Nationwide House Energy Rating Scheme® NatHERS® Certificate No. #HR-DDTTOC-01

Generated on 12 Nov 2024 using Hero 4.1 (Chenath v3.23)

Property

Address	84 Hilma St, Collaroy Plateau, NSW, 2097
Lot/DP	Lot 31, Sec L, DP33000
NCC Class*	1a
Floor/all Floors	1 of 3 floors
Type	New

Plans

Main Plan	Job No. 24081, Oct 2024
Prepared by	H&C Design

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	187.7	Suburban	
Unconditioned*	13.2	**NatHERS climate zone**	
Total	289.1	56 - Mascot AMO	
Garage	88.2		

Accredited assessor

Name	Peter Barlow
Business name	Barlow Energy Efficiency Services
Email	bees1@optusnet.com.au
Phone	+61 297057097
Accreditation No.	20045
Assessor Accrediting Organisation	ABSA
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

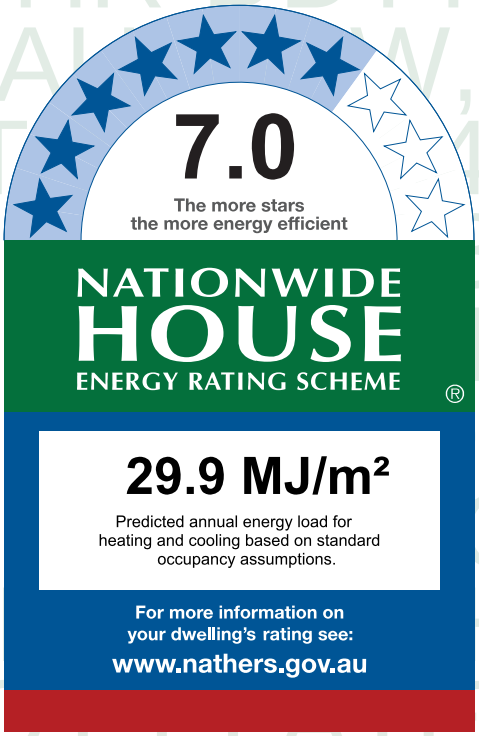
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	18.4	11.5
Load limits	25	18

Features determining load limits

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

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 http://www.hero-software.com.au/pdf/HR-DDTTOC-01. When using either link, ensure you are visiting http://www.hero-software.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 and 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 Standard: NatHERS heating and cooling load limits* 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.

* 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 Certifi cate?	☐	☐	☐	☐	☐
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 what is shown on the NatHERS-stamped plans?	☐	☐	☐	☐	☐

* 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 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.

* Refer to glossary.

Room *schedule*

Room	Zone Type	Area (m²)
Basement/Garage	Garage	88.20
Entry	Day Time	10.58
Powder Room	Unconditioned	3.51
Laundry	Unconditioned	3.91
Pantry	Day Time	4.20
Hall/Lift Gd	Day Time	10.73
Kitchen/Dining/Lounge	Kitchen/Living	80.42
Bed 2	Bedroom	11.92
Bed 1	Bedroom	14.44
WIR 1	Night Time	8.91
Bath 1st	Unconditioned	5.83
Bed 3	Bedroom	11.78
Sitting/Stair 1st	Living	20.39
Ensuite 1	Night Time	7.19
Hall/Lift 1st	Day Time	15.04

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
TIM-003-01 W	Timber A DG Air Fill Clear-Clear	3.00	0.48	0.46	0.50
TIM-004-01 W	Timber B DG Air Fill Clear-Clear	3.00	0.56	0.53	0.59

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit

* Refer to glossary.

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-003-086	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - DOUBLE GLAZED	3.30	0.51	0.48	0.53
AWS-008-068	RESIDENTIAL SERIES 516 AWNING WINDOW- DOUBLE GLAZED	3.42	0.45	0.43	0.47
AWS-010-320	RESIDENTIAL SERIES 517 AWNING WINDOW- DOUBLE GLAZED	3.80	0.45	0.42	0.47
AWS-019-030	RESIDENTIAL SERIES 549 ENTRY DOOR - DOUBLE GLAZED	3.40	0.48	0.45	0.50
AWS-036-304	DESIGNER SERIES 618 MAGNUM SLIDING DOOR - SINGLE GLAZED	2.98	0.48	0.46	0.50
AWS-069-303	RES SERIES 517 FIXED WINDOW	2.52	0.54	0.51	0.57
BRZ-003-013	52mm Altair Louvre Window System	4.30	0.57	0.54	0.60

