

Nationwide House Energy Rating Scheme

NatHERS Certificate No. 9G0A73JBYI

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Property

Address Lot B, 863 MONTPELIER DRIVE , THE OAKS , NSW, 2570
Lot/DP 12/1232323
NCC Class* Class 1a
Type New Home

Plans

Main plan 0272 / REV. H
Prepared by ALVARO ARCHITECTS P/L

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned* 254.1	suburban
Unconditioned* 52.6	NatHERS climate zone
Total 306.7	28, THE OAKS
Garage 38	



Accredited assessor

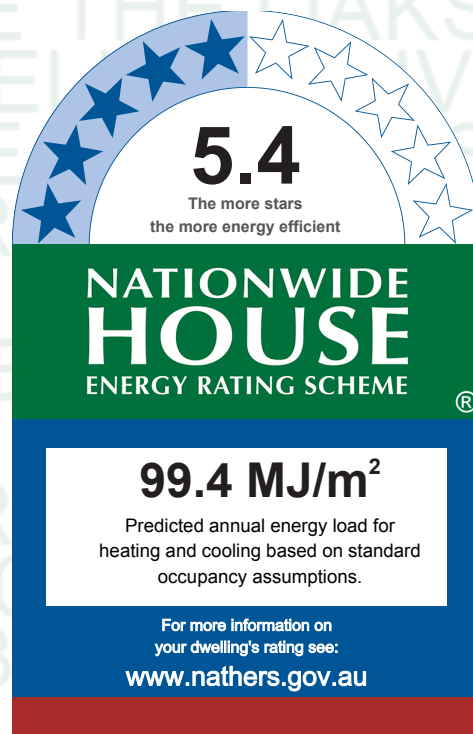
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Accreditation No. 101399
Assessor Accrediting Organisation ABSA
Declaration of interest Declaration completed: no conflicts

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.

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



Thermal performance

Heating	Cooling
53.7	45.7
MJ/m ²	MJ/m ²

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=9G0A73JBYI> When using either link, ensure you are visiting www.FR5.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-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61

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*
Garage 1	ALM-001-03 A	D203	2400	1000	casement	100.0	N	No
Garage 1	ALM-002-03 A	W210	944	1800	sliding	45.0	N	No
Laundry	ALM-002-03 A	D204	2400	1000	fixed	0.0	N	No
Laundry	ALM-002-03 A	W211	2400	210	fixed	0.0	N	No

Bedroom 1	ALM-001-03 A	W207	2100	1850	awning	30.0	S	No
Bathroom	ALM-002-03 A	W206	1370	2170	sliding	45.0	W	No
Master bed	ALM-002-03 A	D207	2700	2410	sliding	45.0	N	No
Master bed	ALM-002-03 A	W215	2700	1640	fixed	0.0	W	No
WIR	ALM-001-03 A	W201	2100	1850	awning	30.0	S	No
ENS	ALM-001-03 A	W202	2100	730	awning	60.0	S	No
Bedroom 3	ALM-001-03 A	W203	2100	1850	awning	30.0	S	No
Bedroom 2	ALM-001-03 A	W204	2100	1850	awning	30.0	S	No
Kitchen/Living 11	ALM-002-03 A	W213	750	4210	fixed	0.0	N	No
Kitchen/Living 11	ALM-002-03 A	W214	2100	6690	fixed	0.0	N	No
Kitchen/Living 11	ALM-002-03 A	D206	2700	5460	other	90.0	W	No
Entry Hall	ALM-001-03 A	D202	2700	1200	casement	100.0	E	No
Entry Hall	ALM-001-03 A	W209	2700	1200	awning	30.0	E	No
Entry Hall	ALM-001-03 A	D205	2400	1000	casement	60.0	N	No
Entry Hall	ALM-002-03 A	W212	2400	210	fixed	0.0	N	No
Rumpus	ALM-002-03 A	W208	2700	2480	fixed	0.0	E	No
Rumpus	ALM-002-03 A	D201	2700	2410	sliding	30.0	N	No
Corridor	ALM-002-03 A	W205	1540	1570	sliding	30.0	S	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 ²)	Orientation	Outdoor shade	Indoor shade
No Data Available							

Skylight type and performance

Skylight ID	Skylight description
GEN-04-001a	SC: Single Clear

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Skylight shaft reflectance
Corridor	GEN-04-001a	Element 1	1000	0.6	N	None	No	0.75

