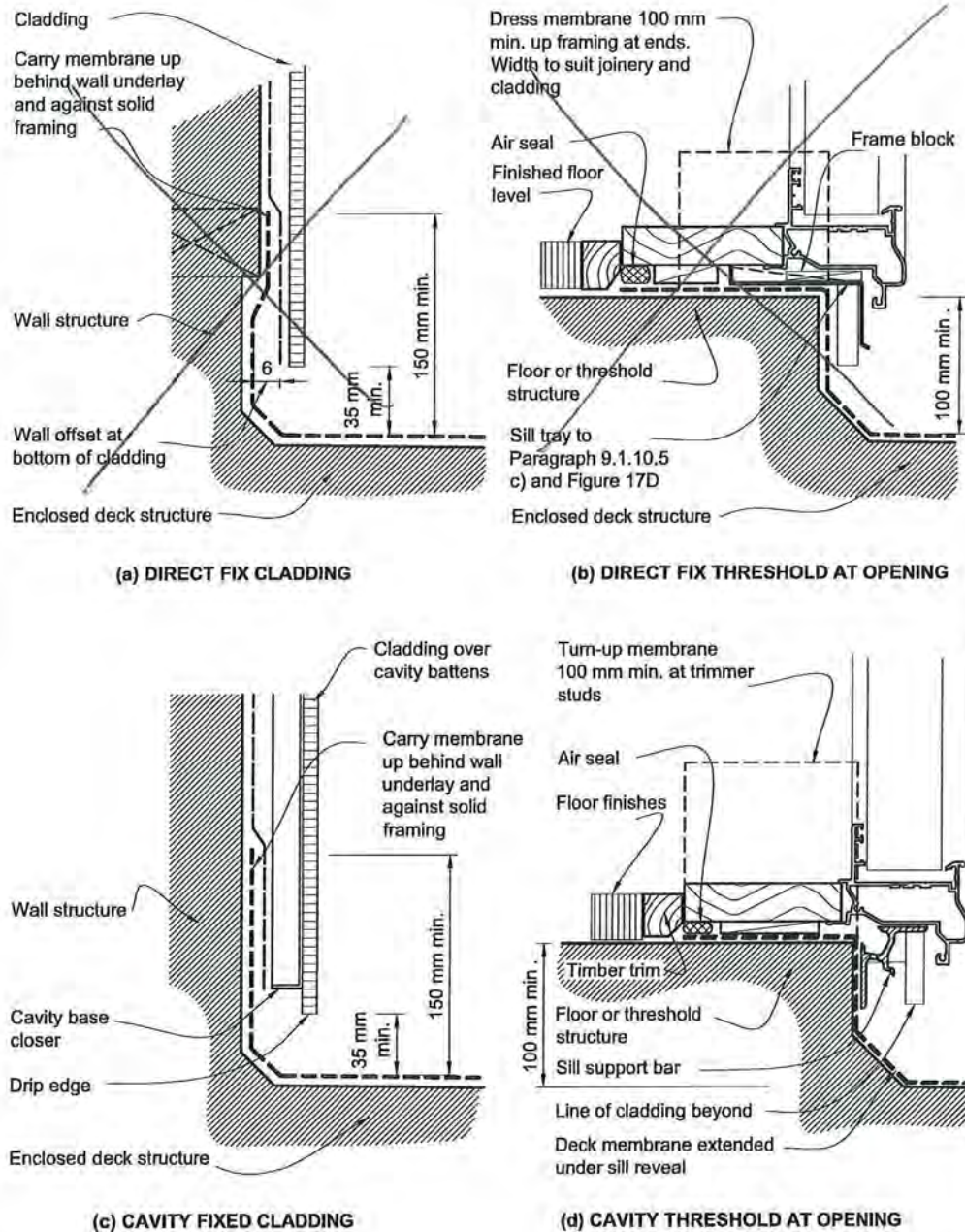
8.5.10 Gutters

Deck gutters and internal outlets shall be *constructed* as shown in Figure 64.

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Figure 62: Junctions with walls for membrane
Paragraph 7.4.3, Figure 56

NOTE: (1) Internal corners to be formed as shown in Figure 58.
(2) Dimensions are shown to *membrane*. However, where there is an additional material applied over the *membrane*, all dimensions shall apply to the highest level of the wearing surface.



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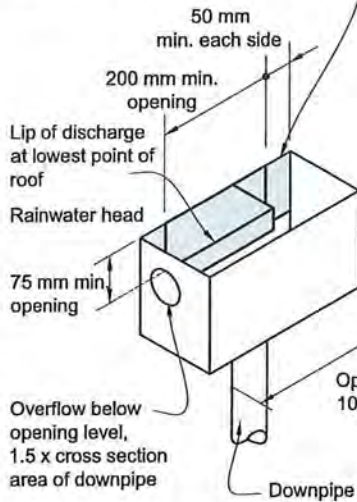
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Figure 63: Rainwater head and scupper opening in membrane
Paragraph 8.5.6, Figure 56

NOTE: (1) Use preformed *scuppers* where provided by the membrane supplier.
(2) External corners of *scupper* opening to be formed as shown in Figure 57.

Continuous membrane dressed through opening with upper edges sealed against cladding. Return over rainwater head at sides



(a) DECK OUTLET

Cavity battens with base closure and drip edge to cladding at opening

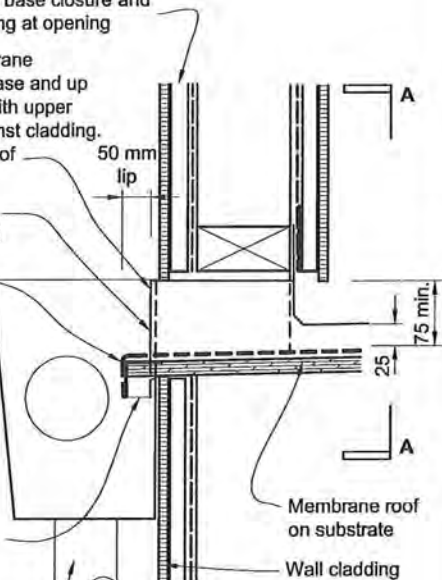
Continuous membrane dressed through base and up sides of opening with upper edges sealed against cladding. Return along back of rainwater head

Return membrane into rainwater head

Membrane dressed over 50x50 mm aluminium angle rebated into substrate

Return membrane at end of lip

Rainwater head and downpipe



(b) OUTLET THROUGH WALL

Refer to cladding for cavity finish

Continuous membrane dressed through base and up sides of opening

Membrane turned over lip

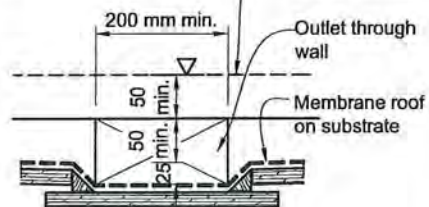
50x50 mm aluminium angle drip edge rebated into substrate

50 mm lip

(c) OVERFLOW

Membrane roof on substrate

Line of membrane lapped 50 mm min. behind wrap under cladding

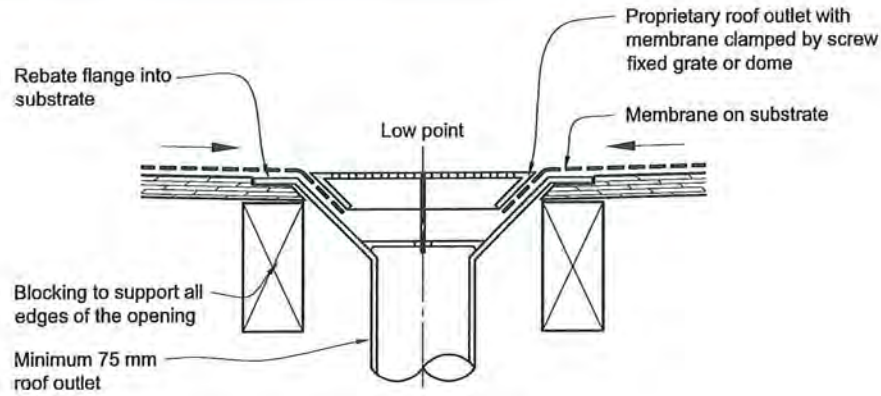


(d) SECTION A - A

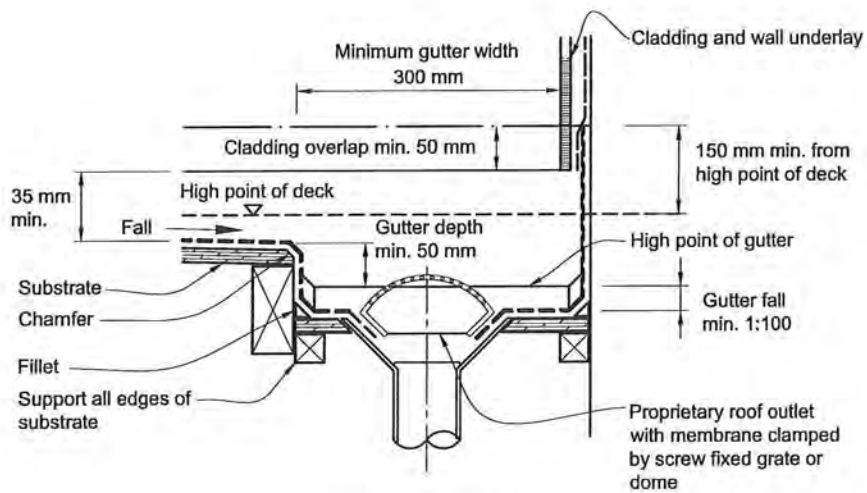
Amend 2
Jul 2005

Amend 5
Aug 2011

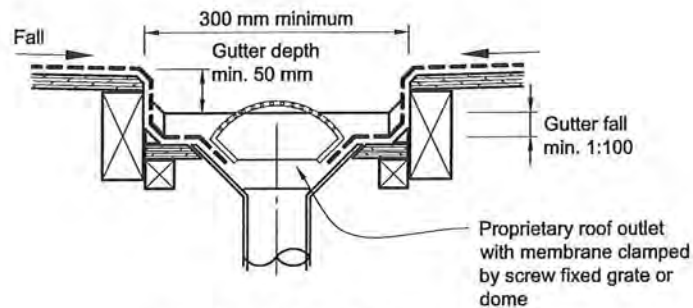
Figure 64: Gutters and outlets in membrane
Paragraphs 8.5.6 and 8.5.10



(a) TYPICAL ROOF OUTLET



(b) EDGE GUTTER



(c) CENTRAL GUTTER

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9.0 Wall Claddings

9.1 General

Wall claddings shall meet the requirements of NZBC E2.3.2 to E2.3.7, and comply with the provisions of Paragraph 9.1.1 to Paragraph 9.9.

Claddings in Extra High wind zones require:

- Rigid underlays to Paragraph 9.1.7.2
- Drained cavities to Paragraph 9.1.8
- Hooks and hems on flashing upstands, and additional 25 mm height to Paragraph 4.6.

Amend 5
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9.1.1 Limitations

This Acceptable Solution is limited to the wall cladding systems listed in Paragraph 3.3. Table 3 lists wall cladding systems that shall be used for buildings with varying risk scores.

The method of establishing the level of risk associated with the use of a specific wall cladding is given in Paragraph 3.1. Based on this risk score, a wall cladding may require the inclusion of a drained cavity as described in Paragraph 9.1.8.

Amend 5
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Claddings in Extra High wind zones require rigid underlays and drained cavities – refer to Table 3.

9.1.2 Maintenance

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Aug 2011

Maintenance of wall claddings shall be carried out as necessary to achieve the expected durability of the material – refer to Paragraph 2.5.

9.1.3 Bottom of cladding

Separations, clearances to ground level, and overlaps shall be as shown in Figure 65 and Table 18.

Clearances to roof claddings and decks shall be minimum 35 mm – refer to Table 7 and Figure 18.

Clearances shall be measured to:

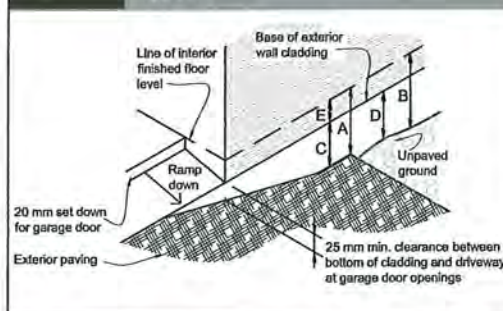
- The finished plane of any adjacent horizontal surface, or
- The top surface of any adjacent sloped or horizontal apron flashing.

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COMMENT:

This keeps the bottom edge of the cladding dry, and allows cleaning and painting of the bottom surfaces.

Figure 65: Levels and garage openings
Paragraphs 9.1.3, 9.1.3.4, 9.2.5,
Table 18



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Table 18: Minimum clearances
Paragraphs 9.1.3, 9.1.3.1, 9.1.3.2,
9.1.3.3, 9.1.3.4, 9.1.3.5 and 9.2.7

| 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 1) | | | | 100 | 175 | 50 ²⁾ |

NOTE: 1) Refer to NZS 3604 for requirements.

2) Cladding to extend minimum 50 mm below bearer or lowest part of timber floor framing.

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9.1.3.1 Concrete slabs

Slab levels shall be set to allow reinstatement of final landscaped ground levels as outlined in Figure 65 and Table 18.

COMMENT:

NZS 3604 may require greater ground clearances depending on floor type and materials.

The likely final landscaped ground levels are to be taken into account when planning foundations and earthworks to avoid reductions to the minimum ground clearances in the finished building.

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Aug 2011

9.1.3.2 Masonry veneer clearances

The height of the floor slab above finished ground level shall be in accordance with Figure 73D and as shown in Table 18.

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9.1.3.3 Bottom of wall claddings for concrete ground slabs (except masonry veneer)

At concrete slab level, the base of the *cladding system* shall be as shown in Table 18, and:

- a) Finish a minimum of:
 - i) 100 mm above a paved surface, or
 - ii) 175 mm above finished unpaved surface,
- b) Overlap the concrete slab by 50 mm, and
- c) Be offset horizontally by a minimum of 6 mm for *direct fixed claddings* to prevent capillary action.

9.1.3.4 Garages and openings to garages

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

COMMENT:

This paragraph does not apply to garages that are detached outbuildings.

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

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

COMMENT:

Methods for achieving the required step may include:

- A 50 mm difference in *finished ground level* adjacent to the opening, or
- A raised threshold at the opening, or
- Concrete nibs at the opening.

- b) Provision to drain water away from the threshold of the opening

- c) Rigid *wall underlays*, to Table 23, where external garage *walls* are unlined

- d) linings to garage *walls* adjoining habitable spaces

- e) weather resisting garage doors

- f) window and door details (where included) to Paragraphs 9.2 to 9.9.

9.1.3.5 Bottom of wall claddings for timber floor framing

Suspended timber floors shall meet the requirements of NZS 3604. Clearances from paved and unpaved surfaces to the wall *framing* shall be in accordance with NZS 3604, and Table 18.

At ground floor level, the base of the *cladding system* shall:

- a) Overlap the timber floor structure by 50 mm minimum, and
- b) For walls with *direct fixed claddings*, be offset horizontally from a concrete foundation *wall* by a minimum of 6 mm
- c) Have no direct connection between sub-floor spaces and *drained cavities*.

COMMENT:

Where *claddings* require *drained cavities*, care must be taken to ensure air from the subfloor space cannot enter the cavity. This is important, as moisture levels in subfloor air can be high.

9.1.4 Barriers to airflow

This Acceptable Solution requires *external walls* to have barriers to airflow, in the form of:

- a) Interior *linings* with all joints stopped for *wind zones* up to Very High, or
- b) Rigid *underlays* (and *drained cavities*) for *buildings* in Extra High *wind zones* – refer to Paragraph 9.1.7.2
- c) Where walls are not lined, such as attic spaces at gable ends, an air barrier complying with Table 23, fixed to *framing* prior to fixing *cladding* or *cavity battens*
- d) For attached garages, *underlays* to Paragraph 9.1.3.4.

COMMENT:

The primary function of air barriers and *air seals* is to moderate airflows at junctions and inside the *wall cavity*.

Airflows in certain weather conditions encourage significant amounts of water to move along their path, and it is therefore important to manage airflow in *cavity walls* with barriers and *air seals*.

In the absence of internal *linings*, an air barrier is required to support wind pressures at locations such as gable ends and unlined garage spaces. Air pressure drop is not always across the internal *lining*, indicating the *wall underlay* acts as an air barrier as well.

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9.1.5 Wall underlays to wall openings

Prior to window or door installation:

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a) Flexible *wall underlay* shall be cut and dressed into all sides of openings as per Figure 72A and B,

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b) Flexible *flashing tape* shall be applied to head and sill *framing* as shown in Figures 72A and 72B. Flexible *flashing tape* shall:

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- i) comply with Parts 3.2 and 4 of ICBO Acceptance Criteria AC148, and
- ii) be compatible with the *wall underlay*.

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COMMENT:

Dressing the *wall underlay* around the *framing timber* and providing a flexible *air seal* limits airflows around the window reveal.

The *flexible flashing tape* keeps any water that does get past the *cladding*, or through the joinery, from direct contact with the timber.

9.1.6 Air seals

Window, door and other penetration openings shall be provided with flexible *air seals* to minimise the risk of airflows carrying water into the *building wall*. The *air seal* shall be:

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Aug 2011

- a) Provided between the reveal or frame and the wrapped opening (for example of use, refer to Figure 81),
- b) Installed over a closed cell polyethylene foam (PEF) backing rod, or similar
- c) Made of:
 - i) self-expanding polyurethane foam, or
 - ii) sealant complying with:
 - a. Type F, Class 20LM or 25LM of ISO 11600, or
 - b. low modulus Type II Class A of Federal Specification TT-S-00230C.

COMMENT:

Some sealants can react with bitumen based *flashing tape*, preventing full curing of the sealant. Where necessary, consult sealant manufacturers for application requirements.

Backing rods are used for sealant and for self-expanding polyurethane foam as there is a danger foam will expand to the outside of the *wall* and form a moisture bridge to the interior.

For further information refer to ASTM C1330 for backing rod material performance.

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9.1.7 Wall underlay

9.1.7.1 Flexible *wall underlays* shall be in accordance with Table 23, and shall:

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- a) Be run horizontally,
- b) Have upper sheets lapped over lower sheets to ensure that direction of laps will allow water to be shed to outside of the *wall underlay*,
- c) Be lapped not less than 75 mm at horizontal joints,
- d) Be lapped not less than 150 mm over *studs* at vertical joints, and
- e) Extend 35 mm below bottom plate or bearer,
- f) Be restrained from bulging into a *drained cavity*. Refer to Paragraph 9.1.8.5.

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9.1.7.2 Rigid *wall underlays*, in association with *drained cavities* (including *direct fixed* corrugated profiled metal), are required in Extra High *wind zones*. Refer to Table 3 and Table 23. Rigid *underlays* are also required to *external walls* of attached garages that are unlined. Refer Paragraphs 1.1.1 and 9.1.3.4 c).

Rigid *wall underlays* shall be in accordance with Table 23, and shall:

- a) Be minimum 7 mm H3 plywood, or 6 mm fibre cement sheet
- b) Be installed with sheet edges fixed over solid framing
- c) Be over-fixed with a flexible *wall underlay* from Table 23 and installed as in Paragraph 9.1.7.1

COMMENT:

Some proprietary systems may not require the addition of a flexible *underlay*

- d) Have flexible *underlay* folded into opening reveals as in Paragraph 9.1.5 a)
- e) Have *cavity battens* at maximum 600 mm centres
- f) Be *finish flushed* with underside of bottom plate or bearer.

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COMMENT:

Sloped heads require specifically designed *kick-out flashings* at bottom edges of head flashings.

Where width outlined in Paragraph 9.1.10.1 are beyond the limits for sill and head trimmer *framing* in NZS 3604 specific engineering design of the *framing* is required.

Certain aluminium joinery sections and installation requirements may not be able to meet the details of this Acceptable Solution, especially in regard to window facing cover, sill support, window fixing, and sill *flashing* requirements. The window details in these cases require *specific design*.

9.1.10.2 Treatment of opening

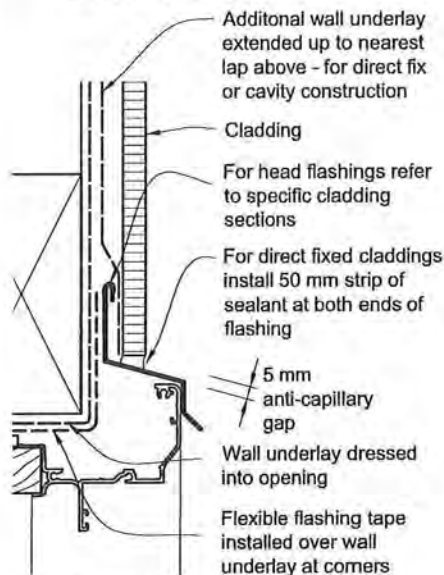
- Treatment of the window openings for *direct fixed wall claddings* shall be as shown in Figure 72A.
- For *direct fixed claddings*, windows and doors shall have a 5 mm stand-off of the flange to the *cladding* to allow for air intrusion to the trim cavity for pressure equalisation. Note that this gap is sealed or trimmed down the jambs, but left open along the sill.
- Window openings for *wall claddings* over *drained cavities* shall be as shown in Figure 72B. Note there shall be no sill *flashing*.
- For cavity fixed *claddings*, windows and doors shall finish against the *cladding*, except for flat fibre cement and ply *claddings* that require a 5 mm stand-off to allow for sealant weather seals between facings and *cladding* – eg, Figure 116.
- Materials for *flashings* shall be selected from Paragraph 4.0, Table 7, and Table 20.

9.1.10.3 Window and door heads

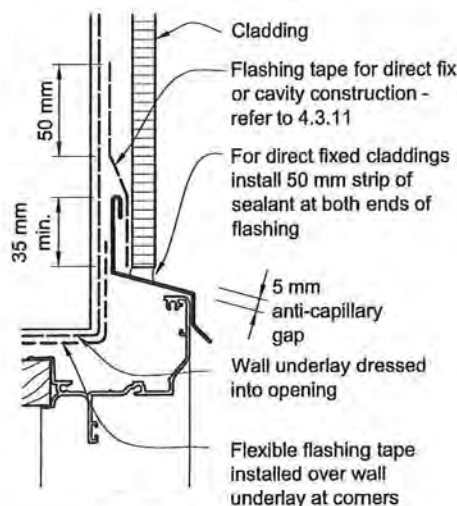
Windows and doors shall include head *flashings*, finished to the *wall underlay* as shown in Figure 71, by either using *flexible flashing tape*, or lapping an additional layer of *wall underlay* over the upstand. The additional *wall underlay* shall extend to the top of the wall, or to the nearest lap above, and be lapped under the top layer.

Figure 71: General sealing of head flashing
Paragraphs 9.1.7, 9.1.10.3 and 9.1.10.4

NOTE: May also use *wall underlay* lapped over flashing upstand in lieu of *flexible flashing tape*. Refer cladding window details, for example Figure 115.



(a) METAL HEAD FLASHING - WITH ADDITIONAL UNDERLAY OPTION



(b) METAL HEAD FLASHING WITH FLASHING TAPE OPTION



(c) METAL HEAD FLASHING SEALANT FOR VERY HIGH AND EXTRA HIGH WIND ZONES

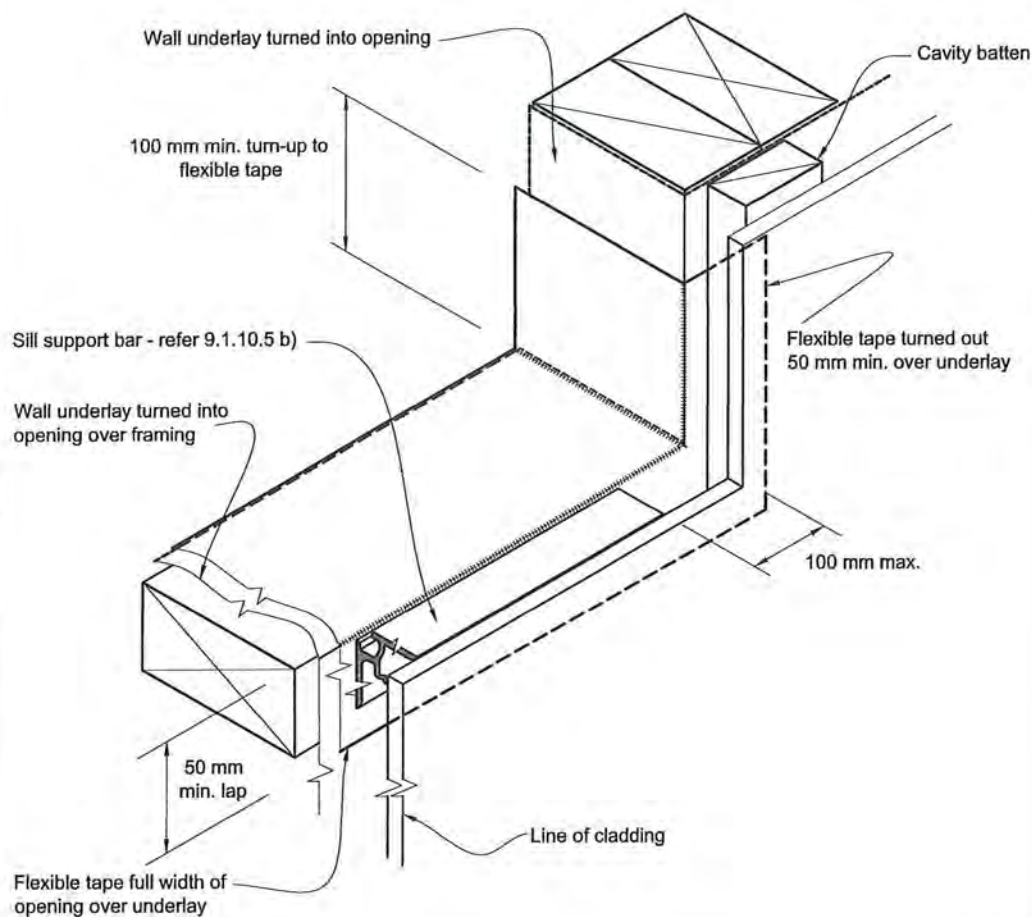
Amend 5
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Aug 2011

Figure 72B: General window and door opening with drainage cavity
 Paragraphs 9.1.5, 9.1.9.3, 9.1.10.2, Figures 73C, 76, 85, 86, 91, 99, 116 and 126

NOTE:

- (1) Detailed *cladding* omitted for clarity, refer to specific *claddings*.
- (2) Head to be treated similarly with continuous *wall underlay* and *flexible tape* at corners.
- (3) Refer individual cladding details for jamb flashings.



Errata 2
Dec 2011

Amend 5
Aug 2011

9.8 Plywood Sheet

Amend 5
Aug 2011

Plywood-sheet *claddings* shall be either *direct fixed to framing over a wall underlay* or fixed over a *drained cavity* as per Paragraph 9.1.8.

Based on the *risk score* for an *external wall*, calculated as per Paragraph 3.1, the sheet *cladding* may require the inclusion of a *drained cavity*.

9.8.1 Limitations

This Acceptable Solution covers plywood panel *claddings* with vertical battened joints and flashed horizontal joints.

Figure 118 deleted

Amend 5
Aug 2011

9.8.2 Materials

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Batten-jointed panels shall have weather-grooved timber battens as shown in Figure 119.

Plywood panels shall be:

- Manufactured to AS/NZS 2269, grade CD,
- A minimum of 5 ply,
- A minimum of 12 mm in thickness, and
- Treated as required by NZS 3602.

9.8.3 Installation

A *wall underlay*, as specified in Table 23, shall be installed behind plywood sheet *claddings*.

COMMENT:

Refer to Paragraph 1.5 for qualification of installers.

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Aug 2011

9.8.3.1 Fixings

Plywood sheets shall be fixed through the *wall underlay* into the *wall framing* with fixings as required in Table 24.

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9.8.3.2 Joints

All joints shall be detailed to shed moisture outside the *cladding*, and shall:

- Be made only over supports, and
- If horizontal, incorporate a 10 mm expansion gap, and be fitted with a *flashing*, as shown in Figure 121, or
- If vertical, have battened joints – refer to Figure 119.

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Figure 119: Battened joints for plywood sheet
Paragraphs 9.8.2 and 9.8.3.2

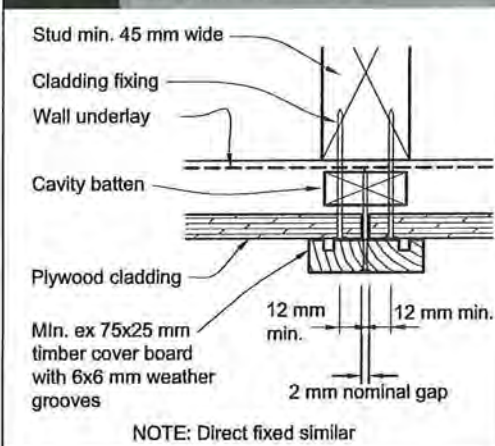
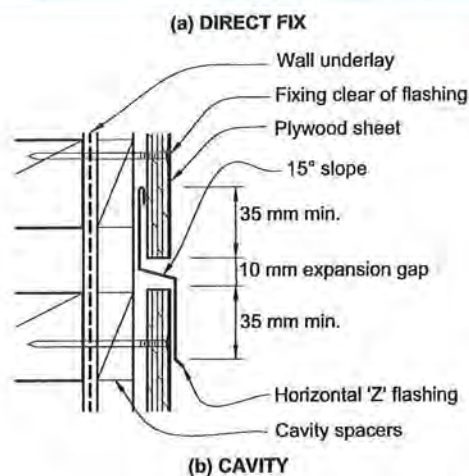
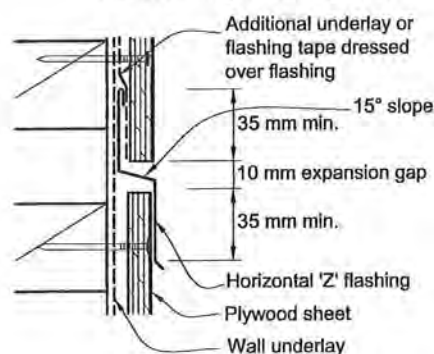


Figure 120 deleted

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Figure 121: Horizontal joints for plywood sheet
Paragraph 9.8.3.2

NOTE: (1) Detail is only suitable for drained cavities not exceeding 2 storeys or 7 metres in height.
(2) For drained cavities over 2 storeys or 7 metres in height - refer Figure 70.



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9.8.4 Corners

9.8.4.1 External corners

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Aug 2011

External corners shall be fitted with *flashings* or timber battens, as shown in Figure 122.

9.8.4.2 Internal corners

Internal corners shall be as shown in Figure 123 and have:

- Flashings* and timber battens for direct fix
- Timber battens for cavity fix.

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9.8.5 Flashing material

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Flashings shall be metal selected in accordance with Table 20 to Table 22 and Paragraph 4.3.

9.8.6 Soffit details

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Aug 2011

Soffits shall be as shown in Figure 8A and Paragraph 5.3.

9.8.7 Parapets and enclosed balustrades

Parapets and *enclosed balustrades* shall be capped with metal, butyl or *EPDM membrane*. *Cappings* shall comply with the requirements of Paragraph 4.0.

- Parapets* shall be in accordance with Paragraph 6.0
- Enclosed balustrades* shall be in accordance with Paragraph 7.4.

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9.8.8 Windows and doors

Windows and doors shall be installed in accordance with Paragraph 9.1.10.

9.8.8.1 Windows and doors: direct fixed

Windows and doors shall be detailed as shown for fibre cement sheet *cladding* – refer to Figure 115.

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9.8.8.2 Windows and doors: with cavity

Windows and doors shall be detailed as shown for fibre cement sheet *cladding* – refer to Figure 116.

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Aug 2011

COMMENT:

The same principles of window installation apply to both fibre cement and plywood sheet *cladding*.

9.8.9 Finishes

A solution of 12.5% copper naphthenate in white spirits, or mineral turpentine, shall be brushed on to any edges cut after treatment.

Direct fixed plywood *cladding* used as bracing requires a minimum 50-year *durability*, and shall be treated to H3, painted on all edges and the outer face with a latex exterior paint system complying with any of Parts 7, 8, 9 or 10 of AS 3730.

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COMMENT:

Plywood for *cladding*, treated to H3, does not require painting.

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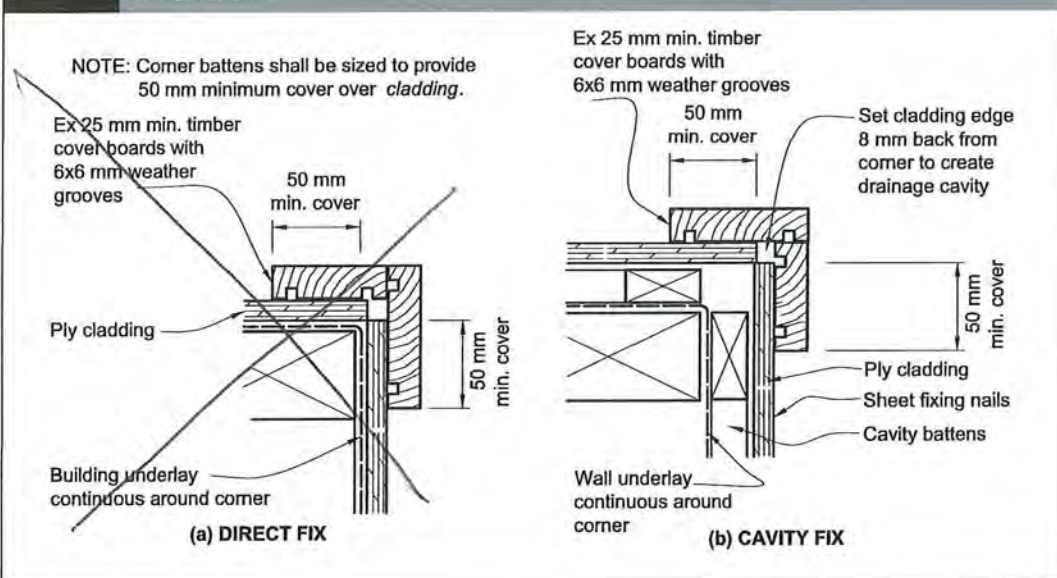
While H3 plywood can be left unpainted, it is likely to develop checking and mould growth on the surface.

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2 and 5

Plywood used as bracing requires painting and regular maintenance of the paint finish to ensure the 50-year durability is achieved.

