Nationwide House Energy Rating Scheme®
NatHERS® Certificate No. XCHF3X4Z60

Generated on 5 Dec 2024 using FirstRate5: 5.5.5a (3.22)

Property

Address	5 Graylind Close, Collaroy, NSW, 2097
Lot/DP	5/DP236524
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	22056/29.08.2024
Prepared by	Perfect Square Design

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	441.8	suburban
Unconditioned*	73.5	**NatHERS climate zone**
Total	515.3	56 Mascot AMO
Garage	51.8	

Accredited assessor

Name	Millard Perez
Business name	Thermperform
Email	millard@thermperform.com.au
Phone	+61402366704
Accreditation No.	101510
Assessor Accrediting Organisation	ABSA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

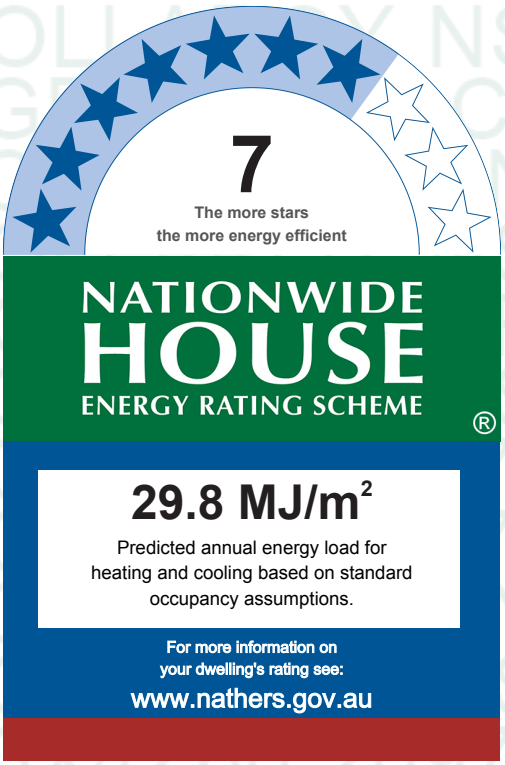
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. 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	18.9	10.9
Load limits	N/A	N/A

Features determining load limits

Floor type (lowest conditioned area)	N/A
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://www.fr5.com.au/QRCodeLanding?PublicId=XCHF3X4Z60 When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

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
- No
- 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.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
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					
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					
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					
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?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
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 performance assessment is not conducted)					
Appliances					
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 NatHERS assessment)					
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. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

Number of ceiling penetrations have been assumed.

Eaves/overhangs may not be directly opposite to wall (some eaves may be horizontally offset).

150mm has been added to projection of eaves to account for the Gutter & Fascia Board.

Default solar absorptance/colours have been applied where no details had been provided at time of assessment.

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Library	dayTime	13
Rumpus Storage	unconditioned	11
Gym	dayTime	17.6
Rumpus/Lift Hall/Bath	living	68.1
Rumpus Lift	dayTime	2.2
Living/Bath/Study/Stairs	living	60.5
Bed 5/WIR/Ensuite 5	bedroom	20.4
Bed 3/WIR 3	bedroom	19.6
Ensuite 3	nightTime	4
Bed 4/WIR4	bedroom	18.7
Lower Lift Shaft	doubleHeightVoid	2.2
GF Stair Void	doubleHeightVoid	5.6
Powder	unconditioned	3.9
Laundry	unconditioned	6.8
Home Theatre	dayTime	20
Garage	garage	51.8
Ground Floor Lift Shaft	doubleHeightVoid	2.2
Scullery/WIP	dayTime	8.1
Entry/Hall/Kitch/Mud/Dining/Family	kitchen	100.4
Entry/Stair Void	doubleHeightVoid	14.8
WIR 1/Ensuite 1	nightTime	16.7
Bed 1	bedroom	17.1
First Floor Lift Shaft	doubleHeightVoid	2.2
FF Living/Hall	dayTime	25.4
Bed 2	bedroom	20.7
WIR-2/Ensuite 2	nightTime	18.9

Window and glazed door *type and performance*

Default* windows

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

Custom* windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit

*Refer to glossary.

