

Energy@greenchoiceconsulting.com.au 1300 864 944

Energy Efficiency Report

Address:

113 Orchard Street, Warriewood, NSW, 2102

Building Classification:

Class 1

GC Consulting Job Number:

ER1-T1434

Client Job Number:

DWG7873-wd4

Compliance achieved?

Yes

Date of Report:

17/01/2024



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Home Performance

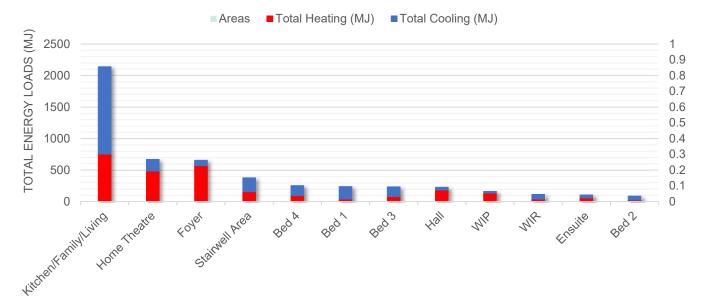
Target		Proposed		
Heating (MJ/m²)	25	Heating (MJ/m²)	14.6	
Cooling (MJ/m²)	18	Cooling (MJ/m ²)	15.4	7.0 Stars
Total Energy (MJ/m²)	-	Total Energy (MJ/m²)	30.0	

Compliance is achieved when the following conditions are met:

- 1. The proposed heating load must be lower than the target heating load.
- 2. The proposed cooling load must be lower than the target cooling load.
- 3. The proposed total Energy must be lower than the target total energy.

NatHERS Climate Zone: 56

ZONED ENERGY LOAD DISTRIBUTION TOTALS (MJ)



Building Specifications

External Wall Construction	Insulation	Frame Material	Notes
Single/Double Brick	None	No Frame	Garage
Retaining wall w/stud frame	R2.0 Insulation	Timber Frame	Living
Concrete Blockwork Retaining	None	No Frame	Garage
Brick Veneer	R2.5 Insulation	Timber Frame	Living
Framed	R2.5 Insulation	Timber Frame	Living

If a steel frame is nominated, then a thermal break with an R-Value of 0.2 (or greater) must be installed between the frame and any external cladding, if applicable.

Internal Wall Construction	ernal Wall Construction Insulation Notes	
Stud Frame	None	Throughout
Stud Frame	R2.5 Insulation	To the Garage, Bath & Laundry walls

Floor Construction Type/s	Underfloor Insulation	Slab Edge Insulation	Notes
Waffle Pod 225/85	None	50mm Rigid Insulation	Ground floor (excl. Garage)
Framed Suspended	R4.0 Insulation	None	Floors above outdoor areas
Framed Suspended	None	None	Remainder

Floor coverings as per drawings/client notes (NatHERS Defaults modelled if not specified)

Ceiling Construction Type	Insulation		Notes	
Plasterboard	R6.0 Insulation	Throughout		
Roof Construction Type	Insulation	No	tes	Colour
Colorbond	Anticon	As per drawings	5	Not nominated

All ceiling penetrations are to be sealed.

Glazing Supplier Not Nominated

Туре	Material	U-Value	SHGC	Glass	Notes
Default A	Aluminium	3.60	0.47	TB Double Glazed + Low-E	As per documentation
Default B	Aluminium	3.60	0.54	TB Double Glazed + Low-E	As per documentation
Default B	Aluminium	6.70	0.70	Single Glazed	As per documentation
Sliding Doors	Aluminium	2.18	0.40	DG + Low-E	As per documentation
Hinged Doors	Aluminium	2.17	0.39	DG + Low-E	As per documentation

If the window type is default A the values apply to the following window/door types: Awning, Bi-Fold, Casement, hinged, French and Tilt'n'turn windows.

If the window type is default B the values apply to the following window/door types: Fixed, Double-Hung, Louvre, Sliding, and stacker.

A 5% tolerance is allowed to the nominated SHGC values. The U-Value must be the same or lower than the nominated values.

Your NatHERS Certificate may show codes for other suppliers. In some instances, suppliers do not have all their windows available in the database.

Please contact us if your supplier does not meet the values noted above.



Declaration of Compliance

I certify that the details provided within this energy efficiency report are true, correct, and reflective of the plans and specifications of this dwelling. I certify that I am a specialist in the relevant discipline and compliance has been demonstrated with the requirements of the National Construction Code (NCC) as outlined in this report.

Name of assessor: Albert Burton

Qualification: CPP41212 Certificate IV in NatHERS Assessment

Accreditation number: DMN/21/2045

Signature: Albert Burton

Company Name: Green Choice Consulting Pty Ltd (ABN 63 658 893 415)

Green Choice Consulting Pty Ltd (ACN 658 893 415) holds no responsibility if the project is not constructed in accordance with the requirements of the current National Construction Code (NCC) or and/or the requirements detailed in this report. Any changes to the design elements of the building may void this assessment and require the project to be recertified to confirm compliance.

Provisions for this assessment

This assessment demonstrates compliance with Part H6 of the NCC. Calculations have been done using FirstRate5 and the Chenath Engine (v3.22).

- (1) Building must comply with Section 13 of the ABCB Housing Provisions clauses—
 - (a) 13.2.2, for building fabric thermal insulation; and
 - (b) 13.2.3(7) and 13.2.5(5), for thermal breaks; and
 - (c) 13.2.3(5), for compensating for a loss of ceiling insulation, other than where the house energy rating software has compensated for a loss of ceiling insulation; and
 - (d) 13.2.6(4), 13.2.6(5) and 13.2.6(6) for floor edge insulation; and
 - (e) Part 13.4, for building sealing
- (2) To comply with H6P2, in addition to S42C3, a building must comply with Part 13.7 of the ABC Housing Provisions.

Services must be installed as per Part 13.7.

All metal roof framing 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.

All metal wall framing must have a thermal break, consisting of a material with an R-Value greater than or equal to 0.2, installed between the external cladding and the metal frame.

QLD only provisions (to apply if this project is in QLD)

In accordance with the Queensland Development Code Part 4.1—

For applying S42C2 of Specification 42 of the BCA, a reference to climate zones 1 and 2 is taken to be a reference to climate zones 1, 2, 3 or 5. Toilet cisterns must have a dual flush function, minimum 4-star WELS rating and be compatible with the size of the toilet bowl to allow for proper functioning of the toilet.

WA only provisions (to apply if this project is in WA)

All tap fittings other than bath outlets and garden taps must be a minimum of 4 stars WELS rated.

All showerheads must be a minimum of 3 stars WELS rated.

All sanitary flushing systems must be a minimum of 4 stars WELS rated dual flush.

An outdoor private swimming pool or spa associated with a Class 1 building must be supplied with a cover, blanket or the like that is designed to reduce water evaporation and is accredited under the Smart Approved Watermark Scheme governed by the Australian Water Association, the Irrigation Association of Australia, the Nursery and Garden Industry Australia and the Water Services Association of Australia.