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Figure 122: External corners for plywood sheet
Paragraph 9.8.4.1



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Figure 123: Internal corners for plywood sheet
Paragraph 9.8.4.2

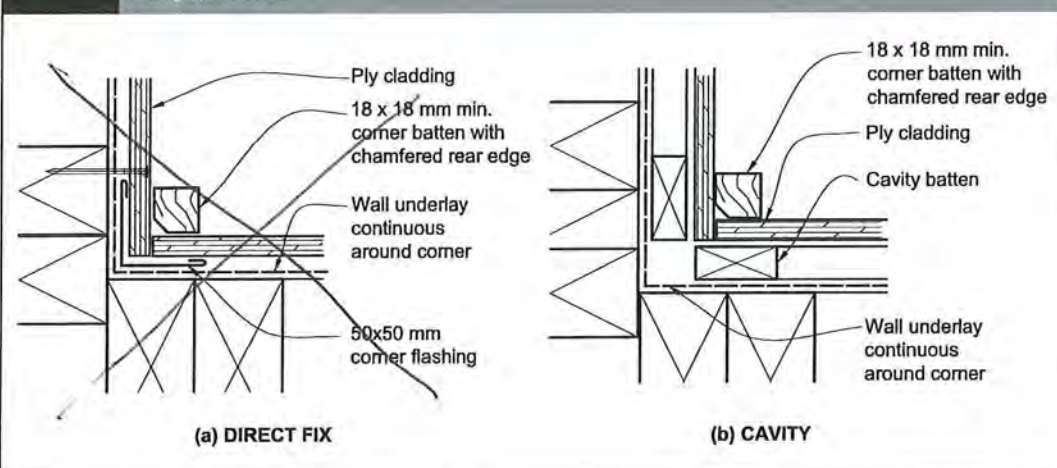


Table 24: Fixing selection for wall claddings (continued)

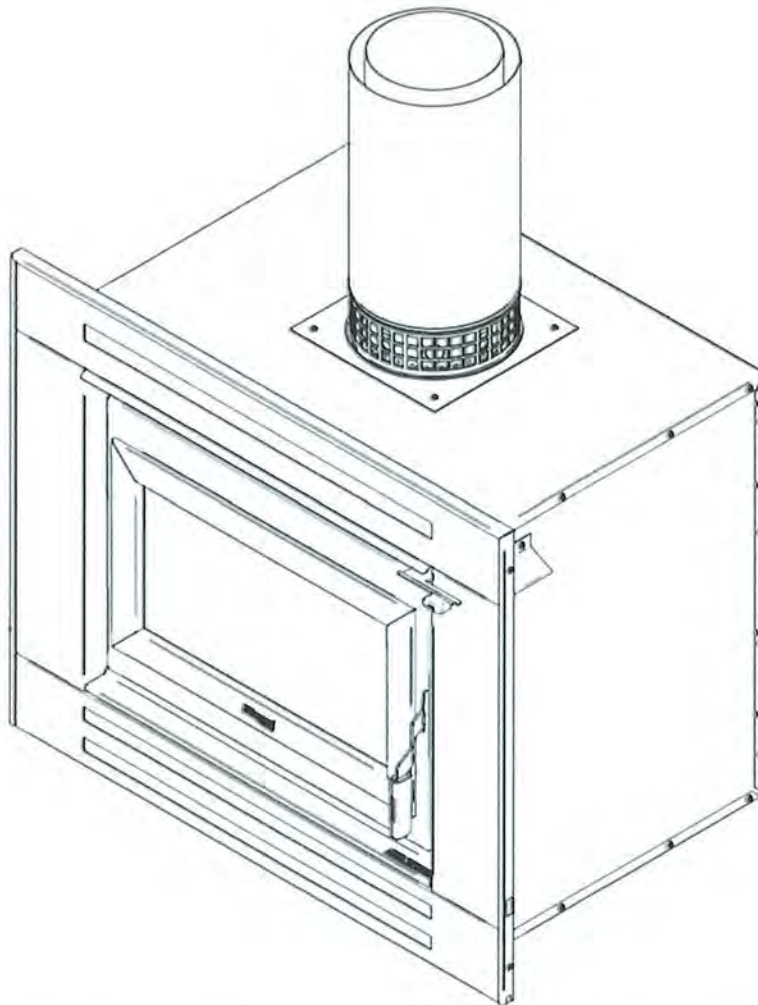
| Joint | Length (mm) x diameter (mm) and type | Minimum framing penetration | Fixing pattern | Requirements |
|--|--|-----------------------------------|--|--|
| Horizontal rusticated | 75 x 3.15 JH nail | 35 mm | Single fixing 10 mm above top of lower board | |
| Timber weatherboards: stained or bare finish DIRECT FIXED | | | | |
| Horizontal bevel- back | 65 x 3.2 RH annular grooved nail | 30 mm | Single fixing 10 mm above top of lower board | |
| Horizontal rebated bevel-back | 50 x 3.2 RH annular grooved nail | 30 mm | as above | |
| Horizontal rusticated | 50 x 3.2 RH annular grooved nail | 30 mm | as above | |
| Vertical shiplap | 50 x 3.2 RH annular grooved nail | 30 mm | Single fixing 10 mm from side lap (40 mm from edge of board) | <i>Dwangs</i> at maximum 480 mm centres |
| Board and batten: board | 60 x 3.2 RH annular grooved nail | 30 mm | Single fixing in centre of board | as above |
| Board and batten: batten | 75 x 3.2 RH annular grooved nail | 30 mm | as above | as above |
| Timber weatherboards: stained or bare finish OVER CAVITY | | | | |
| Horizontal bevel- back | 85 x 3.2 RH annular grooved nail | 30 mm | Single fixing 10 mm above top of lower board | |
| Horizontal rebated bevel-back | 70 x 3.2 RH annular grooved nail | 30 mm | as above | |
| Horizontal rusticated | 70 x 3.2 RH annular grooved nail | 30 mm | as above | |
| Vertical profiled metal: DIRECT FIXED | | | | Refer Paragraph 9.6.6 |
| Horizontal profiled metal: OVER CAVITY | | | | Refer Paragraph 9.6.6 |
| Plywood sheet: paint finish DIRECT FIXED | | | | |
| Plywood to stud or batten | 50 x 2.8 FH nail | 30 mm | 150 mm centres to sides, 300 mm centres in middle | |
| External cover batten | 65 x 3.2 RH annular grooved nail | 30 mm | 300 mm centres in centre of batten | |
| Plywood sheet: paint finish OVER CAVITY | | | | |
| Plywood | 60 x 2.8 FH nail | 30 mm | 150 mm centres to sides, 300 mm centres in middle | |
| Cover batten | 60 x 2.8 JH nail | To cavity battens only | 300 mm centres in centre of batten | |
| Plywood sheet: stained or bare finish DIRECT FIXED | | | | |
| Plywood to stud or batten | 50 x 2.8 FH nail | 30 mm | 150 mm centres to sides, 300 mm centres in middle | |
| External cover batten | 65 x 3.2 RH annular grooved nail | 30 mm | 300 mm centres in centre of batten | |
| LEGEND: | | | | |
| RH rose head | JH jolt head | FH flat head | | |
| NOTE: Nail lengths are designed for minimum penetration of framing. If thickness of the batten or cladding or underlay is varied, length shall be adjusted accordingly. | | | | |

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Jul 2005Amend 5
Aug 2011Amend 2
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Aug 2011

00014



MASPORT I9000 BUILT-IN FIRE INSTALLATION INSTRUCTIONS



Manufactured in New Zealand by:
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Web: www.glendimplex.com.au

DIMENSIONS:

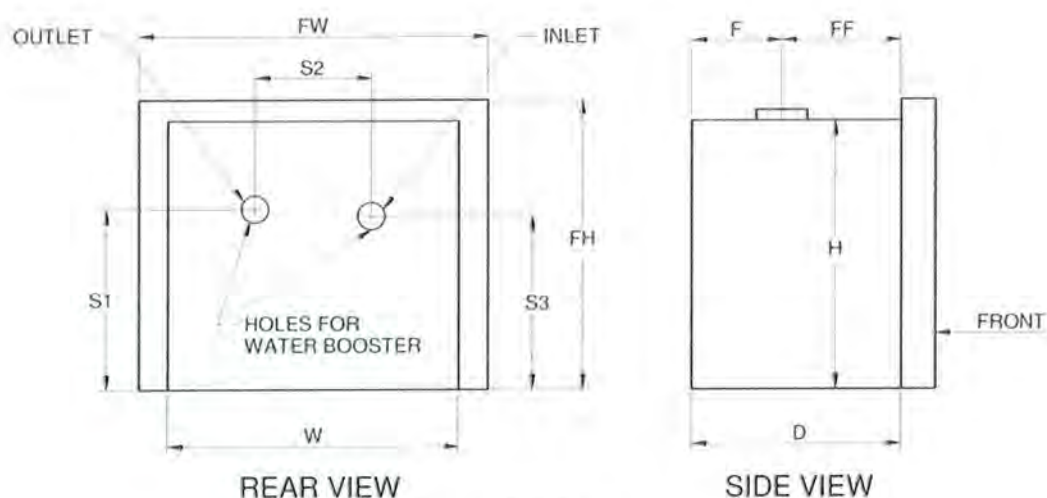


Fig. 1

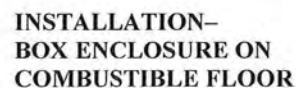
| MODEL | D | F | FF | FH | FW | H | W | S1 | S2 | S3 |
|---------------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| I9000 INBUILT | 612 | 264 | 348 | 847 | 1024 | 786 | 852 | 528 | 340 | 508 |

INTRODUCTION

In the interest of your safety, building regulatory Authorities in Australia and New Zealand require any woodfire installation to comply with Installation Standard AS/NZS 2918:2001. They may also have local requirements in addition to those in the Standard. Check with your local Building Authority **before commencing installation** to find if you will require a Building Consent and whether there are extra requirements. This woodfire has been tested to ensure that it will meet the appropriate safety Standard requirements when these instructions are followed. As the safety and emission performance can be affected by altering the appliance, no modifications are allowed without written permission from the manufacturer.

The model I9000 has been tested to demonstrate compliance with current general emission requirements in Australia and New Zealand, but some areas have stricter limits. So **check before** purchasing or installing the requirements for your area.

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ARDEX WPM 3000X

Shelterseal 3000X

Self Adhesive SBS Membrane

Radon and Methane Gas barrier

Compatible with steel and metals

BRANZ Appraised No. 462

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ARDEX WPM 3000X

Shelterseal 3000X

Self Adhesive SBS Membrane



PRODUCT DESCRIPTION

ARDEX WPM 3000X (Shelterseal 3000X) is a self-adhesive bituminous waterproofing membrane self-protected by a cross-laminated HDPE film.

The high-density polyethylene film gives to the membrane characteristics of dimensional stability and ensures a uniform reaction to elongation stresses in a longitudinal and transversal direction.

This membrane has been designed and developed for the specific damp proofing of vertical walls, foundations, basements, flat and ventilated roofs.

Bitumen/asphalt compound modified with SBS and high tack resins

ARDEX WPM 3000X has been formulated to make the product easy to install. The membrane can be adjusted should it initially be placed in the wrong position, as the adhesive on the sheet achieves final adhesion only after a few minutes.

Protective film

This is hot-laminated to the bituminous/asphalt compound and gives the membrane its mechanical and physical characteristics, such as heat stability, shape, chemical resistance, etc.

FEATURES/BENEFITS

Cold Application: installed without the use of open flames. Ideal for installation in restricted spaces.

Chemical resistance: the protective polymer film is highly resistant to acids, alkalis and other pollutants.

Flexibility and adaptability: this membrane will adapt easily to irregularly shaped surfaces, and will stretch up to 9% without breaking or cracking.

Self sealing: the membrane self seals on contact maintaining its watertightness.

Constant thickness: the membrane is manufactured using high-tech machinery which constantly monitors its thickness, and ensures that the films and synthetic materials are manufactured to the highest specifications and quality control requirements.

Radon and Methane Gas barrier: The membrane has been certified as Radon and Methane gas barrier by the SP Swedish National Testing & Research Institute

ACCEPTABLE SUBSTRATES

- Concretes, renders and screeds
- Fibre cement sheets
- Structural or marine plywood
- Polystyrene blocks

For use over other substrates including existing membranes contact ARDEX.

TYPICAL APPLICATIONS

- Planter boxes
- Foundations
- Below-ground applications
- Retaining walls

BASIC APPLICATION INSTRUCTIONS

Surface Preparation

Surfaces to which the ARDEX WPM 3000X (Shelterseal 3000X) systems are installed must be properly prepared prior to installation. All surfaces must be clean, dry, smooth, free of sharp edges, loose or foreign materials, oil, grease, and other materials that may damage the membrane. If concrete has moisture on surface use gas torch to dry and warm before priming.

Priming

Prior to the application of the membrane all prepared surfaces (except polystyrene blocks) should be primed with ARDEX WPM 240 or WPM 247 (Shelter Primer) at a rate of 5-6m² per litre and allowed to dry.

*ARDEX WA98 Adhesive can be used as a primer in difficult drying conditions.
(Refer WA98 datasheet for more information)*

Membrane Installation

Starting at the lowest point, the membrane must be installed in accordance with the Technical Literature. Sheet edges must be overlapped a minimum of 60mm as marked on the sheets. End laps must be a minimum of 100mm, with upper sheets lapped over lower sheets. Internal and external corners of single layer systems must be reinforced with an extra layer of membrane 300mm wide. Where two layer systems are specified lap joints must be staggered. Protection material must be installed before backfilling. Backfilling must commence immediately after the membrane is installed to ensure the membrane is not left exposed to sunlight or UV radiation.

Installation of the membranes must be completed by ARDEX approved applicator.

Two Layer DPM System

In critical areas a specifier may require a second layer of ARDEX WPM 3000X (Shelterseal 3000X) to be applied with laps staggered to the first layer.

SAFETY DATA

ARDEX WPM 240 (Shelter Primer) is solvent based and classified as Dangerous Goods Class 3 Packaging Group II material. It is highly flammable and should be used with appropriate safety equipment. Avoid inhalation or contact with eyes.

First Aid: If swallowed do not induce vomiting, contact a doctor or Poisons Information Centre immediately. In case of contact with eyes rinse thoroughly with water.

Spills & Leaks: Restrict access to area. Prevent material entering sewers and restricted areas. If possible cover liquid with earth, sand or absorbent material. Flush area with water.

Fire: Eliminate all sources of ignition. Firefighters should wear full protective clothing and self contained breathing apparatus with full face mask. Use dry chemicals foam or carbon dioxide to extinguish fire.

STORAGE

All rolls of ARDEX WPM 3000X (Shelterseal 3000X) whether palletised or loose should be stored in a covered area protected against sunlight and UV radiation. Rolls should be stored in a vertical position on a smooth floor so as not to damage the edges.

PACKAGING

Roll size:

1m x 20m Roll weight: Approx 30kg

Other products:

WPM 240 Solvent Primer 5 litres and 20 litres

WPM 247 Water Based 5 litres and 20 litres

WA 98 Contact Adhesive 20 litres

TECHNICAL PERFORMANCE DATA

| CHARACTERISTIC | VALUES | TEST |
|--|--|-------------|
| Thickness | 1.5 mm * | EN 1849-1 |
| Tensile Strength | Long. 215 N/50 mm Trans. 220 N/50 mm | EN 12311-1 |
| Elongation at Break | Long. 324 % Trans. 238 % | EN 12311-1 |
| Impact Resistance | Met. A 500 mm Met. B 1000 mm | EN 12691 |
| Static Load Resistance | Met. A 10 Kg Met. B 15 Kg | EN 12730 |
| Tear Resistance | Long. 125 N Trans. 65 N | EN 12310-1 |
| Peel Resistance of Joints | 65 N/50 mm | EN 12316-1 |
| Shear Resistance of Joints | Long. 180 N/50 mm Trans. 200 N/50 mm | EN 12317-1 |
| Peel Adhesion (on Concrete at 23°C) | 2,9 N/mm | ASTM D 1000 |
| Probe Tack | 7 N | ASTM D 2979 |
| Impermeability | Pass (≥ 60 Kpa) | EN 1928 |
| Vapour Transmission Rate | 90000 µ | EN 1931 |
| Water Absorption | 0.09% | ASTM D 570 |
| Hydrostatic Test | > 6 bar (24 hrs) / no leakage at 3 bars for 1 hr | DIN 52123 |
| Permeability to Radon Gas | 5.7 x 10 ⁻¹² m ² /s SP Swedish Nat. Testing & Research Institute | |
| Permeability to Methane Gas | < 5 cc/m ² x 24h x atm | CSI Method |
| Application Temperature | + 5 °C / + 45 °C - | |
| Service Temperature | - 40 °C / + 80 °C - | |
| Complying with: EN 13969 types A and T; EN 14967 | | |
| Volatile Organic Compound emissions (VOC): 250 µg/m ³ | | |
| Classification for transport: Not Applicable | | |
| Reaction to fire: E (EN 11925 - 2; EN 13501 - 1) | | |
| BRANZ Appraisal: No. 462 | | |

ARDEX WPM 001

Superflex Bathroom & Balcony Premixed - 1 Part Undertile Waterproofing Membrane

00017



PRODUCT DESCRIPTION

Ardex WPM 001 (Superflex Bathroom & Balcony Premixed 1 Part) is a tough, ready to use waterproofing membrane specifically designed for use under tiles. Ardex WPM 001 has been uniquely formulated with synthetic microfibres to increase its strength and eliminate the need for a separate reinforcement mat. Ardex WPM 001 is based on the most advanced acrylic polymer technology, and is totally resistant to re-emulsification once cured.

Ardex WPM 001 is flexible, safe to use, low in odour, and is fully compatible with polymer modified tile adhesives. Ardex WPM 001 is one of the fastest drying one part acrylic membranes on the market – normally ready to tile in 48 hours @ 23°C.

Ardex WPM 001 meets the Green Building Council of Australia Green Star IEQ-13 requirements for Architectural Sealant when tested in accordance with SCAQMD Method 304-91 Determination of Volatile Organic Compounds (VOC) in Various Materials as referenced by South Coast Air Quality Management Division (SCAQMD) Rule 1168.

FEATURES/BENEFITS

- Fast drying Ardex WPM 001 can be tiled over in 48 hours in non critical areas*
- Liquid reinforced: Excellent strength, eliminates need for reinforcing mat
- Flexible: Accommodates normal building movement class 3 membrane as per AS/NZ 4858: 2004 Wet Area Membranes
- Advanced acrylic: Will not re-emulsify once cured
- Designed for tiling - Fully compatible with Ardex tile adhesive systems
- Water based, safe to use, low odour & easy cleaning
- CSIRO Appraisal #91 for undertile waterproofing in shower recesses
- Conforms to the requirements of AS/NZ 4858: 2004 Wet Area Membranes.
(Ref: CSIRO Report 3779)

*Critical areas include areas where the membrane is applied at greater than 0.5mm or over impermeable substances such as over bond breakers or incorporating other reinforcement. Longer drying times are necessary in these areas.

APPLICATION RANGE

Performance Levels

Commercial and residential

Location

Internal wet areas, balconies, decks, and other areas that will be tiled or otherwise protected from regular foot traffic.

Surfaces

Walls & floors

Substrates

Concrete

Cured for min. 28 days or sealed when set with one coat of Ardex WPM 300 (HydrEpoxy 300) at a coverage rate of 3.0 square metres per litre and allowed to cure overnight. External wet concrete should be allowed to dry thoroughly or sealed with one coat of Ardex WPM 300 as above.

Renders and screeds

Cured for min. 7 days or sealed when set with one coat of Ardex WPM 300 at a coverage rate of 3.0 square metres per litre and allowed to cure overnight. Wet render should be allowed to dry thoroughly or sealed with one coat of Ardex WPM 300 as above.

Fibre cement

Suitable for wet area grade fibre cement.

Plasterboard

Wet area grade only.

Plywood

Structural plywood (PAA branded), marine grade or other wet area grade only.

Particleboard

Wet area grade, internal use only (special preparation is required – contact Ardex).

Permanent

In conditions of permanent immersion,

Immersion

it is recommended that Ardex WPM 002 (Superflex Two Part) is used. Must be covered with tiles for full immersion.

Contact Ardex for use over existing membranes, covering materials, and any other substrates not listed.

SPECIFICATION CLAUSE

ARDEX WPM 001 (Superflex Premixed)

The waterproofing membrane shall be Ardex WPM 001: a one part acrylic modified fibre reinforced membrane formulated to provide a tough, long lasting water barrier under tiling systems.

PACKAGING

Single component: 20kg (approx 15 litres) or 6.5kg (approx 5 litres).

TABLE 1

| | Thickness per Coat | | Total Dry Film Thickness (2 coats) | Theoretical Coverage | | Per Unit |
|--------|--------------------|----------|---------------------------------------|----------------------|-------------------|----------------|
| | Dry Film | Wet Film | | Per coat | For 2 coats | |
| FLOORS | 0.5mm | 1.0mm | 1.0mm | 15m ² | 7.5m ² | 20kg(15L) unit |
| WALLS | 0.25mm | 0.5mm | 0.5mm | 30m ² | 15m ² | 20kg(15L) unit |

SHELF LIFE

12 months when stored in the original unopened packaging, in a dry place at 23°C. Do not store in direct sunlight. Replace lid tightly after use. Use remaining contents from part used containers within 3 months.

COVERAGE

Two coats are recommended for an effective waterproof membrane.

Coverage will vary depending on the porosity of the surface.

One 20kg (15 litre) unit will cover approximately 7.5-15m² (based on two coats) depending on area requirements between wall and floor surfaces to be treated. Refer Table 1.

DRYING TIMES

Recoat time

1-2 hours at (23°C/50% RH) between first and second coats. Alternatively, if a polyester mat is used between coats then the second coat can be applied whilst the first coat is still wet.

Dry through

The slowest drying areas are those where the membrane has been applied over a silicone bond breaker, eg. wall and floor junctions. The membrane cannot be tiled over until these critical areas are completely dry. Ardex WPM 001 is totally dry in 48 hours at 23°C/50% RH, but can take up to 72 hours at 10°C/50% RH in corners or for thick films.

Fully cured

The shower should not be used until the membrane has reached its full strength. Ardex WPM 001 membrane is fully cured after 3 days at 23°C, or after 5 days at 10°C.

Drying times will vary depending on humidity, surface temperature and surface porosity.

Do not apply on substrates where the surface temperature is below 10°C or above 35°C.

CLEANING

Wash hands, brushes, rollers, etc, with water while the membrane is still fresh. Remove cured material with mineral turpentine.

SAFETY PRECAUTIONS

Do not use the product in the following situations:

- Areas subject to negative hydrostatic pressure or rising damp, unless treated with Ardex WPM 300.
- Where the substrate is wet – wet surfaces can be sealed with one coat of Ardex WPM 300 at a coverage rate of 3.0 square metres per litre and allowed to cure overnight.
- Where rain is imminent.
- Where the membrane will be left exposed and subjected to regular foot traffic.
- On glazed, glass or other totally impervious surfaces (eg. areas pre-treated with water repellants).
- Where the surface temperature is below 10°C or greater than 35°C.
- All floor areas must have adequate falls either built into the substrate or achieved with a sand/cement screed prior to application of the Ardex WPM 001.

For substrates or situations other than those listed contact Ardex.

SAFETY DATA

Ardex WPM 001 is non-hazardous and non dangerous. It may produce discomfort of the eyes, respiratory tract and skin. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin. Wear eye/face protection. In case of contact with eyes, rinse with plenty of water and seek medical advice.

ADDITIONAL INFORMATION IS LISTED IN THE MATERIAL SAFETY DATA SHEET.

QUALITY PRODUCT

Ardex WPM 001 is manufactured and tested to Ardex procedures which are maintained in accordance with Quality System Standard ISO 9001.

ARDEX WPM 001

Superflex Bathroom & Balcony Premixed - 1 Part Undertile Waterproofing Membrane

USER NOTES

The technical details and recommendations contained in this data sheet are given in good faith and represent the best of our knowledge and experience at the time of printing. It is the responsibility of the user to ensure that the product is used in accordance with Ardex instructions and in applications for which they are intended.

APPLICATION

Apply Ardex WPM 001 by brush or roller. A medium nap (12-15mm pile) paint roller is recommended. New rollers should be dampened with water before being used for the first time.

For best results with a paint brush use a good quality, 50mm long bristle variety.

To achieve the required dry film thickness per coat, application must consist of laying the product onto the surface and light finish the surface. Do not try to apply in the same manner as a building paint. A conventional building paint is normally applied at 25-40 micrometers wet film thickness while Ardex WPM 001 needs to be applied at between 0.5 and 1.0 mm per coat depending on product and application (Refer Table 1).

Critical Areas:

INTERNAL WET AREAS

1. Construction should be in accordance with Australian 3740 - 2004: Waterproofing of wet areas within residential buildings.
2. All render and tile bed requirements should be completed before application of the membrane and tiles or other floor coverings should be direct bonded to the membrane.
3. Ensure wall & floor sheets are installed as per sheet manufacturer's recommendations.
4. Ensure suitable brick/concrete hobs are used (do not use timber).

5. Ensure that falls to the waste are min 1:60 (ie. approx. 30mm in 2mtr)) before waterproofing. Ensure outlet pipes are fixed securely and that the waste or drainage flanges are recessed into the floor.
6. Avoid sheet joints in shower recess floor. Ensure that sheets are securely fixed to the wall at the bottom edge, and sheet joints are sealed with a neutral cure silicone sealant spread approximately 6mm on either side of the joint.
7. Treat nail and screw holes with neutral cure silicone sealant.
8. Seal the perimeters of taps, shower outlets and waste outlets with neutral cure silicone sealant.
9. Apply a bead of neutral cure silicone sealant to all horizontal and vertical corners.
10. Apply a bead of neutral cure silicone sealant to the junction of the hob or angle and walls. Spreading the sealant to 6mm on either side of the joint.
11. Waste outlets shall incorporate a puddle flange or similar in accordance with AS3740 & the top surface shall be set flush with the surface to which the membrane is to be applied. A bead of neutral cure silicone shall be applied across the intersection of the puddle flange and the screed/floor.
12. Apply the membrane to the entire shower recess floor and down into waste or drainage flange. Apply the membrane over the hob and at least 150mm beyond the outside edge of the hob (ideally to entire wet area floor).
13. Apply the membrane 1800mm up the walls or to the height of the shower rose within the shower recess.
14. Install the shower screen to inside edge of the hob.

Fig.1 - Shower Recess - Critical Areas

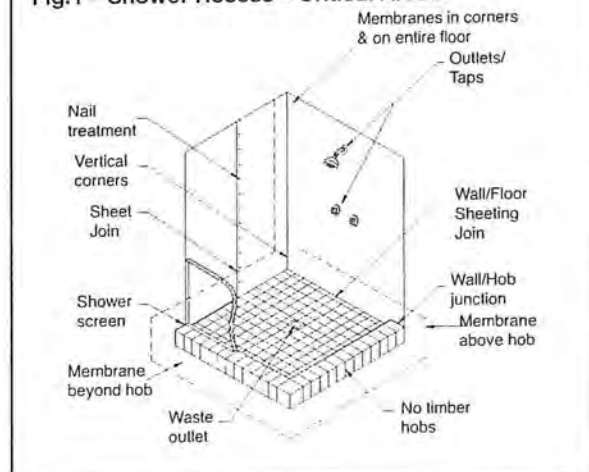
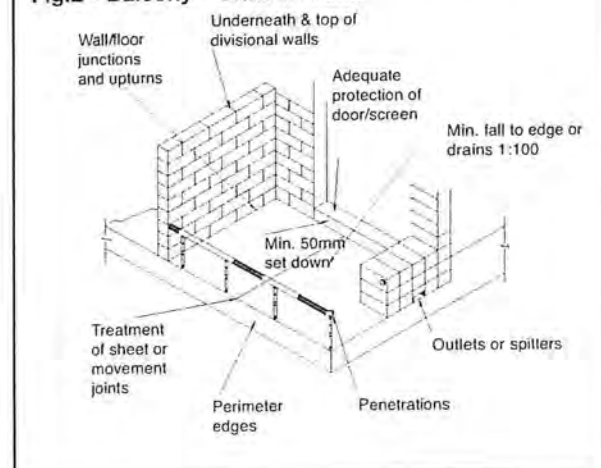


Fig.2 - Balcony - Critical Areas



BALCONIES AND DECKS

1. Ensure that the deck is constructed with falls to edge/drains of min 1:100 (ie. 20mm in 2m) or else achieve the fall with a sand/cement screed.
2. Ensure a min set down (step down) of 50mm to the finished floor level (ie. top of tiles).
3. Ensure suitable flashing is installed, ideally prior to the installation of the balcony screen/ sliding door.
4. Treat any sheet joints with a neutral cure silicone prior to waterproofing.
5. Prepare and seal all wall/floor junctions with a bead of neutral cure silicone.
6. Apply the membrane up the step down and as far up underneath the screen door flashing as possible (ideally waterproof prior to installing door).
7. Where possible, apply the membrane prior to building divisional walls, or other items such as planter boxes.
8. Apply the membrane to the entire balcony floor and at least 50mm up the wall above the top surface of the finished tiles and finished below the wall drainage vents.
9. Apply the membrane to the top of the parapets and divisional walls, or else install suitable metal capping.
10. Apply the membrane down over the front edge of the balcony onto the drip rail.
11. Carefully seal any gaps around balcony penetrations prior to applying the membrane.
12. Apply the membrane down into outlets and drains, ensuring excess material is removed.
13. Ensure all weep holes are above the membrane application area.

APPLICATION NOTES

Surface preparation

- Ensure all surfaces are structurally sound and totally dry. The pores of concrete surfaces should be open (absorbent surface). All sheet substrates must be securely fixed in accordance with the manufacturers instructions.
- Falls to outlets of at least 1:60 or approx. 30mm in 2mtr (wet areas) or 1:100 externally, must be achieved prior to tiling.
- The surface to be coated should be free from dust, oil, paint, curing compounds and any other contaminating materials.
- Damaged concrete should be repaired (leveled) and surface defects including all cracks and sharp protrusions should be treated prior to the application of the membrane.
- Remove laitance on concrete or screeds by mechanical means.
- Highly dense (>40MPa) or steel trowelled concrete should be roughened by suitable mechanical means (shot blasting, grinding, etc).

Priming

The primer is a critical part of the waterproofing system. Apply one coat of Ardex WPM 265 (Sheltercoat/ Superflex Water Based Primer) by brush or roller to all areas to be waterproofed including the floor waste. Allow the primer to completely dry prior to the application of the Ardex WPM 001 membrane. This will take around 20-30 minutes depending upon weather conditions and porosity of the substrate. Coverage is approximately 6m² per litre. Plastic (eg. PVC) pipes should be primed with a solvent based plumbers pink primer. Prime metal surfaces with a suitable metal primer such as epoxy polyamide primer.

GENERAL APPLICATION

Crack preparation

Cracks <2mm:

Clean and remove any loose particles in the crack. Prime the crack and adjacent area carefully with Ardex WPM 265 and allow to dry before applying two coats of Ardex WPM 001 membrane in a band at least 200mm wide equidistantly across the crack, along the length of the crack.

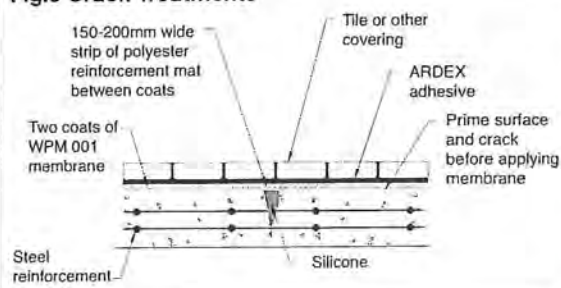
Cracks 2-6mm:

(Refer Fig. 3) Prepare and prime the crack as above. Apply a bead of neutral cure silicone into the crack and extend it 6mm either side. Apply a 300mm wide band of Ardex WPM 001 equidistantly across the crack along the entire length of the crack. Place a 190mm wide band of Ardex "Deckweb" polyester woven cloth reinforcement over the applied membrane. Thoroughly wet out the cloth preferably using a fluted roller, and remove all creases in, or air pockets under the mat. Immediately apply a second coat to completely fill the mat.

Cracks >6mm:

Contact your local Ardex representative.

Fig.3 Crack Treatments



ARDEX WPM 001

Superflex Bathroom & Balcony Premixed - 1 Part Undertile Waterproofing Membrane

Movement/construction joints

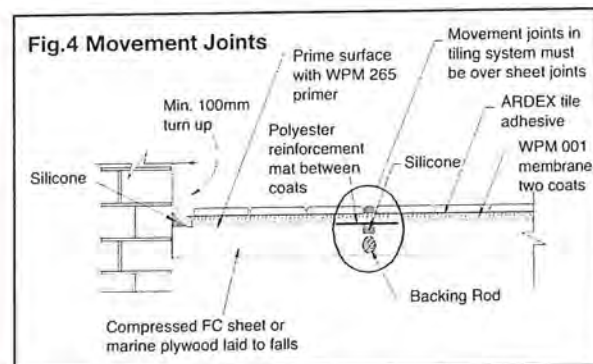
Movement joints (<6mm)

Use same procedure as in crack preparation.

Clean and prime the joint before filling it with a bead of neutral cure silicone and extending it 6mm each side of joint. Apply a 300mm wide band of Ardex WPM 001 equidistantly across the crack along the entire length of the crack. Place a 190mm wide band of Ardex "Deckweb" polyester woven cloth reinforcement over the applied membrane. Thoroughly wet out the mat and remove all creases in, or air pockets under the mat. Immediately apply a second coat to completely fill the mat.

Construction joints (>6mm)

Use the same procedure as above, but replace the reinforcing mat with 120mm of Ardex Coving Bandage. Note: if tiling, movement joints should be taken to the surface of the tiles. Fill the joints between the tiles immediately above the movement joints with an appropriate joint sealant. (Refer Fig.4)



Corners & coving areas

After priming with Ardex WPM 265 and allowing to dry, apply a generous bead (12mm) of neutral cure silicone sealant to seal all junctions between two substrates in coving areas and corners. Smooth over the silicone so that it extends 6mm up the wall and 6mm over the floor and allow to touch dry.

Apply a first coat of Ardex WPM 001 to the area and allow the membrane to dry.

Apply a second coat ensuring that excess product is removed from the junction (the final dry film thickness should be minimum of 1.0mm). Alternatively, if a polyester reinforcement mat is used between coats then the second coat can be applied as soon as the mat is fully bedded into the first coat.

WALL/FLOOR JUNCTION

After priming with Ardex WPM 265 and allowing to dry, apply a generous bead (12mm) of neutral cure silicone sealant to seal all junctions between two substrates. Smooth over the silicone so that it extends 6mm up the wall and 6mm over the floor and allow to touch dry. Place a 190mm wide band of Ardex "Deckweb" polyester woven mat reinforcement over the applied membrane. Thoroughly wet out the cloth and remove all creases in, or air pockets under the mat. Immediately apply a second coat to completely fill the mat. The Ardex WPM 001 should be applied to at least 100 mm up the wall surfaces as per the recommendations for the application of Ardex WPM 001 to floors.

Walls

Two coats of Ardex WPM 001 are required to achieve a minimum total dry film thickness of 0.5mm.

After priming with Ardex WPM 265 and allowing to dry, apply two coats of Ardex WPM 001 (to achieve a minimum dry film thickness of 0.5mm) in two opposite directions. Wall sheet joints should be treated with a neutral cure silicone, PVC duct tape or base jointing compound. In balcony situations take the membrane up underneath any existing cover flashing or install appropriate flashing. Allow the first coat to dry before applying the second coat.

Floors

Two coats of Ardex WPM 001 are required to achieve a minimum total dry film thickness of 1.0mm. The flooring recommendations should be extended at least 150 mm up all perimeter walls.

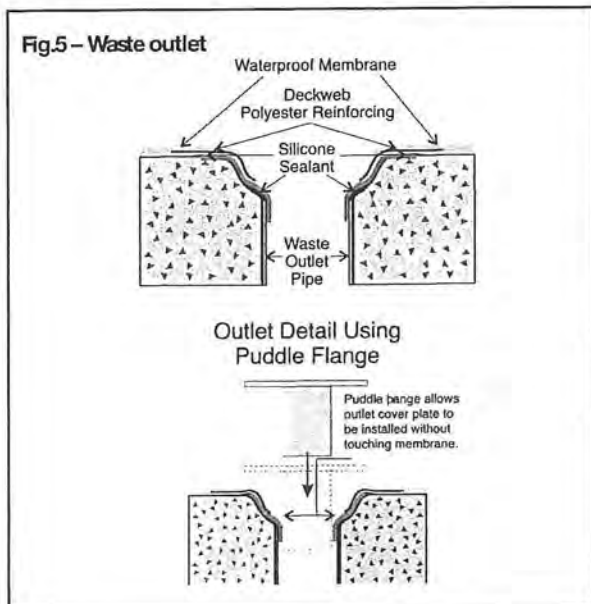
Prime the surface with Ardex WPM 265 and allow to dry.

Apply the first coat over the primed surface and allow it to dry (1-2 hours at 23°C, 50%RH) before applying a second coat in an opposite direction. In shower recesses a drainage flange must be installed on all timber/sheeted floors, and are strongly recommended on all other substrates. Where possible rebate the flange into the floor. Seal the perimeter of the flange with neutral cure silicone treatment. If a flange is not installed the membrane must be applied down into the pipe. (Refer Fig.5) Allow the membrane to dry completely before tiling. Refer drying times above.

Waste Outlet

Prime the surface with Ardex WPM 265 and allow to dry. Surfaces of the outlet flange must be primed with an appropriate primer.

Apply Ardex WPM 001 over the adjacent floor surface extending down into the waste outlet flange overlapping the edge of flange by at least 30mm. Place Ardex "Deckweb" polyester woven mat reinforcement over the applied membrane. Thoroughly wet out the cloth and remove all creases in, or air pockets under the mat. Immediately apply a second coat to completely fill the mat. (Refer Fig. 5)

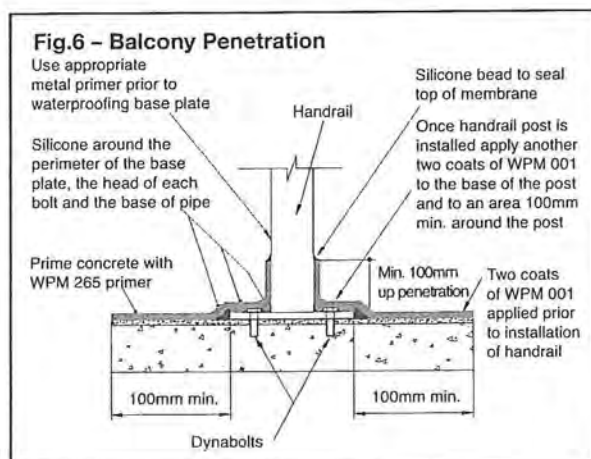


Balcony penetrations (Refer Fig.6)

All upstands are to be mechanically fixed through the membrane, which must be fabricated with a base plate flange.

Prime the metal with an appropriate metal primer such as an epoxy polyamide primer and allow to dry. Apply a 10mm bead of neutral cure silicone around the perimeter of the penetration. Apply the first coat of Ardex WPM 001 on the substrate and the flanged metal.

Allow first coat to dry before applying a second coat ensuring a finished dry film thickness of no less than 1.0mm is achieved. Place a suitable flashing collar around the penetration sealing it with a suitable sealant.



Tiling systems

It is advisable to conduct a flood test of the shower once the membrane has cured (normally after 72 hours), and before the tiling commences. A broad range of Ardex tile adhesives can be used over Ardex membranes. Contact Ardex or your nearest Ardex stockist for advice on the most suitable system.

