# Nationwide House Energy Rating Scheme — Class 2 summary NatHERS Certificate No. 0008428510

Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21)

## Property

Address 66-70 Pegler Avenue , South Granville , NSW , 2142 Lot/DP 14,15,16/36280 NatHERS climate zone 56

# Accredited assessor



Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 Accreditation No. DMN/13/1645 Assessor Accrediting Organisation

**Design Matters National** 



# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=GoBoyatHz . When using either link, ensure you are visiting hstar.com.au

### Summary of all dwellings

Unit Number	Heating load (MJ/m <sup>2</sup> /p.a.)	Cooling load (MJ/m²/p.a.)	Total load (MJ/m <sup>2</sup> /p.a.)	Star rating
1	20.8	4	24.9	8.1
2	2.8	5.6	8.5	9.6
3	11.7	3.7	15.5	8.9
4	10.6	7.5	18.2	8.7
5	8.4	9.4	17.7	8.7
	Number           1           2           3           4	Number         (MJ/m²/p.a.)           1         20.8           2         2.8           3         11.7           4         10.6	Number         (MJ/m²/p.a.)         (MJ/m²/p.a.)           1         20.8         4           2         2.8         5.6           3         11.7         3.7           4         10.6         7.5	Number         (MJ/m²/p.a.)         (MJ/m²/p.a.)         (MJ/m²/p.a.)           1         20.8         4         24.9           2         2.8         5.6         8.5           3         11.7         3.7         15.5           4         10.6         7.5         18.2

#### National Construction Code (NCC) requirements

Continued Over

R

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.



The rating above is the average

of all dwellings in this summary.

For more information on your dwelling's rating see:

www.nathers.gov.au



# Summary of all dwellings (continued)

Certificate number and link	Unit Number	Heating load (MJ/m²/p.a.)	Cooling load (MJ/m²/p.a.)	Total load (MJ/m²/p.a.)	Star rating
0008427163	6	19.3	8.5	27.8	7.8
0008427171	7	15.4	9.7	25.1	8.1
0008427189	8	20.7	7.4	28.1	7.8
0008427197	9	16.3	9.6	25.8	8
0008427205-03	10	31.5	4.1	35.6	7.2
0008427213-01	11	18.7	15.5	34.2	7.3
0008427221-01	12	3.5	12.3	15.8	8.9
0008427239-01	13	19	17.3	36.3	7.2
0008427247-01	14	11.7	13	24.7	8.1
0008427254-01	15	9	16.8	25.8	8
0008427270-01	16	23.3	18.8	42.1	6.7
0008427288-02	17	15.3	20.3	35.5	7.2
0008427296-01	18	30.1	13.1	43.2	6.7
0008427304-01	19	24.1	19.6	43.7	6.6
0008427312-01	20	18.4	13.9	32.3	7.4
0008427320-01	21	9.3	10.8	20.1	8.4
0008427338	22	13.1	13.1	26.2	7.9
0008427346-01	23	24.6	19.9	44.4	6.5
0008427353-01	24	23.6	19.6	43.3	6.6
Avera	age	16.72	12.23	28.95	7.77



### **Explanatory notes**

#### About this report

This summary rating is the average rating of all NCC Class 2 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the 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. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

#### **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). 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.

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, input and creation of the NatHERS Certificate is by the assessor. 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.

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427114

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

## Property

Address

Unit 1, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP NCC Class<sup>3</sup>

Type

14.15.16/36280

New Dwelling

## Plans

Main Plan Prepared by

Brewster Murrav

## Construction and environment

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	77.0
Unconditioned*	0.0
Total	77.0
Garage	0.0

1,6

Suburban NatHERS climate zone

Exposure Type

# Accredited assessor

Name	Dean Gorman
Business name	Greenview Consulting Pty Ltd
Email	dean@greenview.net.au
Phone	8544 1683
Accreditation No.	DMN/13/1645

### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts

### the more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

# 24.9 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance

Heating	Cooling		
20.8	4.0		
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>		

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=IEsAQaUpY. When using either link, ensure you are visiting hstar.com.au

### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window/ID	Vindow ID Window Maximum SH Description U-value*	Maximum	SHGC*	Substitution tolerance ranges		
window ID		SHGC	SHGC lower limit	SHGC upper limit		
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window Maximum		SHGC*	Substitution tolerance ranges		
	Description U-value*	3000	SHGC lower limit	SHGC upper limit		
No Data Availa	ble					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	1800	1570	n/a	45	Ν	No

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 1, 66-70 Pegler Avenue, South Granville, NSW, 2142

#### 0008427114 NatHERS Certificate

#### 8.1 Star Rating as of 16 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	1070	n/a	60	E	No
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	E	No
Bedroom 1	ALM-001-01 A	n/a	1440	1580	n/a	30	E	No
Bedroom 2	ALM-001-01 A	n/a	1800	1580	n/a	45	Ν	No

# Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Available						
Custom* roof wind	dows					
Window ID	Window	Maximum U-value*	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description			SHGC lower limit	SHGC upper limit	
No Data Available	,					

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade

No Data Available

# Skylight type and performance

Skylight ID	Skylight description
No Data Available	

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>Area</b> (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								
External dear ashadula								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 1, 66-70 Regler Avenue , South Granville , NSW , 2142

#### 0008427114 NatHERS Certificate



Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Brick Veneer	0.50	Medium	Foil, Reflective both sides	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3995	Ν	1000	NO
Kitchen/Living	EW-1	2700	5795	E	2700	YES
Hallway	EW-1	2700	695	S	200	YES
Bedroom 1	EW-1	2700	1400	Ν	5300	YES
Bedroom 1	EW-1	2700	4300	E	800	NO
Bedroom 1	EW-1	2700	3695	S	200	NO
Bedroom 2	EW-1	2700	2600	W	200	NO
Bedroom 2	EW-1	2700	3195	Ν	1000	NO

# Internal wall type

Wall ID	Wall type	<b>Are</b> a (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		33.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		61.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilatio		Covering
Kitchen/Living	Concrete Slab on Ground 100mm	34.00 None	No Insulation	Ceramic Tiles 8mm
Bath 1	Concrete Slab on Ground 100mm	8.00 None	No Insulation	Ceramic Tiles 8mm
Hallway	Concrete Slab on Ground 100mm	7.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 100mm	15.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab on Ground 100mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bath 1	Concrete, Plasterboard	No insulation	No
Hallway	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No



# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

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

# Roof type

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



### **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 softw are 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 dow nlights, 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
Conditioned	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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 boat gain coofficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427122

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

## Property

Address

Unit 2, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP NCC Class<sup>3</sup>

Type

14,15,16/36280 2

New Dwelling

## Plans

Main Plan

Prepared by

Brewster Murray

## **Construction and environment**

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	55.0
Unconditioned*	0.0
Total	55.0
Garage	0.0

Exposure Type
Suburban
NatHERS climate zone

56

# Accredited assessor

Name	Dean Gorman					
Business name	Greenview Consulting Pty Ltd					
Email	dean@greenview.net.au					
Phone	8544 1683					
Accreditation No.	DMN/13/1645					
Accessor Accrediting Organization						

### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts



# 8.5 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance

Heating	Cooling
2.8	5.6 0
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

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QR code or visit hstar.com.au/QR/Generate? p=QHZffVmLh. When using either link, ensure you are visiting hstar.com.au

### 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.

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### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	51160	SHGC lower limit	SHGC upper limit	
No Data Availal	ole					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	Ν	No

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 2, 66-70 Pegler Avenue, South Granville, NSW, 2142



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	Ν	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	45	Ν	No

# Roof window type and performance

### Default\* roof windows

Window ID	Window	v	Maximum U-value*			Substitution tolerance ranges			
	Descri	otion			SHGC*	SHGC lower	r limit	SHGC upper limit	
No Data Ava	ilable								
Custom* roc	f windows								
Window ID	Window	v	Maximum		SHGC*	Substitution tolerance ranges			
WINDOWID	Descri	otion	U-valu	ue*	3660	SHGC lower	r limit	SHGC upper limit	
No Data Ava	ilable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	or 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)	<b>A</b> rea (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes



## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3595	Ν	3400	YES
Bedroom 1	EW-1	2700	3600	Ν	100	NO
Bedroom 1	EW-1	2700	1900	E	3700	YES
Bedroom 1	EW-1	2700	1800	W	300	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		58.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		37.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	25.30 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab on Ground 100mm	8.70 None	No Insulation	Ceramic Tiles 8mm
Hall	Concrete Slab on Ground 100mm	5.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 100mm	14.90 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

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

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 2, 66-70 Pegler Avenue , South Granville , NSW , 2142

9.6 Star Rating as of 16 Feb 2023



Location	Location		Diamete	r (mm)
Roof type				
Construction	Added insulation (R-value)		Solar absorptance	Roof shade

None Present



### **Explanatory notes**

#### About this report

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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.