Corridor	GEN-04-001a	Element 2	1000	0.6	N	None	No	0.75
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External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 1	2100	5046	100.0	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
1	FR5 - Brick Veneer	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	No
2	FR5 - Fibro Clad Framed	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	No
3	FR5 - Internal Plasterboard Stud Wall	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	1	2700	1792	W	0	Yes
Garage 1	2	2700	2476	S	0	Yes
Garage 1	2	2700	6245	E	1453	Yes
Garage 1	1	2700	6263	N	0	No
Laundry	1	2700	2501	N	0	Yes
Bedroom 1	1	2700	3951	S	468	No
Bathroom	1	2700	2945	W	19608	Yes
Bathroom	1	2700	2954	S	474	No
Master bed	1	2700	3875	N	7732	Yes
Master bed	1	2700	1866	W	1071	Yes
Master bed	1	2700	606	N	0	Yes
Master bed	1	2700	3644	W	465	No
Master bed	1	2700	4479	S	476	No
WIR	1	2700	363	N	0	Yes
WIR	1	2700	2527	S	474	No
ENS	1	2700	1760	S	471	No
Bedroom 3	1	2700	3948	S	470	No
Bedroom 2	1	2700	3938	S	471	No
Bedroom 2	1	2700	2989	E	0	Yes
Kitchen/Living 11	3	2700	188	N	0	Yes
Kitchen/Living 11	1	2700	621	E	0	Yes
Kitchen/Living 11	1	2700	4132	N	0	Yes
Kitchen/Living 11	1	2700	615	W	0	Yes
Kitchen/Living 11	1	2700	6915	N	1212	Yes
Kitchen/Living 11	1	2700	6455	W	3949	Yes
Kitchen/Living 11	1	2700	352	S	0	Yes

Kitchen/Living 11	1	2700	597	W	0	Yes
Entry Hall	2	2700	2365	E	7715	Yes
Entry Hall	1	2700	1166	N	0	Yes
Rumpus	1	2700	3825	S	479	No
Rumpus	1	2700	5505	E	1082	Yes
Rumpus	1	2700	3825	N	3650	No
Corridor	1	2700	1509	S	3460	Yes
Corridor	1	2700	2489	N	0	Yes

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	243.9	
2	FR5 - Single Brick Finished	17	

Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage 1	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	38	Enclosed	R0.0	none
Laundry	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	5.9	Enclosed	R0.0	Tiles
Bedroom 1	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	16.7	Enclosed	R0.0	Carpet
Bathroom	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	8.7	Enclosed	R0.0	Tiles
storage	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	3.4	Enclosed	R0.0	Tiles
Master bed	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	23.6	Enclosed	R0.0	Carpet
WIR	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	11.5	Enclosed	R0.0	Tiles
ENS	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	5.4	Enclosed	R0.0	Tiles
Bedroom 3	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	16.7	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	16.7	Enclosed	R0.0	Carpet
Kitchen/Living 11	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	68.7	Enclosed	R0.0	Tiles
Pantry	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	3.5	Enclosed	R0.0	Tiles
Powder Room	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	2.7	Enclosed	R0.0	Tiles
Entry Hall	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	31.9	Enclosed	R0.0	Tiles
Rumpus	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	21.1	Enclosed	R0.0	Tiles

Corridor	FR5 - 225mm waffle pod, 100mm concrete (R0.60)	32.3	Enclosed	R0.0	Tiles
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Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage 1	Plasterboard	R4.0	Yes
Laundry	Plasterboard	R4.0	Yes
Bedroom 1	Plasterboard	R4.0	Yes
Bathroom	Plasterboard	R4.0	Yes
storage	Plasterboard	R4.0	Yes
Master bed	Plasterboard	R4.0	Yes
WIR	Plasterboard	R4.0	Yes
ENS	Plasterboard	R4.0	Yes
Bedroom 3	Plasterboard	R4.0	Yes
Bedroom 2	Plasterboard	R4.0	Yes
Kitchen/Living 11	Plasterboard	R4.0	Yes
Pantry	Plasterboard	R4.0	Yes
Powder Room	Plasterboard	R4.0	Yes
Entry Hall	Plasterboard	R4.0	Yes
Rumpus	Plasterboard	R4.0	Yes
Corridor	Plasterboard	R4.0	Yes

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Laundry	1	Downlights	50	Sealed
Laundry	1	Exhaust Fans	100	Sealed
Bedroom 1	4	Downlights	50	Sealed
Bathroom	2	Downlights	50	Sealed
Bathroom	1	Exhaust Fans	100	Sealed
storage	1	Downlights	50	Sealed
Master bed	6	Downlights	50	Sealed
WIR	3	Downlights	50	Sealed
ENS	2	Downlights	50	Sealed
ENS	1	Exhaust Fans	100	Sealed
Bedroom 3	4	Downlights	50	Sealed
Bedroom 2	4	Downlights	50	Sealed
Kitchen/Living 11	28	Downlights	50	Sealed
Kitchen/Living 11	1	Exhaust Fans	150	Sealed
Pantry	1	Downlights	50	Sealed
Powder Room	1	Downlights	50	Sealed
Powder Room	1	Exhaust Fans	100	Sealed



Entry Hall	12	Downlights	50	Sealed
Rumpus	8	Downlights	50	Sealed
Corridor	12	Downlights	50	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Cont:Attic-Continuous	0.0	0.5	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

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
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, 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.
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.
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.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.

National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
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
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 device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
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.
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).