Exhibited

This planning application is open for public comment until
01 December 2025

Reference no	**PLN-25-0219**
Site	**25 BOND STREET CAMPBELL TOWN**
Proposed Development	**Dwelling Extension**
Zone	**21.0 Agriculture**
Use class	**Residential**

Written representations may be made during this time to the General Manager;
mailed to PO Box 156, Longford, Tasmania 7301,
delivered to Council offices or
a pdf letter emailed to planning@nmc.tas.gov.au

(no special form required)

NORTHERN MIDLANDS COUNCIL

PLANNING APPLICATION

FOR BUILDINGS, WORKS AND CHANGE OF USE

(E.g. Residential houses, sheds, carports, retaining walls, visitor accommodation, commercial development, signage etc.)

Office Use Only:

Exhibited

The Proposal

Description of proposal: Proposed Extension

Driveway construction material:

The Land

Site address:	25 Bond Street, Campbell Town TAS 7210
Title reference:	C/T: 31383/1
Existing buildings on site:	Existing Dwelling, Sheds and Car Port
Existing use of site:	Residential

Applicant justification of any variation/discretion to the *Tasmanian Planning Scheme – Northern Midlands*

111 – 46

Owner: Mark Hackleton

Title Reference: C.T. Vol. 4277 Fol. 52.

Grantee: Whole of Lot 2, 10 acres, granted to Lion Henry Solomon

PLAN OF SURVEY

by Surveyor R.V. Tait

of land situated in the

TOWN OF CAMPBELL TOWN

SECTION P

SCALE 1:2 500 MEASUREMENTS IN METRES

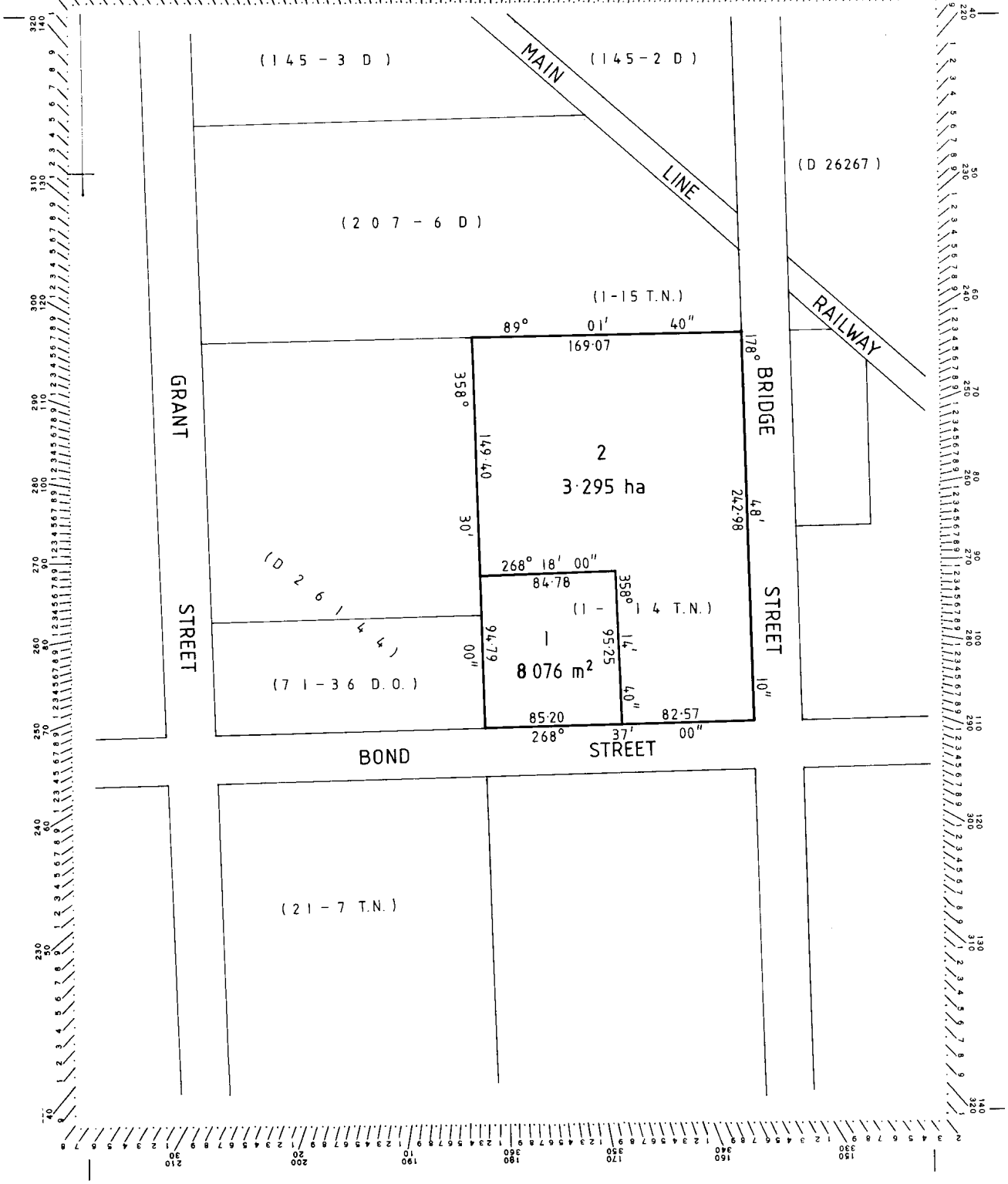
Registered Number:

S. P31383

~~Approved~~

Effective from: 28 MAY 1987

Acting Recorder of Titles



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ENGINEERING PLUS
BUILDING DESIGN
PROJECT MANAGEMENT
CIVIL/STRUCTURAL ENGINEERING

DRAWING SCHEDULE

A00	COVER PAGE
A01	LOCALITY PLAN
A02	SITE PLAN
A03	CONSTRUCTION PLAN
A04	FLOOR PLAN
A05	DRAINAGE PLAN
A06	ELEVATIONS #1
A07	ELEVATIONS #2
A08	SECTION & DETAILS #2
A09	AREA PLAN
A10	ROOF PLAN
A11	LIGHTING PLAN
A12	3D PERSPECTIVE #1
A13	3D PERSPECTIVE #2
A14	3D PERSPECTIVE #3
A15	3D PERSPECTIVE #4
A16	STANDARD FOOTING & SLAB DETAILS
A17	STANDARD TIEDOWN DETAILS
A18	STANDARD BRACING DETAILS
A19	STANDARD WET AREA & WATERPROOFING DETAILS
A20	NCC NOTES #1
A21	NCC NOTES #2
A22	NCC NOTES #3
A23	NCC NOTES #4
A24	BAL NOTES 12.5
A25	BAL NOTES 12.5
A26	LIVABLE STANDARD NOTES

PROJECT INFORMATION

BUILDING DESIGNER:	GRANT JAMES PFEIFFER
ACCREDITATION No:	CC2211T
ZONE:	21.0 AGRICULTURE ZONE
BUILDING CLASS:	CLASS 1A
LAND TITLE REFERENCE NUMBER:	31383/1
DESIGN WIND SPEED:	ASSUMED "N2"
SOIL CLASSIFICATION:	ASSUMED "H1"
CLIMATE ZONE:	7
BUSHFIRE-PRONE BAL RATING:	BAL 12.5
ALPINE AREA:	N/A
CORROSION ENVIRONMENT:	LOW
FLOODING:	NO
LANDSLIP:	NO
DISPERSIVE SOILS:	UNKNOWN
SALINE SOILS:	UNKNOWN
SAND DUNES:	NO
MINE SUBSIDENCE:	NO
LANDFILL:	NO
GROUND LEVELS:	REFER PLAN
ORG LEVEL:	75mm ABOVE GROUND LEVEL

PROPOSED EXTENSION

C. DAVEY
25 BOND STREET
CAMPBELL TOWN TAS 7210

NORTHERN MIDLANDS COUNCIL

ISSUED FOR DEVELOPMENT APPROVAL

Area Schedule (Gross Building)

Name	Area	Area (sq)
EXISTING DWELLING	125.71 m²	13.53
EXISTING SHED	200.76 m²	21.61
PROPOSED ALTERATIONS - BED 2	11.03 m²	1.19
PROPOSED ALTERATIONS - OFFICE	10.26 m²	1.10
PROPOSED CONCRETE DECK	37.25 m²	4.01
PROPOSED EXTENSION - BED 3 + W.I.R	46.77 m²	5.03
	431.77 m²	46.48

81 Elizabeth Street, Launceston, Tasmania 7250 info@engineeringplus.com.au
Office No: 6331 7021

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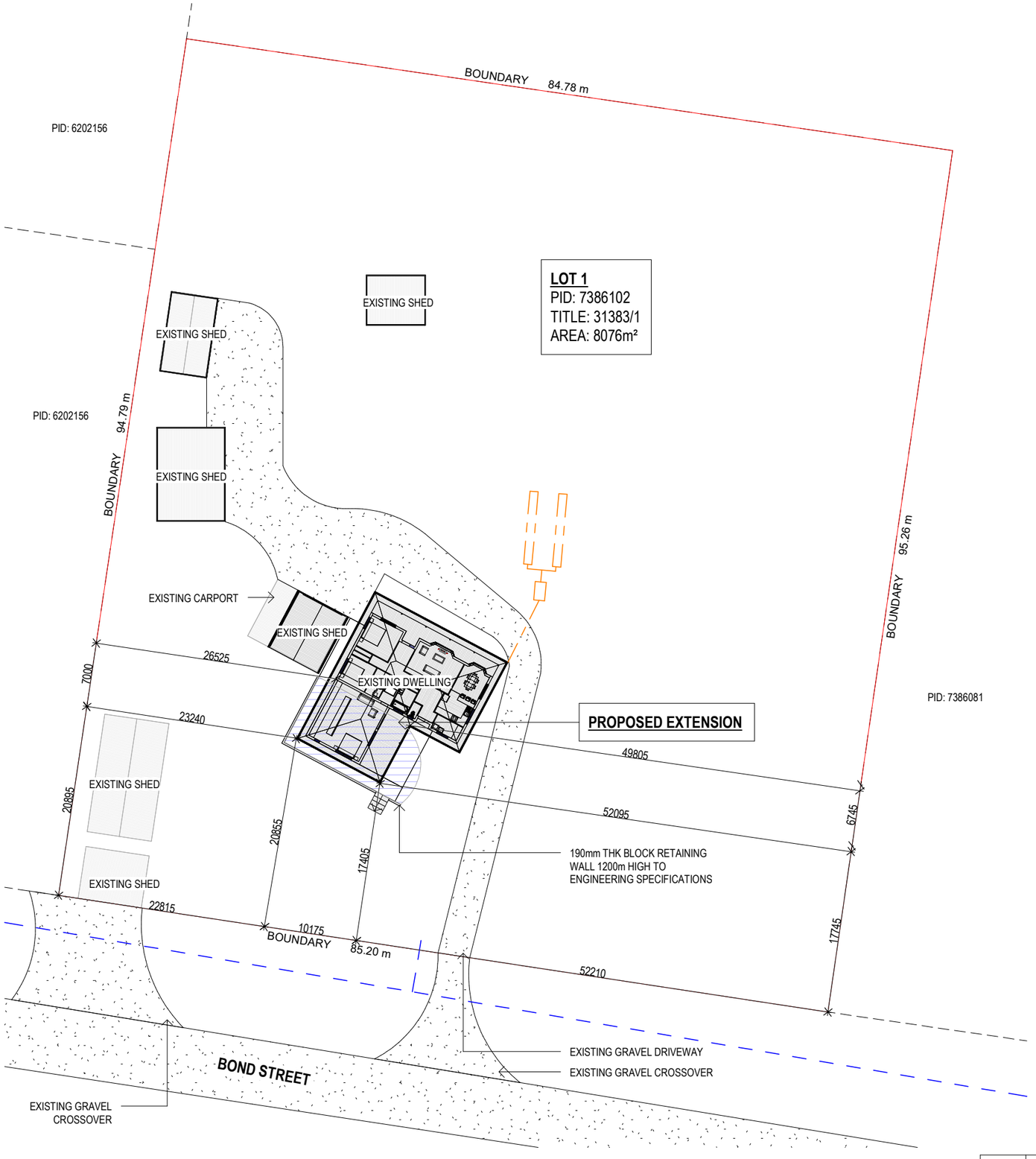

LOCALITY PLAN
SCALE 1 : 500

ENGINEERING PLUS
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DRAINAGE
ALL DRAINAGE WORK SHOWN IS PROVISIONAL ONLY AND IS SUBJECT TO AMENDMENT TO COMPLY WITH THE REQUIREMENTS OF THE LOCAL AUTHORITIES. ALL WORK IS TO COMPLY WITH THE REQUIREMENTS OF NATIONAL PLUMBING AND DRAINAGE CODE AS3500 AND MUST BE CARRIED OUT BY A LICENCED TRADESMAN ONLY.

NOTE
STORMWATER FROM PROPOSED EXTENSION TO BE DIRECTED INTO EXISTING STORMWATER SYSTEM TO LOCAL COUNCIL REQUIREMENTS & AS3500

ZONE
THE ENTIRETY OF THE PROPERTY IS LOCATED IN A BUSHFIRE PRONE AREA & AIRPORT SAFEGUARD ZONE

LEGEND	
	SEWER
	WATER
	STORMWATER

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Date Drawn: 27.05.25
Drawn: J. Chin
Checked: R. Hall
Approved: J. Pfeiffer
Scale: As Shown @ A3

Client: C . DAVEY
Project: PROPOSED EXTENSION
Address: 25 BOND STREET
CAMPBELL TOWN TAS 7210

Office: 6331 7021
info@engineeringplus.com.au
ENGINEERING PLUS BUILDING DESIGN PROJECT MANAGEMENT CIVIL/STRUCTURAL ENGINEERING

Accredited Building Designer
Designer Name: J.Pfeiffer
Accreditation No: CC2211T

Drawing No: 2025-167 A01 / A26
Rev: A

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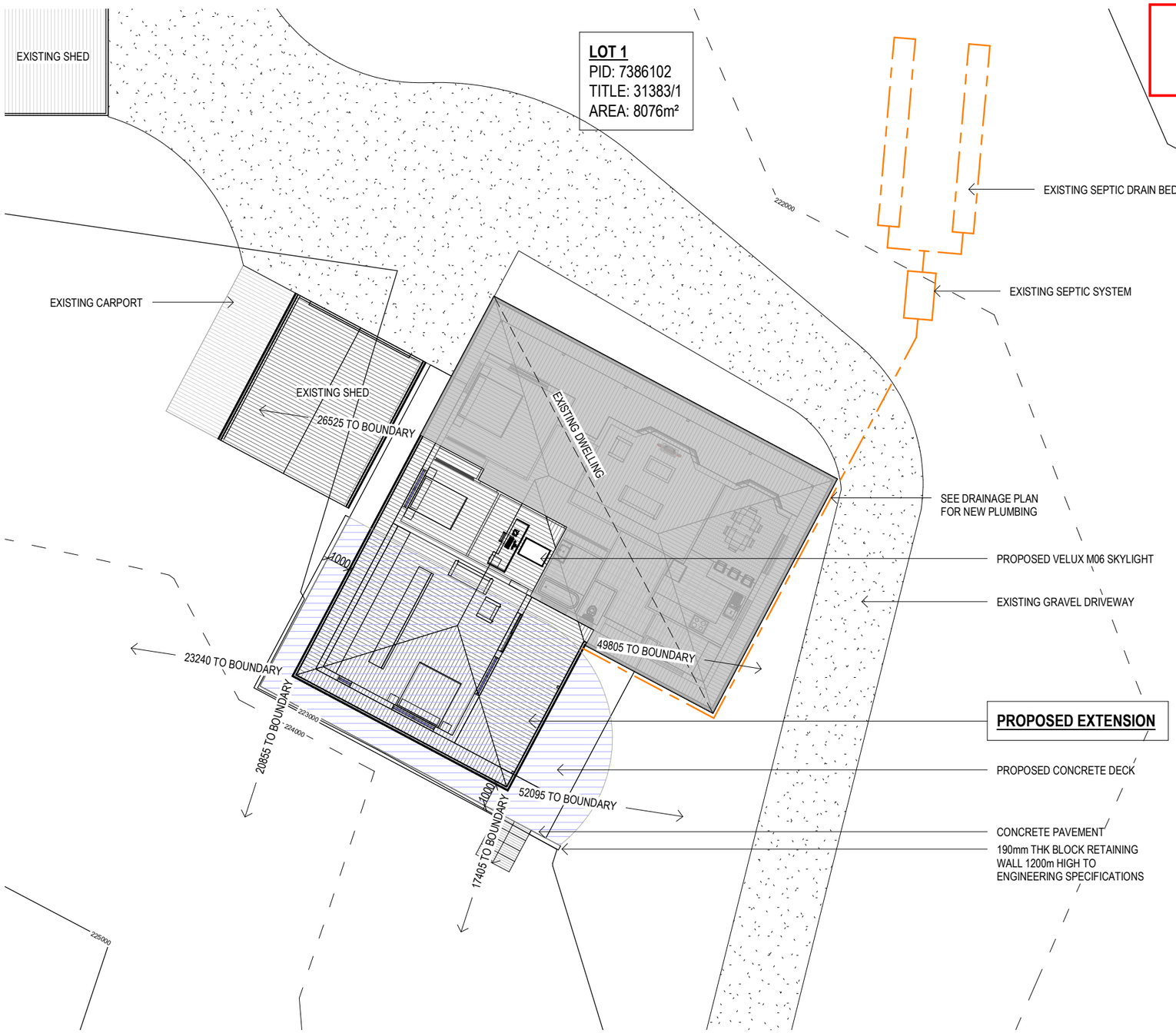

SITE PLAN
SCALE 1 : 200

LEGEND

SEWER	
WATER	
STORMWATER	

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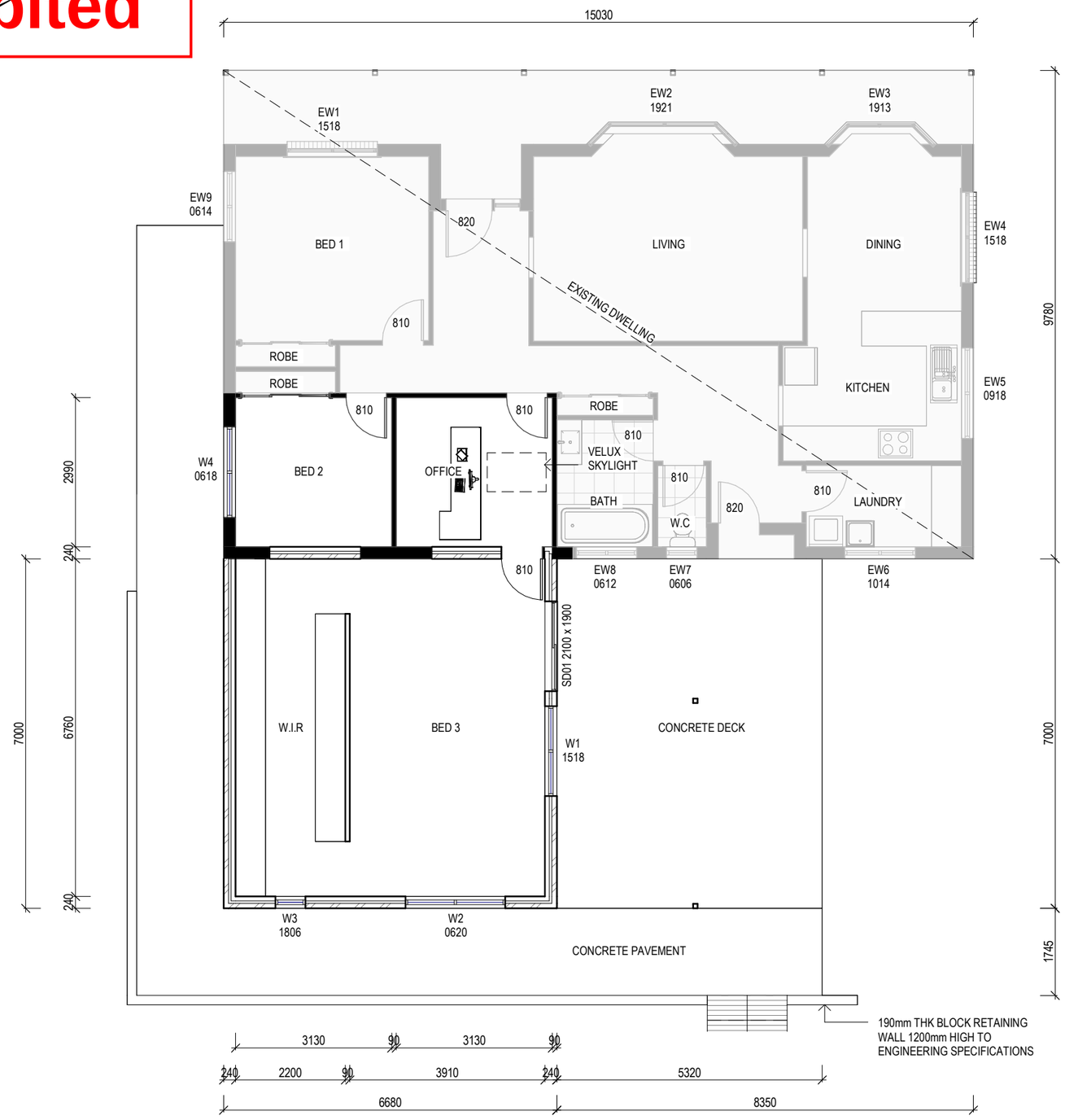

WINDOW SCHEDULE

MARK	HEIGHT	WIDTH	TYPE	U-VALUE	SHGC
EW1	1510	1810	DG	4.3	0.55
EW2	1900	2170	DG	4.3	0.55
EW3	1900	1370	DG	4.3	0.55
EW4	1500	1815	DG	4.3	0.55
EW5	900	1815	DG	4.3	0.55
EW6	1000	1415	DG	4.3	0.55
EW7	600	600	DG	4.3	0.55
EW8	600	1200	DG	4.3	0.55
EW9	1200	1000	DG	4.3	0.55
W1	1500	1800	DG	4.3	0.55
W2	600	2000	DG	4.3	0.55
W3	1800	600	DG	4.3	0.55
W4	600	1800	DG	4.3	0.55
SD1	2100	5000	4.0	4.0	0.61

DISCLAIMER
ALL WINDOWS SHOWN ON PLAN ARE APPROX. BASED OFF STANDARD MANUFACTURING SIZES. ALL WINDOW DIMENSIONS TO BE CONFIRMED ON SITE BY BUILDER PRIOR TO ORDERING AND MANUFACTURING.

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CONSTRUCTION FLOOR PLAN
SCALE 1 : 100

* - IF HEIGHT TO GROUND IS GREATER THAN 2.0m WINDOW TO HAVE PERMANENTLY FIXED ROBUST SCREEN INSTALLED OR HAVE AN OPENING RESTRICTED TO 125mm

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Designer Name: J.Pfeiffer
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Drawing No: 2025-167 A03 / A26
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FLOOR PLAN
SCALE 1 : 100

FLOOR COVERINGS
CARPET
CONCRETE
TIMBER DECKING
TILE
VINYL TIMBER FLOORING

SMOKE ALARMS
PROVIDE AND INSTALL SMOKE ALARMS & HARD WIRE
TO BUILDING POWER SUPPLY TO AS 3786.
CEILING MOUNTED WITH 9VDC
ALKALINE BATTERY BACKUP
TO LOCATIONS INDICATED ON PLAN AND IN ACCORDANCE
WITH ABCB OF H3D6 - PART 9.5.2

Ⓢ - DENOTES INTERCONNECTED SMOKE DETECTORS

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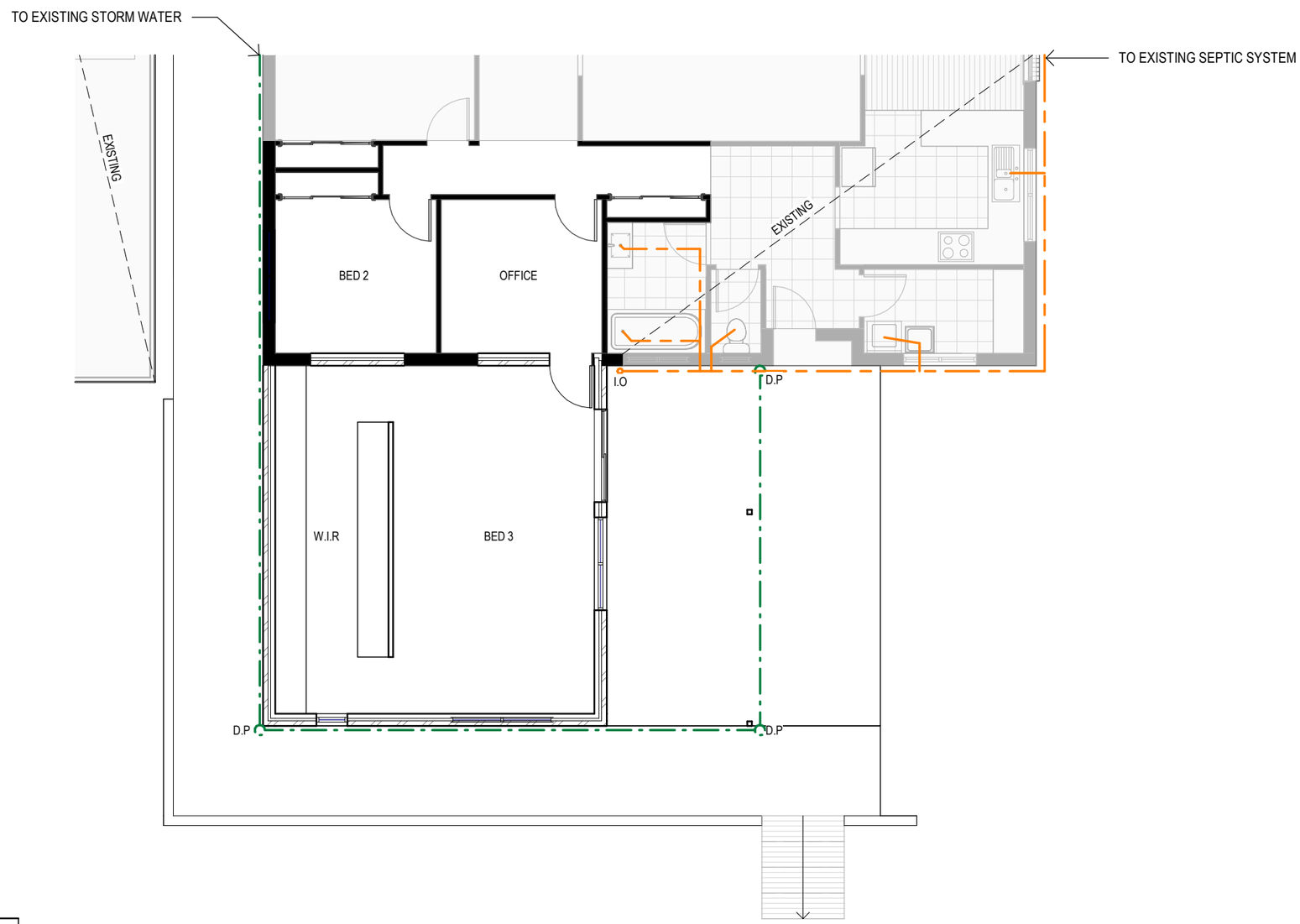

DRAINAGE PLAN
SCALE 1 : 100

PLUMBING NOTES:
ALL DRAINAGE WORK SHOWN IS PROVISIONAL ONLY AND IS SUBJECT TO AMENDMENT TO COMPLY WITH THE REQUIREMENTS OF THE LOCAL AUTHORITIES.
ALL WORK IS TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500 & THE TASMANIAN PLUMBING CODE. AND MUST BE CARRIED OUT BY A LICENCED TRADESMAN ONLY.

LEGEND OF DIAMETERS
TROUGH = 50mm
SINK = 50mm
BATH = 40mm
BASIN = 40mm
SHOWER = 50mm
WC = 100mm
SEWER = 100mm DIA. uPVC
ORG OVERFLOW RELIEF GULLY
EV VENT
DP DOWNPIPE 90mm DIA
STORMWATER = 100mm DIA uPVC

THE INSTALLATION OF WATER PIPE LINES, INSTALLED WITH THE PRODUCT HIS 311 REHAU, WILL REQUIRE THE MAIN COLD WATER LINE TO BE DN 25mm WITH DN 16mm BRANCHES & HOT WATER MAIN LINES TO BE DN 20mm WITH DN 16mm BRANCHES TO FIXTURES, ALL OTHER PRODUCTS USED ARE TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.5.2021 & AS/NZS 3500.1.2021

HOT WATER INSTALLATION SHALL DELIVER HOT WATER TO ALL SANITARY FIXTURES USED FOR PERSONAL HYGIENE AT 50deg C, KITCHEN SINK & LAUNDRY SHALL BE 60deg C TO COMPLY WITH REQUIREMENTS OF AS/NZS 3500.5.2021 SECTION 3.4

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PLUMBING FIXTURE	ABBREVIATION
BASIN	B
BATH	BTH
SHOWER	SHR
CLOTHES WASHING MACHINE	CWM
DISHWASHING MACHINE	DWM
FLOOR WASTE GULLY	FWG
OVERFLOW RELIEF GULLY	ORG
HOT WATER CYLINDER	HWC
SINK	S
TROUGH, LAUNDRY	TR(L)
WATER CLOSET PAN	W.C
INSPECTION OPENING	IO
DOWNPIPE	DP

LEGEND	
— — —	SEWER
— — —	WATER
— · —	STORMWATER

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ENGINEERING PLUS

Drawing No: 2025-167 A05 / A26
Rev A

EAVE & SOFFIT CONSTRUCTION ABCB VOLUME 2 PART 7.4.5
EAVE WIDTH - 600MM

SOFFIT / EAVE LINED WITH 'HARDIFLEX' CEMENT SHEETING

- TRIMMERS LOCATED WITHIN 1200 MM OF EXTERNAL CORNERS TO BE SPACED @ 500 MM CENTERS, REMAINDER OF SHEET - 700 MM CENTERS
- FASTENER / FIXINGS WITHIN 1200 MM OF EXTERNAL CORNERS @ 200 MM CENTERS, REMAINDER OF SHEET - 300 MM CENTERS

Exhibited

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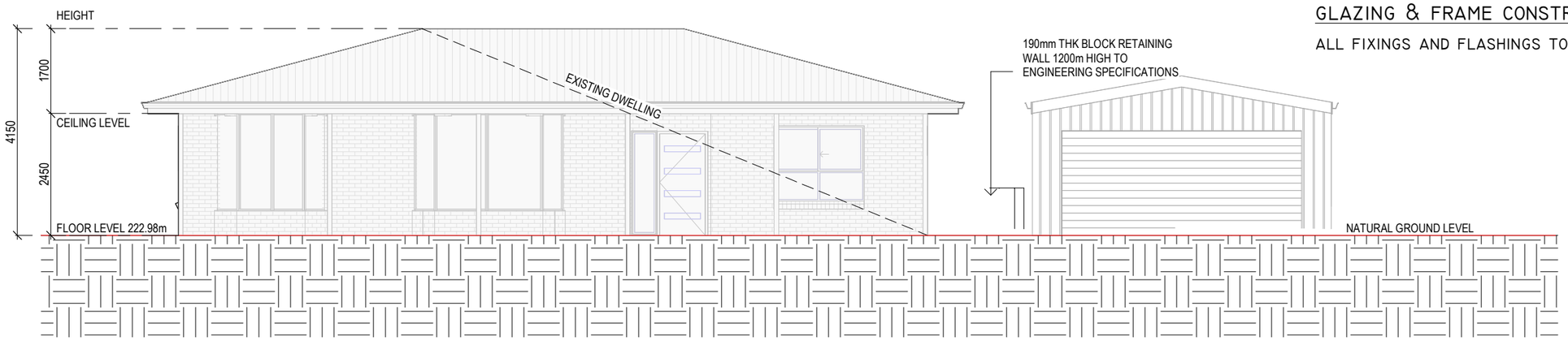
SELECTED ALUMINIUM FRAMED WINDOWS - ABCB VOLUME 2 PART 8.3

POWDER COATED ALUMINIUM WINDOW & DOOR FRAMES, UNLESS OTHERWISE NOTED.

