

Nationwide House Energy Rating Scheme

NatHERS Certificate No. MOZXW1IDL1

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Property

Address TH1, 78 Matthew Bell Way , Jordan Springs, NSW, 2747
Lot/DP 3799/1200053
NCC Class* Class 1a
Type New Home

Plans

Main plan DA-005/Issue D-11.01.21
Prepared by Dziner's Den Architects

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned*	262.8
Unconditioned*	54.8
Total	317.6
Garage	34.4

NatHERS climate zone
28 Richmond



Accredited assessor

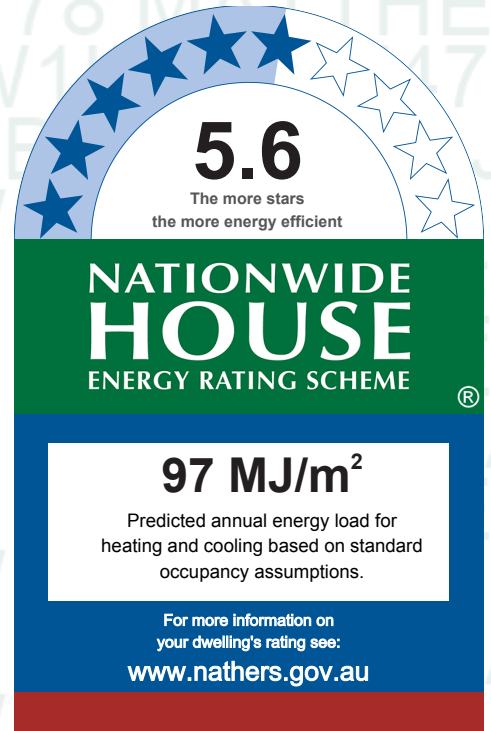
Name Suruchi Pathak
Business name Suruchi Pathak
Email suruchipathak@gmail.com
Phone 0434220286
Accreditation No. 20594
Assessor Accrediting Organisation ABSA
Declaration of interest Declaration completed: no conflicts

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
54.3	42.7
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=MOZXW1IDL1> 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-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51

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*
Bedroom 1	ALM-002-03 A	GW-1-10	600	1500	sliding	45.0	NNE	No
Bedroom 1	ALM-002-03 A	GW-1-11	1500	1500	sliding	45.0	ESE	No
Toilet	ALM-001-03 A	GW-1-09	600	750	fixed	0.0	NNE	No
Toilet	ALM-001-03 A	GW-1-09	600	450	louvre	90.0	NNE	No

* Refer to glossary

Kitchen/Living	ALM-002-03 A	GD-1-03	2400	3650	sliding	20.0	NNE	No
Kitchen/Living	ALM-002-03 A	GW-1-08	1500	450	fixed	0.0	ESE	No
Kitchen/Living	ALM-002-03 A	GW-1-07	1500	1200	sliding	45.0	NNE	No
Kitchen/Living	ALM-002-03 A	GW-1-06	2400	2100	sliding	30.0	WNW	No
Study	ALM-002-03 A	GW-1-01	1500	2388	sliding	45.0	SSW	No
Rumpus	ALM-002-03 A	GW-1-05	2400	2100	sliding	30.0	NNE	No
Rumpus	ALM-002-03 A	GW-1-03	1500	1200	sliding	45.0	SSW	No
Rumpus	ALM-002-03 A	GW-1-04	1500	1200	sliding	45.0	SSW	No
Laundry	ALM-002-03 A	GW-1-02	2400	1500	sliding	30.0	SSW	No
Bedroom 4	ALM-002-03 A	FW-1-19	1500	1800	sliding	45.0	ESE	No
Bedroom 3	ALM-002-03 A	FW-1-16	800	1500	fixed	0.0	NNE	No
Bedroom 3	ALM-001-03 A	FW-1-15	1500	1800	sliding	45.0	ESE	No
Bedroom 3	ALM-002-03 A	FW-1-17	800	1500	fixed	0.0	SSW	No
Bedroom 3	ALM-002-03 A	FW-1-16	800	500	fixed	0.0	ESE	No
Bedroom 3	ALM-002-03 A	FW-1-17	800	500	fixed	0.0	ESE	No
Toilet	ALM-002-03 A	FW-1-18	600	750	fixed	0.0	ESE	No
Toilet	ALM-001-03 A	FW-1-18	600	450	louvre	90.0	ESE	No
Family Room	ALM-002-03 A	FW-1-14	1500	3000	sliding	30.0	NNE	No
Family Room	ALM-001-03 A	FW-1-21	1500	900	awning	90.0	SSW	No
Family Room	ALM-001-03 A	FW-1-20	1500	900	awning	90.0	SSW	No
Bedroom 5	ALM-002-03 A	FW-1-22	1500	1800	sliding	45.0	WNW	No
ENS	ALM-002-03 A	FW-1-23	600	750	fixed	0.0	WNW	No
ENS	ALM-001-03 A	FW-1-23	600	450	louvre	90.0	WNW	No
Bedroom 2	ALM-002-03 A	FW-1-12	1500	1800	sliding	45.0	NNE	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 (m²)	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 (m²)	Orient-ation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry Foyer	2400	1000	100.0	ESE
Garage	2400	5000	100.0	ESE

