

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. C9J39GRUBS

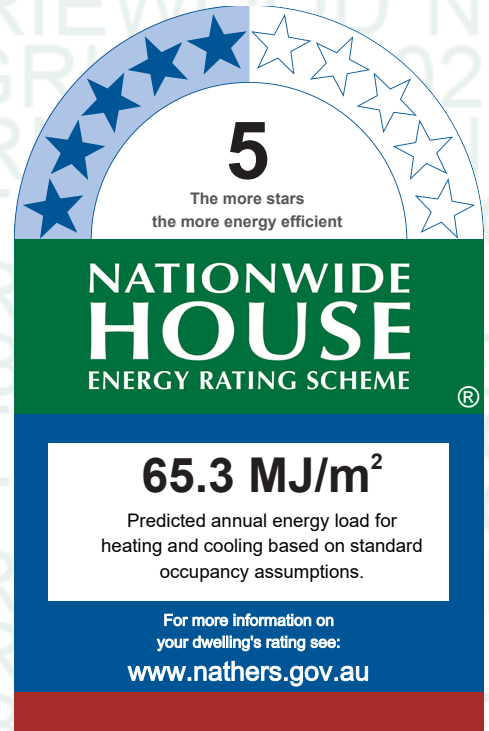
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### Property

**Address** 11B Hill Street, Warriewood, NSW, 2102  
**Lot/DP** B/419338  
**NCC Class\*** Class 1a  
**Type** New Home

### Plans

**Main plan** FJ255 Rev C/24.01.2023  
**Prepared by** FJA Designs Pty Ltd



### Construction and environment

<b>Assessed floor area (m²)*</b>		<b>Exposure type</b>
Conditioned*	237.2	suburban
Unconditioned*	49.8	<b>NatHERS climate zone</b>
Total	287	56 Mascot AMO
Garage	42.8	

### Thermal performance

<b>Heating</b>	<b>Cooling</b>
<b>39.7</b>	<b>25.6</b>
<b>MJ/m²</b>	<b>MJ/m²</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 <https://www.fr5.com.au/QRCodeLanding?PublicId=C9J39GRUBS> When using either link, ensure you are visiting [www.FR5.com.au](http://www.FR5.com.au).



### Accredited assessor

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<b>Assessor Accrediting Organisation</b>	ABSA
<b>Declaration of interest</b>	Declaration completed: no conflicts

### 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.

\* Refer to glossary.

## 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

Number of ceiling penetrations have been assumed.

Dark specified to ceiling as 'default' only to suit 'warm climate zone 5' as per NatHERS tech note.

## 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-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.6
ALM-002-01 A	Aluminium B SG Clear	6.7	0.7	0.66	0.74
TIM-001-01 W	Timber A SG Clear	5.4	0.56	0.53	0.59

### Custom\* windows

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	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*
Master Ensuite	ALM-001-01 A	W18	2100	1250	awning	60.0	N	No

Dressing	ALM-001-01 A	W17	2100	600	awning	60.0	N	No
Master Suite	ALM-002-01 A	W15	2400	3500	sliding	60.0	E	No
Study/Office	ALM-001-01 A	W13	1800	1800	awning	60.0	E	No
Cellar	TIM-001-01 W	W13	2500	1560	casement	100.0	E	No
Lounge/Media	ALM-001-01 A	W11	2940	780	awning	90.0	E	No
Lounge/Media	ALM-001-01 A	W11	2940	780	awning	90.0	N	No
Bed 2	ALM-001-01 A	W10	1800	1800	awning	60.0	N	No
Bed 3	ALM-001-01 A	W16	1800	1800	awning	60.0	E	No
Bed 4	ALM-001-01 A	W09	1800	1800	awning	60.0	S	No
Entry/Kitch/Fam-ily/Dining	TIM-001-01 W	W14 Door	2500	1560	casement	100.0	W	No
Entry/Kitch/Fam-ily/Dining	ALM-002-01 A	W02	785	1560	fixed	0.0	W	No
Entry/Kitch/Fam-ily/Dining	ALM-001-01 A	W03	1800	1800	awning	30.0	W	No
Entry/Kitch/Fam-ily/Dining	ALM-002-01 A	W15	2400	3500	sliding	60.0	W	No
Entry/Kitch/Fam-ily/Dining	ALM-002-01 A	W04	785	3500	fixed	0.0	W	No
Entry/Kitch/Fam-ily/Dining	ALM-002-01 A	W06	785	3500	fixed	0.0	W	No
Entry/Kitch/Fam-ily/Dining	ALM-002-01 A	W15	2400	3500	sliding	60.0	W	No
Entry/Kitch/Fam-ily/Dining	ALM-002-01 A	W08	600	3800	fixed	0.0	S	No
WC	ALM-001-01 A	W01	1800	1200	awning	60.0	W	No

## Roof window *type and performance value*

### Default\* roof windows

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

### Custom\* roof windows

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

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Indoor shade
No Data Available							

## 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> )	Orient-ation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

## External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	3000	4800	100.0	W
Laundry	2400	920	100.0	S

## External wall *type*

Wall ID	Wall type	Solar absorbptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
1	TP-HBL - Hebel Veneer	0.5	Medium		No
2	TP-RW - Earth Retaining Wall S/D	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	No
3	TP-HBL - Hebel Veneer	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	Yes
4	TP-RW - Earth Retaining Wall S/D	0.5	Medium		No