All internal heated water outlets (such as taps, showers and washing machine water supply fittings) must be connected to a heated water system or a recirculating heated water system with pipes installed and insulated in accordance with AS/NZS 3500: Plumbing and Drainage, Part 4 Heated Water Services. The pipe from the heated water system or re-circulating heated water system to the furthest heated water outlet must not be more than 20 m in length or 2 liters of internal volume.

NSW only provisions (to apply if this project is in NSW)

All requirements in this report are in accordance with the BASIX requirements.

All insulation must be installed as per NSW H6P1.

Building must be sealed as per NSW H6P2.

Domestic services must be selected and have features as per NSW H6P3.

Energy Efficiency Report



Nationwide House Energy Rating Scheme® NatHERS® Certificate No. 9LDSAXTF9Z-01

Generated on 17 Jan 2024 using FirstRate5: 5.5.3a (3.22)

Property

Address 113 Orchard Street,

Warriewood, NSW, 2102

Lot/DP 6/749791 **NCC Class*** Class 1a

Floor/all Floors

Type New Home

Plans

Main plan DWG 7873-wd4/23.06.2023

Prepared by Tullipan Homes

Construction and environment

Assessed floor area [m²]* Exposure type
Conditioned* 165.4 suburban

Unconditioned* 44.7 NatHERS climate zone

Total 210.1 56 Mascot AMO

Garage 33.4



Name Albert Burton

Business name Green Choice Consulting

Email Albert@greenchoiceconsulting.com.au

 Phone
 0452191324

 Accreditation No.
 DMN/21/2045

Assessor Accrediting Organisation

Design Matters National

Declaration of interest No

NCC Requirements

NCC provisions Volume 2 State/Territory variation Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling		
Modelled	14.6	15.4		
Load limits	N/A	N/A		

Features determining load limits

Floor type	N/A
(lowest conditioned area)	
NCC climate zone 1 or 2	N/A
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit https://a pp-fr5web-prod-eastau-001. azurewebsites.net/QRCodeL anding?PublicId=9LDSAXTF 9Z-01 When using either link, ensure you are visiting www.fr5.com.au.





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

CSOG - Concrete Slab on Ground

SF - Suspended Floor (or a mixture of CSOG and SF)

NA - Not Applicable

NCC climate Zone 1 or 2:

Yes

No

NA – not applicable

Outdoor living area:

Yes

Nο

NA - not applicable

Outdoor living area ceiling fan:

Yes

No

NA - not applicable



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole
of Home
performance
assessment
conducted for this
certificate.

Certificate check	Approval	stage	Construct stage	tion	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent authority/ surveyor checked	checked	Consent authority/ surveyor checked	Occupancy/other
Note: The boxes indicate when and who should check each item. It is not mandatory to complete this checklist.	Assesso	Consent	Builder checked	Consent	Occupar
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check	<u></u>		<u> </u>		
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor			'	<u> </u>	
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof		I		1	I
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?					

	Approval	stage	Construct stage	tion	
Certificate check Continued	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included	in the Na	atHERS a	ssessme	nt)	,
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method		'		-	
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Home per	formance a	ssessmen	t is not con	iducted)	
Appliances				<u> </u>	
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the Nath	IERS ass	essment)			
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					
Note: This Certificate only covers the energy efficiency requirements in the NCC. A include, but are not limited to: condensation, structural and fire safety requirements energy efficiency requirements.					
Additional notes					
Default penetrations used for downlights					
Default roof colour of Medium has been used					

Room schedule

Room	Zone Type	Area [m²]
Home Theatre	living	19.9
Foyer	dayTime	14
Garage	garage	33.4
Bed 4	bedroom	10.1
Laundry	unconditioned	4.7
Bath	unconditioned	6.6
WIP	dayTime	3.6
Bed 2	bedroom	10.1
Ensuite	nightTime	4.5
WIR	nightTime	3.7
Bed 1	bedroom	14.2
Bed 3	bedroom	12.2
Hall	dayTime	6
Kitchen/Family/Living	kitchen	65.8
Stairwell Area	dayTime	9.3

Window and glazed door type and performance

Default* windows

Window ID				Substitution tolerance ranges		
	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
ATB-003-01 B	Al Thermally Broken A DG Air Fill Clear-Clear	3.6	0.47	0.45	0.49	
ATB-004-01 B	Al Thermally Broken B DG Air Fill Clear-Clear	3.6	0.54	0.51	0.57	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.7	0.66	0.74	

Custom* windows

				Substitution to	lerance ranges
Window ID	Window description	Maximum U-value* SHGC*		SHGC lower limit	SHGC upper limit
AWS-089-62 A	RES SERIES 704 FLUSH SLIDING DOOR DG LightbridgeNeutralSI_638_12_5mm	2.18	0.4	0.38	0.42
BRD-109-11 A	Signature Hinged Door 100TB DG DuoUltraClr L1_638Clr-12-6mm	2.17	0.39	0.37	0.41

Window and glazed door schedule



			Height	Width				Window shading
Location	Window ID	Window no.	[mm]	[mm]	Window type	Opening %	Orientation	device*
Home Theatre	ATB-003-01 B	Opening 16	1800	600	awning	60.0	E	No
Home Theatre	ATB-003-01 B	Opening 17	1800	600	awning	60.0	E	No
Home Theatre	ATB-003-01 B	Opening 18	1800	600	awning	60.0	E	No
Foyer	ATB-004-01 B	Opening 20	2100	450	fixed	0.0	E	No
Garage	ALM-002-01 A	uncon Garage	900	1200	sliding	45.0	N	No
Bed 4	ATB-004-01 B	Opening 12	1200	1500	sliding	45.0	W	No
Laundry	ALM-002-01 A	uncon laundry	2100	1800	sliding	45.0	N	No
Bath	ALM-002-01 A	uncon Bath	1000	1200	sliding	45.0	N	No
Bed 2	ATB-004-01 B	Opening 9	1200	1500	sliding	45.0	N	No
Ensuite	ATB-004-01 B	Opening 8	900	900	sliding	45.0	N	No
WIR	ATB-003-01 B	Opening 7	1800	600	awning	60.0	E	No
Bed 1	ATB-003-01 B	Opening 4	1800	600	awning	60.0	E	No
Bed 1	ATB-003-01 B	Opening 5	1800	600	awning	60.0	E	No
Bed 1	ATB-003-01 B	Opening 6	1800	600	awning	60.0	E	No
Bed 3	ATB-004-01 B	Opening 13	1200	1500	sliding	45.0	W	No
Kitchen/Family/- Living	AWS-089-62 A	Opening 14	2400	2400	sliding	60.0	S	No
Kitchen/Family/- Living	AWS-089-62 A	Opening 15	2400	2700	sliding	60.0	W	No
Kitchen/Family/- Living	BRD-109-11 A	Opening 1	2100	1640	other	100.0	S	No
Kitchen/Family/- Living	AWS-089-62 A	Opening 2	2100	3600	sliding	45.0	E	No
Stairwell Area	ATB-004-01 B	Opening 3	2100	1800	sliding	45.0	E	No

Roof window* type and performance value

Default'	roof w	vindows

				Substitution to	lerance ranges
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

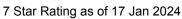
Custom* roof windows

				Substitution to	lerance ranges
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* schedule