BRD-113_19 A	ESS Awning 52 DG 4mmET_12Ar_4mmET	3.31	0.44	0.42	0.46
BRD-001-37 A	ESS Sliding Window (52mm) SG 4mmClr	6.38	0.74	0.7	0.78
BRD-141-23 A	Signature Sliding Stacking Door DG 4SP10-10Ar-4mmClr	3.03	0.56	0.53	0.59
BRD-066-10 A	SIG Sliding Window (67mm) DG 4ET-12Ar-4	3.15	0.53	0.5	0.56
BRD-125-10 A	ESS Fixed Window External 52 Comm DG 6mmET_12Ar_6mmET	2.03	0.51	0.48	0.54
BRD-001-13 A	ESS Sliding Window (52mm) SG 4EA	4.57	0.63	0.6	0.66
BRD-035-44 A	SIG Sliding Door (100mm) DG 6mmEnTech_8Ar_4mmClr	2.99	0.54	0.51	0.57

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Library	BRD-113_19 A	18-24 AAW (W-04)	1800	2410	awning	90.0	E	No
Rumpus Storage	BRD-001-37 A	09-20 ASW (W-01)	857	2050	sliding	45.0	N	No
Gym	BRD-141-23 A	21-32 ASSD (D-01)	2100	3216	sliding	60.0	E	No
Gym	BRD-066-10 A	09-06 ASW (W-02)	857	610	sliding	45.0	N	No
Rumpus/Lift Hall/Bath	BRD-113_19 A	18-20 AAW (W-03)	1800	2050	awning	90.0	E	No
Rumpus/Lift Hall/Bath	BRD-141-23 A	21-30 ASSD (D-02)	2100	3048	sliding	60.0	E	No
Living/Bath/Study/Stairs	BRD-125-10 A	11-34 AFW (W-08)	1150	3400	fixed	0.0	E	No
Bed 5/WIR/Ensuite 5	BRD-141-23 A	21-27 ASSD (D-04)	2100	2720	sliding	60.0	E	No
Bed 3/WIR 3	BRD-141-23 A	21-30 ASSD (D-03)	2100	3000	sliding	60.0	E	No
Bed 3/WIR 3	BRD-001-13 A	09-24 ASW (W-07)	857	2410	sliding	30.0	N	No
Ensuite 3	BRD-001-13 A	09-06 ASW (W-06)	857	610	sliding	45.0	N	No
Bed 4/WIR4	BRD-001-13 A	09-20 ASW (W-05)	857	2050	sliding	30.0	N	No
Powder	BRD-001-37 A	09-12 ASW (W-13)	850	1210	sliding	45.0	S	No
Laundry	BRD-001-37 A	09-09 ASW (W-14)	850	857	sliding	45.0	S	No

*Refer to glossary.

