

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0005440805

Generated on 30 Nov 2020 using BERS Pro v4.4.0.2 (3.21)

### Property

**Address** 1127 Barrenjoey Road , Palm Beach ,  
NSW , 2108

**Lot/DP** D/313630

**NCC Class\*** 1A

**Type** New Dwelling

### Plans

**Main Plan** NA

**Prepared by** TregaleAssociates

### Construction and environment

<b>Assessed floor area (m<sup>2</sup>)*</b>	<b>Exposure Type</b>
Conditioned* 448.0	Exposed
Unconditioned* 72.0	<b>NatHERS climate zone</b>
Total 520.0	56
Garage 44.0	



### Accredited assessor

**Name** David Gradwell

**Business name** Gradwell Consulting

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**Phone** 1800 11 24 25

**Accreditation No.** DMN/12/1451

**Assessor Accrediting Organisation**  
Design Matters National

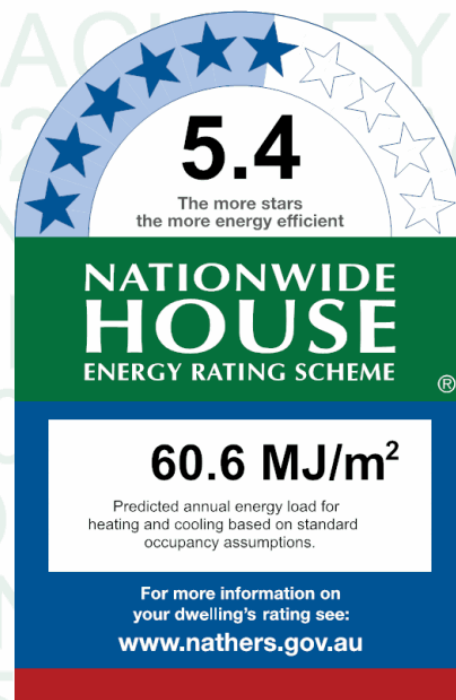
**Declaration of interest** The Assessor has provided design advice to the Applicant

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](http://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.



### Thermal performance

<b>Heating</b>	<b>Cooling</b>
<b>39.9</b>	<b>20.7</b>
<b>MJ/m<sup>2</sup></b>	<b>MJ/m<sup>2</sup></b>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit [hstar.com.au/QR/Generate?p=hCLdJKJWo](http://hstar.com.au/QR/Generate?p=hCLdJKJWo). When using either link, ensure you are visiting [hstar.com.au](http://hstar.com.au)



## Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate?

### Apartment entrance doors

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 level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

## Additional notes

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-006-03 A	ALM-006-03 A Aluminium B DG Argon Fill High Solar Gain low-E -Clear	4.1	0.52	0.52	0.52
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.70	0.70
ALM-002-03 A	ALM-002-03 A Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.58	0.58
ALM-005-03 A	ALM-005-03 A Aluminium A DG Argon Fill High Solar Gain low-E -Clear	4.1	0.47	0.47	0.47

