

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0008945586

Generated on 26 Sep 2023 using BERS Pro v4.4.1.5 (3.21)

### Property

**Address** 189 Riverview Road,  
Avalon Beach , NSW , 2107  
**Lot/DP** C/381427  
**NCC Class\*** 1A  
**Type** New Dwelling

### Plans

**Main plan** NA  
**Prepared by** Durieddesign

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure type
Conditioned* 557.0	Exposed
Unconditioned* 25.0	<b>NatHERS climate zone</b>
Total 582.0	56
Garage 0.0	



### Accredited assessor

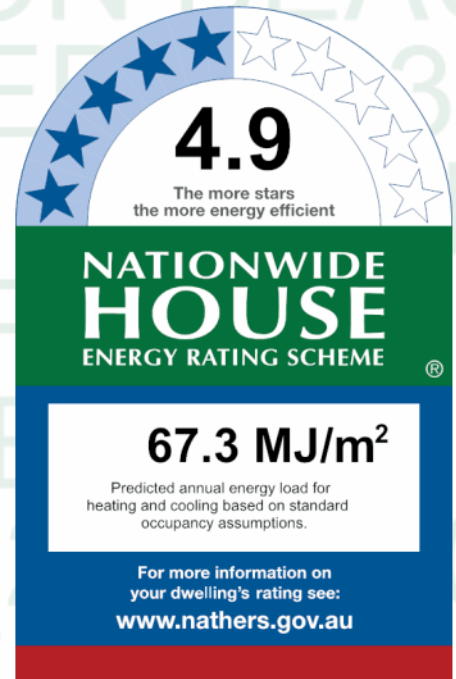
**Name** David Gradwell  
**Business name** Gradwell Consulting  
**Email** info@gradwellconsulting.com  
**Phone** 1800 11 24 25  
**Accreditation No.** DMN/12/1451  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** The Assessor has provided design advice to 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

Heating	Cooling
41.6	25.7
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### 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=xaSYYmlsP](http://hstar.com.au/QR/Generate?p=xaSYYmlsP). 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? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### 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

I have modeled the shading in accordance with NatHERS principles

## 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
No Data Available					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DOW-022-09 B	DOW-022-09 B TB Aluminium Sliding Window DG LightBridge_ClrSI_6.38-10-4	2.1	0.47	0.45	0.49
DOW-021-04 B	DOW-021-04 B Thermally Broken Aluminium Awning Window DG 4Clr/12Ar/4Clr	2.6	0.55	0.52	0.58