		Opening /		y Area	ea widii		Outdoor	muoor
Location	Window ID	Window no.	%	[m²]	[mm]	Orientation	shade	shade

Certificate





No Data Available

Skylight* type and performance

Skylight ID Skylight description Skylight shaft reflectance

No Data Available

Skylight* schedule

Skylight shaft Area Orient- Outdoor Location Skylight ID Skylight No. length [mm] [m²] ation shade Diffuser

No Data Available

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Foyer	2100	820	100.0	E
Garage	2400	5100	100.0	E

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	BV - Brick Veneer - R2.5 Batts	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No
2	C - Earth Retaining Wall with 90mm Stud (R2.0)	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	No
3	S - External Stud Wall - R2.0 Batts	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	No
4	B - Double Brick	0.5	Medium		No
5	B - Single Brick	0.5	Medium		No
6	C - Concrete Blockwork - External Retaining	0.5	Medium		No
7	S - External Stud Wall - R2.5 Batts	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Home Theatre	1	2740	3919	S	1970	No
Home Theatre	1	2740	5072	E	2701	Yes
Home Theatre	2	1400	5072	W	0	No
Home Theatre	3	1340	5072	W	0	Yes
Foyer	1	2740	1538	S	5005	Yes
Foyer	1	2740	2570	E	2754	No
Foyer	2	1400	2570	W	0	No
		1400	2010	· · · · · · · · · · · · · · · · · · ·		140

Certificate

7 Star Rating as of 17 Jan 2024



Foyer	3	1340	2570	W	0	Yes
Garage	4	2740	5830	Е	0	No
Garage	5	2740	3980	N	0	Yes
Garage	5	2740	470	Е	0	Yes
Garage	5	2740	1627	N	0	No
Garage	6	2740	6300	W	0	No
Garage	1	2740	139	S	0	Yes
Bed 4	1	2740	3899	W	441	No
Bed 4	1	2740	3002	N	561	No
Laundry	1	2740	470	W	591	Yes
Laundry	1	2740	2172	N	591	No
Bath	1	2740	2697	N	591	No
Bed 2	1	2740	2900	N	591	No
Bed 2	1	2740	470	E	591	Yes
Ensuite	7	2740	2174	N	741	Yes
WIR	7	2740	2052	Е	500	No
WIR	7	2740	1785	N	750	Yes
Bed 1	7	2740	3535	E	491	No
Bed 3	1	2740	3603	S	650	Yes
Bed 3	1	2740	2998	W	441	No
Kitchen/Family/Living	1	2740	3150	S	5971	Yes
Kitchen/Family/Living	1	2740	6076	W	4450	Yes
Kitchen/Family/Living	1	2740	478	W	491	Yes
Kitchen/Family/Living	1	2740	890	S	580	No
Kitchen/Family/Living	1	2740	4933	S	2550	No
Kitchen/Family/Living	1	2740	900	S	580	No
Kitchen/Family/Living	7	2740	5160	E	2890	Yes
Stairwell Area	7	2740	2570	E	2774	No
Stairwell Area	7	2740	1448	S	5870	Yes

Internal wall type

Wall ID	Wall type	Area [m²]	Bulk insulation
1	S - Internal Stud Walls - No Insulation	129.1	
2	S - Internal Stud Walls -R2.5 Batts	47.4	Glass fibre batt: R2.5 (R2.5)

Floor type

			Sub-floor	Added insulat	ion
Location	Construction	Area [m²]	ventilation	[R-value]	Covering
Home Theatre	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	19.9	Enclosed	R0.0	Carpet



Foyer	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	14	Enclosed	R0.0	Carpet
Garage	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	33.4	Enclosed	R0.0	none
Bed 4	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	9	Enclosed	R4.0	Carpet
Bed 4	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	1	Enclosed	R4.0	Carpet
∟aundry	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	4.6	Enclosed	R4.0	Tiles
_aundry	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	0.1	Enclosed	R4.0	Tiles
Bath	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	6.6	Enclosed	R4.0	Tiles
WIP	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	1.9	Enclosed	R4.0	Tiles
WIP	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	1.7	Enclosed	R4.0	Tiles
Bed 2	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	4.7	Enclosed	R4.0	Carpet
Bed 2	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	0.1	Enclosed	R4.0	Carpet
Bed 2	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	5.3	Enclosed	R4.0	Carpet
Ensuite	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	4.5	Enclosed	R4.0	Tiles
WIR	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	0.7	Enclosed	R4.0	Carpet
WIR	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	3	Enclosed	R4.0	Carpet
3ed 1	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	1.2	Enclosed	R4.0	Carpet
Bed 1	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	13.1	Enclosed	R4.0	Carpet



Bed 3	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	11.4	Enclosed	R4.0	Carpet
Bed 3	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	0.8	Enclosed	R4.0	Carpet
Hall	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	6	Enclosed	R4.0	Carpet
Kitchen/Family/L- iving	FRAMED - Internal Framed Suspended Floor (uninsulated)	1.5	Enclosed	R0.0	Tiles
Kitchen/Family/L- iving	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	2.3	Enclosed	R4.0	Tiles
Kitchen/Family/L- iving	FRAMED - Internal Framed Suspended Floor (uninsulated)	24.4	Enclosed	R0.0	Tiles
Kitchen/Family/L- iving	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	1.7	Enclosed	R4.0	Tiles
Kitchen/Family/L- iving	FRAMED - External Framed Suspended Floor (R2.0 Insulation)	0	Enclosed	R2.0	Tiles
Kitchen/Family/L- iving	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	35.9	Enclosed	R4.0	Tiles
Stairwell Area	FRAMED - Internal Framed Suspended Floor (uninsulated)	8.4	Enclosed	R0.0	Tiles
Stairwell Area	FRAMED - Internal Framed Suspended Floor (uninsulated)	0.9	Enclosed	R0.0	Tiles

Ceiling type

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Home Theatre	FRAMED - Internal Framed Suspended Floor (uninsulated)	R0.0	No
Foyer	FRAMED - Internal Framed Suspended Floor (uninsulated)	R0.0	No
Garage	FRAMED - External Framed Suspended Floor (R4.0 Insulation)	R4.0	No
Garage	FRAMED - Internal Framed Suspended Floor (uninsulated)	R0.0	No
Bed 4	Plasterboard	R6.0	Yes

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7 Star Rating as of 17 Jan 2024

1	The same
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Bed 4	Plasterboard	R3.0	Yes
Laundry	Plasterboard	R6.0	Yes
Bath	Plasterboard	R6.0	Yes
WIP	Plasterboard	R6.0	Yes
WIP	Plasterboard	R6.0	Yes
Bed 2	Plasterboard	R6.0	Yes
Bed 2	Plasterboard	R6.0	Yes
Ensuite	Plasterboard	R6.0	Yes
WIR	Plasterboard	R3.0	Yes
WIR	Plasterboard	R6.0	Yes
Bed 1	Plasterboard	R3.0	Yes
Bed 1	Plasterboard	R6.0	Yes
Bed 3	Plasterboard	R6.0	Yes
Bed 3	Plasterboard	R3.0	Yes
Hall	Plasterboard	R6.0	Yes
Kitchen/Family/L- iving	Plasterboard	R3.0	Yes
Kitchen/Family/L- iving	Plasterboard	R6.0	Yes
Kitchen/Family/L- iving	Plasterboard	R6.0	Yes
Kitchen/Family/L- iving	Plasterboard	R3.0	Yes
Kitchen/Family/L- iving	Plasterboard	R6.0	Yes
Stairwell Area	Plasterboard	R6.0	Yes
Stairwell Area	Plasterboard	R3.0	Yes

