Nationwide House Energy Rating Scheme® NatHERS® Certificate No. #HR-OCAASL-01

Generated on 08 Apr 2024 using Hero 4.0 (Chenath v3.23)

Property

Address	Unit A, 24 Thurralilly Street, QUEANBEYAN EAST, NSW, 2620
Lot/DP	LOT 1DP 222494
NCC Class*	2
Floor/all Floors	1 of 1 floors
Type	New

Plans

Main Plan	22/03/24 REV A
Prepared by	KENNEDY ARCHITECTS

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	58.3	Suburban	
Unconditioned*	1.5	**NatHERS climate zone**	
Total	78.8	24 - Canberra Airport	
Garage	19.0		

Accredited assessor

Name	Adam Clarke
Business name	10 Star Building Assessments
Email	admin@10sba.com
Phone	+61 481010999
Accreditation No.	101518
Assessor Accrediting Organisation	ABSA
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

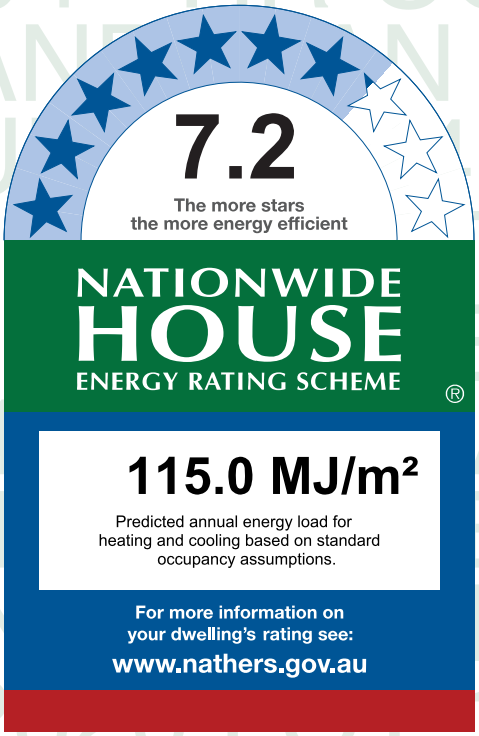
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	95.4	19.7
Load limits	200	41

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-OCAASL-01. When using either link, ensure you are visiting http://www.hero-software.com.au

* Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating and Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG - Concrete Slab on Ground
- SF - Suspended Floor (or a mixture of CSOG and SF)
- NA - Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA - Not Applicable

Outdoor living area:

- Yes
- No
- NA - Not Applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar.

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

* Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'External wall type table'* on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certifi cate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown on the NatHERS-stamped plans?	☐	☐	☐	☐	☐

* Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

* Refer to glossary.

Additional Notes

Windows to bedrooms must have window opening limitor devices installed when the FFL is 2 or more mtrs above the ground. Windows other than bedrooms must have opening limitor devises installed or non climbable surfaces of more than 860mm to the sill when the window has a fall of 4 mtrs or greater.

Room *schedule*

Room	Zone Type	Area (m²)
Kitchen/Living 1	Kitchen/Living	26.29
Bedroom 2	Bedroom	11.47
Day Time 21	Day Time	8.53
Garage 2	Garage	19.03
Day Time 2	Day Time	12.00
Unconditioned 2	Unconditioned	1.46

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-02 A	502/504 Al Sliding Window SG 5Clr	6.38	0.72	0.68	0.76
AWS-011-05 A	541/542 Al Sliding Door SG 6.38Sct	4.37	0.59	0.56	0.62

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 2	AWS-001-02 A	DAW04	1950	1810	Sliding	45	E	None
Kitchen/Living 1	AWS-011-05 A	DAD03	2400	2410	Sliding Door	45	E	None
Kitchen/Living 1	AWS-001-02 A	DAW01	1950	1210	Sliding	45	N	None
Kitchen/Living 1	AWS-001-02 A	DAW02	1950	1210	Sliding	45	N	None
Kitchen/Living 1	AWS-001-02 A	DAW03	1200	1570	Sliding	45	E	None

* Refer to glossary.