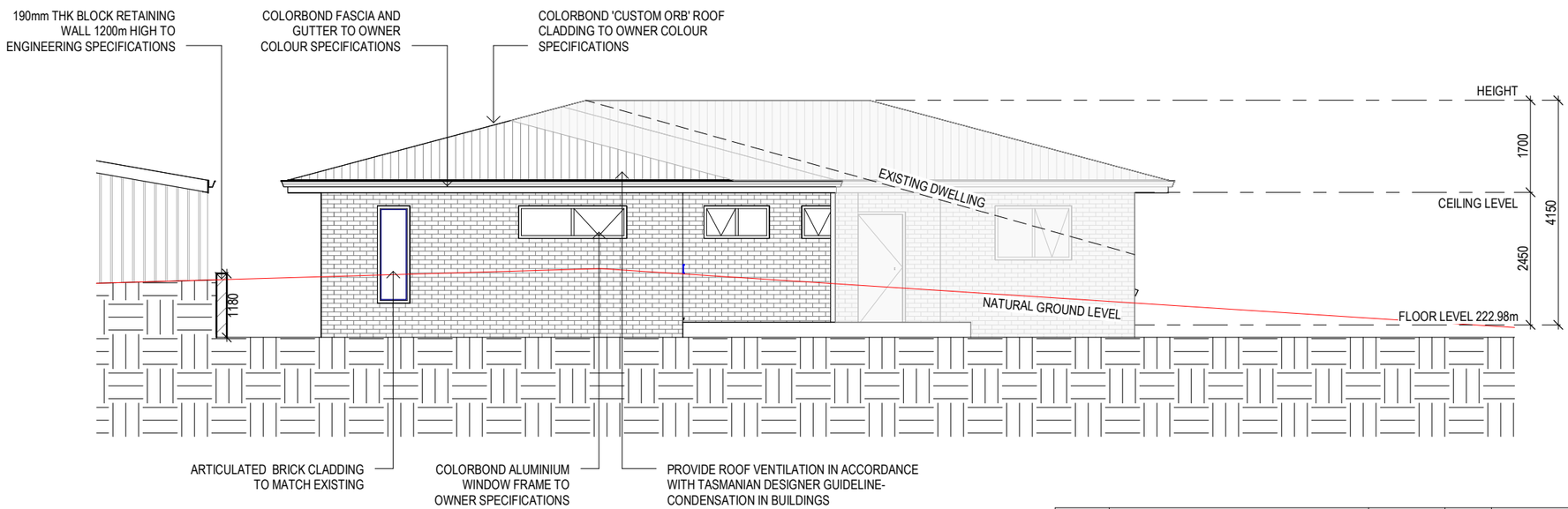
TASMANIAN OAK REVEALS AND TRIMS. ALL FLASHING AND FIXINGS TO MANUFACTURERS SPECIFICATIONS.

GLAZING & FRAME CONSTRUCTION TO AS 2047 & AS 1288

ALL FIXINGS AND FLASHINGS TO MANUFACTURERS REQUIREMENTS



NORTH ELEVATION
SCALE 1 : 100



SOUTH ELEVATION
SCALE 1 : 100

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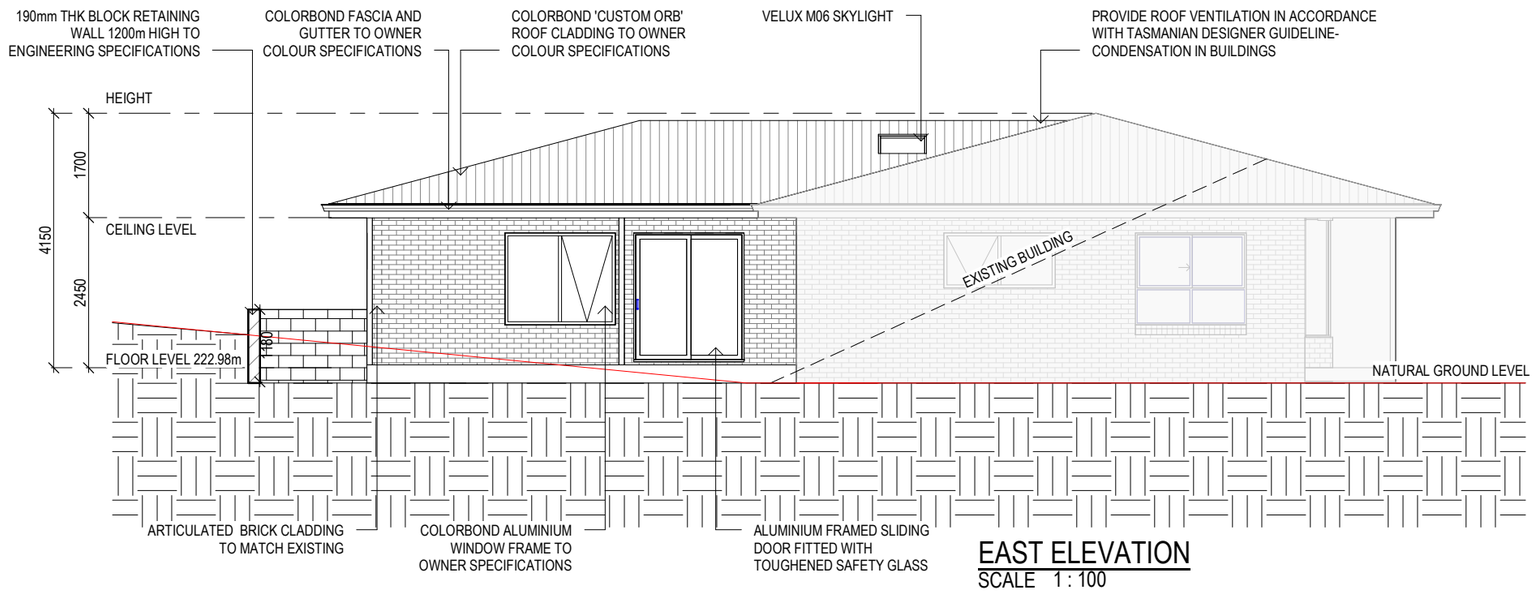
SUB FLOOR VENTILATION. NCC VOL 2 PART 6.2.1

- A MINIMUM OF 150 MM OF SUB FLOOR CLEARANCE IS TO BE PROVIDED BETWEEN FINISHED SURFACE LEVEL & THE UNDERSIDE OF THE FLOOR BEARER.
- A MINIMUM OF 6000 MM2 PER METRE OF SUB FLOOR VENTILATION IS TO BE UNIFORMLY DISTRIBUTED AROUND THE EXTERNAL AND INTERNAL WALLS OF THE BUILDING.
- VENTS TO BE LOCATED NO GREATER THAN 600 MM FROM AN INTERNAL OR EXTERNAL CORNER.

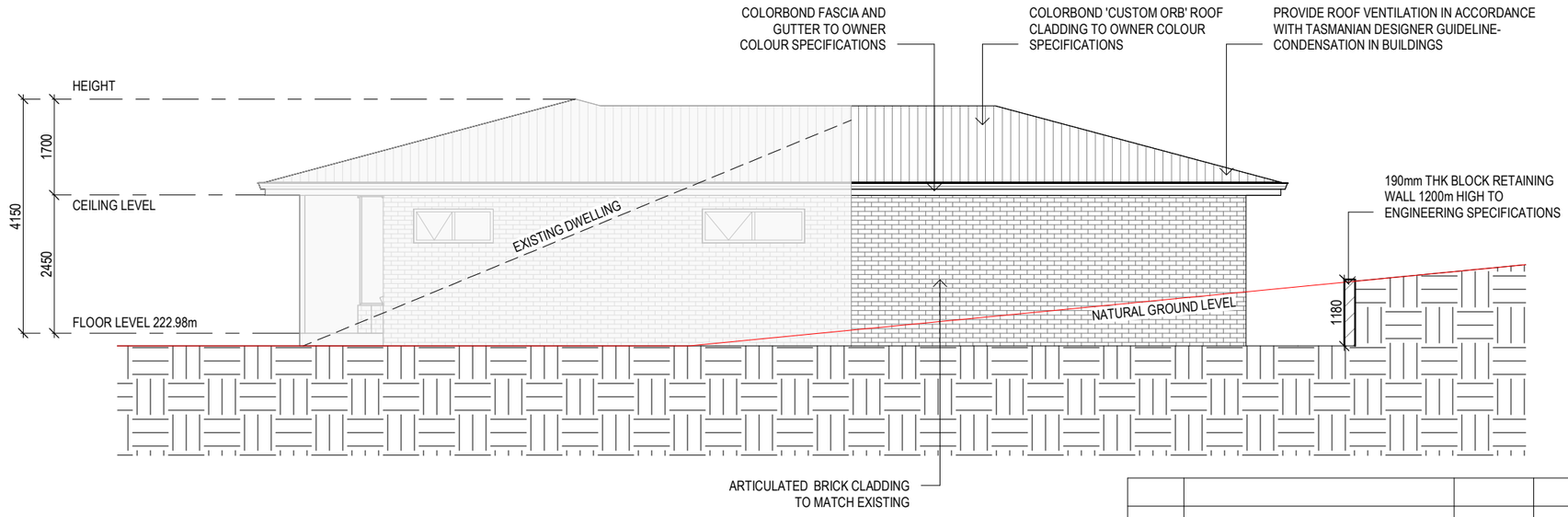
PRYDA 230X75 - 52 HOLE VENT MAXIMUM SPACING 1050 MM ALONG WALL OR
PRYDA 230X165 - 117 HOLE VENT MAXIMUM SPACING 2350 MM ALONG WALL

ADDITIONAL VENTILATION PROVISIONS TO BE INSTALLED WHERE OBSTRUCTIONS SUCH AS CONCRETE VERANDAH'S, DECKS, PATIOS AND PAVING ARE INSTALLED & OBSTRUCT VENTILATION.

Exhibited



EAST ELEVATION
SCALE 1 : 100



WEST ELEVATION
SCALE 1 : 100

STAIR CONSTRUCTION. ABCB VOLUME 2 PART 11.2

- TREADS: 240 MM
- RISERS: 180 MM
- TREATED PINE TIMBER STAIR MATERIAL TO AS1684
- TREATMENT LEVELS H4 FOR INGROUND USE & H3 FOR ABOVE GROUND USE.
- ALL FIXINGS FITTING BRACKETS AND CONNECTORS TO BE GALVANISED.
- STRINGER: 300X50 F5 TREATED PINE
- TREADS: 240X45 F5 TREATED PINE MAXIMUM TREAD SPAN 1000

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Drawing No: 2025-167 A07 / A26
Rev: A

INSULATION

PROVIDE THERMAL INSULATION IN ACCORDANCE WITH THE FOLLOWING

CEILING
R4.0 "ROCKWOOL" BULK INSULATION OR
R4.0 GLASSWOOL BATTS BETWEEN CEILING JOISTS
UNDER ROOF COMPOSITE FOIL & R2.0 BLANKET

EXTERNAL WALLS
'TYVEK' HOUSE WRAP TO EXTERNAL FACE
R2.5 GLASSWOOL BATTS BETWEEN STUDS

SUB FLOOR
75mm POLYSTYRENE BETWEEN JOISTS OR R2.0 BATTS

NOTE: CERTIFICATE OF COMPLIANCE TO BE PROVIDED BY THE PERSON ENGAGED TO INSTALL INSULATION TO WALLS AND CEILING AND COPY OF SAME TO BE FORWARDED TO THE BUILDING SURVEYOR.

WALL FRAMING

ALL TIMBER FRAMING GENERALLY IS TO COMPLY WITH THE REQUIREMENTS OF AS1684 [RESIDENTIAL TIMBER FRAMED CONSTRUCTION] & THE ABCB CODE PART H1D2
WALL FRAMING TO BE MGP10 RADIATA PINE.
COMMON STUDS - 90x35 @ 450 CRS.
NOGGINGS - 90x35
OPEN STUDS - 90x35
TOP & BOTTOM PLATES - 90x35
BRACING TO AS 1684 & NCC CODE

EXTERNAL CLADDING

EXTERNAL WALL CLADDING	REFER ELEVATIONS
SUB FLOOR	REFER ELEVATIONS

DOWNPIPES:

DOWNPIPES TO BE DN90 PVC PAINTED TO MATCH GUTTERING.
FIX WITH WALL BRACKETS @ 1200CC BEGINNING AT DOWNPIPE ELBOW.
MAXIMUM CENTRES FOR GUTTERS TO BE 12000 AND AS CLOSE AS POSSIBLE TO VALLEYS AND LOCATED SO AS TO COMPLY WITH PART 7.4 OF THE NCC
SELECTED IN ACCORDANCE WITH NCC PART 7.4 & TABLES 7.4.4a TO 7.4.4c

FASCIA

COLORBOND PREFORMED METAL FASCIA AND GUTTER INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. COLOUR TO OWNERS SPECIFICATIONS.

EAVES

OVERHANG ROOFS 600mm WHERE ROOFS
OVERHANG LINE WITH FLEX BOARD SHEETING

CAPPINGS & FLASHINGS

ALLOW FOR PREFORMED CAPPINGS & FLASHINGS NECESSARY TO ENSURE THE INTEGRITY OF THE ROOF STRUCTURE AGAINST WATER PENETRATION.
INSTALL FLASHINGS TO ROOF VENTS, FLUES ETC.
ALTERNATIVELY USE "DEKTITE" OR SIMILAR FITTINGS TO ROOF PENETRATIONS

SLABS & FOOTINGS

ALL CONCRETE PREPARATION INCLUDING EXCAVATIONS & PLACEMENT OF REINFORCEMENT IS TO BE SEEN & APPROVED BY COUNCIL BUILDING INSPECTOR AND/OR ENGINEER PRIOR TO POURING ANY CONCRETE.
REFER TO ENGINEERS DRAWINGS FOR FOOTING & CONCRETE SLAB DETAILS.
REFER TO SOIL REPORT FOR CLASSIFICATION & SITE MAINTENANCE REQUIREMENTS.

GUTTERS

INSTALL SELECTED COLORBOND QUAD GUTTERS OR AS NOMINATED BY THE OWNER, LAP GUTTERS 75MM IN THE DIRECTION OF FLOW, RIVET & SEAL WITH AN APPROVED SILICONE SEALANT.
FALL NOT LESS THAN 1:500
FITTED WITH OVERFLOW MEASURES TO COMPLY WITH NCC PART 7.4 & TABLE 7.4.4a, 7.4.4b
VALLEY GUTTERS TO BE DIMENSIONED IN ACCORDANCE WITH NCC PART 7.4 & TABLE 7.4.4c
HAVE A MIN. FREEBOARD OF NOT LESS THAN 15mm
HAVE A ROOF PITCH OF NOT LESS THAN 12.5deg
LAP 150MM UNDER ROOF CLADDING AND TURN UP ON BOTH SIDES.
LAP 150MM IN DIRECTION OF FLOW

ROOF FRAMING

COLORBOND CUSTOM ORB, COLOUR TO OWNER SPECIFICATIONS
APPROVED ROOF TRUSSES INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
ALL TRUSS FIXING DETAILS TO BE ADHERED TO.
FIX TRUSSES TO TOP PLATES WITH TRIP-L-GRIP CONNECTORS.
PROVIDE DIAGONAL BRACING FIXED TO TOP CHORDS AT A MAX ANGLE OF 30° TO RIDGE.
ANCHOR STRAP BRACING WITH 6 No 30x1.5 NAILS INTO DOUBLE TOP PLATE.
WIND BRACING TO COMPLY WITH NCC

PLASTER

LINE WALLS AND CEILINGS INTERNALLY WITH 10mm PLASTERBOARD SHEETING. SCOTIA CORNICE MOULDING TO CEILING JUNCTION WITH WALL.
PLASTERBOARD LININGS TO WET AREAS TO BE "VILLABOARD", W.R. BOARD OR OTHER APPROVED WATERPROOF LINING

WINDOWS

COLOURED ALUMINIUM WINDOW FRAMES.
AWNING & HORIZONTAL SLIDING SASHES, REVEALS AND TRIMS TO OWNERS SPECIFICATIONS ALL FIXINGS AND FLASHING TO MANUFACTURERS RECOMMENDATIONS REFER AS 1288 & CURRENT NCA STANDARDS.

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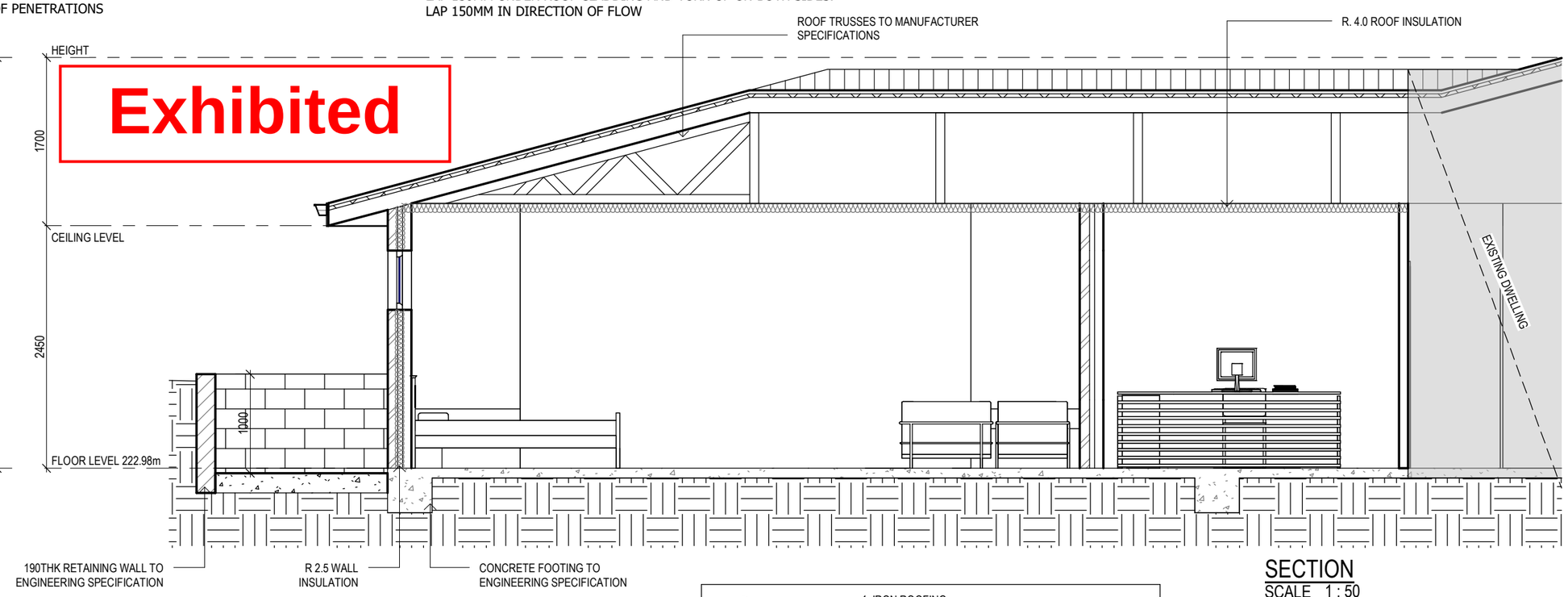


SECTION
SCALE 1 : 50

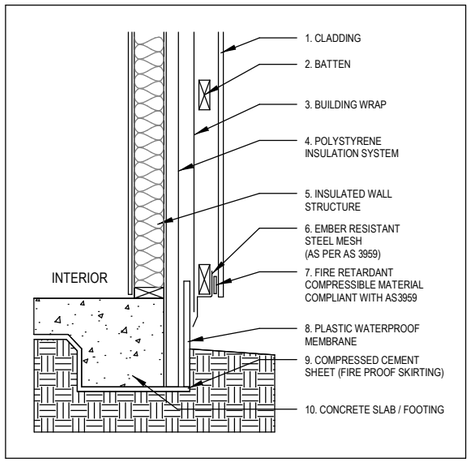
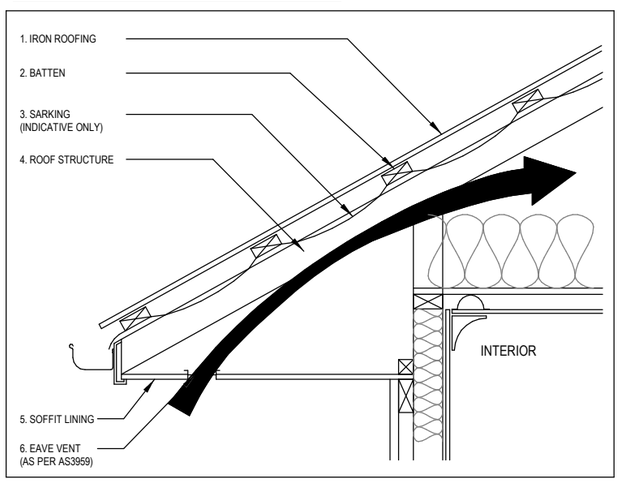


FIGURE 9 - EXTERNAL WALL VENTED CLADDING SYSTEM
CONCRETE FLOOR BUSHFIRE MESH WHEN REQUIRED TO AS3959

FIGURE 2 - EAVES DETAILS : TRUSS & IRON ROOF
BUSH FIRE MESH WHEN REQUIRED TO AS3959



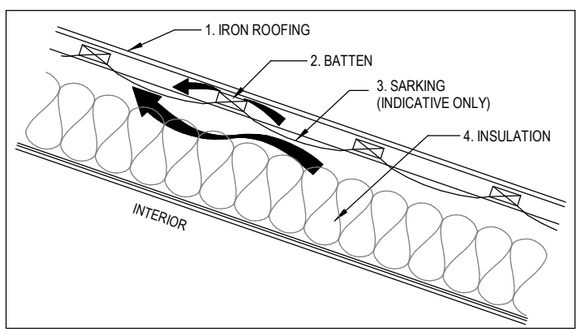
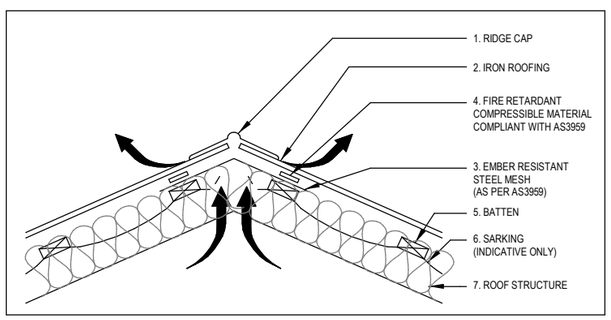


FIGURE 5 - ROOF DETAIL : VENTED SKILLION & IRON ROOF

FIGURE 1 - RIDGE DETAIL : IRON ROOF
BUSHFIRE PRONE



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Date Drawn: 27.05.25
Drawn: J. Chin
Checked: R. Hall
Approved: J. Pfeiffer
Scale: As Shown @ A3

Client: C . DAVEY
Project: PROPOSED EXTENSION
Address: 25 BOND STREET
CAMPBELL TOWN TAS 7210

Office: 6331 7021
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ENGINEERING PLUS BUILDING DESIGN PROJECT MANAGEMENT CIVIL/STRUCTURAL ENGINEERING
Accredited Building Designer
Designer Name: J.Pfeiffer
Accreditation No: CC2211T

Drawing No: 2025-167 A08 / A26
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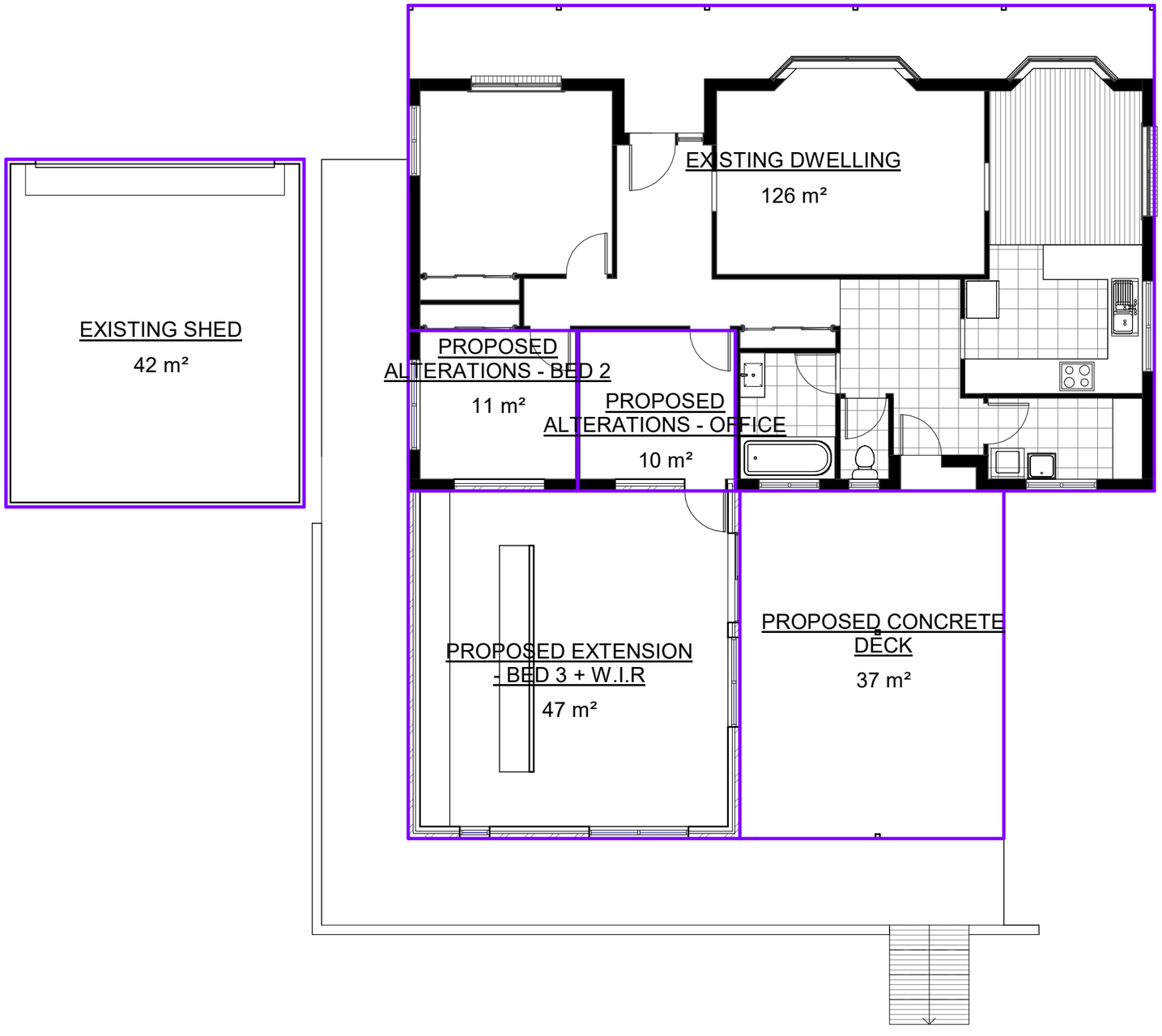

AREA PLAN
SCALE 1 : 100

Area Schedule (Gross Building)		
Name	Area	Area (sq)
EXISTING DWELLING	125.71 m²	13.53
EXISTING SHED	200.76 m²	21.61
PROPOSED ALTERATIONS - BED 2	11.03 m²	1.19
PROPOSED ALTERATIONS - OFFICE	10.26 m²	1.10
PROPOSED CONCRETE DECK	37.25 m²	4.01
PROPOSED EXTENSION - BED 3 + W.I.R	46.77 m²	5.03
	431.77 m²	46.48

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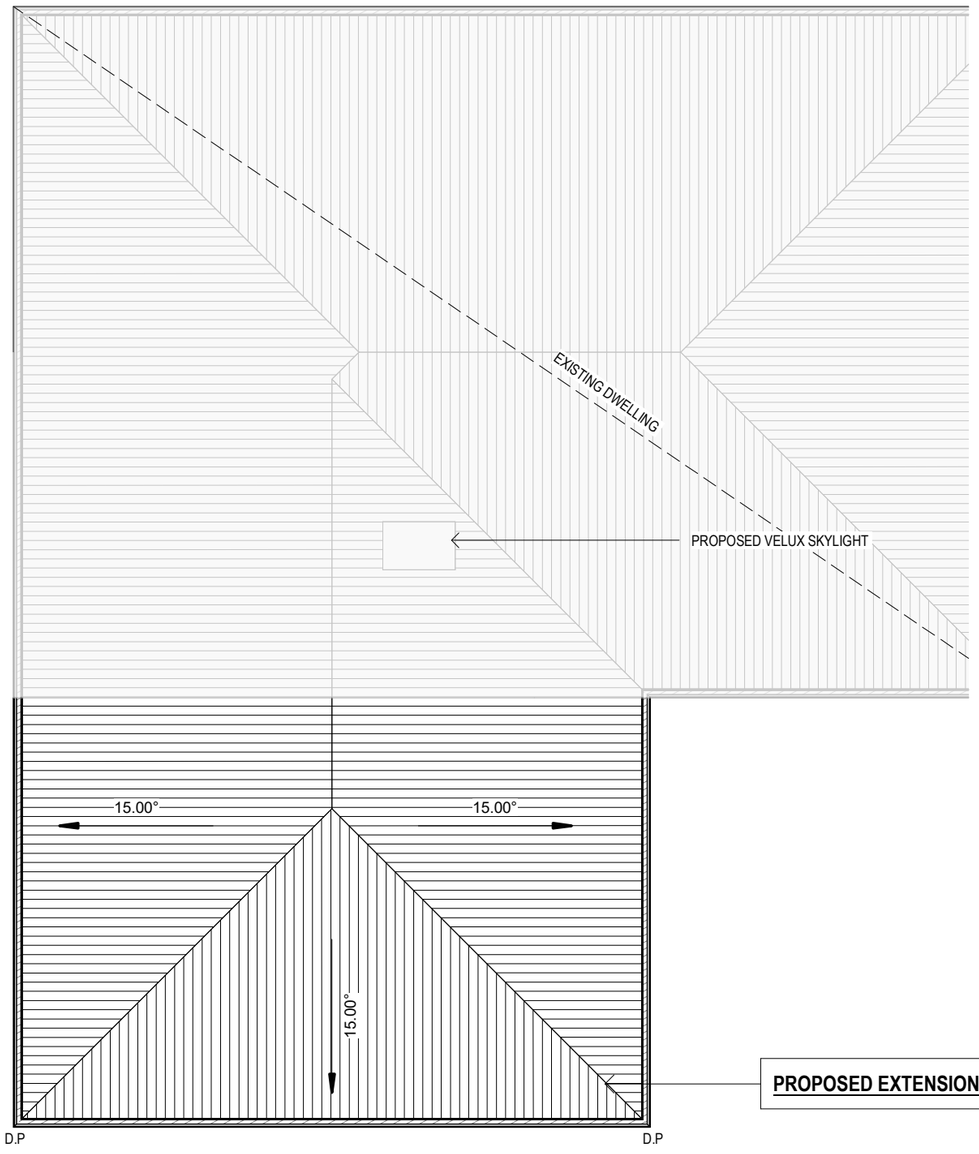

ROOF PLAN
SCALE 1 : 100

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ROOF CLADDING. NCC PART 7.2 SHEET ROOFING

COLORBOND 'CUSTOM ORB' METAL SHEETING INSTALLED IN ACCORDANCE WITH THIS PART, AS 1562.1 AND MANUFACTURERS RECOMMENDATIONS.