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Basement/Garage	AWS-003-086	W03	600	2100	Sliding	0	S	None
Bath 1st	AWS-010-320	W20	610	1500	Awning	90	W	None
Bed 1	BRZ-003-013	W16	2150	600	Louvre	90	E	None
Bed 1	BRZ-003-013	W17	2150	600	Louvre	90	E	None
Bed 1	AWS-036-304	D7	2150	1870	Sliding Door	45	E	None
Bed 1	AWS-010-320	W22	600	1500	Awning	90	S	None
Bed 2	AWS-008-068	W23	610	1800	Awning	90	N	None
Bed 3	AWS-010-320	W12	610	1800	Awning	90	N	None
Ensuite 1	AWS-010-320	W18	900	900	Awning	90	S	None
Entry	TIM-004-01 W	D1 side	1450	525	Fixed	0	E	None
Entry	TIM-004-01 W	D1 side	1450	525	Fixed	0	E	None
Entry	TIM-003-01 W	W11	1450	950	Hinged Door	90	E	None
Entry	AWS-069-303	W02	2150	700	Fixed	0	S	None
Entry	AWS-003-086	W01	600	2100	Sliding	45	N	None
Hall/Lift 1st	AWS-010-320	W19	1200	1200	Awning	45	S	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Hall/Lift Gd	AWS-019-030	D3	900	900	Hinged Door	90	N	None
Hall/Lift Gd	BRZ-003-013	W10	2450	400	Louvre	90	N	None
Hall/Lift Gd	AWS-036-304	D4	2450	3500	Sliding Door	60	N	None
Kitchen/Dining/Lounge	BRZ-003-013	W13	610	2500	Louvre	90	N	None
Kitchen/Dining/Lounge	AWS-010-320	W14	610	1800	Awning	90	N	None
Kitchen/Dining/Lounge	BRZ-003-013	W04	2450	900	Louvre	90	E	None
Kitchen/Dining/Lounge	BRZ-003-013	W05	2450	900	Louvre	90	E	None
Kitchen/Dining/Lounge	AWS-036-304	D2	2450	4500	Sliding Door	60	E	None
Kitchen/Dining/Lounge	BRZ-003-013	W06-B	610	500	Louvre	30	S	None
Kitchen/Dining/Lounge	AWS-069-303	W06-C	610	2000	Fixed	0	S	None
Kitchen/Dining/Lounge	BRZ-003-013	W06-A	610	500	Louvre	30	S	None
Kitchen/Dining/Lounge	AWS-036-304	D5	2450	3700	Sliding Door	90	W	None
Laundry	AWS-010-320	W08	1170	600	Awning	90	S	None
Pantry	BRZ-003-013	W07	1170	1200	Louvre	90	S	None
Powder Room	BRZ-003-013	W09-1	1030	600	Louvre	90	W	None
Powder Room	AWS-069-303	W09-2	1120	600	Fixed	0	W	None
Sitting/Stair 1st	AWS-010-320	W24	2000	900	Awning	45	N	None
Sitting/Stair 1st	AWS-069-303	W25	600	800	Fixed	0	E	None
Sitting/Stair 1st	AWS-069-303	W27	600	800	Fixed	0	E	None
Sitting/Stair 1st	AWS-036-304	D6	2150	1870	Sliding Door	45	E	None
Sitting/Stair 1st	BRZ-003-013	W15	2150	900	Louvre	90	S	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

* Refer to glossary.

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
GEN-04-005a	Double-glazed Opal Skylight

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
Ensuite 1	GEN-04-005a	SKYLT 09	600	0.61	S	None	Yes	80
Hall/Lift 1st	GEN-04-005a	SKYLT 08	600	0.64	N	None	Yes	80
WIR 1	GEN-04-005a	SKYLT 10	600	0.67	S	None	Yes	80

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Basement/Garage	2400	5100	0	E
Entry	700	950	90	E