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Day Time 2	2400	1000	90	N
Garage 2	2400	2650	90	N

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	2.70	Yes

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 2	BV-REFL-CAV	2700	2845	S	1427	Yes
Bedroom 2	BV-REFL-CAV	2700	2679	E		Yes
Bedroom 2	BV-REFL-CAV	2700	371	E		Yes
Day Time 2	BV-REFL-CAV	2700	1461	N	2549	Yes
Garage 2	BV-REFL-CAV	2700	3266	N	2549	Yes
Kitchen/Living 1	BV-REFL-CAV	2700	4265	E	1863	Yes
Kitchen/Living 1	BV-REFL-CAV	2700	4026	N		Yes
Kitchen/Living 1	BV-REFL-CAV	2700	1165	W	4869	Yes
Kitchen/Living 1	BV-REFL-CAV	2700	2704	E		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CSR-2405	CSR-2405	38.9	4.00
INT-PB	Internal Plasterboard Stud Wall	35.9	0.00
INT-PB	Internal Plasterboard Stud Wall	20.3	2.00

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 2	CSOG-100: Concrete Slab on Ground (100mm)	11.5	N/A	1.00	Carpet
Day Time 2	CSOG-100: Concrete Slab on Ground (100mm)	12.0	N/A	1.00	Tile (8mm)
Day Time 21	CSOG-100: Concrete Slab on Ground (100mm)	8.5	N/A	1.00	Tile (8mm)
Garage 2	CSOG-100: Concrete Slab on Ground (100mm)	19.0	N/A	1.00	Exposed
Kitchen/Living 1	CSOG-100: Concrete Slab on Ground (100mm)	26.3	N/A	1.00	Tile (8mm)
Unconditioned 2	CSOG-100: Concrete Slab on Ground (100mm)	1.5	N/A	1.00	Tile (8mm)

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*

* Refer to glossary.

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bedroom 2	1	Downlight	200	Sealed
Day Time 2	2	Downlight	200	Sealed
Day Time 21	1	Downlight	200	Sealed
Day Time 21	1	Exhaust Fan	350	Sealed
Kitchen/Living 1	4	Downlight	200	Sealed
Kitchen/Living 1	1	Exhaust Fan	350	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
Bedroom 2	1	900
Kitchen/Living 1	1	1200

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
None				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

* Refer to glossary.

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

* Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

* Refer to glossary.

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Plans

Main Plan	22/03/24 REV A
Prepared by	KENNEDY ARCHITECTS

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
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Total	109.0	24 - Canberra Airport	
Garage	19.1		

Accredited assessor

Name	Adam Clarke
Business name	10 Star Building Assessments
Email	admin@10sba.com
Phone	+61 481010999
Accreditation No.	101518
Assessor Accrediting Organisation	ABSA
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions	Volume 1
State/Territory variation	Yes

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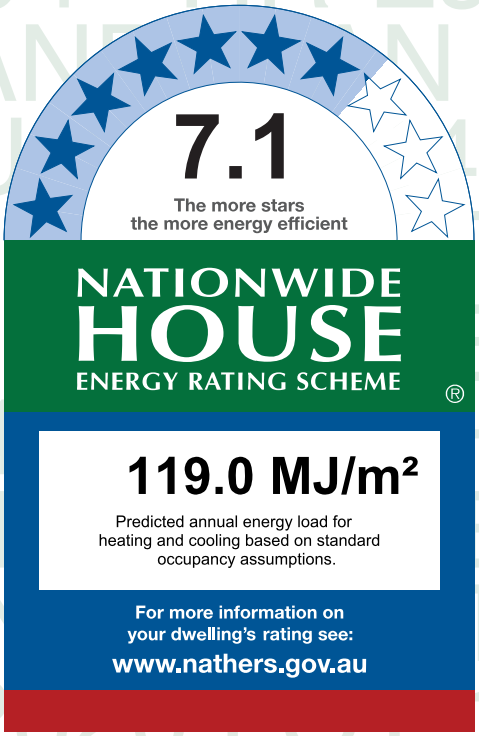

Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
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Setting options:

Floor type:

- CSOG - Concrete Slab on Ground
- SF - Suspended Floor (or a mixture of CSOG and SF)
- NA - Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA - Not Applicable

Outdoor living area:

- Yes
- No
- NA - Not Applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar.

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

* Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'External wall type table'* on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certifi cate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown on the NatHERS-stamped plans?	☐	☐	☐	☐	☐

* Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

* Refer to glossary.

Additional Notes

Windows to bedrooms must have window opening limitor devices installed when the FFL is 2 or more mtrs above the ground. Windows other than bedrooms must have opening limitor devises installed or non climbable surfaces of more than 860mm to the sill when the window has a fall of 4 mtrs or greater.