### Custom\* windows

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

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Rumpus	ALM-006-03 A	n/a	750	1600	n/a	45	N	No
Rumpus	ALM-006-03 A	n/a	750	1600	n/a	45	N	No
Rumpus	ALM-006-03 A	n/a	750	1600	n/a	45	N	No
Bedroom 2	ALM-006-03 A	n/a	750	1000	n/a	00	N	No
Bedroom 2	ALM-006-03 A	n/a	750	1000	n/a	00	N	No
Bedroom 2	ALM-002-01 A	n/a	2400	3000	n/a	45	W	No
Hallway B	ALM-006-03 A	n/a	750	1200	n/a	45	S	No
Bedroom 3	ALM-006-03 A	n/a	750	1000	n/a	00	S	No
Bedroom 3	ALM-006-03 A	n/a	750	1000	n/a	00	S	No
Bedroom 3	ALM-002-01 A	n/a	2400	3200	n/a	45	W	No
Kitchen/Living	ALM-002-01 A	n/a	2500	650	n/a	00	W	Yes
Kitchen/Living	ALM-002-01 A	n/a	2500	2100	n/a	00	N	Yes
Kitchen/Living	ALM-002-01 A	n/a	2800	3500	n/a	90	E	No
Kitchen/Living	ALM-002-01 A	n/a	2400	350	n/a	00	N	No
Kitchen/Living	ALM-002-01 A	n/a	2400	200	n/a	00	N	No
Kitchen/Living	ALM-002-01 A	n/a	2400	4000	n/a	00	E	No
Kitchen/Living	ALM-002-01 A	n/a	2400	6600	n/a	90	W	No
Pool Carvana	ALM-002-01 A	n/a	2400	3700	n/a	90	W	No
Pool Carvana	ALM-002-01 A	n/a	2400	2800	n/a	90	N	No
Bedroom 1	ALM-002-01 A	n/a	1200	2000	n/a	00	N	Yes
Bedroom 1	ALM-006-03 A	n/a	800	500	n/a	45	W	Yes
Bedroom 1	ALM-002-01 A	n/a	2100	4600	n/a	45	W	No
Bedroom 1	ALM-002-01 A	n/a	800	5100	n/a	00	W	No
Bedroom 1	ALM-002-03 A	n/a	2100	600	n/a	60	W	No
ENS Master	ALM-002-03 A	n/a	850	500	n/a	90	W	Yes
Void	ALM-002-03 A	n/a	950	3500	n/a	90	E	No
Stair	ALM-002-01 A	n/a	2400	1600	n/a	00	N	No
Stair	ALM-002-01 A	n/a	2400	2200	n/a	00	E	No
Breezeway	ALM-002-03 A	n/a	2400	1350	n/a	90	N	No
Breezeway	ALM-002-03 A	n/a	2400	1350	n/a	90	N	No
Breezeway	ALM-006-03 A	n/a	2400	1800	n/a	00	N	No
Bedroom 4	ALM-002-01 A	n/a	2400	3300	n/a	60	W	No
Bedroom 5	ALM-006-03 A	n/a	1700	2200	n/a	00	E	Yes
Bedroom 5	ALM-002-03 A	n/a	900	900	n/a	90	S	No
Bedroom 5	ALM-002-03 A	n/a	900	900	n/a	90	S	No
ENS 5	ALM-002-03 A	n/a	800	1000	n/a	00	W	No Shading
ENS 4	ALM-006-03 A	n/a	700	1140	n/a	45	N	No

\* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
WC Master	ALM-006-03 A	n/a	650	800	n/a	45	S	No
Stair Pool	ALM-006-03 A	n/a	2400	600	n/a	00	E	No
ENS 3	ALM-005-03 A	n/a	750	1000	n/a	90	S	No
ENS 2	ALM-005-03 A	n/a	750	1000	n/a	90	N	No

## Roof window type and performance

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DG-Generic-02 A	Glass	4.2	0.72	0.72	0.72

### Custom\* roof windows

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

No Data Available

## Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
Bedroom 1	DG-Generic-02 A	n/a	0	2600	450	N	No	No
ENS Master	DG-Generic-02 A	n/a	0	2600	450	N	No	No
WIR	DG-Generic-02 A	n/a	0	2600	450	N	No	No
Void	DG-Generic-02 A	n/a	90	1200	1100	N	No	No
Stair	DG-Generic-02 A	n/a	0	2600	450	N	No	No
Stair	DG-Generic-02 A	n/a	90	1400	3000	N	No	No
PDW	DG-Generic-02 A	n/a	0	1600	2000	N	No	No
ENS 4	DG-Generic-02 A	n/a	0	1200	1100	N	No	No

## Skylight type and performance

Skylight ID	Skylight description
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No Data Available

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
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No Data Available

## External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	900	90	N
Stacker G	2400	3200	90	E

## External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Tilt up concrete, lined	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Tilt up concrete, lined	0.50	Medium	Bulk Insulation R2.5	No
EW-3	Weatherboard Cavity Panel Direct Fix	0.30	Light	Bulk Insulation R4	No
EW-4	Weatherboard Cavity Panel Direct Fix	0.30	Light	Bulk Insulation R4	No
EW-5	Weatherboard Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R4	No