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)	Yes
2	FR5 - Fibro Clad Framed	0.5	Medium	Glass fibre batt: R2.0 (R2.0)	Yes

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	1	2700	4080	NNE	0	No
Bedroom 1	1	2700	264	SSW	0	Yes
Bedroom 1	1	2700	517	ESE	762	Yes
Bedroom 1	1	2700	2800	ESE	0	Yes
Toilet	1	2700	1350	WNW	0	Yes
Toilet	1	2700	1805	NNE	0	No
Entry Foyer	1	2700	1206	ESE	1027	Yes
Garage	1	2700	5739	SSW	0	No
Garage	1	2700	6010	ESE	0	Yes
Kitchen/Living	1	2700	6356	NNE	0	Yes
Kitchen/Living	1	2700	1367	ESE	0	Yes
Kitchen/Living	1	2700	5129	NNE	0	No
Kitchen/Living	1	2700	4160	WNW	3796	Yes
Study	1	2700	6230	SSW	531	No
Rumpus	1	2700	2613	NNE	6549	Yes
Rumpus	1	2700	4089	WNW	1207	No
Rumpus	1	2700	5255	SSW	0	No
Laundry	1	2700	2411	SSW	0	No
Pantry	1	2700	2278	WNW	3794	Yes
Bedroom 4	2	2700	2868	WNW	0	Yes
Bedroom 4	2	2700	4145	SSW	0	No

* Refer to glossary.

Bedroom 4	2	2700	4158	ESE	0	Yes
Bedroom 3	2	2700	2567	NNE	0	Yes
Bedroom 3	2	2700	2874	ESE	0	Yes
Bedroom 3	2	2700	4113	NNE	606	No
Bedroom 3	2	2700	1326	WNW	0	Yes
Bedroom 3	2	2700	2473	SSW	0	Yes
Bedroom 3	2	2700	1711	ESE	0	No
Toilet	2	2700	1836	ESE	0	Yes
Family Room	2	2700	6274	NNE	594	Yes
Family Room	2	2700	6260	SSW	0	Yes
Bedroom 5	2	2700	3196	WNW	0	No
Bedroom 5	2	2700	5575	SSW	0	No
Bedroom 5	2	2700	2838	ESE	0	Yes
ENS	2	2700	3080	WNW	0	No
Bedroom 2	2	2700	5566	NNE	651	No
Bedroom 2	2	2700	4164	WNW	0	No
Bedroom 2	2	2700	1354	ESE	0	Yes

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	188.4	
2	FR5 - Brick Veneer	31.2	