Home Theatre	BRD-066-10 A	21-10 ASW (W-15)	2100	1000	sliding	45.0	W	No
Scullery/WIP	BRD-001-13 A	09-12 ASW (W-09)	857	1210	sliding	45.0	N	No
Entry/Hall/Kitch/Mud/Dining/Family	BRD-125-10 A	Entry Highlight (D-05) Lower	975	1700	fixed	0.0	W	No
Entry/Hall/Kitch/Mud/Dining/Family	BRD-125-10 A	Entry Sidelight (D-05)	2100	340	fixed	0.0	W	No
Entry/Hall/Kitch/Mud/Dining/Family	BRD-125-10 A	Entry Sidelight (D-05)	2100	340	fixed	0.0	W	No
Entry/Hall/Kitch/Mud/Dining/Family	BRD-125-10 A	27-49 AFW (W-12)	2700	4900	fixed	0.0	E	No
Entry/Hall/Kitch/Mud/Dining/Family	BRD-113_19 A	27-12 AAW (W-11)	2700	1210	awning	60.0	E	No
Entry/Hall/Kitch/Mud/Dining/Family	BRD-035-44 A	27-48 ASD (D-06)	2700	4810	sliding	45.0	E	No
Entry/Hall/Kitch/Mud/Dining/Family	BRD-125-10 A	07-33 AFW (W-10)	700	3310	fixed	0.0	N	No
Entry/Stair Void	BRD-125-10 A	Entry Highlight (D-05) Upper	2400	1700	fixed	0.0	W	No
WIR 1/Ensuite 1	BRD-125-10 A	Custom Arc Window (W-18)	1315	2400	fixed	0.0	W	No
Bed 1	BRD-066-10 A	06-26 ASW (W-17)	600	2650	sliding	30.0	S	No
Bed 1	BRD-141-23 A	21-30 ASSD (D-10)	2100	3000	sliding	60.0	E	No
FF Living/Hall	BRD-035-44 A	21-48 ASD (D-09)	2100	4810	sliding	45.0	E	No
FF Living/Hall	BRD-035-44 A	21-31 ASD (D-07)	2100	3118	sliding	45.0	W	No
Bed 2	BRD-035-44 A	21-40 ASD (D-08)	2100	4090	sliding	45.0	E	No
Bed 2	BRD-066-10 A	06-27 ASW (W-16)	600	2650	sliding	45.0	N	No
WIR-2/Ensuite 2	BRD-066-10 A	11-10 ASW (W-20)	1100	1000	sliding	45.0	W	No
WIR-2/Ensuite 2	BRD-066-10 A	11-10 ASW (W-19)	1100	1000	sliding	45.0	W	No

*Refer to glossary.

Roof window* *type and performance value*

Default* roof windows

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

Custom* roof windows

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

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

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

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Rumpus/Lift Hall/Bath	2100	820	100.0	S
Living/Bath/Study/Stairs	2100	820	100.0	S
Garage	2440	4480	0.0	W
Garage	2440	2380	0.0	W
Entry/Hall/Kitch/Mud/Dining-/Family	2100	1020	100.0	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	TP-CB - Rendered Brick Cavity Lined + Foilboard 20mm with reflective air-gaps within a 50mm cavity	0.5	Medium	Polyurethane rigid foamed aged (k = 0.028) (R0.7)	Yes
2	TP-RW - 200 Dincel Ret Walls	0.5	Medium	Polystyrene extruded (k = 0.028) (R2.6)	No

*Refer to glossary.

3	ST - Rendered Brick Cavity_Garage	0.5	Medium		No
4	TP-CLD - Lightweight Rendered	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No
5	TP-CLD - Stone Cladded	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Library	1	2600	3241	E	466	Yes
Library	1	2600	4000	S	590	Yes
Rumpus Storage	2	2600	4199	W	0	No
Rumpus Storage	1	2600	2610	N	590	Yes
Gym	1	2600	451	E	3196	Yes
Gym	1	2600	3749	E	5490	Yes
Gym	1	2600	4200	N	590	Yes
Rumpus/Lift Hall/Bath	2	2600	7542	S	0	No
Rumpus/Lift Hall/Bath	2	2600	2358	W	0	No
Rumpus/Lift Hall/Bath	2	2600	1082	N	0	No
Rumpus/Lift Hall/Bath	2	2600	3623	W	0	No
Rumpus/Lift Hall/Bath	1	2600	3892	S	590	Yes
Rumpus/Lift Hall/Bath	1	2600	2727	E	466	Yes
Rumpus/Lift Hall/Bath	1	2600	3430	E	3196	Yes
Rumpus/Lift Hall/Bath	2	2600	1880	W	0	No
Rumpus/Lift Hall/Bath	2	2600	7542	N	0	No
Rumpus Lift	2	2600	1329	N	0	No
Rumpus Lift	2	2600	1629	W	0	No
Rumpus Lift	2	2600	1330	S	0	No
Living/Bath/Study/Stairs	1	2600	4499	E	2954	No
Living/Bath/Study/Stairs	2	2600	1600	W	0	No
Living/Bath/Study/Stairs	2	2600	1597	S	0	No
Living/Bath/Study/Stairs	2	2600	4137	W	0	No
Living/Bath/Study/Stairs	2	2600	2004	S	0	No
Living/Bath/Study/Stairs	2	2600	1746	W	0	No
Living/Bath/Study/Stairs	1	2600	6876	S	0	Yes
Bed 5/WIR/Ensuite 5	1	2600	5099	E	2954	Yes
Bed 3/WIR 3	1	2600	4000	E	2954	Yes
Bed 3/WIR 3	1	2600	3700	N	0	Yes
Ensuite 3	1	2600	1410	N	0	Yes
Bed 4/WIR4	1	2600	5186	N	0	Yes