TECHNICAL DATA

Ardex WPM 001 (Superflex Premixed) Characteristics of liquid

| | |
|--|----------------------|
| Form & Colour | Blue viscous paste |
| Type | Single part |
| Specific Gravity | Approx. 1.34kg/litre |
| pH of Liquid | 8.5 |
| Viscosity of Liquid (RVT Brookfield, spindle 7 speed 10) | 52,000cps |
| Non Volatile Matter (volume) AS1321.10 | 50.3%±1 |
| Tensile Strength 7 days dry AS1145 | 1.04 MPa |
| Full Cure | 1.92 MPa |
| Elongation at Break 7 days dry AS1145 | 780% |

Conforms to requirements of class 3 membrane of AS/NZ 4858: 2004 Wet Area Membranes.

NOTE: Most of the tests have been carried out in the Ardex laboratory under standard conditions (23±2°C, 50±5% R.H)

J0018



SPECIFICATION

Of work to be done and materials to be used in carrying out the works shown on the accompanying drawings

Proposed

Additions and Alterations

**104 Raukawa Road
Peka Peka**

Lorraine and Bill Cargill

Date 7 September 2017

CONTENTS

PROJECT

Compliance

Structural sketch details - engineers ps1 – foundation and retaining wall

H1 compliance report

Preliminary and General

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Concrete Blockwork

Carpentry

Timber Framing

Wall Cladding

Roofing

Rainwater System

Interior Linings

Painting

Water System

Drainage

Electrical

GIB bracing schedule

Acceptable solution E2/AS1 External moisture

Building envelope risk score.

Product technical statements.

PROJECT

Project

Street address : 104 Raukawa Rd Pekapeka

Owner

Name : Lorraine and Bill Cargill

Mailing Address: As above

Telephone: 04 9047323

Project description

Type: Lounge bedroom ensuite and entry extension

Intended use: Single residential building

Intended life: Indefinite but not less than 50 years

Contractor

Name: Cargill construction

Mailing Address: 104 Raukawa rd Pekapeka

Telephone: 027 2412097

COMPLIANCE

Site data

| | |
|----------------------|--|
| Exposure zone: | Exposed (to NZS 3604, 4.2 Classification of exposure zones) |
| Wind zone: | Very high (to NZS 3604 5.2.2 Wind regions) |
| Topographical class: | Moderate (to NZS 3604, table 5.3 determination of topographical class and 5.4 topographical class) |
| Earthquake zone: | 3 (to NZS 3604, figure 5.4 Earthquake zone) |

Building data

| | |
|-----------------------------|---|
| Building classification: | Single story (to NZS 3604, table 1.1 classification of buildings) |
| Floor live load: | 2KPa (to NZS 3604 table 1.2 Basic live loads for floors and stairs) |
| Overall height of building: | 3.400 |

Site

| | |
|--------------------|---------------------------|
| Legal description: | Lot 6 DP 362593 CT 255394 |
|--------------------|---------------------------|

Site coverage

| | |
|--------------------------|------------------|
| Existing house: | 82m ² |
| Separate Bedroom ensuite | 24m ² |
| Garages | 54m ² |
| Hay shed | 39m ² |

Site coverage Proposed

| | |
|------------------------|------------------|
| Bedroom ensuite lounge | 84m ² |
|------------------------|------------------|

1 PRELIMINARY AND GENERAL

1.1 DOCUMENTS

The contract documents comprise:

1. Architectural drawings numbered 1 to 15 inclusive.
2. This specification including the structural design and specification from Spencer Holmes.
3. The Standard Conditions of Contract 2011 of the New Zealand Institute of Architects.

1.2 GENERAL INTENT

The drawings and specification are to be read together and anything shown and not specified or vice versa, shall be referred to the Architect for clarification.

1.3 PROTECTION AND DAMAGE

The Contractor shall provide for the protection of all existing flooring. Any damage arising from activities under this contract shall be made good.

Any damage whatsoever, sustained by the property of adjoining or other owners or arising from causes attributable to the building contract, shall be made good by the contractor at his own expense.

1.4 DIMENSIONS

All figured dimensions shall take preference over scaled dimensions. Dimensions are shown from rough structural or framing faces unless indicated otherwise.

Where any discrepancy occurs as between or within the drawings and specification, it shall be reported to the Architect before proceeding with the section of the work affected.

1.5 INSPECTION OF SITE

Before the submission of any tender any intending bidder must visit the site of the contract fully to familiarise himself with the nature of the site conditions and the work that is required. He must further peruse all of the drawings and details relating to the work and this specification. Thus he may become fully informed as to the scope and character of his work, and no extra can be claimed.

1.6 INSURANCES

The Owner shall effect and maintain insurance of the existing structure and the contract works in the joint names of the Owner and Contractor.

The Contractor shall effect and maintain General Public Liability Insurance, Contractor's Equipment and Plant, and Motor Vehicle Public Liability Insurance.

1.7 MATERIALS AND WORKMANSHIP

Provide all labour, materials, temporary work and everything necessary for the due and proper completion of the work.

All materials shall be the best of their respective kinds, qualities, classes or grades specified. Materials for which a New Zealand Standard exists, shall comply with the relevant requirements. In the absence of a New Zealand Standard the appropriate British Standard is applicable.

Workmanship is to be in accordance with best trade practice. Work is to be accurately set out, structurally sound, true to line and face and neatly executed and finished.

1.8 ATTENDANCE

The Contractor shall allow the use of ordinary scaffolding, special scaffolding, plant, power, working space and water to all sub contractors, separate contractors and others as and when required by them for the efficient execution of the contract.

The Contractor shall ensure that all sub contractors, separate contractors and others take delivery of their equipment, supplies, and materials as required and place them in the appropriate positions for the efficient execution and completion of their respective contracts and in compliance with the contractor's planning programme.

The Contractor shall allow for fixing all equipment that is shown to be built in or is necessary to be fixed but which is not necessarily specified in the trade section to be fixed by sub contractors.

1.9 PRINCIPALS' RIGHT OF ENTRY

The Principals reserves the right to carry out any other work they may require during the progress of this contract. The contractor shall cooperate if called upon to assist.

1.11 ENCLOSURES

No portion of the building under construction shall be used as a store, office, workshop or for any other purpose without the permission of the Owner.

1.12 FINISHINGS

Should the contractor or any sub contractor consider that the work of any other trade or the condition of any surface is not in a satisfactory condition to ensure a proper finish for his work thereon, he shall notify the contractor and the Architect and shall not proceed until the necessary alteration or improvement has been made. Failing such notice the Contractor or sub contractor concerned will not be relieved of responsibility for a poor result due to such unsatisfactory condition. Application of materials to a surface will be considered as an acceptance of the surfaces to be satisfactory.

1.13 RUBBISH AND CLEANING

The Contractor shall remove all rubbish at frequent intervals and shall take all reasonable precautions to protect finished surfaces from damage or disfigurement. NO FOOD SCRAPS TO BE LEFT ON SITE. As soon as they are installed, all floors, windows, and other fittings shall be thoroughly cleaned out and at completion the building shall be left clean and tidy and ready for immediate possession.

1.14 CONSENTS, NOTICES AND FEES

Conform in all respects to the requirements of the Local Authority and of other controlling bodies. Obtain all licences, consents and permits, give all notices and pay all fees required by all Authorities having jurisdiction, in accordance with their latest regulations and requirements.

All work shall be carried out in accordance with the New Zealand Building Code. The Building Consent issued by the Territorial Authority (TA) confirms that the contract documents comply with this code.

Should additional inspections be required by the TA due to faulty or non-complying work being put in place and requiring re-inspection to ensure compliance then the cost of any additional inspections shall be met by the Main Contractor and not from the Provisional Sum.

1.15 MONETARY ALLOWANCES

Prime Cost Sums (Materials and margin only)

| | |
|------------------------|--------------------|
| 1. Hardware supply | \$ 2000.00 + GST |
| 2. Plumbing fittings | \$ 15,000.00 + GST |
| 3. Electrical fittings | \$ 5000.00 + GST |
| 4. Tiles and tiling | \$ 7000.00 + GST |

| | |
|------------------------|------------------|
| <u>Contingency Sum</u> | \$ 30,000.00+GST |
|------------------------|------------------|

1.17 TELEPHONE INSTALLATION

Allow for attendance on Spark for the installation of copper and fibre connections within the house and for the installation of underground copper and fibre for broadband. Generally this will consist of the installation of cable reticulation, associated equipment and telephone. Seal entries and make good after the running of cables. Ensure that surface wiring is not allowed and that work is concealed wherever practicable.

1.18 GUARANTEES AND WARRANTIES

Where under this contract a guarantee or warranty is normally given in respect of any material, article, workmanship or performance as a matter of trade practice, the Contractor shall provide such guarantee or warranty.

If the material, article, workmanship or performance fails within the period specified (if not specified then for two years) after completion of the contract, the guarantor or warrantor shall forthwith on demand by the Principal, cause such fault or deterioration to be made good without cost to the Principal.

Every guarantee or warranty shall be in favour of the Principal and shall be capable of being assigned by the Principal to any subsequent owner.

All labour shall be guaranteed for **two (2) years**.

| | | |
|---------------|-----------|----------|
| Steel Roofing | materials | 10 years |
|---------------|-----------|----------|

| | | |
|----------------------|-----------|----------|
| Double Glazing Units | unit | 10 years |
| Velux skylights | unit | 10 years |
| Nuralite roofing | materials | 15 years |

Master Build Guarantee to be included for the Contract Works.

1.19 AVOIDANCE AND NUISANCE

All work shall be carried out in such a manner as to cause as little inconvenience as possible and shall not be such as to constitute a nuisance as defined in the Health Act.

The Contractor shall be held responsible for any claim that may arise from the disregard of this clause.

1.20 HEALTH AND SAFETY IN EMPLOYMENT ACT

The Contractor and his subcontractors shall have in place comprehensive health and safety procedures, which shall be available for the Architect to peruse on request. We advise using the checklist at the back of the Labour Department publication "Guidelines for the Provision of Facilities and General Safety in the Construction Industry" to formulate health and safety procedures for each Contract.

1.21 EXCESS SUPERVISION COSTS

Where the Contractor and/or Subcontractor fails to carry out any specified requirements under the contract, installs unspecified equipment and/or materials without the Architect's approval, substitutes a lesser product and/or material specified, carries out substandard work that requires rectification and re-inspection or places work and/or fittings incorrectly, or fails to complete the works by the specified completion date of time for completion, or such extended date of time as may be determined in accordance with the Conditions of Contract, the Contractor and/or Subcontractor shall be liable for the cost of the additional supervision time, administration and expenses incurred by the Architect as a result of the default by the Contractor and/or Subcontractor. Such costs will be calculated in accordance with N.Z.I.A. "Agreement for Architect's Service" on a time charge basis and deducted from the monies owing to the Contractor under the contract.

SITEWORKS

2.1 SCOPE (please refer to drawing)

Clearing of rubbish, vegetation and topsoil.

Excavate for foundations for the extension. Stockpiling and spreading of excavated topsoil.

2.2 WASTE MANAGEMENT

Waste disposal to landfills and cleanfills shall be minimised, with recycling or reuse the preferred method of disposal. Where possible, excavated topsoil and clean fill shall be kept on site.

2.3 CLEARING AND STRIPPING

All vegetation and rubble over the area affected by the site works shall be removed. Topsoil shall be removed from the area affected by the siteworks and stockpiled as directed. Excavated topsoil shall be free from grass and roots and stockpiled on site in mounds as directed by the Principal. Surplus topsoil shall be removed from site.

2.4 EXCAVATION

The site shall be excavated to suit finished levels. If the sub base material is unsuitable as foundation, then excavate further until a satisfactory sub grade is reached. All excavation footings shall be minimum 300 mm below normal ground level or to solid. Where excavations are too deep, bring up to the required levels with compacted hardfill.

Excavations for foundations, trenches for drains, etc shall be true to level and grade. Keep excavations dry until building operations are complete. Care shall be taken to see that all drains are clear, sealed and undamaged before backfilling commences.

SELECTIONS

PREPARATION AND GROUND WORK

FILL

Type: Refer to Structural Engineers Drawings

CONCRETE

DAMP PROOF MEMBRANE

Type/thickness: Thermacraft thermathene 250 micron polyethelene concrete underlay

REINFORCEMENT

Type: Refer to Structural Engineers drawings

CONCRETE

Location: Foundation and Floor slab

Strength: 20mpa

BLOCKWORK

Location: Retaining Walls

Strength: 20mpa grout refer to Structural engineers drawings

BLOCKWALL DAMPPROOFING MEMBRANE

Type/treatment

EXTERIOR WALL FRAMING

Type/treatment: Radiata MSG 8 H1.2 treated

ROOF FRAMING

Type/treatment 100 X 50 purlins and outriggers H3.1 MSG8

EXTERIOR EXPOSED TIMBER

Type/treatment: Radiata H3.1

ENGINEERED TIMBER

Location: Rafters

Type/treatment PS25 Posistruts 249 X 70 @ 400 crs

Highspan joists

Location: Lounge corner post

100x100 Laminated radiata H5.1 treated

WALL CLADDING

Type/treatment: 12mm SD Radiata ply H3.1 treated

Fixings: 50x2.8 316 stainless steel nails @ 150 crs

SOFFIT

Type/thickness: James Hardie Hardiflex soffit 6mm

Finish: Butt jointed

Fixings: 40x2.8mm stainless steel nails to manufacturers specifications

WATER SYSTEM

Pipework: polybutylene

ELECTRICAL

Type: PDL 600 series Refer to proposed floor plan for locations

REFERENCED DOCUMENTS

Documents listed below are, when referred to in the text, part of this specification. However, this specification takes precedence in the event of it being at variance with and requiring a higher standard than any cited document.

Acts and Regulations

Building Act 2004
Gas Regulations 1993
Health and Safety in Employment Act 1992
Electricity Regulations 1997
Plumbers, Gasfitters and Drainlayers Act 1976
New Zealand Electrical Codes of Practice (ECP)

New Zealand Building Code verification methods

E2/VM1 External moisture

New Zealand Building Code acceptable solutions

B1/AS1 Structure - general
D1/AS1 Access routes
E1/AS1 Surface water
E2/AS1 External moisture
F2/AS1 Hazardous building materials
F7/AS1 Domestic smoke alarms
G10/AS1 Piped services - Gas
G12/AS1 Water supplies
G13/AS2 Foul water - Drainage

New Zealand Standards

AS/NZS 1748 Mechanically stress - Graded for structural purposes
AS/NZS 2642 Polybutylene pipe systems
AS/NZS 2269 Plywood - Structural
AS/NZS 2589 Gypsum linings - Application and finishing
AS/NZS 2699.1 Built-in components for masonry construction Wall ties
AS/NZS 3000 Electrical installations (known as the Australian/NZ Wiring Rules)
AS/NZS 3500.2 Plumbing and drainage - Sanitary plumbing and drainage
AS/NZS 3500.3 Plumbing and drainage - Stormwater drainage
AS/NZS 4129 Fittings for polyethylene pipes for pressure applications
AS/NZS 4130 Polyethylene (PE) pipes for pressure applications
AS/NZS 4357 Structural laminated veneer lumber
AS/NZS 4666 Insulating glass units
AS/NZS 4671 Steel reinforcing materials
NZS 3103 Sands for mortars and plasters
NZS 3104 Specification for concrete production
NZS 3109 Concrete construction
NZS 3114 Concrete surface finishes
NZS 3501 Specification for copper tubes for water, gas and sanitation
NZS 3602 Timber and wood-based products for use in building
NZS 3604 Timber framed buildings
NZS 3631 New Zealand national timber grading rules
NZS 4210 Masonry construction materials and workmanship
NZS 4223.1 Glazing in buildings - Glass selection and glazing
NZS 4223.3 Glazing in buildings - Human impact safety requirements
NZS 4223.4 Glazing in buildings - Wind, dead, snow and live actions
NZS 4229 Concrete masonry buildings not requiring specific design
NZS 4251.1 Solid plastering - Cement plasters for walls, ceilings and soffits
NZS 4357 Structural laminated veneer lumber
NZS 5261 Installation of gas burning appliances and equipment
NZS 6803 Acoustics - Construction noise

Building Research Association of New Zealand (BRANZ)

Good practice guide: Stucco
Good practice guide: Tiling

Good practice guide: Membrane roofing

Bulletin 441 Sealed joints in external claddings - 2. Sealants

Bulletin 453 Fasteners selection

Other documents

Department of Labour – Occupational Safety and Health (OSH)

Approved code of practice for demolition

Approved code of practice for safety in excavation and shafts for foundations

Guidelines for the management and removal of asbestos

Repainting lead based paints

New Zealand Metal Roofing Manufacturers Inc

NZ Metal roofing and wall cladding: Code of practice

Window Association of New Zealand Incorporated (WANZ)

Aluminium Window Handbook

Specification for powder coatings on architectural aluminium products

Installation code for aluminium joinery products

WIS™ Window Installation System

0126 GENERAL REQUIREMENTS

1.1 THE WORKS

The works are as described in this specification and shown on the drawings.

1.2 PERSONNEL

Owner: The person defined as "owner" in the New Zealand Building Code.

Contractor: The person contracted by the owner to carry out the contract.

1.3 THE SITE

The site of the works, the site address and the legal description are listed under PROJECT INFORMATION. Confine access and work to the area of site indicated on the drawings.

1.4 SPECIFICATION SECTIONS

Sections are for reference and convenience only and do not constitute individual trade sections or work elements. Read all sections together and read GENERAL REQUIREMENTS with all other sections.

1.5 INTERPRETATIONS

Required: Required by the documents, or by a statutory authority.

Proprietary: Identifiable by naming the manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.

Approval: Approval in writing.

Direction: Direction in writing.

Notified: Notified in writing.

1.6 INCONSISTENCIES

If there are any inconsistencies, errors or omissions in or between documents, the contractor must seek direction in resolving it. Figured dimensions take precedence over scaled dimensions; drawings to a larger scale take precedence over drawings to a smaller scale and drawings take precedence over specification.

1.7 SUBSTITUTIONS

A substitution may be proposed where specified products are not available, or if substitute products are brought to the attention of and are considered by the owner as equivalent or superior to those specified. Except where a specified product is not available, the owner is not bound to accept any substitutions.

Notify proposed substitution of specified products. Include sufficient information to allow the owner to confirm that the substitution is equivalent or superior to that specified.

Advise the owner whether an amendment will or may be required to the Building Consent and the expected costs of such amendment.

1.8 THE WORDS "PROVIDE" OR "FIX"

The words "provide" (or "supply") or "fix" if used separately mean "provide and fix" unless explicitly stated otherwise.

1.9 MANUFACTURERS AND SUPPLIERS

Manufacturers and suppliers requirements, instructions, specifications or details are those issued by them for their particular material, product or component and are the latest edition.

1.10 REFERENCED DOCUMENTS

Reference is made to various New Zealand Building Code (NZBC) acceptable solutions (AS) and verification methods (VM) for criteria and/or methods used to establish compliance with the Building Act 2004. Reference is also made to various Standards produced by Standards New Zealand (NZS, AS/NZS) and to listed Acts, Regulations and various industry codes of practice and practice guides. The latest edition (including amendments and provisional editions) at the date of this specification applies unless stated otherwise. Documents cited both directly and within other cited publications are part of this specification.

- 1.11 **PRECEDENCE OF REFERENCED DOCUMENTS**
This specification takes precedence in the event of it being at variance with and requiring a higher standard than, the cited documents. Resolution of any variance must be confirmed in writing and where Building Consent is affected, the change notified to the Building Consent Authority.
- 1.12 **BUILDING CONSENT COMPLIANCE**
It is an offence under the Building Act 2004 to carry out any work not in accordance with the Building Consent. Refer the resolution of matters concerning compliance to the owner for a direction. Where Building Consent is affected refer any change to the Building Consent Authority.
- 1.13 **STATUTORY OBLIGATIONS**
Comply with all statutory obligations and regulations of regulatory bodies controlling execution of the works.
- 1.14 **BUILDING CONSENT**
Obtain the original or copies of the Building Consent form and documents from the owner and keep on site. Liaise with the Building Consent Authority and/or the building certifier for all required notices and all inspections required during construction to ensure compliance. Return the consent form and documents to the owner on completion.
- 1.15 **INSPECTIONS**
Do not proceed with work noted on the Building Consent for inspection until it has been inspected and passed by the Building Consent Authority inspector.
- 1.16 **PRODUCER STATEMENTS**
When producer statements verifying construction are required, provide copies to both the Building Consent Authority and the owner. Provide producer statements in the form required by the Building Consent Authority.
- 1.17 **TRADE GUARANTEES AND WARRANTIES**
Where specific trade guarantees/warranties are offered covering materials and/or execution of proprietary products or complete installations, provide copies of all guarantees/warranties to the owner.
- 1.18 **SITE ACCOMMODATION**
Provide, erect and maintain scaffolding, sheds, toilets, water, power and hoardings. Allow for cartage, craneage, plant hire and storage. Arrange for temporary works and services necessary for the completion of the works.
- 1.19 **HEALTH AND SAFETY**
Make the works safe and provide and maintain a safe working environment. Ensure that all those working on or visiting the site are aware of the rules governing site safety, are properly supervised and are not unnecessarily exposed to hazards.
- 1.20 **PROTECT THE WORKS**
Protect parts of the work liable to damage until completion of the works. Take all precautions necessary to protect the works from damage by unauthorised entry or inclement weather. Brace and support all parts of the works against damage during construction.
- 1.21 **STORAGE AND PROTECTION**
Provide temporary storage areas and protective covers and screens. Fillet stack and protect all framing and structural members from moisture and contamination. Completely protect finishing materials from the weather and damage and store in accordance with the manufacturer's requirements. Protect fabricated elements from the weather and damage, and store in accordance with suppliers requirements.
- 1.22 **ANTIQUITIES AND ITEMS OF VALUE AND INTEREST**
Report immediately the finding of any fossils, antiquities, or objects of value. Ensure they remain undisturbed until approval is given for their removal.

- 1.23 **MEANS OF COMMUNICATION**
All directions and approvals in writing.
- 1.24 **PROGRAMME**
Provide a programme for the contract works, including the work of separate contractors being carried out concurrently with this contract. Form of programme: A dated bar chart, identifying the contract work's critical path and all key dates for the provision of labour, materials and elements. Supply a copy of the programme, and any updates to the owner.
- 1.25 **WORKING HOURS**
Work on site is restricted to between 0800 to 1800, Monday to Friday, excluding statutory holidays. Work outside these hours may be permitted, with prior approval in writing by the owner.
- 1.26 **RESTRICTIONS**
Do not:
- smoke on site
- light rubbish fires on the site
- bring dogs on to or near the site
- bring radios/audio players on to the site.
- 1.27 **QUALITY ASSURANCE**
Carry out and record regular checks of material quality and accuracy. Provide all necessary materials, equipment, plant, attendances, supervision, inspections and programming to ensure required standards are met.
- 1.28 **DAMAGE AND NUISANCE**
Prevent damage and nuisance from water, fire, smoke, vehicles, dust, rubbish, noise and other causes resulting from the contract works. Comply with the requirements of the territorial authority and relevant Acts and Standards.
- 1.29 **SET-OUT AND DATUM**
Set out the works to conform with the drawings. Establish a permanent site datum to confirm the existing ground floor level and its relationship to other existing and new building levels.
- 1.30 **EXECUTION OF THE WORK**
Conform to the requirements of this specification. Ensure work is level, plumb, and true to line and face. Employ only experienced workers familiar with the materials and techniques specified.
- 1.31 **MATERIALS AND PRODUCTS**
Use only new materials and products, unless stated otherwise, of the specified quality and complying with cited documents.
- 1.32 **COMPATIBILITY**
Ensure all parts of a construction or finish are compatible and their individual use approved by the manufacturers and suppliers of other parts of the system. Source all parts of a system from a single manufacturer or supplier.
- 1.33 **COMPLETE ALL SERVICES**
Ensure completed building services are operational, with temporary labelling removed, required labelling fixed and service instructions provided.
- 1.34 **CLEAR AWAY**
Regularly clear away trade debris, unused materials and elements from the site. On completion of the work leave the building clean and ready for occupancy, with all services operating and mechanical parts in good working order. Remove temporary markings, coverings and protective wrappings.

1.35

CLEAN

Clean and wash down external surfaces to remove dirt, debris and marking. Clean interior surfaces including floors, glass, cabinetwork, joinery, sanitary and hardware items.

0221 PREPARATION AND GROUNDWORK

Refer to Structural Engineer Drawings for specific product, material, accessories and finish selections.

1.1 SITE SAFETY

Provide proper support for excavations. Cover holes and fence off open trenches and banks.

1.2 FILLING MATERIALS

Sand fill: Clean sand of such grading in particle size as to allow for mechanical compaction to 90% maximum density.

Hardcore: Scoria or crushed rock to GAP (General All Passing) 40 grading.

Dressing course: Scoria to GAP 20 grading, or "dirty footpath scoria", or equivalent "all in" graded crushed metal aggregate.

1.3 EXCAVATION GUIDELINES

Carry out excavation to the guidelines set in OSH Approved Code of Practice for Safety in Excavation and Shafts for Foundations.

1.4 PROTECT EXISTING

Protect from damage existing buildings, structures, roads, paving and services nominated on the drawings as being retained, throughout the course of the work.

1.5 PROTECT TREES

Protect from damage all trees, shrubs, natural site features and existing landscaped areas nominated on the drawings as being retained, throughout the course of the work.

1.6 SURFACE PREPARATION

Conforming with NZS 3604, 3.5 Site preparation, remove all turf, vegetation, trees, topsoil, stumps and rubbish from the area being built on.

1.7 UNDERGROUND ELEMENTS AND SERVICES

Break out and remove underground elements and redundant services. Report for instructions when unexpected voids, made-up ground or services are encountered. Seal off the ends of drains or remove to utility operator approval.

1.9 GENERAL EXCAVATION

Trim ground to required profiles, batters, falls and levels. Remove loose material. Protect cut faces from collapse. Keep excavations free from water.

1.10 EXCAVATION FOR FOUNDATIONS

Take foundation excavations to depths shown. Keep trenches plumb and straight, bottoms level and solid, stepped as detailed and clean and free of water.

1.11 INADEQUATE BEARING

If bearing is inadequate then excavate further and backfill with material as follows:

Slabs on grade: Refer Structural Engineer Drawings

Footings: Refer Structural Engineer Drawings

Service trenches: Hardfill

If excavation exceeds the required depths, backfill and compact to the correct level with listed material.

1.12 GRANULAR BASE FOR SLABS

Refer Structural Engineer Drawings

1.13 GENERAL BACKFILLING

Compact backfilling in 150 mm layers, with the last 200 mm in clean topsoil, lightly compacted and neatly finished off.

CONCRETE

Refer to Structural Engineer Drawings for specific product, material, accessories and finish selections.

1.1 FALSEWORK AND FORMWORK

Use falsework and formwork of sufficient strength to retain and support the wet concrete to the required profiles and tolerances. Select formwork finish to produce the specified finished quality.

1.2 SURFACE FINISHES

To comply with NZS 3114, section 105, or as denoted on the drawings. Formwork linings and surface finishes as nominated for both fair face and concealed or exposed surfaces. Surface tolerances to comply with NZS 3114, sections 104 and clause 105.3.2.

1.3 DAMPPROOF MEMBRANE

Apply membrane to prepared basecourse with 150 mm laps between sheets. Tape seal laps and penetrations with 50 mm wide pressure sensitive plastic tape. Refer to drawings for perimeter details.

1.4 CASTING IN

Build in grounds, bolts and fixings for wall plates and bracing elements, holding down bolts, pipes, sleeves and fixings as required. Form pockets, chases and flashing grooves as required. No grounds exceeding 100 mm in length. Minimum cover on conduits 40 mm. Do not encase aluminium items in concrete. Do not paint steel embedded items more than 25 mm into the concrete encasement. Cut back form ties to specified cover and fill the cavities with mortar. Wrap all pipes embedded in concrete with tape to break the bond and to allow for expansion.

1.5 CONSTRUCT FLOOR SLABS

Construct in accordance with NZS 3604, 7.5 Concrete slab-on-ground floors for timber buildings. Lay to true and straight surfaces, screeded, floated and steel (manual or power) trowelled finish. Tolerance on flatness: maximum 3 mm gradual deviation over a 3 metre straight-edge, to the requirements of NZS 3114, section 104.

1.6 SAW CUTS

Refer Structural Engineer Drawings.

Pour floor slabs cast on the ground in areas no greater than 25 square metres, with a maximum ratio of length to breadth of 1:1.5. Cut slabs where indicated on the drawings and as required to control shrinkage cracking. Carry out cutting as soon as possible, without causing tear-out of aggregate and before shrinkage cracking has occurred, generally within 24 hours of pouring. Where saw cuts are made, cut out 100 mm of every second wire of the mesh for a length of 50 mm each side of the saw cut position. Saw cuts: $\frac{1}{3}$ rd slab depth, or 30 mm minimum.

1.7 SURFACE REPAIRS

Make good surface defects as soon as forms are stripped. Make good hollows or bony areas with 1:2 mortar, finished to the same tolerances as the parent concrete. Fill tie rod holes with 1:2 mortar.

1.8 STRIKE FORMWORK

Strike formwork without damaging or overloading structure.

1.9 CLEAN OUT

Clean out saw cuts.

3321F FIRTH CONCRETE MASONRY

1. GENERAL

This section relates to the laying, reinforcing and grouting of **Firth** hollow concrete masonry for observation type A or B specific design masonry using ready-mix grout for the following types:

- **Firth** hollow block masonry

1.3 MANUFACTURER'S DOCUMENTS

Firth Industries documents relating to work in this section are:
Firth Masonry Homes Construction Manual

Firth Hollow Masonry Document

Copies of the above documents are available from **Firth** Industries

Email: info@firth.co.nz

Web: www.firth.co.nz

Telephone: 0800 800 576

Facsimile: 0800 800 530

Further information is available by phoning 0800 800 576.

Requirements

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified **Firth** hollow concrete masonry or associated products.

1.5 QUALIFICATIONS

Blocklayers to be experienced competent workers familiar with the required **Firth** type of block laying and be registered with the New Zealand Masonry Trades Registration Board as a Registered Structural Mason.

1.6 CONSTRUCTION OBSERVATION BY ENGINEER

Where required as a condition of the building consent, advise the engineer when inspections are required.

Obtain the producer statements required from the engineer relating to the masonry construction and keep with the building consent documentation.

1.7 QUALITY RECORDS

Keep accurate records relating to strength and quality of materials used in the construction, and make the information available to the Building Consent Authority inspector on request.

1.8 SELECTED MASONRY

Refer to the drawings for areas of masonry, which require select quality blocks to both sides

1.9 CERTIFICATION - SEALERS FOR MASONRY

The sealer applicator is to certify that the sealer application is in accordance with the design and manufacturer's specification. Provide certification to the Contract Administrator.

2.1 MASONRY

Firth masonry blocks to AS/NZS 4455.1 with true and unblemished surfaces and arrises. Use appropriate masonry for intermittently filled construction where vertical reinforcement is placed prior to laying of masonry

2.5 REINFORCEMENT

To AS/NZS 4671, deformed mild steel except for ties in plain round mild steel.

Accessories

2.7 MORTAR

Dricon Trade Mortar to NZS 4210: 2.2 Mortar. Refer to SELECTIONS for colour.

2.10 FINE AGGREGATE GROUT

Firth Certified ready-mixed blockfill to NZS 4210: 2.3 Grout and NZS 3104.

Strength: 17.5 MPa

Aggregate: 4.75mm to 6mm maximum

2.11

Aggregate: 7mm

3. EXECUTION

Conditions

3.1 COMPLIANCE

Comply with NZS 4210.

3.2 TOLERANCES

Construct within the tolerances set out in NZS 4210: clause 2.6.5, Tolerances and clause 2.7, Laying the units, unless specified otherwise on the drawings or in this specification. Lay blocks with jointing of consistent thickness throughout.

Lay masonry to an even, plane surface with no deviation exceeding 3mm in 3 metres on any surface in view in the finished work.

3.3 CHECK BASE

Check that the base concrete on which masonry is being built is true to line and level, to ensure that work can be taken up true and plumb with 10mm thick bed and perpendicular joints. If more than 20mm thickness of mortar bed is needed to correct inaccuracies obtain written direction on remedial action.

3.4 CONSTRUCTION JOINTS

Ensure the structural integration of all masonry with adjacent concrete work by providing well roughened, retarded construction joints at all junctions.

All construction joints between grout and concrete and between grout and grout similar to Type B as described in NZS 3109, clause 5.6.3, prepared using an approved retarder, except that the roughness at fine grout surfaces may be $\pm 1.5\text{mm}$ above and below the average level. Use a "double strength" retarder if necessary to suit the high cement content of the grout.

Vertical joints between masonry and concrete to achieve full structural integration across the joints. Allow to construct concrete work first with prepared vertical construction joints at block junctions the same as for horizontal construction joints. Lay masonry so that all courses have open ends abutting the existing concrete work.

3.5 COVER

All cover shall be in accordance with NZS 3109: 3.8 Cover and 3.9 Tolerances for reinforcement.

- 3.6 **STARTER POSITIONS**
Check the location of starter reinforcement before block laying commences, or by a dry trial lay up of the first course. Do not attempt to correct misplacement by cranking bars. Where misplacement exceeds the location tolerance obtain written directions before proceeding further.
- 3.7 **MOISTURE CONTENT**
Ensure that blocks are air-dry prior to laying. If necessary to reduce excess absorption of water from the mortar, some dampening of the surface is permissible but no surface water may be present at the time of placing mortar.
- 3.8 **PROTECTION**
Keep fair face block walls clean of mortar droppings, grout splashes, or stains of any kind as the work proceeds and before any droppings set and protected from weathering prior to sealing to avoid instances of efflorescence and staining.
- 3.9 **WEATHER PRECAUTIONS**
When extreme temperatures prevail, either below 4°C or above 27°C, make adjustments to construction as listed in NZS 4210: clause 2.18, Cold weather construction, and clause 2.19, Hot weather construction. Do not use expansive grout for filling in temperatures below 5°C.
- Application**
- 3.11 **BONDING PATTERN**
Unless specifically shown or described otherwise in SELECTIONS/drawings, lay masonry in stretcher bond with full masonry bonding at intersections.
- 3.12 **OPEN-ENDED DEPRESSED WEB MASONRY**
Use open-ended depressed web masonry throughout all courses in fully grouted walls.
- 3.13 **CUTTING**
Cut using a masonry saw to provide clean, accurate cuts.
- 3.16 **BOTTOM COURSE**
For fully grouted walls use inverted open-end depressed web bond beam masonry for the first course, to permit clean-out of grout space at the base.
- 3.22 **CLEAN OUT HOLES**
Use special clean-out masonry or saw off a 100mm x 200mm high section of face shell at the base of all cells containing reinforcement, to form clean out and inspection holes.
- 3.23 **GROUT SPACE**
Ensure that grouting cells at reinforcement locations are continuously clear by removal of projecting mortar.
- 3.24 **TIE REINFORCING STEEL**
Tie vertical reinforcing steel to starter bars. Lay and tie horizontal bars as the work proceeds.
- 3.25 **REINFORCEMENT LAPS**
Laps 40 diameters, except as noted otherwise on the drawings.
- 3.26 **BRACING**
Provide temporary lateral bracing to the wall where necessary to ensure stability and until final supporting construction is in place.
- 3.27 **NON EXPOSED MASONRY**
To be laid to the same tolerances as fair face masonry. Joints to be tooled and struck off flush.

3.28 **TOOLED JOINTS**
Finish joints on exposed masonry by tooling to produce a neat, slightly concave joint. Do not use raked joints on exterior walls. Mortar joints around openings to be flush. Refer to the drawings for details.

3.29 **CONTROL JOINTS**
Refer to NZS 4210: clause 2.10, Methods of controlling wall movements, generally and to clause 2.10.2, Vertical control joints, for location; not more than 6 metres apart.

Debond reinforcement passing through control joints 150mm each side for single walls and 300mm one side for 2 walls. Rake out and prime adhesion faces of vertical control joints between masonry and between masonry and concrete as required by the sealant manufacturer. Use masking tape to avoid over-run of sealant onto the block face. Provide a backing strip to limit sealant depth to 10mm, and insert sealant, all to the manufacturer's requirements.

Grouting of bond beams at control joint locations to be discontinuous unless specifically noted otherwise.

Application - grouting

3.30 **INSPECTION**
Inspect clean-out holes prior to grouting. Ensure that cells are clean and reinforcement is correctly placed. Mortar back the clean-out hole shell. If holes are covered in the completed work, boxing across the face may replace the shell infill. Brace hole infills to prevent blowouts during grouting.

Notify when work is ready for inspection.

3.31 **EXTENT OF GROUTING**
Only those cells with reinforcing or where fixing devices occur shall be filled with grout. EsiBloc™ mortarless masonry to be solid filled, with EsiBloc Fill™.

3.34 **GROUTING, LOW LIFT**
Fill masonry walls to NZS 4210: clause 2.14, The low lift grouting method, up to a maximum height of 1200mm. Consolidate by rodding and then prepare a construction joint to NZS 4210: clause 2.16, Horizontal construction joints, before repeating the sequence.

3.35 **LIMIT RATE**
Limit rate of pour to avoid hydrostatic blowouts.

Application - ancillary work

3.36 **HOLES AND CUT MASONRY**
Provide all necessary holes, pockets and chases. Cut blocks when non-standard shapes are required. When cut masonry units are used, ensure vertical joints in adjacent courses are no closer than 100mm. Subsequent cutting away of masonry to form holes is not permitted.

3.37 **BUILT IN ELEMENTS**
As the work proceeds, mortar in place elements such as sills, copings, lintels, and steps.