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 4	DOW-022-09 B	n/a	1850	3800	n/a	10	S	No
Bedroom 3	DOW-022-09 B	n/a	1850	3800	n/a	10	S	No
Bedroom 1	DOW-022-09 B	n/a	1550	1650	n/a	10	N	No
Bedroom 1	DOW-022-09 B	n/a	2500	5000	n/a	45	W	No
WIR 1A	DOW-022-09 B	n/a	1850	1500	n/a	10	N	No
Bedroom 5	DOW-022-09 B	n/a	2500	600	n/a	00	SW	No
Bedroom 5	DOW-022-09 B	n/a	2500	600	n/a	00	W	No
Bedroom 5	DOW-022-09 B	n/a	2500	3000	n/a	00	W	No
Bedroom 5	DOW-022-09 B	n/a	2500	600	n/a	00	NW	No
Bedroom 5	DOW-022-09 B	n/a	2500	600	n/a	00	N	No
Bedroom 5	DOW-022-09 B	n/a	2100	1100	n/a	90	N	No
Bedroom 5	DOW-022-09 B	n/a	2500	600	n/a	00	SW	No
Bedroom 5	DOW-022-09 B	n/a	2500	600	n/a	00	W	No
Bedroom 5	DOW-022-09 B	n/a	2500	3600	n/a	00	W	No
Mezzaine/Studio	DOW-022-09 B	n/a	2700	6000	n/a	30	E	No
Mezzaine/Studio	DOW-021-04 B	n/a	2700	1500	n/a	90	E	No
Mezzaine/Studio	DOW-022-09 B	n/a	2700	800	n/a	00	E	No
Mezzaine/Studio	DOW-022-09 B	n/a	2700	1400	n/a	00	E	No
Mezzaine/Studio	DOW-022-09 B	n/a	2100	3400	n/a	10	S	No
Mezzaine/Studio	DOW-022-09 B	n/a	2100	900	n/a	00	W	No
Mezzaine/Studio	DOW-022-09 B	n/a	2100	1400	n/a	00	W	No
Bedroom 2	DOW-022-09 B	n/a	2500	600	n/a	00	NW	No
Bedroom 2	DOW-022-09 B	n/a	2500	600	n/a	00	N	No
Yoga	DOW-022-09 B	n/a	2500	600	n/a	00	SW	No
Yoga	DOW-022-09 B	n/a	2500	600	n/a	00	W	No
Yoga	DOW-022-09 B	n/a	2500	2700	n/a	45	W	No
Yoga	DOW-022-09 B	n/a	2500	3500	n/a	00	W	No
Yoga	DOW-022-09 B	n/a	2500	600	n/a	00	NW	No
Yoga	DOW-022-09 B	n/a	2500	600	n/a	00	N	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
PWD room	DOW-022-09 B	n/a	1900	700	n/a	00	W	No
WIR 1B	DOW-022-09 B	n/a	1850	1500	n/a	10	S	No
Internal Plante	DOW-022-09 B	n/a	2100	7500	n/a	00	S	No
Internal Plante	DOW-022-09 B	n/a	2100	600	n/a	00	SW	No
Internal Plante	DOW-022-09 B	n/a	2100	600	n/a	00	W	No
Internal Plante	DOW-022-09 B	n/a	2100	7600	n/a	00	W	No
Internal Plante	DOW-022-09 B	n/a	2100	600	n/a	00	NW	No
Internal Plante	DOW-022-09 B	n/a	2100	600	n/a	00	N	No
Internal Plante	DOW-022-09 B	n/a	2100	7500	n/a	00	N	No
ENS 1	DOW-022-09 B	n/a	2500	3400	n/a	60	W	No
Hall L03	DOW-022-09 B	n/a	2500	1200	n/a	00	N	No
Hall L03	DOW-022-09 B	n/a	2500	1200	n/a	00	S	No
Hall L03	DOW-022-09 B	n/a	2500	1200	n/a	00	W	No
Cloak store	DOW-022-09 B	n/a	2700	3900	n/a	45	S	No
Kitchen/Living	DOW-022-09 B	n/a	2700	1165	n/a	00	SW	No
Kitchen/Living	DOW-022-09 B	n/a	2700	9600	n/a	45	W	No
Kitchen/Living	DOW-022-09 B	n/a	2700	1200	n/a	00	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
No Data Available					

### 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
No Data Available								

## Skylight type and performance

Skylight ID	Skylight description
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
No Data Available								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Lift L00	2100	900	90	E
Study/Library	2100	900	90	N
Kitchen/Living	2100	1100	90	N

## 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	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R4	No
EW-3	Fibro 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)
Lift L01	EW-1	2700	1800	N	100	YES
Lift L02	EW-1	2700	400	N	8300	YES
Lift L02	EW-1	2700	1450	E	1400	NO
Lift L03	EW-1	3400	400	N	8900	YES
Lift L03	EW-1	3400	1500	E	3425	NO
Lift L03	EW-1	2700	1850	S	1975	NO
Bedroom 4	EW-2	3400	1800	E	10400	YES
Bedroom 4	EW-2	3400	3995	S	125	NO
Bedroom 3	EW-2	3400	4090	S	100	YES
Bedroom 1	EW-1	3400	1300	N	600	NO
Bedroom 1	EW-2	3400	2895	N	600	NO
Bedroom 1	EW-2	2500	5050	W	2000	YES
WIR 1A	EW-2	3400	2590	N	600	NO
Bedroom 5	EW-2	2500	2300	S	100	YES
Bedroom 5	EW-2	2500	707	SW	152	NO
Bedroom 5	EW-2	2500	728	W	79	NO
Bedroom 5	EW-2	2500	3000	W	100	NO
Bedroom 5	EW-2	2500	632	NW	103	NO
Bedroom 5	EW-2	2500	707	N	103	NO
Bedroom 5	EW-2	2500	2000	N	100	NO
Bedroom 5	EW-2	2500	1100	E	8700	YES
Bedroom 5	EW-2	2500	2200	N	1200	YES
Bedroom 5	EW-2	2500	3100	N	1200	NO
Bedroom 5	EW-2	2500	3395	E	3400	NO
Bedroom 5	EW-1	2500	1800	E	3700	YES
Bedroom 5	EW-2	2500	757	SW	112	NO
Bedroom 5	EW-2	2500	825	W	127	NO
Bedroom 5	EW-2	2500	3700	W	100	YES
Mezzaine/Studio	EW-2	2700	3395	N	100	NO