*Refer to glossary.

Bed 4/WIR4	2	2600	4389	W	0	No
Lower Lift Shaft	2	2600	1630	W	0	No
GF Stair Void	1	2700	2040	S	440	Yes
Powder	1	2700	1600	S	0	Yes
Laundry	1	2700	1900	S	0	Yes
Home Theatre	1	2700	2047	N	0	Yes
Home Theatre	1	2700	3574	W	754	Yes
Home Theatre	1	2700	5600	S	0	Yes
Garage	3	2557	6741	N	0	Yes
Garage	3	2557	7799	W	1783	Yes
Garage	3	2557	1049	S	0	Yes
Scullery/WIP	1	2700	2200	N	0	Yes
Entry/Hall/Kitch/Mud/Dining/Family	1	3075	2225	W	2801	Yes
Entry/Hall/Kitch/Mud/Dining/Family	1	2700	4733	S	440	Yes
Entry/Hall/Kitch/Mud/Dining/Family	1	2700	6074	E	440	No
Entry/Hall/Kitch/Mud/Dining/Family	1	2700	1054	N	7694	Yes
Entry/Hall/Kitch/Mud/Dining/Family	1	2700	7703	E	1974	Yes
Entry/Hall/Kitch/Mud/Dining/Family	1	2700	5073	N	0	Yes
Entry/Stair Void	1	2400	2225	W	0	Yes
WIR 1/Ensuite 1	1	2400	291	N	0	Yes
WIR 1/Ensuite 1	1	2400	160	E	0	Yes
WIR 1/Ensuite 1	4	2400	896	N	0	Yes
WIR 1/Ensuite 1	4	2400	434	NW	0	Yes
WIR 1/Ensuite 1	4	2400	330	W	0	Yes
WIR 1/Ensuite 1	4	2400	3214	W	0	Yes
WIR 1/Ensuite 1	1	2400	4638	S	0	Yes
Bed 1	1	2400	4790	S	0	Yes
Bed 1	1	2400	3574	E	590	Yes
FF Living/Hall	1	2400	5514	E	590	Yes
FF Living/Hall	1	2400	3200	W	993	Yes
FF Living/Hall	1	2400	140	S	0	Yes
Bed 2	1	2400	4515	E	590	Yes
Bed 2	4	2400	4590	N	0	No
WIR-2/Ensuite 2	4	2400	2093	N	0	No
WIR-2/Ensuite 2	5	2400	1608	N	0	No

*Refer to glossary.

WIR-2/Ensuite 2	5	2400	330	N	0	No
WIR-2/Ensuite 2	5	2400	434	NW	0	No
WIR-2/Ensuite 2	5	2400	4015	W	0	Yes
WIR-2/Ensuite 2	4	2400	909	S	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	ST - Internal Plasterboard Stud Wall_Insulated	53.4	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	267.3	
3	ST - Internal Plasterboard Stud Wall_Garage	35.7	Glass fibre batt: R2.5 (R2.5)