3.38 **BUILT IN FIXINGS**
Build in all necessary plugs, bolts, ties, metal flashings, dowels, fastenings and fixings required by this and other work sections. Co-operate with others to meet this requirement. Fixings only permitted into filled cells.

3.39 **ELECTRICAL WORK**
Ensure that provision for and fitting of boxes, conduit and pre-wiring are made and done as the work proceeds under the direction of the electrician.

3.40 SEALANT
Apply appropriate sealant where required to the manufacturer's specifications.

3.41 WEATHERPROOFING AROUND OPENINGS
Refer to architectural drawings for weatherproofing details around openings.

Completion

3.43 PROGRESSIVE CLEANING
Clean off mortar splashes and grout spills as they occur.

3.44 FINAL CLEANING
At completion, clean down block work, remove efflorescence and remove waste materials from adjoining surfaces and floors.

3.45 REPLACE
Replace damaged, cracked or marked elements.

3.46 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 MASONRY UNITS
Brand: **Firth**
Series: 200
Bonding pattern: Stretcher bond

4.5 MORTAR
Type/colour: Dricon Trade Mortar colour grey

4.7 FIRTH MASONRY BLOCKFILL
Type: **Firth ~**
Strength: 17.5MPa
Aggregate: 7mm

CARPENTRY

SCOPE

- 1 The supervision of, attendance on, and co-ordination of all sub trades.
- 2 The setting out and construction of all new foundations.
- 3 The supply and installation of new wall, ceiling and roof framing timbers.
- 4 The supply and installation of new steel roofing, including underlay and mesh.
- 5 The supply and installation of the new Butynol roofing, and ply substrate.
- 6 The supply and installation of all new exterior cladding materials.
- 7 The supply and installation of new wall, partition and ceiling linings.
- 8 The installation of all new doors and windows.
- 9 The making good and installation of all new and relocated doors including their frames.
- 10 The supply and installation of timber skirtings, architraves and miscellaneous trims.
- 11 The supply and installation of all new hardware.
- 12 The making good of all existing areas adjacent to new areas of work.
- 13 The supply and installation of insulation to exterior wall cavities, ceilings and polystyrene insulation to block retaining walls

5.2 GENERALLY

Timber specified, workmanship and construction shall be in accordance with the following standards:

| | |
|-----------|--|
| NZS 3602 | Timber Woodbased Products for use in Building. |
| NZS 3604 | Light Timber Framed Buildings not requiring Specific Design. |
| NZS 3603 | Timber Structures Standard. |
| NZS 3614 | Manufacture of Construction Plywood. |
| NZS 3617 | Profiles of weatherboards, fascias and flooring. |
| NZS 3631 | NZ National Timber Grading Rules. |
| NZMP 3640 | TPC Hazard Classification. |

The following moisture content percentages are the maximum MC factors allowable in the timber at the time of fixing:

| | |
|---|------------|
| Dressed hardwood: | 9% to 11% |
| Interior joinery and timber which is to be dressed: | 12% to 14% |
| Framing timber: | 12% to 16% |
| Exterior joinery and timber exposed to the outside: | 12% to 14% |

All timber specified shall be treated and branded in accordance with the requirements of the NZMP 3640 TPC Hazard Classification. Timber to be given a clear finish or to be stained should be free from traces of dye when dressed, but shall be correctly branded.

5.3 SCHEDULE OF TIMBERS

Allow for the following grades and types of timber:

| | |
|---------------------------------------|--|
| General Framing Timber: | Pinus Radiata H1.2 (0.4%boron), No. 1 FG or equal approved |
| Rafters and purlins for skillion roof | Radiata Pine H1.2, CCA treated |
| Joists, bearers and stringers | Radiata Pine H3.2 |

| | |
|-----------------------------------|------------------------------|
| Timber cavity battens: | H3.1, CCA treated. |
| Ply under Nuralite: | H3, CCA treated, 17mm thick |
| Shadowclad | H3.2, CCA treated, 7mm thick |
| Weatherboards: | Pinus Radiata H3.1 |
| Internal. finishing timbers, P/Q: | Pinus Radiata |

5.4 NAILINGS AND FIXINGS

Nailing shall comply with the requirements of NZS 3604:2011. When using fin 35 mm timber for wall framing there is greater care required when fixing linings and structural connectors. 75 x 3.15 nails are used in place of 100 x 3.75. Nail edge distances are at least 2 x diameter of the nail in from the edge of the framing.

5.5 BOLTING TIMBERWORK

Bolts not otherwise specified or referred to on a drawing shall be 12 mm Ø generally at 900 mm maximum centres and fitted with 3 mm. x 50 square washers.

5.6 PRIMING

External finishing timbers that are to be painted shall be primed before fixing, including faces and rebates on door frames. All laps, butts and other site cut edges of pre-primed exterior cladding and finishing timbers shall be site primed before fixing.

5.7 DAMP PROOF COURSE

Between all faces of timber in contact with concrete, place a full width length and height layer of three ply bituminous felt.

5.8 VERMIN STOPS

All means shall be adopted to prevent rats and mice from getting free access into and about the structure, by inserting plates and stops as necessary.

5.9 WORK FOR OTHER TRADES

Wait on all trades. Minimise the cutting of structural members. Do not cut or check into beams and joists within the middle third of their length. In cases where holes are unavoidable, drill max 25 mm Ø holes through the centreline of the member.

5.10 ROOF FRAMING

Rafters shall be birdsmouthed over and securely spiked to the top plates. All rafters shall be securely connected to top plates with two Z nails or trimlocs.

5.11 FLOORING

Secret nail the floor boards, dress to a smooth even surface with machine sanding using 100 grit paper. Hand sand where machine sanding is impossible. All fixings shall be galvanised. Allow to sand, stain, seal and clear finish the floorboards.

5.12 BUILDING PAPERS

Walls: Thermakraft Watergate Plus 295 or similar approved breather type building paper.

Roof: Thermakraft Covertex 403 or similar approved breather type with Chickmesh support.

5.13 INSULATION

Thermal - Walls

Autex Greenstuf polyester thermal wall pads, R 2.5, 90mm thick or similar approved.

Thermal - Roof

Autex Greenstuf roll form, R3.4 (for main roof) or similar approved.

Ensure adequate air circulation between top of insulation and roof cladding, leaving a 25mm gap.

Autex Greenstuf roof blanket R3.2, 115mm thick (for skillion roof) or similar approved.

Ensure adequate air circulation between top of insulation and roof cladding, leaving 25mm gap.

Thermal- Under-floor

Either Expol Black R1.8, 60mm thick, 2 layers

or

Mammoth Multi R1.9 friction stay insulation, 2 layers

Or similar approved.

5.14 EXTERIOR LININGS

Bevel back timber weatherboards, profile to match existing and Shadowclad

Ultra Texture ply with vertical timber weatherboards.

Ensure that all necessary aluminium flashings are in position at openings and behind vertical joints in accordance with the details. Seal boards to the flashings with sealant.

5.15 SEALANTS

Sealants shall be Fosroc or similar approved and be applied strictly in accordance with the manufacturers instructions.

SILAFLEX N For sealing in roofing, gutters and metal cladding.

THIOFLEX 600 General sealant for moving joints.

SILAFLEX RTV Adjacent to glass.

All joints shall be primed, marked and knifed to ensure a high integrity and visually uniform application.

5.16 EXTERIOR FINISHING

Fix facings, beads, fascias and all other miscellaneous finishing timbers fully as detailed on timber schedule and of sizes as shown or required. Prime as specified and mastic seal where necessary to exclude water penetration.

Allow for fitting metal flashings supplied by plumber to exterior joinery. Carefully fit to make weathertight.

5.17 INTERNAL WALL AND CEILING LININGS

Prior to fixing linings, ensure that framing is at or below the moisture content specified.

Gibraltar Board

Line walls with 10 mm Braceline as indicated, otherwise standard 10 mm Gib Board and 10mm Aqualine Gib in the family bathroom and the ensuite. Fix with 30 x 2.5 mm Gib clouts and GibFix adhesive. Line ceiling surfaces with 13mm Gib, including Ultraline Gib in the living/dining room and the kitchen, fixed with Gib Grabber screws and GibFix adhesive. Fix Jambex paper edging to all gib corners. All work in accordance with the manufacturer's instructions.

5.18 INTERIOR FINISHING TIMBER

Generally all items shall be finger-jointed pine where paint finish surfaces are schedule. All beads shall be square/rectangular. Mitre all exterior angles, scribe interior angles and 45° butt joint in length of item.

Skirtings and architraves shall be in paint quality pine, colonial profile to match existing. Skirtings 150x19mm P/Q pine, architraves 100x19mm P/Q pine.

5.19 FIXING JOINERY

The Carpenter shall become conversant with the specification and shall allow for installation of such joinery and all trim around. Please refer to the window and door schedule, some windows are being replaced under schedule One, and the sashes in shower room 2 are to be replaced, not the whole window. On completion check all doors and windows for correct clearance and ease.

5.20 HARDWARE

Supply and fix all hardware complete with all necessary screws etc as specified in the drawings.

5.21 WEATHERPROOF SEALS TO DOOR SILLS

Raven weather seal to the bottom edge of new front door.

0381 TIMBER FRAMING

Refer to SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 TIMBER FRAMING GENERALLY

Species, grade and level of treatment to NZS 3602, tables 1 to 3 Requirements for wood-based building components..., and moisture content to NZS 3602, table 4 Allowable moisture content..... Grading to NZS 3631. Mechanical stress grading acceptable as an alternative to visual grading.

1.3 TIMBER FRAMING DRY, TREATED

Species, grade and level of treatment to NZS 3602, tables 1 to 3 Requirements for wood-based building components..., and moisture content to NZS 3602, table 4 Allowable moisture content. Either mechanically stress graded to AS/NZS 1748, or visual grading to NZS 3631.

1.4 ACCESSORIES

| | |
|--------------------------|---|
| Damp proof course: | High impact embossed polyethylene |
| Nails, bolts and screws: | Steel, stainless steel, galvanized steel of pattern to suit the location and to BRANZ Bulletin 453: Fasteners selection. To NZS 3604, section 4 Durability, for durability. |
| Nail plates connectors: | Stainless steel and/or galvanized steel toothed or nailed plates to the plate manufacturer's design for the particular locations as shown on the drawings and to NZS 3604, section 4 Durability, for durability. Galvanized steel and stainless steel connectors and brackets to the connector manufacturer's design for locations shown on drawings and to NZS 3604, section 4 Durability, for durability. |

1.5 ATTENDANCE

Provide and fix blocks, nogs, openings and other items as required by others.

1.6 MOISTURE CONTENT

Maximum allowable moisture content to NZS 3602, table 4 Allowable moisture content..., for framing supporting interior linings:

| | |
|------------------------|-----|
| - Framing at erection | 24% |
| - Framing at enclosure | 20% |
| - Framing at lining | 16% |

1.7 EXECUTION GENERALLY

To NZS 3604 except as varied in this specification. To include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs). Set out framing in accordance with the requirements of NZS 3604 and as required to support sheet linings and claddings.

1.9 INSTALL FLOOR, WALL AND ROOF FRAMING

Floors and bottom plates framed and fastened to NZS 3604, section 7 Floors. Frame walls to required loading and bracing complete with lintels, sills and nogs, all fabricated and fastened to NZS 3604, section 8 Walls. Frame roof to required loading and bracing complete with valley boards, ridge boards and purlins to NZS 3604, section 10 Roof framing. Design and fit roof trusses complete with anchorage. All fabricated and fastened to NZS 3604, section 9 Posts, and section 10 Roof framing.

0421 WALL CLADDING

Refer to SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.2 PLYWOOD

Structural plywood to AS/NZS 2269.

1.5 FIBRE CEMENT SOFFIT LINING

Cellulose cement autoclaved sheets.

1.6 TIMBER FASCIAS AND BARGE BOARDS

As selected, or radiata pine to NZS 3631 for grading and to NZS 3602, table 2 Requirements for wood-based building components ..., for selection and treatment.

1.7 ACCESSORIES

Building wrap: Breather type, waterproof.

Rigid Air Barriers: Proprietary rigid sheet pre-cladding systems.

PVC jointers: To suit sheet thickness.

Nails, screws, fastenings: Metal, size and pattern, to cladding manufacturer's requirements and complying with the relevant aspects of NZS 3604, section 4: Durability.

1.8 MOISTURE CONTENT

Maximum allowable moisture content to NZS 3602, table 4 Allowable moisture content....

1.9 EXECUTION GENERALLY

Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

1.10 INSTALL WALL WRAP

Fix to the manufacturer's requirements.

1.13 INSTALL PLYWOOD

Install Plywood sheet.

1.14 PRIME OR SEAL

Prime (for opaque finish) or seal (for clear finish) front and back faces, edges and end grain (minimum 2 coats) before fixing weatherboards and exterior trim.

1.17 INSTALL FIBRE CEMENT SOFFITS

Cut sheets dry and scribe fit to fully support all edges and joints. Nail and drill for and insert fasteners to the sheet manufacturer's requirements. Fit complete with jointers and capping moulds. Refer to the cladding manufacturer's literature for fixing details and fixings durability requirements to NZS 3604.

1.18 INSTALL EXTERIOR TIMBER FINISHINGS

Install timber fascias, barge boards, facings, beads, trim and enclosures level, true to line and face, with all end grain sealed and joints mitred.

1.19 INSTALL FLASHINGS

Install flashings, covers and soakers as detailed on the drawings and to NZBC E2/AS1, 4.0 Flashings.

1.20 USE OF SEALANTS

Selection and use of sealants to follow BRANZ Bulletin 441: Sealed joints in external claddings - 2. Sealants.

1.21 COMPLETE

Complete all flashings, finishings and trim so the cladding system is completely weathertight.

0431 ROOFING

Refer to SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Use experienced competent roofers familiar with the materials and techniques specified.

1.2 WIND AND EARTHQUAKE LOADINGS

Use fixings and methods capable of sustaining the loads appropriate to the area as set out in NZS 3604, section 5 Bracing design, and confirmed under COMPLIANCE INFORMATION.

1.3 PROFILED METAL

Profile, metal and finish as selected. Accessories, cappings, flashings and fixings to match and to the roofing manufacturer's requirements.

1.6 ACCESSORIES

| | |
|----------------------------|--|
| Roof underlays: | As selected. |
| Nails, screws, fastenings: | Metal, size and pattern, to roofing manufacturer's requirements and complying with the relevant aspects of NZS 3604, section 4 Durability. |
| Flashings: | As required. |

1.7 STORAGE

Stack roofing and accessories on clean, level areas of the site. Cover and protect from damage and from weather until ready to fix in place.

1.8 SET-OUT

Set out the planned layout before fixing commences, to ensure true lines and the correct relationship to module, grid and roof features. Overlaps to face away from prevailing wind direction.

1.9 LAY ROOF UNDERLAY

Lay and fix to NZBC E2/AS1, 8.1.5 Underlays, and to NZS 3604, 11.2 Roof cladding underlays.

1.10 TAKE CARE

Take care to avoid damaging pre-finished roofing both during and after fixing. Mark only with chalk or spirit-based pen. Wear only soft-soled shoes on the finished surface. Remove metal filings daily.

1.11 INSTALL PROFILED METAL

Use cutting tools recommended by the roofing manufacturer. Fold ends and seal cut edges to the roofing manufacturer's requirements. Fix complete with matching accessories, flashed to roof features and penetrations; all in accordance with the New Zealand Metal Roofing Manufacturers Inc. publication "NZ metal roof and wall cladding code of practice".

1.16 FIXINGS AND SEALANTS

Refer to the roofing manufacturer's literature for fixing details and to NZS 3604 for fixings durability requirements. Select and use sealants only as recommended by the roofing manufacturer.

1.17 INSTALL COVERS AND FLASHINGS

Provide apron, verge and ridge flashings. Install and fix as detailed and to the roofing manufacturer's details and to comply with NZBC E2/AS1, 4.0 Flashings, 5.0 Roof/wall junctions, and 6.0 Parapets.

1.18 PENETRATIONS

Flash and overflash penetrations through the roof. Fit proprietary boots to pipework penetrations.

4422A ARDEX BUTYNOL MEMBRANE ROOFING

1. GENERAL

This section relates to Butynol as single-layer external waterproof covering bonded to:

- construction plywood, including all underlays and accessories
- concrete, including all underlays and accessories.

1

1.3 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:

Ardex waterproofing solutions manual

BRANZ Appraisal 436 - Butynol® Roofing Membrane

Copies of the above literature are available from Ardex

Web: www.ardex.com

Telephone: 0-9-580 0005 Auckland

0-4-568 5949 Wellington

0-3-384 3029 Christchurch

Requirements

1.4 NO SUBSTITUTIONS

Substitutions are not permitted to any specified Ardex materials, or associated products, components or accessories.

1.5 QUALIFICATIONS

Roofing work to be carried out by an Ardex approved Butynol roofing applicator.

Application to be strictly in accordance with the Ardex waterproofing solutions manual and BRANZ Appraisal 436 - Butynol® Roofing Membrane.

1.6 PROJECT REGISTRATION

This project is registered with Systems Ardex for quality assurance. Confirm with Ardex quality assurance co-ordinator any relevant key dates and proposed tenderers. The main contractor is to contact Ardex prior to starting project.

Warranties

1.7 BUTYNOL WARRANTY

Warrant this work under normal environmental and use conditions against failure.

Warranty period: Materials up to 20 years

Warranty period: Execution up to 5 years

Provide separate material and application warranties signed by Ardex and the applicator.

Refer to the general section for the required form of WARRANTY AGREEMENT and details of when completed warranty must be submitted.

Performance

1.8 TEST

Where required a suitable time lapse or water test shall be carried out.

1.9 PERFORMANCE

Accept responsibility for the weather-tight performance of the completed roofing system, including all penetrations through the roof and junctions with walls and parapets. All penetrations to comply with NZBC E2/AS1 and Ardex recommendations.

2. PRODUCTS

Materials

- 2.1 BUTYNOL RUBBER SHEET
Single ply membrane compounded from butyl.
Thickness: 1.0 mm

Components

- 2.2 BUTYNOL SEAM TAPE
Ardex uncured butyl cold gum seam tape.
- 2.3 BUTYNOL SEALANT
Ardex sealant.
- 2.4 BUTYNOL FLASHING TAPE
Ardex flashing tape.
- 2.5 ARDEX DETAIL TAPE
Ardex semi-cured silicone backed detail/finishing tape.
- 2.6 ARDEX ADHESIVES AND SOLVENTS
Ardex adhesives and solvents.
- 2.7 EDGE TRIM
Metal or timber to Ardex details to suit the specific location.

Accessories

- 2.8 ROOFING ACCESSORIES
Ardex, roof outlets, overflows, scuppers and rainwater heads.

3. EXECUTION

Conditions

- 3.1 GENERALLY
All work and materials to the Ardex waterproofing membranes manual.
- 3.2 STORAGE
Take delivery of Ardex Butynol branded rolls, undamaged and allow for site handling facilities where required. Store membranes and accessory materials under conditions that ensure no deterioration or damage.
- 3.3 WEATHER
Apply coverings in a dry atmospheric condition and only when the air temperature is 6°C and above.

Application - preparation

- 3.4 PRELIMINARY WORK
Ensure that preliminary work, including formation of falls, flashing rebates, grooves, ducts, provision of battens and fillets and fixing of vents and outlets to levels, is complete and properly constructed to enable the system to work as intended. This work and the substrate to be smooth, clean and dry.
- 3.5 ACCEPTANCE OF SUBSTRATE
Confirm that the substrate, including fillets, sumps, outlets and projections, will ensure work of the required standard.
- 3.7 PLYWOOD SUBSTRATE
Plywood to be a minimum of 17mm thick and complying with AS/NZS 2269, minimum CD structural grade with the sanded C side upwards. Hazard Class H3 with waterborne CCA treatment and kiln dried after treatment. Lay with staggered joints (brick bond) with all

edges of the sheets fully supported or with tongue and groove jointing. Provide 20mm timber fillets at the base of all upstands and chamfer all external edges with a minimum radius of 5mm. Fix with 10 gauge x 50mm stainless steel countersunk head screws, with a 3mm gap between all sheets. Fix at 150mm centres on edges and 200mm in the body of the sheets. Do not use probe meters to test moisture content.

Plywood and the timber substructure to have a maximum moisture content of 20% when the membrane is adhered.

Application - laying Butynol

- 3.8 **GENERAL**
Tape plywood joints using 25mm Ardex approved self-adhesive tape. Run out sheets and allow to relax for 20 minutes before laying. Do not stretch sheets or tapes in laying.
- 3.9 **APPLY ADHESIVE**
Apply adhesive to the substrate and the Butynol rubber sheeting by brush, spray, or roller at a spreading rate of not less than 2.5 square metres per litre. Leave to tack dry before bonding the two surfaces together.
- 3.10 **LAY SHEETS**
Lay sheets across the roof slope and lap long edges to full width of selvage, 50mm minimum. Smooth down and roll to remove entrapped air. Adhesive bond and seal to the membrane manufacturer's requirements and roll or rub down as the work proceeds.
- 3.11 **BONDING LAPS**
Bond all laps to Ardex requirements. Where the roof slope is less than 5 degrees, where coloured membranes are used, where ponding can occur and in all gutters, use special lap bonding incorporating Ardex seam tape and seam primer.
- 3.12 **MINOR MOVEMENT JOINTS**
Lay sheets across joint but leave unbonded on both sides.
Unbonded width: 25mm minimum
All joints to be taped using Ardex approved self adhesive tape.
- 3.13 **INSPECT**
Inspect and test joints on completion.
- 3.14 **PENETRATIONS**
Form and finish upstands, downturns, penetrations, sumps and vents to conform with Ardex details and NZBC E2/AS1.
- 3.15 **PENETRATIONS AND JUNCTIONS**
Check that adjoining walls and parapets are prepared ready for the installation of the roofing. Confirm that openings have been prepared ready for the installation of skylights and other penetrations through the roof. Required work includes the following:
- roofing installation neatly finished to all sides of openings and to all wall and parapet junctions
- installation of flashings (those required to be installed prior to installation of penetrating elements and/or wall linings).

Finishing

- 3.17 **FOOT TRAFFIC**
Foot traffic is to be limited during and after laying.
- 3.19 **ACCEPTANCE**
Sign off on completed areas. The main contractor to protect and maintain roofing until completion of the contract works.
- 3.20 **SUBSEQUENT WORK**
Make good any damage by later work. Making good to take the form of inserting a new whole or part infill sheet to maintain the appearance of the covering as originally laid.

Completion

- 3.21 CLEAN UP
Clean up as the work proceeds.
- 3.22 LEAVE
Leave work to the standard required by following procedures.
- 3.23 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

Substitutions are not permitted to the following, unless stated otherwise.

- 4.1 BUTYNOL RUBBER SHEET
 - Location: Flat Roof
 - Brand/type: Ardex Butynol
 - Thickness: 1.0 mm
 - Colour: ~

- 1.19 COMPLETE
Ensure the work is complete with flashings, undercloaks, valleys, ridges and hips properly installed so the finished roof is completely weathertight.
- 1.20 CLEAR
Clear trade debris and unused materials from the roof and surrounds regularly during the work and at completion. Sweep down the completed roof and flush out spoutings, gutters and rainwater pipes.

4311M METALCRAFT PROFILED ROOFING

1. GENERAL

This section relates to the supply and fixing of **Metalcraft Roofing** profiled roofing complete with accessories.

It includes:

- Trough section roofing profiles
- Asymmetrical rib roofing profiles
- Corrugated roofing profile
- Translucent roofing

1.1 RELATED WORK

Refer to 4161 UNDERLAYS, FOIL AND DPC for underlays, foils and DPC.

Refer to ~ for ~.

1.2 ABBREVIATIONS AND DEFINITIONS

The following abbreviations apply specifically to this section:

| | |
|-------|---|
| BMT | Base metal thickness |
| NZMRM | New Zealand Metal Roofing Manufacturers Inc |
| MS | Modified silicone |
| LBP | Licensed Building Practitioner |

Documents

1.3 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

| | |
|---------------|---|
| NZBC E2/AS1 | External moisture |
| NZBC G12/AS1 | Water supplies |
| AS/NZS 1170.2 | Structural design actions - Wind actions |
| AS 1397 | Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium |
| AS 3566 | Self-drilling screws for the building and construction industries |
| NZS 3604 | Timber-framed buildings |
| ISO 9223 | Corrosion of metals and alloys - Corrosivity of atmosphere - Classification determination and estimation |
| NZMRM CoP | NZ metal roof and wall cladding Code of Practice (CoP) |

1.4 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents relating to this part of the work:

Metalcraft Roofing Metdek400 product literature
Metalcraft Roofing Metdek500 product literature
Metalcraft Roofing Metdek855 product literature
Metalcraft Roofing Metrib750 product literature
Metalcraft Roofing Metrib760 product literature
Metalcraft Roofing MC700 product literature
Metalcraft Roofing MC770 product literature
Metalcraft Roofing MC760 product literature
Metalcraft Roofing T-Rib product literature
Metalcraft Roofing MC1000 product literature
Metalcraft Roofing Metcom7 product literature
Metalcraft Roofing Metcom930 product literature
Metalcraft Roofing Corrugate 760 product literature
Metalcraft Roofing Alsynite Topglass® product literature

Manufacturer/supplier contact details

Company: **Metalcraft Roofing**
Web: www.metalcraftroofing.co.nz
Email: frances.charles@unitedindustries.co.nz
Telephone: 09 274 0408

Warranties

- 1.5 **WARRANTY - MANUFACTURER/SUPPLIER**
Provide a material manufacturer/supplier warranty:
~ years for failure of coating adhesion
~ years for weatherproofing by material penetration
For Warranty requirements in excess of this contact Metalcraft Roofing.
- 1.6 **WARRANTY - INSTALLER/APPLICATOR**
Provide an installer/applicator warranty:
5 years for workmanship
- Provide this warranty on the material manufacturers standard warranty form.
 - Commence the warranty from the date of practical completion of the contract works.
- Include a copy of the Metalcraft Roofing maintenance requirements with the warranty.
Refer to the general section 1237 WARRANTIES for additional requirements.

Requirements

- 1.7 **NO SUBSTITUTIONS**
Substitutions are not permitted to any specified system, or associated components and products.
- 1.8 **QUALIFICATIONS**
Roof Installers shall be experienced, competent roofers familiar with Metalcraft products. And for Restricted Building Work shall also be, an LBP or supervised by an LBP.
Carry out work with experienced, competent installers familiar with the products being used and preferably with appropriate qualifications such as the National Certificate in Metal Roofing and Cladding.

Performance - wind

- 1.9 **WIND - NON SPECIFIC DESIGN**
Building wind zone:
~ / ~kPa ULS (refer to [NZS 3604](#), table 5.4)
Refer to Metalcraft for "Wind Load Span Design Graphs" for load parameters.
- 1.10 **WIND - SPECIFIC DESIGN**
The design wind pressures are to [AS/NZS 1170.2](#):
SLS ~kPa
ULS ~kPa
Refer to Metalcraft for "Wind Load Span Design Graphs" for load parameters.
- 1.11 **FIXINGS, WIND**
Design and use the fixings/fixing pattern appropriate for the wind design parameters and [NZMRM CoP](#) NZ metal roof and wall cladding Code of Practice. Refer to Metalcraft profiled roofing product literature for profile details. Allow for specific loadings at corners and the periphery of the roof, where localised pressure factors apply. Fixing pattern to also take into account fixing method and purlin spacings.

Performance - General

- 1.12 **PERFORMANCE**
Install roofing materials in accordance with the [NZMRM CoP](#) NZ metal roof and wall cladding Code of Practice, and Metalcraft profiled roofing product literature, to form a weather-tight performance for the completed roofing system, including all penetrations through the roof and junctions with walls and parapets.
- 1.13 **DRINKING WATER**
Roofing for collecting potable water to [NZBC G12/AS1](#).

- 1.14 **CO-ORDINATE**
Co-ordinate to ensure substrate and preparatory work is complete and other work programmed in the order required for access and completion of the roof. Ensure that all necessary members are positioned so that flashings can be fastened at both edges through the roof profile or cladding to the primary structure.
- 2. PRODUCTS**
- Materials**
- 2.1 **PRE-FINISHED HOT-DIPPED ALUMINIUM/ZINC COATED STEEL**
Formability steel sheet, G550 for roll forming or G300 for flashings, coated to AS 1397.
- 2.2 **HOT-DIPPED ALUMINIUM/ZINC/MAGNESIUM COATED STEEL, UNPAINTED**
Formability steel sheet, G550 for roll forming or G300 for flashings, coated to AS 1397.
- Fixings**
- 2.3 **FASTENERS GENERALLY**
Fixings and fasteners are to be compatible with all materials, the environment and meeting the requirements of the NZ Building Code. Installation is to be in accordance with E2/AS1 and/or the NZ Metal Roof and Wall Cladding - Code of Practice and Metalcraft profiled roofing product literature.
For fixing patterns refer to Metalcraft product literature for roofing profile.
- 2.4 **FIXING SCREWS**
To AS 3566. Screws appropriate to the roofing material and the supporting structure, as required by Metalcraft and with a Class 4 or 5 durability and not less than the material being fixed. Screws into timber to penetrate by minimum 30mm. Screw fasteners to be head stamped identifying the manufacturer and class. Refer to SELECTIONS.
- 2.5 **RIVETS**
Sealed aluminium, minimum diameter 4.0mm. Refer to Metalcraft for requirements..
- 2.6 **FLASHINGS GENERALLY**
Formable grade 0.55 BMT for galvanized, aluminium/zinc, aluminium/zinc/magnesium - coated and pre-painted steel and for Metdek500 (only) 0.70 BMT aluminium (or 0.7mm for small aluminium flashings) to the same standards as the profiled sheets, notched where across profile or provided with a soft edge.
- Components**
- 2.7 **FLASHINGS TO VERGE, RIDGE AND HIP**
To [NZBC E2/AS1](#), 4.0, Flashings.
Supplied by the roofing manufacturer to match or to suit the roofing.
- Accessories**
- 2.8 **WIRE NETTING AND SAFETY MESH**
Refer to 4161 UNDERLAYS, FOIL AND DPC.
- 2.9 **UNDERLAY AND REFLECTIVE FOIL**
Refer to 4161 UNDERLAYS, FOIL AND DPC.
- 2.10 **SEALANT**
Neutral curing silicone or polymer sealant as required by Metalcraft and used as directed.
- 2.11 **CLOSURE STRIPS**
Polyurethane profiled closed cell foam strips to fit the sheet profile.
Brand: Ecofoam
Profile: To suit selected cladding profile

3. EXECUTION

Conditions

3.1 INSPECTION

Inspect the roof framing and supporting structure to ensure that it is complete and fully braced ready for roofing and free from any misalignments or protrusions that could damage the roofing.

3.2 FRAMING TIMBER MOISTURE

When continuous metal cladding etc. Runs along a long continuous timber member and is directly fixed to it, the timbers equilibrium moisture content (EMC) to be 18% or less. For flashings in this situation (sometimes called transverse flashings) the framing EMC to be maximum 16%, and preferably as low as 12%. Transverse flashings can be temporarily tacked in place and final fixing done when moisture content is acceptable.

3.3 STORAGE

Upon delivery visually inspect sheets for damage and accept packs of undamaged roofing. Reject all damaged material. Store on a level firm base clear of the ground, with packs well ventilated and completely protected from weather and damage. Do not allow moisture to build up between sheets. If sheet packs become wet, fillet or cross stack to allow air circulation and drying between sheets.

3.4 HANDLING

Do not drag sheets across each other or other materials. Avoid distortion and contact with damaging substances, including cement. Long lengths of roofing should be lifted onto the roof using an approved load spreading beam. Protect edges and surface finishes from damage, keep under cover and remove as the product is being installed. Use soft, flat sole shoes when fixing and for all other work on the roof. Walk along the purlin line whenever possible.

3.5 SEPARATION

Isolate dissimilar materials (metals and non-metals) in close proximity as necessary by painting the surfaces or fitting separator strips of compatible materials. Place isolators between metals and treated timber and cement based materials. Do not use lead sheet or copper in contact with or allow water run-off onto galvanized or aluminium/zinc coated steel.

Application

3.6 FIX INSULATION

Refer to thermal insulation sections.

3.7 SET-OUT

Carefully set out with consideration of the position of side laps to take account of the prevailing wind and line of sight. Ensure all sheets are square and oversailing the gutter true to line. Check during fixing to eliminate creep or spread and string lines along purlin centres to keep fastenings in line.

3.8 END LAPS

End laps are not recommended, except where specifically detailed.

3.9 THERMAL MOVEMENT

Fix for Thermal Movement to Metalcraft requirements for thermal movement.

3.10 FIXING GENERALLY

Install and fix in accordance with the [NZMRM CoP](#) recommendations, and to Metalcraft required fixing patterns and details for each area of the building roofing. Use only screws as required by Metalcraft. Paint colour matched fixings and accessories before installation.

- 3.11 **MARKING AND CUTTING**
Use ink pen, chalk line or coloured pencil for marking roof sheets prior to cutting. Do not use lead pencil for marking Zinalume® and Colorsteel®. Cut by shear only, using nibblers or hand snips. Remove all cutting and drilling debris from the roof.
- 3.12 **STOP ENDS AND DOWNTURNS**
Form stop-ends at the upper end of sheets. Form downturns at the gutter line where the roof pitch is less than 8 degrees. Form using the required tools.
- 3.13 **INSTALL FLASHINGS**
Flash roof to parapets, walls and penetrations to detail. Flashings to be installed on timber framing with moisture content of less than 20%. Where no detail is provided flash to [NZMRM CoP](#) NZ metal roof and wall cladding Code of Practice recommendations and Metalcraft and [NZBC E2/AS1](#) requirements. Cut accurately and fix using sealant and rivets to detail and to Metalcraft requirements to form a weatherproof cover. For visible flashings, plan joints/junction to take account of the aesthetic requirements.
- 3.14 **USE OF SEALANTS**
Select and use sealants only as recommended by Metalcraft. Apply sealant in two narrow beads transversely across flashing intersections, close to the two edges. Avoid exposing sealant on outside surfaces.
- 3.15 **FLASHING PENETRATIONS**
Flash all penetrations through the roof. Fit pipe flashings with a proprietary collar flashing, with other penetrations flashed as detailed and to provide a weathertight installation. Ensure that flashings are set to avoid any ponding of water.

Completion

- 3.16 **REPLACE**
Replace damaged or marked elements. Do not attempt to repair coatings by applying colour match paint to pre-finished surfaces.
- 3.17 **LEAVE**
Leave this work complete with all necessary flashings, undercloaks, valleys, ridges and hips all properly installed as the work proceeds so the finished roof is completely weathertight.
- 3.18 **REMOVE**
Remove all trade rubbish, swarf and unused materials from the roof and surrounds daily during the work. Sweep down at the end of each day, and clean out spouting, gutters and rainwater pipes on completion of the roof. Remove debris, unused materials and elements from the site.

4. SELECTIONS

For further details on selections go to www.metalcraftroofing.co.nz.
Substitutions are not permitted to the following, unless stated otherwise.