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
CONCBLOCK-190-FCF-EXP-A	Concrete Block 190mm Fully Core-Filled - Exposed	0.50	Medium	0.00	No
CONCBLOCK-190-FCF-EXP-B	Concrete Block 190mm Fully Core-Filled - Exposed	0.50	Medium	1.00	No
FC-NONREFL-CAV	Fibre-Cement Clad Battened (Non-Refl Cavity) Stud Wall	0.50	Medium	2.70	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	2580	5667	E	843	Yes
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	1500	5878	S		Yes
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	1200	301	W		Yes
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	1000	4118	S		Yes
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	800	301	E		Yes
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	500	4977	S		Yes
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	2580	2870	W		No
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	2580	3589	N		No
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	2580	4994	W		No
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	800	5231	N		Yes
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	1780	5231	N		No
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	1580	4118	S		No
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	1380	301	W		No
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	1780	301	E		No
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	2080	4977	S		No
Basement/Garage	CONCBLOCK-190-FCF-EXP-A	1080	5878	S		No
Bath 1st	FC-NONREFL-CAV	2450	2422	W	540	Yes
Bed 1	FC-NONREFL-CAV	2450	3610	E	2673	Yes
Bed 1	FC-NONREFL-CAV	2400	4000	S	383	No
Bed 2	FC-NONREFL-CAV	2450	4114	N	384	Yes
Bed 3	FC-NONREFL-CAV	2450	3584	W	540	Yes
Bed 3	FC-NONREFL-CAV	2450	3492	N	384	Yes
Ensuite 1	FC-NONREFL-CAV	2450	2361	S	383	No
Entry	CONCBLOCK-190-FCF-EXP-B	2400	1993	E	1399	Yes
Entry	CONCBLOCK-190-FCF-EXP-B	2400	915	S	5713	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Entry	CONCBLOCK-190-FCF-EXP-B	1400	6869	N	316	Yes
Entry	CONCBLOCK-190-FCF-EXP-B	1000	6869	N		No
Hall/Lift 1st	FC-NONREFL-CAV	2450	3589	S	383	No
Hall/Lift 1st	FC-NONREFL-CAV	2450	1594	W	540	Yes
Hall/Lift Gd	FC-NONREFL-CAV	2700	4077	N	5381	Yes
Hall/Lift Gd	FC-NONREFL-CAV	2700	1198	S	383	Yes
Hall/Lift Gd	FC-NONREFL-CAV	2700	1101	W	388	Yes
Hall/Lift Gd	FC-NONREFL-CAV	2700	3507	N	5381	Yes
Kitchen/Dining/Lounge	FC-NONREFL-CAV	2700	10094	N	387	Yes
Kitchen/Dining/Lounge	FC-NONREFL-CAV	2700	8084	E	2584	Yes
Kitchen/Dining/Lounge	FC-NONREFL-CAV	2700	4664	S	383	Yes
Kitchen/Dining/Lounge	FC-NONREFL-CAV	2700	301	W	13495	Yes
Kitchen/Dining/Lounge	FC-NONREFL-CAV	2700	3932	S	684	Yes
Kitchen/Dining/Lounge	FC-NONREFL-CAV	2700	301	E	11180	Yes
Kitchen/Dining/Lounge	FC-NONREFL-CAV	2700	1498	S	383	Yes
Kitchen/Dining/Lounge	FC-NONREFL-CAV	2700	4994	W	4125	Yes
Laundry	FC-NONREFL-CAV	2700	2057	S	383	Yes
Pantry	FC-NONREFL-CAV	2700	2209	S	383	Yes
Powder Room	FC-NONREFL-CAV	2700	1845	S	383	Yes
Powder Room	FC-NONREFL-CAV	2700	1900	W	388	Yes
Sitting/Stair 1st	FC-NONREFL-CAV	2450	3098	N	384	Yes
Sitting/Stair 1st	FC-NONREFL-CAV	2450	1308	E	4463	Yes
Sitting/Stair 1st	FC-NONREFL-CAV	2450	2793	N	1692	Yes
Sitting/Stair 1st	FC-NONREFL-CAV	2450	2776	E	1670	Yes
Sitting/Stair 1st	FC-NONREFL-CAV	2450	1003	S	4088	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
WIR 1	FC-NONREFL-CAV	2450	2468	S	383	No

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CONCBLOCK-190-FCF-EXP	Concrete Block 190mm Fully Core-Filled - Exposed	16.4	1.00
CONCBLOCK-190-HOL-EXP	Concrete Block 190mm Hollow - Exposed	2.0	0.00
INT-PB	Internal Plasterboard Stud Wall	97.6	0.00
INT-PB	Internal Plasterboard Stud Wall	34.6	2.50