## External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Rumpus	EW-1	400	5795	N	0	NO
Rumpus	EW-1	2000	5795	N	100	NO
Rumpus	EW-2	2400	1300	E	16450	YES
Bedroom 2	EW-1	400	4295	N	0	NO
Bedroom 2	EW-1	2000	4295	N	100	NO
Bedroom 2	EW-2	400	2995	W	0	NO
Bedroom 2	EW-2	2000	2995	W	3900	NO
Bedroom 2	EW-1	2	2100	N	0	YES
Bedroom 2	EW-1	2398	2100	N	300	YES
Bedroom 2	EW-1	400	1300	W	0	YES
Bedroom 2	EW-1	2000	1300	W	100	YES
Hallway B	EW-2	2400	2100	E	14750	YES
Hallway B	EW-1	400	4695	S	0	YES
Hallway B	EW-1	2000	4695	S	100	YES
Hallway B	EW-1	400	1790	S	0	NO
Hallway B	EW-1	2000	1790	S	100	NO
Utility	EW-1	2400	8390	N	2900	YES
Utility	EW-2	2400	1790	E	1800	NO
Utility	EW-2	2400	6790	S	4000	YES
Bedroom 3	EW-2	400	4795	S	0	NO
Bedroom 3	EW-2	2000	4795	S	100	NO
Bedroom 3	EW-2	400	4195	W	0	NO

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 3	EW-2	2000	4195	W	3900	NO
Store plant	EW-2	2400	4195	N	2900	NO
Store plant	EW-2	2400	1895	E	1825	NO
Change	EW-2	2400	1990	N	2900	NO
Kitchen/Living	EW-3	3500	800	W	100	NO
Kitchen/Living	EW-3	3500	3200	N	100	NO
Kitchen/Living	EW-4	2800	10200	N	400	NO
Kitchen/Living	EW-1	2800	3550	E	100	YES
Kitchen/Living	EW-3	2400	1550	N	100	YES
Kitchen/Living	EW-3	2400	4300	E	100	NO
Kitchen/Living	EW-3	2800	4695	S	100	YES
Kitchen/Living	EW-3	2800	8095	S	700	NO
Kitchen/Living	EW-1	2800	7700	W	5200	NO
Pool Carvana	EW-1	2400	3695	W	1400	NO
Pool Carvana	EW-1	2400	5295	N	300	NO
Stacker G	EW-2	2400	3595	E	500	NO
Stacker G	EW-2	2400	6200	S	100	NO
Stacker G	EW-2	2400	3595	W	0	NO
Stacker B	EW-2	2400	3595	E	1750	NO
Stacker B	EW-2	2400	6200	S	1200	NO
Stacker B	EW-2	2400	2800	W	0	YES
Bath	EW-1	400	600	E	0	YES
Bath	EW-1	2000	600	E	100	YES
Bath	EW-1	400	2495	S	0	NO
Bath	EW-1	2000	2495	S	100	NO
Bedroom 1	EW-3	2400	5495	N	400	YES
Bedroom 1	EW-3	2700	4995	S	200	YES
Bedroom 1	EW-3	2700	600	W	4700	YES
Bedroom 1	EW-3	2400	5495	S	200	NO
Bedroom 1	EW-3	2900	5200	W	3600	NO
ENS Master	EW-3	2700	3095	N	200	NO
ENS Master	EW-3	2700	600	W	5700	YES
WIR	EW-3	2700	3990	N	200	YES
Void	EW-3	2200	900	W	200	YES
Void	EW-3	1200	3100	N	200	NO
Void	EW-3	2200	3550	E	400	YES
Stair	EW-3	2700	600	W	100	YES
Stair	EW-3	2400	1550	N	100	YES
Stair	EW-3	2400	2400	E	100	YES



Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Stair	EW-5	2700	4695	S	200	NO
PDW	EW-3	2800	600	E	100	YES
PDW	EW-3	2800	2195	S	100	NO
Breezeway	EW-3	2400	5395	N	100	YES
Breezeway	EW-5	2400	6795	S	200	YES
Bedroom 4	EW-3	3500	4995	W	500	YES
Bedroom 4	EW-3	2500	5895	N	400	NO
Bedroom 5	EW-5	4800	700	N	2600	YES
Bedroom 5	EW-5	3500	2200	E	100	NO
Bedroom 5	EW-5	3500	800	S	300	YES
Bedroom 5	EW-3	3500	1100	E	100	YES
Bedroom 5	EW-3	3500	500	S	500	YES
Bedroom 5	EW-3	3500	800	E	600	YES
Bedroom 5	EW-3	1600	6200	S	600	NO
Bedroom 5	EW-3	1600	700	W	400	YES
ENS 4	EW-3	2500	2295	N	400	NO
ENS 4	EW-5	3500	3495	E	800	YES
WC Master	EW-3	2700	2090	S	500	YES
Stair Pool	EW-3	2800	895	N	300	NO
Stair Pool	EW-1	2400	3695	E	1300	NO
ENS 3	EW-2	400	3290	S	0	NO
ENS 3	EW-2	2000	3290	S	100	NO
ENS 2	EW-2	400	3290	N	0	NO
ENS 2	EW-2	2000	3290	N	100	NO

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		314.00	No insulation
IW-2 - Tilt Concrete		57.00	Bulk Insulation, No Air Gap R1
IW-3 - Cavity wall, direct fix plasterboard, single gap		32.00	Bulk Insulation, No Air Gap R2.5

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Rumpus	Concrete Slab on Ground 100mm	20.30	None	No Insulation	Carpet 10mm
Bedroom 2	Concrete Slab on Ground 100mm	28.30	None	No Insulation	Carpet 10mm
Lift B	Concrete Slab on Ground 100mm	2.90	None	No Insulation	Carpet 10mm

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Hallway B	Concrete Slab on Ground 100mm	28.80	None	No Insulation	Carpet 10mm
Utility	Concrete Slab on Ground 100mm	44.20	None	No Insulation	Carpet 10mm
Bedroom 3	Concrete Slab on Ground 100mm	27.80	None	No Insulation	Carpet 10mm
Store plant	Concrete Slab on Ground 100mm	9.90	None	No Insulation	Carpet 10mm
Change	Concrete Slab on Ground 100mm	4.30	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living/Rumpus	Rendered Concrete 19mm	20.80		No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Bedroom 2	Rendered Concrete 19mm	22.70		No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Hallway B	Rendered Concrete 19mm	29.70		No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Utility	Rendered Concrete 19mm	2.90		No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Bedroom 3	Rendered Concrete 19mm	19.60		No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Bath	Rendered Concrete 19mm	0.60		No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/ENS 3	Rendered Concrete 19mm	6.90		No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/ENS 2	Rendered Concrete 19mm	7.90		No Insulation	80/20 Carpet 10mm/Ceramic
Lift G/Lift B	Rendered Concrete 19mm	2.90		No Insulation	Bare
Pool Carvana/Utility	Rendered Concrete 19mm	5.30		No Insulation	Carpet 10mm
Pool Carvana/Store plant	Rendered Concrete 19mm	8.40		No Insulation	Carpet 10mm
Pool Carvana/Change	Rendered Concrete 19mm	4.50		No Insulation	Carpet 10mm
Stacker G/Stacker B	Rendered Concrete 19mm	22.00		No Insulation	Bare
Stacker B	Concrete Slab on Ground 100mm	22.00	None	No Insulation	Bare
Bath	Concrete Slab on Ground 100mm	4.50	None	No Insulation	Ceramic Tiles 8mm
Lift L1/Lift G	Rendered Concrete 19mm	2.90		No Insulation	Bare
Bedroom 1/Kitchen/Living	Rendered Concrete 150mm	31.60		No Insulation	Carpet 10mm
Bedroom 1/PDW	Rendered Concrete 150mm	1.50		No Insulation	Carpet 10mm
Bedroom 1	Suspended Concrete Slab 150mm	11.80	Totally Open	Bulk Insulation in Contact with Floor R1.1	Carpet 10mm
ENS Master/Kitchen/Living	Rendered Concrete 19mm	12.00		No Insulation	Ceramic Tiles 8mm
WIR/Kitchen/Living	Rendered Concrete 19mm	11.90		No Insulation	Carpet 10mm
Void/Kitchen/Living	Rendered Concrete 19mm	10.90		No Insulation	Carpet 10mm
Stair/Kitchen/Living	Rendered Concrete 19mm	16.40		No Insulation	Carpet 10mm
PDW/Bath	Rendered Concrete 19mm	3.90		No Insulation	Ceramic Tiles 8mm
Breezeway	Suspended Concrete Slab 150mm	12.70	Totally Open	Bulk Insulation in Contact with Floor R1.1	Carpet 10mm
Bedroom 4/Pool Carvana	Rendered Concrete 150mm	14.00		No Insulation	Carpet 10mm
Bedroom 4	Suspended Concrete Slab 150mm	8.20	Totally Open	Bulk Insulation in Contact with Floor R1.1	Carpet 10mm



Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 5/Pool Carvana	Rendered Concrete 150mm	0.90		No Insulation	Carpet 10mm
Bedroom 5/Stacker G	Concrete Above Plasterboard 150mm	17.40		Bulk Insulation R1.1	Carpet 10mm
Bedroom 5/Stair Pool	Rendered Concrete 150mm	0.90		No Insulation	Carpet 10mm
Bedroom 5	Suspended Concrete Slab 150mm	3.30	Totally Open	Bulk Insulation in Contact with Floor R1.1	Carpet 10mm
ENS 5/Pool Carvana	Rendered Concrete 150mm	1.10		No Insulation	Ceramic Tiles 8mm
ENS 5/Stacker G	Concrete Above Plasterboard 150mm	4.20		Bulk Insulation R1.1	Ceramic Tiles 8mm
ENS 4/Pool Carvana	Rendered Concrete 150mm	2.10		No Insulation	Ceramic Tiles 8mm
ENS 4/Stair Pool	Rendered Concrete 150mm	3.20		No Insulation	Ceramic Tiles 8mm
ENS 4	Suspended Concrete Slab 150mm	2.50	Totally Open	Bulk Insulation in Contact with Floor R1.1	Ceramic Tiles 8mm
WC Master/Kitchen/Living	Rendered Concrete 19mm	2.10		No Insulation	Ceramic Tiles 8mm
Stair Pool/Utility	Rendered Concrete 19mm	2.40		No Insulation	Carpet 10mm
Stair Pool/Store plant	Rendered Concrete 19mm	1.60		No Insulation	Carpet 10mm
ENS 3	Concrete Slab on Ground 100mm	6.60	None	No Insulation	Ceramic Tiles 8mm
ENS 2	Concrete Slab on Ground 100mm	7.60	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Rumpus	Plasterboard	No insulation	No
Rumpus	Rendered Concrete	No Insulation	No
Bedroom 2	Plasterboard	No insulation	No
Bedroom 2	Rendered Concrete	No Insulation	No
Lift B	Plasterboard	No insulation	No
Lift B	Rendered Concrete	No Insulation	No
Hallway B	Plasterboard	No insulation	No
Hallway B	Rendered Concrete	No Insulation	No
Utility	Plasterboard	No insulation	No
Utility	Rendered Concrete	No Insulation	No
Bedroom 3	Plasterboard	No insulation	No
Bedroom 3	Rendered Concrete	No Insulation	No
Store plant	Plasterboard	No insulation	No
Store plant	Rendered Concrete	No Insulation	No
Change	Plasterboard	No insulation	No
Change	Rendered Concrete	No Insulation	No
Kitchen/Living	Plasterboard	Bulk Insulation R8	No
Kitchen/Living	Rendered Concrete	No Insulation	No
Lift G	Plasterboard	Bulk Insulation R8	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Lift G	Rendered Concrete	No Insulation	No
Pool Carvana	Plasterboard	Bulk Insulation R8	No
Pool Carvana	Rendered Concrete	No Insulation	No
Stacker G	Plasterboard	Bulk Insulation R8	No
Stacker G	Concrete Above Plasterboard	Bulk Insulation R1.1	No
Stacker B	Plasterboard	No insulation	No
Stacker B	Rendered Concrete	No Insulation	No
Bath	Plasterboard	No insulation	No
Bath	Rendered Concrete	No Insulation	No
Lift L1	Plasterboard	Bulk Insulation R8	No
Bedroom 1	Plasterboard	Bulk Insulation R8	No
ENS Master	Plasterboard	Bulk Insulation R8	No
WIR	Plasterboard	Bulk Insulation R8	No
Void	Plasterboard	Bulk Insulation R8	No
Stair	Plasterboard	Bulk Insulation R8	No
PDW	Plasterboard	Bulk Insulation R8	No
PDW	Rendered Concrete	No Insulation	No
Breezeway	Plasterboard	Bulk Insulation R8	No
Bedroom 4	Plasterboard	Bulk Insulation R8	No
Bedroom 5	Plasterboard	Bulk Insulation R8	No
ENS 5	Plasterboard	Bulk Insulation R8	No
ENS 4	Plasterboard	Bulk Insulation R8	No
WC Master	Plasterboard	Bulk Insulation R8	No
Stair Pool	Plasterboard	Bulk Insulation R8	No
Stair Pool	Rendered Concrete	No Insulation	No
ENS 3	Plasterboard	No insulation	No
ENS 3	Rendered Concrete	No Insulation	No
ENS 2	Plasterboard	No insulation	No
ENS 2	Rendered Concrete	No Insulation	No