Room *schedule*

Room	Zone Type	Area (m²)
Garage 1	Garage	19.10
Day Time 19	Day Time	2.49
Day Time 22	Day Time	7.45
Bedroom 1	Bedroom	13.87
Unconditioned 1	Unconditioned	7.42
Bedroom 3	Bedroom	12.34
Day Time 10	Day Time	3.73
Day Time 11	Day Time	4.06
Kitchen/Living 4	Kitchen/Living	40.86

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-003-03 A	502/504 Al Sliding Window DG 4/10Ar/4ET	3.45	0.55	0.52	0.58
AWS-013-03 A	541/542 Al Sliding Door DG 4/10Ar/4ET	3.20	0.57	0.54	0.60

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 1	AWS-003-03 A	DBW02	1600	1690	Sliding	10	E	None
Bedroom 1	AWS-003-03 A	DBW01	1600	1690	Sliding	10	N	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 3	AWS-003-03 A	DBW05	1600	1810	Sliding	10	S	None
Bedroom 3	AWS-003-03 A	DBW04	600	1690	Sliding	45	E	None
Kitchen/Living 4	AWS-013-03 A	DBD05	2400	3140	Sliding Door	45	N	None
Kitchen/Living 4	AWS-003-03 A	DBW06	1600	1690	Sliding	45	S	None
Unconditioned 1	AWS-003-03 A	DBW03	900	1690	Sliding	45	E	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Day Time 22	2400	1000	90	E

* Refer to glossary.

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 1	2400	2650	90	E
Garage 1	2400	1000	90	S

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	2.70	Yes
PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)	0.64	Dark (Wallaby)	2.70	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 1	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	642	N	2151	Yes
Bedroom 1	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	3439	E	625	No
Bedroom 1	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	1165	W	5525	Yes
Bedroom 1	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	3392	N	630	Yes
Bedroom 1	BV-REFL-CAV	880	3440	E		No
Bedroom 1	BV-REFL-CAV	880	3392	N		Yes
Bedroom 1	BV-REFL-CAV	880	642	N	2012	Yes
Bedroom 1	BV-REFL-CAV	880	1165	W	5388	Yes
Bedroom 3	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	3044	S	620	No
Bedroom 3	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	3620	E	625	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 3	BV-REFL-CAV	880	3620	E		No
Bedroom 3	BV-REFL-CAV	880	3044	S		No
Day Time 11	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1900	1024	S	620	No
Day Time 22	BV-REFL-CAV	2700	1222	E	2832	Yes
Garage 1	BV-REFL-CAV	2700	840	W	8272	Yes
Garage 1	BV-REFL-CAV	2700	3134	E	462	Yes
Garage 1	BV-REFL-CAV	2700	6095	S	457	Yes
Kitchen/Living 4	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	2700	4832	N	3316	Yes
Kitchen/Living 4	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	2300	4681	S	620	No
Unconditioned 1	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	2871	E	625	No
Unconditioned 1	BV-REFL-CAV	880	2870	E		No

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CSR-2405	CSR-2405	61.2	4.00
INT-PB	Internal Plasterboard Stud Wall	37.1	0.00
INT-PB	Internal Plasterboard Stud Wall	35.2	2.00
INT-PB	Internal Plasterboard Stud Wall	2.7	4.00

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 1	TIMB-001: Suspended Timber Floor	13.9	N/A	2.50	Carpet

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 3	TIMB-001: Suspended Timber Floor	12.4	N/A	2.50	Carpet
Day Time 10	TIMB-001: Suspended Timber Floor	3.7	N/A	2.50	Tile (8mm)
Day Time 11	TIMB-001: Suspended Timber Floor	1.3	N/A	2.50	Tile (8mm)
Day Time 11	TIMB-001: Suspended Timber Floor	2.7	N/A	0.15	Tile (8mm)
Day Time 19	CSOG-100: Concrete Slab on Ground (100mm)	2.5	N/A	1.00	Tile (8mm)
Day Time 22	CSOG-100: Concrete Slab on Ground (100mm)	7.4	N/A	2.50	Tile (8mm)
Garage 1	CSOG-100: Concrete Slab on Ground (100mm)	19.1	N/A	2.50	Exposed
Kitchen/Living 4	TIMB-001: Suspended Timber Floor	40.8	N/A	2.50	Tile (8mm)
Unconditioned 1	TIMB-001: Suspended Timber Floor	7.4	N/A	2.50	Tile (8mm)