Ceiling penetrations*

			Height	Width	
Location	Quantity	Туре	[mm]	[mm]	Sealed/unsealed
Home Theatre	8	Downlights	100	100	Sealed
Foyer	6	Downlights	100	100	Sealed
Garage	14	Downlights	100	100	Sealed
Bed 4	5	Downlights	100	100	Sealed
Laundry	1	Downlights	100	100	Sealed
Bath	1	Exhaust Fans	250	250	Sealed
Bath	2	Downlights	100	100	Sealed
WIP	1	Downlights	100	100	Sealed
Bed 2	5	Downlights	100	100	Sealed
Ensuite	1	Exhaust Fans	250	250	Sealed
Ensuite	1	Downlights	100	100	Sealed
WIR	1	Downlights	100	100	Sealed
Bed 1	6	Downlights	100	100	Sealed
Bed 3	5	Downlights	100	100	Sealed

Certificate

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Hall	2	Downlights	100	100	Sealed
Kitchen/Eamily/Living	20		100	100	Sealed
Kitchen/Family/Living	28	Downlights	100	100	Sealed
Kitchen/Family/Living	1	Exhaust Fans	185	185	Sealed
Stairwell Area	2	Downlights	100	100	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
No Data Available		

Roof type

	Added insulatio	n	
Construction	[R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.3	0.5	Medium
Cont:Attic-Continuous	1.3	0.8	Dark

Thermal bridging schedule for steel frame elements

	Steel section dimensions		Steel thickness	Thermal break
Building element	[height x width, mm]	Frame spacing [mm]	[BMT,mm]	[R-value]

No Data Available

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

			Minimum efficiency/	Recommended
Appliance/ system type	Location	Fuel type	performance	capacity
No Whole of Home perform	ance assessment co	nducted for this certifica	ate.	

Heating system

			Minimum efficiency/	Recommended	
Appliance/ system type	Location	Fuel type	performance	capacity	
No Whole of Home perform	ance assessment co	nducted for this certifica	ate.		

Hot water system

			Substitution tolerance ranges		
		Minimum			
		efficiency/	Zone 3 STC	Zone 3 STC	Assessed daily
Appliance/ system type	Fuel type	performance	lower limit	upper limit	load

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment	conducted for this certificate	€.	

Onsite renewable energy schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type Orientation System size or generation capacity

No Whole of Home performance assessment conducted for this certificate.

Battery schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type Size [battery storage capacity]

No Whole of Home performance assessment conducted for this certificate.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

•	
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
СОР	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilate corridor in a Class 2 building.
Exposure category – expose	d terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category –	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
suburban	
Exposure category –	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
protected	
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

7 Star Rating as of 17 Jan 2024

HOUSE

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be b	
	and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory	
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is	
	not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene	
	insulation sheeting, plastic strips or furring channels.	
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.	
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.	
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy	
	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).	
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features*	
	(eg eaves and balconies)	