REFER TO LYSAGHT ROOFING & WALLING MANUAL FOR FULL DETAILS ON SHEET INSTALLATION, FIXINGS & FLASHINGS

COLORBOND 'CUSTOM ORB'

- MINIMUM PITCH 5 DEGREES.
- CORROSION PROTECTION IN ACCORDANCE WITH BCA TABLE 3.5.1.1.
- END LAP OF SHEETS 5-15 DEGREES - MINIMUM 200MM.

ABOVE 15 DEGREES - MINIMUM 150 MM.

- RIDGE LINE VALLEY TO BE TURNED UP (STOP ENDED).
- FASTENERS TO BE MADE OF COMPATIBLE MATERIAL WITH ROOFING MATERIAL.
- CREST FIXINGS OF END SPANS @ EVERY SECOND RIB AND INTERNAL SPANS @ EVERY THIRD RIB.
- WHERE POSSIBLE SHEETS TO BE LAID WITH SIDE LAPS FACING AWAY FROM PREVAILING WEATHER.
- REFLECTIVE FOIL INSULATION TO BE FITTED TO UNDERSIDE OF SHEETS.

R4.0 INSULATION BATTS TO ROOF SPACE ABOVE CEILING LINING.

RECOMMENDED FIXINGS FOR SEVERE EXPOSURE CONDITIONS TO AS 3566

USE CLASS 4 MATERIALS FOR SEVERE EXPOSURE & STAINLESS STEEL FOR VERY SEVERE COASTAL ENVIRONMENTS.

DOWNPIPES - NCC PART 7.4

MAX. 12M GUTTER LENGTH PER DOWNPIPE
LOCATED AS CLOSE AS POSSIBLE TO VALLEY GUTTERS
SELECTED IN ACCORDANCE WITH TABLES 7.4.4a TO 7.4.4c

OVERFLOW MEASURES
IN ACCORDANCE WITH 7.4.7 AND TABLE 7.4.4a & 7.4.4b AND FIG. 7.4.7a TO 7.4.7d
END STOP WEIR
100mm MIN CLEAR WIDTH. INSTALLED 25mm BELOW FASCIA TOP
NOT SUITABLE WHEN END-STOP ABUTS WALL
INVERTED NOZZLE
INSTALLED WITHIN 500mm OF GUTTER HIGH POINT
100x50mm MIN. NOZZLE SIZE - MIN. 25mm BELOW FASCIA TOP
FRONT FACE WEIR
200mm CLEAR WIDTH - 20mm CLEAR HEIGHT
INSTALLED MIN. 25mm BELOW FASCIA TOP
RAINHEAD
75mm DIA HOLE IN OUTWARD FACE - CENTERLINE 100mm BELOW FASCIA TOP

GUTTERS - NCC PART 7.4

FALL NOT LESS THAN 1:500
SUPPORT BRACKETS FIXED AT STOP ENDS, CORNERS AND MAX. 1.2m CENTRES
VALLEY GUTTERS TO BE DIMENSIONED IN ACCORDANCE WITH TABLE 7.4.4c
HAVE A ROOF PITCH AND SIDE ANGLE OF NOT LESS THAN 12.5deg
HAVE A MIN. FREEBOARD OF NOT LESS THAN 15mm

OVERFLOW MEASURES
IN ACCORDANCE WITH 7.4.6 AND TABLE 7.4.4a & 7.4.4b AND FIGURE 7.4.6a & 7.4.6b
FRONT FACE SLOTTED GUTTER
MIN SLOT OPENING 1200mm/ GUTTER m
LOWER EDGE OF SLOT INSTALLED 25mm BELOW FASCIA TOP
CONTROLLED BACK GAP
PERMANENT MIN. 10mm SPACER BETWEEN GUTTER & FASCIA
ONE PER BRACKET - MIN. 50mm WIDE
GUTTER INSTALLED MIN. 10mm BELOW FASCIA TOP

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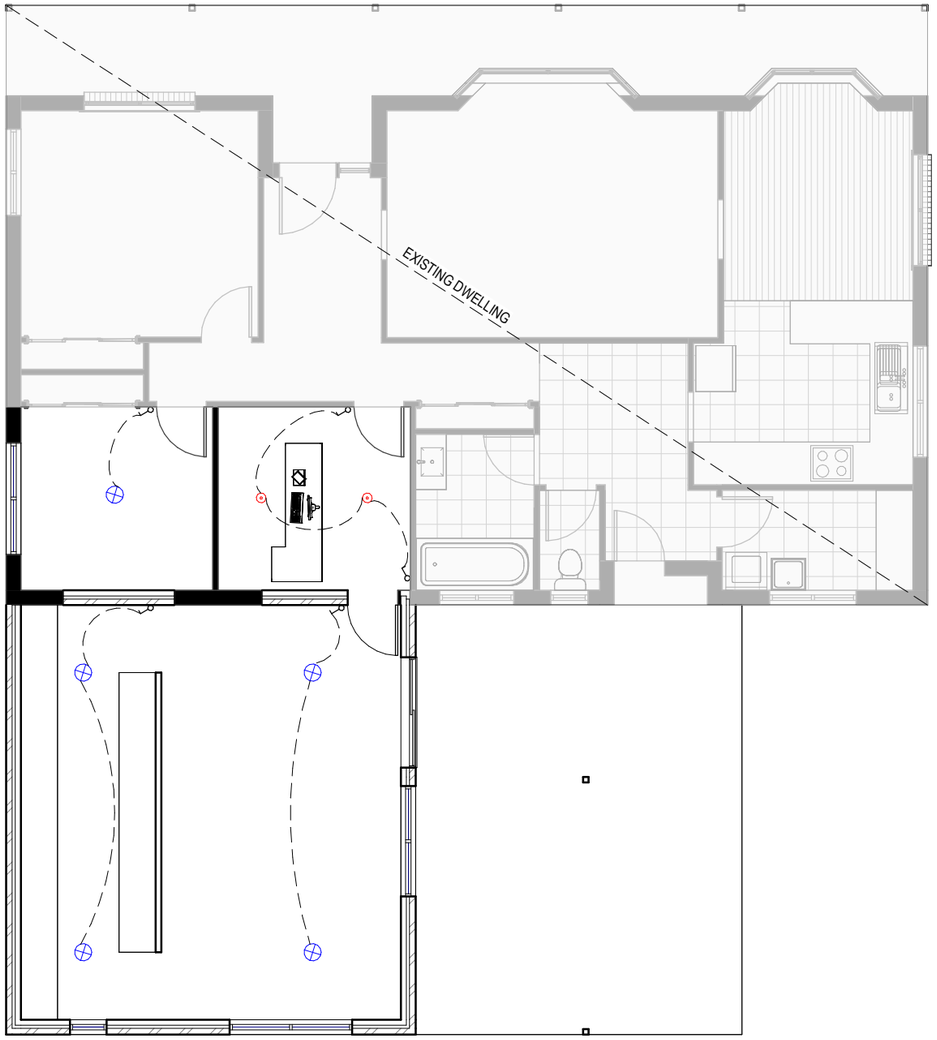

LIGHTING PLAN
SCALE 1 : 100

LEGEND

- LED DOWN LIGHT
- BATTEN LIGHT POINT
- ONE WAY SWITCH - DIMMABLE
- ONE WAY SWITCH
- IXL 3 IN 1 HEAT/FAN/LIGHT TO BATHROOMS PROVIDE 4 No. HEAT GLOBES. SELECTED BY OWNER & INSTALLED BY BUILDER
- FLUORESCENT LIGHT
- PENDANT LIGHT

BUILDER TO CONSULT WITH CLIENT/S ABOUT ALL ELECTRICAL WORK PRIOR TO COMMENCING CONSTRUCTION. ALL LIGHTING SHOWN IS INDICATIVE ONLY AND TO BE REVIEWED AND APPROVED WITH BUILDER.

MAXIMUM 5W/m² LIGHTING FOR INTERNAL USE
MAXIMUM 4W/m² LIGHTING FOR EXTERNAL USE
IN ACCORDANCE WITH NCC 3.12.5.5

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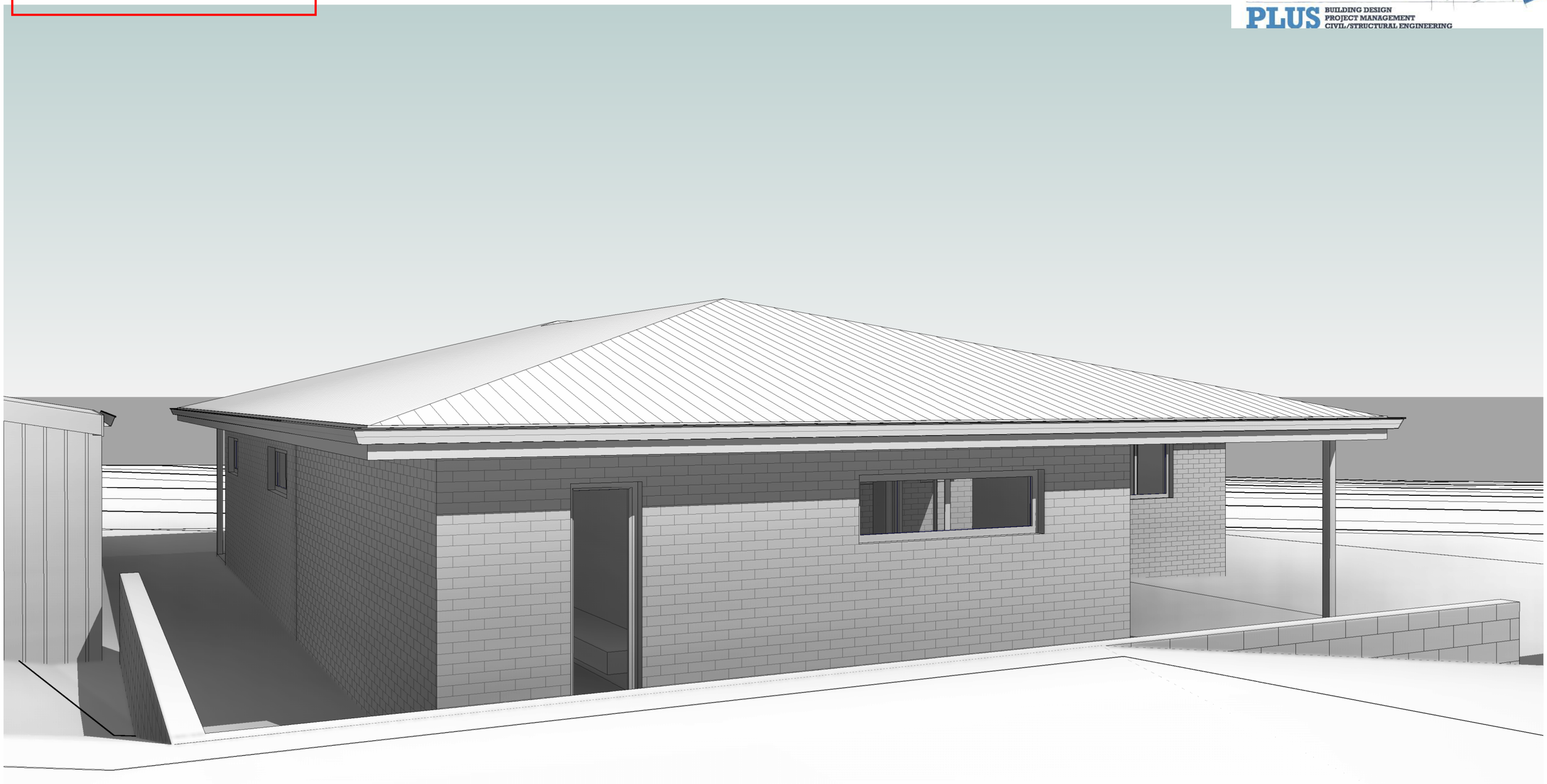

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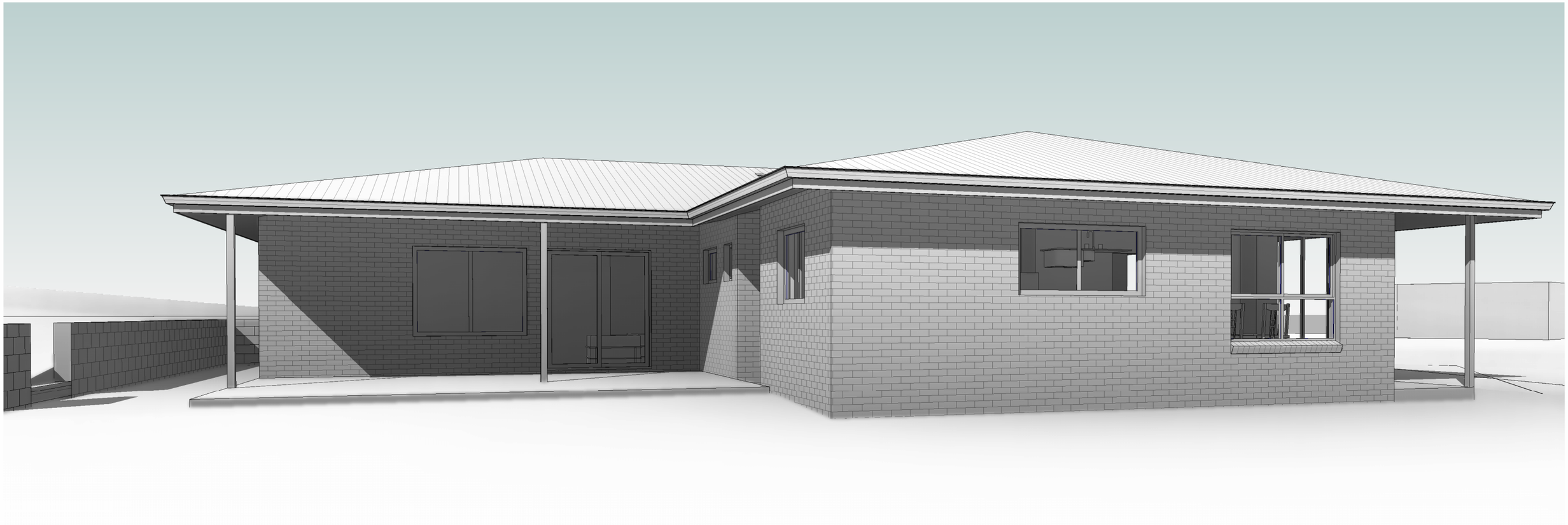

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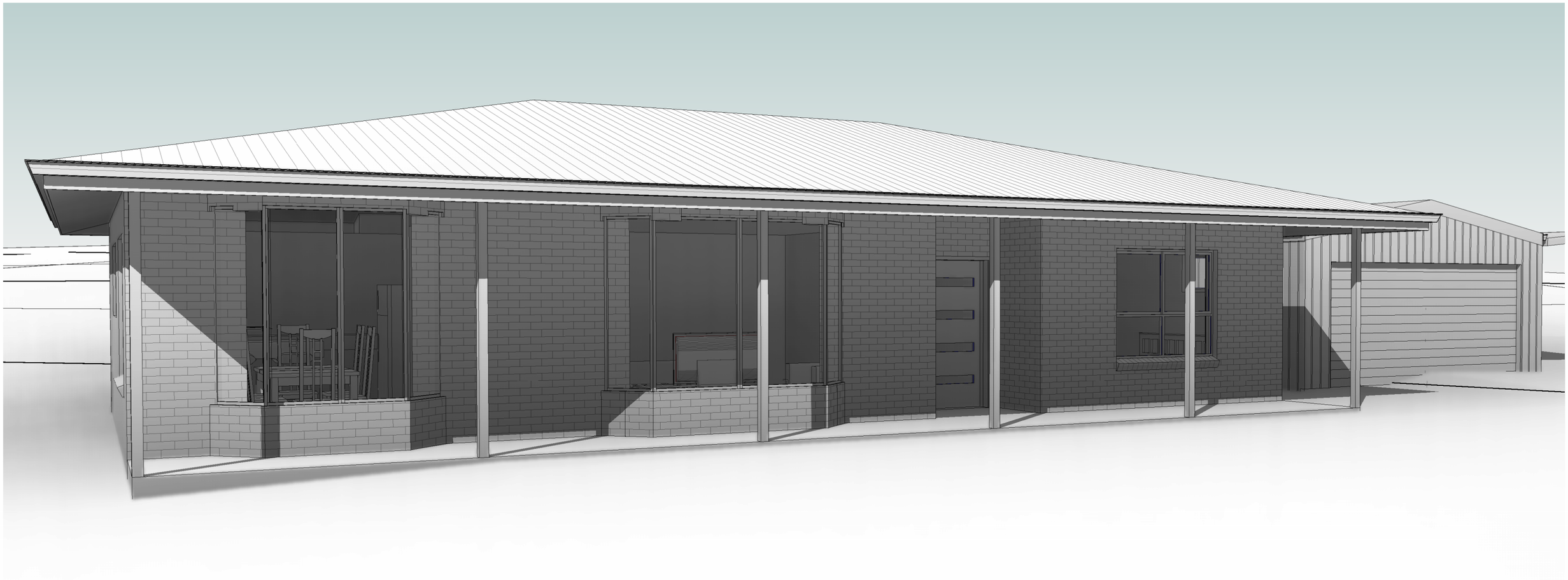

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ENGINEERING PLUS

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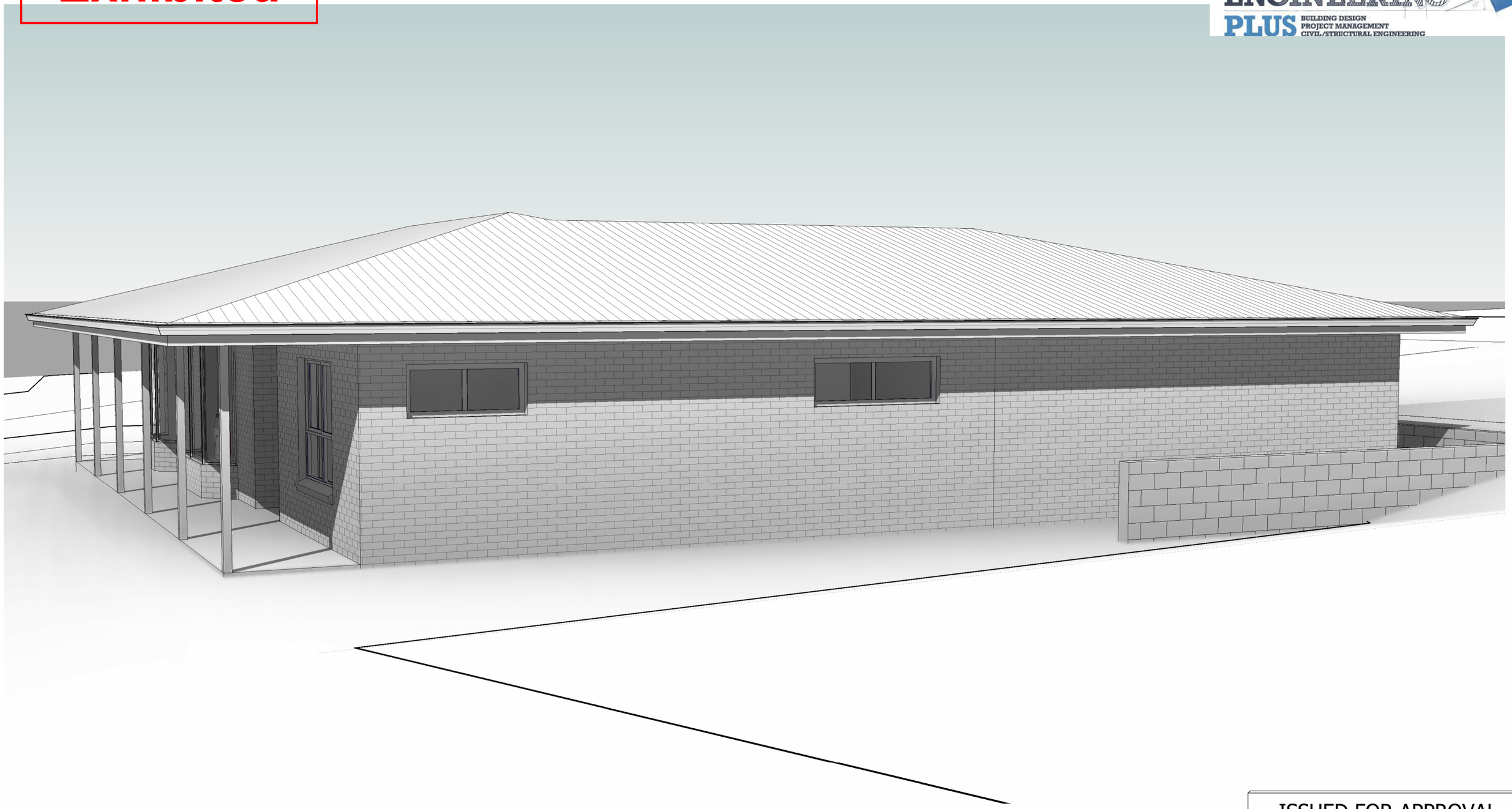

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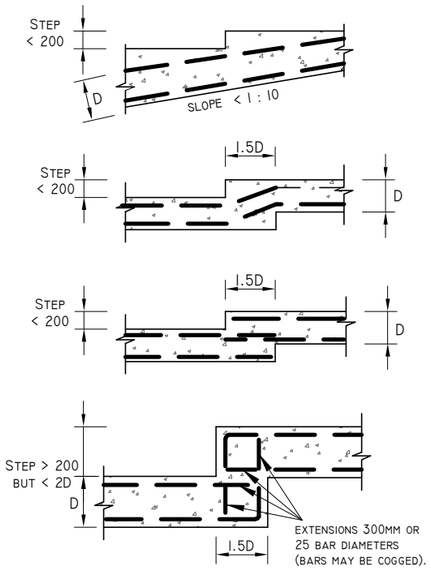
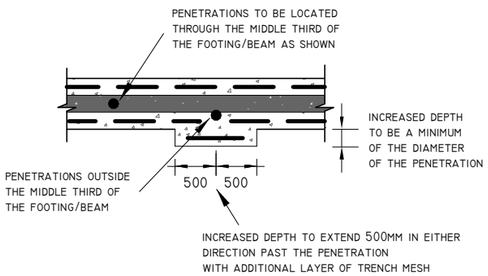
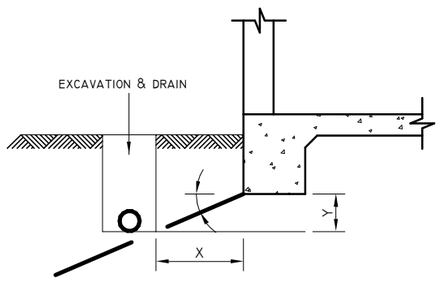


ACCEPTABLE METHODS OF STEPPING STRIP FOOTINGS & BEAMS N.T.S.

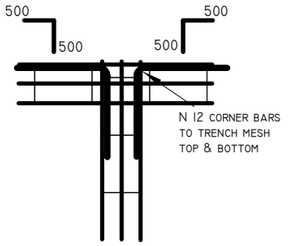


FOOTING/BEAM PENETRATION DETAILS N.T.S

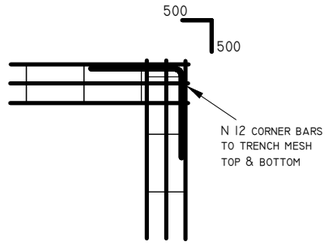


ALL SERVICE LINE EXCAVATIONS TO BE ABOVE THIS LINE.
FOOTING DEPTH TO BE INCREASED (WHERE NECESSARY) TO
SUIT X:Y RATIO: CLAY - 1:1 SAND - 2:1

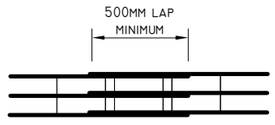
SERVICE TRENCH DETAILS N.T.S.



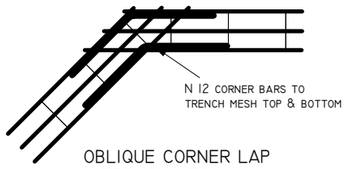
T INTERSECTION TRENCH MESH (L)



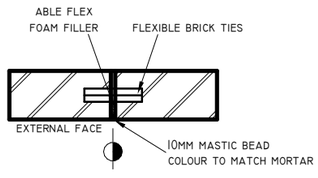
CORNER LAP EXTERNAL & INTERNAL TRENCH MESH (L)



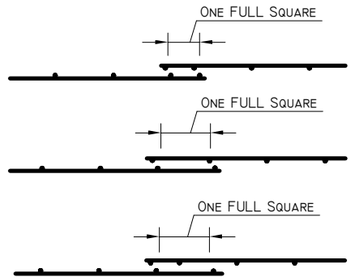
SPLICE LAP TRENCH MESH (L)



OBLIQUE CORNER LAP TRENCH MESH (L)



ARTICULATION JOINT (A.J.) N.T.S



SLAB FABRIC MESH SHALL BE LAPPED BY ONE FULL PANEL OF MESH SO THE OUTER MOST TRANSVERSE OF WIRE THE TOP SHEET OVERLAPS TO THE SECOND TRANSVERSE WIRE OF THE LOWER SHEET BEING LAPPED

SHEET LAP FABRIC MESH (SL)

GENERAL:

1. NO WORK (INCLUDING EXCAVATIONS) IS TO COMMENCE UNTIL BUILDING PERMITS HAVE BEEN ISSUED BY YOUR LOCAL COUNCIL PERMIT AUTHORITY.
2. CHECK ALL DIMENSIONS, MARK & MAINTAIN ALL BOUNDARIES, EASEMENTS AND SERVICE LOCATIONS ON SITE.
3. BEFORE DISTURBING THE GROUND SURFACE, ERECT SILT FENCES, CONSTRUCT CUT-OFF DRAINS AND DETENTION SUMPS AND ENSURE THAT ADEQUATE ALL-WEATHER ACCESS IS PROVIDED TO THE SITE. PREVENT SOIL ETC. FROM MIGRATING TO ADJACENT PRIVATE OR PUBLIC LAND IN ACCORDANCE WITH LOCAL COUNCIL POLICY.
4. STANDARDS: ALL WORK SHALL COMPLY WITH THE TASMANIAN BUILDING ACT 2000, REGULATIONS 2004, BUILDING CODE OF AUSTRALIA AND RELEVANT CURRENT AUSTRALIAN STANDARDS, PARTICULARLY
   - AS 2870 (RESIDENTIAL SLABS & FOOTINGS)
   - AS 3700 (UNIFIED MASONRY CODE)
   - AS 3600 (CONCRETE STRUCTURES)

   AND GOOD BUILDING PRACTICE.

FOUNDATIONS:

1. ALL FOOTINGS SHALL BE FOUNDED ON SOUND ROCK, CLAY OR SAND FOUNDATIONS HAVING A SAFE BEARING CAPACITY OF AT LEAST 100KPA UNLESS OTHERWISE NOTED ON DRAWINGS.
2. EXCAVATION TO BE TAKEN DOWN TO FOUNDATION MATERIAL AS APPROVED BY BUILDING SURVEYOR OR DESIGN ENGINEER.
3. FOOTINGS TO BE 150MM CLEAR OF ANY ISOLATED ROCK OR FLOATER. INSTALL 150MM SAND PACKING TO ENSURE SEPARATION.
4. ALL FOOTINGS AND SLABS TO BE ADEQUATELY PROTECTED FROM TEMPORARY EXCAVATIONS AND TRENCHING IN ACCORDANCE WITH AS2870. RATIO OF DEPTH TO HORIZONTAL DISTANCE FROM FOOTINGS.

SLAB PREPARATION:

1. STRIP VEGETATION AND OTHER ORGANIC MATTER TO BELOW ROOT ZONE. CARRY OUT BULK EXCAVATION WHERE REQUIRED ENSURING AT ALL STAGES THAT THE EXCAVATED AREA IS PROTECTED FROM EXCESSIVE RUNOFF AND PONDING OF WATER CANNOT OCCUR IN ANY FOUNDATION MATERIAL BY PROVISION OF DRAINS ETC.
2. BUILD UP WHERE REQUIRED TO ACHIEVE DESIGN LEVELS WITH ROAD BASE MATERIAL THOROUGHLY COMPACTED IN MAX. 100 THICK LAYERS. CONTROLLED FILL SHALL BE EQUAL TO DIER BASE CLASS A (19MM) MATERIAL COMPACTED TO 98%. STANDARD COMPACTION AT A MOISTURE CONTROL WITHIN +\- 1% OF OMC. BLIND WITH 30 COMPACTED SAND AND LAY 0.2MM PVC VAPOUR BARRIER, TAPING ALL JOINTS TO PREVENT MOISTURE TRANSFER.
3. MINIMUM HEIGHT ABOVE GROUND LEVEL TO SLAB TOP TO BE 150MM.

REINFORCEMENT:

1. MINIMUM CONCRETE COVER TO REINFORCEMENT:
   - TRENCH MESH 50MM
   - SLAB MESH (BOTTOM) 20MM
   - SLAB MESH (TOP) 30 - 40MM (SEE NOTE*)

   * TO REDUCE SHRINKAGE CRACKING IN SLAB SURFACE OVER BEAMS INCREASE COVER TO 40MM. REDUCE COVER TO 30MM WHERE 2 LAYERS OF MESH ARE REQUIRED.
2. N 12 STARTER BARS MINIMUM 400MM SPLICE LENGTH.

CONCRETE:

1. ALL CONCRETE TO BE GRADE N25 PLACED IN ACCORDANCE WITH SECTION 19 OF AS 3600 UNLESS OTHERWISE NOTED ON DRAWINGS.
2. CONCRETE TO BE PLACED IN ACCORDANCE WITH GOOD BUILDING PRACTICE.
3. ALL CONCRETE TO BE VIBRATED DURING PLACEMENT.
4. SLAB IS TO BE KEPT DAMP FOR 7 TO 10 DAYS TO CONTROL HYDRATION. CONTINUOUS CURING TO COMMENCE PROMPTLY AFTER SURFACE HAS BEEN FINISHED.
5. ANY FORM WORK (BOXING) TO BE RETAINED (LEFT IN PLACE) FOR A MINIMUM PERIOD OF 3 TO 7 DAYS DEPENDING ON WEATHER CONDITIONS TO ASSIST WITH CURING.
6. TO MINIMISE SHRINKAGE CRACKING IN CONCRETE THE CONCRETE SLUMP SHOULD BE MINIMAL 60-80MM RECOMMENDED.
7. NO WATER TO BE ADDED TO SUPPLIED CONCRETE.
8. CONCRETE DIMENSIONS SHOWN ARE THE MINIMUM REQUIREMENTS FOR THE SOIL CLASSIFICATION OF THE SITE.
9. ACTUAL FOUNDING DEPTHS MAY VARY TO SUIT FLOOR LEVELS AND CONSTRUCTION/SITE REQUIREMENTS. IT IS NOT NECESSARY TO REMOVE SOLID ROCK SIMPLY TO ACHIEVE FOOTING DIMENSIONS AS LONG AS CONTINUITY AND COVER OF REINFORCEMENT ARE MAINTAINED.