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Mezzaine/Studio	EW-2	2700	8200	E	100	YES
Mezzaine/Studio	EW-2	2700	2850	E	6400	YES
Mezzaine/Studio	EW-2	2700	4100	S	100	NO
Mezzaine/Studio	EW-2	2700	1100	W	1125	YES
Mezzaine/Studio	EW-2	2700	3300	S	100	YES
Mezzaine/Studio	EW-2	2700	1800	W	1200	YES
Pantry	EW-2	2700	2195	N	100	NO
Pantry	EW-2	2700	2500	E	1400	NO
Pantry	EW-2	2700	400	S	10200	YES
Pantry	EW-2	2700	5650	E	1800	YES
Bedroom 2	EW-2	3400	695	N	600	YES
Bedroom 2	EW-2	3400	922	NW	691	YES
Bedroom 2	EW-2	3400	806	N	146	NO
Bedroom 2	EW-2	3400	2995	N	700	NO
Media	EW-2	3400	4390	N	700	NO
Yoga	EW-2	2500	395	S	900	NO
Yoga	EW-2	2500	2400	S	100	NO
Yoga	EW-2	2500	762	SW	112	NO
Yoga	EW-2	2500	728	W	103	NO
Yoga	EW-2	2500	6400	W	100	NO
Yoga	EW-2	2500	671	NW	112	NO
Yoga	EW-2	2500	728	N	127	NO
Yoga	EW-2	2500	1000	N	100	NO
Yoga	EW-2	2500	795	N	1500	NO
Yoga	EW-2	2500	2695	E	3900	NO
Yoga	EW-1	2500	300	S	4200	YES
Yoga	EW-1	2500	1750	E	4200	YES
Lift L00	EW-1	2500	1900	N	2000	NO
Lift L00	EW-1	2500	1500	E	7900	NO
Lift L00	EW-1	2500	1900	S	500	NO



Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Lift L00	EW-1	2500	1500	W	500	NO
ENS 2	EW-2	3400	2190	N	700	NO
ENS 5	EW-1	2500	300	N	8000	YES
ENS 5	EW-2	2500	1400	E	3400	NO
ENS 5	EW-2	2500	4095	S	1300	NO
PWD room	EW-2	2700	1100	W	1100	YES
PWD room	EW-2	2700	795	S	1075	YES
PWD room	EW-2	2700	2850	E	1400	NO
PWD room	EW-2	2700	2000	S	100	NO
WIR 1B	EW-2	3400	1100	E	100	YES
WIR 1B	EW-2	3400	2695	S	100	NO
Internal Plante	EW-2	2700	7595	S	100	YES
Internal Plante	EW-2	2700	762	SW	112	NO
Internal Plante	EW-2	2700	728	W	103	NO
Internal Plante	EW-2	2700	7900	W	100	NO
Internal Plante	EW-2	2700	671	NW	79	NO
Internal Plante	EW-2	2700	728	N	56	NO
Internal Plante	EW-2	2700	7495	N	100	NO
ENS 1	EW-2	2500	3550	W	2000	YES
ENS 1	EW-2	3400	3095	S	100	NO
ENS 1	EW-2	3400	632	SW	103	NO
ENS 1	EW-2	3400	894	W	447	NO
Study/Library	EW-2	3400	1390	E	3850	NO
Study/Library	EW-2	1000	2510	E	6050	NO
Study/Library	EW-2	3400	5045	S	1950	YES
Study/Library	EW-2	3400	1190	N	600	NO
Sauna	EW-2	2500	995	N	1500	NO
Sauna	EW-1	2500	1200	N	1500	NO
Sauna	EW-2	2500	2195	E	3900	NO
Steam	EW-1	2500	300	N	8200	YES



Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Steam	EW-2	2500	1500	E	3900	NO
Steam	EW-2	2500	1295	S	900	NO
Hall L03	EW-2	2500	1200	N	5700	YES
Hall L03	EW-2	2500	1200	S	4200	YES
Hall L03	EW-2	2500	1600	W	800	NO
Bathroom	EW-2	3400	2695	N	700	NO
Bathroom	EW-2	3400	2500	E	3475	NO
Bathroom	EW-2	3400	400	S	9175	YES
Bathroom	EW-2	3400	1795	E	3875	YES
Ldry	EW-2	3400	2445	E	3850	YES
Cloak store	EW-2	2700	6395	N	100	NO
Cloak store	EW-2	2700	1500	E	2100	NO
Cloak store	EW-2	2700	4300	S	3000	YES
WIR 5	EW-2	2500	1495	E	3400	NO
WIR 5	EW-1	2500	300	S	4600	YES
Kitchen/Living	EW-2	2700	12395	N	100	NO
Kitchen/Living	EW-2	2700	11895	S	100	NO
Kitchen/Living	EW-2	2700	1166	SW	56	NO
Kitchen/Living	EW-2	2700	10200	W	100	NO
Kitchen/Living	EW-2	2700	1304	N	146	NO

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Tilt Concrete		42.00	Bulk Insulation, No Air Gap R1
IW-2 - Cavity wall, direct fix plasterboard, single gap		431.00	No insulation
IW-3 - Tilt Concrete		22.00	No insulation

## Floor type

Location	Construction	AreaSub-floor (m <sup>2</sup> )	Added insulation ventilation (R-value)	Covering
Lift L01/Lift L02	Rendered Concrete 100mm	2.60	No Insulation	Bare
Lift L02/Lift L03	Rendered Concrete 100mm	2.60	No Insulation	Bare
Lift L03	Concrete Slab on Ground 100mm	2.70 None	No Insulation	Bare
Bedroom 4	Concrete Slab on Ground 100mm	13.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab on Ground 100mm	13.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Yoga	Rendered Concrete 100mm	2.80	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Sauna	Rendered Concrete 100mm	2.20	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Concrete Slab on Ground 100mm	16.10 None	No Insulation	Carpet+Rubber Underlay 18mm
WIR 1A	Concrete Slab on Ground 100mm	12.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 6	Concrete Slab on Ground 100mm	3.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 5	Concrete Slab on Ground 100mm	21.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 5	Suspended Concrete Slab 150mm	20.00 Totally Open	Bulk Insulation in Contact with Floor	Carpet+Rubber Underlay 18mm
Mezzaine/Studio/Pantry	Rendered Concrete 100mm	2.40	No Insulation	Ceramic Tiles 8mm
Mezzaine/Studio/PWD room	Rendered Concrete 100mm	7.10	No Insulation	Ceramic Tiles 8mm
Mezzaine/Studio/Kitchen/Living	Rendered Concrete 100mm	34.50	No Insulation	Ceramic Tiles 8mm
Mezzaine/Studio	Concrete Slab on Ground 100mm	6.00 None	No Insulation	Carpet+Rubber Underlay 18mm
Pantry/Study/Library	Rendered Concrete 100mm	2.40	No Insulation	Carpet+Rubber Underlay 18mm
Pantry/Bathroom	Rendered Concrete 100mm	8.50	No Insulation	Carpet+Rubber Underlay 18mm
Pantry/Ldry	Rendered Concrete 100mm	4.40	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab on Ground 100mm	18.00 None	No Insulation	Carpet+Rubber Underlay 18mm
Media	Concrete Slab on Ground 100mm	18.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Yoga/Bedroom 6	Rendered Concrete 100mm	3.90	No Insulation	80/20 Carpet 10mm/Ceramic