PROPOSED RESIDENCE

Client: A & S Simpson + N & J Hunter

site: 113 Orchard Street

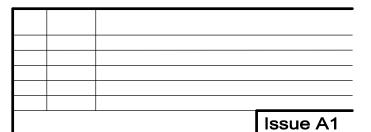
Warriewood NSW 2102

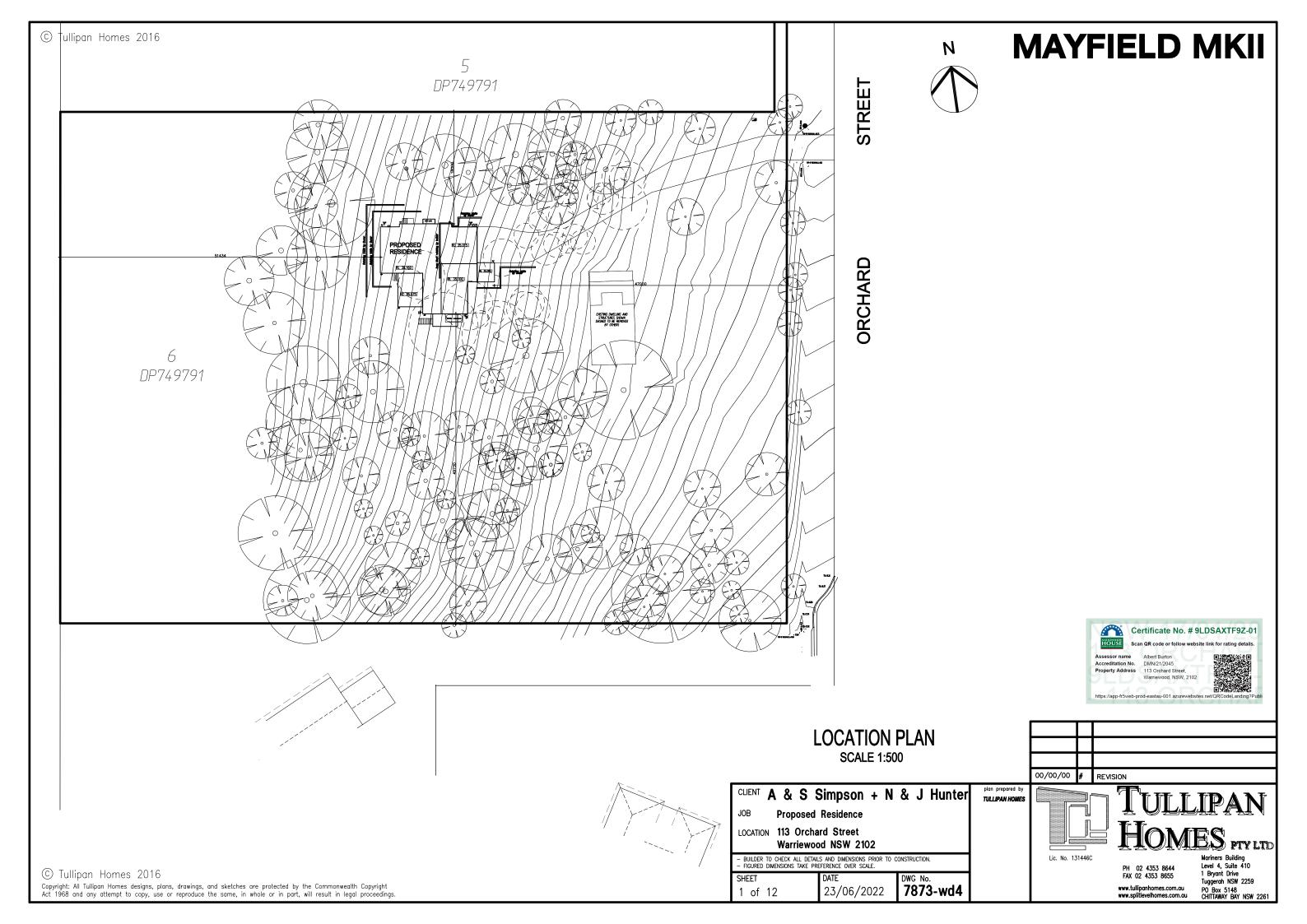
Lot 6, DP 749791

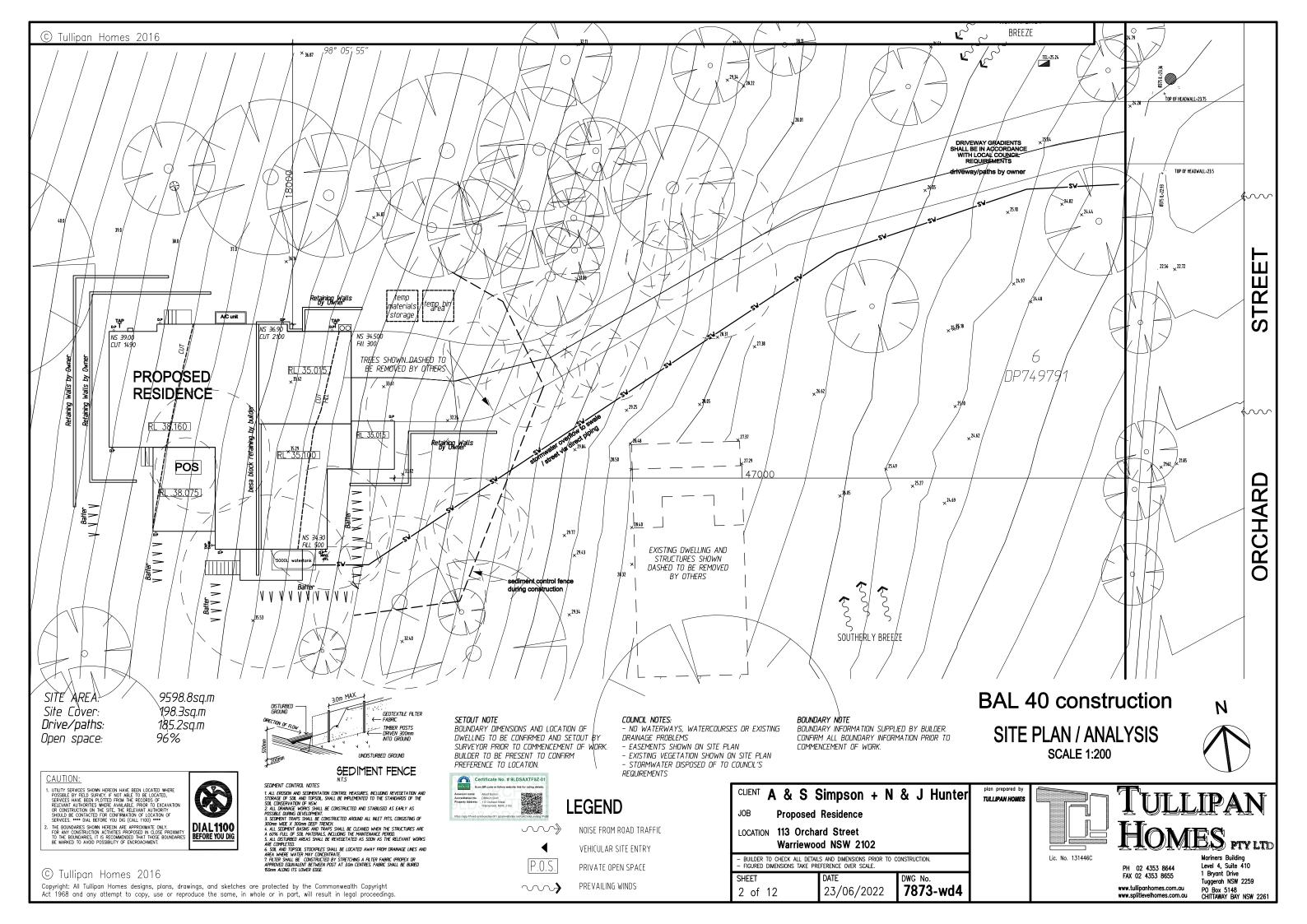
AA	Front Page
A01	Location Plan
A02	Site Plan - Site Anaysis
A03	Ground Floor Plan
A04	First Floor Plan
A05	Elevations
A06	Elevations
A07	Cross Section & Driveway levels
A08	Water Management Plan
A09	Shadow Diagram
A10	Ground Floor Electrical Plan
A11	First Floor Electrical Plan
A12	Gas Plan
A - A	Wet Area Details
A - B	Wet Area Details

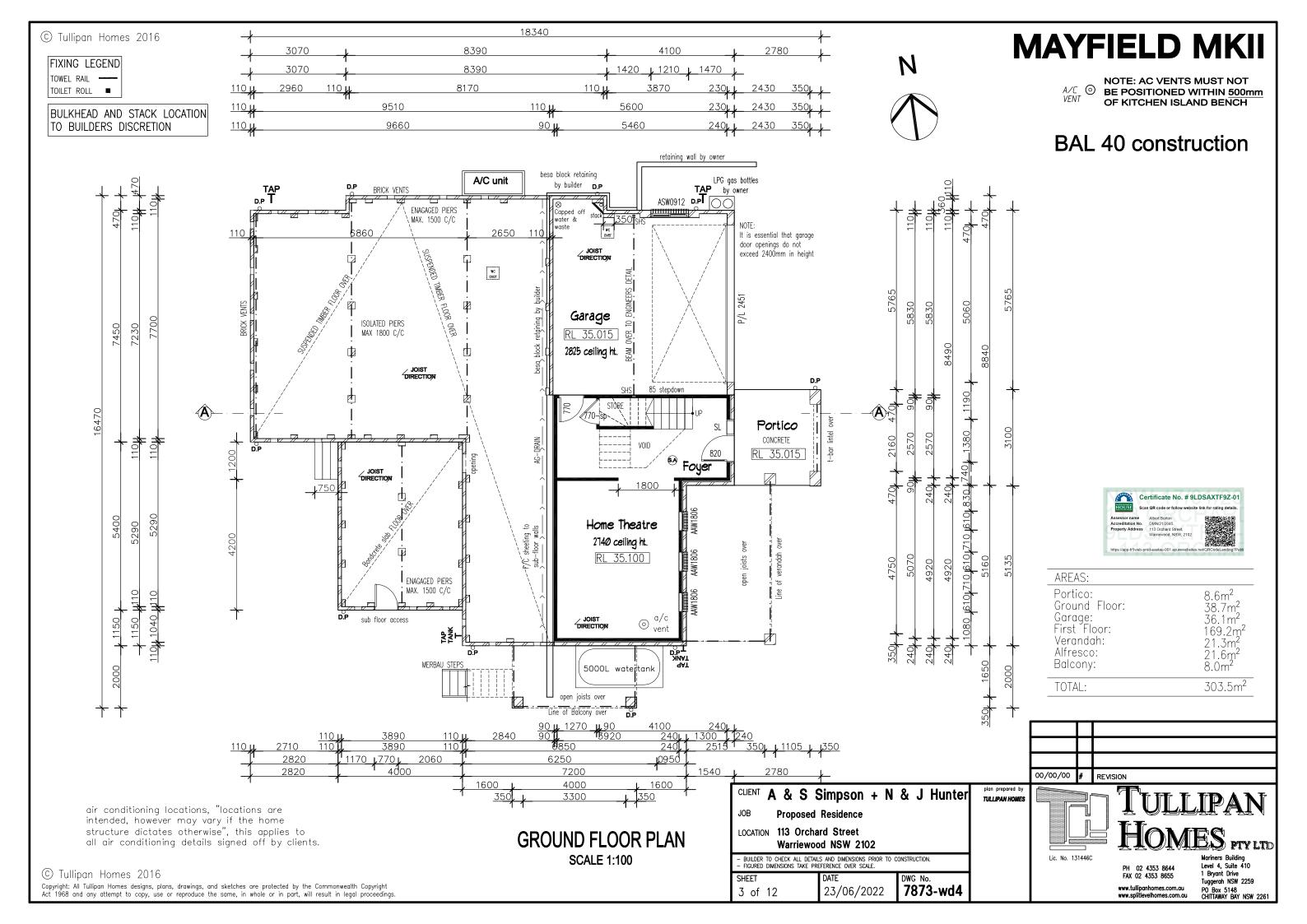
Site Details	
Site Area:	9598.8m²
Roof Area:	240.9⋒ ²
Harvested Roof Area:	As per BASIX
Total Garden & Lawn Area:	200⋒ ²