PLUMBING PIPES & PENETRATIONS:

1. PLUMBING PENETRATIONS TO BE SUITABLY ARTICULATED; USE 20-30MM OF FOAM LAGGING CONTINUOUSLY RAPPED AROUND PENETRATIONS AND PIPE WORK WITHIN THE SLAB BEAMS. FOAM TO SECURED WITH DUCT TAPE.
2. WHERE PENETRATIONS PROTRUDE THE SLABS SURFACE LAG AND SEAL PIPE AND FOAM WITH DENSO TAPE.
3. FOR "E & P" SOIL CLASSIFICATIONS ALL PLUMBING PIPES IS TO BE FITTED WITH ARTICULATION COLLLARS (LOCATIONS AS RECOMMENDED BY MANUFACTURER) TO ALLOW FOR EXCESSIVE DIFFERENTIAL MOVEMENT.
4. PENETRATIONS THROUGH FOOTINGS AND BEAMS ARE ONLY PERMITTED THROUGH THE MIDDLE THIRD OF FOOTING OR BEAM. WHERE ALTERNATIVE IS REQUIRED; BEAM DEPTH IS TO BE INCREASED IN SIZE BY A MINIMUM OF THE PIPE DIAMETER FOR A DISTANCE OF 500MM IN EACH DIRECTION FROM THE CENTRE OF THE PIPE.

ARTICULATION JOINTS:

1. FOOTING & SLAB DETAILS HAVE BEEN DESIGNED FOR ARTICULATED MASONRY CONSTRUCTION IN ACCORDANCE WITH AS2870. ENSURE CONTROL JOINTS ARE INSTALLED IN ACCORDANCE WITH CEMENT & CONCRETE ASSOCIATION TECHNICAL NOTE 61. MASONRY JOINT SPACING MAXIMUM 6 METRES SHEETING 5.4 METRES FOR WINDOWS GREATER THAN 1.8 METRES JOINTS TO BE INSTALLED ON EACH SIDE.

ENGINEERING PLUS
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PROJECT MANAGEMENT
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Exhibited

Rev:	Amendment:	Date:	Int:
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-	ISSUED FOR REVIEW	12.06.25	J.C
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Date Drawn: 27.05.25
Drawn: J. Chin
Checked: R. Hall
Approved: J. Pfeiffer
Scale: As Shown @ A3

Accredited Building Designer
Designer Name: J.Pfeiffer
Accreditation No: CC2211T

ISSUED FOR APPROVAL

Client: C . DAVEY
Project: PROPOSED EXTENSION
Address: 25 BOND STREET
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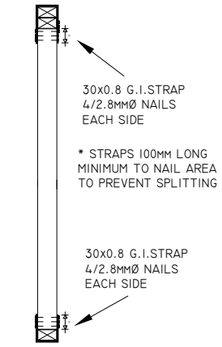
ENGINEERING PLUS BUILDING DESIGN PROJECT MANAGEMENT CIVIL/STRUCTURAL ENGINEERING

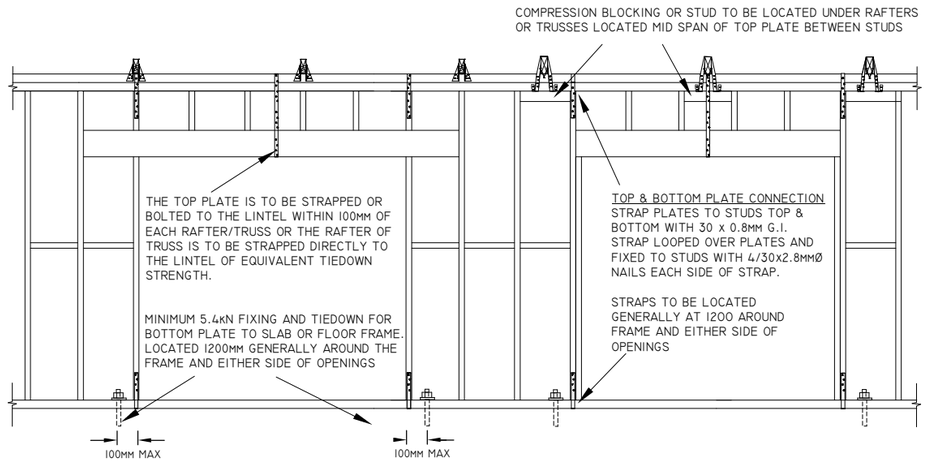
Drawing No: 2025-167 A16 / A26
Rev A

Exhibited

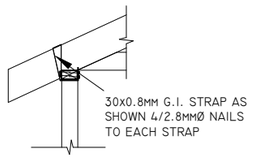


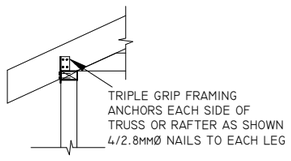
PLATES TO STUDS

SCALE: NTS AS 1684.2 - JOINT GROUP JD4



WALL FRAME STRAPS & TIEDOWNS SSCALE: NTS AS 1684.2 - JOINT GROUP JD4





RAFTER/TRUSS TO TOP PLATE

SCALE: NTS AS 1684.2 - JOINT GROUP JD4

ROOF BATTEN - UPLIFT CAPACITY 6.0kN:
- 38x75 I/ 90 No14 TYPE 17 BATTEN SCREW
- 38x50 I/100 No14 TYPE 17 BATTEN SCREW
- 50mm PENETRATION INTO RECEIVING MEMBER
- 2 SCREWS PER FIXING FOR 75mm WIDE BATTEN

ROOF BATTEN - UPLIFT CAPACITY As Shown:
- 30x0.8mm G.I. STRAP WITH 3/2.8mmØ NAILS EACH END OF STRAP - UPLIFT CAPACITY 4.7kN
- 30x0.8mm G.I. STRAP WITH 4/2.8mmØ NAILS EACH END OF STRAP - UPLIFT CAPACITY 5.9kN

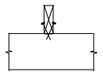
ROOF BATTEN - UPLIFT CAPACITY 5.9kN:
- 2 FRAMING ANCHORS 4/2.8mmØ NAILS TO EACH LEG

ROOFING BATTEN TO RAFTERS

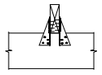
SCALE: NTS AS 1684.2 - TABLE 9.25 JOINT GROUP JD4

BATTEN SPACING - 900mm MAXIMUM TRUSS/RAFTER SPACING - 1200mm MAXIMUM

FLOOR JOISTS TO BEARER:
- G.I. JOIST HANGER WITH 4 WINGS AND 2.8mmØ NAILS EACH WING. UPLIFT CAPACITY:
- 3 NAILS EACH WING 4.7kN
- 4 NAILS EACH WING 5.9kN
- 5 NAILS EACH WING 7.1kN
- 6 NAILS EACH WING 8.4kN



FLOOR JOISTS TO BEARER OR TOP PLATE:
- 2/75 x 3.05mmØ NAILS
UPLIFT CAPACITY 1.2kN MINIMUM

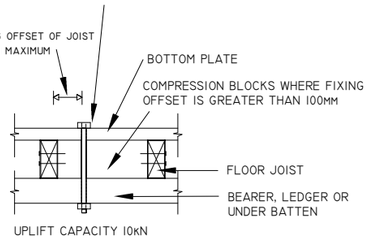


FLOOR JOISTS TO BEARER OR TOP PLATE:
- 2 FRAMING ANCHORS WITH 4/2.8mmØ NAILS EACH LEG UPLIFT CAPACITY 4.7kN

FLOOR JOISTS TO BEARERS

SCALE: NTS AS 1684.2 - TABLE 9.27 JOINT GROUP JD4

M10 BOLTS WITH BROAD WASHERS @ 1200 CTS THROUGHOUT & AT EACH SIDE OF OPENINGS & BRACING UNITS

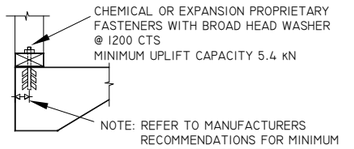


UPLIFT CAPACITY 10kN

BOTTOM PLATE TO TIMBER FLOOR FRAME

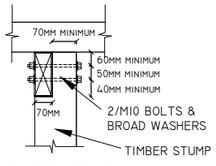
SCALE: NTS AS 1684.2 - JOINT GROUP JD4

SPECIFIC TIEDOWNS (JD4)	
DESIGN WIND CLASSIFICATION	N3 (41M/S)
TRUSS SPAN	12000 Max
TRUSS SPACING	900 Max
BATTEN SPACING	450 Max
ROOF MATERIAL	SHEET STEEL
BOTTOM PLATE TO SLAB AT TIEDOWN POINTS	1-100mm M10 MASONRY ANCHOR WITH BROAD HEAD WASHER TO EACH END OF BRACING UNIT OR CHEMSET 10mm THREADED ROD WITH BROADHEAD WASHER AND NUT TO EACH END OF BRACING UNIT
BOTTOM PLATE TO SLAB INTERNAL WALLS CONNECTION FOR TYPE 'A' BRACING	1-100mm M10 DYNABOLTS WITH BROAD HEAD WASHER @ 1200 CTRS OR 1-75mm MASONRY NAIL @ 1200max. CTRS
EXTERNAL & INTERNAL (LOAD BEARING) WALLS CONNECTION FOR TYPE 'B' BRACING	1-100mm M10 MASONRY ANCHOR WITH BROAD HEAD WASHER @ 1200 CTRS OR CHEMSET 10mm THREADED ROD WITH BROADHEAD WASHER AND NUT @ 1200CTRS
FLOOR JOISTS TO BEARER	MIN. 2-75x3.05mm SKEW NAILS 30x0.8mm G.I. STRAP 4-30z2.8mmØ NAILS EACH END OR 2 FRAMING ANCHORS
BOTTOM PLATE TO TIMBER FLOOR FRAME GENERALLY	75mm No.14 TYPE17 SCREW WITH BROAD HEAD WASHER @ 1200 CTRS Max GENERALLY
BOTTOM PLATE TO TIMBER FLOOR FRAME AT BRACING UNITS	1-M10 BOLT WITH BROAD HEAD WASHER THROUGH PLATE, JOIST & BEARER AT EACH END OF BRACING UNIT
TOP & BOTTOM PLATES TO STUDS	30 x 0.8mm G.I. LOOPED STRAP @ 1200 Max CTRS WITH 6/30x2.8mmØ NAILS EACH END OF STRAP
RAFTERS OR TRUSS TO TOP PLATE OR BEAM	30 x 0.8mm G.I. LOOPED STRAP WITH 4/30 x 2.8mmØ NAILS EACH END OR 2 FRAMING ANCHORS 4/30x2.8mmØ NAILS EACH LEG
LINTELS & PLATES TO STUDS AT EACH END OF OPENING	30 x 0.8mm G.I. LOOPED STRAP WITH 6/30 x 2.8mmØ NAILS EACH END & 1/M12 BOLT TO BOTTOM PLATE TO FLOOR AT EACH SIDE OF OPENING
LINTELS & TOP PLATES OVER SPAN OF OPENING	30 x 0.8mm G.I. LOOPED STRAP @ 1200 CTS WITH 8/30 x 2.8mmØ NAILS EACH SIDE OR 1/M12 BOLT THROUGH TOP PLATE & LINTEL
RAFTERS OR TRUSSESS TO TOP PLATES	EACH RAFTER OR TRUSS 30 x 0.8mm G.I. LOOPED STRAP / CYCLONE STRAP WITH 8/30 x 2.8mmØ NAILS EACH SIDE OR 1 FRAMING ANCHORS EACH SIDE WITH 4/2.8mmØ NAILS EACH LEG.
ROOF BATTENS TO TRUSSESS OR RAFTERS	75 LONG NO. 14, TYPE 17 BATTEN SCREW OR 1 FRAMING ANCHOR WITH 4/2.8mmØ NAILS EACH LEG.
OTHER	REFER TO AS1684.2

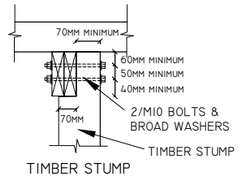


BOTTOM PLATE TO CONCRETE SLAB

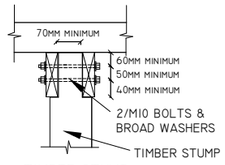
SCALE: NTS AS 1684.2 - JOINT GROUP JD4



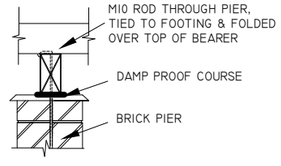
TIMBER STUMP
SINGLE BEARER
UPLIFT CAPACITY 12kN



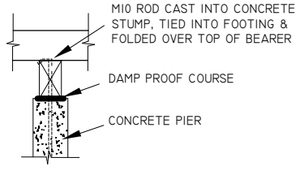
TIMBER STUMP
DOUBLE BEARERS
(NAIL LAMINATED)
UPLIFT CAPACITY 12kN



TIMBER STUMP
DOUBLE BEARER
UPLIFT CAPACITY 12kN



BRICK PIER
UPLIFT CAPACITY 12kN MINIMUM



CONCRETE PIER
UPLIFT CAPACITY 12kN MINIMUM

BEARERS TO PIERS & STUMPS SCALE: NTS AS 1684.2 - JOINT GROUP JD4

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Checked: R. Hall
Approved: J. Pfeiffer
Scale: As Shown @ A3

Client: C . DAVEY
Project: PROPOSED EXTENSION
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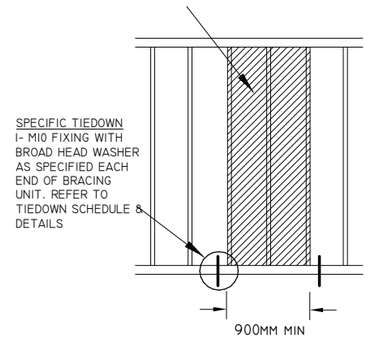
ENGINEERING PLUS BUILDING DESIGN PROJECT MANAGEMENT CIVIL/STRUCTURAL ENGINEERING
Accredited Building Designer
Designer Name: J.Pfeiffer
Accreditation No: CC2211T

Drawing No: 2025-167 A17 / A26
Rev A

Exhibited

PLYWOOD BRACING - FIX PLYWOOD PANELS WITH MINIMUM 30 x 2.8MMØ GALVANISED FLAT HEAD NAILS OR EQUIVALENT AS SPECIFIED. NAILS TO BE LOCATED A MINIMUM OF 7MM FROM PANEL EDGES



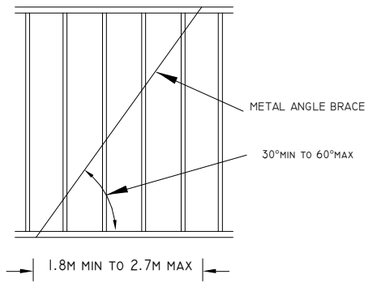
CONSTRUCTION DETAIL FOR 3.0 kN/m PLYWOOD BRACE

MINIMUM PLYWOOD THICKNESS (MM)					FIXING REQUIREMENTS (MM)	
PLYWOOD STRESS GRADES	F8	F11	F14	F27	TOP & BOTTOM PLATE	150
	PLY THICKNESS				VERTICAL EDGES	150
STUD SPACING					INTERMEDIATE STUDS	300
450MM	7	4.5	4	4		
600MM	9	7	6	4.5		
BRACE STRENGTH -	900MM WIDE PLY BRACE = 2.7 kN BRACING CAPACITY 1200MM WIDE PLY BRACE = 3.6 kN BRACING CAPACITY					

CONSTRUCTION DETAIL FOR 6.0 kN/m PLYWOOD BRACE

MINIMUM PLYWOOD THICKNESS (MM)					FIXING REQUIREMENTS (MM)	
PLYWOOD STRESS GRADES	F8	F11	F14	F27	TOP & BOTTOM PLATE	50
	PLY THICKNESS				VERTICAL EDGES	150
STUD SPACING					INTERMEDIATE STUDS	300
450MM	7	6	4	4		
600MM	9	7	6	4.5		
BRACE STRENGTH -	900MM WIDE PLY BRACE = 5.4 kN BRACING CAPACITY 1200MM WIDE PLY BRACE = 7.2 kN BRACING CAPACITY					

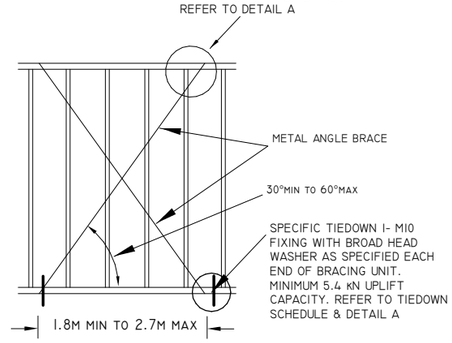
STRUCTURAL PLYWOOD PANEL BRACE (PB) - BRACING CAPACITY 3.4 kN/m & 6.0 kN/m SCALE: NTS



BRACING STRENGTH - 1800MM WIDE BRACE = 1.44kN BRACING CAPACITY
2100MM WIDE BRACE = 1.68kN BRACING CAPACITY
2400MM WIDE BRACE = 1.92kN BRACING CAPACITY
2700MM WIDE BRACE = 2.16kN BRACING CAPACITY

SINGLE DIAGONAL METAL TENSION STRAP BRACE (SMB)
BRACING CAPACITY 0.8 kN/m

TOP & BOTTOM PLATE CONNECTION - STRAPPED TO STUDS TOP & BOTTOM WITH 30 x 0.8MM G.I. STRAP LOOPED OVER PLATES AND FIXED TO STUDS WITH 4/30x2.8MMØ NAILS EACH SIDE OF STRAP. REFER TO DETAIL A

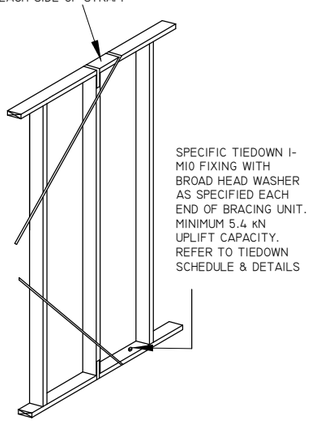


BRACING STRENGTH - 1800MM WIDE BRACE = 5.4kN BRACING CAPACITY
2100MM WIDE BRACE = 6.3kN BRACING CAPACITY
2400MM WIDE BRACE = 7.2kN BRACING CAPACITY
2700MM WIDE BRACE = 8.1kN BRACING CAPACITY

DOUBLE DIAGONAL METAL TENSION STRAP BRACE (DMB)
BRACING CAPACITY 3.0 kN/m

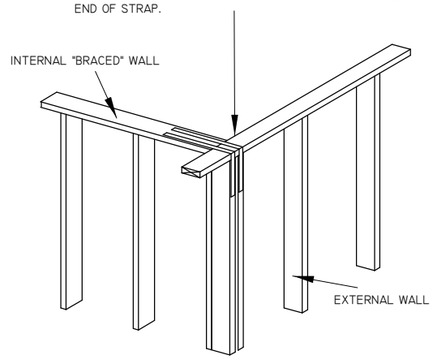
METAL TENSION STRAP BRACE - BRACING CAPACITY 0.8 kN/m & 3.0 kN/m SCALE: NTS

TOP & BOTTOM PLATES - STRAPPED TO STUDS TOP & BOTTOM WITH 30 x 0.8MM G.I. STRAP LOOPED OVER PLATES AND FIXED TO STUDS WITH 4/30x2.8MMØ NAILS EACH SIDE OF STRAP.



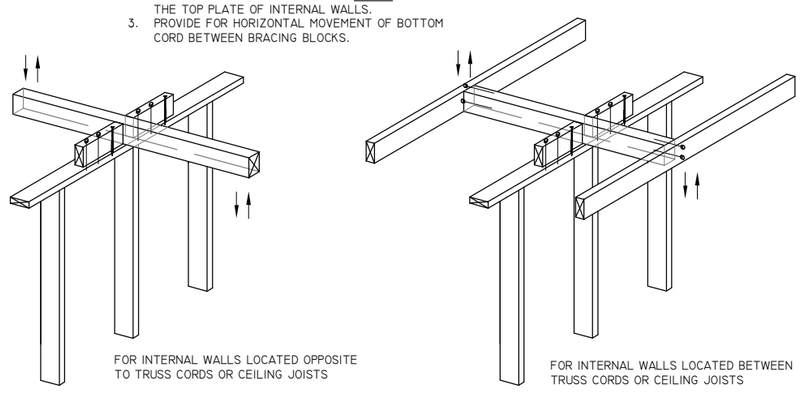
DETAIL A
STRAPPING OF TOP & BOTTOM PLATES AT ENDS OF BRACING UNITS
SCALE: NTS

2/ 30 x 0.8MM G.I. STRAP LOOPED OVER TOP PLATES PLATES AND DOWN STUDS AT INTERSECTION OF INTERNAL & EXTERNAL FRAMES. FIXED WITH 4/30x2.8MMØ NAILS EACH END OF STRAP.



FIXING TOP PLATES OF INTERNAL BRACED WALLS TO EXTERNAL WALLS
SCALE: NTS

FOR TRUSSED ROOFS:
1. PROVIDE CLEARANCE BETWEEN TRUSS BOTTOM CORD AND TOP PLATE IN ACCORDANCE WITH TRUSS DESIGN REQUIREMENTS.
2. ENSURE BOTTOM CORD OF TRUSS IS NOT NAIL FIXED TO THE TOP PLATE OF INTERNAL WALLS.
3. PROVIDE FOR HORIZONTAL MOVEMENT OF BOTTOM CORD BETWEEN BRACING BLOCKS.



FIXING TOP PLATES OF INTERNAL BRACED WALLS TO ROOF/CEILING FRAMING
SCALE: NTS

STRUCTURAL WALL BRACING - AS 1684.2 2010 WIND CLASSIFICATION N3

REFER TO AS 1684.2 - 2006 FOR OTHER STRUCTURAL FRAME BRACING DETAILS

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Designer Name: J.Pfeiffer
Accreditation No: CC2211T

Drawing No: 2025-167 A18 / A26
Rev: A

WATERPROOFING & WATER RESISTANCE REQUIREMENTS FOR BUILDING ELEMENTS IN WET AREAS - GENERAL

Exhibited

ENGINEERING PLUS
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Table F1.7 Waterproofing and water-resistance requirements for building elements in wet areas

Vessels or area where the fixture is installed	Floors and horizontal surfaces	Walls	Wall junctions and joints	Wall / floor junctions	Penetrations
Shower area (enclosed and unenclosed)					
With hob	*Waterproof* floor in *shower area* (including any hob or step-down).	(a) *Waterproof* all walls in *shower area* to a height the greater of— (i) not less than 150 mm above floor substrate; or (ii) not less than 25 mm above maximum retained water level; and (b) *Water resistant* walls in *shower area* to not less than 1800 mm above finished floor level of the shower.	*Waterproof* wall junctions within *shower area*.	*Waterproof* wall / floor junctions within *shower area*.	*Waterproof* penetrations in *shower area*.
With step-down					
Without hob or step-down					
With preformed shower base	N/A	*Water resistant* walls in *shower area* to not less than 1800 mm above finished floor level of the shower.	*Waterproof* wall junctions within *shower area*.	*Waterproof* wall / floor junctions within *shower area*.	*Waterproof* penetrations in *shower area*.
Area outside shower area					
For concrete and compressed fibre-cement sheet flooring	*Water resistant* floor of the room.	N/A	N/A	*Waterproof* wall / floor junctions.	N/A
For timber floors including particleboard, plywood and other timber based flooring materials	*Waterproof* floor of the room.				
Areas adjacent to baths and spas					
For concrete and compressed fibre-cement sheet flooring	*Water resistant* floor of the room.	(a) *Water resistant* to a height of not less than 150 mm above the *vessel*, for the extent of the *vessel*, where the *vessel* is within 75 mm of a wall. (b) *Water resistant* all exposed surfaces below *vessel* lip.	*Water resistant* junctions within 150 mm above a *vessel* for the extent of the *vessel*.	*Water resistant* wall / floor junctions for the extent of the *vessel*.	*Waterproof* tap and spout penetrations where they occur in horizontal surfaces.
For timber floors including particleboard, plywood and other timber based flooring materials	*Waterproof* floor of the room.				
Inserted baths and spas	(a) *Waterproof* shelf area, incorporating waterstop under the bath lip. (b) No requirement under bath.	(a) *Waterproof* to not less than 150 mm above lip of bath or spa; and (b) No requirement under bath.	(a) *Waterproof* junctions within 150 mm above bath or spa; and (b) No requirement under bath.	N/A	*Waterproof* tap and spout penetrations where they occur in horizontal surfaces.
Note: Where a shower is above a bath or spa, use requirements for shower.					
Other areas					
Walls adjoining other *vessel*	N/A	*Water resistant* to a height of not less than	*Waterproof* wall junctions where a	N/A	*Waterproof* tap and spout
Vessels or area where the fixture is installed	**Floors and horizontal surfaces**	**Walls**	**Wall junctions and joints**	**Wall / floor junctions**	**Penetrations**
(e.g. sink, basin or laundry tub)		150 mm above the *vessel*, for the extent of the *vessel*, where the *vessel* is within 75 mm of a wall.	*vessel* is fixed to a wall.		penetrations where they occur in surfaces *required* to be *waterproof* or *water resistant*.
Laundries and WCs	*Water resistant* floor of the room.	N/A	N/A	*Water resistant* wall / floor junctions.	*Waterproof* penetration where they occur in surfaces *required* to be *waterproof*
Bathrooms and laundries *required* to provide a floor waste by F1.11.	*Waterproof* floor of the room.	N/A	N/A	*Waterproof* wall / floor junctions.	*Waterproof* penetrations where they occur through the floor.

FALLS IN FLOOR FINISHES

2.3 REQUIREMENTS FOR FALL

2.3.1 FALLS IN SUBSTRATE

Where a floor waste is required in a wet area, the membrane shall be applied to a substrate with a minimum 1:100 fall towards the floor waste.

NOTE: This requirement is intended to avoid ponding in the substrate.

2.3.2 FALLS IN SHOWER AREA FLOOR FINISHES (CATEGORY 1)

The fall to the floor waste in a shower area shall be a minimum of 1:80.

2.3.3 FALLS IN WET AREA FLOOR FINISHES ADJACENT TO SHOWER AREA WHERE THERE IS A FLOOR WASTE (CATEGORY 2)

Where a required floor waste is installed adjacent to a shower area, the minimum fall to the watse shall be 1:100

NOTE: Surface water should drain to the waste. Water should not exit the wet area at doorway thresholds under normal use. Where surface falls are provided in Category 2 area to a Category 1 shower waste, the whole of the Category 2 floor area should have falls provided.

2.3.4 FALLS IN WET AREA FLOOR FINISHES WHERE THERE IS NO FLOOR WASTE (CATEGORY 3)

The shower shall be an enclosed shower. There is no requirement for fall in the Category 3 area.

Water shall be retained within the wet area.

NOTE 1: Water retention may be achieved by localized falls away from doors.

2.3.5 WHOLE OF BATHROOM DESIGNED AS AN UNENCLOSED SHOWER

In a whole bathroom designed as an unenclosed shower without a shower screen installed, the floor substrate under the membrane shall have a minimum 1:80 fall.

NOTE 1: If a screed is used, the membrane should be applied on top of the screed.

NOTE 2: For further informaton on accessible bathrooms, refer to AS 1428.1

APPENDIX B

B.1 GENERAL

The primary consideration for falls in floor finishes is to ensure water does not remain on the finished floor in a manner that can adversely affect the heath or amenity of the occupants or deteriorate building elements.

B.2 FACTORS AFFECTING FALLS

The ratio of fall achieved in a floor may vary depending upon -

(a) finished height requirements at doorways;
(b) height of fixtures or fittings;
(c) dimensions of the tiles used: adequate falls become more difficult to achieve as the size of the tiles used increases;
(d) area of the floor to be drained; and
(e) requirements of persons with disabilities.

B.3 FALL RATIOS

Clause 2.3.2 specifies a fall ratio of 1:80 in shower areas.

Where falls flatter than 1:100 are proposed, the effectiveness of the floor drainage should be confirmed to ensure the primary consideration given in Clause B.1 has been met

B.4 DIAGONAL CUTTING OF TILES

Tiles may require diagonal cutting in the area around the waste to achieve the required falls, sufficient drainage and to ensure lipping is kept within the guidelines of AS 3958.1.

B.5 DETERMINATION OF PONDING

When conditions are suitable for drying and all other associated areas have dried, any remaining accumulation of water is deemed ponding. Water retained by surface tension alone should evaporate with 5 hours when local atmospheric conditions are 21°C, 1 013hPa, and 50% relative humidity.