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#### Disclaimer

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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 softw are 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.
Account 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
Assessed floor area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Centring perfect actoris	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
0 11/1 1	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmand with scattered
Exposure category – open	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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also know n 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
Rooi Willdow	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 hast goin coofficiant (SUCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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.
Vortical chading fosturas	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
Vertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427130

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Unit 3, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP NCC Class<sup>3</sup>

Type

2

14.15.16/36280

New Dwelling

## Plans

Main Plan

Prepared by

BGWT6 Brewster Murrav

### Construction and environment

# Assessed floor area (m<sup>2</sup>)\*

Conditioned*	74.0
Unconditioned*	0.0
Total	74.0
Garage	0.0

Suburban
NatHERS climate zone
56

Exposure Type

6

# Accredited assessor

Name	Dean Gorman			
Business name	Greenview Consulting Pty Ltd			
Email A	dean@greenview.net.au			
Phone	8544 1683			
Accreditation No.	DMN/13/1645			
Assessor Accrediting Organisation				

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts

## the more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

# 15.5 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance

Heating	Cooling
11.7	D 3.7 Ó
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit



p=oBuDvLBJS. When using either link, ensure you are visiting hstar.com.au

### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window Description	Maximum	SHGC*	Substitution tolerance ranges		
		U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	U-value*		SHGC upper limit
No Data Availal	ole				

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	Ν	No

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 3, 66-70 Pegler Avenue, South Granville, NSW, 2142

#### 0008427130 NatHERS Certificate

#### 8.9 Star Rating as of 16 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	Ν	No
Bedroom 2	ALM-001-01 A	n/a	857	1570	n/a	90	W	No
Bedroom 1	ALM-001-01 A	n/a	1450	850	n/a	90	Ν	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	45	E	No

# Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Availab	ble					
Custom* roof w	vindows					
	Window	Maximum	SHGC*	Substitution to	lerance ranges	
Mindow			JUG			
Window ID	Description	U-value*		SHGC lower limit	SHGC upper limit	
Window ID No Data Availab	•	U-value*		SHGC lower limit	SHGC upper limit	
No Data Availab	•	U-value*		SHGC lower limit	SHGC upper limit	

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade

No Data Available

# Skylight type and performance

Skylight ID	Skylight description
No Data Available	

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>Area</b> (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance	
No Data Av	ailable								
External door ashadula									

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 3, 66-70 Regler Avenue , South Granville , NSW , 2142

0008427130 NatHERS Certificate 8.9 Star			9 Star Rating as	of 16 Feb 2023			
Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*		
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes		

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	4295	Ν	2900	YES
Kitchen/Living	EW-1	2700	2095	S	200	YES
Bedroom 2	EW-1	2700	4095	S	200	NO
Bedroom 2	EW-1	2700	2300	W	200	NO
Bedroom 1	EW-1	2700	4300	Ν	200	NO
Bedroom 1	EW-1	2700	2700	E	4500	YES

# Internal wall type

Wall ID	Wall type	<b>Are</b> a (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		48.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		46.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	36.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 100mm	13.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath 1	Concrete Slab on Ground 100mm	8.10 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 100mm	15.90 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath 1	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 3, 66-70 Pegler Avenue , South Granville , NSW , 2142



# **Ceiling** fans

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

# Roof type

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



### **Explanatory notes**

#### About this report

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### Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
, and a onergy roug	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
Assessed floor area	design documents.
O liter and the first	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category - open	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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 NathEPS 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.
Color hast usin as officiant (CLCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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
vertical shaung leatures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427148

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Unit 4, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP NCC Class<sup>3</sup>

Type

14,15,16/36280 2

New Dwelling

## Plans

Main Plan

Prepared by

Brewster Murray

## **Construction and environment**

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	54.0
Unconditioned*	0.0
Total	54.0
Garage	0.0

Exposure Type
Suburban
NatHERS climate zone

56

# Accredited assessor

Name	Dean Gorman
Business name	Greenview Consulting Pty Ltd
Email	dean@greenview.net.au
Phone	8544 1683
Accreditation No.	DMN/13/1645
Accessor Accessition Orac	niaction (

### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts



# 18.2 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance

Heating	Cooling
10.6	7.5
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=DEgWvGxFh. When using either link, ensure you are visiting hstar.com.au

### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum SHGC* U-value*	CUCC*	Substitution tolerance ranges	
WINDOW ID	Description		SHGC	SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

#### Custom\* windows

Window ID Window	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
No Data Availa	ble				

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	E	No

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 4, 66-70 Pegler Avenue, South Granville, NSW, 2142 0008427148 NatHERS Certificate



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	E	Yes
Bedroom	ALM-001-01 A	n/a	1800	1570	n/a	45	E	No

# Roof window type and performance

### Default\* roof windows

Window ID	Window	Window		Maximum		Substitution tolerance ranges		
window ID	ndow ID Description U-value* SHGC*		SHGC lowe	r limit	SHGC upper limit			
No Data Ava	ilable							
Custom* roc	of windows							
Window ID	Window	v	Maxim	um	SHGC*	Substit	ution toler	ance ranges
windowid	Descri	otion	U-valı	le*	SHGC	SHGC lowe	er limit	SHGC upper limit
No Data Ava	ilable							
Roof w	indow so	chedule						
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	r 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)	<b>A</b> rea (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable							

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes



### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	2600	Ν	200	YES
Kitchen/Living	EW-1	2700	3800	E	3200	NO
Kitchen/Living	EW-1	2700	400	S	200	YES
Bedroom	EW-1	2700	3495	E	900	YES

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		50.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	24.60 None	No Insulation	Ceramic Tiles 8mm
Bedroom	Concrete Slab on Ground 100mm	14.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 100mm	6.30 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab on Ground 100mm	8.90 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	
Bath	1	Exhaust Fans	300	Sealed	

# **Ceiling** fans

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

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 4, 66-70 Pegler Avenue , South Granville , NSW , 2142

0008427148 NatHERS Cer	tificate8.7 Star Rating as of 16 Feb 2023			
Location	Quantity	Diameter (mm)		
Roof type				
Construction	Added insulation (R-value)	Solar absorptance	Roof shade	
None Present				



### **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.

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#### 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 softw are 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 dow nlights, 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				
Conditioned	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).				
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered				
Exposure category – open	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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4				
(NOC) Class	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.				
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional				
Provisional value	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.				
	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released				
Solar heat gain coefficient (SHGC)	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 know n 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 abading factures	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy				
/ertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).				