Coating system

- 4.1 **COATING SYSTEM - EXPOSURE ZONE B-C (CAT 1-3)**
Project Exposure Zone B-C to [NZS 3604](#), C 1-3 to ISO 9223.
Profile/location: ~
Base material: ~
Coating system: ~
Paint colour: ~

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- 4.2 COATING SYSTEM - EXPOSURE ZONE D (CAT 4)
 Project Exposure Zone D to [NZS 3604](#), C 4 to ISO 9223.
 Profile/location: ~
 Base material: ~
 Coating system: ~
 Paint colour: ~

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- 4.3 COATING SYSTEM - EXPOSURE ZONE E (CAT 5)
 Project Exposure Zone E to [NZS 3604](#), C 5 to ISO 9223, plus geothermal.
 Profile/location: ~
 Base material: ~
 Coating system: ~
 Paint colour: ~

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Roofing - asymmetrical rib profile

- 4.4 MC700 ASYMMETRICAL RIB PROFILE ROOFING
 Location: ~
 Manufacturer: Metalcraft Roofing
 Profile: MC700~
 Dimensions: Sheet width 785mm, cover 710mm, rib height 32mm, and roll formed to any length
 Roof pitch: ~
 BMT/material: ~
 Purlin material: ~
 Fixings: ~

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- 4.5 MC770 ASYMMETRICAL RIB PROFILE ROOFING
 Location: ~
 Manufacturer: Metalcraft Roofing

Profile: MC770~
 Dimensions: Sheet width 835mm, cover 770mm, rib height 27mm, and roll formed to any length
 Roof pitch: ~
 BMT/material: ~
 Purlin material: ~
 Fixings: ~

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4.6 MC760 ASYMMETRICAL RIB PROFILE ROOFING

Location: ~
 Manufacturer: Metalcraft Roofing
 Profile: MC760~
 Dimensions: Sheet width 810mm, cover 760mm, rib height 29mm, and roll formed to any length
 Roof pitch: ~
 BMT/material: ~
 Purlin material: ~
 Fixings: ~

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4.7 T-RIB ASYMMETRICAL RIB PROFILE ROOFING

Location: ~
 Manufacturer: Metalcraft Roofing
 Profile: T-Rib~
 Dimensions: Sheet width 810mm, cover 760mm, rib height 29mm, and roll formed to any length
 Roof pitch: ~
 BMT/material: ~
 Purlin material: ~
 Fixings: ~

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4.8 MC1000 ASYMMETRICAL RIB PROFILE ROOFING

Location: ~
 Manufacturer: Metalcraft Roofing
 Profile: MC1000~
 Dimensions: Sheet width 1063mm, cover 1000mm, rib height 32mm, and roll formed to any length
 Roof pitch: ~
 BMT/material: ~
 Purlin material: ~
 Fixings: ~

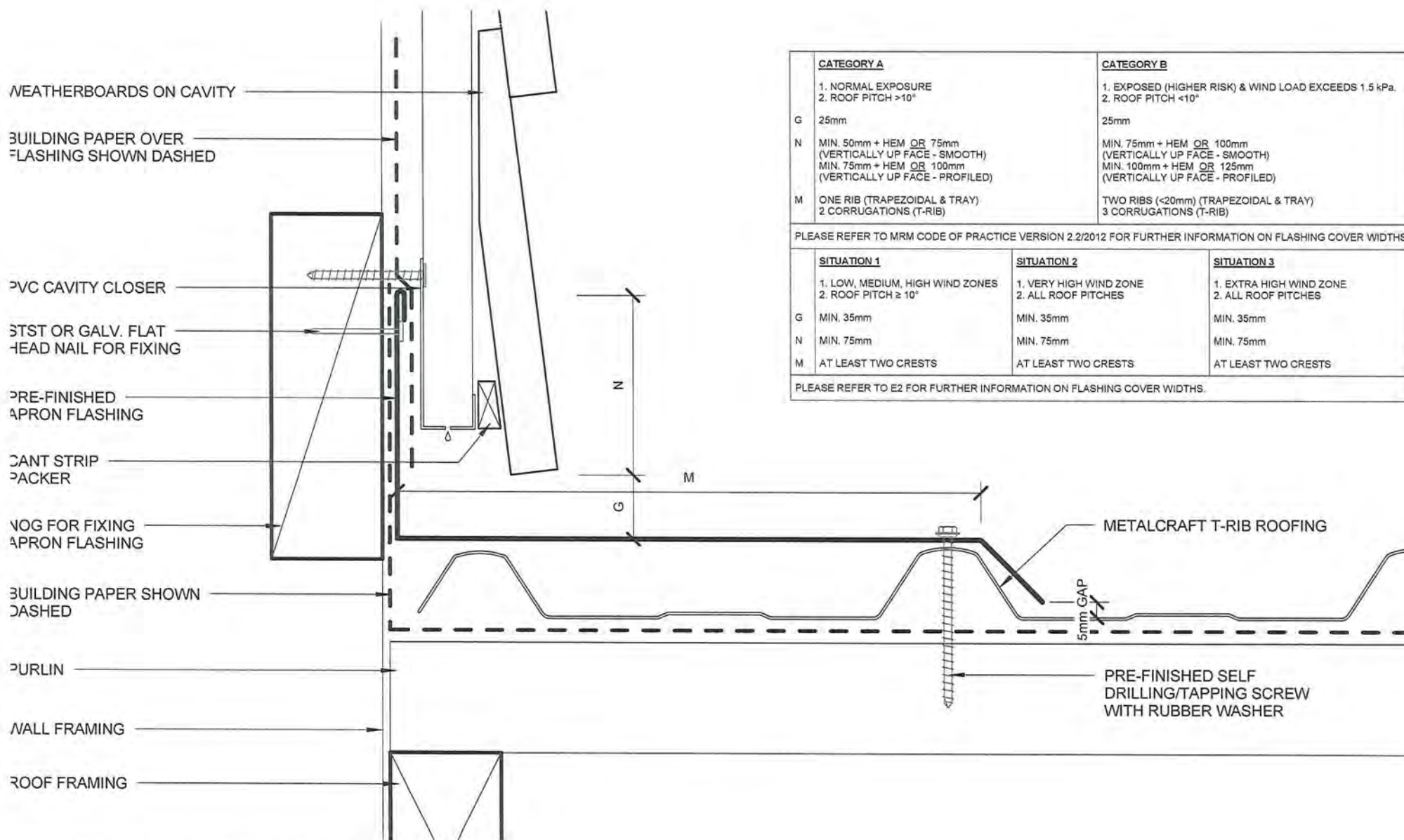
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Translucent roofing

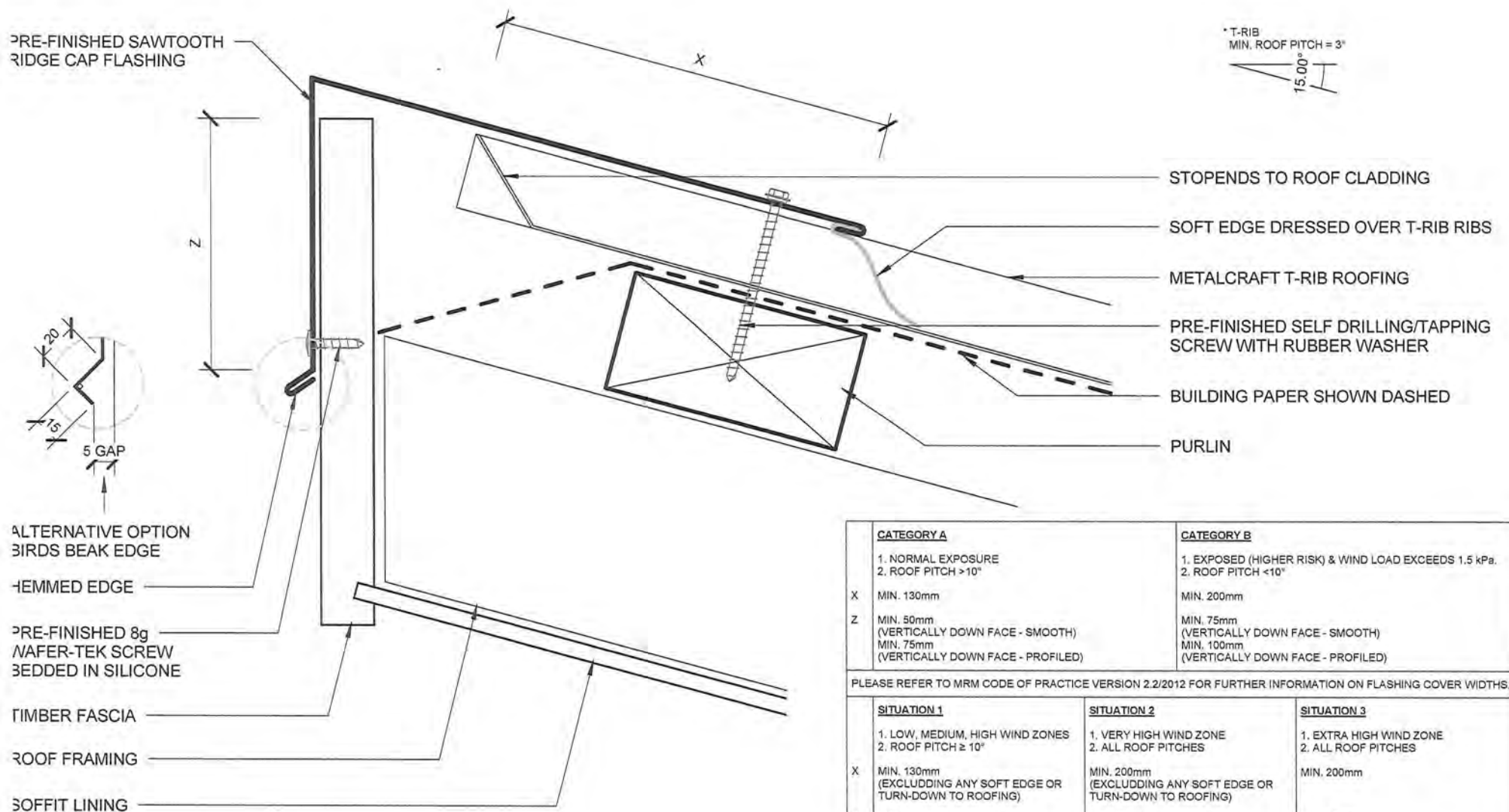
4.9 ALSYNITE TRANSLUCENT ROOFING

Location: ~
 Brand: Alsynite
 Type: ~
 Colour: ~

Accessories



BUILDING PAPER IS THE COMMON GENERIC NAME FOR PERMEABLE ROOF AND WALL UNDERLAYS. PLEASE REFER TO NZBC E2/AS1 AND MRM CODE OF PRACTICE VERSION 2.2 /2012.



| <u>CATEGORY A</u> | | <u>CATEGORY B</u> | |
|---|--|---|--|
| 1. NORMAL EXPOSURE 2. ROOF PITCH >10° | | 1. EXPOSED (HIGHER RISK) & WIND LOAD EXCEEDS 1.5 kPa. 2. ROOF PITCH <10° | |
| X | MIN. 130mm | MIN. 200mm | |
| Z | MIN. 50mm (VERTICALLY DOWN FACE - SMOOTH) MIN. 75mm (VERTICALLY DOWN FACE - PROFILED) | MIN. 75mm (VERTICALLY DOWN FACE - SMOOTH) MIN. 100mm (VERTICALLY DOWN FACE - PROFILED) | |
| PLEASE REFER TO MRM CODE OF PRACTICE VERSION 2.2/2012 FOR FURTHER INFORMATION ON FLASHING COVER WIDTHS. | | | |
| <u>SITUATION 1</u> | | <u>SITUATION 2</u> | <u>SITUATION 3</u> |
| 1. LOW, MEDIUM, HIGH WIND ZONES 2. ROOF PITCH ≥ 10° | | 1. VERY HIGH WIND ZONE 2. ALL ROOF PITCHES | 1. EXTRA HIGH WIND ZONE 2. ALL ROOF PITCHES |
| X | MIN. 130mm (EXCLUDING ANY SOFT EDGE OR TURN-DOWN TO ROOFING) | MIN. 200mm (EXCLUDING ANY SOFT EDGE OR TURN-DOWN TO ROOFING) | MIN. 200mm |
| Z | MIN. 50mm | MIN. 70mm | MIN. 90mm |
| PLEASE REFER TO E2 FOR FURTHER INFORMATION ON FLASHING COVER WIDTHS. | | | |

* BUILDING PAPER IS THE COMMON GENERIC NAME FOR PERMEABLE ROOF AND WALL UNDERLAYS. PLEASE REFER TO NZBC E2/AS1 AND MRM CODE OF PRACTICE VERSION 2.2 /2012.

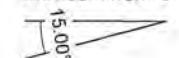
* - PLEASE REFER TO MRM CODE OF PRACTICE VERSION 2.2 /2012 AS MINIMUM PITCH WILL INCREASE DEPENDING ON SHEET LENGTH.

DISCLAIMER:
All details are to be used for indicative purposes only and the designer should consult both the MRM code of practice version 2.2 /2012, E2 and all other relevant building codes.
Details of the supporting mechanisms are indicative only. Compliance of the supporting mechanisms is the responsibility of the designer. Construction detail can vary for wall cladding. The underlay is detailed as a single line for simplicity and is indicative only. Building paper type and method of installation should comply with underlay manufacturers recommendations and NZBC regulations.

EAVE FLASHING REQUIRED WHEN

- ROOF PITCH $\leq 10^\circ$, OR
- SOFFIT WIDTH $\leq 100\text{mm}$, OR
- WIND ZONES = VERY HIGH OR EXTRA HIGH OR
- ENGINEER SPECIFIC DESIGN

* T-RIB
MIN. ROOF PITCH = 3°



METALCRAFT T-RIB ROOFING

BUILDING PAPER SHOWN
DASHED

QUARTER ROUND GUTTER

QUARTER ROUND GUTTER
EXTERNAL BRACKET

PRE-FINISHED 8g WAFER-TEK
SCREW

FASCIA BOARD

TIMBER PACKER

WEATHERBOARDS ON CAVITY

MIN. 50mm
OR AS REQUIRED

MIN. 125 mm

PRE-FINISHED EAVE FLASHING

TIMBER PURLIN

STST OR GALV. FLAT HEAD NAIL FOR
FLASHING

PRE-FINISHED SELF
DRILLING/TAPPING SCREW WITH
RUBBER WASHER

TIMBER PACKER

BUILDING PAPER SHOWN DASHED

ROOF FRAMING

BUILDING PAPER IS THE COMMON GENERIC NAME FOR PERMEABLE
ROOF AND WALL UNDERLAYS. PLEASE REFER TO NZBC E2/AS1 AND
MRM CODE OF PRACTICE VERSION 2.2 /2012.

* - PLEASE REFER TO MRM CODE OF PRACTICE VERSION 2.2 /2012 AS
MINIMUM PITCH WILL INCREASE DEPENDING ON SHEET LENGTH.

DISCLAIMER:
All details are to be used for indicative purposes only and the designer should consult both the MRM code
of practice version 2.2 /2012, E2 and all other relevant building codes.
Details of the supporting mechanisms are indicative only. Compliance of the supporting mechanisms is the
responsibility of the designer. Construction detail can vary for wall cladding. The underlay is detailed as a
single line for simplicity and is indicative only. Building paper type and method of installation should comply
with underlay manufacturers recommendations and NZBC regulations.

FLUSH EAVE WITH EXTERNAL GUTTER BRACKET

RESIDENTIAL ROOFING

T-Rib

Reference RRTRI

Date 2014

Scale 1 : 2

Sheet

10 / 24

0432

RAINWATER SYSTEM

Refer to SELECTIONS/drawings for specific product, material, accessories and finish selections.

- 1.2 UPVC DOWNPIPES
Tubes, stand-off brackets and fittings brand matched and complete to the manufacturers specifications.
- 1.3 PRE-PAINTED ALUMINIUM SPOUTING
Profile, jointing, brackets and fittings brand matched and complete to the spouting manufacturer's specifications.
- 1.7 RAINWATER HEADS, DROPPERS, OVERFLOWS
Fabricate and install as detailed.
- 1.8 ELECTROLYTIC ACTION
Avoid electrolytic action by eliminating contact or continuity of water between dissimilar metals.
- 1.9 LIAISON
Ensure liaison with associated installations to ensure material selections are compatible and required flashing work is completed.
- 1.10 INSTALL UPVC SPOUTING AND DOWNPIPES
Fit and screw fix brackets, set to falls to outlets. Ensure solvent welded or rubber ring jointed spouting sections are complete with all fittings to the spouting manufacturer's requirements. Screw fix stand-off brackets, set pipes plumb and clear of the wall, solvent welded. Discharge into stormwater bends.
- 1.13 ENSURE
Ensure rainwater services are operational, flashings complete and the building weathertight.

5113G GIB® PLASTERBOARD LININGS

1. GENERAL

This section relates to the supply, fixing and jointing of GIB® plasterboard linings and accessories to timber and steel framed walls and ceilings to form:

- standard systems
- superior finish quality systems
- bracing systems
- wet area systems

1.1 RELATED SECTIONS

Refer to GIB® PLASTERBOARD FIRE & SOUND LININGS for performance wall linings

1.2 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

AWCINZ Association of Wall and Ceiling Industries New Zealand

Documents

1.3 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC E2/AS1 External moisture

AS/NZS 2588 Gypsum plasterboard

AS/NZS 2589 Gypsum linings - Application and finishing

NZS 3604 Timber framed buildings

BRANZ technical paper P21: A wall bracing test and evaluation procedure

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.4 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents which refer to work in this section are:

GIB® Site Guide (May 2006)

GIB Ultraliner® Plus lining system (February 2006)

GIB Aqualiner® Wet Area Systems (March 2007)

GIB-Cove®

GIB® UltraFlex high impact corner mould

BRANZ Appraisal 324 - GIB Ultraliner® Plus Lining Systems

BRANZ Appraisal 427 - GIB Aqualiner® Wet Area Systems

BRANZ Appraisal 97/008 - Standard 10 and 13mm GIB® plasterboard

Copies of the above literature are available at

Web: www.gib.co.nz

Telephone: 0800 100 442

Requirements

1.5 NO SUBSTITUTIONS

Substitutions are not permitted to any specified GIB® systems, GIB® system components, GIB® plasterboard, associated GIB® products or GIB® accessories.

1.6 INSTALLER WORK SKILLS AND QUALIFICATIONS

GIB® plasterboard fixers and plasterers to be experienced competent workers, familiar with GIB® plasterboard lining systems installation and finishing techniques. Submit evidence of experience on request. For example:

- National Certificate of Interior Systems; or
- Certified Business member of AWCINZ.

Performance

- 1.7 INSPECTIONS AND ACCEPTANCE
Allow for inspection of the finished plasterboard surface:
- before applying sealer and
 - before applying finish coatings or decorative papers,
- so that after assessment of the type and/or angle of illumination and its effect on the completed decorative treatment, group approval and acceptance of the surface can be given.

2. PRODUCTS

Materials

- 2.1 GIB® PLASTERBOARD
Gypsum plaster core encased in a face and backing paper formed for standard and water resistance use to AS/NZS 2588. Refer to SELECTIONS for location, type, thickness and finish.
- GIB® Standard plasterboard
 - GIB® Wideline plasterboard
 - GIB Ultraline® and/or GIB® Ultraline PLUS high quality surface plasterboard
 - GIB Braceline® & GIB® Noiseline dual purpose wall bracing & noise control plasterboard
 - GIB Aqualine® wet area plasterboard

Components

- 2.4 SCREWS
GIB® Grabber® drywall screws.
- 2.5 NAILS
GIB® Nails (gold passivated).
Size: 30mm, 40mm
- 2.6 METAL ANGLE TRIMS
GIB® galvanized steel slim angle trims.
- 2.8 TAPE ON TRIMS AND EDGES
GIB® Goldline™ tape-on trims
GIB® UltraFlex high impact corner mould.

Accessories

- 2.9 ADHESIVE
Timber frame and/or steel frame:
GIBFix® One ultra low VOC water based wallboard adhesive
GIBFix® All-Bond solvent based wallboard adhesive
- 2.10 JOINTING COMPOUND
- | | |
|---------------------|---|
| Bedding compound: | GIB Tradeset®, GIB Lite Blue®, GIB(r) MaxSet®, GIB ProMix® All Purpose, GIB Plus 4® |
| Finishing compound: | GIB ProMix® All Purpose GIB ProMix® Lite, GIB® U-Mix, GIB Plus 4®, GIB® Topcoat |
| Cove: | GIB-Cove® Bond |
- 2.11 JOINTING TAPE
GIB® paper jointing tape.

- 2.13 GAP FILLER
GIB® Gap Filler ultra low VOC multi-purpose acrylic flexible filler
- 2.14 MOULD RESISTANT SEALANT
GIB® Aquaseal ultra low VOC mould resistant water based silicone sealant

3. EXECUTION

Conditions

- 3.1 STORAGE
Store GIB® plasterboard sheets and accessories in dry conditions stored indoors out of direct sunlight in neat flat stacks on either an impervious plastic sheet or clear of the floor with no sagging and avoiding damage to ends, edges and surfaces. Reject damaged material. Refer to GIB® Site Guide.
- 3.2 LEVELS OF PLASTERBOARD FINISH
Provide the selected plasterboard surfaces to the pre decorative levels of finish specified in AS/NZS 2589.
- 3.3 CONFIRM LEVELS OF PLASTERBOARD FINISH ACCEPTANCE
Before commencing work, agree in writing upon the surface finish assessment procedure towards ensuring that the quality of finish expectations are reasonable and are subsequently obtained and acceptable.

Do not apply decorative treatment until it is agreed in writing by the contractor, subcontractors and decorator that the specified plasterboard Level of Finish has been achieved.

"Levels of plasterboard finish" is a tool for specifying the required quality of finish when installing and flush stopping GIB® plasterboard **prior** to the application of a range of decorative finishes under various lighting conditions. Refer to **AS/NZS 2589**.

- 3.4 SUBSTRATE
Do not commence work until the substrate is plumb, level and to the standard required by the sheet manufacturer's requirements. Refer to GIB® Site Guide.
- 3.5 TIMBER FRAME MOISTURE CONTENT
Maximum allowable moisture content to AS/NZS 2589 for timber framing at lining: 18% or less for plasterboard linings. Refer to NZBC E2/AS1 and GIB® Site Guide.
- 3.7 PROTECTION
Protect surfaces; cabinetwork, fittings, equipment and finishes already in place from the possibility of water staining and stopping damage. Refer to GIB® Site Guide.

Application

- 3.9 LINING WALLS AND CEILINGS GENERALLY
Form to GIB® Site Guide. Ensure bulk insulation thickness shall not exceed that of the wall framing.
- 3.10 BOARD ORIENTATION
Minimise joints by careful sheet layout using the largest sheet sizes possible, and generally fixing horizontally. Where part sheets are required for various stud heights they should be positioned so the cut sheet is as low as possible to keep joints below eye level.
- 3.12 FORM WET AREA SYSTEMS
Form to GIB Aqualine® Wet Area Systems.

- 3.15 **INSTALL COVES**
Install to GIB-Cove® literature using GIB-Cove® Bond.
- 3.16 **INSTALL TAPE-ON TRIMS**
Install to GIB® Goldline™ Tape-on trims literature and/or GIB® Ultraflex high impact corner mould literature.

Finishing

- 3.17 **FINISHING GENERALLY**
To GIB® Site Guide and AS/NZS 2589.

Completion

- 3.18 **REPLACE**
Replace damaged sheets or elements.
- 3.19 **CLEAN DOWN**
Clean down completed surfaces to remove irregularities and finally sand down with fine paper to the sheet manufacturer's requirements, to leave completely smooth and clean.
- 3.20 **REMOVE**
Remove debris, unused materials and elements from the site.
- 3.21 **LEAVE**
Leave work to the standard required by following procedures.

4. SELECTIONS

Plasterboard

4.1 STANDARD SYSTEMS WALLS

| Location | Plasterboard type / Lining requirements | Thickness Finish Level |
|------------------------------|--|-------------------------------|
| Bedrm/dressing /study/lounge | GIB® Standard plasterboard | 10mm |
| Bathroom | GIB Aqualine® plasterboard | 10mm |

4.2 STANDARD SYSTEMS CEILINGS

| Location | Plasterboard type / Lining requirements | Thickness Finish Level |
|-----------------|--|-------------------------------|
| All ceilings | GIB® Standard plasterboard | 13mm |

6700R RESENE PAINTING GENERAL

1. GENERAL

This section relates to the general matters related to **Resene** painting work.

1.1 RELATED WORK

Refer to **RESENE** INTERIOR PAINTING

Refer to **RESENE** EXTERIOR PAINTING

1.2 ABBREVIATIONS AND DEFINITIONS

Refer to the general section INTERPRETATION AND DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

MPNZA Master Painters New Zealand Association Inc.

1.4 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents related to this section are:

Resene One-Line specifications and product data manual
(hard copy or at www.resene.co.nz)

Resene Putting your safety first

Copies of the above literature are available from **Resene**

Telephone: 0800 **RESENE** (0800 737 363)

Warranties

1.5 WARRANTY - MANUFACTURER/SUPPLIER

Warrant this work under normal conditions of use against failure referring to the **Resene** Promise of Quality in the **Resene** One-Line specifications and product data manual.

Requirements

This painting specification is written based on information available at the time of writing.

1.6 NO SUBSTITUTIONS

Substitutions are not permitted to any specified **Resene** coating system, or associated components and products. Do not combine paints from different manufacturers in a paint system.

If in the applicator's own expertise and judgement an amendment to this specification is required, or where a substrate preparation, or required painting system is not covered in this specification, this shall be brought to the attention of the contract administrator and any amendment agreed before work proceeds any further.

1.7 QUALIFICATIONS

Painters to be experienced competent workers, familiar with the materials and the techniques specified and with the **Resene** coating systems and be members of the Master Painters New Zealand Association Inc.

The applicator is to have the necessary skill, experience and equipment to undertake the work. The applicator remains responsible for ensuring proper completion of the work.

1.12 HEALTH AND SAFETY

Refer to and comply with the requirements of the Health and Safety in Employment Act 1992 including the obligation to:

- Eliminate hazards and if hazards cannot be eliminated or isolated, then minimise the hazards in this work by using the proper equipment and techniques as required by the MPNZA Painters hazard handbook and **Resene** Putting your safety first handbook.

- Supply protective clothing and equipment.
- Inform the contractor as well as the employees and others on site of those hazards and put in place procedures for dealing with emergencies.

1.15 INSPECTION OF THE WORK

Inspection of the whole of the work at each of the stages set out in SELECTIONS may be made. Agree on a programme that will facilitate such inspection, including notification when each part and stage of the work is ready for inspection.

2. PRODUCTS

Materials

2.1 MATERIALS GENERALLY

Do not combine paints from different manufacturer's in a paint system.

Use only Resene products (which are guaranteed for consistency and performance under ISO 9001 and APAS) prepared, mixed and applied as directed in the Resene One-Line Specifications and Product Data Manual. This specification has been written using where practical and available both low/no VOC and Environmental Choice approved products.

2.2 EXPOSED DARK COLOURS

Darker colours in areas of high sun exposure place significant stress on the coating and substrate. **Resene** 'Cool Colour' technology reducing heat absorption of a wide range of colours. Contact your local Resene Representative or visit www.resene.co.nz for more information. View a list of Resene colours available as Resene Cool Colours online at www.resene.co.nz/swatches/index.php.

2.3 THINNERS/ADDITIVES

Use only if and when expressly directed by Resene for their particular product in a particular application. Always wear gloves when handling any solvents including turpentine as harmful chemicals may be absorbed into the body through the skin.

Accessories

2.4 ACCESSORIES

Contact your local **Resene ColorShop** for a full range of accessories and usage advice.

3. EXECUTION

Conditions

3.1 EXECUTION

To conform to required trade practice, which shall be deemed to include those methods, practices and techniques contained in the Master Painters New Zealand Association Inc. Specification manual.

3.2 TREATED SURFACES

Where surfaces have been treated with preservatives or fire retardants, check with the treatment manufacturer that coating materials are compatible with the treatment and do not inhibit its performance. If they are not compatible, obtain instructions before proceeding.

3.3 ANCILLARY SURFACES

The descriptions of areas in schedules and elsewhere are of necessity simplified. Coat ancillary exposed surfaces to match similar or adjacent materials or areas, except where a fair-faced natural finish is required or items are completely prefinished. In cases of doubt obtain written instructions before proceeding.

3.4 HARDWARE

Do not paint hinges or hardware that cannot be removed. Before commencing work carefully remove hardware, fixtures and fittings, set aside where they cannot be damaged

or misplaced and replace on completion. Refer to SELECTIONS for hardware, fixtures and fittings for removal.

3.5 PROTECTION

Supply, lay and fix dropsheets, coverings and masking necessary to protect adjoining, fixtures, fittings and spaces from paint drops, spots, spray and damage.

Application - preparatory work

3.6 SURFACE PREPARATION

Refer to the **Resene** One-Line specifications and product data manual for surface preparation sheets (or obtain them by phoning 0800 **RESENE**, or at www.resene.co.nz) listed in the materials systems schedule clauses. Carry out the preparatory work required by them for each of the substrates.

3.8 SHARP EDGES, CRACKS AND HOLES

Remove and/or repair sharp edges, cracks and holes if present, as outlined in the preamble of the **Resene** One-Line specifications and product data manual.

Elastomeric sealants, if used, should not be painted. The paint film will not match the flexibility of the sealant and may severely limit its effectiveness.

3.9 REMEDIAL WORK

If any substrate or surface, that even with the preparation work called for in this section, cannot be brought up to a standard that will allow painting or clear finishing of the required standard then do not proceed until remedial work is carried out.

3.10 GAP FILLING

Make good cracks, holes, indented and damaged surfaces. Use suitable gap fillers to match the surface being prepared. Any special priming requirements of the fillers must be satisfied. Allow to dry or set before sanding back level with the surface. Prime or seal timber before using putty.

Exterior and wet areas: Use only Portland cement base or water-insoluble organic base gap fillers.

3.11 OFF-SITE WORK

Carry out this work under cover in a suitable environment with suitable lighting. Store items, both before and after coating, in a clean, dry area protected from the weather and mechanical damage, properly stacked and spaced to allow air circulation and to prevent sticking.

3.12 PRIMING JOINERY

Pre-treat any cut surfaces of preservative treated timber before priming. Ensure L.O.S.P. treated joinery has dried sufficiently to lose solvent odour. Pre-treat bare timber with **Resene** TimberLock (see Data Sheet D48) to improve the durability of subsequent coats.

Liberal coat end grain, allow to soak in and then recoat.

3.13 CONCEALED JOINERY SURFACES

Where off-site coatings are specified they must be applied to surfaces including those concealed when incorporated into the building.

3.14 CONCEALED METAL SURFACES

Apply primer to suit the coating system to surfaces which will be concealed when incorporated into the building.

Application - generally

3.18 PAINTING GENERALLY

Comply with the **Resene** One-Line specifications and product data manual data sheets and the additional requirements of this work section.

Ensure large wall areas that require more than one container of paint per coat, have enough paint boxed (mixed) together to complete the final coat. This will not apply if a single factory batch of paint, rather than shop tinted paint, is applied.

3.19 MIXING

Although generally supplied ready-mixed, thoroughly mix paints. Lift any settled pigment and ensure the paint is homogenous.

3.20 ENVIRONMENT

Defer painting of exterior surfaces until weather conditions are favourable - warm dry days without frost or heavy dews. Avoid painting in direct sunlight any surfaces that absorb heat excessively. As far as possible apply paint in the temperature range 15°C to 25°C. If temperatures fall outside the range of 10°C and 35°C do not paint unless paints with the necessary temperature tolerance have been specified. Do not apply solvent borne paint if moisture is present on the surface.

3.21 SEQUENCE OF OPERATIONS

Painting work to generally follow the following sequences:

- Complete surface preparation before commencing painting.
- Apply primers, sealers, stains, undercoats, paints and clear coatings in the sequences laid down by **Resene**.
- Allow the full drying time between coats laid down by **Resene**.
- Do not expose primers, undercoats and intermediate coats beyond **Resene's** recommendations before applying the next coat.
- Finish broad areas before painting trim.
- Ensure batch numbers of tins are matched for whole areas.
- Internally, paint ceilings before walls and walls before joinery, trim and other items.

3.22 APPLICATION

Select brush, roller, or pad and apply coatings to the requirements of **Resene** to obtain a smooth, even coating of the specified thickness, uniform gloss and colour.

3.23 LIGHTLY SAND

Lightly sand primers, sealers, undercoats and intermediate coats to remove dust pick-up, protruding fibres and coarse particles. Complete by removing dust immediately before applying the next coat.

3.24 DEFECTIVE WORK

Correct defective work immediately and recoat as required, following precisely the **Resene** system being applied.

3.25 EACH COAT

Each coat of paint and the completed paint system to have the following qualities and properties:

- Uniform finish, colour, texture, sheen and hiding power and the proper number of coats applied.
- No blemishes such as runs, sags, crinkling, fat edges, entrained paint skins, hairs, dust, bare or starved patches, cracks, brush marks, ladder marks and blistering.
- Proper covering of corners, crannies, thin edges, cracks, end grain and other difficult places of application.

Completion

3.26 CLEAN

Clean adjoining surfaces, glass and fittings of any paint contamination. Clean off glass indicators at the completion of the building works. Clean glass inside and out to a shining finish. Use the Resene Washwise on site 'paint equipment clean-up water' reclamation system to minimise the environmental impact of cleaning paint application tools.

- 3.27 LEAVE
Leave the whole of this work uniform in gloss and colour, of correct thickness, free from painting defects, clean and unmarked and to the standard required by following procedures.
- 3.28 REMOVE
Remove dropsheets, coverings and masking to leave surrounding surfaces and areas clean, tidy and undamaged. Remove debris, unused materials and elements from the site.
- 3.29 REPLACE
Replace hardware without damage to it or the adjoining surface and leave hardware properly fitted and in working order.
- 3.30 DISPOSAL OF PAINTS AND THINNERS
Note: The use and disposal of paint and thinners represents a significant environmental hazard.
Ensure all paint and thinners are disposed of in the following manner:
 - When requested hand over part used paint containers to client for maintenance touch ups.
 - Recycle leftover paint at a Resene ColorShop as part of the Resene "Paintwise programme". Contact your local Resene ColorShop for details or view information online at www.resene.co.nz/paintwise.htm.
 - Donate left over paint to local community groups.
 - Solvent based paints, paint thinners, turpentine, mineral spirits and solvents require special disposal procedures. Do not pour down sewer or storm water drains, sinks or into the ground. If they cannot be recycled they must be disposed of in a refuse dump licensed to take toxic waste.
- 3.31 MAINTENANCE
Good maintenance of coating systems involves a routine of regular cleaning as well as regular inspections. Regular inspections of the coating systems are recommended to identify breakdown, accidental damage to or undesirable deterioration of the paint.

Refer the Resene Caring for your paint finish brochure and the Resene website, www.resene.co.nz/comn/services/maintenance.htm.

4. SELECTIONS

- 4.1 SELECTIONS
Refer to **RESENE PAINTING EXTERIOR** and **RESENE PAINTING INTERIOR** for selections.

6711 PAINTING EXTERIOR

1. GENERAL

This section relates to the preparation of exterior unpainted and pre-painted surfaces, and the application of exterior:

- decorative paint coatings
- protective paint coatings
- sealers
- stains
-

Related work

1.1 RELATED SECTIONS

Refer to PAINTING GENERAL for general painting matters.
Refer to PAINTING INTERIOR for interior paint systems.

6721R RESENE PAINTING INTERIOR

1. GENERAL

This section relates to the surface preparation, painting and clear finishing of new and existing interior substrates using **Resene** architectural and decorative coating systems.

1.1 RELATED WORK

Refer to **RESENE PAINTING GENERAL** for general matters related to painting work.
Refer to **RESENE PAINTING EXTERIOR** for exterior paint systems.

2. PRODUCTS

Materials

2.1 PAINT TYPES GENERALLY/ THINNERS AND ADDITIVES

Refer to **RESENE PAINTING GENERAL** for product clauses.

3. EXECUTION

Conditions

3.1 EXECUTION

Refer to **RESENE PAINTING GENERAL** for execution clauses.

Resene interior paint systems

4.7 INTERIOR TIMBER

| | |
|-----------------------|---|
| Description: | Interior timber, waterborne satin |
| System: | Resene One-Line Spec. No. 2i 1.3 (EC) |
| Surface prep: | D82; and Resene TimberLock D48 ^{NEC} , solventborne preserver/conditioner |
| 1 st coat: | For normal recommended system - Resene Quick Dry D45, waterborne primer/undercoat; or For timber that stains - Resene Wood Primer D40 ^{NEC} , solventborne primer; or waterborne satin |
| 2 nd coat: | Resene Lumbersider D34, waterborne satin |
| 3 rd coat: | Resene Lumbersider D34, waterborne satin |

4.10 INTERIOR TIMBER JOINERY

| | |
|-----------------------|---|
| 3 rd coat: | Resene Lustacryl D310, waterborne semi-gloss enamel |
| Description: | Interior timber joinery, solventborne semi-gloss |
| System: | Resene One-Line Spec. No. 3i 2.2 |
| Surface prep: | D82; and Resene TimberLock D48, solventborne preserver/conditioner |

Description: **Interior paperfaced plaster waterborne low sheen**
 System: **Resene** One-Line Spec. No. 15i 1.4 SC Level 5 (EC)
 Surface prep: D84; D85; D87; **Resene** Broadwall Surface Prep & Seal D807, waterborne prep
 1st coat (if reqd): For new wet areas - **Resene** Waterborne Smooth Surface Sealer D47a, waterborne sealer
 2nd coat: **Resene** SpaceCote Low Sheen D311, waterborne low sheen enamel
 3rd coat: **Resene** SpaceCote Low Sheen D311, waterborne low sheen enamel

For Level 5 Resene Broadwall 3 in 1 system - Resene One-Line Spec. No. 15i 1.41 SC Level 5 (EC)

Replace Resene Broadwall Surface Prep & Seal with Resene Broadwall 3 in 1 in the clause above

For Level 4 system - **Resene** One-Line Spec No. 15i 1.4 SC L 4 (EC)

Remove Resene Broadwall Surface Prep & Seal from Surface prep and add 1st coat:
 Resene Broadwall Waterborne Wallboard Sealer D403, waterborne sealer

7120 HOT AND COLD WATER SYSTEM

1. GENERAL

This section relates to potable water supply connection to the project, and the installation of hot and cold water supply pipework

Related work

1.1 RELATED SECTIONS

Refer to SANITARY FIXTURES, TAPWARE AND ACCESSORIES for sanitary fixtures and tapware selections.

1.4 QUALIFICATIONS

Plumbers to be experienced competent workers, familiar with the materials and the techniques specified. Carry out all work under the direct supervision of a plumber registered under the Plumbers, Gasfitters and Drainlayers Act 2006.

Warranties

1.5 WARRANTY

Warrant this work under normal environmental and use conditions against failure of materials and execution.

Warranty period: 2 years

Refer to the general section for the required form of WARRANTY AGREEMENT and details of when completed warranty must be submitted.

2. PRODUCTS

2.2 UPVC PIPE

Complete with fittings and accessories brand matched to the pipe manufacturer's requirements with durability to NZBC B2/AS1 Durability, Table 1 and NZBC G12/AS1 Water supplies Table 1.

2.3 POLYBUTYLENE PIPE

Polybutylene tubing to AS/NZS 2642.1, AS/NZS 2642.2 and AS/NZS 2642.3 complete with fittings and accessories brand-matched with durability to NZBC B2/AS1 Durability, table 1 and NZBC G12/AS1 Water supplies table1.