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Basement/Garage	CSOG-100: Concrete Slab on Ground (100mm)	88.2	N/A	0.00	Exposed
Bath 1st	TIMB-001: Suspended Timber Floor	2.9	N/A	0.00	Tile (8mm)
Bath 1st	TIMB-002: Suspended Timber Floor - Lined Below	2.9	N/A	2.50	Tile (8mm)
Bed 1	TIMB-001: Suspended Timber Floor	14.4	N/A	0.00	Timber (12mm)
Bed 2	TIMB-001: Suspended Timber Floor	11.9	N/A	0.00	Timber (12mm)
Bed 3	TIMB-002: Suspended Timber Floor - Lined Below	11.8	N/A	2.50	Timber (12mm)
Ensuite 1	TIMB-001: Suspended Timber Floor	7.2	N/A	0.00	Tile (8mm)
Entry	CSOG-100: Concrete Slab on Ground (100mm)	10.6	N/A	2.00	Tile (8mm)
Hall/Lift 1st	TIMB-002: Suspended Timber Floor - Lined Below	5.4	N/A	2.50	Timber (12mm)
Hall/Lift 1st	TIMB-001: Suspended Timber Floor	9.5	N/A	0.00	Timber (12mm)
Hall/Lift Gd	CSOG-100: Concrete Slab on Ground (100mm)	4.3	N/A	2.00	Timber (12mm)
Hall/Lift Gd	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.7	N/A	0.00	Timber (12mm)
Hall/Lift Gd	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.7	N/A	2.00	Timber (12mm)
Kitchen/Dining/Lounge	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.9	N/A	0.00	Timber (12mm)
Kitchen/Dining/Lounge	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	70.6	N/A	2.00	Timber (12mm)

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Laundry	CSOG-100: Concrete Slab on Ground (100mm)	3.9	N/A	2.00	Tile (8mm)
Pantry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	4.0	N/A	2.00	Timber (12mm)
Pantry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.2	N/A	0.00	Timber (12mm)
Powder Room	CSOG-100: Concrete Slab on Ground (100mm)	3.5	N/A	2.00	Tile (8mm)
Sitting/Stair 1st	TIMB-001: Suspended Timber Floor	20.4	N/A	0.00	Timber (12mm)
WIR 1	TIMB-001: Suspended Timber Floor	8.9	N/A	0.00	Timber (12mm)

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Basement/Garage	SLAB-150-EXP-01: Concrete Slab (150mm) with Exposed Concrete Ceiling	0.00	No
Bath 1st	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Bath 1st	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	7.00	Yes
Bed 1	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	3.00	Yes
Bed 2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Bed 2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	7.00	Yes
Bed 3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Bed 3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	7.00	Yes
Ensuite 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Ensuite 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	7.00	Yes
Entry	SLAB-150-EXP-01: Concrete Slab (150mm) with Exposed Concrete Ceiling	3.00	No
Hall/Lift 1st	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Hall/Lift 1st	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	7.00	Yes
Hall/Lift Gd	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Hall/Lift Gd	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.00	Yes
Kitchen/Dining/Lounge	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.00	Yes

* Refer to glossary.

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Kitchen/Dining/Lounge	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.00	No
Laundry	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Pantry	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.00	Yes
Powder Room	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Sitting/Stair 1st	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	7.00	Yes
WIR 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
WIR 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	7.00	Yes

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bath 1st	2	Downlight	100	Sealed
Bath 1st	1	Exhaust Fan	350	Sealed
Bed 1	2	Downlight	100	Sealed
Bed 2	3	Downlight	100	Sealed
Bed 3	3	Downlight	100	Sealed
Ensuite 1	2	Downlight	100	Sealed
Ensuite 1	1	Exhaust Fan	350	Sealed
Entry	3	Downlight	100	Sealed
Hall/Lift 1st	3	Downlight	100	Sealed
Hall/Lift Gd	3	Downlight	100	Sealed
Kitchen/Dining/Lounge	1	Exhaust Fan	350	Sealed
Kitchen/Dining/Lounge	18	Downlight	100	Sealed
Kitchen/Dining/Lounge	1	Other	300	Sealed
Laundry	1	Downlight	100	Sealed
Laundry	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Powder Room	1	Downlight	100	Sealed
Powder Room	1	Exhaust Fan	350	Sealed
Sitting/Stair 1st	5	Downlight	100	Sealed
WIR 1	2	Downlight	100	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
Bed 1	1	1500
Bed 2	1	1500
Bed 3	1	1500
Kitchen/Dining/Lounge	3	1500
Sitting/Stair 1st	1	1500

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.50	Medium
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	1.30	0.50	Medium
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	0.00	0.50	Medium
FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	1.30	0.50	Medium
SLAB-150-EXP-01: Concrete Slab (150mm) with Exposed Concrete Ceiling	0.00	0.50	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)
None				

Appliance *schedule*

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity

* Refer to glossary.

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

* 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	see exposure categories below
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 airgap 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.
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.