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427155

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Unit 5, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP NCC Class<sup>3</sup>

Type

14.15.16/36280

New Dwelling

## Plans

Main Plan

Prepared by

Brewster Murray

### **Construction and environment**

**BGWT6** 

## Assessed floor area (m<sup>2</sup>)\*

Conditioned*	54.0
Unconditioned*	0.0
Total	54.0
Garage	0.0

5,

Suburban
NatHERS climate zone

56

Exposure Type

# Accredited assessor

Name	Dean Gorman
Business name	Greenview Consulting Pty Ltd
Email	dean@greenview.net.au
Phone	8544 1683
Accreditation No.	DMN/13/1645
Accessor Accrediting Org	nicotion

### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts

### The more stars the more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

# 17.7 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance

Heating	Cooling
8.4	9.4
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit



QR code or visit hstar.com.au/QR/Generate? p=AVLtLnZDB. When using either link, ensure you are visiting hstar.com.au

### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### Additional notes

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Justom^ windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	W	No

\* Refer to glossary Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 5, 66-70 Pegler Avenue , South Granville , NSW , 2142



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	W	No
Bedroom	ALM-001-01 A	n/a	1800	1570	n/a	45	W	No

# Roof window type and performance

### Default\* roof windows

Window ID	Window	Window		Maximum		Substit	Substitution tolerance ranges		
	Descri	otion	U-value*		SHGC*	SHGC lowe	r limit	SHGC upper limit	
No Data Ava	ilable								
Custom* roc	of windows								
Window ID	Window	v	Maximum		SHGC*	Substitution tolerance ranges			
windowid	Descri	otion	U-valı	le*	SHGC	SHGC lowe	er limit	SHGC upper limit	
No Data Ava	ilable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	r 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)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes



## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	400	S	200	YES
Kitchen/Living	EW-1	2700	3800	W	3200	NO
Kitchen/Living	EW-1	2700	2600	Ν	200	YES
Bedroom	EW-1	2700	3495	W	900	YES

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		50.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	24.60 None	No Insulation	Ceramic Tiles 8mm
Bedroom	Concrete Slab on Ground 100mm	14.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 100mm	6.30 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab on Ground 100mm	8.90 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

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

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 5, 66-70 Pegler Avenue , South Granville , NSW , 2142

0008427155 NatHERS Certi	ficate 8.7 Star Rating as of 16 Feb 2023		
Location	Quantity	Diamete	er (mm)
Roof type			
Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None Present			

HOUS



### **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.

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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.

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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.
	the predicted an oblink of order gy required for the purpose of the NathERS assessment. Note, this may not be consistent with the floor area in the
Assessed floor area	design documents.
	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
NOOT WINDOW	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
Solar heat gain coefficient (Shoc)	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
vertical stidulity realures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427163

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Unit 6, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP NCC Class<sup>3</sup>

Type

14,15,16/36280 2

New Dwelling

## Plans

Main Plan

Prepared by

BGWT6 Brewster Murray

## Construction and environment

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	53.0
Unconditioned*	0.0
Total	53.0
Garage	0.0

Exposure Type Suburban NatHERS climate zone

56

# Accredited assessor

Name	Dean Gorman					
Business name	Greenview Consulting Pty Ltd					
Email A	dean@greenview.net.au					
Phone	8544 1683					
Accreditation No.	DMN/13/1645					
Assesser Assessiting Organization						

#### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts

## the more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

# 27.8 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance

Heating	Cooling
19.3	8.5
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=WLfLiFEOK. When using either link, ensure you are visiting hstar.com.au

### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	
No Data Availal	ole					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	E	No



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	E	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	45	E	No

# Roof window type and performance

### Default\* roof windows

Mindau	Window	Window		Maximum		Substitution tolerance ranges			
Window ID	Descrip	otion	U-value*		SHGC*	SHGC lowe	er limit	SHGC upper limit	
No Data Avai	ilable								
Custom* roo	f windows								
Window ID	Window	v	Maximum U-value*		SHGC*	Substitution tolerance ranges			
a will dow ID	Descrip	otion			3660	SHGC lowe	er limit	SHGC upper limit	
No Data Avai	ilable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	or 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)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable							

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes


### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	300	Ν	3600	YES
Kitchen/Living	EW-1	2700	3400	E	3100	NO
Kitchen/Living	EW-1	2700	3200	S	200	YES
Bedroom 1	EW-1	2700	3595	E	900	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	22.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 100mm	15.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 100mm	6.80 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab on Ground 100mm	8.80 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 6, 66-70 Pegler Avenue , South Granville , NSW , 2142

0008427163 NatHERS C	ertificate	7.8 Star Rating as of 16 Fel	b 2023	
Location		Quantit	ty Dia	ameter (mm)
Roof type				
Construction	Added insul	ation (R-value)	Solar absorptance	e Roof shade
None Present				

HOUSE



### **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

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#### Disclaimer

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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 softw are 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.
	the produced an oblink of order gy required for the purpose of the NathERS assessment. Note, this may not be consistent with the floor area in the
Assessed floor area	design documents.
	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
NOOT WINDOW	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
Solar heat gain coefficient (Shoc)	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
vertical stidulity realures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427171

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Unit 7, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP NCC Class<sup>3</sup>

Type

14.15.16/36280

New Dwelling

### Plans

Main Plan

Prepared by

Brewster Murrav

### **Construction and environment**

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	53.0
Unconditioned*	0.0
Total	53.0
Garage	0.0

Exposure Type
Suburban
NatHERS climate zone

56

## Accredited assessor

Name	Dean Gorman
Business name	Greenview Consulting Pty Ltd
Email A	dean@greenview.net.au
Phone	8544 1683
Accreditation No.	DMN/13/1645
Assesses Assessed the of One	ula atlan

#### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts



The more stars

# 25.1 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

Heating	Cooling
15.4	9.7 🔶
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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## Verification

To verify this certificate, scan the QR code or visit



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#### National Construction Code (NCC) requirements

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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.

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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?

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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?

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Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

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Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
WINDOW ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit
No Data Availal	ble				

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	W	No

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 7, 66-70 Pegler Avenue, South Granville, NSW, 2142 0008427171 NatHERS Certificate



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	W	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	45	W	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Window		Maximum		Substitution tolerance ranges		
window ID	dow ID Description U-value* SHGC*		SHGC lowe	r limit	SHGC upper limit			
No Data Ava	ilable							
Custom* roc	of windows							
Window ID	Window	v	Maxim	um	SHGC*	Substit	ution toler	ance ranges
windowid	Descri	otion	U-valı	le*	SHGC	SHGC lowe	er limit	SHGC upper limit
No Data Ava	ilable							
Roof w	indow so	chedule						
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	r 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)	<b>Ar</b> ea (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable							

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes



### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3200	S	200	YES
Kitchen/Living	EW-1	2700	3400	W	3000	NO
Kitchen/Living	EW-1	2700	300	Ν	3600	YES
Bedroom 1	EW-1	2700	3595	W	900	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	22.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 100mm	15.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 100mm	6.80 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab on Ground 100mm	8.80 None	No Insulation	Ceramic Tiles 8mm

### Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

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0008427171 NatHERS C	ertificate	8.1 Star Rating	as of 16 Feb 2023		
Location			Quantity	Diamete	er (mm)
Roof type					
Construction	Added insula	ation (R-value)		Solar absorptance	Roof shade
None Present					

A STATE



### **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.

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### 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.							
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	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							
Conditioned	will include garages.							
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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							
Exposure category - open	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4							
(NOC) Class	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.							
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional							
Provisional value	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							
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.							
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							
Solar heat gain coemcient (Shoc)	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).							