2.8 VALVES

Pressure reducing or limiting valve, filter, non-return valve, cold water expansion valve, pressure relief or temperature valve, pressure relief valve and isolating valves to NZBC G12/AS1: Water supplies.

2.9 BACKFLOW PREVENTION DEVICES

Provide backflow prevention devices to AS/NZS 2845 where it is possible for water or contaminants to backflow into the potable water supply. Refer to NZBC G12 AS/1 3.4 Backflow protection, and table 2, Selection of Backflow Protection.

Materials - hot water heating appliances

2.17 GAS HOT WATER HEATER, CONTINUOUS FLOW TYPE

Continuous flow unit with an integral gas burner and flue to NZS 4305.

Components

2.18 INSULATION

Pre-formed pipe sections complete with bends and fittings, with fixing tape to the manufacturer's requirements and to NZBC H1/AS1.

- 2.19 PROTECTIVE TAPE
Plasticised PVC tape system with primer, mastic fixing and outer coating.

3. EXECUTION

- 3.1 HANDLE AND STORE
Handle and store pipes, fittings and accessories to avoid damage. Store on site, under cover on a clean level area, stacked to eliminate movement and away from work in progress.

Store tapware in a shelved, dry and securely locked area. Retain tapware in the manufacturer's original packaging, complete with all fixings and installation instructions. Label each unit separately with its space/fixture number to match.
- 3.2 EXECUTION GENERALLY
Generally carry out the whole of this work and tests to NZBC G12/VM1 or G12/AS1: Water supplies.
- 3.3 CORE HOLES AND SLEEVES
Review location and fit core holes and sleeves as needed throughout the structure in conjunction with the boxing, reinforcing and placing of concrete. Strip core holes and make good after installation of pipework.
- 3.4 CONCEAL
Conceal pipework within the fabric of the building unless detailed otherwise. Satin finish chrome plate exposed work, complete with matching ferrule at the surface penetration.
- 3.5 CORROSION
Separate all metals subject to electrolytic action from each other and from treated timber, concrete and other lime substances by space, painting of surfaces, taping, or separator strips.
- 3.6 THERMAL MOVEMENT
Accommodate movement in pipes resulting from temperature change by the layout of the pipe runs, by expansion joints and by sleeving through penetrations.
- 3.7 PIPE SIZE
Flow rates to each outlet to be no less than those given in NZBC G12/VM1 or G12/AS1: Water supplies, table 3, Acceptable flow rates to sanitary fixtures. Pipe size as determined in table 4, Tempering valve and nominal pipe diameters.
- 3.8 ELECTROLYTIC ACTION
Avoid electrolytic action by eliminating contact or continuity of water between dissimilar metals.
- 3.9 EXCAVATE
Excavate for the water main to a firm, even trench base in straight runs. Allow to backfill.

Application - jointing

- 3.10 JOINTING COPPER PIPE
Braze pipe, fit alloy compression fittings, crox type joints and seal ring compression joints to NZBC G12/AS1: Water supplies.
- 3.11 JOINTING UPVC PIPE
Solvent welded joints using spigots and sockets, flanged joints and seal ring compression joints to NZBC G12/AS1: Water supplies.
- 3.12 JOINTING POLYBUTYLENE PIPE
Aluminium clamped, seal ring compression or push fit "O" ring seal jointing to pipe system manufacturer's requirements.

- 3.13 JOINTING POLYETHYLENE PIPE
Seal ring compression joints and electrofusion to NZBC G12/AS1: Water supplies.

- 3.14 JOINTING POLYPROPYLENE PIPE
Fusion weld joints to manufacturer's requirements.

Application - pipework installation

- 3.16 POTABLE WATER SUPPLY PIPEWORK INSTALLATION
From connection point, run pipes complete with all fittings, support and fixing, joins and install to manufacturers specifications. Size the pipes and branches in straight runs to deliver the acceptable flow rate to NZBC G12/VM1 or G12/AS1: Water supplies, table 3, Acceptable flow rates to sanitary fixtures at each outlet. Allow for the expected concurrent use of adjoining fixtures and size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off. Pipework support spacing to be firmly fixed and buffered to eliminate noise and hammer, with preformed tee-connection take-offs and branches, with machine made 3 diameter bends, complete with necessary valves and fittings. Conceal pipework and pressure test before the wall linings are fixed.

- 3.17 HOT WATER PIPEWORK
Use a take-off spigot to give separate branches to each fitting, lay out pipes with support spacing to NZBC G12/VM1 or G12/AS1: Water supplies, table 7 Water supply pipework support spacing. Fix firmly and buffer to eliminate noise and hammer, with preformed tee-connection take-offs and branches, and preformed 3 diameter bends, complete with all necessary valves and fittings.

Lag all pipes with rigid insulation to the manufacturer's requirements and G12/VM1 or G12/AS1: Water supplies.

- 3.18 EQUIPOTENTIAL BONDING
Earth metallic water supply pipe and metallic sanitary fixtures to NZBC G12/AS1: Water supplies: 9.0.

- 3.19 IN-LINE FILTER
Install an in-line filter immediately adjacent to the main isolating valve at the point of entry to the building, in an accessible position to allow for easy cleaning.

Application - hot water systems

- 3.20 INSTALLING HOT WATER PIPE INSULATION
Insulate all hot water pipes to NZBC H1/AS1 Energy Efficiency, AS/NZS 3500.5, 3.11.7 Insulation of piping and to the insulation manufacturer's instructions. Cut insulation sections tight between timber framing.

- 3.23 INSTALL GAS HOT WATER HEATER, CONTINUOUS FLOW TYPE
Install where shown complete with all the necessary fittings to the cylinder manufacturer's requirements and in accordance with NZBC G12/AS1: 6.11. Install flue in accordance with the manufacturer's details and requirements.

- 3.26 PENETRATIONS
Provide and fit collars and escutcheon plates to match the pipework at all penetrations through constructions.

Installation - valves

- 3.28 INSTALLING APPLIANCE ISOLATING VALVES - CONCEALED
Install isolating valves for appliances in accessible positions. Locate in adjacent cupboards and position to allow for easy connection and operation.

- 3.29 **INSTALLING BACKFLOW PREVENTION DEVICE**
Provide and install backflow prevention device as near as practicable to the potential source of contamination, and in an accessible position for maintenance and testing to AS/NZS 2845.3.

Completion

- 3.30 Clean all in-line filters on completion of works.
- 3.32 **REPLACE**
Replace damaged or marked elements.
- 3.33 **LEAVE**
Leave work to the standard required by following procedures.
- 3.34 **REMOVE**
Remove debris, unused materials and elements from the site.

4. SELECTIONS

- 4.1 **POLYETHYLENE WATER MAIN**
Size: 25mm outside diameter (i.e. DN 25 in AS/NZS 4130)
- 4.18 **APPLIANCE ISOLATING VALVES - EXPOSED**
Appliance: Washing machine
Brand/type: Refer to tapware selections

0741 DRAINAGE

Refer to SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 QUALIFICATIONS

Carry out work by or under the direct supervision of a person registered under the Plumbers, Gasfitters and Drainlayers Act 1976.

1.2 MATERIALS

| | |
|----------------------------|---|
| Concrete: | 17.5 MPa prescribed grade. |
| Reinforcement: | Grade 300 deformed bars. |
| uPVC pipes: | uPVC pipes bends, junctions, fittings and joints. |
| Field drains: | Plastic pipes for field drains perforated and coiled with filter fabric over. |
| Drainage/filling materials | |
| Granular fill: | Clean gravel or crushed stone or a blend of these. Particle size from minimum 7 mm to maximum 20 mm. |
| Selected fill: | Fine grain soil or granular material suitable for bedding, excluding topsoil. |
| Ordinary fill: | Top soil or other excavated materials. |

1.4 EXCAVATE

Excavate for drains to a firm even base with correct gradients set in straight runs.

1.5 MANUFACTURER'S REQUIREMENTS

All drainage installations to the pipe and fitting manufacturer's requirements.

1.6 EXCAVATION GENERALLY

Carry out drainage work to AS/NZS 3500.2 (sanitary plumbing and drainage) and AS/NZS 3500.3 (stormwater drainage) as modified by NZBC B1/AS1, 6.0 Drains.

1.9 LAY STORMWATER DRAINS

Confirm the required location of downpipes and finished ground levels before commencing pipework. Set downpipe bends in concrete brought up to protect the top of the bend from damage. Lay drains in straight runs to correct gradients to discharge into the network utility operator's stormwater system.

1.10 LAY GROUNDWATER DRAINS

Lay perforated coil piping firmly in a granular bed in straight runs to correct gradients, discharging into a sump. Carry the granular bed up over the pipes without disturbing them, to a total depth of 300 mm and cover with geotextile fabric; all to the pipe manufacturer's requirements.

1.14 FIELD TEST

Field test drains for watertightness to the satisfaction of the Building Consent Authority inspector.

1.15 BACKFILL

Backfill drain lines in 150 mm layers, well tamped but without disturbing the drains. Finish off with 150 mm of topsoil, slightly mounded above the finished ground line.

1.16 AS-BUILT DRAWINGS

Supply a 1:100 as-built drawing to the Building Consent Authority and the owner on completion.

0771 ELECTRICAL

Refer to SELECTIONS/drawings for specific product, material, accessories and finish selections.

1.1 COMPLY

Comply with the Electricity Regulations 1997, AS/NZS 3000 and the New Zealand Electrical Codes of Practice for listed and prescribed work and with the utility network operator's requirements. Apply for the service connection. Arrange for the required inspections of listed work. Pay all fees.

1.2 QUALIFICATIONS

Carry out work by or under the direct supervision of a holder of a practising certificate under the Electricity Regulations 1997.

1.3 CERTIFICATE OF COMPLIANCE

Supply a certificate of compliance to the owner, as required by the Electricity Regulations 1997. Allow the network utility operator to view before the meter installation, listed work inspection, polarity check and livening of supply.

1.4 DISTRIBUTION BOARD

Proprietary manufactured distribution board, zinc plated powder coated, or heavy duty plastic, fire resistant enclosed construction, complete with neutral and earth busbars, MCB's, RCD's and main switch. All protective devices: 6kA MCB's of the appropriate rating. Fit to board manufacturer's requirements where detailed. Recess into wall and ensure fire containment properties of the enclosure is maintained.

1.5 CABLES

Tough plastic sheathed copper conductors. Minimum sizes are indicated below. Increase these as necessary due to method of installation, cable length or load.

Lighting circuits: 1.5 mm² on 10 amp MCBs for domestic construction

Power circuits: 1.5 mm² on 16 amp MCBs for domestic construction

1.6 ELECTRICAL ACCESSORIES

As selected and to the following details:

Switch units: Minimum 16 amp, 230 volt flush polycarbonate units. For number of switches per unit, dimmer units, neon (indicator or toggle) units, locator units and 2-way units refer to the electrical drawings.

Switched socket units: 10 amp, 230 volt flush polycarbonate 3 pin combined switch units.

1.7 CABLING

Install with a maximum of 10 light outlet units or 6 switched socket units on any circuit. Separate circuits for all electric heating appliances. All cabling run concealed. No TPS cable laid directly in concrete. Locate holes in timber framing for the passage of cables at the centre line of the timber member.

1.8 INSTALL SWITCH AND SOCKET UNITS

Fit single and double switch units and socket units level and plumb where shown on the drawings. Install at the following heights (to the centre of the unit) unless shown otherwise on the drawings or to match existing.

Switch Units: 1000 mm.

Socket Units: 150 mm above work benches.
400 mm elsewhere.

Mount switches vertically and socket units horizontally. Label switch units which control electrical equipment by engraving on the rocker switch.

1.9 INSTALL LIGHT FITTINGS

Install selected light fittings in the locations and heights shown on the drawings and in accordance with the fitting manufacturer's requirements.

- 1.15 **ELECTRIC POWERED FITTINGS AND EQUIPMENT**
Install and wire selected fittings and equipment to the Electricity Regulations 1997 and the individual fittings and equipment manufacturer's requirements. Refer to the drawings for required layouts and locations for equipment.
- 1.16 **COMPLETION**
Leave all fittings, lamps and tubes operational, with equipment and diffusers clean.



Form 2B

Statutory declaration as to owner-builder status

Section 45, section 87A, and section 90D, Building Act 2004

The building

Street address of building:

104 Raukawa Rd
Peka Peka beach**The owner**

Name of owner:

HSC Trustees Ltd

Address:

104 Raukawa Rd
Peka Peka

Phone number:

024-2412097

Email address:

billcargill@stra.co.nz

Identification of design work that is restricted building work that has been carried out by owner-builder

Note: Complete the following section if this form is attached to an application for a building consent that is accompanied by plans or specifications containing design work that is restricted building work that has been carried out by the owner-builder (section 45(5)(b) of the Building Act 2004).

The design work that is restricted building work that I,

104 Raukawa Rd Peka Peka
BUILDER

William Cargill

[name, place of abode, and occupation]

carried out as an owner-builder is:

☒ all of the design work that is restricted building work described in the attached application for a building consent;

or

☐ the design work that is restricted building work as set out below:

*Strike out words which do not apply.

| Design work that is restricted building work | Description | Reference to plans and specifications |
|--|--|---|
| <i>[Tick]</i> | <i>[If appropriate, provide details of the restricted building work]</i> | <i>[If appropriate, specify references]</i> |
| Primary structure | | |
| Foundations and subfloor framing ✓ | | |
| Walls ✓ | | |
| Roof ✓ | | |
| Columns and beams ✓ | | |
| Bracing ✓ | | |
| Other () | | |
| External moisture management systems | | |
| Damp proofing ✓ | | |
| Roof cladding or roof cladding system ✓ | | |
| Ventilation system (for example, subfloor or cavity) ✓ | | |
| Wall cladding or wall cladding system ✓ | | |
| Waterproofing ✓ | | |
| Other () | | |

Fire safety systems

Emergency warning systems, evacuation and fire service operation systems, suppression or control systems, or other

✓ Smoke Alarms.

Note:

1. The design of fire safety systems is only restricted building work when it involves small-to-medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011.
2. Continue on another page if necessary.

Identification of building work that is restricted building work intended to be carried out under an owner-builder exemption

Note: The following section is to be completed if:

(a) this form is accompanying an application for a building consent and the owner intends to carry out building work that is restricted building work (section 45(5)(a) of the Building Act 2004);

or

(b) the application for a building consent was not accompanied by a statutory declaration in this form and the owner intends to carry out building work that is restricted building work (section 87A(2) of the Building Act 2004);

or

(c) under a building consent, there has been a change in the owner-builder carrying out the restricted building work and the new owner-builder has not already submitted to the building consent authority a statutory declaration in this form to that effect (section 87A(3)(a) of the Building Act 2004)

The building work that is restricted building work that I,

[name, place of abode, and occupation]

intend to carry out as an owner-builder is:

*all of the building work that is restricted building work described in the attached application for a building consent;

or

*the building work that is restricted building work as set out below:

*Strike out words which do not apply.

| Building element | Description of restricted building work |
|--|--|
| <i>[Tick]</i> | <i>[If necessary, describe the restricted building work]</i> |
| Primary structure | |
| Foundations and subfloor framing () | |
| Walls () | |
| Roof () | |
| Columns and beams () | |
| Bracing () | |
| Other () | |
| External moisture management systems | |
| Damp proofing () | |
| Roof cladding or roof cladding system () | |
| Ventilation system (for example, subfloor or cavity) () | |
| Wall cladding or wall cladding system () | |
| Waterproofing () | |
| Other () | |
| Note: continue on another page if necessary. | |

Status as owner-builder

I, William Cargill 104 Rautawa Rd Peka Peka
Building Contractor [name, place of abode, and occupation]

am an owner-builder for the purposes of the Building Act 2004 as I:

- (a) have a relevant interest in the land or the building on which the restricted building work is carried out; and
- (b) reside or intend to reside in the household unit in relation to which the restricted building work is carried out; and
- (c) *have carried out the design work that is restricted building work myself or with the assistance of my unpaid friends and family members; and
- (d) *will carry out the restricted building work myself or with the assistance of my unpaid friends and family members; and
- (e) have not, under the owner-builder exemption, carried out restricted building work in relation to a different household unit within the previous 3 years.

*Delete if the paragraph does not apply.

Defined terms

Relevant interest, in relation to the land or the building on which restricted building work is carried out, means a legal or equitable interest in the land or building and includes:


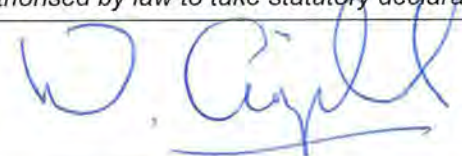
- (a) a right of occupancy of the land or building or part of the building; or
- (b) a right, power, or privilege over, or in connection with, the land or building.

Reside includes temporarily reside.

Statutory declaration

I, WILLIAM CARGILL of Peka Peka, Builder
[name, place of abode, and occupation]

solemnly and sincerely declare that the statements contained in the this form are true. And I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths and Declarations Act 1957.

| | |
|-------------|--|
| Declared at | <u>Waikanae on 6th November 2017</u> [place, date] |
| Before me | <div style="text-align: center;"> Jane Maree Stevenson Solicitor WAIKANAЕ</div> <p>[Justice of the Peace, barrister and solicitor of the High Court, or other person authorised by law to take statutory declarations*]</p> |
| Signature: |  |

*Select one.

CHECKSHEET: SINGLE RESIDENTIAL DWELLING AND ACCESSORY BUILDING

Including single stand-alone dwellings, dwelling additions and/or alterations, re-piling, garages, decks, gazebos, sheds, retaining walls etc.

Kapiti Coast District Council,
175 Rimu Road, Paraparaumu 5032
Private Bag 60601, Paraparaumu 5254
For enquiries, phone 04 296 4700 or 0800 486 486

Address of Project:

104 Raukawa Rd Peka Peka

00022



This checksheet shows you the information that has to be supplied with your building consent application. Please attach **2 copies** of the following information (unless otherwise specified) with your completed Building Consent Application Form.

Please tick relevant box in the Customer Use column as you attach the information. If the box is not relevant to your application, write NA across the box. Please check each section carefully and complete those sections that are relevant to your project.

Once you have attached all the required information, please check for completeness as an incomplete application or lack of any supporting information **will mean that your application cannot be accepted for processing.**

An Application Form is attached to this checksheet — Please include this checksheet with your application.

| Customer Use | 1 | GENERAL Complete this section for all applications | For Office Use Only |
|---|---|---|-------------------------------------|
| <input checked="" type="checkbox"/> | a | Building Consent Application Form (1 copy) Completed and signed by the owner or by an agent on behalf of the owner | <input type="checkbox"/> |
| <input type="checkbox"/> | b | Proof of Ownership (1 copy) One recent copy of current certificates/s of title (not older than 3 months) AND where applicable one copy of purchase agreement (if recently purchased) or one copy of relevant portions of current lease. | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | c | Locality Plan (1:500) showing: Physical location of the subject building in relation to streets or landmarks, north point, name of building and lot and DP number. | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | d | Restricted Building Work Does the application involved restricted building work? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, provide certificate(s) of design work and advise Council of your Licensed Building Practitioner(s) as per the Advise of Licensed Building Practitioners Guidance sheet. | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | e | Inspections and Monitoring Details of proposed inspection regime including monitoring by council officers and other professionals e.g. architects, engineers, surveyors and certification to be supplied on completion. | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | f | Site Plan (1:100) showing: Dimensions of all boundaries, north point, finished floor levels, site area, street name and number, lot and DP number, outline of building, distance to boundaries and the position of swimming or spa pools, ground contours (extended to boundaries) and/or levels and designated wind zone of the site (e.g. specific design, very high, high, medium or low). In addition, if a site is identified as being subject to flooding, ponding, on an overflow path, river or stream corridor, or other natural hazards, indicate on plans proposed design will mitigate natural or created hazards. Additional information is available on these sites by request from Kapiti Coast District Council. GIS is checked no natural Hazards shown on GIS. | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | g | Application Fee Applications will not be accepted without payment of the appropriate fees. Fees payable are set out in the published fee schedule of the council that has jurisdiction over the project site. | <input type="checkbox"/> |
| For Office Use Only: Building Consent Officer: Application Accepted? <input type="checkbox"/> Yes <input type="checkbox"/> No Give reason: <input type="checkbox"/> Sufficient information is supplied with application <u>or</u> <input type="checkbox"/> Other | | | |
| Name: | | Date: | Signature: |

| 2 CHANGE OF USE | | | |
|---|---|--|-------------------------------------|
| Complete for all existing buildings where the proposal involves forming a household unit where one did not exist before Example: the conversion of a garage or shed into a residential unit | | | |
| <input type="checkbox"/> | a | Assessment of the Building for Compliance with the Building Code Section 115(a) of the Building Act 2004 requires that the building, in its new use, complies fully with all clauses of the Building Code. | <input type="checkbox"/> |
| <input type="checkbox"/> | b | Reasonably Practicable The above assessment must relate to all building code clauses. If the proposal is for the project to meet anything less than full compliance with any clauses, your application must clearly state your reasoning, with supporting documentation, and show how you will meet the highest level of compliance that can be considered reasonably practicable. | <input type="checkbox"/> |
| 3 FOUNDATIONS / FLOOR | | | |
| Complete for all new buildings, for existing buildings where the footprint of the building will change or where an additional storey is being added | | | |
| <input checked="" type="checkbox"/> | a | Foundation Plan (1:100 / 1:50) showing: <ul style="list-style-type: none"> • Dimensions of all new foundations • Sub-floor, including bracing • Footing details • If a concrete slab, show basic details including reinforcing and contractions joints • Piles and footing • If the addition is an upper storey show details on upgrading existing foundations, joints, piles etc • Indicate ventilation to sub floor spaces | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | b | Subfloor Bracing Provide subfloor bracing plan and calculations for all piled structures. Where the structure is specifically engineered, this should be included with the structural calculations. Subfloor bracing plan and calculations are required where an additional storey is to be added | <input checked="" type="checkbox"/> |
| 4 CONSTRUCTION | | | |
| Complete for all new structures or alterations to existing structures | | | |
| <input checked="" type="checkbox"/> | a | Existing Floor Plan (1:100 / 1:50) showing: (For additions and alterations only) <ul style="list-style-type: none"> • Complete layout of all levels of building • All designated spaces • All removals • Sanitary fixtures • Smoke detectors | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | b | Proposed Floor Plans (1:100 / 1:50) showing: <ul style="list-style-type: none"> • Complete layout of all levels of building • Room dimensions • Location of partitions • All designated spaces • All floors (new or altered) • Location of sanitary fixtures • Stairs, barriers, handrails, floor joists and beams • Floor joist layout for each level with timber floors • Smoke detectors • Note where wall will form part of the swimming pool fence | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | c | Pre-nail Truss and Frames <i>Roofers only</i> <ul style="list-style-type: none"> • Specific design wall framing requires clarification • Truss layout must be supported by design certification and design of fixing details, including consideration of load paths to ground • Lintels carrying point loads, such as from girder trusses, require specific engineering design | <input type="checkbox"/> |

| | | | |
|---|---|--|-------------------------------------|
| <input checked="" type="checkbox"/> | d | Wall Bracing Plan (1:100 / 1:50) showing: <ul style="list-style-type: none"> Bracing details and calculations for wall bracing (also required for existing lower storeys where an additional storey is being added) Sub-floor bracing for decks projecting more than 2m from the house Location, type and number of bracing elements to indicate compliance with NZS 3604:2011 (include calculations) If the bracing was specifically designed by a structural engineer, provide calculations (required for specific design wind zones and lateral distribution of upper floor loads where lower storey bracing is provided in walls beyond the upper storey footprint) | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | e | Sections and Details (1:50 / 1:20 / 1:10) showing: <ul style="list-style-type: none"> Foundation details involving reinforcing and connections Stairs, handrails, decks and decking Insulation systems and materials to floors, walls and roof Barriers providing safety from falling. Specific engineering design required where detail does not comply with NZBC B1/AS2 Framing sizes, beams, lintels Roof cladding, eaves, fascias, gutters Flashings to openings Fire rated systems on all walls – closer than 1 metre to boundary Stud heights of rooms and total height from lowest ground floor level to top of ridge Window and door installation details Retaining wall details e.g. type, height of retained ground, relationship to boundary, waterproof membrane and proposed drainage | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | f | Fire Report For domestic dwellings of 4 storeys or more, or buildings providing more than one household unit | <input type="checkbox"/> |
| 5 EXTERNAL Complete for new buildings or existing buildings with alternations to the external shell | | | |
| <input checked="" type="checkbox"/> | a | Elevations (1:100 / 1:50) showing: Accurate lines from boundary to boundary on each elevation, relevant District Plan daylight control lines, the maximum height on each elevation, location of door and window openings, fixed and opening sashes, sill heights, floor levels in relation to ground levels, exterior cladding nominated to all elevations, down pipes and spouting, ventilators to sub-floor area (suspended floors only) | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | b | Risk Assessment (<i>Risk matrix in E2/AS1 may be used for buildings within scope</i>) Consider exposure, design and detailing to support appropriate selection of cladding | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | c | Cladding Details (1:50 / 1:20 / 1:10) Provide details around all penetrations, joinery and other junctions at a level appropriate to the level of risk e.g. roof/wall, balcony/wall, junction of different types of cladding, back flashing details for cavity systems | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | d | Production Certification Supply copies of product certificates relied on as compliance documents | <input type="checkbox"/> |
| <input type="checkbox"/> | e | Alternative Solutions If the proposal uses products or systems that are not covered in the Acceptable Solutions of clause E2 of the Building Code provide supporting current information including test results (fully signed reports), case studies, expert opinion (including evidence of experience/qualification, basis for forming opinion and statement of independence) etc to demonstrate compliance | <input type="checkbox"/> |
| 6 SERVICES Complete for all projects with new installations or alteration of plumbing or drainage services | | | |
| <input checked="" type="checkbox"/> | a | Plumbing and Drainage Plan 1:100 / 1:50) showing: <i>Note: if you have supplied drainage details for surface water disposal on the site plan, no drainage plan is required.</i> <ul style="list-style-type: none"> Sizes of pipe work and drains Fixtures and fittings, hot water system(s) If the building is more than one storey with sanitary fittings on upper floors, provide an isometric layout showing wastes, pipes and falls Drainage layout with inspection bends and junctions indicated for both sewer and stormwater Any other drainage on site including council mains and retaining wall field drains Ventilation of sanitary rooms Calculations for sizing of down pipes Gully traps including overflow relief gullies | <input checked="" type="checkbox"/> |

| 7 | | | STRUCTURAL | |
|--|---|--|----------------------|-------------------------------------|
| Complete for all projects incorporating specific structural design | | | | |
| <input checked="" type="checkbox"/> | a | Structural Calculations If any design work required the services of a structural engineer, attach 2 copies of the calculations with this. The calculations must be prefaced with information explaining the design philosophy and justification of assumptions and methodologies used in analysis | | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | b | Expert Opinion (Producer Statements) If this application for consent relies on any expert opinion including Producer Statements certifying compliance with the New Zealand Building Code, a copy must be attached with this application. (Note all structural Producer Statements are required to have accompanying calculations.) | | <input type="checkbox"/> |
| 8 | | | SPECIFICATIONS | |
| Complete for all applications | | | | |
| <i>Note: the specification must be specific to the project and cover all aspects of the proposed work</i> | | | | |
| <input checked="" type="checkbox"/> | a | Specification: General <ul style="list-style-type: none"> • Elements of structure (size, spacing, timber treatment) • Finish or fixings to meet durability requirements • Plumbing and drainage materials and design that installation is to comply with • Wet area surfaces • Ventilation systems • Flooring slip resistance for access routes • Glazing • Type of smoke detectors (including existing smoke detectors where they will remain) | | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | b | External Claddings For each of the following claddings provide details of the product name, manufacturer, maintenance requirements and warranties offered <ul style="list-style-type: none"> • Building wraps • Wall claddings • Roof claddings • Membranes (roof and decks) • Tanking • Joinery | | <input checked="" type="checkbox"/> |
| 9 | | | DEMOLITION / REMOVAL | |
| Complete for all projects involving demolition of significant parts of buildings or the demolition or removal of whole buildings | | | | |
| <input type="checkbox"/> | a | Means of Barricading the Site Provide details of temporary barriers, gates which swing inwards or other means of restricting public access to the area | | <input type="checkbox"/> |
| <input type="checkbox"/> | b | Proposed Tipping Location for Demolition Materials (address/landfill) | | <input type="checkbox"/> |
| <input type="checkbox"/> | c | Hazardous Building Material Provide safety plan detailing the safe handling and disposal of hazardous materials | | <input type="checkbox"/> |
| <input type="checkbox"/> | d | Site Management Plan Covering Management to control silt runoff, noise and dust | | <input type="checkbox"/> |
| <input type="checkbox"/> | e | Proposed Destination for Relocate Building | | <input type="checkbox"/> |
| <input type="checkbox"/> | f | Access To and From the Site (including use of kerb crossings) | | <input type="checkbox"/> |
| <input type="checkbox"/> | g | Specify Termination of Existing Services <ul style="list-style-type: none"> • Water • Sewer • Stormwater | | <input type="checkbox"/> |
| <input type="checkbox"/> | h | Details About the Building such as: Number of storeys, type of materials the building is constructed (Photographs of the building would be useful) | | <input type="checkbox"/> |

| | | |
|--|---|--|
| | <p>Note: You will need to contact the relevant service authorities specified below to advise them of the extent of your work:</p> <ul style="list-style-type: none"> • electricity, • gas, • drainage, • water, • transport, • telecommunications, • cable television, or • any other services that may be affected. <p>Transportation of Relocated Building You will be required to contact and provide details to Councils Transportation and Traffic Department.</p> | |
| 10 | OTHER APPROVALS | |
| Please check Territorial Authority regarding the requirement for other approvals required and fees payable | | |
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | <p>These may include:</p> <ul style="list-style-type: none"> • Consents under the Resource Management Act • Approvals under bylaws including earthworks, vehicle crossings, road openings and water connections. • Show the location of swimming or spa pools on the property and describe how compliance with the Fencing of Swimming Pools Act will be achieved. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

The issue of a building consent does not relieve the owner of any duty or responsibility under any other Act.

Lorraine Joy Cargill
104 Raukawa Road
Peka Peka, RD1
Waikanae 5391

07 January 2020

Dear Building Consent Applicant / Building Owner

Progress of work on Building Consent 170863

| | |
|-----------------------------|---|
| Site Address: | 104 Raukawa Road, Peka Peka |
| Legal Description: | LOT 6 DP 362593 C/T 255394 |
| Project Description: | Addition to dwelling including bathroom & inbuilt fireplace |

The Council, under Section 93 of the Building Act 2004, must decide whether to issue a Code Compliance Certificate (CCC) within 20 working days of the 2-year anniversary of the date the building consent was granted. Your building consent was granted 23 months ago.

Under section 92 of the Building Act 2004, the building owner must apply for a CCC after all building work to be carried out under a building consent has been completed. The work covered by the building consent must be completed for the Council to be able to issue the CCC. I have enclosed a copy of a CCC Application Form.

If your building work is complete, please ring and book a final inspection. The completed CCC Application Form will be collected by the building inspector when he/she visits.

If your building work is nearly complete and will be completed within the 2-year time frame, please ring and book a final inspection once the work is completed, and mail your CCC Application Form to the Council.

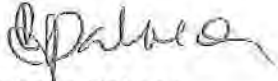
If you believe that the building work will **not be completed** before the scheduled inspection, you can still apply to the Council for an extension of time to complete the work. Please note Council charges a fee for a time extension. **The fee for the 2019/20 year is \$100.00. If your application for extension, along with payment, is not received by: 2nd February 2020 then Council will refuse to issue a CCC.**

If the building consent is substantially incomplete at the time of inspection, or the work does not comply, the Council will also refuse to issue a CCC.

However this does not preclude you from reapplying for a CCC at a later date as the Act does not set a time limit for applicants to complete their building project.

If you have any questions please contact me on (04) 296 4700 or 0800 486 486 or via email: michelle.salmon@kapiti.coast.govt.nz referencing Building Consent: 170863.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Michelle Salmon', with a stylized flourish at the end.

Michelle Salmon
Building Inspections Team Leader

Encl: CCC application form

Lorraine Joy Cargill
104 Raukawa Road
Peka Peka, RD1
Waikanae 5391

11 January 2021

Dear Building Consent Applicant / Building Owner

Extension Expiry - Code Compliance Certificate for Building Consent 170863

| | |
|-----------------------------|--|
| Site Address: | Middle of property |
| Legal Description: | LOT 6 DP 362593 C/T 255394 |
| Project Description: | Addition to dwelling including bathroom & inbuilt fireplace |

This letter is to remind you that the Code Compliance Certificate extension granted on Building Consent 170863 is due to expire on **02/02/2021**

For your information I have enclosed a further copy of the Code Compliance Certificate (CCC) Application Form.

On the assumption that the project will be completed within the extension period, a final inspection of this project by a Council Building Officer will need to be scheduled. Please ring (04) 296 4700 or 0800 486 486 to schedule the inspection.

Please complete the CCC Application Form and hand it to the Building Officer when they are on site.

If you have any questions please contact me on (04) 296 4700 or 0800 486 486 or via email: michelle.salmon@kapiticoast.govt.nz referencing the Building Consent Number noted above.

Yours sincerely



Michelle Salmon
Building Inspections Team Leader

Encl: Copy of CCC Application Form

Lorraine Joy Cargill
104 Raukawa Road
Peka Peka, RD1
Waikanae 5391

29 January 2021

Dear Building Consent Applicant / Building Owner

CCC Extension of Time Granted 170863

| | |
|-----------------------------|--|
| Site Address: | Middle of property |
| Legal Description: | LOT 6 DP 362593 C/T 255394 |
| Project Description: | Addition to dwelling including bathroom & inbuilt fireplace |

Thank you for your letter of 25/01/2021 requesting an extension of time to complete your building project.

Under section 93 of the Building Act 2004, Council has extended the time in which it will make a decision on issuing a Code Compliance Certificate to **02/08/2022**.

This letter is to be kept with the building consent documents.

If you have any questions or you would like to discuss this matter, please contact me on (04) 296 4700 or 0800 486 486 referencing the Building Consent Number noted above.

Yours sincerely



Michelle Salmon
Building Inspections Team Leader

Lorraine Joy Cargill
104 Raukawa Road
Peka Peka, RD1
Waikanae 5391

03 February 2020

Dear Building Consent Applicant / Building Owner

Extension of Completion Time for Building Consent 170863

| | |
|-----------------------------|---|
| Site Address: | Middle of property |
| Legal Description: | LOT 6 DP 362593 C/T 255394 |
| Project Description: | Addition to dwelling including bathroom & inbuilt fireplace |

Thank you for your letter on 28/01/20 requesting an extension of time to complete your building project.

Under section 93 of the Building Act 2004, Council has extended the time in which it will make a decision on issuing a Code Compliance Certificate to 02/02/20

This letter is to be kept with the building consent documents.

If you have any questions or you would like to discuss this matter, please contact me on (04) 296 4700 or 0800 486 486 referencing the Building Consent Number noted above.

Yours sincerely



Michelle Salmon
Building Inspections Team Leader



Statement of Compliance with the NZ Building Code

Consent No: 170863

ISSUED BY: Kapiti Coast District Council

PROJECT

Site Address: 104 Raukawa Road, Peka Peka
Legal Description: LOT 6 DP 362593 C/T 255394
Work Description: Addition to dwelling including bathroom & inbuilt fireplace
Building Category: R2

OWNER

Name(s): Lorraine Joy Cargill
Address: 104 Raukawa Road, Peka Peka, RD1, Waikanae

- [P] Application for CCC received and accepted
- [P] Consent description accurate and reflects amendments (if relevant).
- [P] Confirm owner named on Building Consent application is current owner
- [P] Confirm all required inspections completed and documented in GoGet
- [P] If supervision was required for any inspection - did it occur?
- [P] Work in accordance with approved consent and approved amendments
- [P] Have any notices to fix been uplifted?
- [P] Supporting documentation required in building consent addenda received
- [P] Quality assurance documentation
- [P] Restricted building work
- [P] Additional information required and received
- [P] Approve to issue Code Compliance Certificate if all fees paid
- [P] Supervision review

NOTES:

18/05/2021

I have reviewed the documentation, inspection and SOC report and agree with the decision to issue SOC by Gareth McCullagh

LICENSED BUILDING PRACTITIONERS:

Carpentry 1 BP114618 William Cargill

On review of the documentation and inspection notes it can be considered on reasonable grounds that all work has been completed in compliance with the building consent.



Signed:

Name: Luke Nattrass

Position: Building Officer

Date: 19 May 2021

Lorraine Joy Cargill
104 Raukawa Road
Peka Peka, RD1
Waikanae 5391

12 February 2018

Dear Building Consent Applicant / Building Owner

Approval of Building Consent – Detached Residential / Outbuilding: 170863

Location: 104 Raukawa Road, Peka Peka
Legal Description: LOT 6 DP 362593 C/T 255394
Description: Addition to dwelling including bathroom & inbuilt fireplace

I am pleased to inform you that the above building consent application has been approved. The building consent documents have been issued and are enclosed.

The building consent attached to this letter is consent under the Building Act 2004 to undertake building work in accordance with the plans and specifications that accompanied your application. Under section 49 of that Act, Council is satisfied that the provisions of the building code would be met if the proposed building work were completed in accordance with those plans and specifications. This consent does not affect any duty or responsibility under any other Act or permit any breach of any other Act.