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bedroom 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Bedroom 3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Day Time 10	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Day Time 11	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Day Time 22	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Garage 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Kitchen/Living 4	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Unconditioned 1	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bedroom 1	2	Downlight	200	Sealed
Bedroom 3	2	Downlight	200	Sealed
Day Time 10	1	Downlight	200	Sealed

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Day Time 10	1	Exhaust Fan	350	Sealed
Day Time 11	1	Downlight	200	Sealed
Day Time 22	1	Downlight	200	Sealed
Kitchen/Living 4	6	Downlight	200	Sealed
Kitchen/Living 4	1	Exhaust Fan	350	Sealed
Unconditioned 1	1	Downlight	200	Sealed
Unconditioned 1	1	Exhaust Fan	350	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
Bedroom 1	1	900
Bedroom 3	1	900
Kitchen/Living 4	1	1200

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.44	Medium (Shale Grey)

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
None				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity

* Refer to glossary.

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

* Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

* Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate No. #HR-WRGNDQ-01

Generated on 08 Apr 2024 using Hero 4.0 (Chenath v3.23)

Property

Address	Unit C, 24 Thurralilly Street, QUEANBEYAN EAST, NSW, 2620
Lot/DP	LOT 1DP 222494
NCC Class*	2
Floor/all Floors	1 of 2 floors
Type	New

Plans

Main Plan	22/03/24 REV A
Prepared by	KENNEDY ARCHITECTS

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	77.9	Suburban	
Unconditioned*	2.3	**NatHERS climate zone**	
Total	98.1	24 - Canberra Airport	
Garage	17.8		

Accredited assessor

Name	Adam Clarke
Business name	10 Star Building Assessments
Email	admin@10sba.com
Phone	+61 481010999
Accreditation No.	101518
Assessor Accrediting Organisation	ABSA
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions	Volume 1
State/Territory variation	Yes

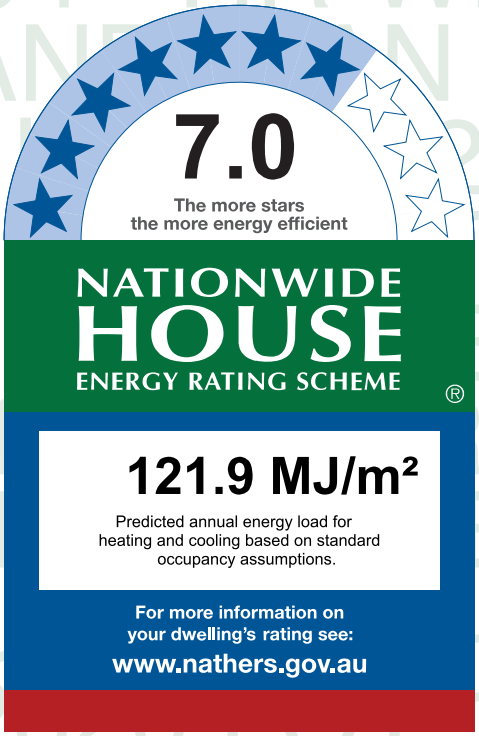
National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	108.2	13.7
Load limits	200	41

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-WRGNDQ-01.

When using either link, ensure you are visiting http://www.hero-software.com.au

* Refer to glossary.

About the ratings

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating and Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG - Concrete Slab on Ground
- SF - Suspended Floor (or a mixture of CSOG and SF)
- NA - Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA - Not Applicable

Outdoor living area:

- Yes
- No
- NA - Not Applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar.

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

* Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'External wall type table'* on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certifi cate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown on the NatHERS-stamped plans?	☐	☐	☐	☐	☐

* Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

* Refer to glossary.

Additional Notes

Windows to bedrooms must have window opening limitor devices installed when the FFL is 2 or more mtrs above the ground. Windows other than bedrooms must have opening limitor devises installed or non climbable surfaces of more than 860mm to the sill when the window has a fall of 4 mtrs or greater.