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427189

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Unit 8, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP

Type

NCC Class'

14,15,16/36280 2

New Dwelling

### Plans

Main Plan Prepared by

BGWT6 Brewster Murrav

### Construction and environment

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	60.0
Unconditioned*	8.0
Total	68.0
Garage	0.0

### Exposure Type Suburban NatHERS climate zone

56

Nathers climate zo

## Accredited assessor

Name	Dean Gorman
Business name	Greenview Consulting Pty Ltd
Email A	dean@greenview.net.au
Phone	8544 1683
Accreditation No.	DMN/13/1645
Assessor Accrediting Orga	nisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts

### the more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

# 28.1 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

Heating	Cooling
20.7	7.4 Ó
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=juapSsAOu. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value* SHGC*		SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID Window	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2360	550	n/a	45	E	No

#### 0008427189 NatHERS Certificate

#### 7.8 Star Rating as of 16 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	E	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	60	E	No
Bedroom 2	ALM-001-01 A	n/a	1800	1570	n/a	45	S	No
Bath 1	ALM-001-01 A	n/a	730	1200	n/a	90	S	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Availab	le					
Custom* roof w	indows					
Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Availab	le					

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade

No Data Available

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>Are</b> a (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								
External door schedule								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 8, 66-70 Regler Avenue , South Granville , NSW , 2142 7.8 Star Rating as of 16 Feb 2023

## External wall schedule

0008427189 NatHERS Certificate

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	1800	Ν	200	YES
Kitchen/Living	EW-1	2700	4095	E	2800	NO
Bedroom 1	EW-1	2700	2600	Ν	4300	YES
Bedroom 1	EW-1	2700	3200	E	200	NO
Bedroom 1	EW-1	2700	3995	S	200	YES
Bedroom 1	EW-1	2700	595	E	2800	YES
Bedroom 2	EW-1	2700	2895	S	300	YES
Bath 1	EW-1	2700	400	W	3200	YES
Bath 1	EW-1	2700	300	E	4200	YES
Bath 1	EW-1	2700	3500	S	200	NO

### Internal wall type

Wall ID	Wall type	<b>Are</b> a (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		37.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		58.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	30.90 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 100mm	14.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab on Ground 100mm	11.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath 1	Concrete Slab on Ground 100mm	8.10 None	No Insulation	Ceramic Tiles 8mm
hallway	Concrete Slab on Ground 100mm	2.90 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath 1	Concrete, Plasterboard	No insulation	No
hallway	Concrete, Plasterboard	No insulation	No



## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

## Roof type

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



### **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 softw are 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 dow nlights, 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					
Conditioned	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					
Exposure category - open	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4					
(NOC) Class	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.					
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional					
Provisional value	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					
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.					
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					
Solar heat gain coemcient (Shoc)	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).					

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427197

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Unit 9, 66-70 Pegler Avenue , South Granville , NSW , 2142

Lot/DP NCC Class<sup>3</sup>

Type

14,15,16/36280 2

New Dwelling

### Plans

Main Plan

Prepared by

Brewster Murray

### **Construction and environment**

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	61.0
Unconditioned*	8.0
Total	69.0
Garage	0.0

# 9, (

Exposure Type

NatHERS climate zone

Suburban

56

Accredited assessor

Name	Dean Gorman
Business name	Greenview Consulting Pty Ltd
Email	dean@greenview.net.au
Phone	8544 1683
Accreditation No.	DMN/13/1645
Accessor Accessiting Or	monipotion

#### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts

### the more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

# 25.8 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

Heating	Cooling
16.3	9.6
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=lblYLwrgv. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### Additional notes

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Justom^ windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	W	No

#### 0008427197 NatHERS Certificate

#### 8.0 Star Rating as of 16 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	W	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	45	W	No
Bedroom 2	ALM-001-01 A	n/a	800	1570	n/a	45	S	No
Bath 1	ALM-001-01 A	n/a	1200	730	n/a	90	S	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SURC	SHGC lower limit	SHGC upper limit	
No Data Available	9					
Custom* roof win	ndows					
Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*		SHGC lower limit	SHGC upper limit	
No Data Available	9					

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade		

No Data Available

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>Are</b> a (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable							
External door schodulo								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*

\* Refer to glossary. Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 9, 66-70 Regler Avenue , South Granville , NSW , 2142

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes

8.0 Star Rating as of 16 Feb 2023

## External wall schedule

0008427197 NatHERS Certificate

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	4095	W	2700	NO
Kitchen/Living	EW-1	2700	1900	Ν	200	YES
Bedroom 1	EW-1	2700	595	W	2700	YES
Bedroom 1	EW-1	2700	4095	S	300	YES
Bedroom 1	EW-1	2700	3100	W	100	NO
Bedroom 1	EW-1	2700	2600	Ν	4300	YES
Bedroom 2	EW-1	2700	2895	S	300	YES
Bath 1	EW-1	2700	3500	S	100	NO
Bath 1	EW-1	2700	500	W	4200	YES
Bath 1	EW-1	2700	500	E	3200	YES

## Internal wall type

Wall ID	Wall type	<b>Ar</b> ea (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		51.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		37.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	31.30 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 100mm	14.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab on Ground 100mm	11.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath 1	Concrete Slab on Ground 100mm	8.40 None	No Insulation	Ceramic Tiles 8mm
hallway	Concrete Slab on Ground 100mm	2.90 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath 1	Concrete, Plasterboard	No insulation	No
hallway	Concrete, Plasterboard	No insulation	No



## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

## Roof type

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



### **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.

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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 softw are and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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### 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 dow nlights, 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
Conditioned	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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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.
	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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 abading factures	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
Vertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427205-03

Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Lot/DP NCC Class\* Type Unit 10, 66-70 Pegler Avenue , South Granville , NSW , 2142 14,15,16/36280 2 New Dwelling

### Plans

Main plan Prepared by BGWT6 Brewster Murray

### **Construction and environment**

Assessed floor	area (m <sup>2</sup>
Conditioned*	71.0
Unconditioned*	0.0
Total	71.0
Garage	0.0

Exposure type Suburban NatHERS climate zone

56



### Accredited assessor

NameDeBusiness nameGeBusiness nameGeEmaildePhone85Accreditation No.DeAssessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDe

Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

## Thermal performance Heating Coolin

the more energy efficient

NATIONWIDE

35.6 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see:

www.nathers.gov.au

ating	Cooling
5	4.1
/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

31.

MJ

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=TYoVvRnBt. When using either link, ensure you are visiting hstar.com.au

#### 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.

\* Refer to glossary

Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 10, 66-70 Pegler Avenue , South Granville , NSW , 2142



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

### **Default\* windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	0100	SHGC lower limit	SHGC upper limit	
	ALM-004-01 A					
ALM-004-01 A	Aluminium B DG Air Fill	4.8	0.59	0.56	0.62	
	Clear-Clear					
	ALM-003-01 A					
ALM-003-01 A	Aluminium A DG Air Fill	4.8	0.51	0.48	0.54	
	Clear-Clear					

#### **Custom\* windows**

Window ID	Window	Maximum	SHGC* Substitution toler SHGC lower limit S	Substitution tolerance ranges				
WINDOW ID	Description	U-value*		SHGC upper limit				
No Data Availa	No Data Available							

### Window and glazed door schedule

#### 0008427205-03 NatHERS Certificate



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-01 A	n/a	2400	2000	n/a	45	N	No
Kitchen/Living	ALM-003-01 A	n/a	2400	600	n/a	45	Ν	No
Kitchen/Living	ALM-003-01 A	n/a	800	850	n/a	90	S	No
Bedroom 1	ALM-003-01 A	n/a	2400	1570	n/a	30	W	No
Bedroom 1	ALM-003-01 A	n/a	2400	850	n/a	45	Ν	No
Bedroom 2	ALM-003-01 A	n/a	857	1570	n/a	45	S	No

## Roof window type and performance

### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

### **Custom\* roof windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Av	ailable							

### Skylight type and performance

Skylight ID	Skylight description	
No Data Available		

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> ) Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable						



### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2400	1000	90	S

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	7300	W	0	NO
Kitchen/Living	EW-1	2700	4395	Ν	2500	YES
Kitchen/Living	EW-1	2700	4395	S	500	NO
Bedroom 1	EW-1	2700	2400	W	4400	YES
Bedroom 1	EW-1	2700	4200	Ν	100	NO
Bedroom 1	EW-1	2700	2100	E	0	NO
Bedroom 2	EW-1	2700	4195	S	500	NO

### Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		52.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		21.00	No Insulation

### Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	31.80 None	No Insulation	Ceramic Tiles 8mm



Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation n (R-value)	Covering
Bedroom 1	Concrete Slab on Ground 100mm	14.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab on Ground 100mm	3.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 100mm	13.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 100mm	8.10 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Hallway	Plasterboard	Bulk Insulation R2.5	No
Bedroom 2	Plasterboard	Bulk Insulation R2.5	No
Bath	Plasterboard	Bulk Insulation R2.5	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

## Ceiling fans

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

### Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
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Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



### **Explanatory notes**

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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.
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(NCC) Class	NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
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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.
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## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427213-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Lot/DP

Type

Unit 11, 66-70 Pegler Avenue , South Granville , NSW , 2142

14,15,16/36280

NCC Class\*

2

New Dwelling

## Plans

Main Plan Prepared by

Brewster Murray

### **Construction and environment**

.0

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	77
Unconditioned*	0.0
Total	77
Garage	0.0

Exposure Type Suburban NatHERS climate zone

56

# Accredited assessor

Name Business name Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

Accreditation No. DMN/13/1645 Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts



# 34.2 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### **Thermal performance**

Heating	Cooling
18.7	15.5
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=eXNqNjgzt. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Mindow/ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
Window ID	Description	U-value*		SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

#### Custom\* windows

Window ID	dow ID Window Maximum SHGC*	Substitution tolerance ranges			
	Description	U-value*	51160	SHGC lower limit	SHGC upper limit
No Data Availat	ble				

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	1800	1570	n/a	07	Ν	No

#### 0008427213-01 NatHERS Certificate

#### 7.3 Star Rating as of 17 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	1070	n/a	45	E	No
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	E	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	07	E	No
Bedroom 2	ALM-001-01 A	n/a	1800	1570	n/a	07	Ν	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHCC*	Substitution tolerance ranges		
	ID Description U-value* SHGC*		SHGC lower limit	SHGC upper limit		
No Data Availat	ble					
Custom* roof w	vindows					
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges	
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Availat	ble					
	dow schedule					
Loot w//						

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade

No Data Available

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*

#### 0008427213-01 NatHERS Certificate

7.3 Star Rating as of 17 Feb 2023



Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Brick Veneer	0.50	Medium	Foil, Reflective both sides	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3995	Ν	1000	NO
Kitchen/Living	EW-1	2700	5795	E	2700	YES
Hallway	EW-1	2700	695	S	200	YES
Bedroom 1	EW-1	2700	1400	Ν	5300	YES
Bedroom 1	EW-1	2700	4300	E	800	NO
Bedroom 1	EW-1	2700	3695	S	200	NO
Bedroom 2	EW-1	2700	2600	W	300	NO
Bedroom 2	EW-1	2700	3195	Ν	1000	NO

## Internal wall type

Wall ID	Wall type	<b>Are</b> a (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		33.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		62.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.00 None	No Insulation	Ceramic Tiles 8mm
Bath 1	Concrete Slab, Unit Below 200mm	8.00 None	No Insulation	Ceramic Tiles 8mm
Hallway	Concrete Slab, Unit Below 200mm	7.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	15.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bath 1	Concrete, Plasterboard	No insulation	No
Hallway	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No



### **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

## Roof type

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



### **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.

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#### 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 softw are 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.				
	the produced an oblink of order gy required for the purpose of the NathERS assessment. Note, this may not be consistent with the floor area in the				
Assessed floor area	design documents.				
• • • •	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes				
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.				
	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it				
Conditioned	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.				
Entrenes de su	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor				
Entrance door	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).				
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered				
Exposure category – open	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.				
Havizantal a bading facture	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper				
Horizontal shading feature	levels.				
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4				
(NCC) Class	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.				
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional				
Provisional value	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				
NOOT WINDOW	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.				
Salar hast gain asofficiant (SLCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released				
Solar heat gain coefficient (SHGC)	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 abading factures	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy				
Vertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).				

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427221-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Lot/DP

Type

Unit 12, 66-70 Pegler Avenue , South Granville , NSW , 2142

14,15,16/36280

NCC Class\*

2

New Dwelling

## Plans

Main Plan Prepared by

Brewster Murray

### **Construction and environment**

BGWT6

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	55.
Unconditioned*	0.0
Total	55.
Garage	0.0

### Exposure Type Suburban

NatHERS climate zone

56

# Accredited assessor

Name Business name Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

### Assessor Accrediting Organisation

Design Matters National

Declaration of interest

Declaration completed: no conflicts



# 15.8 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

Heating	Cooling
3.5	12.3
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=kSkcloZEJ. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

MfradawsID	Window	Maximum	SUCC*	Substitution tolerance ranges		
Window ID	Description	U-value*	SHGC*	Substitution t SHGC lower limit 0.54 0.66	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges				
	Description	U-value*	51160	SHGC lower limit	SHGC upper limit			
No Data Availat	No Data Available							

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	Ν	No
0008427221-01	NatHERS	Certificate						
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Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	Ν	Yes
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	07	Ν	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Windov	V	Maxim	Maximum		Substitution tolerance ranges			
window ID	Descrip	otion	U-valu	le*	SHGC*	SHGC lower	limit S	HGC upper limit	
No Data Ava	ilable								
Custom* roc	f windows								
Window ID	Windov	v	Maxim	Maximum U-value*		Substitution tolerance ranges			
	Descrip	otion	U-valu			SHGC lower	limit S	HGC upper limit	
No Data Ava	ilable								
Roof w	i <b>ndow</b> so	hedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade	

No Data Available

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>A</b> rea (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable							

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes



### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3595	Ν	3400	YES
Bedroom 1	EW-1	2700	3600	Ν	900	NO
Bedroom 1	EW-1	2700	1900	E	3700	YES
Bedroom 1	EW-1	2700	1800	W	300	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		58.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		37.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	25.30 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	8.70 None	No Insulation	Ceramic Tiles 8mm
Hall	Concrete Slab, Unit Below 200mm	5.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	14.90 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

\* Refer to glossary. Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 12, 66-70 Pegler Avenue , South Granville , NSW , 2142

0008427221-01	NatHERS	Certificate
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8.9 Star Rating as of 17 Feb 2023



Location		Quantity	Diamete	er (mm)
Roof type				
Construction	Added insulation (R-value)		Solar absorptance	Roof shade
None Present				



### **Explanatory notes**

#### About this report

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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.

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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.

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### 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 dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
celling perfectations	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
Conditioned	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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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.
	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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 chading factures	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
Vertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427239-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

## Property

Address

Lot/DP

Type

Unit 13, 66-70 Pegler Avenue, South Granville, NSW, 2142

14.15.16/36280

NCC Class\*

New Dwelling

## Plans

Main Plan Prepared by

Brewster Murray

### Construction and environment

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	74.0
Unconditioned*	0.0
Total	74.0
Garage	0.0

## Exposure Type Suburban

56

NatHERS climate zone

# Accredited assessor

Name **Business name** Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

Assessor Accrediting Organisation

**Design Matters National** 

**Declaration of interest** 

Declaration completed: no conflicts



# 36.3 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

leating	Cooling
9.0	17.3
/J/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=AphOseHIU. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### Additional notes

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit SHGC uppe	SHGC upper limit	
No Data Availat	ble					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	Ν	No

#### 0008427239-01 NatHERS Certificate

#### 7.2 Star Rating as of 17 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	Ν	Yes
Bedroom 2	ALM-001-01 A	n/a	1800	850	n/a	05	W	No
Bath 1	ALM-001-01 A	n/a	1200	730	n/a	05	W	No
Bedroom 1	ALM-001-01 A	n/a	1450	850	n/a	10	Ν	No
Bedroom 1	ALM-002-01 A	n/a	1800	1570	n/a	00	E	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SUCC*	Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availa	ole					
Custom* roof v	vindows					
Mindow ID	Window	Maximum	SHCC*	Substitution to	lerance ranges	
Window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Avai	ilable							

### Skylight type and performance

Skylight ID	Skylight description
No Data Available	
Skylight schedule	

#### Skylight Skylight Skylight Outdoor Skylight shaft Area shaft length Orientation Diffuser Location ID No. $(m^{2})$ shade reflectance (mm) No Data Available

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				



## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	4295	Ν	2900	YES
Kitchen/Living	EW-1	2700	2095	S	200	YES
Bedroom 2	EW-1	2700	4095	S	200	NO
Bedroom 2	EW-1	2700	3095	W	200	NO
Bath 1	EW-1	2700	3390	W	700	NO
Bedroom 1	EW-1	2700	3595	W	200	NO
Bedroom 1	EW-1	2700	4300	Ν	200	NO
Bedroom 1	EW-1	2700	2700	E	4500	YES

## Internal wall type

Wall ID	Wall type	<b>Area</b> (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		26.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		46.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	36.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	13.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath 1	Concrete Slab, Unit Below 200mm	8.10 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	15.90 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath 1	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No



## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

## Roof type

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



### **Explanatory notes**

#### About this report

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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).