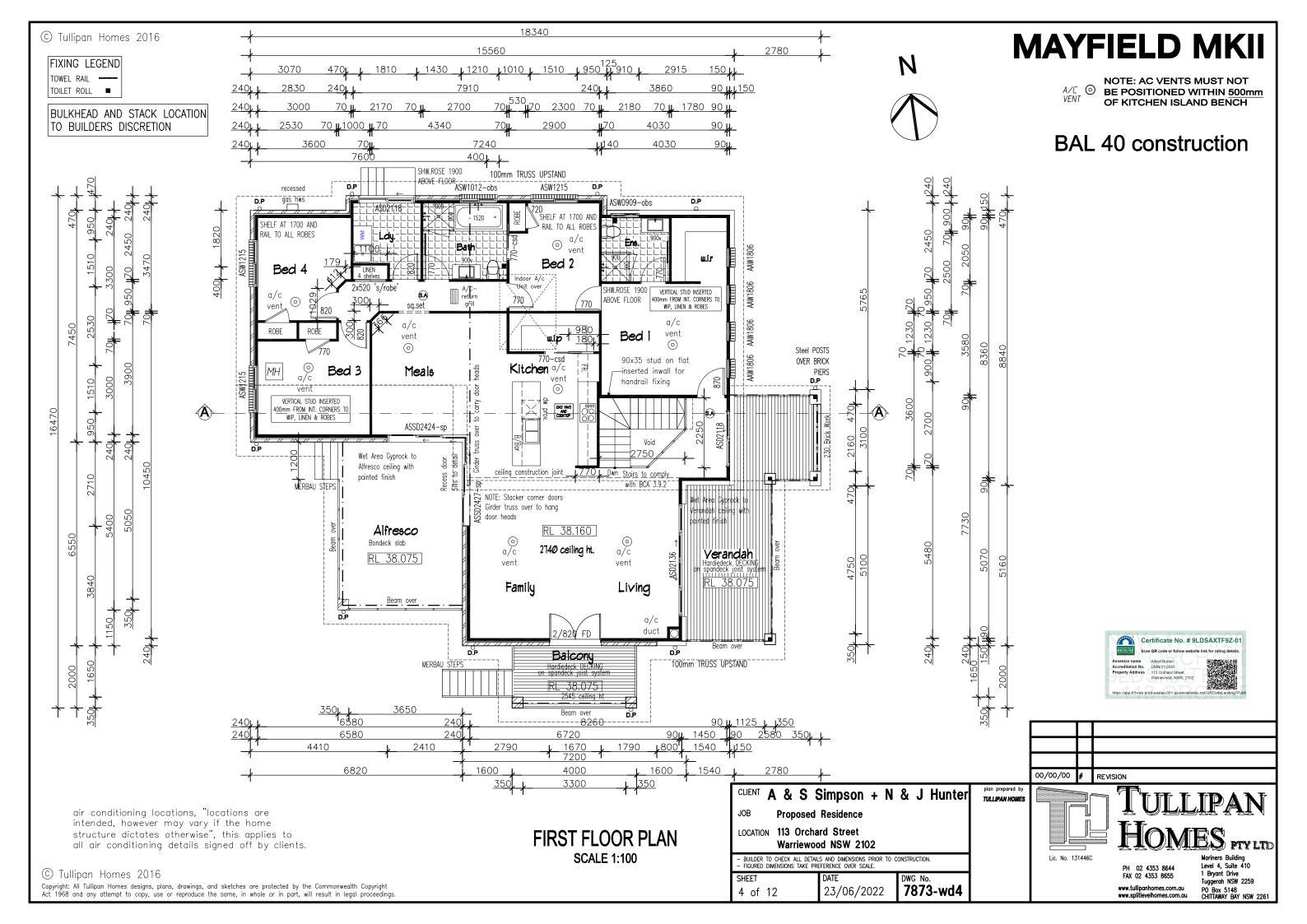


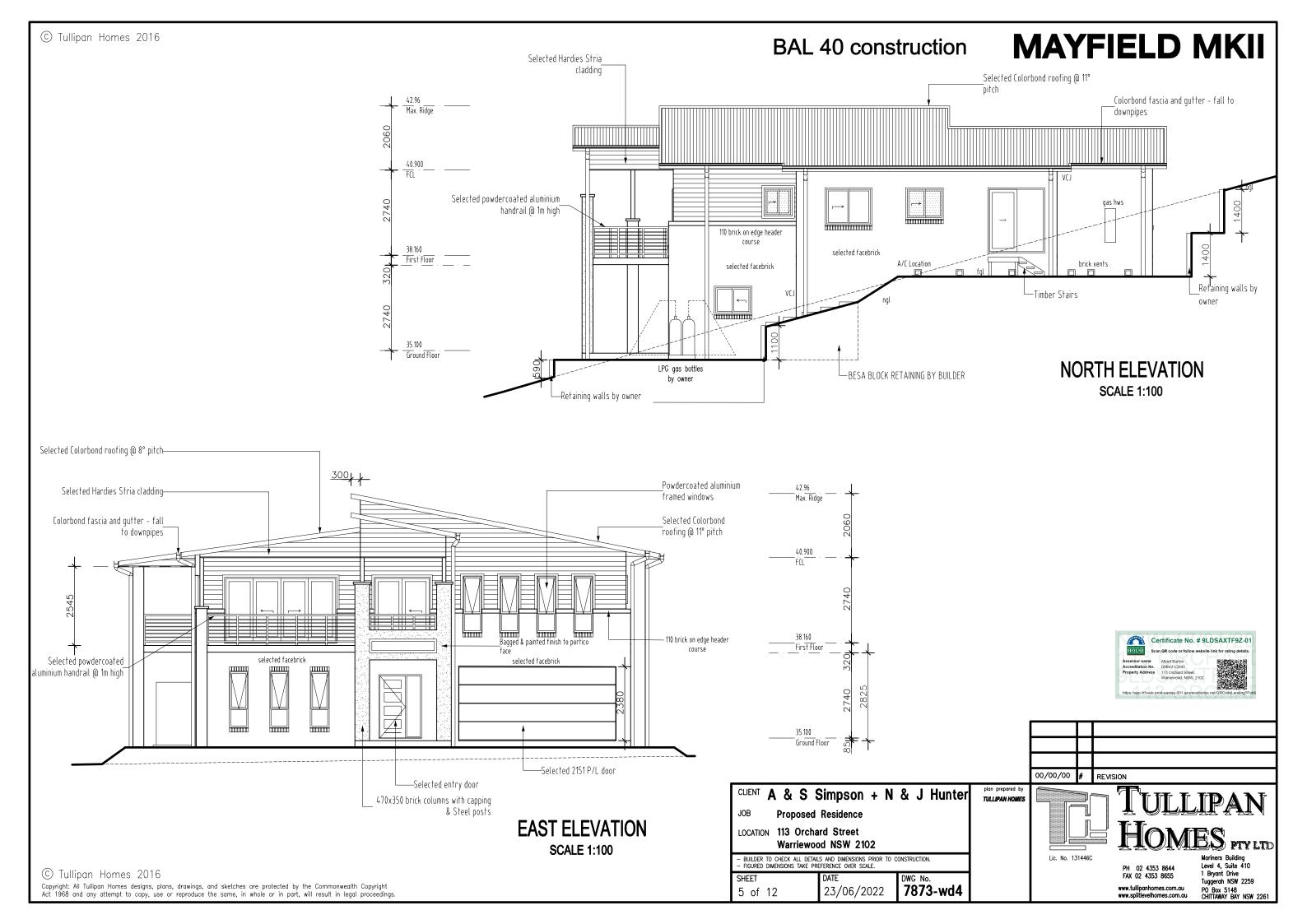


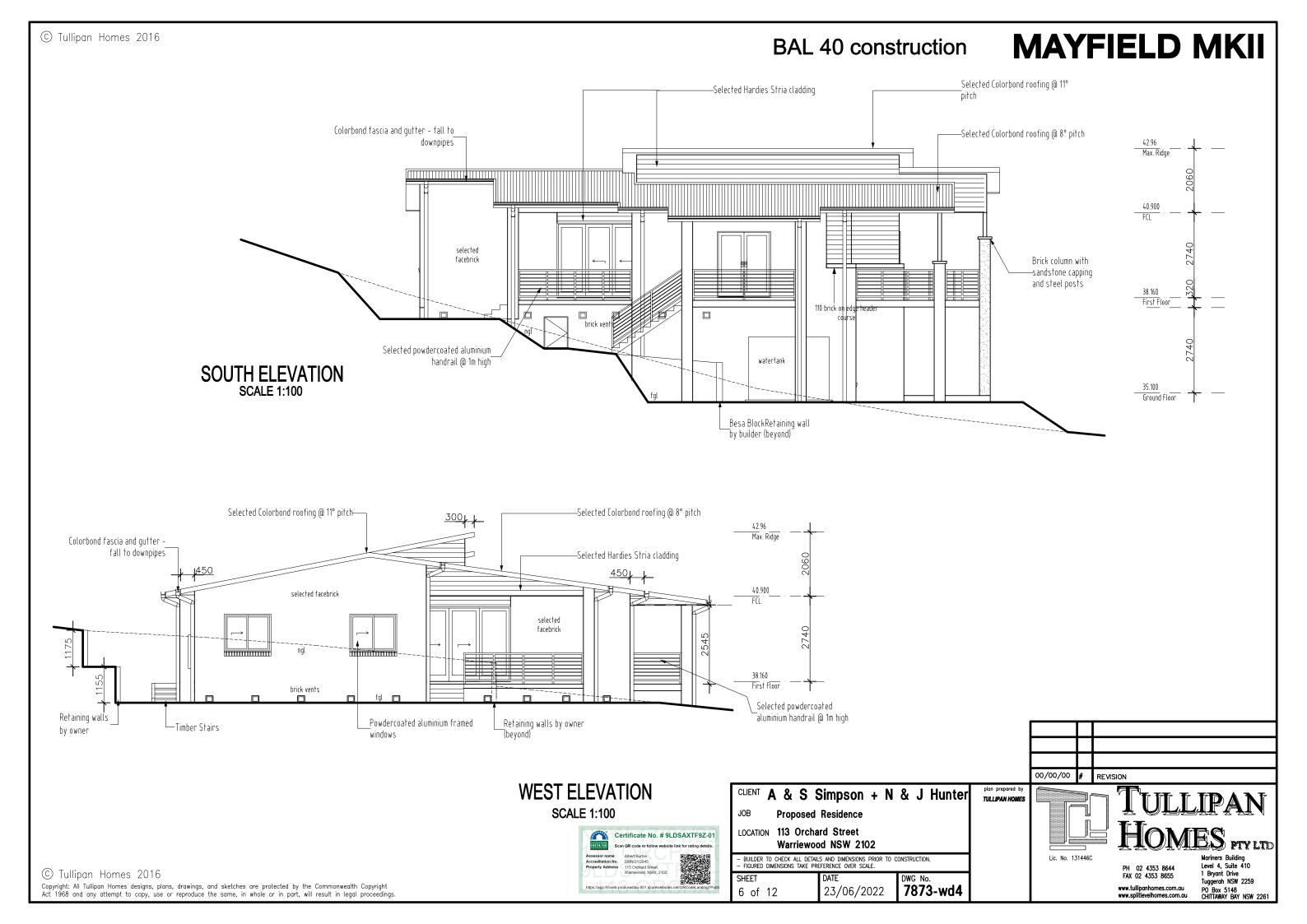


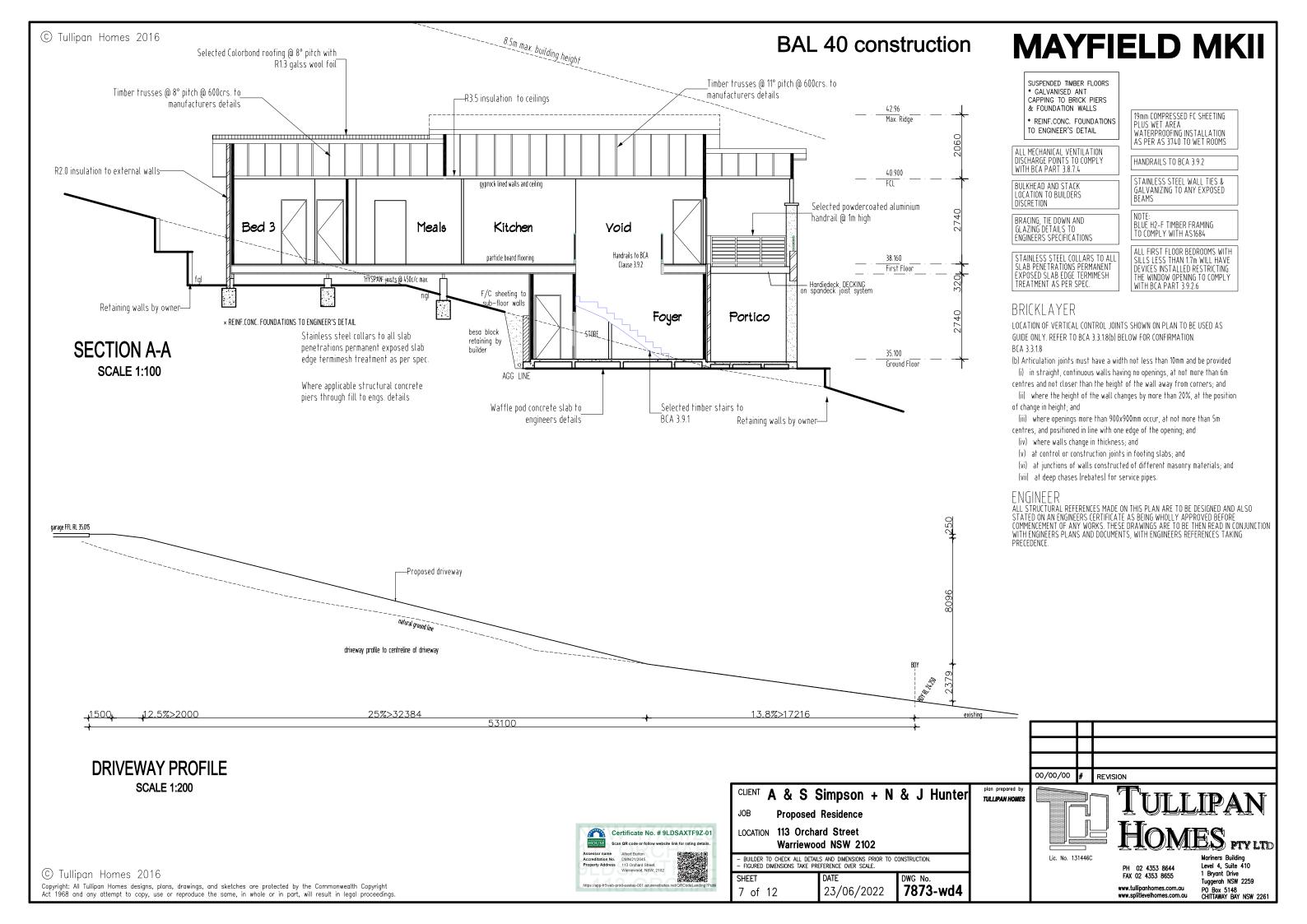


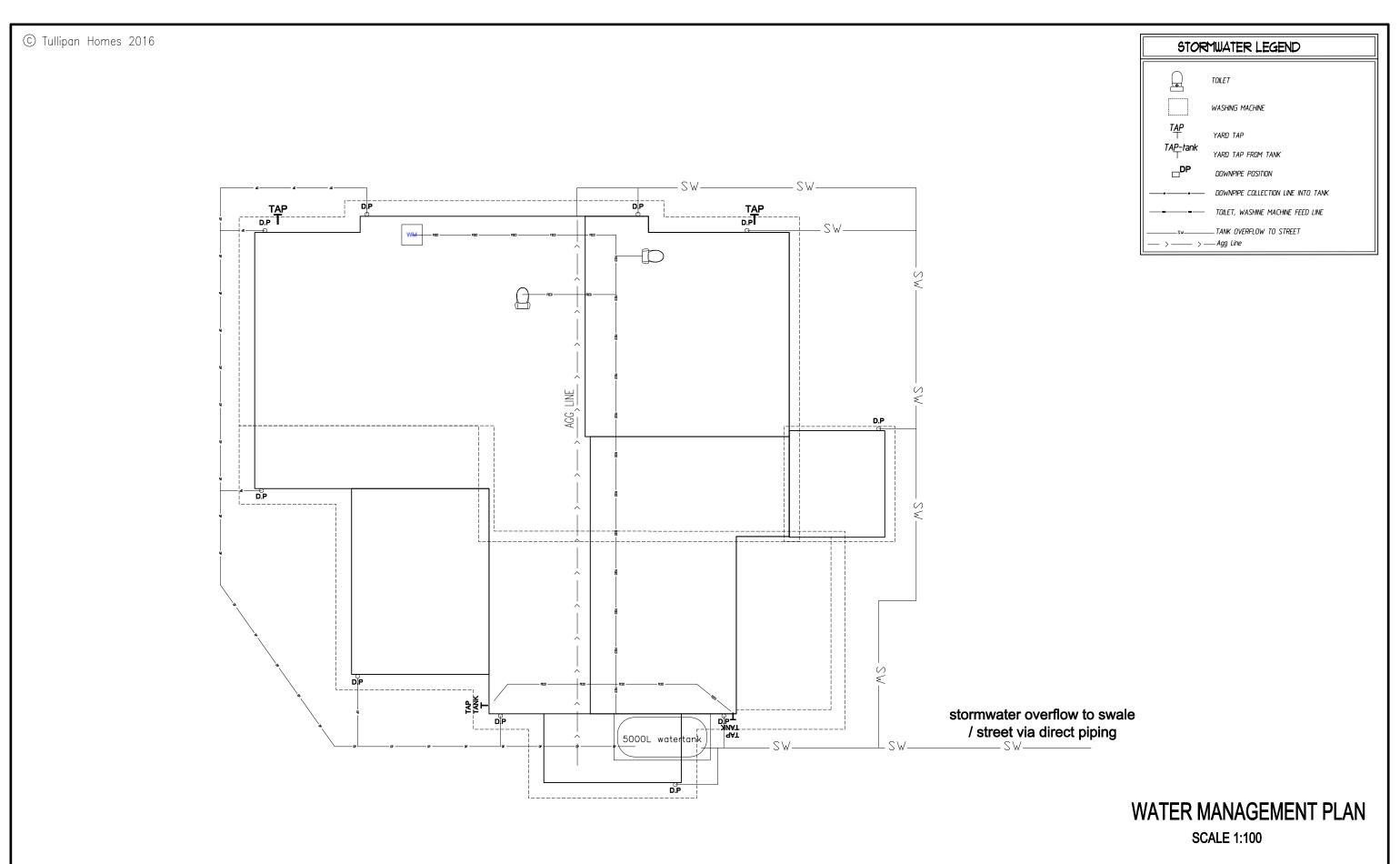














CLIENT A & S Simpson + N & J Hunter

JOB Proposed Residence

LOCATION 113 Orchard Street

Warriewood NSW 2102

- BUILDER TO CHECK ALL DETAILS AND DIMENSIONS PRIOR TO CONSTRUCTION.

BUILDER TO CHECK ALL DETAILS AND DIMENSIONS PRIOR TO CONSTRUCTION.
 FIGURED DIMENSIONS TAKE PREFERENCE OVER SCALE.

SHEET

DATE

DWG No.

SHEET DATE DWG No. **7873-wd4**



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