Room *schedule*

Room	Zone Type	Area (m²)
Garage 3	Garage	17.83
Day Time 18	Day Time	4.01
Day Time 20	Day Time	5.38
Day Time 4	Day Time	8.92
Kitchen/Living 5	Kitchen/Living	30.17
Day Time 13	Day Time	7.32
Bedroom 4	Bedroom	14.38
Unconditioned 3	Unconditioned	2.34
Day Time 16	Day Time	6.36
Day Time 17	Day Time	5.64

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-003-03 A	502/504 Al Sliding Window DG 4/10Ar/4ET	3.45	0.55	0.52	0.58
AWS-013-03 A	541/542 Al Sliding Door DG 4/10Ar/4ET	3.20	0.57	0.54	0.60

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 4	AWS-003-03 A	DCW09	1600	1690	Sliding	10	N	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 4	AWS-003-03 A	DCW08	900	850	Sliding	10	N	None
Day Time 16	AWS-003-03 A	DCW04	1600	1690	Sliding	45	S	None
Day Time 17	AWS-003-03 A	DCW06	900	1210	Sliding	45	W	None
Day Time 17	AWS-003-03 A	DCW07	900	1210	Sliding	45	W	None
Day Time 4	AWS-003-03 A	DCW01	1950	1810	Sliding	45	W	None
Kitchen/Living 5	AWS-003-03 A	DCW02	1950	1690	Sliding	45	N	None
Kitchen/Living 5	AWS-003-03 A	DCW03	1200	1570	Sliding	45	S	None
Kitchen/Living 5	AWS-013-03 A	DCD04	1600	3230	Sliding Door	30	S	None
Unconditioned 3	AWS-003-03 A	DCW05	600	1810	Sliding	45	S	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance

* Refer to glossary.

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Day Time 4	2400	1000	90	N
Garage 3	2400	2650	90	N

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	2.70	Yes
PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)	0.64	Dark (Wallaby)	2.70	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 4	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	2601	N	595	Yes
Bedroom 4	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	1587	W	609	No
Bedroom 4	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	1455	N	589	Yes
Bedroom 4	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	2274	W	635	Yes
Bedroom 4	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	526	N	3316	Yes
Bedroom 4	BV-REFL-CAV	880	1587	W		No
Bedroom 4	BV-REFL-CAV	880	526	N	3176	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 4	BV-REFL-CAV	880	2601	N		Yes
Bedroom 4	BV-REFL-CAV	880	2274	W		Yes
Bedroom 4	BV-REFL-CAV	880	1455	N		Yes
Day Time 16	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1900	2349	S	620	No
Day Time 17	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	3789	W	609	No
Day Time 17	BV-REFL-CAV	880	3789	W		No
Day Time 4	BV-REFL-CAV	2700	1336	N	2252	Yes
Day Time 4	BV-REFL-CAV	2700	6119	W		Yes
Garage 3	BV-REFL-CAV	2700	3127	N		Yes
Garage 3	BV-REFL-CAV	2700	2300	W	1522	Yes
Kitchen/Living 5	BV-REFL-CAV	2700	4410	W	457	Yes
Kitchen/Living 5	BV-REFL-CAV	2700	2876	N	267	Yes
Kitchen/Living 5	BV-REFL-CAV	2700	7582	S	1297	Yes
Unconditioned 3	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	2330	699	W	609	No
Unconditioned 3	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	2100	2128	S	620	No
Unconditioned 3	PrimeLine™ weatherboard, Scyon™ Stria™ cladding & Scyon™ Linea™ weatherboard (DF)1	1820	401	W	609	No
Unconditioned 3	BV-REFL-CAV	880	401	W		No

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CSR-2405	CSR-2405	56.5	4.00

* Refer to glossary.

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	24.2	2.50
INT-PB	Internal Plasterboard Stud Wall	46.6	0.00
INT-PB	Internal Plasterboard Stud Wall	3.5	4.00

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 4	TIMB-001: Suspended Timber Floor	14.4	N/A	2.50	Carpet
Day Time 13	TIMB-001: Suspended Timber Floor	7.3	N/A	2.50	Tile (8mm)
Day Time 16	TIMB-001: Suspended Timber Floor	6.4	N/A	2.50	Tile (8mm)
Day Time 17	TIMB-001: Suspended Timber Floor	5.6	N/A	2.50	Tile (8mm)
Day Time 18	CSOG-100: Concrete Slab on Ground (100mm)	4.0	N/A	2.50	Tile (8mm)
Day Time 20	CSOG-100: Concrete Slab on Ground (100mm)	5.4	N/A	2.50	Tile (8mm)
Day Time 4	CSOG-100: Concrete Slab on Ground (100mm)	8.9	N/A	2.50	Tile (8mm)
Garage 3	CSOG-100: Concrete Slab on Ground (100mm)	17.8	N/A	2.50	Exposed
Kitchen/Living 5	CSOG-100: Concrete Slab on Ground (100mm)	30.2	N/A	2.50	Tile (8mm)
Unconditioned 3	TIMB-001: Suspended Timber Floor	2.3	N/A	2.50	Tile (8mm)