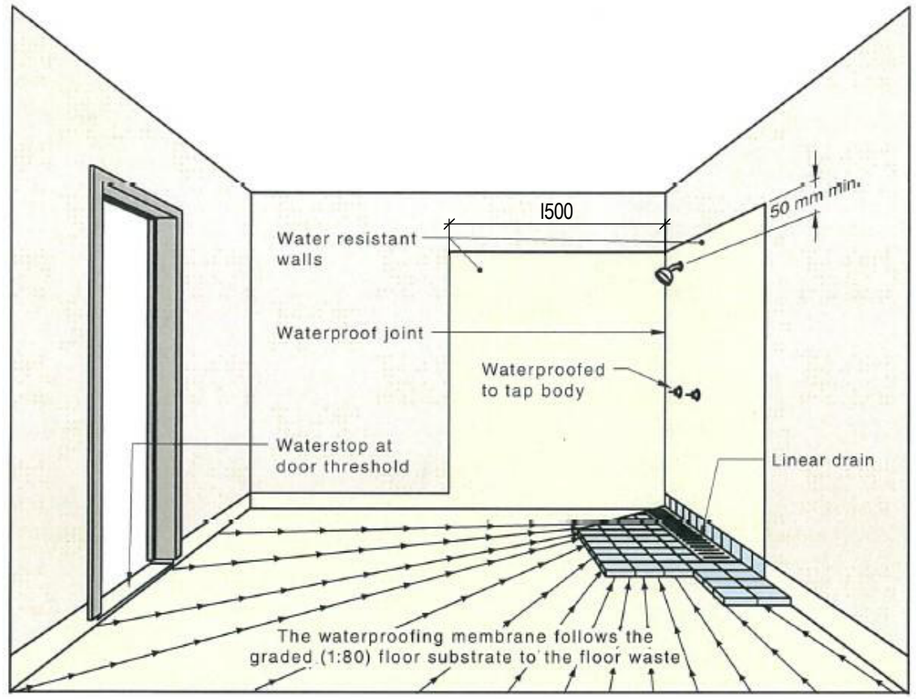

Figure A.6(B) — Whole of bathroom with linear drain

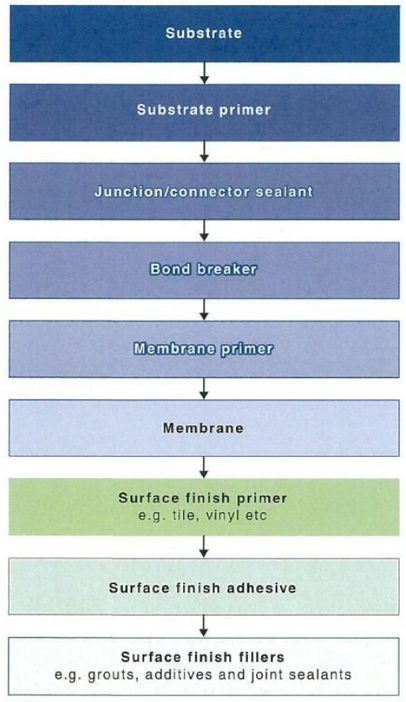

Figure E.1 — Compatibility chain

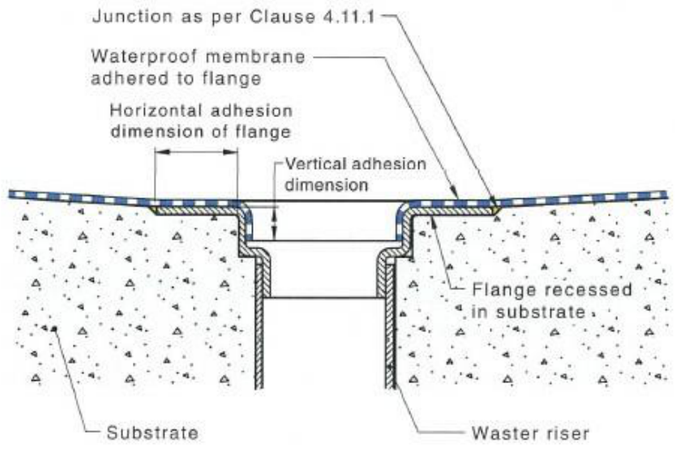

Figure 4.3.1(B) — Typical membrane termination at leak control flange with down leg

FOR FULL INSTALLATION DETAILS REFER TO AUSTRALIAN STANDARD 3740

ISSUED FOR APPROVAL

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A	DEVELOPMENT APPROVAL	30.10.25	J.C
-	ISSUED FOR REVIEW	12.06.25	J.C
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Date Drawn: 27.05.25
Drawn: J. Chin
Checked: R. Hall
Approved: J. Pfeiffer
Scale: As Shown @ A3

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Accredited Building Designer
Designer Name: J.Pfeiffer
Accreditation No: CC2211T

Drawing No: 2025-167 A19 / A26
Rev: A

NCC NOTES ONE

EARTHWORKS - H1D2

ACBC PART 3.2

1. A SITE CUT USING AN UN-RETAINED EMBANKMENT MUST BE—
   (a) WITHIN THE ALLOTMENT; AND
   (b) NOT WITHIN THE ZONE OF INFLUENCE OF ANY EXISTING STRUCTURE ON THE PROPERTY, OR THE ALLOTMENT BOUNDARY AS DEFINED IN TABLE 3.2.1 AND FIGURE 3.2.1A; AND
   (c) NOT DEEPER THAN 2m FROM THE NATURAL GROUND LEVEL AT ANY POINT.

2. FILL, USING AN UN-RETAINED EMBANKMENT MUST—
   (a) BE PLACED WITHIN THE ALLOTMENT; AND
   (b) BE PLACED AT A GRADIENT WHICH COMPLIES WITH TABLE 3.2.1 AND FIGURE 3.2.1B; AND
   (c) BE PLACED AND MECHANICALLY COMPACTED IN LAYERS NOT MORE THAN 150mm; AND
   (d) BE NOT MORE THAN 2m IN HEIGHT FROM THE NATURAL GROUND LEVEL AT ANY POINT; AND
   (e) WHERE USED TO SUPPORT FOOTINGS OR SLABS, BE PLACED AND COMPACTED IN ACCORDANCE WITH PART 4.2; AND
   (f) HAVE SURFACE WATER DIVERTED AWAY FROM ANY EXISTING STRUCTURE ON THE PROPERTY OR ADJOINING ALLOTMENT IN ACCORDANCE WITH 3.3.3.

DRAINAGE - H2D2

DRAINAGE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH - AS/NZS 3500.3; OR

ACBC PART 3.3

3.3.2 Drainage Requirements

DRAINAGE SYSTEMS MUST BE INSTALLED AS FOLLOWS:
   (a) AREAS ADJOINING AND UNDER BUILDINGS — SURFACE WATER DRAINAGE IN ACCORDANCE WITH 3.3.3;
   (b) WHERE SITE CONDITIONS EXIST THAT CREATE A NEED FOR SUBSOIL WATER TO BE DIVERTED AWAY FROM FOOTINGS, BASEMENTS, RETAINING WALLS etc. — SUB-SOIL DRAINAGE IN ACCORDANCE WITH 3.3.4;
   (c) WHERE UNDERGROUND DRAINAGE FROM ROOF AREAS IS REQUIRED OR PERMITTED — UNDERGROUND STORMWATER DRAINAGE IN ACCORDANCE WITH 3.3.5; AND
   (d) EXCAVATION FOR DRAINS ADJACENT TO EXISTING FOOTINGS MUST BE WITHIN THE AREA DESCRIBED IN FIGURE 3.3.2 AS BEING SAFE FOR EXCAVATION.

3.3.3 - Surface water drainage

1. SURFACE WATER MUST BE DIVERTED AWAY FROM A CLASS 1 BUILDING AS FOLLOWS:
SLAB-ON-GROUND — FINISHED GROUND LEVEL ADJACENT TO A BUILDING: THE EXTERNAL FINISHED SURFACE SURROUNDING THE SLAB MUST BE DRAINED TO MOVE SURFACE WATER AWAY FROM THE BUILDING AND GRADED TO GIVE A SLOPE OF NOT LESS THAN (SEE FIGURE 3.3.3A) —
   (a) 25 MM OVER THE FIRST 1m FROM THE BUILDING—
      (i) IN LOW RAINFALL INTENSITY AREAS FOR SURFACES THAT ARE REASONABLY IMPERMEABLE (SUCH AS CONCRETE OR CLAY PAVING); OR
      (ii) FOR ANY REASONABLY IMPERMEABLE SURFACE THAT FORMS PART OF AN ACCESS PATH OR RAMP PROVIDED FOR THE PURPOSES OF CLAUSES 1.1(2) OR (4)(C) OF THE ABCB STANDARD FOR LIVABLE HOUSING DESIGN; OR

2. 50mm OVER THE FIRST 1m FROM THE BUILDING IN ANY OTHER CASE.
SLAB-ON-GROUND — FINISHED SLAB HEIGHTS: THE HEIGHT OF THE SLAB-ON-GROUND ABOVE EXTERNAL FINISHED SURFACES MUST BE NOT LESS THAN (SEE FIGURE 3.3.3A) —
   (a) 100mm ABOVE THE FINISHED GROUND LEVEL IN LOW RAINFALL INTENSITY AREAS OR SANDY, WELL-DRAINED AREAS; OR
   (b) 50mm ABOVE IMPERMEABLE (PAVED OR CONCRETE) AREAS THAT SLOPE AWAY FROM THE BUILDING IN ACCORDANCE WITH (A); OR
   (c) 150mm IN ANY OTHER CASE.

3. THE GROUND BENEATH SUSPENDED FLOORS MUST BE GRADED SO THAT THE AREA BENEATH THE BUILDING IS ABOVE THE ADJACENT EXTERNAL FINISHED GROUND LEVEL AND SURFACE WATER IS PREVENTED FROM PONDING UNDER THE BUILDING (SEE FIGURE 3.3.3B).

3.3.4 Subsoil drainage

WHERE A SUBSOIL DRAINAGE SYSTEM IS INSTALLED TO DIVERT SUBSURFACE WATER AWAY FROM THE AREA BENEATH A BUILDING, THE SUBSOIL DRAIN MUST—
1. BE GRADED WITH A UNIFORM FALL OF NOT LESS THAN 1:300; AND

2. DISCHARGE INTO AN EXTERNAL SILT PIT OR SUMP WITH—
   (a) THE LEVEL OF DISCHARGE FROM THE SILT PIT OR SUMP INTO AN IMPERVIOUS DRAINAGE LINE NOT LESS THAN 50mm BELOW THE INVERT LEVEL OF THE INLET (SEE FIGURE 3.3.4); AND
   (b) PROVISION FOR CLEANING AND MAINTENANCE.

3.3.5 Stormwater drainage

WHERE A STORMWATER DRAINAGE SYSTEM IS INSTALLED, IT MUST COMPLY WITH THE FOLLOWING:
1. THE POSITION AND MANNER OF DISCHARGE OF THE STORMWATER DRAINAGE SYSTEM MUST BE TO THE SATISFACTION OF THE APPROPRIATE AUTHORITY.

2. THE STORMWATER DRAINAGE SYSTEM MUST BE DESIGNED SO THAT ANY OVERFLOW DURING HEAVY RAIN PERIODS IS PREVENTED FROM FLOWING BACK INTO THE BUILDING.

3. COVER TO STORMWATER DRAINS: THE COVER TO 90mm CLASS 6 UPVC STORMWATER DRAINS INSTALLED UNDERGROUND MUST BE NOT LESS THAN—
   (a) UNDER SOIL — 100mm; OR
   (b) UNDER PAVED OR CONCRETE AREAS — 50mm; OR
   (c) UNDER AREAS SUBJECT TO LIGHT VEHICLE TRAFFIC—
      (i) REINFORCED CONCRETE — 75mm; OR
      (ii) PAVED — 100mm.

MASONRY - H1D5

DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS3700, AS4773.1, AS4773.2, OR AS2870; AND

ACBC PART 5

MASONRY VENEER & CAVITY MASONRY WALL HEIGHT MUST NOT BE GREATER THAN 8.5m WHEN MEASURED ABOVE THE ADJACENT FINISHED GROUND LEVEL

ACBC PART 5.4 - UNREINFORCED SINGLE LEAF MASONRY

5.4.2 - External Walls

1. SINGLE LEAF UNREINFORCED MASONRY WALLS WITH ENGAGED PIERS AND RETURN WALLS MUST COMPLY WITH THE RELEVANT PROVISIONS OF THIS PART AND BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING:
   (a) THE ROOF FRAME MUST BE CONNECTED CONTINUOUSLY TO THE TOP OF THE WALL (SEE FIGURE 5.4.2A).
   (b) STACK BONDED PIERS MUST HAVE WALL TIES AT EVERY FOURTH COURSE.
   (c) PIER AND RETURN SUPPORTS SIZE LIMITATIONS FOR—
      (i) SINGLE LEAF UNREINFORCED MASONRY WALLS WITH ENGAGED PIERS, MUST COMPLY WITH TABLE 5.4.2A AND FIGURE 5.4.2B; AND
      (ii) SINGLE LEAF UNREINFORCED MASONRY WALLS WITH RETURN SUPPORTS, MUST COMPLY WITH TABLE 5.4.2B AND FIGURE 5.4.2C.
   (d) AN ENGAGED PIER OR RETURN WALL MUST BE PROVIDED AT BOTH SIDES OF AN OPENING.
   (e) THE WIDTH OF AN OPENING MUST BE NOT MORE THAN THE SPACING BETWEEN THE ENGAGED PIERS UNLESS THE ENGAGED PIERS EITHER SIDE OF THE OPENING ARE DESIGNED IN ACCORDANCE WITH AS3700.
   (f) ARTICULATION JOINTS MUST BE LOCATED WITHIN 300mm OF VERTICAL SUPPORTS IN ACCORDANCE WITH 5.6.8.

2. A CLASS 10A BUILDING CONTAINING NOT MORE THAN 1 STOREY MAY BE ENCLOSED WITH SINGLE LEAF MASONRY EXTERNAL WALLS NOT LESS THAN 90mm IN THICKNESS, PROVIDED THAT—
   (a) THE BUILDING MEASURED IN THE DIRECTION OF THE SPAN OF THE ROOF IS NOT MORE THAN 9m AND THE HEIGHT IS NOT MORE THAN 2.7m; AND
   (b) ENGAGED PIERS ARE PROVIDED THAT ARE IN ACCORDANCE WITH TABLES 5.4.2C AND 5.4.2D; AND
   (c) THE ROOF DOES NOT PLACE ANY SPREADING THRUST ONTO THE EXTERNAL WALLS; AND
   (d) THE CLASS 10A BUILDING IS LOCATED IN AN AREA WITH A WIND CLASS OF NOT MORE THAN N2.

5.4.3 Internal Walls

INTERNAL MASONRY MUST BE ENGAGED WITH OTHER WALLS, COMPLY WITH THE RELEVANT PROVISIONS OF THE PART AND MUST BE -
   (a) NOT LESS THAN 75mm THICK; AND
   (b) SUPPORTED BY EITHER -
      (i) THE CEILING STRUCTURE IN ACCORDANCE WITH FIGURE 5.4.3a; OR
      (ii) RETURN WALLS IN ACCORDANCE WITH FIGURE 5.4.3b

ACBC PART 5.6 - MASONRY COMPONENTS AND ACCESSORIES

5.6.3 - Mortar Mixes

MORTAR USED FOR MASONRY CONSTRUCTION MUST COMPLY WITH AS3700 OR AS4773 EXCEPT THAT THE MORTAR MAY BE MIXED BY VOLUME IN THE PROPORTIONS STATED IN TABLE 5.6.3

MASONRY UNIT EXPOSURE CLASS	MORTAR MIX BY VOLUME - CEMENT - LIME - SAND	
	GENERAL USE	SUITABLE FOR CONCRETE MASONRY
PROTECTED	1 - 2 - 9	1 - 0 - 5
GENERAL PURPOSE	1 - 1 - 6	1 - 0 - 5
EXPOSURE CLASS	1 - 0.5 - 4.5	1 - 0 - 4.2

5.6.4 - Mortar joints

UNLESS OTHERWISE SPECIFIED, MASONRY BED AND PERPEND JOINTS MUST HAVE A NOMINAL THICKNESS OF 10mm.
RAKED JOINTS ARE NOT TO BE USED IN SALINE ENVIRONMENTS OR AREAS SUBJECT TO HEAVY INDUSTRIAL AIRBORNE POLLUTION.
WHERE RAKED JOINTS ARE USED THE DEPTH OF RAKING MUST NOT BE—
   (a) CLOSER THAN 5MM TO ANY PERFORATION IN CORED UNIT MASONRY OR 20mm IN HOLLOW UNIT MASONRY; OR
   (b) MORE THAN 5mm FOR MASONRY UNITS AT LEAST 90mm WIDE; OR
   (c) MORE THAN 10mm FOR MASONRY UNITS AT LEAST 110mm WIDE.

5.6.5 - Wall ties

1. COMPLY WITH AS 2699.1 AND—
   (a) FOR MASONRY VENEER WALLS BE—
      (i) A MINIMUM OF LIGHT DUTY VENEER TIES IN AREAS WHERE THE DESIGN WIND SPEED IS NOT MORE THAN N2; AND
      (ii) A MINIMUM OF MEDIUM DUTY VENEER TIES IN AREAS WHERE THE DESIGN WIND SPEED IS MORE THAN N2; AND
   (b) FOR CAVITY MASONRY WALLS BE—
      (i) A MINIMUM OF LIGHT DUTY CAVITY TIES IN AREAS WHERE THE DESIGN WIND SPEED IS N1; AND
      (ii) A MINIMUM OF MEDIUM DUTY CAVITY TIES IN AREAS WHERE THE DESIGN WIND SPEED IS MORE THAN N1; AND
   (c) WHERE NON-ENGAGED PIERS ARE PROVIDED, PIERS MUST BE TIED TO WALLS USING MEDIUM DUTY TIES; AND
   (d) FOR MONOLITHIC OR SOLID MASONRY CONSTRUCTION BE A MINIMUM OF MEDIUM DUTY TIES; AND

2. BE SPACED AND FIXED IN ACCORDANCE WITH TABLES 5.6.5A, 5.6.5B AND 5.6.5C (SEE ALSO FIGURES 5.6.5A AND 5.6.5B); AND

3. BE PROTECTED AGAINST CORROSION IN ACCORDANCE WITH TABLE 5.6.5D.

5.6.8 - Vertical articulation joints

1. VERTICAL ARTICULATION JOINTS MUST BE PROVIDED IN MASONRY WALLS IN ACCORDANCE WITH (2), EXCEPT IN WALLS CONSTRUCTED ON SITES WHERE THE SOIL CLASSIFICATION IS A OR S (SEE 4.2.2).

2. ARTICULATION JOINTS BETWEEN MASONRY ELEMENTS MUST HAVE A WIDTH OF NOT LESS THAN 10mm AND BE PROVIDED (SEE FIGURES 5.6.8A AND 5.6.8B)—
   (a) IN STRAIGHT, CONTINUOUS WALLS WITH OPENINGS LESS THAN 900mm X 900mm OR WALLS WITHOUT OPENINGS — AT NOT MORE THAN 6m CENTRES AND WITHIN 4.5m, BUT NOT CLOSER THAN 470mm OF ALL CORNERS; AND
   (b) IN STRAIGHT, CONTINUOUS WALLS WITH OPENINGS MORE THAN 900mm X 900mm — AT NOT MORE THAN 5m CENTRES AND LOCATED SO THAT THEY ARE NOT MORE THAN 1.2m AWAY FROM OPENINGS; AND
   (c) WHERE THE HEIGHT OF THE WALL CHANGES BY MORE THAN 20% — AT THE POSITION OF CHANGE IN HEIGHT; AND
   (d) WHERE A WALL CHANGES IN THICKNESS; AND
   (e) AT CONTROL OR CONSTRUCTION JOINTS IN FOOTINGS OR SLABS; AND
   (f) AT JUNCTIONS OF WALLS CONSTRUCTED OF DIFFERENT MASONRY MATERIALS.

3. ARTICULATION JOINTS MUST NOT BE LOCATED ADJACENT TO ARCHED OPENINGS.

4. ARTICULATION JOINTS MUST BE FILLED WITH FLEXIBLE SEALANT THAT IS SUPPORTED DURING INSTALLATION BY—
   (a) A COMPRESSIBLE FOAM OR POLYSTYRENE FILLER (SEE FIGURES 5.6.8D AND 5.6.8E); OR
   (b) A PURPOSE MADE BACKER ROD (SEE FIGURES 5.6.8C, 5.6.8D, 5.6.8E AND 5.6.8F).

ACBC PART 5.7 - WEATHERPROOFING OF MASONRY

5.7.2 Cavities

1. FOR MASONRY VENEER, THE CLEAR WIDTH OF A CAVITY BETWEEN THE MASONRY VENEER AND THE EXTERIOR FACE OF THE SUPPORTING FRAME MUST NOT BE—
   (a) LESS THAN 25 MM WIDE; AND
   (b) MORE THAN 75 MM WIDE.

2. FOR CAVITY MASONRY, THE CLEAR WIDTH OF A CAVITY BETWEEN THE INNER AND OUTER MASONRY LEAVES MUST NOT BE—
   (a) LESS THAN 35 MM; AND
   (b) MORE THAN 75 MM.

3. WHERE MASONRY VENEER AND CAVITY MASONRY IN (1) AND (2) ARE CONSTRUCTED ON A SLAB-ON-GROUND, THE CAVITY MUST BE DRAINED TO THE OUTSIDE IN ACCORDANCE WITH 5.7.5.

4. THE EXTERIOR MASONRY LEAF MUST NOT OVERHANG THE EDGE OF THE SLAB BY MORE THAN 15mm.

Exhibited

ENGINEERING PLUS — BUILDING DESIGN, PROJECT MANAGEMENT, CIVIL/STRUCTURAL ENGINEERING

5.7.3 Damp-proof courses and flashings - material

DAMP-PROOF COURSES AND FLASHINGS MUST CONSIST OF—
   (a) A MATERIAL THAT COMPLIES WITH AS/NZS 2904; OR
   (b) EMBOSSED BLACK POLYETHYLENE FILM OF HIGH IMPACT RESISTANCE AND LOW SLIP, WITH A NOMINAL THICKNESS OF 0.5mm PRIOR TO EMBOSSING, AND COMPLY WITH CLAUSE 7.6 OF AS/NZS 2904; OR
   (c) POLYETHYLENE COATED METAL, THAT HAS AN ALUMINIUM CORE OF NOT LESS THAN 0.1mm THICK, IS COATED BOTH SIDES WITH BITUMEN ADHESIVE ENCLOSED IN POLYETHYLENE FILM OF NOT LESS THAN 0.1mm THICK ON EACH FACE, AND HAS A NOMINAL TOTAL THICKNESS OF NOT LESS THAN 0.5mm PRIOR TO EMBOSSING; OR
   (d) BITUMEN IMPREGNATED MATERIALS OF NOT LESS THAN 2.5mm THICK, THAT COMPLY WITH CLAUSE 7.5 OF AS/NZS 2904; OR

5.7.4 Damp-proof courses and flashings - installation

1. DAMP-PROOF COURSES AND FLASHINGS MUST BE—
   (a) LOCATED SO AS TO FORM A CONTINUOUS DAMP-PROOFING BARRIER—
      (i) AROUND THE BOTTOM PERIMETER OF WALLS WHERE CONSTRUCTED ON A CONCRETE SLAB; AND
      (ii) IN WALLS AND PIERS BELOW SUSPENDED FLOORS; AND
      (iii) WHERE A MASONRY WALL PASSES THROUGH A ROOF; AND
      (iv) WHERE A ROOF ABUTS AN EXTERNAL MASONRY WALL; AND
      (v) TO THE BOTTOM AND TOPS OF WINDOWS AND DOORS AND THE LIKE IN ACCORDANCE WITH (3), EXCEPT A DAMP-PROOF COURSE OR A FLASHING NEED NOT BE PROVIDED TO THE TOP OF A WINDOW OR DOOR WHERE THE OPENING IS PROTECTED BY AN EAVE OF A WIDTH MORE THAN 3 TIMES THE HEIGHT OF THE MASONRY VENEER ABOVE THE OPENING; AND
   (b) CONTINUOUS THROUGH THE WALL OR PIER AND BE VISIBLE FROM THE OUTSIDE FACE OF THE WALL.

2. THE LOCATION OF A DAMP-PROOF COURSE, OR FLASHING SERVING AS A DAMP-PROOF COURSE, MUST BE NOT LESS THAN—
   (a) 150mm ABOVE THE ADJACENT GROUND LEVEL; OR
   (b) 75mm ABOVE THE FINISHED SURFACE LEVEL OF ADJACENT PAVED, CONCRETED OR LANDSCAPED AREAS THAT SLOPE AWAY FROM THE WALL; OR
   (c) 50mm ABOVE FINISHED PAVED, CONCRETED OR LANDSCAPED AREAS COMPLYING WITH 3.3.3(B)(II) AND PROTECTED FROM THE DIRECT EFFECTS OF THE WEATHER BY A CARPORT, VERANDAH OR THE LIKE; OR
   (d) IN LOW RAINFALL INTENSITY AREAS—
      (i) 15mm ABOVE FINISHED PAVED, CONCRETED OR LANDSCAPED AREAS; OR
      (ii) 0mm ABOVE FINISHED PAVED, CONCRETED OR LANDSCAPED AREAS IF THE DAMP-PROOF COURSE IS PROTECTED FROM THE DIRECT EFFECTS OF THE WEATHER BY A CARPORT, VERANDAH OR THE LIKE.

3. SILL AND HEAD FLASHINGS SERVING OPENINGS MUST BE—
   (a) INSTALLED SO THAT THE FLASHING EXTENDS NOT LESS THAN 150mm BEYOND THE REVEALS ON EACH SIDE OF THE OPENING; AND
   (b) LOCATED NOT MORE THAN—
      (i) ONE COURSE BELOW THE SILL BRICK COURSE; AND
      (ii) 300mm ABOVE THE OPENING; AND
   (c) TURNED UP IN THE CAVITY NOT LESS THAN 150mm ABOVE THE OPENING; AND
   (d) EMBEDDED NOT LESS THAN 30mm INTO—
      (i) FOR MASONRY VENEER, THE MASONRY LEAF; AND
      (ii) FOR CAVITY MASONRY, THE OUTER MASONRY LEAF; AND
   (e) ATTACHED TO THE WINDOW OR WALL FRAMING.

5.7.5 Weepholes

1. EXCEPT WHERE EXCLUDED BY (2), OPEN PERPEND JOINTS (WEEPHOLES) MUST BE CREATED IN THE COURSE IMMEDIATELY ABOVE ANY FLASHING (INCLUDING ABOVE ANY DAMP-PROOF COURSE ACTING AS A FLASHING) AND BE—
   (a) A MINIMUM OF 50 MM IN HEIGHT, BY THE WIDTH OF THE VERTICAL MORTAR JOINT; AND
   (b) AT NOT MORE THAN 1.2 M CENTRES; AND

2. WEEPHOLES ARE NOT REQUIRED IN THE FOLLOWING LOCATIONS:
   (a) WHERE HEAD OPENINGS ARE LESS THAN 1.2 M WIDE.
   (b) BENEATH WINDOW AND DOOR SILLS.
   (c) WHERE THE LEVEL OF THE EXTERNAL IMPERVIOUS SURFACE IS ELEVATED FOR THE PURPOSE OF PROVIDING STEP-FREE ACCESS REQUIRED BY H8P1.

5.7.6 Weatherproofing for single leaf masonry walls

1. WATERPROOF COATING MUST BE APPLIED TO ALL EXTERNAL SINGLE SKIN MASONRY WALLS IN ACCORDANCE WITH:
   (a) THE COATING MUST EXTEND FROM THE UPPERMOST EXPOSED PART OF THE WALL—
      (i) TO A LEVEL ADJACENT TO THE INTERNAL FINISHED FLOOR LEVEL, IF THE EXTERNAL MASONRY WALL LEAF OVERHANGS THE EDGE OF THE SLAB BY NOT LESS THAN 10mm; OR
      (ii) 50mm BELOW THE INTERNAL FLOOR LEVEL IF NO EDGE OVERHANG IS PROVIDED.
   (b) ACCEPTABLE EXTERNAL WATERPROOF FINISHES ARE—
      (i) THREE COATS OF 100% ACRYLIC BASED EXTERIOR QUALITY GLOSS PAINT; OR
      (ii) ONE COMPLETE COAT OF CEMENT BASED PAINT AND TWO COATS OF 100% ACRYLIC BASED EXTERIOR QUALITY GLOSS PAINT; OR
      (iii) CLEAR WATER REPELLENT, PROVIDED THE WALL IS PROTECTED BY A ROOF OVERHANG OF NOT LESS THAN 1500mm.

2. WINDOWS MUST BE INSTALLED IN ACCORDANCE WITH FIGURE 5.7.6.

IF IN DOUBT REFER TO NCC AND STANDARDS OR CONTACT ENGINEERING PLUS

ISSUED FOR APPROVAL

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A	DEVELOPMENT APPROVAL	30.10.25	J.C
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NCC NOTES TWO

SUBFLOOR VENTILATION - H2D5

ACBC PART 6.2 SUBFLOOR VENTILATION

1. SUBFLOOR SPACES MUST—
   (a) BE PROVIDED WITH OPENINGS IN EXTERNAL WALLS AND INTERNAL SUBFLOOR WALLS IN ACCORDANCE WITH TABLE 6.2.1A FOR THE CLIMATIC ZONES GIVEN IN FIGURE 6.2.1A; AND
   (b) HAVE CLEARANCE BETWEEN THE GROUND SURFACE AND THE UNDERSIDE OF THE LOWEST HORIZONTAL MEMBER IN THE SUBFLOOR IN ACCORDANCE WITH TABLE 6.2.1B (SEE FIGURE 6.2.1B AND FIGURE 6.2.1C).

2. IN ADDITION TO (1), A SUBFLOOR SPACE MUST—
   (a) BE CLEARED OF ALL BUILDING DEBRIS AND VEGETATION; AND
   (b) HAVE THE GROUND BENEATH THE SUSPENDED FLOOR GRADED IN ACCORDANCE WITH 3.3.3; AND
   (c) CONTAIN NO DEAD AIR SPACES; AND
   (d) HAVE OPENINGS EVENLY SPACED AS FAR AS PRACTICABLE (SEE FIGURE 6.2.1D); AND
   (e) HAVE OPENINGS PLACED NOT MORE THAN 600mm IN FROM CORNERS.

3. IN DOUBLE LEAF MASONRY WALLS, OPENINGS SPECIFIED IN (1) MUST BE PROVIDED IN BOTH LEAVES OF THE MASONRY, WITH OPENINGS BEING ALIGNED TO ALLOW AN UNOBSTRUCTED FLOW OF AIR (SEE FIGURE 6.2.1D).

4. OPENINGS IN INTERNAL SUBFLOOR WALLS SPECIFIED IN (1) MUST HAVE AN UNOBSTRUCTED AREA EQUIVALENT TO THAT REQUIRED FOR THE ADJACENT EXTERNAL OPENINGS (SEE FIGURE 6.2.1D).

5. WHERE THE GROUND OR SUBFLOOR SPACE IS EXCESSIVELY DAMP OR SUBJECT TO FREQUENT FLOODING, IN ADDITION TO THE REQUIREMENTS OF (1) TO (4)—
   (a) THE SUBFLOOR VENTILATION REQUIRED IN (1) MUST BE INCREASED BY 50%; OR
   (b) THE GROUND WITHIN THE SUBFLOOR SPACE MUST BE SEALED WITH AN IMPERVIOUS MEMBRANE; OR
   (c) SUBFLOOR FRAMING MUST BE -
      (i) WHERE ABOVE GROUND — ABOVE GROUND DURABILITY CLASS 1 OR 2 TIMBERS OR H3 PRESERVATIVE TREATED TIMBERS IN ACCORDANCE WITH AS 1684.2, AS 1684.3 OR AS 1684.4; OR
      (ii) WHERE IN-GROUND — IN-GROUND DURABILITY CLASS 1 OR 2 TIMBERS OR H5 PRESERVATIVE TREATED TIMBERS IN ACCORDANCE WITH AS 1684.2, AS 1684.3 OR AS 1684.4; OR
      (iii)STEEL IN ACCORDANCE WITH NASH STANDARD 'RESIDENTIAL AND LOW-RISE STEEL FRAMING' PART 2

SUBFLOOR OPENING REQUIREMENTS

CLIMATIC ZONE C

MINIMUM AGGREGATE SUBFLOOR VENTILATION OPENINGS (mm^2/m OF WALL)
- WITH NO MEMBRANE - 6000
- WITH GROUND SEALED WITH IMPERVIOUS MEMBRANE - 3000

MINIMUM GROUND CLEARANCE HEIGHT WHERE TERMITE INSPECTION OR MANAGEMENT SYSTEM IS NOT REQUIRED (mm)
- 150

ACBC PART 6.3 & 7.2 CORROSION PROTECTION

6.3.9 Structural steel

STRUCTURAL STEEL MEMBERS THAT ARE NOT BUILT IN TO A MASONRY WALL MUST—
   (a) BE PROTECTED AGAINST CORROSION IN ACCORDANCE WITH BCA 2019 3.4.4.4
   (b) WHERE A PAINT FINISH IS APPLIED TO THE SURFACE, BE FREE FROM RUST; AND
   (c) WHERE ZINC COATINGS ARE APPLIED TO THE SURFACE, BE PROVIDED WITH A BARRIER COAT TO PREVENT DOMESTIC ENAMELS FROM PEELING; AND
   (d) WHEN CUT OR WELDED ON-SITE, HAVE THOSE AREAS AND ANY OTHER AREAS OF DAMAGE TO PROTECTIVE COATINGS COMPLY WITH (A).