Location	Construction	Area Sub-floor ventilation (m <sup>2</sup> )	Added insulation (R-value)	Covering
Yoga/Bedroom 5	Rendered Concrete 100mm	23.30	No Insulation	80/20 Carpet 10mm/Ceramic
Yoga/ENS 5	Rendered Concrete 100mm	3.90	No Insulation	80/20 Carpet 10mm/Ceramic
Yoga/WIR 5	Rendered Concrete 100mm	1.80	No Insulation	80/20 Carpet 10mm/Ceramic
Lift L00/Lift L01	Rendered Concrete 100mm	2.80	No Insulation	Bare
ENS 2	Concrete Slab on Ground 100mm	9.00 None	No Insulation	Ceramic Tiles 8mm
ENS 5	Concrete Slab on Ground 100mm	5.50 None	No Insulation	Ceramic Tiles 8mm
PWD room	Concrete Slab on Ground 100mm	7.00 None	No Insulation	Ceramic Tiles 8mm
WIR 1B	Concrete Slab on Ground 100mm	11.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Internal Plante/Kitchen/Living	Rendered Concrete 100mm	34.20	No Insulation	Carpet+Rubber Underlay 18mm
ENS 1/Steam	Rendered Concrete 100mm	1.50	No Insulation	Ceramic Tiles 8mm
ENS 1	Concrete Slab on Ground 100mm	16.70 None	No Insulation	Ceramic Tiles 8mm
Study/Library	Concrete Slab on Ground 100mm	59.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Sauna/Bedroom 5	Rendered Concrete 100mm	4.60	No Insulation	Ceramic Tiles 8mm
Steam/ENS 5	Rendered Concrete 100mm	1.70	No Insulation	Ceramic Tiles 8mm
Hall L03/Yoga	Rendered Concrete 100mm	2.90	No Insulation	Carpet+Rubber Underlay 18mm
Hall L03	Concrete Slab on Ground 100mm	9.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab on Ground 100mm	10.60 None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab on Ground 100mm	5.20 None	No Insulation	Ceramic Tiles 8mm
Cloak store	Concrete Slab on Ground 100mm	9.40 None	No Insulation	Carpet+Rubber Underlay 18mm
WIR 5	Concrete Slab on Ground 100mm	1.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Void/Kitchen/Living	Rendered Concrete 100mm	45.20	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living/Bedroom 4	Rendered Concrete 100mm	13.90	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Bedroom 3	Rendered Concrete 100mm	14.30	No Insulation	80/20 Carpet 10mm/Ceramic

Location	Construction	Area Sub-floor ventilation (m <sup>2</sup> )	Added insulation (R-value)	Covering
Kitchen/Living/WIR 1A	Rendered Concrete 100mm	3.10	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Bedroom 2	Rendered Concrete 100mm	18.40	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Media	Rendered Concrete 100mm	18.80	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/ENS 2	Rendered Concrete 100mm	9.40	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/WIR 1B	Rendered Concrete 100mm	1.80	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Study/Library	Rendered Concrete 100mm	58.70	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Hall L03	Rendered Concrete 100mm	1.00	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Bathroom	Rendered Concrete 100mm	2.10	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living/Ldry	Rendered Concrete 100mm	1.00	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living	Concrete Slab on Ground 100mm	10.70 None	No Insulation	80/20 Carpet 10mm/Ceramic