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 1	FR5 - CSOG: Slab on Ground	4.7	Enclosed	R0.0	Tiles
Bedroom 1	FR5 - CSOG: Slab on Ground	8.9	Enclosed	R0.0	Tiles
Toilet	FR5 - CSOG: Slab on Ground	6.1	Enclosed	R0.0	Tiles
Entry Foyer	FR5 - CSOG: Slab on Ground	6.7	Enclosed	R0.0	Tiles
Garage	FR5 - CSOG: Slab on Ground	25.7	Enclosed	R0.0	none
Garage	FR5 - CSOG: Slab on Ground	8.7	Enclosed	R0.0	none
Kitchen/Living	FR5 - CSOG: Slab on Ground	69	Enclosed	R0.0	Tiles
Study	FR5 - CSOG: Slab on Ground	17.1	Enclosed	R0.0	Tiles
Rumpus	FR5 - CSOG: Slab on Ground	16.4	Enclosed	R0.0	Tiles
Rumpus	FR5 - CSOG: Slab on Ground	8.2	Enclosed	R0.0	Tiles
Laundry	FR5 - CSOG: Slab on Ground	6.7	Enclosed	R0.0	Tiles
Pantry	FR5 - CSOG: Slab on Ground	4.9	Enclosed	R0.0	none
Bedroom 4	FR5 - Timber Lined	17.2	Enclosed	R0.0	Tiles
Bedroom 3	FR5 - Timber Lined	20.3	Enclosed	R0.0	Tiles
Bedroom 3	FR5 - Timber Lined	1.1	Elevated	R0.0	Tiles
Toilet	FR5 - Timber Lined	7.7	Enclosed	R0.0	Tiles

Family Room	FR5 - Timber Lined	50.7	Enclosed	R0.0	Tiles
Bedroom 5	FR5 - Timber Lined	21.3	Enclosed	R0.0	Tiles
ENS	FR5 - Timber Lined	4.6	Enclosed	R0.0	Tiles
ENS	FR5 - Timber Lined	0.4	Elevated	R0.0	Tiles
Bedroom 2	FR5 - Timber Lined	0.8	Elevated	R0.0	Tiles
Bedroom 2	FR5 - Timber Lined	22.3	Enclosed	R0.0	Tiles

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Plasterboard	R4.0	Yes
Bedroom 1	FR5 - Timber Lined	R0.0	No
Toilet	FR5 - Timber Lined	R0.0	No
Entry Foyer	FR5 - Timber Lined	R0.0	No
Garage	FR5 - Timber Lined	R0.0	No
Garage	Plasterboard	R4.0	Yes
Kitchen/Living	FR5 - Timber Lined	R0.0	No
Study	Plasterboard	R4.0	Yes
Rumpus	FR5 - Timber Lined	R0.0	No
Rumpus	Plasterboard	R4.0	Yes
Laundry	FR5 - Timber Lined	R0.0	No
Pantry	FR5 - Timber Lined	R0.0	No
Bedroom 4	Plasterboard	R4.0	Yes
Bedroom 3	Plasterboard	R4.0	Yes
Bedroom 3	Plasterboard	R4.0	Yes
Toilet	Plasterboard	R4.0	Yes
Family Room	Plasterboard	R4.0	Yes
Bedroom 5	Plasterboard	R4.0	Yes
ENS	Plasterboard	R4.0	Yes
Bedroom 2	Plasterboard	R4.0	Yes
Bedroom 2	Plasterboard	R4.0	Yes

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Bedroom 1	4	Downlights	50	Sealed
Toilet	1	Exhaust Fans	150	Sealed
Kitchen/Living	1	Exhaust Fans	150	Sealed
Kitchen/Living	28	Downlights	50	Sealed
Study	6	Downlights	50	Sealed
Rumpus	6	Downlights	50	Sealed
Laundry	1	Exhaust Fans	150	Sealed
Bedroom 4	8	Downlights	50	Sealed

* Refer to glossary.

Bedroom 3	8	Downlights	50	Sealed
Toilet	1	Exhaust Fans	150	Sealed
Family Room	20	Downlights	50	Sealed
Bedroom 5	8	Downlights	50	Sealed
ENS	1	Exhaust Fans	150	Sealed
Bedroom 2	8	Downlights	50	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium
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).