BCA 2019 PART 3.4.4.4 CORROSION PROTECTION

TABLE 3.4.4.7

MODERATE - MORE THAN 1km FOR BREAKING SURF OR MORE THAN 100m FROM SALT WATER NOT SUBJECT TO BREAKING SURF OR NON-HEAVY INSUDTRIAL AREAS.

EXTERNAL
- 2 COATS ALKYD PRIMER
- 2 COATS ALKYS GLOSS
- HOT DIP GALVANISED 300g/m² MIN.
- HOT DIP GALVANISED 100g/m² MIN. PLUS
   (a) 1 COAT SOLVENT BASED VINYL PRIMER; OR
   (b) 1 COAT VINYL GLOSS OR ALKYD

SEVERE - WITHIN 1km FROM BREAKING SURF OR WITHIN 100m OF SALT WATER NOT SUBJECT TO BREAKING SURF OR HEAVY INDUSTRIAL AREAS

INTERNAL
- 2 COATS ALKYD PRIMER
- 2 COATS ALKYS GLOSS

EXTERNAL
- INORGANIC ZINC PRIMER PLUS 2 COATS VINYL GLOSS FINISHING COATS
- HOT DIP GALVANISED 300g/m²
- HOT DIP GALVANISED 100g/m² MIN. PLUS
   (a) 2 COAT SOLVENT BASED VINYL PRIMER; OR
   (b) 2 COAT VINYL GLOSS OR ALKYD

7.2.2 Roofing

1. METAL SHEET ROOFING MUST BE PROTECTED FROM CORROSION IN ACCORDANCE WITH TABLE 7.2.2A.
2. WHERE DIFFERENT METALS ARE USED, INCLUDING FLASHINGS, FASTENERS, GUTTERING, DOWNPIPES, ETC., THEY MUST BE COMPATIBLE WITH EACH OTHER AS DESCRIBED IN TABLE 7.2.2B, TABLE 7.2.2C, TABLE 7.2.2D, AND TABLE 7.2.2E AND—
   (a) NO LEAD MATERIALS CAN BE USED UPSTREAM FROM ALUMINIUM/ZINC COATED MATERIALS; AND
   (b) NO LEAD MATERIALS CAN BE USED ON ROOFS THAT FORM PART OF A DRINKING WATER CATCHMENT AREA; AND
   (c) NO COPPER MATERIALS CAN BE USED UPSTREAM FROM GALVANIZED COATED MATERIALS.

ROOF AND WALL CLADDING - H1D7

ACBC PART 7

METAL SHEET ROOFING MUST COMPLY WITH THE -
   (a) MINIMUM PITCH REQUIREMENTS FOR THE ASSOCIATED ROOF PROFILE IN ACCORDANCE WITH FIGURE 7.2.3
   (b) MAXIMUM SPAN BETWEEN ROOFING SUPPORTS IN ACCORDANCE WITH TABLE 7.2.4 AND FIGURE 7.2.4

7.2.5 Fixing of metal sheet roofing

METAL SHEET ROOFING MUST—
   (a) BE EITHER FIXED THROUGH THE ROOFING (CREST FASTENING) OR HAVE CONCEALED FASTENERS; AND
   (b) BE FIXED AT SPACINGS IN ACCORDANCE WITH TABLE 7.2.5; AND
   (c) USE FIXINGS OF A COMPATIBLE METAL TO THE ROOF IN ACCORDANCE WITH TABLES 7.2.2B, 7.2.2C, 7.2.2D AND 7.2.2E; AND
   (d) WHEN USING BOTH CLIPPED AND PIERCED FASTENING SYSTEMS, EMPLOY AN ANTI-CAPILLARY FEATURE IN THE SIDE LAP OF THE SHEET (SEE FIGURE 7.2.5).

7.2.6 Installation of roofing sheets

SHEETS MUST BE—
1. LAID WHEREVER POSSIBLE USING COMPLETE LENGTHS FROM THE FASCIA TO RIDGE; OR
2. WHERE A COMPLETE LENGTH CANNOT BE LAID—
   (a) EACH RUN MUST BE LAID FROM BOTTOM TO TOP BEFORE MOVING ON TO THE NEXT RUN (SEE FIGURE 7.2.6); AND
   (b) THE MINIMUM END LAP MUST BE—
      (i) FOR ROOF SLOPES ABOVE 15 DEGREES (1:4) – 150mm; AND
      (ii) FOR ROOF SLOPES BETWEEN 5–15 DEGREES (1:12-1:4) – 200mm; AND
3. STOP ENDED (I.E. EACH VALLEY TURNED UP 60 DEGREES) AT THE RIDGE LINE OF EACH LENGTH.

7.2.7 Flashings and Cappings

1. SHEET METAL ROOF FLASHINGS AND CAPPINGS MUST COMPLY WITH THE FOLLOWING:
   (a) ROOF FLASHINGS AND CAPPINGS MUST BE PURPOSE MADE, MACHINE-FOLDED SHEET METAL SECTIONS OF MATERIAL COMPATIBLE WITH ALL UP AND DOWNSTREAM METAL ROOF COVERING MATERIALS IN ACCORDANCE WITH 7.2.2(2).
   (b) THE TYPE OF FASTENERS FOR FLASHING AND CAPPINGS MUST COMPLY WITH 7.2.5.
   (c) THE FASTENER AND FIXING FREQUENCY FOR FLASHINGS AND CAPPINGS MUST COMPLY WITH TABLE 7.2.7.
   (d) JOINTS IN FLASHINGS AND CAPPINGS MUST BE NOT LESS THAN 75 MM, LAPPED IN THE DIRECTION OF THE FALL OF THE ROOF, AND FASTENED AT INTERVALS NOT MORE THAN 40mm.
   (e) WALL AND STEP FLASHINGS MUST BE FASTENED INTO MASONRY WALLS WITH GALVANIZED OR ZINC/ALUMINIUM SHEET METAL WEDGES AT EACH END OF EACH LENGTH AND AT INTERMEDIATE INTERVALS OF NOT MORE THAN 500 MM AND MUST OVERLAP BY NOT LESS THAN 75mm IN THE DIRECTION OF FLOW.
   (f) LEAD FLASHINGS MUST NOT BE USED WITH PREPAINTED STEEL OR ZINC/ALUMINIUM STEEL OR ON ANY ROOF IF THE ROOF IS PART OF A DRINKING WATER CATCHMENT AREA.
   (g) ANTI-CAPILLARY BREAKS MUST BE INSTALLED IN ACCORDANCE WITH FIGURE 7.2.7A AND BE—
      (i) FOR FLAT SURFACES – 10mm/30 DEGREE FOLD; AND
      (ii) ALL OTHER SURFACES – 10mm/90 DEGREE OR 135 DEGREE FOLD.
   (h) ACCEPTABLE FLASHING CONFIGURATIONS ARE SHOWN IN FIGURE 7.2.7B AND FIGURE 7.2.7C.

2. FLASHING OF PENETRATIONS MUST COMPLY WITH THE FOLLOWING:
   (a) COLLAR FLASHINGS MUST PERMIT THE TOTAL DRAINAGE OF THE AREA ABOVE THE PENETRATION.
   (b) ON COMPLETION OF INSTALLATION, THE ROOF STRUCTURE MUST BE RESTORED TO ITS ORIGINAL STRENGTH BY INSTALLING ROOF TRIMMERS AND SOAKER SUPPORTS AS NECESSARY.
   (c) THE TYPE OF FASTENERS FOR FLASHINGS AND CAPPINGS MUST COMPLY WITH 7.2.5.
   (d) LEAD FLASHINGS MUST NOT BE USED WITH PREPAINTED STEEL OR ZINC/ALUMINIUM STEEL OR ON ANY ROOF IF THE ROOF IS PART OF A DRINKING WATER CATCHMENT AREA.
   (e) ACCEPTABLE FLASHINGS FOR PENETRATIONS ARE SHOWN IN FIGURE 7.2.7D, FIGURE 7.2.7E AND FIGURE 7.2.7F.
   (f) CLEARANCE FOR HEATING APPLIANCE ROOF SUPPORT MEMBERS MUST BE IN ACCORDANCE WITH PART 12.4

7.2.8 Water discharge

WHERE AN EAVES GUTTER IS PROVIDED IN ACCORDANCE WITH H2D6(1), SHEETS MUST OVERHANG THE FASCIA, OR END BATTEN WHERE THERE IS NO FASCIA, BY NOT LESS THAN 50mm.

ABCB PART 7.4 GUTTERS AND DOWNPIPES

7.4.3 Selection of guttering

THE SIZE OF GUTTERING MUST—
   (a) FOR EAVES GUTTERS, BE IN ACCORDANCE WITH TABLE 7.4.3A, TABLE 7.4.3B AND TABLE 7.4.3C; AND
   (b) BE SUITABLE TO REMOVE RAINWATER FALLING AT THE APPROPRIATE 5 MINUTE DURATION RAINFALL INTENSITY LISTED IN TABLE 7.4.3D AS FOLLOWS—
      (i) FOR EAVES GUTTERS — 5% ANNUAL EXCEEDANCE PROBABILITY; AND
      (ii) FOR EAVES GUTTER OVERFLOW MEASURES — 1% ANNUAL EXCEEDANCE PROBABILITY.

7.4.5 Downpipes - size and installation

DOWNPIPES MUST—
   (a) NOT SERVE MORE THAN 12m OF GUTTER LENGTH FOR EACH DOWNPIPE; AND
   (b) BE LOCATED AS CLOSE AS POSSIBLE TO VALLEY GUTTERS; AND
   (c) BE SELECTED IN ACCORDANCE WITH THE APPROPRIATE EAVES GUTTER SECTION AS SHOWN IN TABLE 7.4.3A, TABLE 7.4.3B AND TABLE 7.4.3C.

REFER MANUFACTURERS SPECIFICATIONS FOR GUTTER AND DOWNPIPE DESIGN AND INSTALLATION REQUIREMENTS; OR THE ABOVE NCC STANDARDS, OR AS3500, AS2179 & AS1273

ABCB PART 7.5 TIMBER AND COMPOSITE WALL CLADDING

REFER MANUFACTURERS SPECIFICATIONS FOR TIMBER AND COMPOSITE WALL CLADDING DESIGN AND INSTALLATION REQUIREMENTS; OR THE ABOVE NCC STANDARDS, OR AS2908, AS1859, AS2269

7.5.5 Eaves and soffit linings

WHERE PROVIDED, EXTERNAL FIBRE-CEMENT SHEETS AND LININGS USED AS EAVES AND SOFFIT LININGS MUST—
   (a) COMPLY WITH AS/NZS 2908.2 OR ISO 8336; AND
   (b) BE FIXED IN ACCORDANCE WITH TABLE 7.5.5 AND FIGURE 7.5.5 USING—
   (i) 2.8 × 30mm FIBRE-CEMENT NAILS; OR
   (ii) NO. 8 WAFER HEAD SCREWS (FOR 4.5mm AND 6mm SHEETS ONLY);
   (iii) NO. 8 SELF EMBEDDING HEAD SCREWS (FOR 6mm SHEETS ONLY).

IF IN DOUBT REFER TO NCC AND STANDARDS OR CONTACT ENGINEERING PLUS

GLAZING - H2D7

ACBC PART 8.2 - WINDOWS AND EXTERNAL GLAZED DOORS

8.2.2 Installation of windows

WINDOWS MUST BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING:
   (a) STRUCTURAL BUILDING LOADS MUST NOT BE TRANSFERRED TO THE WINDOW ASSEMBLY.
   (b) A MINIMUM 10mm GAP MUST BE PROVIDED BETWEEN THE TOP OF THE WINDOW ASSEMBLY AND ANY LOADBEARING FRAMING OR MASONRY WALL ELEMENT.
   (c) THE REQUIREMENTS OF (B) MAY BE INCREASED WHERE NECESSARY TO ALLOW FOR FRAME SETTLEMENT OVER WIDE OPENINGS.
   (d) PACKING, IF PROVIDED BETWEEN EACH WINDOW ASSEMBLY AND THE FRAME, MUST BE—
      (i) LOCATED ALONG EACH SIDE AND BOTTOM; AND
      (ii) FIXED TO ENSURE THE SIDES AND BOTTOM OF THE WINDOW ASSEMBLY REMAIN STRAIGHT; AND
      (iii) CLEAR OF ANY FLASHING MATERIAL.

ACBC PART 8.3 - GLASS

GLASS TO BE IN ACCORDANCE WITH A1288

GLASS USED IN BARRIERS, EXCEPT A WINDOW SERVING AS A BARRIER, MUST WITHSTAND LOADING FORCES IN ACCORDANCE WITH AS 1170.1.

FOR 3mm MONOLITHIC ANNEALED GLASS, THE MAXIMUM AREA MUST NOT BE MORE THAN 0.85 M².

8.3.3 Fully framed glazing installed in perimeter of buildings

FULLY FRAMED MONOLITHIC ANNEALED GLASS INSTALLED IN THE PERIMETER OF BUILDINGS MUST COMPLY WITH—
   (a) IF THE BUILDING IS LOCATED IN AN AREA WITH A WIND CLASS NOT EXCEEDING N1 – TABLE 8.3.3A;
   (b) IF THE BUILDING IS LOCATED IN AN AREA WITH A WIND CLASS NOT EXCEEDING N2 – TABLE 8.3.3B;
   (c) IF THE BUILDING IS LOCATED IN AN AREA WITH A WIND CLASS NOT EXCEEDING N3 – TABLE 8.3.3C.

ACBC PART 8.4 - GLAZING HUMAN IMPACT

8.4.2 Doors, side panels and other framed glazing panels

GLASS IN DOORS MUST BE GRADE A SAFETY GLAZING MATERIAL IN ACCORDANCE WITH TABLE 8.4.2 AND FIGURE 8.4.2, EXCEPT THAT—
   (a) UNFRAMED DOORS, OTHER THAN THOSE INCORPORATED IN SHOWER SCREENS OR BATH ENCLOSURES, MUST BE GLAZED WITH TOUGHENED SAFETY GLASS WITH A MINIMUM NOMINAL THICKNESS OF 10mm OR LAMINATED TOUGHENED SAFETY GLASS WITH A MINIMUM TOTAL THICKNESS OF 10mm; AND
   (b) INDIVIDUAL PIECES OF MONOLITHIC ANNEALED GLASS INCORPORATED IN LEADLIGHTS MAY BE USED, TO A MAXIMUM AREA OF 0.05m² WITH A MINIMUM NOMINAL THICKNESS OF 3mm; AND
   (c) FOR ANNEALED AND ANNEALED DECORATED GLASS PANELS IN DOORS—
      (i) 3 & 4mm ANNEALED GLASS, THE MAXIMUM AREA MUST NOT BE <0.1m² WITH A MAXIMUM PANEL WIDTH OF 125mm; AND
      (ii) 5 & 6mm ANNEALED GLASS, THE MAXIMUM AREA MUST NOT BE <0.26m² WITH A MAXIMUM PANEL WIDTH OF 300mm;
   (d) FOR ANNEALED GLASS IN FULLY FRAMED PANELS WITH A THICKNESS OF <10mm, WITH OR WITHOUT BEVELLED EDGES, THE MAXIMUM AREA MUST NOT BE M<0.5m²; AND
   (e) DOORS IN BATHROOMS, ENSUITES AND SPA ROOMS MUST BE GLAZED IN ACCORDANCE WITH 8.4.6.

8.4.3 Door side panels

1. ALL FRAMED GLASS (EXCEPT LEADLIGHT PANELS) WITH THE NEAREST VERTICAL SIGHT LINE LESS THAN 300mm FROM THE NEAREST EDGE OF THE DOORWAY OPENING MUST BE GRADE A SAFETY GLAZING MATERIAL IN ACCORDANCE WITH TABLE 8.4.2 AND FIGURE 8.4.2, EXCEPT THAT—
   (a) THE LOWEST VISIBLE SIGHT LINE IS <1.2m ABOVE THE HIGHEST ABUTTING FINISHED FLOOR LEVEL, MONOLITHIC ANNEALED GLASS WITH A MIN. THICKNESS OF 5mm AND AN AREA OF NOT <0.3m² MAY BE USED;
   (b) THE LOWEST VISIBLE SIGHT LINE IS <1.2m ABOVE THE HIGHEST ABUTTING FINISHED FLOOR LEVEL, MONOLITHIC ANNEALED GLASS WITH A MIN, THICKNESS OF 10mm WITH AN AREA OF NOT <0.5m², MAY BE USED;
   (c) WHERE THE SIDE PANEL CONSISTS OF GLASS LOUVRES WITH EXPOSED EDGES OR WHERE THE LOUVRES ARE INSTALLED >500mm ABOVE THE HIGHEST ABUTTING FINISHED FLOOR LEVEL—
      (i) FOR BLADE WIDTHS NOT <230mm WITH BLADE LENGTHS NOT <1m, GRADE A TOUGHENED SAFETY GLAZING NOT >5mm THICK MUST BE USED; AND
      (ii) BLADE WIDTHS <230mm, GRADE A TOUGHENED SAFETY GLAZING NOT >10mm THICK MUST BE USED.

2. FRAMED GLASS PANELS WITH THE NEAREST VERTICAL SIGHT LINE NOT >300mm FROM THE NEAREST EDGE OF THE DOOR OPENING ARE NOT CONSIDERED TO BE SIDE PANELS FOR THE PURPOSES OF (1).

8.4.4 Full height framed glazed panels

1. A GLAZED PANEL LOCATED IN A BUILDING SO THAT IT IS CAPABLE OF BEING MISTAKEN FOR AN UNOBSTRUCTED OPENING MUST BE GLAZED WITH GRADE A SAFETY GLAZING MATERIAL IN ACCORDANCE WITH TABLE 8.4.2.

2. GLAZED PANELS ARE NOT CONSIDERED AN UNOBSTRUCTED OPENING WHERE ANY OF THE FOLLOWING APPLY:
   (a) THE CLEAR OPENING WIDTH IS NOT MORE THAN 500mm.
   (b) THE LOWEST SIGHT LINE OF THE OPENING IS NOT >500mm ABOVE THE HIGHEST ABUTTING FINISHED FLOOR LEVEL.
   (c) GLASS IS MADE APPARENT BY TRANSOMS, COLONIAL BARS, OTHER COMPONENTS OF THE SYSTEM, PERMANENT MOTIFS OR OTHER DECORATION ON OR ETCHED INTO THE GLASS, OF A MAGNITUDE TO BE READILY APPARENT, OR IS OPAQUELY COLOURED OR PATTERNED TO INDICATE ITS PRESENCE.
   (d) A CHAIR RAIL OR HANDRAIL NOT LESS THAN 40mm THICK, OR THE LIKE, IS PROVIDED AT A HEIGHT OF NOT LESS THAN 700mm ABOVE THE ADJOINING GROUND LEVEL.
   (e) THE DIFFERENCE IN FLOOR LEVEL ON EITHER SIDE OF THE PANEL IS GREATER THAN 1000mm.

Exhibited

ENGINEERING PLUS
BUILDING DESIGN
PROJECT MANAGEMENT
CIVIL/STRUCTURAL ENGINEERING

ISSUED FOR APPROVAL

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NCC NOTES THREE

GLAZING - H2D7

8.4.5 Glazed panels, other than doors or side panels, on the perimeter of rooms

ALL FRAMED GLAZING WHERE THE LOWEST SIGHT LINE OF THE GLAZING PANEL IS LESS THAN 500mm FROM THE HIGHEST ABUTTING FINISHED FLOOR LEVEL (SEE FIGURE 8.4.5) MUST BE—

(a) GRADE A SAFETY GLAZING MATERIAL IN ACCORDANCE WITH TABLE 8.4.2; OR

(b) MONOLITHIC ANNEALED GLASS NOT >5mm NOM. THICK PROVIDED THE AREA OF THE GLAZED PANEL IS NOT <1.2m².

8.4.6 Kitchen, bathroom, ensuite, spa room and splash-back glazing

1. ALL GLAZING IN KITCHENS, BATHROOMS, SPA ROOMS OR THE LIKE, INCLUDING SHOWER DOORS, SCREENS, BATH ENCLOSURES, AND ASSOCIATED WINDOWS & DOORS (INCLUDING CABINET DOORS), WHERE THE LOWEST SIGHT LINE IS >2.0m ABOVE THE HIGHEST ABUTTING FINISHED FLOOR LEVEL, BOTTOM OF THE BATH, OR SHOWER BASE, MUST—

(a) FRAMED PANELS, GLAZED WITH GRADE A SAFETY GLAZING MATERIAL IN ACCORDANCE WITH TABLE 8.4.2;

(b) FOR PANELS OR DOORS WITH ANY EDGE EXPOSED, BE TOUGHENED SAFETY GLASS IN ACCORDANCE WITH TABLE 8.4.6 WITH A MINIMUM NOMINAL THICKNESS OF 6mm.

2. MONOLITHIC ANNEALED GLASS MAY BE USED FOR—

(a) MIRRORS, PROVIDED A FIXED VANITY OR BENCH WITH A HEIGHT OF NOT LESS THAN 760mm, DEPTH OF NOT LESS THAN 300mm AND EXTENDING THE FULL WIDTH OF THE MIRROR IS, LOCATED IN FRONT OF THE MIRROR;

(b) SPLASH-BACKS, PROVIDED IT IS FULLY BACKED BY AND CONTINUOUSLY ADHERED TO A SOLID WALL MATERIAL OR A FIXED CABINET OR BENCH THAT IS—

(i) A HEIGHT NOT LESS THAN 760mm; AND

(ii) A DEPTH NOT LESS THAN 300mm; AND

(iii) EXTENDING THE FULL WIDTH OF THE SPLASH-BACK; AND

(iv) LOCATED IN FRONT OF THE SPLASH BACK.

8.4.7 Visibility of glazing

1. IF THE PRESENCE OF GLAZING IN A DOOR, SIDE PANEL OR PANEL CAPABLE OF BEING MISTAKEN FOR A DOORWAY OR OPENING IS NOT MADE APPARENT IN ACCORDANCE WITH 8.4.4(2)(C), THE GLASS MUST BE MARKED TO MAKE IT READILY VISIBLE TO COMPLY WITH (2).
2. MARKING MUST BE IN THE FORM OF AN OPAQUE BAND NOT LESS THAN 20mm IN HEIGHT LOCATED SO THAT—

(a) THE UPPER EDGE IS NOT LESS THAN 700mm ABOVE THE FLOOR; AND

(b) THE LOWER EDGE IS NOT MORE THAN 1.2m ABOVE THE FLOOR.

3. A BAND OR MARKING IS NOT REQUIRED WHERE ANY OF THE FOLLOWING APPLIES:

(a) THE HEIGHT OF THE GLAZING IS NOT MORE THAN 1m IN ANY PART.

(b) THE WIDTH OF THE GLAZING PANEL IS NOT MORE THAN 500mm IN ANY PART.

(c) THERE IS NO GLAZING WITHIN 500mm OF THE FLOOR.

(d) THE GLAZING IS PROVIDED WITH NOT LESS THAN ONE FIXED GLAZING BAR WHICH MUST—

(i) BE FIRMLY ATTACHED TO THE STILES TO LOCATE AND PROTECT EACH FACE OF THE GLASS;

(ii) BE LOCATED WITH ITS UPPER EDGE NOT LESS THAN 500mm AND ITS BOTTOM EDGE NOT MORE THAN 1m ABOVE THE FLOOR; AND

(iii) HAVE A FACE WIDTH NOT LESS THAN 40mm.

8.4.8 Identification of safety glass

ALL SAFETY MATERIAL IN TABLES 8.4.2 AND TABLE 8.4.6 INSTALLED TO COMPLY WITH THIS PART MUST COMPLY WITH:

(a) SAFETY GLASS MUST BE MARKED IN THE FORM OF EITHER PERMANENT ETCHING OR A LABEL THAT CANNOT BE REUSED ONCE REMOVED.

(b) THE PERMANENT ETCHING OR LABEL MUST STATE THE FOLLOWING INFORMATION:

(i) THE STANDARD TO WHICH THE SAFETY GLASS HAS BEEN TESTED.

(ii) REGISTERED NAME OF THE MANUFACTURER OR SUPPLIER.

(iii) GRADE OF THE SAFETY GLASS.

(iv) NOMINAL THICKNESS OF THE SAFETY GLASS.

(v) THE TYPE OF SAFETY GLASS.

SMOKE ALARMS AND EVACUATION LIGHTING - H3D6

ACBC PART 9.5

TO COMPLY WITH AS3786

BE POWERED BY MAINS POWER WHERE AVAILABLE - BE INTERCONNECTED WHERE THERE IS MORE THAN ONE ALARM

9.5.2 Location - Class 1a buildings

IN A CLASS 1a BUIDING. SMOKE ALARMS MUST BE LOCATED IN -

(a) ANY STOREY CONTAINING BEDROOMS, EVERY CORRIDOR OR HALLWAY ASSOCIATED WITH A BEDROOM, OR IF THERE IS NO CORRIDOR OR HALLWAY, IN AN AREA BETWEEN BEDROOMS AND THE REMAINDER OF THE BUILDING;

(b) EACH OTHER STOREY NOT CONTAINING BEDROOMS

9.5.3 Location - Class 1b buildings

IN A CLASS 1b BUIDING. SMOKE ALARMS MUST BE LOCATED IN -

(a) EVERY BEDROOM; AND

(b) EVERY CORRIDOR OR HALLWAY ASSOCIATED WITH A BEDROOM, OR IF THERE IS NO CORRIDOR OR HALLWAY, IN AN AREA BETWEEN BEDROOMS AND THE REMAINDER OF THE BUILDING; AND

(c) EACH OTHER STOREY

9.5.4 Installation of smoke alarms

SMOKE ALARMS REQUIRED BY 9.5.2 AND 9.5.3 MUST BE INSTALLED ON OR NEAR THE CEILING, IN ACCORDANCE WITH:

(a) WHERE A SMOKE ALARM IS LOCATED ON THE CEILING IT MUST BE—

(i) A MINIMUM OF 300mm AWAY FROM THE CORNER JUNCTION OF THE WALL AND CEILING; AND

(ii) BETWEEN 500mm AND 1500mm AWAY FROM THE HIGH POINT AND APEXES OF THE CEILING, IF THE ROOM HAS A SLOPING CEILING.

(b) WHERE (A) IS NOT POSSIBLE, THE SMOKE ALARM MAY BE INSTALLED ON THE WALL, AND LOCATED A MINIMUM OF 300mm AND A MAXIMUM OF 500mm OFF THE CEILING AT THE JUNCTION WITH THE WALL

9.5.5 Lighting to assist evacuation - Class 1b buildings

IN A CLASS 1B, A SYSTEM OF LIGHTING MUST BE INSTALLED TO ASSIST EVACUATION OF OCCUPANTS IN THE EVENT OF A FIRE, AND—

(a) BE ACTIVATED BY THE SMOKE ALARM REQUIRED BY 9.5.3(B); AND

(b) CONSIST OF—

(i) A LIGHT INCORPORATED WITHIN THE SMOKE ALARM; OR

(ii) THE LIGHTING LOCATED IN THE CORRIDOR, HALLWAY OR AREA SERVED BY THE SMOKE ALARM.

WET AREAS - H4D2

WET AREAS TO COMPLY WITH AS3740; AND

ACBC PART 10.2

BUILDING ELEMENTS IN WET AREAS WITHIN A BUILDING MUST BE PROTECTED WITH A WATERPROOFING SYSTEM. THE WATERPROOFING SYSTEM MUST BE EITHER WATERPROOF OR WATER RESISTANT IN ACCORDANCE WITH 10.2.2 - 10.2.6.

10.2.7 Materials

WHERE REQUIRED TO BE INSTALLED IN ACCORDANCE WITH 10.2.2 TO 10.2.6, MATERIALS USED IN WET AREAS FORMING A WATERPROOFING SYSTEM MUST BE EITHER WATERPROOF OR WATER RESISTANT IN ACCORDANCE WITH 10.2.8 TO 10.2.10

10.2.12 Construction of wet area floors - Falls

WHERE A FLOOR WASTE IS INSTALLED—

(a) THE MINIMUM CONTINUOUS FALL OF A FLOOR PLANE TO THE WASTE MUST BE 1:80; AND

(b) THE MAXIMUM CONTINUOUS FALL OF A FLOOR PLANE TO THE WASTE MUST BE 1:50.

Shower, hob and bath requirements

SHOWERS, HOB AND BATHS CONSTRUCTED IN ACCORDANCE WITH 10.2.14 TO 10.2.24

Membranes

MEMBRANES CONSTRUCTED IN ACCORDANCE WITH 10.2.25 TO 10.2.29

10.2.32 Shower screens

1. FOR A SHOWER WITH A HOB, THE SCREEN MUST BE INSTALLED FLUSH WITH THE SHOWER SIDE OF THE HOB OR OVERHANG INTO THE SHOWER AREA.

2. FOR A SHOWER WITH A STEPDOWN, THE SCREEN MUST BE INSTALLED FLUSH WITH THE FINISHED VERTICAL SURFACE OF THE STEPDOWN OF THE SHOWER AREA.

3. FOR A SHOWER WITHOUT A HOB OR STEPDOWN, THE SCREEN MUST INCORPORATE OR BE MOUNTED ON AN INVERTED CHANNEL, POSITIONED OVER THE TOP OF THE WATERSTOP, THAT DEFINES THE SHOWER AREA.

4. FOR BATH END WALLS AND DIVIDING WALLS ABUTTING A SHOWER, THE SHOWER SCREEN MUST BE POSITIONED SO THAT THE BOTTOM EDGE WITHIN THE SHOWER AREA IS EITHER FLUSH WITH THE OUTSIDE EDGE OF THE BATH OR OVERHANGING INTO THE SHOWER AREA.

FACILITIES - H4D5

ACBC PART 10.4

10.4.1 Required facilities

1. A CLASS 1 BUILDING MUST BE PROVIDED WITH—

(a) A KITCHEN SINK AND FACILITIES FOR THE PREPARATION AND COOKING OF FOOD; AND

(b) A BATH OR SHOWER; AND

(c) CLOTHES WASHING FACILITIES, COMPRISING AT LEAST ONE WASHTUB AND SPACE IN THE SAME ROOM FOR A WASHING MACHINE; AND

(d) A CLOSET PAN; AND

(e) A WASHBASIN.

2. IF ANY FACILITIES ARE DETACHED FROM THE MAIN BUILDING, THEY MUST BE SET ASIDE FOR THE EXCLUSIVE USE OF THE OCCUPANTS OF THE BUILDING.

10.4.2 Construction of sanitary compartments

THE DOOR TO A FULLY ENCLOSED SANITARY COMPARTMENT MUST—

(a) OPEN OUTWARDS; OR

(b) SLIDE; OR

(c) BE READILY REMOVABLE FROM THE OUTSIDE OF THE COMPARTMENT

UNLESS THERE IS A CLEAR SPACE OF AT LEAST 1.2m, MEASURED IN ACCORDANCE WITH FIGURE 10.4.2, BETWEEN THE CLOSET PAN WITHIN THE SANITARY COMPARTMENT AND THE DOORWAY.

LIGHT - H4D6

ACBC PART 10.5

10.5.1 Natural light

1. NATURAL LIGHT MUST BE PROVIDED BY—

(a) WINDOWS, EXCLUDING ROOF LIGHTS THAT—

(i) HAVE AN AGGREGATE LIGHT TRANSMITTING AREA MEASURED EXCLUSIVE OF FRAMING MEMBERS, GLAZING BARS OR OTHER OBSTRUCTIONS OF NOT LESS THAN 10% OF THE FLOOR AREA OF THE ROOM;

(ii) ARE OPEN TO THE SKY OR FACE A COURT OR OTHER SPACE OR AN OPEN VERANDAH, CARPORT OR THE LIKE;

(b) ROOF LIGHTS THAT—

(i) HAVE AN AGGREGATE LIGHT TRANSMITTING AREA MEASURED EXCLUSIVE OF FRAMING MEMBERS, GLAZING BARS OR OTHER OBSTRUCTIONS OF NOT LESS THAN 3% OF THE FLOOR AREA OF THE ROOM;

(ii) ARE OPEN TO THE SKY; OR

(c) A PROPORTIONAL COMBINATION OF WINDOWS AND ROOF LIGHTS REQUIRED BY (A) AND (B).