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Lift L01	Plasterboard	No insulation	No
Lift L01	Rendered Concrete	No Insulation	No
Lift L02	Plasterboard	No insulation	No
Lift L02	Rendered Concrete	No Insulation	No
Lift L03	Plasterboard	No insulation	No
Lift L03	Rendered Concrete	No Insulation	No
Bedroom 4	Plasterboard	No insulation	No
Bedroom 4	Rendered Concrete	No Insulation	No
Bedroom 3	Plasterboard	No insulation	No
Bedroom 3	Rendered Concrete	No Insulation	No
Bedroom 1	Plasterboard	No insulation	No
WIR 1A	Plasterboard	No insulation	No
WIR 1A	Rendered Concrete	No Insulation	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 6	Plasterboard	No insulation	No
Bedroom 6	Rendered Concrete	No Insulation	No
Bedroom 5	Plasterboard	No insulation	No
Bedroom 5	Rendered Concrete	No Insulation	No
Mezzaine/Studio	Plasterboard	No insulation	No
Pantry	Plasterboard	No insulation	No
Pantry	Rendered Concrete	No Insulation	No
Bedroom 2	Plasterboard	No insulation	No
Bedroom 2	Rendered Concrete	No Insulation	No
Media	Plasterboard	No insulation	No
Media	Rendered Concrete	No Insulation	No
Yoga	Plasterboard	No insulation	No
Yoga	Rendered Concrete	No Insulation	No
Lift L00	Plasterboard	No insulation	No
ENS 2	Plasterboard	No insulation	No
ENS 2	Rendered Concrete	No Insulation	No
ENS 5	Plasterboard	No insulation	No
ENS 5	Rendered Concrete	No Insulation	No
PWD room	Plasterboard	No insulation	No
PWD room	Rendered Concrete	No Insulation	No
WIR 1B	Plasterboard	No insulation	No
WIR 1B	Rendered Concrete	No Insulation	No
Internal Plante	Plasterboard	No insulation	No
ENS 1	Plasterboard	No insulation	No
Study/Library	Plasterboard	No insulation	No
Study/Library	Rendered Concrete	No Insulation	No
Sauna	Plasterboard	No insulation	No
Sauna	Rendered Concrete	No Insulation	No
Steam	Plasterboard	No insulation	No
Steam	Rendered Concrete	No Insulation	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Hall L03	Plasterboard	No insulation	No
Hall L03	Rendered Concrete	No Insulation	No
Bathroom	Plasterboard	No insulation	No
Bathroom	Rendered Concrete	No Insulation	No
Ldry	Plasterboard	No insulation	No
Ldry	Rendered Concrete	No Insulation	No
Cloak store	Plasterboard	No insulation	No
WIR 5	Plasterboard	No insulation	No
WIR 5	Rendered Concrete	No Insulation	No
Void	Plasterboard	No insulation	No
Kitchen/Living	Plasterboard	No insulation	No
Kitchen/Living	Rendered Concrete	No Insulation	No

### Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Bedroom 4	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed
Bedroom 1	9	Downlights - LED	150	Sealed
WIR 1A	6	Downlights - LED	150	Sealed
Bedroom 6	2	Downlights - LED	150	Sealed
Bedroom 5	18	Downlights - LED	150	Sealed
Mezzaine/Studio	24	Downlights - LED	150	Sealed
Pantry	7	Downlights - LED	150	Sealed
Bedroom 2	8	Downlights - LED	150	Sealed
Media	8	Downlights - LED	150	Sealed
Yoga	12	Downlights - LED	150	Sealed
Lift L00	1	Downlights - LED	150	Sealed
ENS 2	4	Downlights - LED	150	Sealed
ENS 2	1	Exhaust Fans	300	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
ENS 5	3	Downlights - LED	150	Sealed
ENS 5	1	Exhaust Fans	300	Sealed
PWD room	3	Downlights - LED	150	Sealed
PWD room	1	Exhaust Fans	300	Sealed
WIR 1B	5	Downlights - LED	150	Sealed
Internal Plante	11	Downlights - LED	150	Sealed
ENS 1	8	Downlights - LED	150	Sealed
ENS 1	1	Exhaust Fans	300	Sealed
Study/Library	25	Downlights - LED	150	Sealed
Sauna	2	Downlights - LED	150	Sealed
Steam	1	Downlights - LED	150	Sealed
Bathroom	5	Downlights - LED	150	Sealed
Bathroom	1	Exhaust Fans	300	Sealed
Ldry	3	Downlights - LED	150	Sealed
Ldry	1	Exhaust Fans	300	Sealed
Cloak store	4	Downlights - LED	150	Sealed
WIR 5	1	Downlights - LED	150	Sealed
Void	22	Downlights - LED	150	Sealed
Kitchen/Living	35	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 4	1	1200
Bedroom 3	1	1200
Bedroom 1	1	1200
Bedroom 5	1	1200
Mezzaine/Studio	2	1200
Bedroom 2	1	1200



Location	Quantity	Diameter (mm)
Yoga	1	1200
Study/Library	1	1200
Void	2	1200
Kitchen/Living	1	1200

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Concrete	Bulk Insulation, No Air Gap Above R4.1	0.50	Medium
Concrete	Bulk Insulation, No Air Gap Above R4.5	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 10 m 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 operability 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).