This building consent does not give or imply any rights to transgress beyond your legal boundaries. Any work that is required beyond your legal boundaries can only be undertaken with the permission of the affected owner/s.

Before starting any work please read ALL the building consent documents carefully and in full so that you, as the owner, understand the conditions under which the consent has been issued.

Please note that this building consent includes restricted building work, the details of this are included in this letter.

Owner responsibilities

The owner is responsible for ensuring:

- building work starts within 12 months of the approval of the building consent and that work progresses at a reasonable pace.
- written notice of every licensed building practitioner undertaking restricted building work is provided to Council before that work commences, and any changes are advised in writing

- the approved building consent documents are kept on site during construction and available for the District inspector at inspections
- all required inspections are completed and that a Code Compliance Certificate is obtained once the work has been completed. The list of supporting documentation required before issue of the Code Compliance Certificate and information on filling out the application form for code compliance certificate is attached. Failure to obtain a final inspection and a code compliance certificate may affect your insurance cover and could affect future re-sale of your property.
- no work with noisy equipment is to be carried out before 7.30 a.m. or after 6 p.m. Monday to Saturday. During the week there may be workers on site from 6.30 a.m. quietly preparing for work. Work with noisy equipment is not permitted on Sundays and public holidays.
- all loose materials that are capable of being carried by the wind are either secured or removed from the site. All activities must be carried out in a manner that keeps to a minimum the dust nuisance to adjacent properties.
- no damage occurs to public property, for example footpaths or retaining structures. Should damage occur you will be required to pay for any repairs.
- obtaining an amendment to the building consent for any changes to the approved building consent, prior to that work being undertaken.
- meeting the requirements of any easements, consent notices, covenants, and like listings registered on the title.
- the development contributions invoiced, if any, must be paid before a code compliance certificate can be issued.

General requirements

Note: Your attention is drawn to the notes contained in the 'Addendum to the Consent' and guidance documents referred to.

The following information is relevant to this building consent:

1. The Building Inspector is to be given 24 hours' notice before carrying out the inspections on the attached list. To arrange for inspections by the District Inspector, please contact the building inspectorate on 04 296 4700 between the hours of 8.00am and 4.30pm.
2. Refer to the list of inspections required. Under section 90 of the Building Act 2004 agents authorised by the Council (acting as a Building Consent Authority) are entitled, at all times during normal working hours or while building work is being done, to inspect—
 - a. land on which building work is being or is proposed to be carried out; and
 - b. building work that has been or is being carried out on or off that building site; and
 - c. any building.
3. You are responsible for the safety of visitors to the work site including those undertaking building inspections. You must provide safe access to parts of the construction necessary for inspection. Ladder access must be securely founded and tied. Scaffold access and roof edge protection is generally required.

4. If required inspections, including those by designers of specifically designed elements, are not undertaken you may experience difficulty in obtaining a Code Compliance Certificate for the project. We suggest that at the time of the first inspection you discuss the inspection requirements with the inspecting officer.
5. This building consent will lapse and be of no effect if the building work concerned has not been commenced within 12 calendar months after the date of issue, or within such further period as the territorial authority allows.
6. The contractor is to leave the site clear of all demolition materials and in a tidy state.
7. Easements, consent notices, covenants, and like listings registered on the title are the responsibility of the applicant.
8. Note and comply with endorsements on approved plans.

Restricted Building Work

The following building work associated with this building consent is restricted building work [Section 7 and 402(1)(n) of the Building Act 2004 and Building (Definition of Restricted Building Work) Order 2011]:

| Description of restricted building work including design work that is restricted building work |
|--|
| Primary structure |
| Foundations and subfloor framing |
| Walls |
| Roof |
| Columns and beams |
| Bracing |
| Other |
| External moisture management systems |
| Damp proofing |
| Roof cladding or roof cladding system |
| Ventilation system (for example subfloor or cavity) |
| Wall cladding or wall cladding system |
| Waterproofing |
| Other |

Please note that the design work and restricted building work must be supervised or carried out by a licensed building practitioner who is licensed to carry out or supervise that kind of building work.

You or your agent will need to provide their details to the Council in writing prior to commencement of the building work. If after the restricted building work commences the named licensed building practitioner(s) ceases to be engaged to carry out or supervise the restricted building work under the building consent, this must also be advised in writing as must also the details of any other licensed building practitioner(s) subsequently engaged to carry out or supervise the restricted building work (Section 87 of the Building Act 2004). A form "Advice of licensed building practitioner(s)" is enclosed for you to use to advise the Council of licensed building practitioner details.

Please also note that it is an offence to engage another person to carry out or supervise

restricted building work who is not a licensed building practitioner (Section 86 of the Building Act 2004).

Owner Builder Exemption

Please note that the Council has been advised that for this building consent the building work that is restricted building work is to be carried out under the owner-builder exemption provisions of the Building Act 2004, see sections 14C and 87A of the Act. Excerpts from these sections of the Act follow:

“14C Responsibilities of owner-builder

An owner-builder is responsible for ensuring that restricted building work carried out under the owner-builder exemption complies with the building consent and the plans and specifications to which the building consent relates.”

“87A Notices to building consent authority when owner-builder carries out restricted building work

- (3) *The owner must give the building consent authority a notice—*
- (a) *if there is a change in the owner-builder carrying out the restricted building work; or*
 - (b) *when the owner-builder ceases to carry out the restricted building work.*
- (4) *A notice under this section must—*
- (a) *be in the prescribed form; and*
 - (b) *if it is a notice required under subsection (3)(a), be accompanied by a statutory declaration as to owner-builder status; and*
 - (c) *be given—*
 - (i) *before the building work begins, if it is a notice required by subsection (2);*
 - (ii) *as soon as practicable, if it is a notice required by subsection (3).”*

Please note that the prescribed form and statutory declaration referred to above and further information about the owner-builder exemption can be found on the Ministry of Business Innovation & Employment’s website at <https://www.building.govt.nz/projects-and-consents/planning-a-successful-build/scope-and-design/choosing-the-right-people-for-your-type-of-building-work/owner-builder-obligations>

Other reference material

- Guide for completing an application for code compliance,
<http://www.kapiticoast.govt.nz/globalassets/regulatory/building/form-278a-guide-for-ccc-application.pdf>
- A guide to the inspection process
http://www.kapiticoast.govt.nz/globalassets/regulatory/building/form_559_a_guide_to_the_inspection_process.pdf

If you have any questions regarding your building consent or your responsibilities, please contact Kapiti Coast District Council on 04 296 4700 or toll free on 0800 486 486.

Relevant Information

Issued in accordance with Building Consent No. 170863

1. Owner Bill Cargill confirmed that the depth of the Earthworks is 1m-1.1m and 19m³ volume. Earthworks exceeding the permitted activity standards (no more than 100m³ of soil and no altering the ground level by more than 1m) will require a resource consent.
2. *All work to be in accordance with Sec 221 notice imposed under RM050063*

Building Consent

[Form 5, Building (Forms) Regulations 2004]

170863

Section 51, Building Act 2004

The building

Street address of building: 104 Raukawa Road, Peka Peka

Legal description of land where

building is located: LOT 6 DP 362593 C/T 255394

Valuation number: 1489005014

Building name: N/A

Location of building within site/

block number: Middle of property

Level/unit number:

The owner

Name of owner: Lorraine Joy Cargill

Contact person: Bill

Mailing address: 104 Raukawa Road, Peka Peka, RD1, Waikanae
5391

Street address/registered office: N/A

Phone numbers:

Landline: 042937323

Mobile: 027 2412097

After hours: -

Fax number: -

Email address: bill.cargill@xtra.co.nz

Website:

First point of contact for communications with the council/building consent authority:

As above

Building work

The following building work is authorised by this building consent:

Addition to dwelling including bathroom & inbuilt fireplace

Rural dwelling

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building). This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

Conditions of building consent

There are no conditions.

Compliance schedule

A compliance schedule is not required for the building.

Attachments

Copies of the following documents are attached to this building consent:

- List of required inspections and supporting documentation required
- Building Consent Addendum
- Plans and specifications
- Advice of licensed building practitioners

Note: The cover letter and all attachments to this building consent should be read fully to ensure you understand all conditions of this consent.

Signature

Position

On behalf of: KAPITI COAST DISTRICT COUNCIL

Date: 2/02/18

Bill Cargill
104 Raukawa Road
Peka Peka, RD1
Waikanae 5391

27 May 2021

Dear Building Consent Applicant / Building Owner

Building Consent Application Requiring Resource Consent - 170863

Site Address: 104 Raukawa Road, Peka Peka
Legal Description: LOT 6 DP 362593 C/T 255394
Project Description: Addition to dwelling including bathroom & inbuilt fireplace

We recently received an application from you for a building consent for the above property.

I have just completed a preliminary assessment of the application's compliance with the Council's District Plan.

Under the provisions of the District Plan, the site is within the Rural Zone.

Your application does not comply with the permitted activity standards for Earthworks:

(i) Earthworks shall not be undertaken:

- ☐ *On slopes of more than 28 degrees.*
- ☐ *Within 20 metres of a waterbody, including wetlands and coastal water,*

(ii) In any overflow path or residual overflow path no earthworks shall:

- ☐ *involve the disturbance of more than 10m³ (volume) of land in any 10 year period; or*
- ☐ *alter the existing ground level by more than 0.5 metre, measured vertically.*

(iii) In all other areas, no earthworks shall involve the disturbance of more than 100m³ (volume) of land and alter the existing ground level by more than 1.0 metre, measured vertically, in any 5 year period.

A certificate will be attached to the building consent advising that a resource consent is required and restricting the work until the resource consent is obtained. Your application for resource consent should be submitted together with a set of the related drawings. Council reserves the right to assess this application for other dispensations that may be required.

Under the Building Act 2004, section 37, Council has the right to determine what building work, **if any**, may proceed before a resource consent has been obtained. The extent to which any building work may proceed on your project will be detailed on the certificate attached to the building consent.

Please contact me urgently should you wish to voluntarily suspend processing of this building consent while you reassess your options. You may wish to consider altering your proposal to make it comply with the District Plan rules.

Please contact me if you would like to discuss this matter.

Yours sincerely

Nancy Gomez
Resource Consents Projects Officer

Building Consent Addendum to 170863

| Application | Building Consent No. 170863 |
|----------------------|-----------------------------|
| Lorraine Joy Cargill | |
| 104 Raukawa Road | |
| Peka Peka, RD1 | |
| Waikanae 5391 | |

| Project | |
|--------------------|---|
| Description: | Dwellings - Alterations & additions Being Stage 1 of an intended 1 Stages Addition to dwelling including bathroom & inbuilt fireplace |
| Intended Life: | Indefinite, but not less than 50 years |
| Intended Use: | Rural dwelling |
| Estimated Value: | \$100,000 |
| Location: | 104 Raukawa Road, Peka Peka |
| Legal Description: | LOT 6 DP 362593 C/T 255394 |
| Valuation No: | 1489005014 |

Builder: Bill Cargill #BP114618 104 Raukawa Road, Peka Peka : 027 2412097

Drainlayer: William Roberts #17661 Otaki

Plumber: Dave Berkett #10623 Waerenga Road, Otaki : 027 234 2951

Contractor: Base Consulting Ltd #114618 SH1, Levin : 027 444080

Contractor: Cargill Construction #114618 104 Raukawa Road, Peka Peka : 027 2412097

Specific requirements

1.

GoGet Inspection Audit Report

Consent No: **170863**

Applicant: **Lorraine Joy Cargill**

Site Address: **104 Raukawa Road, Peka Peka**

Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Block**

Inspection Outcome: **Fail**

Inspected By: **Tyler Smith**

Inspection Date: **6 April 2018 2:05 p.m.**

Duration: **30 minutes**

| Inspection Element | Status |
|--|--------|
| General | Fail |
| Engineer supervision Base consulting. | Pass |
| Engineer's report PS4 still to come | Fail |
| Washouts In place | Pass |
| Reinforcing D12 at 400mm centres vertical D12 600mm centres horizontal | Pass |
| Starters D12 at 400 Mm centres | Pass |
| Control joints control joist in place. | Pass |
| Mortar bedding | Pass |
| LBP number 106353 Jason Bean | Pass |
| Other | N/A |



Taken at 1:58 PM on Friday 6/04/2018



Taken at 1:58 PM on Friday 6/04/2018



Taken at 1:59 PM on Friday 6/04/2018

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Block**
Inspection Outcome: **Fail**
Inspected By: **Tyler Smith**
Inspection Date: **6 April 2018**

Passed Items

General

| | |
|----------------------|--------------------------------------|
| Engineer supervision | Base consulting. |
| Washouts | In place |
| Reinforcing | D12 at 400mm centres vertical |
| | D12 600mm centres horizontal |
| Starters | D12 at 400 Mm centres |
| Control joints | control joist in place. |
| Mortar bedding | |
| LBP number | 106353 Jason Bean |

Failed Items

General

| | |
|-------------------|--------------------------|
| Engineer's report | PS4 still to come |
|-------------------|--------------------------|

Support Documentation

Status

| | |
|---|----------|
| Application for CCC | Required |
| Electrical safety certificate | Required |
| As-built drainage plan | Required |
| Drainage (Form 126) for stormwater installation | Required |
| Drainage (Form 127) for private sewer installation | Required |
| Plumbing (Form 125) for pressure test and installation piped services | Required |
| Construction review PS4 statement for structural engineering | Required |
| Roof product manufacturers warranty | Required |
| Record of Work | Required |

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Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Block**
Inspection Outcome: **Pass**
Inspected By: **Luke Natrass**
Inspection Date: **10 May 2021 1:13 p.m.**
Duration: **15 minutes**

| Inspection Element | Status |
|---------------------------------|--------|
| General | Pass |
| Engineer's report | Pass |
| Engineers ps4 received | |
| Agent/owner written approval | N/A |
| non compliance discussed onsite | N/A |
| Next Inspection required | N/A |

Documentation

| | |
|---|----------|
| Application for CCC | Received |
| Gas safety certificate | Received |
| As-built drainage plan | Received |
| Plumbing (Form 125) for pressure test and installation piped services | Received |
| Construction review PS4 statement for structural engineering | Received |
| Membrane applicator certificates - internal wet area | Received |
| Roof product manufacturers warranty | Received |
| Window manufacturers producer statement | Received |

GoGet Inspection Audit Report

Consent No: **170863**

Applicant: **Lorraine Joy Cargill**

Site Address: **104 Raukawa Road, Peka Peka**

Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Drainage**

Inspection Outcome: **Fail**

Inspected By: **Jeremy Lincoln**

Inspection Date: **12 June 2019 12:22 p.m.**

Duration: **30 minutes**

| Inspection Element | Status |
|---|--------|
| General | Fail |
| Pipe diameter al 100m pvc pink primed | Pass |
| Bedding material natural sand | Pass |
| Gully trap x1ORG | Pass |
| Connections/angles sweeping bends & insp junctions | Pass |
| Branch length 20m apprx, | Pass |
| Direction/fall adequate | Pass |
| Holding water | Pass |
| Terminal vent not before last fixture, needs relocating provide image of relocation | Fail |
| 50mm vent required | |
| Registration number 12724 | Pass |
| Stormwater sumps | N/A |
| Other | N/A |



connection to existing immediately prior to septic system
Taken at 12:09 PM on Wednesday 12/06/2019



New drain run to addition apprx 20M
Taken at 12:10 PM on Wednesday 12/06/2019



ORG charged, vent at end of line, requires to be downstream of fixture
Taken at 12:11 PM on Wednesday 12/06/2019

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Drainage**
Inspection Outcome: **Fail**
Inspected By: **Jeremy Lincoln**
Inspection Date: **12 June 2019**

Passed Items

General

| | |
|---------------------|--|
| Pipe diameter | al 100m pvc pink primed |
| Bedding material | natural sand |
| Gully trap | x1ORG |
| Connections/angles | sweeping bends & insp junctions |
| Branch length | 20m apprx, |
| Direction/fall | adequate |
| Holding water | |
| Registration number | 12724 |

Failed Items

General

| | |
|---------------|--|
| Terminal vent | not before last fixture, needs relocating provide image of relocation |
| | 50mm vent required |

Support Documentation

Status

| | |
|---|----------|
| Application for CCC | Required |
| Electrical safety certificate | Required |
| As-built drainage plan | Required |
| Drainage (Form 126) for stormwater installation | Required |
| Drainage (Form 127) for private sewer installation | Required |
| Plumbing (Form 125) for pressure test and installation piped services | Required |
| Construction review PS4 statement for structural engineering | Required |
| Roof product manufacturers warranty | Required |
| Record of Work | Required |

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Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Drainage**
Inspection Outcome: **Pass**
Inspected By: **Luke Natrass**
Inspection Date: **10 May 2021 1:14 p.m.**
Duration: **15 minutes**

| Inspection Element | Status |
|---------------------------------|--------|
| General | Pass |
| Terminal vent | Pass |
| In place as required | |
| Agent/owner written approval | N/A |
| non compliance discussed onsite | N/A |
| Next Inspection required | N/A |

Documentation

| | |
|---|----------|
| Application for CCC | Received |
| Gas safety certificate | Received |
| As-built drainage plan | Received |
| Plumbing (Form 125) for pressure test and installation piped services | Received |
| Construction review PS4 statement for structural engineering | Received |
| Membrane applicator certificates - internal wet area | Received |
| Roof product manufacturers warranty | Received |
| Window manufacturers producer statement | Received |

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Consent No: **170863**
 Applicant: **Lorraine Joy Cargill**
 Site Address: **104 Raukawa Road, Peka Peka**
 Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Final Inspection**
 Inspection Outcome: **Pass**
 Inspected By: **Luke Natrass**
 Inspection Date: **10 May 2021 1:11 p.m.**
 Duration: **60 minutes**

| Inspection Element | Status |
|--|--------|
| Exterior | Pass |
| All previous inspections/notes passed | Pass |
| All passed items on this inspection have been assessed against the consented documentation. | |
| Drawings | Pass |
| On site and reviewed | |
| Additional information/plan | Pass |
| Received | |
| Sub-floor ventilation | N/A |
| Not part of this consent | |
| Roof fixings | Pass |
| As required | |
| Spouting and down-pipes | Pass |
| All in place | |
| Deck structure | N/A |
| Not part of this consent | |
| Flashings - roof | Pass |
| All in place and as per consented plans | |
| Penetrations - flashings | N/A |
| Barriers | N/A |
| Gully dishes | Pass |
| in place as required | |
| Stormwater and site drainage | Pass |
| In place | |
| Handrails | N/A |
| Wastes to gully | Pass |
| Fixings - durability | Pass |
| as per consented plans | |
| Steps/stairs | N/A |
| Terminal vents/AAVs | Pass |
| In place as per photos | |
| Cladding painted/sealed | Pass |
| as required | |
| Flashings - windows/doors | Pass |
| in place | |
| Cladding ground clearance | Pass |
| as required | |
| non compliance discussed onsite | N/A |
| Final check complete | Pass |
| Other | Pass |

All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply.

| | |
|--|------|
| Interior | Pass |
| All previous inspections/notes passed | Pass |
| Drawings | Pass |
| On site and reviewed | |
| Additional information/plan | Pass |
| Additional information regarding bathroom change | |
| Service areas-floors/walls | Pass |
| Bathroom floor sealed as required | |
| Stair design | N/A |
| Not part of this consent | |
| Handrails | N/A |
| Not part of this consent | |
| Balustrades | N/A |
| Not part of this consent | |
| Lightings | Pass |
| Windows as per consented plans | |
| Laundering | N/A |
| Not part of this consent | |
| Cooking facilities | N/A |
| Not part of this consent | |
| Smoke detectors | Pass |
| X2 both within 3m of bedrooms | |
| Food storage/preparation | N/A |
| Not part of this consent | |
| Ventilation | Pass |
| Windows as per plans and ducted fan from bathroom | |
| Insulation and clearance | N/A |
| Not part of this consent | |
| HWC flues | N/A |
| Infinity in place | |
| HWC restraint | N/A |
| infinity bolted to wall | |
| Tempering valve | N/A |
| Not part of this consent | |
| Glazing - human impact | Pass |
| Safety glass in place | |
| Hot water temp | Pass |
| 53deg | |
| Solid fuel heater | Pass |
| In place | |
| Water supply tank | Pass |
| In place as original | |
| Trap seals and AAVS | Pass |
| Cistern flushing | Pass |
| As required | |
| WC pan connection | Pass |
| bolted and siliconed to ground | |
| Septic tank | N/A |
| Window labels | Pass |
| in place | |
| non compliance discussed onsite | N/A |
| Final check complete | Pass |

All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply.

Other Pass

All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply.

Intertenancy/commercial N/A

Other N/A

Documentation

| | |
|---|----------|
| Application for CCC | Received |
| Gas safety certificate | Received |
| As-built drainage plan | Received |
| Plumbing (Form 125) for pressure test and installation piped services | Received |
| Construction review PS4 statement for structural engineering | Received |
| Membrane applicator certificates - internal wet area | Received |
| Roof product manufacturers warranty | Received |
| Window manufacturers producer statement | Received |



Taken at 10:08 AM on Monday 10/05/2021



solid fuel heater

Taken at 10:08 AM on Monday 10/05/2021



Taken at 10:08 AM on Monday 10/05/2021



safety glass

Taken at 10:09 AM on Monday 10/05/2021



Taken at 10:09 AM on Monday 10/05/2021



master bedroom

Taken at 10:09 AM on Monday 10/05/2021



master bedroom

Taken at 10:09 AM on Monday 10/05/2021



ensuite

Taken at 10:09 AM on Monday 10/05/2021



ensuite shower

Taken at 10:10 AM on Monday 10/05/2021



ensuite bath

Taken at 10:10 AM on Monday 10/05/2021



ensuite bath window

Taken at 10:10 AM on Monday 10/05/2021



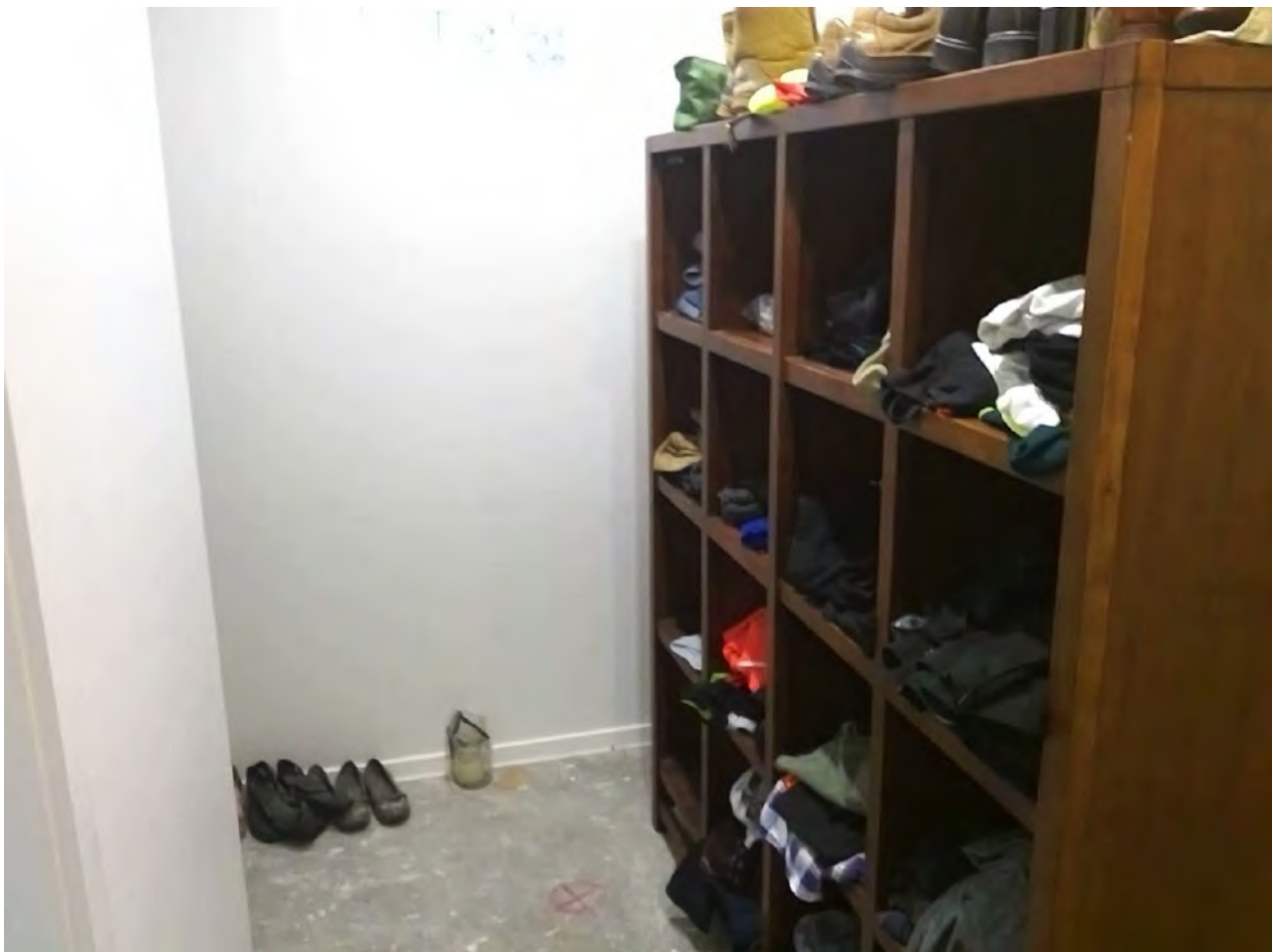
ensuite vanity sealed

Taken at 10:12 AM on Monday 10/05/2021



toilet sealed

Taken at 10:12 AM on Monday 10/05/2021



Taken at 10:12 AM on Monday 10/05/2021



vents fro fire place

Taken at 10:14 AM on Monday 10/05/2021



vents from fire place

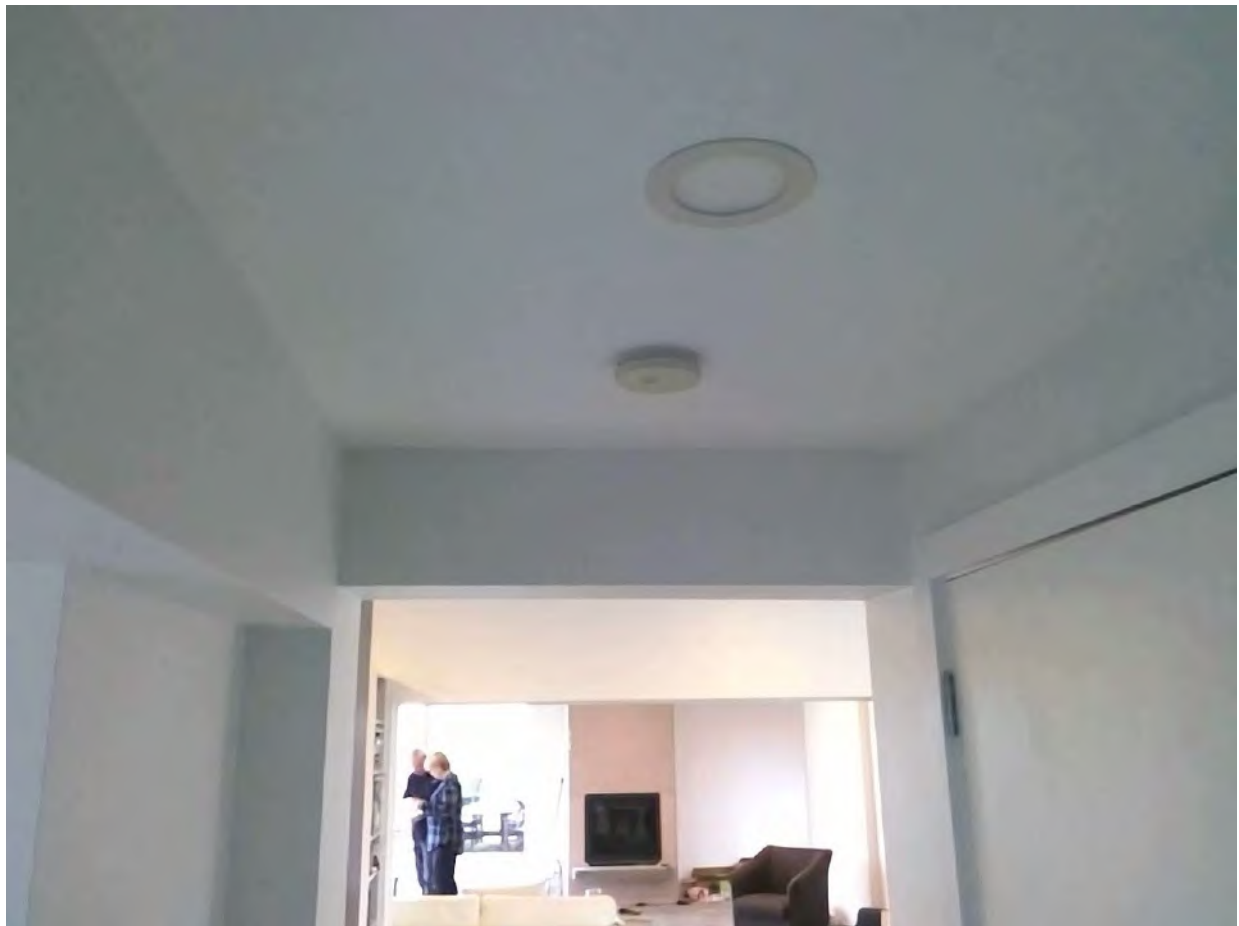
Taken at 10:14 AM on Monday 10/05/2021



Taken at 10:14 AM on Monday 10/05/2021



Taken at 10:15 AM on Monday 10/05/2021



smoke detector in old part of house
Taken at 10:15 AM on Monday 10/05/2021



Taken at 10:17 AM on Monday 10/05/2021



north side of house
Taken at 10:18 AM on Monday 10/05/2021



Taken at 10:18 AM on Monday 10/05/2021



Taken at 10:18 AM on Monday 10/05/2021



Taken at 10:18 AM on Monday 10/05/2021



Taken at 10:19 AM on Monday 10/05/2021



Taken at 12:57 PM on Monday 10/05/2021



Taken at 12:57 PM on Monday 10/05/2021



Taken at 12:58 PM on Monday 10/05/2021



Taken at 12:58 PM on Monday 10/05/2021



Taken at 12:58 PM on Monday 10/05/2021



Taken at 12:59 PM on Monday 10/05/2021



Taken at 12:59 PM on Monday 10/05/2021



Taken at 12:59 PM on Monday 10/05/2021



Taken at 1:00 PM on Monday 10/05/2021



south side of house

Taken at 1:01 PM on Monday 10/05/2021

Marie Hewlett

From: bill cargill <billcargill@xtra.co.nz>
Sent: Tuesday, December 5, 2017 9:04 AM
To: Nancy Gomez
Subject: Building consent # 170863

Follow Up Flag: Follow up
Flag Status: Completed

attn: Nancy Gomez
Resource Consents Project Officer

05 December 2017

Dear Nancy Gomez,

Building Consent Application 170863

Site Address: 104 Raukawa rd PekaPeka

Lot 6 DP 362593 C/T 255394

Following on from our meeting yesterday morning on the 04th December 17, re height levels and volume of material to be excavated,
I would like to confirm the following.

The excavation plan showing the heights and volume of the spoil to be removed, takes precedence over the elevation plans ground lines, that are indicative only.

The maximum height to be excavated will be 1.000m not 1.100 as shown .

The volume of removed spoil remains at approximately 19.5 cubic meters.

Clarification of these points I trust will negate the requirement for a Resource Consent,

Yours sincerely,

Bill Cargill

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Postline / Wet area Pre Application**
Inspection Outcome: **Fail**
Inspected By: **Gareth McCullagh**
Inspection Date: **25 August 2020 11:10 a.m.**
Duration: **15 minutes**

| Inspection Element | Status |
|---|--------|
| General | Fail |
| Sighted previous inspection notes | Fail |
| Conforms with approved drawings | Pass |
| Confirm additional information/amended plan | N/A |
| Not assessed at this inspection | |
| Sheet bracing | N/A |
| Not assessed at this inspection | |
| Sheet fixings | N/A |
| Not assessed at this inspection | |
| Fire/acoustic separation | N/A |
| Agent/owner written approval | N/A |
| Wet area substrate system | Pass |
| Only for villa board wet area fixed at 150mm centres | |
| LBP number | N/A |
| non compliance discussed onsite | N/A |
| Next Inspection required | N/A |
| Other | N/A |

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Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Postline / Wet area Pre Application**
Inspection Outcome: **Pass**
Inspected By: **Anthony Wilson**
Inspection Date: **3 December 2020 11:23 a.m.**
Duration: **45 minutes**

| Inspection Element | Status |
|---|--------|
| General | Pass |
| Sighted previous inspection notes Pre line updated | Pass |
| Conforms with approved drawings As per plan, | Pass |
| Confirm additional information/amended plan | N/A |
| Sheet bracing Gib ezybrace system | Pass |
| Sheet fixings Screwed | Pass |
| Wet area substrate system Already inspected | Pass |
| LBP number 114618 | Pass |
| Other | Pass |
| All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply. | |



Gib brace

Taken at 11:28 AM on Thursday 3/12/2020



Gib brace

Taken at 11:33 AM on Thursday 3/12/2020

GoGet Inspection Audit Report

Consent No: **170863**

Applicant: **Lorraine Joy Cargill**

Site Address: **104 Raukawa Road, Peka Peka**

Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Pre Clad**

Inspection Outcome: **Fail**

Inspected By: **Tyler Smith**

Inspection Date: **23 November 2018 3:17 p.m.**

Duration: **45 minutes**

| Inspection Element | Status |
|---|--------|
| General | Fail |
| Inspection notes | Pass |
| Drawings | Pass |
| Additional information/plan | N/A |
| Building wrap type | Pass |
| Watergate | |
| Flexible seling tape | Pass |
| Aluband | |
| Deck membrane fixed in accordance with specification | Pass |
| Head flashings | Fail |
| Head flashing's not yet installed. Reinspection required. To be fitted with cladding | |
| Sill flashings | Fail |
| Sill flashing's not installed reinspection required | |
| Back flashings | N/A |
| Saddle flashings | N/A |
| Internal/external corner flashings | Pass |
| Pvc | |
| aluminium chased into Block where required | |
| Jamb flashings | Fail |
| Jamb packers to be fitted | |
| Capillary clearances | Fail |
| Windows not yet installed | |
| Flashing penetrations | N/A |
| Ground/Deck Cladding Clearance | Pass |
| Additional strapping to wrap | N/A |
| Batten timber treatment | N/A |
| Cavity closers | N/A |
| Battens in place | N/A |
| Battens structural fixing | N/A |
| Cavity spacers | N/A |
| Cavity spacers size and slope | N/A |
| LBP number | Pass |



Taken at 3:16 PM on Friday 23/11/2018



Taken at 3:17 PM on Friday 23/11/2018

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Pre Clad**
Inspection Outcome: **Fail**
Inspected By: **Tyler Smith**
Inspection Date: **23 November 2018**

Passed Items

General

| | |
|--|---|
| Inspection notes | |
| Drawings | |
| Building wrap type | Watergate |
| Flexible seling tape | Aluband |
| Deck membrane fixed in accordance with specification | |
| Internal/external corner flashings | Pvc |
| | aluminium chased into Block where required |
| Ground/Deck Cladding Clearance | |
| LBP number | |

Failed Items

General

| | |
|----------------------|--|
| Head flashings | Head flashing's not yet installed. Reinspection required. |
| | To be fitted with cladding |
| Sill flashings | Sill flashing's not installed reinspection required |
| Jamb flashings | Jamb packers to be fitted |
| Capillary clearances | Windows not yet installed |

Support Documentation

| Support Documentation | Status |
|---|----------|
| Application for CCC | Required |
| Electrical safety certificate | Required |
| As-built drainage plan | Required |
| Drainage (Form 126) for stormwater installation | Required |
| Drainage (Form 127) for private sewer installation | Required |
| Plumbing (Form 125) for pressure test and installation piped services | Required |
| Construction review PS4 statement for structural engineering | Required |
| Roof product manufacturers warranty | Required |
| Record of Work | Required |

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Pre Clad**
Inspection Outcome: **Pass**
Inspected By: **Gareth McCullagh**
Inspection Date: **20 August 2020 9:37 a.m.**
Duration: **15 minutes**

| Inspection Element | Status |
|---|--------|
| General | Pass |
| Fire Separations | N/A |
| Head flashings | Pass |
| In place | |
| Sill flashings | Pass |
| Jamb flashings | Pass |
| Packers in place | |
| Capillary clearances | Pass |
| Agent/owner written approval | N/A |
| non compliance discussed onsite | N/A |
| Next Inspection required | N/A |
| Other | Pass |
| All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply. | |