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bedroom 4	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Day Time 13	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Day Time 16	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Day Time 17	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Kitchen/Living 5	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes
Unconditioned 3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	6.00	Yes

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bedroom 4	2	Downlight	200	Sealed
Day Time 13	1	Downlight	100	Sealed
Day Time 13	1	Exhaust Fan	250	Sealed
Day Time 16	1	Downlight	100	Sealed
Day Time 17	1	Downlight	100	Sealed
Day Time 18	1	Exhaust Fan	250	Sealed
Day Time 4	1	Downlight	100	Sealed
Kitchen/Living 5	4	Downlight	100	Sealed
Kitchen/Living 5	1	Exhaust Fan	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
Bedroom 4	1	900
Kitchen/Living 5	1	1200

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.44	Medium (Shale Grey)

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
None				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

* Refer to glossary.

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

* Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

* Refer to glossary.

Nationwide House Energy Rating Scheme®
Class 2 Summary
NatHERS® Certificate No. #HR-5ZYA0P-01

Generated on 08 Apr 2024 using Hero 4.0

Property

Address	24 Thurralilly Street, QUEANBEYAN EAST, NSW, 2620
Lot/DP	LOT 1DP 222494
NatHERS climate zone	24 - Canberra Airport

Accredited assessor

Name	Adam Clarke
Business name	10 Star Building Assessments
Email	admin@10sba.com
Phone	+61 481010999
Accreditation No.	101518
Assessor Accrediting Organisation	ABSA

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-5ZYA0P-01. When using either link, ensure you are visiting http://www.hero-software.com.au

National Construction Code (NCC) requirements

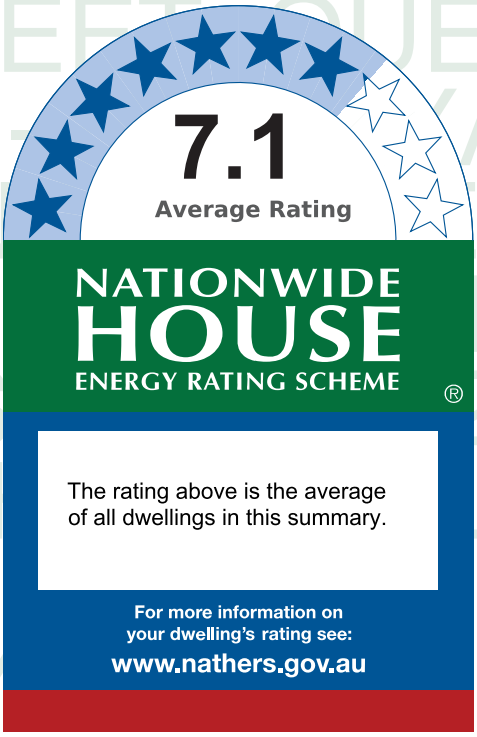
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating



NCC heating and cooling maximum loads MJ/m².yr

Limits taken from ABCB Standard 2022

	Heating	Cooling
Average load	102.0	16.7
Maximum load	108.2	19.7
Average limit	175.8	47.1
Maximum limit	200.1	40.6

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate or not completed for all dwellings.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m².yr)	Cooling load (load limit) (MJ/m².yr)	Total load (MJ/m².yr)	Star Rating	Whole of Home Rating
HR-OCAASL-01	Unit A	95.4 (200)	19.7 (41)	115.0	7.2	n/a
HR-EJHNQH-01	Unit B	102.4 (200)	16.6 (41)	119.0	7.1	n/a
HR-WRGNDQ-01	Unit C	108.2 (200)	13.7 (41)	121.9	7.0	n/a

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m².yr)	Cooling load (load limit) (MJ/m².yr)	Total load (MJ/m².yr)	Star Rating	Whole of Home Rating
Averages	3x (Total)	102.0	16.7	118.6	7.1	n/a
Maximum Loads and Minimum Ratings		108.2	19.7	121.9	7.0	n/a

Explanatory notes

About the ratings

The thermal performance star rating in this Certificate is the average rating of all NCC Class 2 dwellings in an apartment block. The Whole of Home performance rating in this Certificate is the lowest rating for the apartment block. Individual unit ratings are listed in the *'Summary of all dwellings'* section of this Certificate.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and societal cost. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy production and storage to estimate the homes societal cost.
For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

For high quality NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in certificates is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions 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.