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Library	TPM - CSOG: Slab on Ground	13	Enclosed	R0.0	Timber
Rumpus Storage	TPM - CSOG: Slab on Ground	11	Enclosed	R0.0	Timber
Gym	TPM - CSOG: Slab on Ground	17.6	Enclosed	R0.0	Timber
Rumpus/Lift Hall/Bath	TPM - CSOG: Slab on Ground	6.1	Enclosed	R0.0	Tiles
Rumpus/Lift Hall/Bath	TPM - CSOG: Slab on Ground	12.2	Enclosed	R0.0	Timber
Rumpus/Lift Hall/Bath	TPM - CSOG: Slab on Ground	49.8	Enclosed	R0.0	Timber
Rumpus Lift	TPM - CSOG: Slab on Ground	2.2	Enclosed	R0.0	none
Living/Bath/Stud- y/Stairs	FR5 - 300mm concrete slab Lined	11.5	Enclosed	R0.0	Timber
Living/Bath/Stud- y/Stairs	FR5 - 300mm concrete slab Lined	7.9	Enclosed	R0.0	Tiles
Living/Bath/Stud- y/Stairs	FR5 - 300mm concrete slab Lined	4.1	Enclosed	R0.0	Timber
Living/Bath/Stud- y/Stairs	FR5 - 300mm concrete slab Lined	31.3	Enclosed	R0.0	Timber
Living/Bath/Stud- y/Stairs	FR5 - 300mm concrete slab Lined	5.8	Enclosed	R0.0	Timber
Bed 5/WIR/Ensuite 5	FR5 - 300mm concrete slab Lined	1.6	Enclosed	R0.0	Carpet
Bed 5/WIR/Ensuite 5	FR5 - 300mm concrete slab Lined	6.5	Enclosed	R0.0	Carpet
Bed 5/WIR/Ensuite 5	FR5 - 300mm concrete slab Lined	3.2	Enclosed	R0.0	Tiles

*Refer to glossary.

Bed 5/WIR/Ensuite 5	FR5 - 300mm concrete slab Lined	2.1	Enclosed	R0.0	Carpet
Bed 5/WIR/Ensuite 5	FR5 - 300mm concrete slab Lined	1.1	Enclosed	R0.0	Carpet
Bed 5/WIR/Ensuite 5	FR5 - 300mm concrete slab Lined	5.4	Enclosed	R0.0	Carpet
Bed 5/WIR/Ensuite 5	FR5 - 300mm concrete slab Lined	0.4	Enclosed	R0.0	Tiles
Bed 3/WIR 3	FR5 - 300mm concrete slab Lined	16.4	Enclosed	R0.0	Carpet
Bed 3/WIR 3	FR5 - 300mm concrete slab Lined	3.2	Enclosed	R0.0	Carpet
Ensuite 3	FR5 - 300mm concrete slab Lined	4	Enclosed	R0.0	Tiles
Bed 4/WIR4	FR5 - 300mm concrete slab Lined	18.7	Enclosed	R0.0	Carpet
Lower Lift Shaft	No Floor	2.2	Enclosed	R0.0	No Floor
GF Stair Void	No Floor	2	Enclosed	R1.1	No Floor
GF Stair Void	No Floor	3.6	Enclosed	R1.1	No Floor
Powder	FR5 - 350mm concrete slab Lined	1.7	Enclosed	R1.1	Tiles
Powder	FR5 - 350mm concrete slab Lined	2.2	Enclosed	R0.0	Tiles
Laundry	FR5 - 350mm concrete slab Lined	6	Enclosed	R0.0	Tiles
Laundry	FR5 - 350mm concrete slab Lined	0.8	Enclosed	R1.1	Tiles
Home Theatre	FR5 - 350mm concrete slab Lined	0.8	Enclosed	R0.0	Carpet
Home Theatre	FR5 - 350mm concrete slab Lined	19.2	Enclosed	R0.0	Carpet
Garage	FR5 - 350mm concrete slab Lined	2.2	Enclosed	R0.0	none
Garage	FR5 - 350mm concrete slab Lined	14.5	Enclosed	R1.1	none
Garage	FR5 - 350mm concrete slab Lined	35.2	Enclosed	R0.0	none
Ground Floor Lift Shaft	No Floor	2.2	Enclosed	R1.1	No Floor
Scullery/WIP	FR5 - 350mm concrete slab Lined	8.1	Enclosed	R1.1	Timber
Entry/Hall/Kitch- /Mud/Dining/Fami- ly	FR5 - 350mm concrete slab Lined	72.4	Enclosed	R1.1	Timber
Entry/Hall/Kitch- /Mud/Dining/Fami- ly	FR5 - 350mm concrete slab Lined	11.5	Enclosed	R0.0	Timber
Entry/Hall/Kitch- /Mud/Dining/Fami- ly	FR5 - 350mm concrete slab Lined	16.5	Enclosed	R1.1	Timber