2. A WINDOW REQUIRED TO PROVIDE NATURAL LIGHT THAT FACES A BOUNDARY OF AN ADJOINING ALLOTMENT MUST NOT BE LESS THAN A HORIZONTAL DISTANCE OF 900mm FROM THAT BOUNDARY.

3. NATURAL LIGHT TO A ROOM MAY COME THROUGH ONE OR MORE GLAZED PANELS OR OPENINGS FROM AN ADJOINING ROOM (INCLUDING AN ENCLOSED VERANDAH) IF—

(a) THE GLAZED PANELS OR OPENINGS HAVE AN AGGREGATE LIGHT TRANSMITTING AREA OF NOT >10% OF THE FLOOR AREA OF THE ROOM TO WHICH IT PROVIDES LIGHT; AND

(b) THE ADJOINING ROOM HAS—

(i) WINDOWS, EXCLUDING ROOF LIGHTS THAT—

(A) HAVE AN AGGREGATE LIGHT TRANSMITTING AREA OF NOT >10% OF THE COMBINED FLOOR AREA OF BOTH ROOMS;

(B) ARE OPEN TO THE SKY OR FACE A COURT OR OTHER SPACE OR AN OPEN VERANDAH, CARPORT OR THE LIKE; OR

(ii) ROOF LIGHTS THAT—

(A) HAVE AN AGGREGATE LIGHT TRANSMITTING AREA OF NOT >3% OF THE COMBINED FLOOR AREA OF BOTH ROOMS;

(B) ARE OPEN TO THE SKY; OR

(iii) A PROPORTIONAL COMBINATION OF WINDOWS AND ROOF LIGHTS REQUIRED BY (i) AND (ii).

4. THE AREAS SPECIFIED IN (3)(a) AND (b) MAY BE REDUCED AS APPROPRIATE IF DIRECT NATURAL LIGHT IS PROVIDED FROM ANOTHER SOURCE.

IF IN DOUBT REFER TO NCC AND STANDARDS OR CONTACT ENGINEERING PLUS

Exhibited

ENGINEERING PLUS
BUILDING DESIGN
PROJECT MANAGEMENT
CIVIL/STRUCTURAL ENGINEERING

VENTILATION - H4D7

CONSTRUCTED IN ACCORDANCE WITH AS1668.2; AND

ACBC PART 10.6

10.6.2 Ventilation requirements

VENTILATION MUST BE PROVIDED TO A HABITABLE ROOM, SANITARY COMPARTMENT, BATHROOM, SHOWER ROOM, LAUNDRY AND ANY OTHER ROOM OCCUPIED BY A PERSON FOR ANY PURPOSE BY ANY OF THE FOLLOWING MEANS:

(a) OPENINGS, WINDOWS, DOORS OR OTHER DEVICES WHICH CAN BE OPENED— WITH A VENTILATING AREA NOT LESS THAN 5% OF THE FLOOR AREA OF THE ROOM REQUIRED TO BE VENTILATED; AND

(b) OPEN TO—

(i) A SUITABLY SIZED COURT, OR SPACE OPEN TO THE SKY; OR

(ii) AN OPEN VERANDAH, CARPORT, OR THE LIKE; OR

(iii) AN ADJOINING ROOM IN ACCORDANCE WITH (B).

(b) NATURAL VENTILATION TO A ROOM MAY COME THROUGH A WINDOW, OPENING, DOOR OR OTHER DEVICE FROM AN ADJOINING ROOM (INCLUDING AN ENCLOSED VERANDAH) IF—

(i) THE ROOM TO BE VENTILATED OR THE ADJOINING ROOM IS NOT A SANITARY COMPARTMENT; AND

(ii) THE WINDOW, OPENING, DOOR OR OTHER DEVICE HAS A VENTILATING AREA OF NOT LESS THAN 5% OF THE FLOOR AREA OF THE ROOM TO BE VENTILATED; AND

(iii) THE ADJOINING ROOM HAS A WINDOW, OPENING, DOOR OR OTHER DEVICE WITH A VENTILATING AREA OF NOT >5% OF THE COMBINED FLOOR AREAS OF BOTH ROOMS; AND

(iv) THE VENTILATING AREAS SPECIFIED MAY BE REDUCED AS APPROPRIATE IF DIRECT NATURAL VENTILATION IS PROVIDED FROM ANOTHER SOURCE (SEE FIGURE 10.6.2).

(c) AN EXHAUST FAN OR OTHER MEANS OF MECHANICAL VENTILATION MAY BE USED TO VENTILATE A SANITARY COMPARTMENT, LAUNDRY, KITCHEN OR BATHROOM, OR WHERE MECHANICAL VENTILATION IS PROVIDED IN ACCORDANCE WITH 10.6.3(B), PROVIDED CONTAMINATED AIR EXHAUSTS COMPLY WITH 10.8.2.

CONDENSATION AND WATER VAPOUR MANAGEMENT - H4F7

ACBC PART 10.8

10.8.1 External wall construction

1. WHERE A PLIABLE BUILDING MEMBRANE IS INSTALLED IN AN EXTERNAL WALL, IT MUST—

(a) COMPLY WITH AS 4200.1; AND

(b) BE INSTALLED IN ACCORDANCE WITH AS 4200.2; AND

(c) BE LOCATED ON THE EXTERIOR SIDE OF THE PRIMARY INSULATION LAYER OF WALL ASSEMBLIES THAT FORM THE EXTERNAL ENVELOPE

2. WHERE A PLIABLE BUILDING MEMBRANE, SARKING-TYPE MATERIAL OR INSULATION LAYER IS INSTALLED ON THE EXTERIOR SIDE OF THE PRIMARY INSULATION LAYER OF AN EXTERNAL WALL IT MUST HAVE A VAPOUR PERMEANCE OF NOT LESS THAN—

(a) IN CLIMATE ZONES 4 AND 5, 0.143 µG/N.S; AND

(b) IN CLIMATE ZONES 6, 7 AND 8, 1.14 µG/N.S.

3. EXCEPT FOR SINGLE SKIN MASONRY OR SINGLE SKIN CONCRETE, WHERE A PLIABLE BUILDING MEMBRANE IS NOT INSTALLED IN AN EXTERNAL WALL, THE PRIMARY WATER CONTROL LAYER MUST BE SEPARATED FROM WATER SENSITIVE MATERIALS BY A DRAINED CAVITY.

10.8.3 Ventilation of roof spaces

1. IN CLIMATE ZONES 6, 7 AND 8, A ROOF MUST HAVE A ROOF SPACE THAT—

(a) IS LOCATED—

(i) IMMEDIATELY ABOVE THE PRIMARY INSULATION LAYER; OR

(ii) IMMEDIATELY ABOVE SARKING WITH A VAPOUR PERMEANCE OF NOT >1.14 MG/N.S, WHICH IS IMMEDIATELY ABOVE THE PRIMARY INSULATION LAYER; OR

(iii) IMMEDIATELY ABOVE CEILING INSULATION THAT MEETS THE REQUIREMENTS OF 13.2.3(3) AND 13.2.3(4);

(b) HAS A HEIGHT OF NOT LESS THAN 20 MM; AND

(c) IS EITHER—

(i) VENTILATED TO OUTDOOR AIR THROUGH EVENLY DISTRIBUTED OPENINGS IN ACCORDANCE WITH TABLE 10.8.3; OR

(ii) LOCATED IMMEDIATELY UNDERNEATH THE ROOF TILES OF AN UNSARKED TILED ROOF.

2. THE REQUIREMENTS OF (1) DO NOT APPLY TO A—

(a) CONCRETE ROOF; OR

(b) ROOF THAT IS MADE OF STRUCTURAL INSULATED PANELS; OR

(c) ROOF THAT IS SUBJECT TO BUSHFIRE ATTACK LEVEL FZ REQUIREMENTS IN ACCORDANCE WITH AS 3959.

ENERGY EFFICIENCY - H6D2

ACBC PART 13 or BCA 2019 PART 3.12

GENERALLY THIS PART APPLIES TO CLASS 1 AND CLASS 10a BUILDINGS WITH A CONDITIONED SPACE

ACBC PART 13.2 BUILDING FABRIC

13.2.2 Building fabric thermal insulation

1. WHERE REQUIRED, INSULATION MUST COMPLY WITH AS/NZS 4859.1 AND BE INSTALLED SO THAT IT—

(a) ABUTS OR OVERLAPS ADJOINING INSULATION OTHER THAN AT SUPPORTING MEMBERS SUCH AS COLUMNS, STUDS, NOGGINGS, JOISTS, FURRING CHANNELS AND THE LIKE WHERE THE INSULATION MUST BUTT AGAINST THE MEMBER;

(b) FORMS A CONTINUOUS BARRIER WITH CEILINGS, WALLS, FLOORS OR THE LIKE THAT INHERENTLY CONTRIBUTE TO THE THERMAL BARRIER;

(c) DOES NOT AFFECT THE SAFE OR EFFECTIVE OPERATION OF A DOMESTIC SERVICE OR FITTING.

2. WHERE REQUIRED, REFLECTIVE INSULATION MUST BE INSTALLED WITH—

(a) THE NECESSARY AIRSPACE, TO ACHIEVE THE REQUIRED R-VALUE BETWEEN REFLECTIVE SIDE OF THE INSULATION AND A BUILDING LINING OR CLADDING;

(b) THE REFLECTIVE INSULATION CLOSELY FITTED AGAINST ANY PENETRATION, DOOR OR WINDOW OPENING; AND

(c) THE REFLECTIVE INSULATION ADEQUATELY SUPPORTED BY FRAMING MEMBERS; AND

(d) EACH ADJOINING SHEET OF ROLL MEMBRANE BEING—

(i) OVERLAPPED GREATER THAN OR EQUAL TO 150mm; OR

(ii) TAPED TOGETHER.

3. WHERE REQUIRED, BULK INSULATION MUST BE INSTALLED SO THAT—

(a) MAINTAINS ITS POSITION AND THICKNESS, OTHER THAN WHERE IT CROSSES ROOF BATTENS, WATER PIPES, ELECTRICAL CABLING OR THE LIKE;

(b) IN A CEILING, WHERE THERE IS NO BULK INSULATION OR REFLECTIVE INSULATION IN THE EXTERNAL WALL BENEATH, IT OVERLAPS THE EXTERNAL WALL BY GREATER THAN OR EQUAL TO 50mm.

Rev:	Amendment:	Date:	Int:
A	DEVELOPMENT APPROVAL	30.10.25	J.C
-	ISSUED FOR REVIEW	12.06.25	J.C
-	ISSUED FOR REVIEW	27.05.25	J.C

ISSUED FOR APPROVAL

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Accreditation No: CC2211T

Drawing No: 2025-167 A22 / A26

Rev A

NCC NOTES FOUR

Exhibited

13.2.3 Roofs and ceilings

2. REFLECTIVE INSULATION MUST—
   (a) HAVE A SURFACE EMITTANCE OF NOT MORE THAN 0.05; AND
   (b) BE ADJACENT TO A ROOF SPACE OF NOT LESS THAN 20mm; AND
   (c) IN CLIMATE ZONES 3 TO 8, BE DOWNWARD FACING.

3. THE THERMAL BRIDGING IN A METAL-FRAMED ROOF MUST BE ADDRESSED AS FOLLOWS—
   (a) FOR A PITCHED ROOF WITH A HORIZONTAL CEILING—
      (i) ACHIEVES THE TOTAL R-VALUE IN TABLE 13.2.3S, CALCULATED USING A METHOD ACCOUNTING FOR THE EFFECTS OF THERMAL BRIDGING;
      (ii) INCREASING THE R-VALUE OF THE INSULATION BETWEEN THE CEILING FRAMES BY R0.5 MORE THAN THE REQUIRED R-VALUE; OR
      (iii) ADDING A CONTINUOUS CEILING INSULATION LAYER WITH A MINIMUM R-VALUE OF R0.13 ABOVE OR BELOW THE CEILING JOISTS OR THE BOTTOM CHORDS OF THE TRUSSES; OR
      (iv) ACHIEVES THE REQUIRED CEILING R-VALUE BY STACKING 2 LAYERS OF INSULATION IMMEDIATELY ON TOP OF EACH OTHER, SO THE TOP LAYER IS ORIENTATED TO COVER THE CEILING JOISTS OR BOTTOM CHORDS OF THE TRUSSES AND HAS AN R-VALUE OF AT LEAST R0.5;
   (b) FOR A FLAT, SKILLION OR CATHEDRAL ROOF—
      (i) ACHIEVES THE *TOTAL R-VALUE* IN TABLE 13.2.3T, CALCULATED USING A METHOD ACCOUNTING FOR THE EFFECTS OF THERMAL BRIDGING;
      (ii) COMPLYING WITH TABLE 13.2.3U.

4. WHERE 10.8.3(1) OF THE ABCB HOUSING PROVISIONS APPLIES, CONTINUOUS INSULATION PLACED ABOVE THE PRIMARY INSULATION LAYER TO MITIGATE THERMAL BRIDGING MUST HAVE A VAPOUR PERMEANCE OF NOT LESS THAN THAT OF THE PRIMARY INSULATION LAYER.

5. WHERE, FOR OPERATIONAL OR SAFETY REASONS, THE AREA OF CEILING INSULATION REQUIRED IS REDUCED, THE LOSS OF INSULATION MUST BE COMPENSATED FOR IN ACCORDANCE WITH TABLE 13.2.3W.

6. WHERE THE CEILING INSULATION REQUIRED BY (1) TO (5) HAS AN R-VALUE—
   (a) <R3.0 AND LESS THAN OR EQUAL TO R4.5, IT MAY BE REDUCED TO R3.0 WITHIN 450mm OF AN EXTERNAL WALL; OR
   (b) <R4.5, IT MAY BE REDUCED TO R3.0 WITHIN 450mm OF AN EXTERNAL WALL, PROVIDED ALL OTHER CEILING INSULATION IS INCREASED BY R0.5.

7. A ROOF THAT—
   (a) HAS METAL SHEET ROOFING DIRECTLY FIXED TO METAL PURLINS, METAL RAFTERS OR METAL BATTENS; AND
   (b) DOES NOT HAVE A CEILING LINING OR HAS A CEILING LINING FIXED DIRECTLY TO THOSE METAL PURLINS, METAL RAFTERS OR METAL BATTENS, MUST HAVE A THERMAL BREAK, CONSISTING OF A MATERIAL WITH AN R-VALUE OF GREATER THAN OR EQUAL TO 0.2, INSTALLED BETWEEN THE METAL SHEET ROOFING AND ITS SUPPORTING METAL PURLINS, METAL RAFTERS OR METAL BATTENS.

8. THE REQUIREMENTS OF (1) TO (7) DO NOT APPLY TO ROOFS CONSTRUCTED USING INSULATED SANDWICH PANELS.

9. ROOFS CONSTRUCTED USING INSULATED SANDWICH PANELS MUST ACHIEVE THE MINIMUM TOTAL R-VALUE IN TABLE 13.2.3X.

13.2.4 Roof lights

ROOF LIGHTS (INCLUDING ANY ASSOCIATED SHAFT AND DIFFUSER) SERVING A HABITABLE ROOM OR AN INTERCONNECTING SPACE SUCH AS A CORRIDOR, HALLWAY, STAIRWAY OR THE LIKE MUST HAVE—
   (a) A TOTAL AREA OF NOT MORE THAN 5% OF THE FLOOR AREA OF THE ROOM OR SPACE SERVED; AND
   (b) TRANSPARENT AND TRANSLUCENT ELEMENTS, INCLUDING ANY IMPERFORATE CEILING DIFFUSER, WITH A COMBINED PERFORMANCE OF—
      (i) FOR TOTAL SYSTEM SHGC, IN ACCORDANCE WITH TABLE 13.2.4; AND
      (ii) FOR TOTAL SYSTEM U-VALUE, NOT MORE THAN U3.9.

13.2.5 External walls

4. THE THERMAL BRIDGING IN A METAL-FRAMED WALL MUST BE ADDRESSED BY—
   (a) ACHIEVING THE TOTAL R-VALUE IN TABLES 13.2.5P, 13.2.5Q AND 13.2.5R, CALCULATED IN ACCORDANCE WITH AS/NZS 4859.2; OR
   (b) COMPLYING WITH ONE OF THE OPTIONS IN TABLES 13.2.5S, 13.2.5T AND 13.2.5U.

5. A METAL-FRAMED WALL THAT FORMS PART OF THE BUILDING ENVELOPE MUST HAVE A THERMAL BREAK, CONSISTING OF A MATERIAL WITH AN R-VALUE OF NOT >R0.2, INSTALLED AT ALL POINTS OF CONTACT BETWEEN THE EXTERNAL CLADDING AND THE METAL FRAME IF THE WALL—
   (a) DOES NOT HAVE A WALL LINING OR HAS A WALL LINING THAT IS FIXED DIRECTLY TO THE METAL FRAME; AND
   (b) IS CLAD WITH WEATHERBOARDS, FIBRE-CEMENT OR THE LIKE, OR METAL SHEETING FIXED TO THE METAL FRAME.

6. THE REQUIREMENTS OF (5) DO NOT APPLY TO WALLS CONSTRUCTED USING INSULATED SANDWICH PANELS.

13.2.6 Floors and subfloor walls

1. FLOOR INSULATION, WHERE THE FLOOR IS OVER AN UNENCLOSED SPACE, MUST ACHIEVE THE MINIMUM R-VALUE IN ACCORDANCE WITH TABLE 13.2.6A.

3. THE THERMAL BRIDGING IN A METAL-FRAMED FLOOR MUST BE ADDRESSED BY—
   (a) ACHIEVING THE TOTAL R-VALUE IN TABLE 13.2.6I, CALCULATED BY—
      (i) USING A METHOD THAT ACCOUNTS FOR THE EFFECT OF THERMAL BRIDGING IN A SUSPENDED FLOOR ABOVE AN ENCLOSED SUBFLOOR SPACE; OR
      (ii) USING AS/NZS 4859.2 FOR ALL OTHER FLOORS; OR
   (b) COMPLYING WITH ONE OF THE OPTIONS IN TABLE 13.2.6J.

4. A CONCRETE SLAB-ON-GROUND WITH AN IN-SLAB OR IN-SCREED HEATING OR COOLING SYSTEM, MUST HAVE INSULATION WITH AN R-VALUE GREATER THAN OR EQUAL TO 1.0, INSTALLED AROUND THE VERTICAL EDGE OF ITS PERIMETER.

5. EXCEPT FOR A WAFFLE-POD SLAB—
   (a) IN CLIMATE ZONES 6 AND 7—
      (i) INSULATION WITH R-VALUE GREATER THAN OR EQUAL TO 0.64 MUST BE INSTALLED AROUND THE VERTICAL EDGE OF ITS PERIMETER; AND
      (ii) INSULATION WITH AN R-VALUE GREATER THAN OR EQUAL TO 0.64 MUST BE INSTALLED UNDERNEATH THE SLAB; AND
   (b) IN CLIMATE ZONE 8—
      (i) INSULATION WITH AN R-VALUE GREATER THAN OR EQUAL TO 1.0 MUST BE INSTALLED AROUND THE VERTICAL EDGE OF ITS PERIMETER; AND
      (ii) INSULATION WITH AN R-VALUE GREATER THAN OR EQUAL TO 2.0 MUST BE INSTALLED UNDERNEATH THE SLAB.

6. INSULATION REQUIRED BY (4), (5)(A)(I) AND (5)(B)(I) MUST—
   (a) BE WATER RESISTANT; AND
   (b) BE CONTINUOUS FROM THE ADJACENT FINISHED GROUND LEVEL—
      (i) TO A DEPTH OF GREATER THAN OR EQUAL TO 300mm; OR
      (ii) FOR AT LEAST THE FULL DEPTH OF THE VERTICAL EDGE OF THE CONCRETE SLAB-ON-GROUND (SEE FIGURE 13.2.6).

7. THE REQUIREMENTS OF (4) DO NOT APPLY TO AN IN-SCREED HEATING OR COOLING SYSTEM USED SOLELY IN A BATHROOM, AMENITY AREA OR THE LIKE.

13.2.7 Attached Class 10a buildings

A CLASS 10A BUILDING ATTACHED TO A CLASS 1 BUILDING MUST—
   (a) HAVE AN EXTERNAL FABRIC THAT ACHIEVES THE REQUIRED LEVEL OF THERMAL PERFORMANCE FOR A CLASS 1 BUILDING; OR
   (b) BE SEPARATED FROM THE CLASS 1 BUILDING WITH CONSTRUCTION HAVING THE REQUIRED LEVEL OF THERMAL PERFORMANCE FOR THE CLASS 1 BUILDING.

RECOMMENDED INSULATION R-VALUES - CLIMATE ZONE 7 & 8

- ROOF	- ZONE 7 - 4.0	- ZONE 8 - 4.0
- EXTERNAL WALLS	- ZONE 7 - 2.5	- ZONE 8 - 2.7
- FLOORS	- ZONE 7 - 3.0	- ZONE 8 - 3.0
- FLOORS (with reflective insulation)	- ZONE 7 - 2.0	- ZONE 8 - 2.0

IF A REDUCTION IN INSULATION IS DESIRED CONSULT ABCB PART 13.2 FOR ABSOLUTE MINIMUMS

BCA 2019 PART 3.12.2 EXTERNAL GLAZING

GENERALLY THIS PART APPLIES TO CLASS 1 AND CLASS 10a BUILDINGS WITH A CONDITIONED SPACE

13.12.2.1 External glazing

1. THE AGGREGATE CONDUCTANCE OF THE GLAZING IN EACH STOREY, INCLUDING ANY MEZZANINE, OF A BUILDING MUST—
   (a) NOT EXCEED THE ALLOWANCES RESULTING FROM—
      (ii) IN CLIMATE ZONES 2 TO 8, USING THE CONSTANT C_U OBTAINED FROM TABLES 3.12.2.1B TO 3.12.2.1H, AS APPROPRIATE;
2. THE AGGREGATE SOLAR HEAT GAIN OF THE GLAZING IN EACH STOREY, INCLUDING ANY MEZZANINE, OF A BUILDING MUST—
   (a) NOT EXCEED THE ALLOWANCES RESULTING FROM MULTIPLYING THE AREA OF THE STOREY, INCLUDING ANY MEZZANINE, MEASURED WITHIN THE ENCLOSING WALLS, BY THE CONSTANT C_{SHGC} OBTAINED FROM TABLES 3.12.2.1A TO 3.12.2.1H, AS APPROPRIATE;

3. FOR THE PURPOSES OF TABLES 3.12.2.1A TO 3.12.2.1H, THE FOLLOWING APPLIES:
   (a) A STOREY HAS STANDARD AIR MOVEMENT IF ALL HABITABLE ROOMS COMPLY WITH PART 3.12.4.
   (b) A STOREY HAS HIGH AIR MOVEMENT IF THE TOTAL VENTILATION OPENING AREA SERVING THE HABITABLE ROOM IS—
      (ii) GREATER THAN OR EQUAL TO TWICE THAT FOR STANDARD AIR MOVEMENT WITHOUT A CEILING FAN OR EVAPORATIVE COOLER.
   (c) WHERE THE VENTILATION OPENING AREA SERVING THE HABITABLE ROOMS IS BETWEEN STANDARD AND HIGH, INTERPOLATION MAY BE USED TO DETERMINE THE APPLICABLE C_{SHGC}.
   (d) WHERE THE FLOOR CONSTRUCTION OF A STOREY, INCLUDING A MEZZANINE, IS PARTLY IN DIRECT CONTACT WITH THE GROUND AND PARTLY SUSPENDED, THE CONSTANTS FOR CONDUCTANCE AND SOLAR HEAT GAIN ARE TO BE—
      (i) INTERPOLATED BETWEEN THE CONSTANTS FOR THE TWO CONSTRUCTIONS IN PROPORTION TO THEIR RESPECTIVE AREAS; OR
      (ii) THOSE FOR A SUSPENDED FLOOR.

REFER TO NCC AND STANDARDS FOR DETAILED GLAZING CALCULATIONS

13.12.2.2 Shading

WHERE SHADING IS REQUIRED TO COMPLY WITH 3.12.2.1, IT MUST—
1. BE PROVIDED BY AN EXTERNAL PERMANENT PROJECTION, SUCH AS A VERANDAH, BALCONY, FIXED CANOPY, EAVES, SHADING HOOD OR CARPORT, WHICH—
   (a) EXTENDS HORIZONTALLY ON BOTH SIDES OF THE GLAZING FOR A DISTANCE GREATER THAN OR EQUAL TO THE PROJECTION DISTANCE P IN FIGURE 3.12.2.2; OR
   (b) PROVIDE THE EQUIVALENT SHADING TO (a) WITH A REVEAL OR THE LIKE; OR

2. BE PROVIDED BY AN EXTERNAL SHADING DEVICE, SUCH AS A SHUTTER, BLIND, VERTICAL OR HORIZONTAL BUILDING SCREEN WITH BLADES, BATTENS OR SLATS, WHICH—
   (a) IS CAPABLE OF RESTRICTING AT LEAST 80% OF THE SUMMER SOLAR RADIATION; AND
   (b) IF ADJUSTABLE, IS READILY OPERATED EITHER MANUALLY, MECHANICALLY OR ELECTRONICALLY BY THE BUILDING OCCUPANTS.

BCA 2019 PART 3.12.3 BUILDING SEALING

GENERALLY THIS PART APPLIES TO SEALING REQUIREMENT FOR CLASS 1 AND CLASS 10a BUILDINGS WITH A CONDITIONED SPACE AND A HABITABLE ROOM IN CLIMATE ZONES 4, 5, 6, 7 AND 8.

13.12.3.1 Chimneys and flues

THE CHIMNEY OR FLUE OF AN OPEN SOLID-FUEL BURING APPLIANCE MUST BE PROVIDED WITH A DAMPER OR FLAP THAT CAN BE CLOSED TO SEAL THE CHIMNEY OR FLUE

13.12.3.2 Roof lights

2. A ROOF LIGHT REQUIRED TO BE SEALED, OR CAPABLE OF BEING SEALED, MUST BE CONSTRUCTED WITH—
   (a) AN IMPERFORATE CEILING DIFFUSER OR THE LIKE INSTALLED AT THE CEILING OR INTERNAL LINING LEVEL; OR
   (b) A WEATHERPROOF SEAL; OR
   (c) A SHUTTER SYSTEM READILY OPERATED EITHER MANUALLY, MECHANICALLY OR ELECTRONICALLY BY THE OCCUPANT.

13.12.3.3 External windows and doors

2. SEALED TO RESTRICT AIR INFILTRATION—
   (a) FOR THE BOTTOM EDGE OF A DOOR, MUST BE A DRAFT PROTECTION DEVICE; AND
   (b) FOR THE OTHER EDGES OF A DOOR OR THE EDGES OF AN OPENABLE WINDOW OR OTHER SUCH OPENING, MAY BE A FOAM OR RUBBER COMPRESSIBLE STRIP, FIBROUS SEAL OR THE LIKE.

3. A WINDOW COMPLYING WITH THE MAXIMUM AIR INFILTRATION RATES SPECIFIED IN AS 2047 NEED NOT COMPLY WITH 2(ii).

13.12.3.5 Construction of ceilings, walls and floors

2. CONSTRUCTION MUST BE—
   (a) ENCLOSED BY INTERNAL LINING SYSTEMS THAT ARE CLOSE FITTING AT CEILING, WALL AND FLOOR JUNCTIONS; OR
   (b) SEALED AT JUNCTIONS AND PENETRATIONS WITH—
      (i) CLOSE-FITTING ARCHITRAVE, SKIRTING OR CORNICE; OR
      (ii) EXPANDING FOAM, RUBBER COMPRESSIVE STRIP, CAULKING OR THE LIKE.

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GENERALLY PLUMBING NOTES:

ALL WORK MUST BE CARRIED OUT BY A LICENSED PLUMBER
ALL PLUMBING TO BE INSTALLED IN ACCORDANCE WITH THE TASMANIAN PLUMBING REGULATIONS, TASMANIAN PLUMBING CODE AND AS3500

PRIOR TO COMMENCEMENT OF WORK:
1. OWNER, PUMBING OR BUILDER TO APPLY TO TASWATER FOR CONNECTIONS
   (a) SEWER CONNECTION - ESTABLISH LOCATION OF EXISTING CONNECTION OR INSTALLATION OF NEW CONNECTION
   (b) WATER CONNECTION, AND/OR INSTALLATION OF A WATER METER

2. THE PLUMBER/BUILDER MUST TAKE LEVELS TO ENSURE DRAINAGE LINES CAN BE CONNECTED TO LEGAL POINTS OF DISCHARGE (CONNECTION POINTS). DRAINAGE LINES TO BE INSTALLED AT GRADE WITH COVER

LEGEND OF PIPE DIAMETERS -UPVC

TROUGH = 50mm	SINK = 50mm
FLOOR WASTE = 40mm	BASIN = 40mm
SHOWER = 50mm	WC = 100mm
SEWER = 100mm	VENT = 50mm
DOWNPIPE = 90mm	BATH = 40mm
STORMWATER = 100mm	

SEWER LINE - DN 100 LAYED AT MINIMUM GRADE OF 1:60
STORM WATER - DN 90 LAYED AT MINIMUM GRADE OF 1:100

SEWER PLUMBING
- OVERFLOW RELIEF GULLY INSTALLATION TO BE A MINIMUM OF 150mm BELOW THE LOWEST FIXTURE AND 75mm ABOVE THE SURROUNDING FINISHED GROUND LEVEL
- CONCRETE SURROUND COLLARS TO BE FITTED TO OVERFLOW RELIEF GULLIES AT FINISHED GROUND LEVEL
- CONCRETE SURROUND COLLARS AND COVERS TO BE FITTED TO SEWER & DTORMWATER RISING SHAFT INSPECTION OPENINGS AT FINISHED GROUND LEVEL

STORMWATER PLUMBING
- STORMWATER IS TO BE COLLECTED FROM ALL ROOFED AREAS AND CONNECTED TO LEGAL POINT OF DISCHARGE WHICH INCLUDES:
   (a) COUNCIL STORMWATER MAIN WITH CONNECTION POINT
   (b) CONCRETE ROADSIDE KERB & CHANNEL
   (c) ONSITE DETENTION AND TRANSPORATION THROUGH FRENCH DRAINS

- ALL PAVED OR HARDSTAND AREAS TO BE DRAINED TOWARDS SURFACE PITS AND CONNECTED TO STORMWATER DISCHARGE SYSTEM
- CONCRETE SURROUND COLLARS AND COVERS TO BE FITTED TO STORMWATER RISING SHAFT INSPECTION OPENINGS AT FINISHED GROUND LEVEL

HOT AND COLD WATER PIPE AS/NZS 3500.5 & 3500.1
MATERIAL - COPPER, 311REHAU OR EQUIVALENT
COLD WATER SUPPLY LINE FROM WATER METER TO HOUSE - DN25mm
COLD WATER BRANCHES - DN16mm
HOT WATER MAIN LINE - DN20mm
HOT WATER BRANCHES - DN16mm

OUTLET PIPES FROM THE HOT WATER CYLINDER TO BE COPPER FOR A DISTANCE OF AT LEAST 1.0m BEFORE CONNECTION OR USE OR 311 REHAU OR EQUIVALENT POLY WATER PIPING.