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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 softw are 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 dow nlights, 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
Conditioned	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
Exposure category - open	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
Solar heat gain coemcient (Shoc)	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).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427247-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

## Property

Address

Lot/DP

Type

Unit 14, 66-70 Pegler Avenue, South Granville, NSW, 2142

14.15.16/36280

NCC Class\*

New Dwelling

## Plans

Main Plan Prepared by

Brewster Murray

### Construction and environment

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	54.0
Unconditioned*	0.0
Total	54.0
Garage	0.0

Suburban NatHERS climate zone

56

Exposure Type

# Accredited assessor

Name **Business name** Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

Assessor Accrediting Organisation

**Design Matters National** 

**Declaration of interest** 

Declaration completed: no conflicts



# 24.7 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

leating	Cooli
1.7	13.0
/J/m <sup>2</sup>	MJ/m

ng

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=kQjYfbdvH. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC"	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	U-value* SHGC <sup>*</sup>		SHGC upper limit	
No Data Availat	ble					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	E	No



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	E	Yes
Bedroom	ALM-001-01 A	n/a	1800	1570	n/a	45	E	No

## Roof window type and performance

#### Default\* roof windows

Mindow/ID	Window	v	Maxim	Maximum SHGC*		Substitution tolerance ranges			
Window ID	Description U-value*		SHGC low	er limit	SHGC upper limit				
No Data Ava	ilable								
Custom* roo	f windows								
Window ID	Window	v	Maxim	um	SHGC*	Subst	itution tole	rance ranges	
VVIII GOVV ID	Descrip	otion	U-valı	ne*	51160	SHGC lowe	er limit	SHGC upper limit	
No Data Ava	ilable								
Roof w	i <b>ndow</b> so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	or 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)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable							

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes



### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	2600	Ν	100	YES
Kitchen/Living	EW-1	2700	3800	E	3100	NO
Kitchen/Living	EW-1	2700	400	S	100	YES
Bedroom	EW-1	2700	3495	E	1000	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		50.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	24.60 None	No Insulation	Ceramic Tiles 8mm
Bedroom	Concrete Slab, Unit Below 200mm	14.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab, Unit Below 200mm	6.30 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	8.90 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

\* Refer to glossary. Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 14, 66-70 Pegler Avenue , South Granville , NSW , 2142

0008427247-01 NatHERS Certificate	
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Location	Quantity		Diameter (mm)		
Roof type					
Construction	Added insulation (R-value)		Solar absorptance	Roof shade	
None Present					



### **Explanatory notes**

#### About this report

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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.

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### Glossary

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Account 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
Assessed floor area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including dow nlights, 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.
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Conditioned	will include garages.
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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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmand with scattered
Exposure category – open	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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also know n 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
Rooi Willdow	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 boot goin coofficient (SUCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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.
Vortical chading fosturas	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
Vertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427254-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

## Property

Address

Lot/DP

Type

Unit 15, 66-70 Pegler Avenue , South Granville , NSW , 2142

14,15,16/36280

NCC Class\*

2

New Dwelling

## Plans

Main Plan Prepared by

Brewster Murray

### **Construction and environment**

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	54.0
Unconditioned*	0.0
Total	54.0
Garage	0.0

Suburban NatHERS climate zone

Exposure Type

# Accredited assessor

Name Business name Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

ccreditation No.

### Assessor Accrediting Organisation

**Design Matters National** 

Declaration of interest

Declaration completed: no conflicts



The more stars

# 25.8 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance

Heating	Cooling
9.0	16.8
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=vPuOnAYVY. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

#### Custom\* windows

Window ID	Window Description	Maximum	SHGC*	Substitution tolerance ranges	
		U-value*		SHGC lower limit	SHGC upper limit
No Data Availal	ble				

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	W	Yes

8.0 Star Rating as of 17 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	W	No
Bedroom	ALM-001-01 A	n/a	1800	1570	n/a	45	W	No

## Roof window type and performance

#### Default\* roof windows

Window Maximum SHGC*							Substitution tolerance ranges		
window ID	Descri	otion	U-valı	ue*	SHGC	SHGC lowe	er limit S	SHGC upper limit	
No Data Avai	ilable								
Custom* roo	f windows								
Window ID	Window	v	Maxim	um	SHGC*	Substi	itution tolera	ance ranges	
	Descrij	otion	U-valı	ue*	3660	SHGC lowe	er limit S	SHGC upper limit	
No Data Avai	ilable								
Roof wi	i <b>ndow</b> so	chedule							
Location	Window	Window	Opening	Height	Width	Orientation	Outdoor	lndoor	

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Shade	Indoor shade	
No Data Ava	ilable								

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>A</b> rea (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable							

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes



### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	400	S	100	YES
Kitchen/Living	EW-1	2700	3800	W	3100	NO
Kitchen/Living	EW-1	2700	2600	Ν	100	YES
Bedroom	EW-1	2700	3495	W	1000	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		50.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	24.60 None	No Insulation	Ceramic Tiles 8mm
Bedroom	Concrete Slab, Unit Below 200mm	14.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab, Unit Below 200mm	6.30 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	8.90 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

\* Refer to glossary. Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 15, 66-70 Pegler Avenue , South Granville , NSW , 2142



Location	ation		Diamete	er (mm)
Roof type				
Construction	Added insulation (R-value)		Solar absorptance	Roof shade
None Present				



### **Explanatory notes**

#### About this report

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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.

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(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
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	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at
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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.
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## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427270-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

## Property

Address

Lot/DP

Type

Unit 16, 66-70 Pegler Avenue , South Granville , NSW , 2142

14,15,16/36280

NCC Class\*

2 New Dwelling

## Plans

Main Plan Prepared by

Brewster Murray

### **Construction and environment**

**BGWT6** 

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	53.
Unconditioned*	0.0
Total	53.
Garage	0.0

Exposure Type Suburban

NatHERS climate zone

56

# Accredited assessor

Name Business name Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

lo. DMN/13/1645

#### Assessor Accrediting Organisation

Design Matters National

Declaration of interest

Declaration completed: no conflicts



# 42.1 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance

Heating	Cooling
23.3	18.8
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=khiGHMpEe. When using either link, ensure you are visiting hstar.com.au

#### National Construction Code (NCC) requirements

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Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SU 00*	Substitution tolerance ranges			
	Description	U-value*	SHGC*	SHGC lower limit	nit SHGC upper limit		
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60		
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73		

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	blerance ranges		
	Description	U-value*	51160	SHGC lower limit SHGC upper limit			
No Data Availat	ble						

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	E	No



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	E	Yes
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	45	E	No

## Roof window type and performance

#### Default\* roof windows

Mindau	Windov	Window		Maximum		Substit	Substitution tolerance ranges		
Window ID	Descrip	otion	U-value*		SHGC*	SHGC lower	r limit	SHGC upper limit	
No Data Ava	ilable								
Custom* roo	f windows								
Window ID	Windov	v	Maximum U-value*		SHGC*	Substitution tolerance ranges			
	Descrip	otion			3660	SHGC lower limit SHGC up		SHGC upper limit	
No Data Ava	ilable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	or 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)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes



### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	300	Ν	3600	YES
Kitchen/Living	EW-1	2700	3400	E	3100	NO
Kitchen/Living	EW-1	2700	3200	S	200	YES
Bedroom 1	EW-1	2700	3595	E	700	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	22.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	15.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab, Unit Below 200mm	6.80 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	8.80 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Hall	Plasterboard	Bulk Insulation R2.5	No
Bath	Plasterboard	Bulk Insulation R2.5	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

## **Ceiling** fans

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

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Location	Quantity	Diameter (mm)

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



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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).