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Rumpus	9	Downlights - LED	150	Sealed
Bedroom 2	12	Downlights - LED	150	Sealed
Hallway B	12	Downlights - LED	150	Sealed
Utility	19	Downlights - LED	150	Sealed
Bedroom 3	12	Downlights - LED	150	Sealed
Store plant	5	Downlights - LED	150	Sealed

\* Refer to glossary.

Location	Quantity	Type	Diameter (mm )	Sealed/unsealed
Change	2	Downlights - LED	150	Sealed
Change	1	Exhaust Fans	300	Sealed
Kitchen/Living	55	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Pool Carvana	9	Downlights - LED	150	Sealed
Stacker G	8	Downlights - LED	150	Sealed
Stacker B	8	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Bedroom 1	19	Downlights - CFL	160	Sealed
ENS Master	5	Downlights - LED	150	Sealed
ENS Master	1	Exhaust Fans	300	Sealed
WIR	5	Downlights - LED	150	Sealed
Stair	7	Downlights - LED	150	Sealed
PDW	2	Downlights - LED	150	Sealed
PDW	1	Exhaust Fans	300	Sealed
Breezeway	5	Downlights - LED	150	Sealed
Bedroom 4	9	Downlights - LED	150	Sealed
Bedroom 5	10	Downlights - LED	150	Sealed
ENS 5	3	Downlights - LED	150	Sealed
ENS 5	1	Exhaust Fans	300	Sealed
ENS 4	4	Downlights - LED	150	Sealed
ENS 4	1	Exhaust Fans	300	Sealed
WC Master	1	Downlights - LED	150	Sealed
WC Master	1	Exhaust Fans	300	Sealed
Stair Pool	2	Downlights - LED	150	Sealed
ENS 3	3	Downlights - LED	150	Sealed
ENS 3	1	Exhaust Fans	300	Sealed
ENS 2	3	Downlights - LED	150	Sealed
ENS 2	1	Exhaust Fans	300	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Concrete	Bulk Insulation, No Air Gap Above R4	0.50	Medium
Corrugated Iron	Bulk Insulation, No Air Gap Above R0.3	0.50	Medium

## Explanatory notes

### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings 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, indoor air temperature and local climate.

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

## Glossary

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	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.
<b>Ceiling penetrations</b>	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, 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.
<b>Conditioned</b>	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.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>Entrance door</b>	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.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	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).
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	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 <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	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 <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Reflective wrap</b> (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.
<b>Roof window</b>	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.
<b>Shading device</b>	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Solar heat gain coefficient (SHGC)</b>	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.
<b>Skylight</b> (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.
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b>	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
<b>Vertical shading features</b>	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).