*Refer to glossary.

Entry/Stair Void	No Floor	14.8	Enclosed	R0.0	No Floor
WIR 1/Ensuite 1	FR5 - 350mm concrete slab Lined	8.1	Enclosed	R0.0	Carpet
WIR 1/Ensuite 1	FR5 - 350mm concrete slab Lined	8.5	Enclosed	R0.0	Tiles
Bed 1	FR5 - 350mm concrete slab Lined	17.1	Enclosed	R0.0	Carpet
First Floor Lift Shaft	No Floor	2.2	Enclosed	R0.0	No Floor
FF Living/Hall	FR5 - 350mm concrete slab Lined	25.4	Enclosed	R0.0	Timber
Bed 2	FR5 - 350mm concrete slab Lined	20.7	Enclosed	R0.0	Carpet
WIR-2/Ensuite 2	FR5 - 350mm concrete slab Lined	9	Enclosed	R0.0	Tiles
WIR-2/Ensuite 2	FR5 - 350mm concrete slab Lined	9.9	Enclosed	R0.0	Carpet

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Library	Plasterboard	R2.1	No
Rumpus Storage	Plasterboard	R2.1	No
Gym	Plasterboard	R2.1	No
Rumpus/Lift Hall/Bath	FR5 - 300mm concrete slab Lined	R0.0	No
Rumpus/Lift Hall/Bath	Plasterboard	R2.1	No
Rumpus/Lift Hall/Bath	FR5 - 300mm concrete slab Lined	R0.0	No
Rumpus/Lift Hall/Bath	FR5 - 300mm concrete slab Lined	R0.0	No
Rumpus/Lift Hall/Bath	Plasterboard	R2.1	No
Rumpus Lift	FR5 - 300mm concrete slab Lined	R0.0	No
Living/Bath/Stud- y/Stairs	FR5 - 350mm concrete slab Lined	R1.1	No
Living/Bath/Stud- y/Stairs	FR5 - 350mm concrete slab Lined	R1.1	No
Living/Bath/Stud- y/Stairs	FR5 - 350mm concrete slab Lined	R1.1	No
Living/Bath/Stud- y/Stairs	FR5 - 350mm concrete slab Lined	R1.1	No
Living/Bath/Stud- y/Stairs	FR5 - 350mm concrete slab Lined	R1.1	No
Bed 5/WIR/Ensuite 5	Plasterboard	R2.1	No

*Refer to glossary.