## External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	1	3160	572	W	710	Yes
Garage	1	3160	4878	W	1260	Yes
Garage	1	3160	549	W	710	Yes
Garage	1	3160	4500	S	550	Yes
Garage	2	230	1770	S	0	No
Garage	2	230	1872	S	0	No
Garage	2	230	2710	E	0	No
Garage	2	230	1900	N	0	No
Garage	2	230	3200	E	0	No
Garage	1	3160	6240	N	550	Yes
Master Ensuite	3	2940	3180	N	550	Yes
Dressing	3	3000	3200	E	524	Yes
Dressing	3	2940	3778	N	550	Yes
Master Suite	3	3000	4619	E	524	Yes
Study/Office	3	3000	3350	E	550	Yes
Cellar	3	3000	2310	E	550	Yes
Cellar	3	3000	870	N	550	Yes
Lounge/Media	3	4080	850	E	550	Yes
Lounge/Media	3	4080	1790	N	550	Yes
Bed 2	3	2740	3450	E	524	Yes

\* Refer to glossary.

Bed 2	3	2740	4140	N	550	Yes
Bed 3	3	2740	3610	S	550	No
Bed 3	3	2740	4000	E	550	Yes
Bed 3	3	2740	2210	N	550	Yes
Bed 4	3	2740	4210	S	550	No
Laundry	4	230	2110	E	0	No
Laundry	4	230	1800	N	0	No
Laundry	3	4020	1800	S	550	No
Entry/Kitch/Family/Dining	3	3285	2400	W	5069	Yes
Entry/Kitch/Family/Dining	3	2940	1400	N	10951	Yes
Entry/Kitch/Family/Dining	3	2940	3670	W	550	Yes
Entry/Kitch/Family/Dining	3	2940	1400	S	9899	Yes
Entry/Kitch/Family/Dining	3	4020	9349	W	5335	Yes
Entry/Kitch/Family/Dining	3	4020	6700	S	550	No
Entry/Kitch/Family/Dining	4	230	1180	N	0	No
Entry/Kitch/Family/Dining	4	230	3553	E	0	No
Bed Hallway/Bath/WC	4	230	1060	E	0	No
Bed Hallway/Bath/WC	3	2740	1100	E	524	Yes
WC	3	2940	1820	W	550	Yes
WC	3	2940	1400	S	16058	Yes

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	40.2	Glass fibre batt: R2.0 (R2.0)
2	FR5 - Internal Plasterboard Stud Wall	202.8	

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	42.8	Enclosed	R0.0	none
Master Ensuite	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	10.2	Enclosed	R0.0	Tiles
Dressing	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	12	Enclosed	R0.0	Carpet
Master Suite	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	22.5	Enclosed	R0.0	Carpet
Study/Office	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	11.7	Enclosed	R0.0	Carpet
Cellar	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	8.3	Enclosed	R0.0	Timber
Lounge/Media	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	19.5	Enclosed	R0.0	Carpet
Bed 2	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	14.6	Enclosed	R0.0	Carpet
Bed 3	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	13.7	Enclosed	R0.0	Carpet
Bed 4	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	13.8	Enclosed	R0.0	Carpet
Laundry	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	3.8	Enclosed	R0.0	Tiles
Entry/Kitch/Family/Dining	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	89.6	Enclosed	R0.0	Timber

Bed Hallway/Bath/WC	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	12.8	Enclosed	R0.0	Timber
Bed Hallway/Bath/WC	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	8.3	Enclosed	R0.0	Tiles
WC	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	3.2	Enclosed	R0.0	Tiles

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Plasterboard	R0.0	Yes
Master Ensuite	Plasterboard	R4.1	Yes
Dressing	Plasterboard	R4.1	Yes
Master Suite	Plasterboard	R4.1	Yes
Study/Office	Plasterboard	R4.1	Yes
Cellar	Plasterboard	R4.1	Yes
Lounge/Media	Plasterboard	R4.1	Yes
Bed 2	Plasterboard	R4.1	Yes
Bed 3	Plasterboard	R4.1	Yes
Bed 4	Plasterboard	R4.1	Yes
Laundry	Plasterboard	R4.1	Yes
Entry/Kitch/Family/Dining	Plasterboard	R4.1	Yes
Bed Hallway/Bath/WC	Plasterboard	R4.1	Yes
Bed Hallway/Bath/WC	Plasterboard	R4.1	Yes
WC	Plasterboard	R4.1	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Master Ensuite	4	Downlights	120	Sealed
Dressing	4	Downlights	120	Sealed
Master Suite	9	Downlights	120	Sealed
Study/Office	4	Downlights	120	Sealed
Cellar	3	Downlights	120	Sealed
Lounge/Media	8	Downlights	120	Sealed
Bed 2	5	Downlights	120	Sealed
Bed 3	5	Downlights	120	Sealed
Bed 4	5	Downlights	120	Sealed
Laundry	1	Downlights	120	Sealed
Entry/Kitch/Family/Dining	1	Exhaust Fans	160	Sealed
Entry/Kitch/Family/Dining	36	Downlights	120	Sealed
Entry/Kitch/Family/Dining	1	Heater Flues	180	Unsealed
Bed Hallway/Bath/WC	8	Downlights	120	Sealed

\* Refer to glossary.



Bed Hallway/Bath/WC	2	Exhaust Fans	200	Sealed
WC	1	Downlights	120	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Cont:Attic-Continuous	1.3	0.8	Dark



## 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 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).