HOT WATER DELIVERY TO ALL SANITARY FIXTURES USED FOR PERSONAL HYGIENE AT A MAXIMUM OF 50° AND TO KITCHEN SINK & LAUNDRY AT 60°

VACUUM BREAKER BACK FLOW DEVICES TO BE FITTED TO ALL OUTSIDE TAPS

HOT WATER SYSTEM PIPING TO BE THERMALLY INSULATED TO ACHIEVE MINIMUM R-VALUES FOR ENERGY EFFICIENT PERFORMANCE. REFER TO DRAWING A-12 FOR INFORMATION & SECTION 8 AS/NZS 3500.4

IF IN DOUBT REFER TO NCC AND STANDARDS OR CONTACT ENGINEERING PLUS

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Approved: J. Pfeiffer
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Accredited Building Designer
Designer Name: J.Pfeiffer
Accreditation No: CC2211T

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Project: PROPOSED EXTENSION
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ENGINEERING PLUS BUILDING DESIGN PROJECT MANAGEMENT CIVIL/STRUCTURAL ENGINEERING

Drawing No: 2025-167 A23 / A26
Rev: A

BAL 12.5 - PART ONE
Section 5

Exhibited

Element 1: GENERAL
5.1 GENERAL
A building assessed in Section 2 as being BAL--12.5 shall conform with Section 3 and Clauses 5.2 to 5.8.
Any element of construction or system that satisfies the test criteria of AS 1530.8.1 may be used in lieu of the applicable requirements contained in Clauses 5.2 to 5.8 (see Clause 3.8).

NOTE: BAL--12.5 is primarily concerned with protection from ember attack and radiant heat up to and including 12.5 kW/m2 where the site is less than 100m from the source of bushfire attack.
AS 3959--2018

Element 2: SUB-FLOOR SUPPORTS
5.2 SUBFLOOR SUPPORTS
This Standard does not provide construction requirements for subfloor support where the subfloor space is enclosed with-
(a) a wall that conforms with Clause 5.4; or
(b) a mesh or perforated sheet with a max. aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium; or
(c) a combination of Items (a) and (b)

NOTE: This requirement applies to the subject building only and not to verandas, decks, steps, ramps and landings (see Clause 5.7).

C5.2 Combustible materials stored in the subfloor space may be ignited by embers and cause an impact to the building.
AS 3959--2018

Element 3: FLOORS
5.3.1 GENERAL
This Standard does not provide construction requirements for concrete slabs on the ground.
5.3.2 ELEVATED FLOORS
5.3.2.1 ENCLOSED SUBFLOOR SPACE
This Standard does not provide construction requirements for elevated floors, including bearers, joists and flooring, where the subfloor space is enclosed with-
(a) a wall that conforms with Clause 5.4; or
(b) a mesh or perforated sheet with a max. aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium; or
(c) a combination of Items (a) and (b)

5.3.2.2 UNENCLOSED SUBFLOOR SPACE
Where the subfloor space is unenclosed, the bearers, joists and flooring, less than 400mm above finished ground level, shall be on of the following:
(a) Materials that conform with the following:
(i) Bearers and joists shall be -
(A) non-combustible; or
(B) bushfire-resisting timber (see Appendix F); or
(C) a combination of Items (A) and (B)
(i) Flooring shall be-
(A) non-combustible; or
(B) bushfire-resisting timber (see Appendix F); or
(C) timber (other than bushfire-resisting timber), particleboard or plywood flooring where the underside is lined with sarking-type material or mineral wool insulation; or
(D) a combination of Items (A), (B) or (C); or
(b) A system conforming with AS 1530.8.1.
AS 3959--2018

Element 4: WALLS
5.4.1 GENERAL
The exposed components of an external wall that are less than 400mm from the ground or less than 400mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110mm in width from the wall (see Figure D3, Appendix D) shall be-
(a) Non-combustible material including the following provided the minimum thickness is 90mm:
(i) Full masonry or masonry veneer walls with an outer leaf of clay, concrete, calcium silicate or natural stone.
(ii) Precast or in situ walls of concrete or aerated concrete.
(iii) Earth wall including mud brick. or
(b) Timber logs of a species with a density of 680 kg/m3 or greater at a 12% moisture content; of a minimum nominal overall thickness of 90mm and a minimum thickness of 70mm (see Clause 3.11); and gauge planed. or
(c) Cladding that is fixed externally to a timber-framed or a steel-framed wall and is--
(i) non-combustible material; or
(i) fibre-cement a minimum of 6mm in thickness; or
(ii) bushfire-resisting timber (see Appendix F); or
(iii) a timber species as specified in Paragraph E1, Appendix E; or
(iv) a combination of any of Items (i), (ii), (iii) or (iv); or
(d) A combination of any of Items (a), (b) or (c).

5.4.2 JOINTS
All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed.

5.4.3 VENTS & WEEPHOLES
Except for exclusions provided in Clause 3.6, vents and weepholes in external walls shall be screened with a mesh made of corrosion-resistant steel, bronze or aluminium.
AS 3959--2018

Element 5: EXTERNAL GLAZED ELEMENTS, ASSEMBLIES AND DOORS
5.5.1 BUSHFIRE SHUTTERS
Where fitted, bushfire shutters shall comply with Clause 3.7 and be made from--
(a) non-combustible material; or
(b) a timber species as specified in Paragraph E1, Appendix E; or
(c) bushfire-resisting timber (see Appendix F); or
(d) a combination of any of Items (a), (b) or (c)

5.5.2 SCREENS FOR WINDOWS AND DOORS
Where fitted, screens for windows and doors shall have a mesh or perforated sheet made of corrosion-resistant steel, bronze or aluminium.

The frame supporting the mesh or perforated sheet shall be made from--
(a) metal; or
(b) bushfire-resisting timber (see Appendix F); or
(c) a timber species as specified in Paragraph E2, Appendix E.

5.5.3 WINDOWS
Window assemblies shall:
(a) be completely protected by a bushfire shutter that conform with Clause 3.7 and 5.5.1; or
(b) be completely protected externally by screens that conform with Clause 3.6 and 5.5.2; or

C5.5.3 For Clause 5.5.3(b), the screening needs to be applied to cover the entire assembly, that is including framing, glazing, sash, sill and hardware.

(c) Conform with the following:
(i) *Frame material* For window assemblies less than 400mm from the ground or less than 400mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110mm in width from the window frame (see Figure D3, Appendix D), window frames and window joinery shall be made from on of the following:
(A) Bushfire-resisting timber (see Appendix F). or
(B) A timber species as specified in Paragraph E2, Appendix E. or
(C) Metal. or
(D) Metal-reinforced uPVC. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel
There are no specific restrictions on frame material for all other windows.

(ii) *Hardware* There are no specific restrictions on hardware for windows.
(iii) *Glazing* Where glazing is less than 400mm from the ground or less than 400mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110mm in width from the window frame (see Figure D3, Appendix D), this glazing shall be Grade A safety glass minimum 4mm thickness, or glass blocks with no restriction on glazing methods.

NOTE: Where double glazed assemblies are used the above, the requirements apply to the external pane of the glazed assembly only. For all other glazing, annealed glass may be used in accordance with AS1288.
(iv) *Seals and weather strips* There are no specific requirements for seals and weatherstrips at this BAL level
(v) *Screens* The openable portions of windows shall be screened internally or externally with screens that conform with Clause 3.6 and 5.5.2

C5.5.3 For Clause 5.5.3(c), screening to openable portions of all windows is required in all BALs to prevent the entry of embers to the building when the window is open.
For Clause 5.5.3(c)(v), screening of the openable and fixed portions of some windows is required to reduce the effects of radiant heat on annealed glass and has to be externally fixed.
If the screening is required only to prevent the entry of embers, the screening may be fitted externally or internally.

5.5.4 DOORS - SIDE-HUNG EXTERNAL DOORS (INCLUDING FRENCH DOORS, PANEL FOLD AND BI-FOLD DOORS)
Side-hung external doors, including French doors, panel fold and bi-fold doors, shall-
(a) be completely protected by bushfire shutters that conform with Clause 3.7 and 5.5.1; or
(b) be completely protected externally by screens that conform with Clause 3.6 and 5.5.2; or
(c) conform with the following:
(i) *Door panel material* Materials shall be-
(A) non-combustible; or
(B) a solid timber, laminated timber or reconstituted timber, having a minimum thickness of 35mm for the first 400mm above the threshold; or
(C) hollow core, solid timber, laminated timber or reconstituted timber with a non-combustible kick-plate on the outside for the first 400mm above the threshold; or
(D) hollow core, solid timber, laminated timber or reconstituted timber protected externally by a screen that conforms with Clause 5.5.2; or
(E) for fully framed glazed door panels, the framing shall be made from metal or bushfire resisting timber (see Appendix F) or from a timber species as specified in Paragraph E2, Appendix E or uPVC.
(ii) *Door frame material* Door frame materials shall be-
(A) Bushfire-resisting timber (see Appendix F). or
(B) A timber species as specified in Paragraph E2, Appendix E. or
(C) Metal. or
(D) Metal-reinforced uPVC. The reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel.
(iii) *Hardware* There are no specific restrictions on hardware at this BAL level.
(vi) *Glazing* The glazing shall be Grade A safety glass minimum 4mm thickness, or glass blocks with no restriction on glazing methods.

NOTE: Where double glazed units are used the above the requirements apply to the external pane of the glazed assembly only.

(v) *Seals and weather strips* Weather strips, draft excluders or draft seals shall be installed.
(vi) *Screens* There are no requirements on screen the openable part of the door at this BAL level.
(vii) Doors shall be tight-fitting to the door frame and to an abutting door, if applicable.

5.5.5 DOORS - SLIDING DOORS
Sliding doors shall-
(a) be completely protected by a bushfire shutter that conforms with Clause 3.7 and 5.5.1; or
(b) be completely protected externally by screens that conform with Clause 3.6 and 5.5.2; or
(c) conform with the following:
(i) *Frame material* The material for door frames, including fully framed glazed doors, shall be-
(A) Bushfire-resisting timber (see Appendix F). or
(B) A timber species as specified in Paragraph E2, Appendix E. or
(C) Metal. or
(D) Metal-reinforced uPVC and the reinforcing members shall be made from aluminium, stainless steel, or corrosion-resistant steel.
(ii) *Hardware* There are no specific restrictions on hardware at this BAL level.
(iii) *Glazing* Where doors incorporate glazing, the glazing shall be Grade A safety glass minimum 4mm thickness.
(iv) *Seals and weather strips* There are no requirements for seals and weather strips at this BAL level.
(v) *Screens* There are no requirements on screen the openable part of the door at this BAL level.
(vi) *Sliding panels* Sliding doors shall be tight-fitting in the frames.

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ENGINEERING PLUS BUILDING DESIGN PROJECT MANAGEMENT CIVIL/STRUCTURAL ENGINEERING
Accredited Building Designer
Designer Name: J.Pfeiffer
Accreditation No: CC2211T

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BAL 12.5 - PART TWO

5.5.6 DOORS - VEHICLE ACCESS DOORS/GARAGE DOORS
The following applies to vehicle access doors:
(a) The lower portion of a vehicle access door that is within 400mm of the ground when the door is closed (see Figure D4, Appendix D) shall be made from--
(i) non-combustible material; or
(ii) bushfire-resisting timber (see Appendix F); or
(iii) fibre-cement sheet, a minimum of 6mm in thickness; or
(iv) a timber species as specified in Paragraph E1, Appendix E; or
(v) a combination of any of Items (i), (ii), (iii) or (iv)
(b) All vehicle access doors shall be protected with suitable weather strips, draught excluders, draught seals or brushes. Door assemblies fitter with guide tracks do not need edge gap protection.

NOTES: 1. Refer to AS/NZS 4505 for door types.
2. Gaps of door edges or building elements should be protected as per Section 3.

C5.5.6(b) These guide tracks do not provide a direct passage for embers into the building.

(c) Vehicle access doors with ventilation slots shall be protected in accordance with Clause 3.6
AS 3959--2018

Element 6: ROOFS (INCLUDING PENETRATIONS, EAVES, FASCIAS, GABLES, GUTTERS AND DOWNPIPES)
5.6.1 GENERAL
The following applies to all types of roofs and roofing systems:
(a) Roof tiles, roof sheets and roof-covering accessories shall be non-combustible.
(b) The roof/wall and roof/roof junction shall be sealed, or otherwise protected in accordance with Clause 3.6.
(c) Roof ventilation openings, such as gable and roof vents, shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet conforming with Clause 3.6 and, made of corrosion-resistant steel, bronze or aluminium.
(d) Only evaporative coolers manufactured in accordance with AS/NZS 60335.2.98 shall be used. Evaporative coolers with an internal damper to prevent the entry of embers into the roof space need not be screened externally.

5.6.2 TILED ROOFS
Tiled roofs shall be fully sarked. The sarking shall--
(a) be located on top of the roof framing, except that the roof battens may be fixed above the sarking;
(b)cover the entire roof area including ridges and hips; and
(c) extend into gutters and valleys

5.6.3 SHEET ROOFS
Sheet roofs shall--
(a) be fully sarked in accordance with Clause 5.6.2, except that foil-backed insulation blankets may be installed over the battens; or
(b) have any gaps sealed at the fascia or wall line, hips and ridges by--
(i) a mesh or perforated sheet that conforms with Clause 3.6, and is made of corrosion-resistant steel, bronze or aluminium; or
(ii) mineral wool; or
(iii) other non-combustible material; or
(iv) a combination of any of Items (i), (ii) or (iii).

5.6.3 Sarking is used as a secondary form of ember protection for the roof space to account for minor gaps that may develop in sheet roofing.

5.6.4 VERANDAH, CARPORT AND AWNING ROOF
The following apply to veranda, carport and awning roofs:
(a) A veranda, carport or awning roof forming part of the main roof space [see Figure D1(a), Appendix D] shall meet all the requirements for the main roof, as specified in Clauses 5.6.1 to 5.6.6.
(b) A veranda, carport or awning roof separated from the main roof space by an external wall [see Figures D1(b) and D1(c), Appendix D] conforming with Clause 5.4 shall have a non-combustible roof covering, except where the roof covering is a translucent or transparent material.

NOTE: There is no requirement to line the underside of a veranda, carport or awning roof that is separated from the main roof space.

5.6.5 ROOF PENETRATIONS
The following apply to roof penetrations:
(a) Roof penetrations, including roof lights, roof ventilators, roof-mounted evaporative cooling units, aerials, vent pipes and supports for solar collectors or the like, shall be sealed. The material used to seal the penetration shall be non-combustible.
(b) Openings in vented roof lights, roof ventilators or vent pipes shall conform with Clause 3.6 and be made of corrosion-resistant steel, bronze or aluminium.

This requirement does not apply to a room sealed gas appliance.

NOTE: A gas appliance designed such that air for combustion does not enter from, or combustion products enter into, the room in which the appliance is located.

In the case of gas appliance flues, ember guards shall not be fitted.
NOTE: AS/NZS 5601 contains requirements for gas appliance flue systems and cowls. Advice can be obtained from manufacturers and State an Territory gas technical regulators.

(c) All overhead glazing shall be Grade A safety glass conforming with AS 1288.
(d) Glazed elements in roof lights and skylights may be of polymer provided a Grade A safety glass diffuser, conforming with AS 1288, is installed under the glazing. Where glazing is an insulating glazing unit (IGU), Grade A toughened safety glass minimum 4mm thickness shall be used in the outer pane of the IGU.
(e) Flashing elements of tubular skylights may be of a fire-retardant material, provided the roof integrity is maintained by an under-flashing of a material having a flammability index not exceeding 5.
(f) Evaporative cooling units shall be fitted with non-combustible butterfly closers as close as practicable to the roof level or the unit shall be fitted with non-combustible covers with a mesh or perforated sheet with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium.
(g) Vent pipes made from PVC are permitted.
(h) Eaves lighting shall be adequately sealed and not compromise the performance of the element

5.6.6 EAVES LININGS, FASCIAS AND GABLES
The following applies to eaves linings, fascias and gables:
(a) Gables shall conform with Clause 5.4.
(b) Eaves penetrations shall be protected in the same way as roof penetrations, as specified in Clause 5.6.5.
(c) Eaves ventilation openings shall be fitted with ember guards in accordance with Clause 3.6 and made of corrosion-resistant steel, bronze or aluminium.
Joints in eaves linings, fascias and gables may be sealed with plastic joining strips or timber storm moulds.

This Standard does not provide construction requirements for fascias, bargeboards and eaves linings

5.6.7 GUTTERS AND DOWNPIPES
This Standard does not provide material requirements for-
(a) gutters, with the exception of box gutters; and
(b) downpipes.
If installed, gutter and valley leaf guards shall be non-combustible.
Box gutters shall be non-combustible and flashed at the junction with the roof with non-combustible material.
AS 3959--2018

Element 7: VERANDAS, DECKS, STEPS AND LANDINGS
5.7.1 GENERAL
Decking may be spaced.
There is no requirement to enclose the subfloor spaces of verandas, decks, steps, ramps or landings.

C5.7.7 Spaced decking is nominally spaced at 3mm (in accordance with standard industry practice); however, due to the nature of timber decking with seasonal changes in moisture content, that spacing may range from 0-5mm during service. It should be noted that recent research studies have shown that gaps at 5mm spacing afford opportunity for embers to become lodged in between timbers, which may contribute to a fire. Larger gap spacing of 10mm may preclude this from happening but such a spacing regime may not be practical for a timber deck.

5.7.2 ENCLOSED SUBFLOOR SPACES OF VERANDAS, DECKS, STEPS, RAMPS AND LANDINGS

5.7.2.1 MATERIALS TO ENCLOSE A SUBFLOOR SPACE
This Standard does not provide construction requirements for the materials used to enclose a subfloor space except where those materials are less than 400mm from the ground.
Where the materials used to enclose a subfloor space are less than 400mm from the ground, they shall conform with Clause 5.4.

5.7.2.2 SUPPORTS
This Standard does not provide construction requirements for support posts, columns, stumps, stringers, piers and poles.

5.7.2.3 FRAMING
This Standard does not provide construction requirements for the framing of verandas, pergolas, decks, ramps or landings (i.e., bearers and joists).

5.7.2.4 DECKING, STAIR TREADS AND THE TRAFFICABLE SURFACES OF RAMPS AND LANDINGS
This Standard does not provide construction requirements for decking, stair treads and the trafficable surfaces of ramps and landings that are more than 300mm from a glazed element.
Decking, stair treads and the trafficable surfaces of ramps and landings less than 300mm (measured horizontally at deck level) from glazed elements that are less than 400mm (measured vertically) from the surface of the deck (see Figure D2, Appendix D) shall be made from--
(a) non-combustible material; or
(b) bushfire-resisting timber (see Appendix F); or
(c) a timber species as specified in Paragraph E1, Appendix E; or
(d) uPVC; or
(e) a combination of any of Items (a), (b), (c) or (d)

5.7.3 UNENCLOSED SUBFLOOR SPACES OF VERANDAS, DECKS, STEPS, RAMPS AND LANDINGS
5.7.3.1 SUPPORTS
This Standard does not provide construction requirements for support posts, columns, stumps, stringers, piers and poles.

5.7.3.2 FRAMING
This Standard does not provide construction requirements for the framing of verandas, decks, ramps or landings (i.e., bearers and joists).

5.7.3.3 DECKING STAIR TREADS AND THE TRAFFICABLE SURFACES OF RAMPS AND LANDINGS
This Standard does not provide construction requirements for decking, stair treads and the trafficable surfaces of ramps and landings that are more than 300mm from a glazed element.
Decking, stair treads and the trafficable surfaces of ramps and landings less than 300mm (measured horizontally at deck level) from glazed elements that are less than 400mm (measured vertically) from the surface of the deck (see Figure D2, Appendix D) shall be made from--
(a) non-combustible material; or
(b) bushfire-resisting timber (see Appendix F); or
(c) a timber species as specified in Paragraph E1, Appendix E; or
(d) a combination of any of Items (a), (b) or (c)

5.7.4 BALUSTRADES, HANDRAILS OR OTHER BARRIERS
This Standard does not provide construction requirements for balustrades, handrails and other barriers.

5.7.5 VERANDA POSTS
Veranda Posts-
(a) shall be timber mounted on galvanized mounted shoes or stirrups with clearance of not less than 75mm above the adjacent finished ground level; or
(b) less than 400mm (measured vertically) from the surface of the deck or ground (see Figure D2, Appendix D) shall be made from-
(i) non-combustible material; or
(ii) bushfire-resisting timber (see Appendix F); or
(iii) a timber species as specified in Paragraph E1, Appendix E; or
(iv) a combination of any of Items (a) or (b)
AS 3959--2018

Element 8: WATER AND GAS SUPPLY PIPES
5.8 WATER AND GAS SUPPLY PIPES
Above-ground, exposed water and gas supply pipes shall be metal.
External gas pipes and fittings above ground shall be of steel or copper construction having a min. wall thickness in accordance with gas regulations or 0.9mm whichever is the greater. The metal pipe shall extend a min. of 400mm within the building and 100mm below ground.

NOTE: Refer to State and Territory gas regulations, AS/NZS 5601.1 and AS/NZS4645.1
C6.8 Concern is raised for the protection of bottled gas installations. Location, shielding and venting of the gas bottles needs to be considered.
AS 3959--2018

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Exhibited

GENERAL NOTES: LIVABLE HOUSING DESIGN COMPLIANCE

ALL NEW RESIDENTIAL WORK (CLASS 1A) IS DESIGNED TO COMPLY WITH THE CURRENT NATIONAL CONSTRUCTION CODE (NCC) 2022/2025 VOLUME 2, PART H8 (LIVABLE HOUSING DESIGN), ACHIEVING THE MINIMUM MANDATORY REQUIREMENTS FOR SILVER LEVEL COMPLIANCE (PERFORMANCE REQUIREMENT H8P1).

CONTRACTOR/CONSTRUCTOR NOTE: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE AND ENSURE CONSTRUCTION MEETS THE CLEAR OPENING WIDTHS, CIRCULATION SPACES, AND SPECIFIC STRUCTURAL REINFORCEMENT REQUIREMENTS DETAILED BELOW. ALL REINFORCEMENT SPECIFIED IN CLAUSE 3 MUST BE INSTALLED PRIOR TO WALL LINING AND INSPECTED BY THE PRINCIPAL CERTIFIER PRIOR TO COVER-UP.

1. PATH OF TRAVEL & PRINCIPAL ENTRY (NCC H8D2)

CONTINUOUS PATH (H8D2(1)(A)): PROVIDE A CONTINUOUS, STEP-FREE PATH OF TRAVEL FROM THE STREET BOUNDARY/DESIGNATED PARKING AREA TO THE PRINCIPAL ENTRANCE. MAXIMUM PATH GRADIENT SHALL NOT EXCEED 1:20 (5% SLOPE). ANY GRADIENT STEEPER THAN 1:20 MUST BE CONSTRUCTED AS A FORMAL RAMP COMPLIANT WITH AS 1428.1 GRADIENT, WIDTH, AND LANDING PROVISIONS.

PATH WIDTH & SURFACE (H8D2(3)): THE MINIMUM CLEAR WIDTH OF THE EXTERNAL PATH OF TRAVEL SHALL BE 1000 MM (MINIMUM). ALL PATH SURFACES MUST BE FIRM, SLIP-RESISTANT, AND CONSTRUCTED WITHOUT LOOSE MATERIAL.

LEVEL CHANGES: ALL ABRUPT CHANGES IN LEVEL ALONG THE PATH, INCLUDING EXPANSION JOINTS AND THRESHOLD TRANSITIONS, MUST NOT EXCEED 5 MM IN HEIGHT. CHANGES BETWEEN 5 MM AND 11 MM MUST BE BEVELLED AT A SLOPE NOT STEEPER THAN 1:8.

PRINCIPAL ENTRY DOOR LANDING (H8D2(4)): A SAFE, LEVEL LANDING AREA OF 1200 MM X 1200 MM (MINIMUM CLEAR AREA) MUST BE PROVIDED IMMEDIATELY OUTSIDE THE PRINCIPAL ENTRANCE DOOR. THIS AREA MUST BE CLEAR OF THE DOOR SWEEP/SWING AND FIXED PLANTER BOXES/FURNITURE.

2. DOORS & CORRIDORS (NCC H8D3)

DOOR CLEAR OPENING (H8D3(1) & H8D3(2)): ALL DOORS (INTERNAL AND EXTERNAL) ON THE ENTRY LEVEL MUST PROVIDE A MINIMUM 820 MM CLEAR OPENING WIDTH, MEASURED FROM THE FACE OF THE DOOR STOP ON THE LATCH SIDE TO THE FULL EXTENT OF THE DOOR OPENING ON THE HINGE SIDE.

CONSTRUCTION DETAIL (HINGED DOORS): TO ACHIEVE THE 820 MM CLEAR OPENING, THE MINIMUM REQUIRED DOOR LEAF WIDTH IS TYPICALLY 920 MM. THE INTERNAL STUD OPENING MUST ACCOMMODATE THIS LEAF AND FRAME, GENERALLY REQUIRING A MINIMUM ROUGH OPENING (R.O.) OF 860 MM TO 870 MM WIDE. STANDARD 45 MM DOOR STOPS ARE NOT TO ENCROACH BEYOND THE 820 MM CLEAR SPACE.

DOOR HARDWARE: ALL ENTRY LEVEL DOOR HARDWARE SHALL BE LEVER-ACTION TYPE (LEVER HANDLES) FOR EASE OF OPERATION AND MUST BE LOCATED BETWEEN 900 MM AND 1100 MM ABOVE FFL.

CORRIDOR WIDTHS (H8D3(3)): ALL INTERNAL CORRIDORS ON THE ENTRY LEVEL MUST MAINTAIN A MINIMUM CLEAR WIDTH OF 1000 MM, MEASURED WALL-TO-WALL BETWEEN THE FINISHED SURFACES (INCLUDING ARCHITRAVES).

3. SANITARY COMPARTMENTS & WET AREAS (NCC H8D4)

ENTRY LEVEL WC (H8D4(1)(A)): A WC MUST BE PROVIDED ON THE ENTRY LEVEL.

WC CLEAR SPACE (H8D4(2)): A MINIMUM CLEAR SPACE OF 1200 MM DEPTH (MEASURED FROM THE FRONT EDGE OF THE PAN) AND 900 MM WIDTH (PARALLEL TO THE PAN) MUST BE PROVIDED ADJACENT TO THE WC. THIS CLEARANCE MUST BE MAINTAINED CLEAR OF ALL FIXED FIXTURES, INCLUDING BASIN PEDESTALS AND CABINETS.

GRAB RAIL REINFORCEMENT (H8D4(4)): MANDATORY STRUCTURAL BLOCKING (NOGGINGS) MUST BE INSTALLED IN ALL TIMBER-FRAMED WALLS IN THE FOLLOWING LOCATIONS TO SUPPORT FUTURE GRAB RAILS. NO EXCEPTIONS.

WC: ALL WALLS ADJACENT TO THE WC.

SHOWER: ALL WALLS WITHIN THE SHOWER RECESS AND ANY ADJACENT WALLS IMMEDIATELY OUTSIDE THE SHOWER AREA.

PRIMARY WET AREA: ALL WALLS ADJACENT TO THE MAIN BATH (IF PRESENT) AND THE IMMEDIATE VICINITY OF THE BASIN/VANITY.

REINFORCEMENT SPECIFICATION:

MATERIAL: CONTINUOUS SOLID TIMBER NOGGING (MIN 70 MM×35 MM, F7 GRADE OR BETTER) OR STRUCTURAL-GRADE MARINE/CONSTRUCTION PLYWOOD (17 MM MINIMUM THICKNESS).

INSTALLATION HEIGHT: THE CENTRELINE OF THE REINFORCEMENT BLOCKING SHALL BE FIXED HORIZONTALLY BETWEEN THE STUDS AT A HEIGHT RANGE BETWEEN 800 MM AND 1100 MM ABOVE THE FINISHED FLOOR LEVEL (FFL).

FIXING: BLOCKING MUST BE SECURELY FIXED TO STUD FRAMING IN ACCORDANCE WITH THE MANUFACTURER'S AND NCC REQUIREMENTS TO WITHSTAND LOADING FROM FUTURE GRAB RAIL USE.

4. CIRCULATION SPACE (TURNING CIRCLES) (NCC H8D3(4))

INTERNAL CLEARANCES (H8D3(4)): A MINIMUM CLEAR AREA OF 1550 MM DIAMETER FOR A TURNING CIRCLE MUST BE MAINTAINED WITHIN THE ENTRY LEVEL LIVING, KITCHEN, AND DINING AREAS. THIS AREA MUST BE FREE FROM FIXED OBSTRUCTIONS SUCH AS CABINETRY, FIXED SEATING, AND WALL PROJECTIONS BELOW 2 M HEIGHT.

5. STAIRS (NCC H8D3(5))

CONSISTENT GEOMETRY (H8D3(5)): ALL STAIRS WITHIN THE DWELLING MUST HAVE UNIFORM RISERS AND TREADS THROUGHOUT THE ENTIRE FLIGHT. THE MAXIMUM RISER HEIGHT AND MINIMUM GOING DEPTH MUST COMPLY WITH NCC D3D14.

FUTURE ADAPTABILITY: PROVISION MUST BE MADE IN THE STAIR STRUCTURAL FRAMING FOR THE FUTURE INSTALLATION OF A CONTINUOUS, 900 MM HIGH HANDRAIL ON BOTH SIDES OF ANY INTERNAL OR EXTERNAL STAIRS, WHERE APPLICABLE, AS PER AS 1428.1 GUIDANCE.

6. GENERAL AMENITIES & CONTROLS (NCC H8D5)

CONTROLS (H8D5(2)): LIGHT SWITCHES, POWER POINTS, AND ENVIRONMENTAL CONTROLS MUST BE INSTALLED WITH THE CENTRE OF THE CONTROL LOCATED BETWEEN 900 MM AND 1100 MM ABOVE FINISHED FLOOR LEVEL (FFL).

POSITIONING: ELECTRICAL CONTROLS MUST BE LOCATED AT LEAST 50 MM CLEAR OF ARCHITRAVES AND INTERNAL WALL CORNERS TO ALLOW FOR EASY ACCESS.

KITCHEN BENCH PROVISION (H8D5(1)): A MINIMUM 800 MM CONTINUOUS LENGTH OF THE MAIN KITCHEN BENCH MUST BE DESIGNED FOR FUTURE ADJUSTMENT OR REMOVAL TO ALLOW FOR WHEELCHAIR ACCESS BELOW. THIS REQUIRES THE BENCH STRUCTURE (INCLUDING KICKBOARD AND CABINETRY BELOW) TO BE NON-LOAD BEARING AND EASILY DETACHABLE FOR MODIFICATION.

LAUNDRY BENCHTOP (H8D5(3)): PROVISION MUST BE MADE FOR THE FUTURE ADJUSTMENT OF THE LAUNDRY BENCH HEIGHT. IF A FIXED BENCH IS INSTALLED, ENSURE A CLEAR SPACE BELOW IS MAINTAINED TO ACCOMMODATE A FRONT-LOADING WASHING MACHINE/DRYER, OR THE BENCH MUST BE EASILY REMOVABLE.

ISSUED FOR APPROVAL

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