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Pre Wrap**
Inspection Outcome: **Pass**
Inspected By: **Alan Tinney**
Inspection Date: **7 November 2018 9:28 a.m.**
Duration: **30 minutes**

| Inspection Element | Status |
|---|--------|
| General | Pass |
| Inspection notes | Pass |
| Drawings | Pass |
| Additional information/plan | Pass |
| Cladding type identified | Pass |
| Framing moisture meets cladding requirements | Pass |
| Stud spacing appropriate for cladding 400mm | Pass |
| Exterior sheet bracing and angle brace fixing | N/A |
| Bottom plate connections screw bolts All bottom plate connections fixed in compliance with the building consent documentation | Pass |
| Building wrap type | Pass |
| Roof Cross Bracing | N/A |
| Purlin fixing 2 nails/1 blue screw | N/A |
| Decking substrate 17.5mm H3 fixed 150mm ss screws | Pass |
| Top Plate Connection fixing with ply | Pass |
| Lintel Connections | Pass |
| Truss connections rafters/z nails | Pass |
| Column posts | N/A |
| LBP number | N/A |
| Other | N/A |



Taken at 9:22 AM on Wednesday 7/11/2018



Taken at 9:23 AM on Wednesday 7/11/2018



Taken at 9:26 AM on Wednesday 7/11/2018



Taken at 9:26 AM on Wednesday 7/11/2018



Taken at 9:28 AM on Wednesday 7/11/2018

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Pre Wrap**
Inspection Outcome: **Pass**
Inspected By: **Alan Tinney**
Inspection Date: **7 November 2018**

Passed Items

General

| | |
|--|---|
| Inspection notes | |
| Drawings | |
| Additional information/plan | |
| Cladding type identified | |
| Framing moisture meets cladding requirements | |
| Stud spacing appropriate for cladding | 400mm |
| Bottom plate connections | screw bolts All bottom plate connections fixed in compliance with the building consent documentation |
| Building wrap type | |
| Decking substrate | 17.5mm H3 fixed 150mm ss screws |
| Top Plate Connection | fixing with ply |
| Lintel Connections | |
| Truss connections | rafters/z nails |

Support Documentation

| Support Documentation | Status |
|---|----------|
| Application for CCC | Required |
| Electrical safety certificate | Required |
| As-built drainage plan | Required |
| Drainage (Form 126) for stormwater installation | Required |
| Drainage (Form 127) for private sewer installation | Required |
| Plumbing (Form 125) for pressure test and installation piped services | Required |
| Construction review PS4 statement for structural engineering | Required |
| Roof product manufacturers warranty | Required |
| Record of Work | Required |

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Preline Building**
Inspection Outcome: **Fail**
Inspected By: **Alan Tinney**
Inspection Date: **30 June 2020 2:21 p.m.**
Duration: **30 minutes**

| Inspection Element | Status |
|---|--------|
| General | Fail |
| Sighted previous inspection notes | Pass |
| Conforms with approved drawings | Pass |
| Confirm additional information/amended plan | Pass |
| Fire Separations | N/A |
| Max moisture content 16% | Pass |
| Ventilation to rooms Window sizes and openings as per consented documentation | Pass |
| Timber treatment H3/H1.2 | Pass |
| Lintel/beam size and fixing | Pass |
| Insulation Wall 2.6/ceiling 3.6 | Pass |
| Top plate connection | Pass |
| Ceiling batten spacing 500 | Pass |
| Stud spacing 400 | Pass |
| Bracing connections As per plans | Pass |
| Air seals | Pass |
| Bottom plate fixings | Pass |
| Is the building weathertight | Pass |
| Grade of timber framing | Pass |
| Framing cut outs | N/A |
| wet area substrate | Fail |
| insert or inbuilt fireplace Recheck | Fail |
| LBP number | N/A |
| Agent/owner written approval | N/A |
| non compliance discussed onsite | N/A |
| Other | N/A |



Taken at 2:18 PM on Tuesday 30/06/2020



Taken at 2:18 PM on Tuesday 30/06/2020

GoGet Inspection Audit Report

Consent No: **170863**

Applicant: **Lorraine Joy Cargill**

Site Address: **104 Raukawa Road, Peka Peka**

Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Preline Building**

Inspection Outcome: **Fail**

Inspected By: **Gareth McCullagh**

Inspection Date: **20 August 2020 9:39 a.m.**

Duration: **15 minutes**

| Inspection Element | Status |
|-------------------------------|--------|
| General | Fail |
| wet area substrate | Pass |
| Metal corners in place | |
| insert or inbuilt fireplace | Fail |
| Recheck.. | |

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Preline Building**
Inspection Outcome: **Fail**
Inspected By: **Alan Tinney**
Inspection Date: **30 June 2020**

Failed Items

General

wet area substrate
insert or inbuilt fireplace

Recheck

Passed Items

General

Sighted previous inspection notes
Conforms with approved drawings
Confirm additional information/amended plan

Max moisture content
Ventilation to rooms

16%

Window sizes and openings as per consented documentation

Timber treatment
Lintel/beam size and fixing
Insulation

H3/H1.2

Wall 2.6/ceiling 3.6

Top plate connection
Ceiling batten spacing
Stud spacing
Bracing connections

500

400

As per plans

Air seals
Bottom plate fixings
Is the building weathertight
Grade of timber framing

GoGet Inspection Audit Report

Consent No: **170863**

Applicant: **Lorraine Joy Cargill**

Site Address: **104 Raukawa Road, Peka Peka**

Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Preline Building**

Inspection Outcome: **Pass**

Inspected By: **Anthony Wilson**

Inspection Date: **3 December 2020 11:21 a.m.**

Duration: **0 minutes**

| Inspection Element | Status |
|-----------------------------|--------|
| General | Pass |
| insert or inbuilt fireplace | Pass |
| In place | |
| Next Inspection required | N/A |



Taken at 11:18 AM on Thursday 3/12/2020



Taken at 11:18 AM on Thursday 3/12/2020



Taken at 11:19 AM on Thursday 3/12/2020



Taken at 11:19 AM on Thursday 3/12/2020



In-built fireplace

Taken at 11:19 AM on Thursday 3/12/2020

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Preline Building**
Inspection Outcome: **Pass**
Inspected By: **Anthony Wilson**
Inspection Date: **3 December 2020**

Passed Items

General

| | |
|-----------------------------|-----------------|
| insert or inbuilt fireplace | In place |
|-----------------------------|-----------------|

Inspection Type: **Postline / Wet area Pre Application**
Inspection Outcome: **Pass**
Inspected By: **Anthony Wilson**
Inspection Date: **3 December 2020**

Passed Items

General

| | |
|-----------------------------------|---|
| Sighted previous inspection notes | Pre line updated |
| Conforms with approved drawings | As per plan, |
| Sheet bracing | Gib ezybrace system |
| Sheet fixings | Screwed |
| Wet area substrate system | Already inspected |
| LBP number | 114618 |
| Other | All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply. |

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Preline Building**
Inspection Outcome: **Fail**
Inspected By: **Gareth McCullagh**
Inspection Date: **20 August 2020**

Failed Items

General

insert or inbuilt fireplace **Recheck..**

Passed Items

General

wet area substrate **Metal corners in place**

Inspection Type: **Pre Clad**
Inspection Outcome: **Pass**
Inspected By: **Gareth McCullagh**
Inspection Date: **20 August 2020**

Passed Items

General

Head flashings **In place**

Sill flashings

Jamb flashings

Capillary clearances

Other

Packers in place

All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply.

Inspection Type: **Preline Plumbing**
Inspection Outcome: **Fail**
Inspected By: **Gareth McCullagh**
Inspection Date: **20 August 2020**

Failed Items

General

Conforms with approved drawings **Change location of toilet and enlarged shower need revised plan and signed by owner**

Passed Items

20 August 2020

KEEP ON SITE FOR RECHECK
Form 625 Site Inspection Notice Issued June 2019

Page 1 of 2

General

Sighted previous inspection notes

Plumber

Pipes fixed/supported

System used

Pressure test

Waste pipe size and test

Shut off valves

Other

Eric the plumber

Clipped and secured

AS3500

New dux segura 20-15mm tested and holding

Ok to continue

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Preline Plumbing**
Inspection Outcome: **Fail**
Inspected By: **Gareth McCullagh**
Inspection Date: **20 August 2020 9:41 a.m.**
Duration: **30 minutes**

| Inspection Element | Status |
|--|--------|
| General | Fail |
| Sighted previous inspection notes | Pass |
| Conforms with approved drawings | Fail |
| Change location of toilet and enlarged shower need revised plan and signed by owner | |
| Confirm additional information/amended plan | N/A |
| Plumber | Pass |
| Eric the plumber | |
| Soil pipe size and test | N/A |
| Not part of this consent | |
| Pipes fixed/supported | Pass |
| Clipped and secured | |
| System used | Pass |
| AS3500 | |
| TPR line | N/A |
| Not part of this consent | |
| Inbuilt S/W pipes tested | N/A |
| Vents terminated | N/A |
| Not assessed at this inspection | |
| Pressure test | Pass |
| New dux segura 20-15mm tested and holding | |
| Waste pipe size and test | Pass |
| Floor wastes | N/A |
| Shut off valves | Pass |
| Fire wraps and collars | N/A |
| LBP number | N/A |
| Agent/owner written approval | N/A |
| non compliance discussed onsite | N/A |
| Next Inspection required | N/A |
| Other | Pass |
| Ok to continue | |

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Preline Plumbing**
Inspection Outcome: **Pass**
Inspected By: **Luke Natrass**
Inspection Date: **10 May 2021 1:12 p.m.**
Duration: **15 minutes**

| Inspection Element | Status |
|--|--------|
| General | Pass |
| Conforms with approved drawings | Pass |
| New bathroom plan provided and owner approved | |

Documentation

| | |
|---|----------|
| Application for CCC | Received |
| Gas safety certificate | Received |
| As-built drainage plan | Received |
| Plumbing (Form 125) for pressure test and installation piped services | Received |
| Construction review PS4 statement for structural engineering | Received |
| Membrane applicator certificates - internal wet area | Received |
| Roof product manufacturers warranty | Received |
| Window manufacturers producer statement | Received |

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Pre-Slab Building**
Inspection Outcome: **Fail**
Inspected By: **Craig Watson**
Inspection Date: **15 March 2018 11:35 a.m.**
Duration: **60 minutes**

| Inspection Element | Status |
|---|--------|
| General | Fail |
| Engineers details required To be inspected by Peter Bolton | Fail |
| Rebate for brick veneer | N/A |
| Ground clearance To be achieved before final. | Pass |
| Concrete cover 125 mm | Pass |
| Driveway S/W control | N/A |
| Sand blinding | Pass |
| Slab thickenings Covered by engineer | Pass |
| Vapour barrier Black poly. | Pass |
| Bottom plate fixings | N/A |
| Steel reinforcing Covered by engineer All steel work placed and tied as per consented documentation | Pass |
| Bar chairs Bar chairs placed as required | Pass |
| DPC penetrations taped All penetrations taped as required | Pass |
| Minimum floor level | Pass |
| Registration numbers | N/A |
| Siting Connected to existing: | Pass |
| Sub slab insulation | N/A |
| In-slab heating | N/A |
| LBP number 114618 | Pass |
| Other | N/A |



Taken at 11:32 AM on Thursday 15/03/2018



Taken at 11:32 AM on Thursday 15/03/2018



Taken at 11:32 AM on Thursday 15/03/2018

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Pre-Slab Building**
Inspection Outcome: **Fail**
Inspected By: **Craig Watson**
Inspection Date: **15 March 2018**

Passed Items

General

| | |
|------------------------|--|
| Ground clearance | To be achieved before final. |
| Concrete cover | 125 mm |
| Sand blinding | |
| Slab thickenings | Covered by engineer |
| Vapour barrier | Black poly. |
| Steel reinforcing | Covered by engineer |
| | All steel work placed and tied as per consented documentation |
| Bar chairs | Bar chairs placed as required |
| DPC penetrations taped | All penetrations taped as required |
| Minimum floor level | |
| Siting | Connected to existing: |
| LBP number | 114618 |

Failed Items

General

| | |
|----------------------------|--|
| Engineers details required | To be inspected by Peter Bolton |
|----------------------------|--|

Support Documentation

Status

| | |
|---|----------|
| Application for CCC | Required |
| Electrical safety certificate | Required |
| As-built drainage plan | Required |
| Drainage (Form 126) for stormwater installation | Required |
| Drainage (Form 127) for private sewer installation | Required |
| Plumbing (Form 125) for pressure test and installation piped services | Required |
| Construction review PS4 statement for structural engineering | Required |
| Roof product manufacturers warranty | Required |
| Record of Work | Required |

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Pre-Slab Building**
Inspection Outcome: **Pass**
Inspected By: **Luke Natrass**
Inspection Date: **10 May 2021 1:15 p.m.**
Duration: **15 minutes**

| Inspection Element | Status |
|---------------------------------|--------|
| General | Pass |
| Engineers details required | Pass |
| Engineers ps4 received | |
| Agent/owner written approval | N/A |
| non compliance discussed onsite | N/A |
| Next Inspection required | N/A |

Documentation

| | |
|---|----------|
| Application for CCC | Received |
| Gas safety certificate | Received |
| As-built drainage plan | Received |
| Plumbing (Form 125) for pressure test and installation piped services | Received |
| Construction review PS4 statement for structural engineering | Received |
| Membrane applicator certificates - internal wet area | Received |
| Roof product manufacturers warranty | Received |
| Window manufacturers producer statement | Received |

GoGet Inspection Audit Report

Consent No: **170863**

Applicant: **Lorraine Joy Cargill**

Site Address: **104 Raukawa Road, Peka Peka**

Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Pre-Slab Plumbing**

Inspection Outcome: **Pass**

Inspected By: **Gareth McCullagh**

Inspection Date: **28 February 2018 1:51 p.m.**

Duration: **30 minutes**

| Inspection Element | Status |
|--|--------|
| General | Pass |
| Secondary flow path | N/A |
| Pipe material pvc primed and glued | Pass |
| Pipe protection plastic poly wrap | Pass |
| TPR line | N/A |
| Plumbing layout all ok although owner has changed location of shower and toilet | Pass |
| Pipes supported | Pass |
| Wastes and drains 100 mm for toilet with wastes to gully | Pass |
| Water/air water tested | Pass |
| Leak check | Pass |
| Registration numbers 12724 | Pass |
| Other All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply. | Pass |
| Site Inspection | N/A |

GoGet Inspection Audit Report

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**

Inspection Type: **Pre-Slab Plumbing**
Inspection Outcome: **Pass**
Inspected By: **Luke Natrass**
Inspection Date: **10 May 2021 3:34 p.m.**
Duration: **15 minutes**

| Inspection Element | Status |
|---------------------------------|--------|
| General | Pass |
| Plumbing layout | Pass |
| all | |
| Agent/owner written approval | N/A |
| non compliance discussed onsite | N/A |
| Next Inspection required | N/A |

Documentation

| | |
|---|----------|
| Application for CCC | Received |
| Gas safety certificate | Received |
| As-built drainage plan | Received |
| Plumbing (Form 125) for pressure test and installation piped services | Received |
| Construction review PS4 statement for structural engineering | Received |
| Membrane applicator certificates - internal wet area | Received |
| Roof product manufacturers warranty | Received |
| Window manufacturers producer statement | Received |

SITE NOTICE

Consent No: **170863**
Applicant: **Lorraine Joy Cargill**
Site Address: **104 Raukawa Road, Peka Peka**
Work Type: **Addition to dwelling including bathroom & inbuilt fireplace**
Building Category: **R2**

Inspection Type: **Pre-Slab Plumbing**
Inspection Outcome: **Pass**
Inspected By: **Gareth McCullagh**
Inspection Date: **28 February 2018**

Passed Items

General

| | |
|----------------------|--|
| Pipe material | pvc primed and glued |
| Pipe protection | plastic poly wrap |
| Plumbing layout | all ok although owner has changed location of shower and toilet |
| Pipes supported | |
| Wastes and drains | 100 mm for toilet with wastes to gully |
| Water/air | water tested |
| Leak check | |
| Registration numbers | 12724 |
| Other | All aspects relating to this inspection have been assessed and checked against the consented documentation and deemed to comply. |

Support Documentation

Status

| | |
|---|----------|
| Application for CCC | Required |
| Electrical safety certificate | Required |
| As-built drainage plan | Required |
| Drainage (Form 126) for stormwater installation | Required |
| Drainage (Form 127) for private sewer installation | Required |
| Plumbing (Form 125) for pressure test and installation piped services | Required |
| Construction review PS4 statement for structural engineering | Required |
| Roof product manufacturers warranty | Required |
| Record of Work | Required |

GoGet Processing Summary Report

Consent No: 170863

Site Address: 104 Raukawa Road, Peka Peka

Description: Addition to dwelling including bathroom & inbuilt fireplace

| Checklist/Elements | Status | Notes | Processed By |
|---------------------------------|--------|--|--------------------------|
| Vetting | Pass | | Simon Copp, Stuart Nepia |
| Application documentation | Pass | | SC |
| Application type | Pass | The application is for a building consent. The application is for an amended plan. Copies of the original plans outlining proposed amendments are provided alongside new plans and specifications. | SC |
| Application form signed | Pass | The owners match those listed on the CT. The application form is signed by the owner or by an agent nominated by the owner. | SC |
| Proof of ownership | Pass | A certificate of title dated within the last three months. | SC |
| Drawings and plans | Pass | Detailed plans are provided that clearly show existing building and the proposed modification or new build. Two copies are provided. | SC |
| Site specific specifications | Pass | Specifications provided that are relevant to the proposed works. | SC |
| Compliance documentation | Pass | Relevant documentation is shown for: - B1: the truss manufacturer, including a PS1; - B1: bracing calculations; - B2: appraisals for specific products, including all membranes and specific cladding systems; - C2: fireplace documentation; - C3: fire rating documentation; - E2: risk matrix; - E2: cladding specifications and maintenance requirements where relevant; - H1: energy efficiency compliance report or calculation; | SC |
| Specific engineered design | Pass | - a PS1 has been provided. peter bolton | SC |
| Building act | Pass | | SC, SN |
| S 84 - Restricted building work | Pass | home owner exemption. | SC, SN |
| Payment | Pass | | SN |
| Payment requested | Pass | | SN |
| Payment received | Pass | | SN |
| Planning | Pass | | Nancy Gomez |
| District Plan | Pass | | NGO |
| District Plan Items Checked | Yes | | NGO |
| Section 221 checked | Yes | | NGO |
| Sec 37 required | N/A | Earthworks: 1.1m deep & 19m3 volume | NGO |
| B1 - Structure | | | Stuart Nepia |
| Verification method | Pass | | SN |
| Engineer | Pass | The engineer is working within their scope. | SN |
| Scope | Pass | The scope of the engineering is: slab and retaining wall | SN |
| Monitoring requirements | Pass | Construction monitoring to: CM2 | SN |
| NZS 3604 | | | SN |
| Scope | Pass | Timber grades | SN |

| Checklist/Elements | Status | Notes | Processed By |
|---|--------|--|--------------|
| | | Details are required for all structural connections. | |
| | | Window joinery compliance details. --- Response - SN 11 Jan 2018 9:05am --- Joinery specs provided | |
| <u>Request for Further Information:</u> | | | |
| Request: Timber grades | | | SN |
| Response: Timber grades added | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Details are required for all structural connections. | | | SN |
| Response: verandah post beam connection details provided. Structural connection details provided. | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Window joinery compliance details. | | | SN |
| Response: Joinery specs provided | | | SN |
| Floors | Pass | | SN |
| Suspended timber floors (ground) | Pass | Joist hanger details. --- Response - SN 11 Jan 2018 9:06am --- selection table provided | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Joist hanger details. | | | SN |
| Response: selection table provided | | | SN |
| Concrete slab | Pass | There is adequate clearance, both vertically and horizontally, to the surrounding ground around the concrete slab. The foundation edge of the slab is detailed appropriately given the type of construction, with sufficient dimensions and reinforcing. The slab is constructed over granular fill with an appropriate damp proof membrane. The thickness of the slab meets requirements, with adequate reinforcing and shrinkage control where required. Confirm how the starters will be fixed to the existing slab | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Confirm how the starters will be fixed to the existing slab | | | SN |
| Response: Epoxied to existing | | | SN |
| Walls | Pass | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Washer sizes. | | | SN |
| Response: 50x50x3 | | | SN |
| Studs | Pass | Stud spacings If nogs are being used, details will need to be provided. Stud to top plate connection details --- Response - SN 11 Jan 2018 8:15am --- 140x45 @400 centers | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Stud spacings | | | SN |
| Response: 140x45 @400 centers | | | SN |

| Checklist/Elements | Status | Notes | Processed By |
|--|--------|--|--------------|
| <u>Request for Further Information:</u> | | | |
| Request: If nogs are being used, details will need to be provided. | | | SN |
| Response: two lines of dwangs | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Stud to top plate connection details | | | SN |
| Response: provided | | | SN |
| Lintels | Pass | Lintel sizes lintel fixing details --- Response - SN 11 Jan 2018 8:22am --- table provided | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Lintel sizes | | | SN |
| Response: table provided | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: lintel fixing details | | | SN |
| Response: provided | | | SN |
| Plates | Pass | Bottom plate fixing details. --- Response - SN 11 Jan 2018 8:22am --- cast in bolts | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Bottom plate fixing details. | | | SN |
| Response: cast in bolts | | | SN |
| Bracing | Pass | Standard gib size is now 10mm. Please revise the 9.5mm note --- Response - SN 2 Feb 2018 12:21pm --- note revised | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Standard gib size is now 10mm. Please revise the 9.5mm note | | | SN |
| Response: note revised | | | SN |
| Posts | | | SN |
| Posts | Pass | Laminated post details including product spec treatment and uplift calculation. --- Response - SN 2 Feb 2018 8:14am --- Spec and treatment provided but uplift sufficient | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Laminated post details including product spec treatment and uplift calculation. | | | SN |
| Response: Spec and treatment provided but uplift sufficient | | | SN |
| Roof structure | | | SN |
| Framed roof | Pass | Verandah roof dimensions. Span tables for the verandah rafters. Rafter fixing details. Cantilevered soffit structural details. Hyspan rafter sizes to be indicated on the plans --- Response - SN 2 Feb 2018 11:13am --- 2.2m overall width with rafter span of 1.9m | SN |

| Checklist/Elements | Status | Notes | Processed By |
|--|--------|--|--------------------------|
| <u>Request for Further Information:</u> | | | |
| Request: Verandah roof dimensions. | | | SN |
| Response: 2.2m overall width with rafter span of 1.9m | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Span tables for the verandah rafters. | | | SN |
| Response: Span tables do not specifically refer to 100mm rafters however after interpolating the increase of the three larger members the chosen member spans. | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Rafter fixing details. | | | SN |
| Response: added to sheet 8 | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Cantilevered soffit structural details. | | | SN |
| Response: Soffit hangs over by 500mm. The 140mm Outriggers are glued and screwed to the 140mm framing | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Hyspan rafter sizes to be indicated on the plans | | | SN |
| Response: hyspan span tables and sizes specified | | | SN |
| Purlins / tile battens | Pass | Purlin fixing details --- Response - SN 11 Jan 2018 8:34am --- Type D fixing nominated | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Purlin fixing details | | | SN |
| Response: Type D fixing nominated | | | SN |
| Ceilings | Pass | Ceiling batten details. --- Response - SN 11 Jan 2018 9:04am --- cb details provided | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Ceiling batten details. | | | SN |
| Response: cb details provided | | | SN |
| B2 - Durability | | | Simon Copp, Stuart Nepia |
| B2 prompts | | | SC, SN |
| Material compatibility | Pass | Seperation note to cover all materials in contact with the block. Provide details of the verandah roofing material compatibility with the H5 treated Rafters --- Response - SN 11 Jan 2018 9:52am --- suntuf spec provided with no compatability related issues | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Seperation note to cover all materials in contact with the block. | | | SN |
| Response: Malthoid seperation | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Provide details of the verandah roofing material compatibility with the H5 treated Rafters | | | SN |
| Response: suntuf spec provided with no compatability related issues | | | SN |
| Timber treatment | Pass | Timber treatments Specific durability of the plywood roof substrate. --- Response - SN 2 Feb 2018 12:23pm --- Treatments now specified | SN |

| Checklist/Elements | Status | Notes | Processed By |
|--|--------|---|--------------------------|
| <u>Request for Further Information:</u> | | | |
| Request: Timber treatments | | | SN |
| <i>Response: Treatments now specified</i> | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Specific durability of the plywood roof substrate. | | | SN |
| <i>Response: H3.2</i> | | | SN |
| Steel fixings and fastenings | Pass | Durability of the roofing iron. --- Response - SN 2 Feb 2018 12:32pm --- Colorsteel max | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Durability of the roofing iron. | | | SN |
| <i>Response: Colorsteel max</i> | | | SN |
| Plumbing materials | Pass | Given the water supply and drainage principles used in the plumbing design appropriate materials are used for water supply and drainage pipes. Drainage running underneath the building will continue to meet the durability requirements once building work is complete. | SC |
| C1-6 - Protection From Fire | Pass | | Stuart Nepia |
| C/AS1 - Residential and outbuildings | Pass | | SN |
| Fire cells, systems, and resistance ratings | Pass | Type 1 smoke alarms are shown on the plans in accordance with the requirements of F7/AS1. | SN |
| Means of escape | Pass | An escape route leading to a place of safety is provided, with the length of the route not exceeding the length allowed given the type of fire safety system provided. | SN |
| Control of external fire spread | Pass | Adequate fire rated separations are provided where the building, or building elements such as eaves, are at risk of fire spread over the relevant boundary. | SN |
| Prevention of fire occurring | Pass | | SN |
| D1 - Access Routes | Pass | | Stuart Nepia |
| Access routes | Pass | | SN |
| Safety | Pass | | SN |
| Slip resistance | Pass | Access routes have adequate slip resistant walking surfaces. | SN |
| E1 - Surface Water | Fail | | Simon Copp, Stuart Nepia |
| Drainage design | Pass | | SC, SN |
| <u>Request for Further Information:</u> | | | |
| Request: Provide dimensions of the internal gutter. | | | SC |
| <i>Response: 150x150 sufficient</i> | | | SC |
| <u>Request for Further Information:</u> | | | |
| Request: All internal gutters require overflow outlets which drain to the exterior of the building. E1 5.5.1 provided details of how this will be achieved | | | SC |
| <i>Response: rainwater head with overflow detailed</i> | | | SC |
| <u>Request for Further Information:</u> | | | |
| Request: Provide details of the intended rain head show dimensions and and a overflow 1.5 times the size of the downpipe. | | | SC |
| <i>Response: Rain head detail provided with sufficiently sized overflow.</i> | | | SC |
| Connections | Pass | Please show the size of the proposed storm water drain. --- Response - SN 2 Feb 2018 4:15pm --- | SC, SN |

| Checklist/Elements | Status | Notes | Processed By |
|---|--------|---|--------------|
| | | 100mm | |
| <u>Request for Further Information:</u> | | | |
| Request: Please show the size of the proposed storm water drain. | | | SC |
| Response: 100mm | | | SC |
| Floor level | Pass | | SN |
| Minimum finished floor level | Pass | Site levels and FFL --- Response - SN 2 Feb 2018 11:11am --- FFL 2.9m Informed by the owner that the ground slopes away. | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Site levels and FFL | | | SN |
| Response: FFL 2.9m Informed by the owner that the ground slopes away. | | | SN |
| Roof catchment | Fail | | SC |
| Downpipes | Pass | Please show the size of the proposed down pipes 80mm | SC |
| <u>Request for Further Information:</u> | | | |
| Request: Please show the size of the proposed down pipes | | | SC |
| Response: 80mm down pipes | | | SC |
| Gutters | Fail | | SC |
| E2 - External moisture | | | Stuart Nepia |
| Roof cladding | | | SN |
| General | Pass | Roof underlay --- Response - SN 11 Jan 2018 10:03am --- roof underlay in accordance with E2/AS1 8.1.5 | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Roof underlay | | | SN |
| Response: roof underlay in accordance with E2/AS1 8.1.5 | | | SN |
| Wall cladding | | | SN |
| General | Pass | Sections through the various construction types in relation to ground. Building wrap Sealant specs to the block exterior. Specification for the exterior silicone. --- Response - SN 11 Jan 2018 9:15am --- block seal specified | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Sections through the various construction types in relation to ground. | | | SN |
| Response: ground clearance details provided from simple house. | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Sections through the various construction types in relation to ground. | | | SN |
| Response: Provided | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Building wrap | | | SN |
| Response: Watertight plus | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Sealant specs to the block exterior. | | | SN |

| Checklist/Elements | Status | Notes | Processed By |
|--|--------|---|--------------|
| <i>Response: block seal specified</i> | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Specification for the exterior silicone. | | | SN |
| <i>Response: silicone specs provided</i> | | | SN |
| Cladding junctions | Pass | Cantilevered soffit weathertightness details. | SN |
| | | Cladding junction details --- Response - SN 2 Feb 2018 12:54pm --- Details supplied | |
| <u>Request for Further Information:</u> | | | |
| Request: Cantilevered soffit weathertightness details. | | | SN |
| <i>Response: Details supplied</i> | | | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Cladding junction details | | | SN |
| <i>Response: apron flashing detail provided</i> | | | SN |
| Wall tanking | Pass | Tanking system and drainage for the block wall --- Response - SN 2 Feb 2018 4:15pm --- Ardex 3000X technical spec provided with top sealed with Resene Sonyx 101 | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Tanking system and drainage for the block wall | | | SN |
| <i>Response: Ardex 3000X technical spec provided with top sealed with Resene Sonyx 101</i> | | | SN |
| E3 - Internal Moisture | | | Stuart Nepia |
| F2 - Hazardous Building Materials | | | Stuart Nepia |
| Glazing | | | SN |
| Glazing requirements | Pass | Safety glazing details | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Safety glazing details | | | SN |
| <i>Response: All glass will be safety glass</i> | | | SN |
| F7 - Warning Systems | Pass | | Stuart Nepia |
| F7 prompts | Pass | | SN |
| Domestic alarms | Pass | | SN |
| Scope | N/A | GIS checked no pool shown or indicated. Nothing shown or indicated on the plans or application form | SC |
| G1 - Personal hygiene | Pass | | Simon Copp |
| Provision of sanitary fixtures | Pass | | SC |
| General sanitary fixture requirements | Pass | An adequate number of sanitary fixtures with appropriate space dimensions have been provided given the building use, user group, occupancy, and type of fixtures provided. | SC |
| Privacy | Pass | | SC |
| Location | Pass | As sanitary fixtures in a household unit, there is at least one door provided between the toilets and the food preparation / storage areas. | SC |
| Line of sight | Pass | There is no direct line of sight between an access route and a WC, urinal , bath, shower , or bidet. This is achieved by: visual separation of a single fixture with a door. | SC |
| G2 prompts | N/A | no change to the existing | SC |

| Checklist/Elements | Status | Notes | Processed By |
|----------------------------------|--------|---|--------------|
| Domestic kitchen facilities | N/A | Nothing shown or indicated on the plans or application form | SC |
| G4 - Ventilation | Pass | | Simon Copp |
| G4 prompts | Pass | | SC |
| Natural ventilation | Pass | Sufficient natural ventilation is provided to occupied spaces by openable windows and/or doors of an adequate area. | SC |
| Mechanical ventilation | N/A | Nothing shown or indicated on the plans or application form | SC |
| G7 - Natural Light | Pass | | Simon Copp |
| G7 prompts | Pass | | SC |
| Means of providing natural light | Pass | There are windows to habitable spaces that have an area no less than 10% of the floor area. | SC |
| Visual awareness | Pass | At least 50% of the glazed area providing natural light is clear glazing falling within the visual awareness zone. | SC |
| G8 - Artificial Light | Pass | | Simon Copp |
| G8 prompts | Pass | | SC |
| Artificial lighting | Pass | There is adequate lighting to the: common areas. | SC |
| G9 - Electricity | Pass | | Simon Copp |
| G9 prompts | Pass | | SC |
| Energy works certificate | Pass | An energy works certificate will be required upon completion. | SC |
| Electrical switches and outlets | Pass | | SC |
| G10 prompts | N/A | Nothing shown or indicated on the plans or application form | SC |
| G11 prompts | N/A | Nothing shown or indicated on the plans or application form | SC |
| G12 - Water Supplies | Pass | | Simon Copp |
| Water supply | Pass | | SC |
| Potable water | Pass | The water supply is from a potable source. Pipe materials used for the water supply system will not contaminate the potable water supply. existing private water supply | SC |
| Backflow prevention | Pass | No specific devices just air gap separation between the tap and the rim of the fixture. | SC |
| Non-potable supply | N/A | none shown | SC |
| Freezing zones | Pass | The requirements of freezing zones have been considered and addressed for both hot and cold water supply systems. a note on the plan | SC |
| Water tanks | N/A | no change | SC |
| Hot water | N/A | connecting to existing hot water service which would be tempered already | SC |
| G13 - Foul Water | Pass | | Simon Copp |
| Drainage design | Pass | | SC |
| Compliance path | Pass | A means of compliance has been clearly stated in the consent documents. | SC |
| Connections | Pass | Existing drainage plans have been checked to ensure the feasibility of the connections proposed. | SC |
| Acceptable solution | Pass | | SC |
| Sanitary plumbing | Pass | The discharge pipe layout, sizes, and falls are appropriate given types of sanitary fixtures, the | SC |

| Checklist/Elements | Status | Notes | Processed By |
|---|--------|--|--------------------------|
| | | fixture loading, and the developed lengths of pipe runs. Fixture and branch vent pipes are shown where required to ensure the functionality of water traps and the drainage system. | |
| AS/NZS 3500.2 | Pass | | SC |
| Drainage principles | Pass | The discharge pipe layout, sizes, and falls are appropriate given types of sanitary fixtures, the fixture loading, and the developed lengths of pipe runs. Fixture and branch vent pipes are shown where required to ensure the functionality of water traps and the drainage system. | SC |
| AS/NZS 3500.5 | Pass | | SC |
| Residential | Pass | Refer to 3500.2 compliance assessment. | SC |
| Hydraulic design | Pass | | SC |
| Scope | Pass | The scope of the hydraulic design is for the sewer and storm water drainage drawn by the drafts person. | SC |
| H1 - Energy Efficiency | Pass | | Simon Copp, Stuart Nepia |
| H1 prompts | Pass | | SC, SN |
| Small building envelope thermal performance | Pass | Specification for all of the insulation products --- Response - SN 2 Feb 2018 3:17pm --- insulation specs provided | SN |
| <u>Request for Further Information:</u> | | | |
| Request: Specification for all of the insulation products | | | SN |
| Response: <i>insulation specs provided</i> | | | SN |
| Hot water system efficiency | Pass | no change to the lay out | SC, SN |

General Notes

plywood fixing table 24 from e2 provided with resub plus e2 weathertightness details
Hyspan rafter details supplied. details to be put on plans.

I am satisfied on reasonable grounds that the provisions of the Building Code will be met if the building work in relation to the attached application is properly completed in accordance with the attached plans and specifications.

Signed: _____ Date: 2 February 2018 4:30 pm
Stuart Nepia

7 December 2017

Lorraine Joy Cargill
104 Raukawa Road
Peka Peka
RD1
Waikanae 5391

Dear Building Consent Applicant/Building Owner

Request for Further Information – Building Consent: 170863

Site Address: 104 Raukawa Road, Peka Peka
Legal Description: LOT 6 DP 362593 C/T 255394
Project Description: Addition to dwelling including bathroom & inbuilt fireplace

Following checking of your Building Consent it is apparent that further information is required.

Information needed:

BUILDING

1. Site levels and FFL
2. Verandah roof dimensions.
3. Span tables for the verandah rafters.
4. Timber grades
5. Bottom plate fixing details.
6. Lintel sizes
7. lintel fixing details
8. Stud to top plate connection details
9. Rafter fixing details.
10. Confirm how the starters will be fixed to the existing slab
11. Cantilevered soffit structural details.
12. Ceiling batten details.

13. Details are required for all structural connections.
14. Window joinery compliance details.
15. Standard gib size is now 10mm. Please revise the 9.5mm note
16. Washer sizes.
17. Joist hanger details.
18. Timber treatments
19. Purlin fixing details
20. Durability of the roofing iron.
21. Specific durability of the plywood roof substrate.
22. Separation note to cover all materials in contact with the block.
23. Provide details of the verandah roofing material compatibility with the H5 treated Rafters
24. Sections through the various construction types in relation to ground.
25. Sections through the various construction types in relation to ground.
26. Cantilevered soffit weathertightness details.
27. Roof underlay
28. Building wrap
29. Cladding junction details
30. Sealant specs to the block exterior.
31. Specification for the exterior silicone.
32. Tanking system and drainage for the block wall
33. Safety glazing details
34. Specification for all of the insulation products
35. Stud spacings
36. If nogs are being used, details will need to be provided.
37. Laminated post details including product spec treatment and uplift calculation.

PLUMBING AND DRAINAGE

1. Provide dimensions of the internal gutter.

2. All internal gutters require overflow outlets which drain to the exterior of the building. E1 5.5.1 provided details of how this will be achieved
3. Provide details of the intended rain head show dimensions and and a overflow 1.5 times the size of the downpipe.
4. Please show the size of the proposed storm water drain.
5. Please show the size of the proposed down pipes

We have suspended your application pending receipt of the above information. Please send it to us by 21 December 2017. We are unable to issue your Building Consent until these matters are resolved.

Information can be posted, emailed to Building.Approvals@kapiticoast.govt.nz or dropped in at one of Council's service centres.

If you need more time, have any questions or you would like to discuss this matter, please contact me on (04) 296 4700 or 0800 486 486 referencing Building Consent No 170863.

Yours sincerely



Stuart Nepia
Building Officer

cc Building Owner