Bed 5/WIR/Ensuite 5	FR5 - 350mm concrete slab Lined	R1.1	No
Bed 5/WIR/Ensuite 5	FR5 - 350mm concrete slab Lined	R1.1	No
Bed 5/WIR/Ensuite 5	FR5 - 350mm concrete slab Lined	R1.1	No
Bed 5/WIR/Ensuite 5	Plasterboard	R2.1	No
Bed 5/WIR/Ensuite 5	FR5 - 350mm concrete slab Lined	R1.1	No
Bed 5/WIR/Ensuite 5	FR5 - 350mm concrete slab Lined	R1.1	No
Bed 3/WIR 3	FR5 - 350mm concrete slab Lined	R1.1	No
Bed 3/WIR 3	Plasterboard	R2.1	No
Ensuite 3	FR5 - 350mm concrete slab Lined	R1.1	No
Bed 4/WIR4	FR5 - 350mm concrete slab Lined	R1.1	No
Lower Lift Shaft	FR5 - 350mm concrete slab Lined	R1.1	No
GF Stair Void	FR5 - 350mm concrete slab Lined	R0.0	No
GF Stair Void	Plasterboard	R2.1	No
Powder	FR5 - 350mm concrete slab Lined	R0.0	No
Powder	FR5 - 350mm concrete slab Lined	R0.0	No
Laundry	FR5 - 350mm concrete slab Lined	R0.0	No
Laundry	FR5 - 350mm concrete slab Lined	R0.0	No
Home Theatre	Plasterboard	R2.1	No
Home Theatre	FR5 - 350mm concrete slab Lined	R0.0	No
Garage	Plasterboard	R0.0	No
Garage	FR5 - 350mm concrete slab Lined	R0.0	No
Garage	FR5 - 350mm concrete slab Lined	R0.0	No
Ground Floor Lift Shaft	FR5 - 350mm concrete slab Lined	R0.0	No
Scullery/WIP	FR5 - 350mm concrete slab Lined	R0.0	No
Entry/Hall/Kitch- /Mud/Dining/Fami- ly	Plasterboard	R2.1	No
Entry/Hall/Kitch- /Mud/Dining/Fami- ly	FR5 - 350mm concrete slab Lined	R0.0	No

*Refer to glossary.

Entry/Hall/Kitch- /Mud/Dining/Fami- ly	FR5 - 350mm concrete slab Lined	R0.0	No
Entry/Stair Void	Plasterboard	R6.3	No
WIR 1/Ensuite 1	Plasterboard	R6.3	No
WIR 1/Ensuite 1	Plasterboard	R6.3	No
Bed 1	Plasterboard	R6.3	No
First Floor Lift Shaft	Plasterboard	R6.3	No
FF Living/Hall	Plasterboard	R6.3	No
Bed 2	Plasterboard	R6.3	No
WIR-2/Ensuite 2	Plasterboard	R6.3	No
WIR-2/Ensuite 2	Plasterboard	R6.3	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Rumpus/Lift Hall/Bath	1	Exhaust Fans	250	250	Unsealed
Living/Bath/Study/Stairs	1	Exhaust Fans	250	250	Unsealed
Bed 5/WIR/Ensuite 5	1	Exhaust Fans	250	250	Unsealed
Ensuite 3	1	Exhaust Fans	250	250	Unsealed
Powder	1	Exhaust Fans	250	250	Unsealed
Entry/Hall/Kitch/Mud/Dini- ng/Family	1	Exhaust Fans	250	250	Sealed
Entry/Stair Void	5	Downlights	90	90	Sealed
WIR 1/Ensuite 1	4	Downlights	90	90	Sealed
WIR 1/Ensuite 1	1	Exhaust Fans	250	250	Unsealed
Bed 1	6	Downlights	90	90	Sealed
FF Living/Hall	10	Downlights	90	90	Sealed
Bed 2	8	Downlights	90	90	Sealed
WIR-2/Ensuite 2	4	Downlights	90	90	Sealed
WIR-2/Ensuite 2	1	Exhaust Fans	250	250	Unsealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
SlabExt:Slab - Suspended Slab - External Insul : 300mm: 300mm Suspended Slab - External Insul	0.0	0.5	Medium
SlabExt:Slab - Suspended Slab - External Insul : 350mm: 350mm Suspended Slab - External Insul	0.0	0.5	Medium

*Refer to glossary.

Slab:Slab - Suspended Slab : 350mm: 350mm Suspended Slab	0.0	0.5	Medium
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

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

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

Heating system

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

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

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.	

*Refer to glossary.

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.
COP	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 ventilated corridor in a Class 2 building.
Exposure category – exposed	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 – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought 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)

*Refer to glossary.