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0008427288-02

Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Lot/DP NCC Class\* Type

Unit 17, 66-70 Pegler Avenue, South Granville, NSW, 2142 14,15,16/36280 2 New Dwelling

### Plans

Main plan Prepared by BGWT6 **Brewster Murray** 

### Construction and environment

Assessed floor	area (m <sup>2</sup>
Conditioned*	53.0
Unconditioned*	0.0
Total	53.0
Garage	0.0

Exposure type Suburban NatHERS climate zone

56



### Accredited assessor

Name **Business name** Email Phone Accreditation No. Assessor Accrediting Organisation **Design Matters National Declaration of interest** 

Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

#### Thermal performance Heating Cooling 15.320.3 MJ/m<sup>2</sup> MJ/m<sup>2</sup>

the more energy efficient

NATIONWIDE

35.5 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see:

www.nathers.gov.au

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=LaRLffKjK. When using either link, ensure you are visiting hstar.com.au



#### 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.

\* Refer to glossary Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 17, 66-70 Pegler Avenue , South Granville , NSW , 2142



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

### **Default\* windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	51160	SHGC lower limit	SHGC upper limit	
	ALM-003-01 A					
ALM-003-01 A	Aluminium A DG Air Fill	4.8	0.51	0.48	0.54	
	Clear-Clear					
	ALM-004-01 A					
ALM-004-01 A	Aluminium B DG Air Fill	4.8	0.59	0.56	0.62	
	Clear-Clear					

#### **Custom\* windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

### Window and glazed door schedule



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-003-01 A	n/a	2400	600	n/a	45	W	No
Kitchen/Living	ALM-004-01 A	n/a	2400	2050	n/a	45	W	Yes
Bedroom 1	ALM-003-01 A	n/a	1800	1570	n/a	45	W	No

## Roof window type and performance

### **Default\* roof windows**

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

### **Custom\* roof windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> ) Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available							

### External door schedule



Location	Helght (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3200	S	200	YES
Kitchen/Living	EW-1	2700	3400	W	3100	NO
Kitchen/Living	EW-1	2700	300	Ν	3600	YES
Bedroom 1	EW-1	2700	3595	W	700	YES

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation n (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	22.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	15.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab, Unit Below 200mm	6.80 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	8.80 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

0008427288-02 NatHERS Certificate



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Hall	Plasterboard	Bulk Insulation R2.5	No
Bath	Plasterboard	Bulk Insulation R2.5	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

## Ceiling fans

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

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



### **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.

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#### Disclaimer

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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).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427296-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

## Property

Address

Lot/DP

Type

Unit 18, 66-70 Pegler Avenue , South Granville , NSW , 2142

14,15,16/36280

NCC Class\*

2

New Dwelling

## Plans

Main Plan Prepared by

Brewster Murray

### **Construction and environment**

BGWT6

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	60.
Unconditioned*	8.0
Total	68.
Garage	0.0

Exposure Type Suburban

56

NatHERS climate zone

# Accredited assessor

Name Business name Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

### Assessor Accrediting Organisation

Design Matters National

Declaration of interest

Declaration completed: no conflicts



# 43.2 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

leating	Cooling
30.1	13.1
/J/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

## Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=zRPXSdayy. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### Additional notes

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
window ID	Description	U-value*		SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

#### Justom^ windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges		
			3000	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	45	E	No
#### 0008427296-01 NatHERS Certificate

#### 6.7 Star Rating as of 17 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	E	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	60	E	No
Bedroom 2	ALM-001-01 A	n/a	1800	1570	n/a	45	S	No
Bath 1	ALM-001-01 A	n/a	1200	730	n/a	90	S	No

# Roof window type and performance

#### Default\* roof windows

Window ID D	a a aviation		SHGC*	Substitution tolerance ranges		
	escription	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Available						
Custom* roof window	/S					
Window ID	Vindow	Maximum	SHGC*	Substitution tolerance ranges		
D	Description	U-value*		SHGC lower limit	SHGC upper limit	
No Data Available						

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade

No Data Available

# Skylight type and performance

Skylight ID	Skylight description
No Data Available	

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>Area</b> (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance	
No Data Av	No Data Available								
External door schedule									

# Location Height (mm) Width (mm) Opening % Orientation No Data Available Volume Volume Volume Volume Volume

# External wall type

WallSolarWall shadeBulk insulationReflectionIDtypeabsorptance(colour)(R-value)wall wrate
--

6.7 Star Rating as of 17 Feb 2023



Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	1800	Ν	100	YES
Kitchen/Living	EW-1	2700	4095	E	2800	NO
Bedroom 1	EW-1	2700	2600	Ν	4300	YES
Bedroom 1	EW-1	2700	3200	E	200	NO
Bedroom 1	EW-1	2700	3995	S	200	YES
Bedroom 1	EW-1	2700	595	E	2800	YES
Bedroom 2	EW-1	2700	2895	S	300	YES
Bath 1	EW-1	2700	400	W	3200	YES
Bath 1	EW-1	2700	300	E	4200	YES
Bath 1	EW-1	2700	3500	S	200	NO

# Internal wall type

Wall ID	Wall type	<b>Are</b> a (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		37.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		58.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	30.90 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	14.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath 1	Concrete Slab, Unit Below 200mm	8.10 None	No Insulation	Ceramic Tiles 8mm
hallway	Concrete Slab, Unit Below 200mm	2.90 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Bedroom 2	Plasterboard	Bulk Insulation R2.5	No
Bath 1	Plasterboard	Bulk Insulation R2.5	No
hallway	Plasterboard	Bulk Insulation R2.5	No



# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

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

# Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



### **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.

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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 softw are 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.
	the predicted an oblink of order gy required for the purpose of the NathERS assessment. Note, this may not be consistent with the floor area in the
Assessed floor area	design documents.
	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NCC) Class 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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
NOOT WINDOW	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
Solar heat gain coefficient (Shoc)	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
vertical stidulity realures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427304-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Lot/DP

Type

Unit 19, 66-70 Pegler Avenue , South Granville , NSW , 2142

14,15,16/36280

NCC Class\*

2 New Dwelling

# Plans

Main Plan Prepared by

Brewster Murray

### **Construction and environment**

**BGWT6** 

#### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	61.
Unconditioned*	8.0
Total	69.
Garage	0.0

# Exposure Type Suburban

56

NatHERS climate zone

# Accredited assessor

Name Business name Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

#### Assessor Accrediting Organisation

Design Matters National

**Declaration of interest** 

Declaration completed: no conflicts



# 43.7 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

Heating	Coolin
24.1	19.6
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=bmTcoswbs. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	ndow ID Window Description	dow Maximum		Substitution tolerance ranges		
		U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availal	ole					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2400	600	n/a	10	W	No

#### 0008427304-01 NatHERS Certificate

#### 6.6 Star Rating as of 17 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2050	n/a	45	W	No
Bedroom 1	ALM-001-01 A	n/a	1800	1570	n/a	10	W	No
Bedroom 2	ALM-001-01 A	n/a	800	1570	n/a	10	S	No
Bath 1	ALM-001-01 A	n/a	1200	730	n/a	90	S	No

# Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	
No Data Availab	le					
Custom* roof wi	indows					
Window ID	Window	Maximum U-value*	SHGC*	Substitution tolerance ranges		
	Description			SHGC lower limit	SHGC upper limit	
No Data Availab	le					

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade

No Data Available

# Skylight type and performance

Skylight ID	Skylight description
No Data Available	

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>Are</b> a (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								
External dear achadula								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*

6.6 Star Rating as of 17 Feb 2023



Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	4095	W	2800	NO
Kitchen/Living	EW-1	2700	1900	Ν	200	YES
Bedroom 1	EW-1	2700	595	W	2800	YES
Bedroom 1	EW-1	2700	4095	S	200	YES
Bedroom 1	EW-1	2700	3100	W	200	NO
Bedroom 1	EW-1	2700	2600	Ν	4900	YES
Bedroom 2	EW-1	2700	2895	S	200	YES
Bath 1	EW-1	2700	3500	S	100	NO
Bath 1	EW-1	2700	500	W	300	YES
Bath 1	EW-1	2700	500	E	200	YES

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		51.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		37.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	31.30 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	14.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath 1	Concrete Slab, Unit Below 200mm	8.40 None	No Insulation	Ceramic Tiles 8mm
hallway	Concrete Slab, Unit Below 200mm	2.90 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Bedroom 2	Plasterboard	Bulk Insulation R2.5	No
Bath 1	Plasterboard	Bulk Insulation R2.5	No
hallway	Plasterboard	Bulk Insulation R2.5	No



# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

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

# Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.50	Medium



### **Explanatory notes**

#### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

#### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

#### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited softw are 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.
, and a onergy roug	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
Assessed floor area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including dow nlights, 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
Conditioned	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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category - open	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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 NathEPS 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.
Color hast usin as officiant (CLCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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.
Vortical chading fortures	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
Vertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427312-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

# Property

Address

Lot/DP

Type

Unit 20, 66-70 Pegler Avenue, South Granville, NSW, 2142

14.15.16/36280

NCC Class\*

New Dwelling

# Plans

Main Plan Prepared by

Brewster Murray

### Construction and environment

.0

BGWT6

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	77
Unconditioned*	0.0
Total	77
Garage	0.0

Exposure Type Suburban NatHERS climate zone

56

# Accredited assessor

Name **Business name** Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

Assessor Accrediting Organisation

**Design Matters National** 

**Declaration of interest** 

Declaration completed: no conflicts



The more stars

# 32.3 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

leating	Cooli
18.4	13.9
/J/m <sup>2</sup>	MJ/m

#### 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



ng

hstar.com.au/QR/Generate? p=NbbfzChlr. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SUCC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	U-value* SHGC* SHGC*		SHGC upper limit	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3100	SHGC lower limit SHC	SHGC upper limit
No Data Availa	ble				

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-003-01 A	n/a	1800	1570	n/a	10	Ν	No

\* Refer to glossary. Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 20, 66-70 Regler Avenue, South Granville, NSW, 2142

#### 0008427312-01 NatHERS Certificate

#### 7.4 Star Rating as of 17 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-003-01 A	n/a	2400	1070	n/a	45	E	No
Kitchen/Living	ALM-004-01 A	n/a	2400	2050	n/a	45	E	No
Bedroom 1	ALM-003-01 A	n/a	1800	1570	n/a	10	E	No
Bedroom 2	ALM-003-01 A	n/a	1800	1570	n/a	10	Ν	No

# Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
WINDOW ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit		
No Data Available							
Custom* roof wind	dows						
Window ID	Window	Maximum	SHGC*	Substitution to	erance ranges		
WINDOW ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit		
No Data Available	,						

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade

No Data Available

# Skylight type and performance

Skylight ID	Skylight description
No Data Available	

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	<b>Are</b> a (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance		
No Data Av	No Data Available									
Extern	al door	schedule								

# Location Height (mm) Width (mm) Opening % Orientation No Data Available Volume Volume Volume Volume

# External wall type

Wall V ID t		Solar absorptance			Reflective wall wrap*
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\* Refer to glossary. Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 20, 66-70 Pegler Avenue , South Granville , NSW , 2142

#### 0008427312-01 NatHERS Certificate

7.4 Star Rating as of 17 Feb 2023



Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Metal Clad Cavity Panel Direct Fix	0.85	Dark	Foil, Anti-glare one side + Bulk Insulation R1.5	No
EW-2	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-3	Brick Veneer	0.85	Dark	Foil, Anti-glare one side, Reflective other	Yes
EW-4	Brick Veneer	0.50	Medium	Foil, Reflective both sides	Yes
EW-5	Metal Clad Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R1.5	No

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	750	3995	Ν	0	NO
Kitchen/Living	EW-3	1950	3995	Ν	1000	NO
Kitchen/Living	EW-2	2700	5795	E	2700	YES
Hallway	EW-2	2700	695	S	200	YES
Bedroom 1	EW-1	2700	1400	Ν	5500	YES
Bedroom 1	EW-1	750	4300	E	0	NO
Bedroom 1	EW-3	1950	4300	E	800	NO
Bedroom 1	EW-1	750	3695	S	0	NO
Bedroom 1	EW-3	1950	3695	S	200	NO
Bedroom 2	EW-5	2700	2600	W	300	NO
Bedroom 2	EW-1	750	3195	Ν	0	NO
Bedroom 2	EW-3	1950	3195	Ν	1000	NO

# Internal wall type

Wall ID	Wall type	<b>Area</b> (m <sup>2</sup> )	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		33.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		62.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.00 None	No Insulation	Ceramic Tiles 8mm
Bath 1	Concrete Slab, Unit Below 200mm	8.00 None	No Insulation	Ceramic Tiles 8mm
Hallway	Concrete Slab, Unit Below 200mm	7.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	15.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm



# Ceiling type

Location Construction material/type		Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bath 1	Plasterboard	Bulk Insulation R2.5	No
Hallway	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Bedroom 2	Plasterboard	Bulk Insulation R2.5	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath 1	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

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

# Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



### **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).

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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.

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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 softw are 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 dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Centring perfect actions	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
Conditioned	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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmand with scattered
Exposure category - open	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
ROOI WINDOW	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.
Salar haat gain asofficiant (SHCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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.
Vartical chading factures	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
Vertical shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427320-01

Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

# Property

Address

Lot/DP

Type

Unit 21, 66-70 Pegler Avenue, South Granville, NSW, 2142

14.15.16/36280

NCC Class\*

New Dwelling

# Plans

Main Plan Prepared by

Brewster Murray

### Construction and environment

BGWT6

#### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	55.
Unconditioned*	0.0
Total	55.
Garage	0.0

Exposure Type Suburban

NatHERS climate zone

56

# Accredited assessor

Name **Business name** Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

Assessor Accrediting Organisation

**Design Matters National** 

**Declaration of interest** 

Declaration completed: no conflicts



# 20.1 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance

Heating	Cooling
9.3	10.8
VJ/m <sup>2</sup>	MJ/m <sup>2</sup>

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=SlgKCquPa. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

Window ID	Window	Maximum SH U-value*	SHGC*	Substitution tolerance ranges		
	Description		3160	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-003-01 A	n/a	2400	600	n/a	45	Ν	No

\* Refer to glossary. Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 21, 66-70 Regler Avenue, South Granville, NSW, 2142



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-01 A	n/a	2400	2050	n/a	45	Ν	Yes
Bedroom 1	ALM-003-01 A	n/a	1500	1570	n/a	10	Ν	No

# Roof window type and performance

#### Default\* roof windows

Window ID	Windov	v	Maximum U-value*		CUCC*	Subst	Substitution tolerance ranges			
	Descrip	otion			SHGC*	SHGC low	er limit	SHGC upper limit		
No Data Ava	ilable									
Custom* roc	of windows									
Window ID	Window	v	Maximum U-value*		SHGC*	Substitution tolerance ranges				
	Descrip	otion			3660	SHGC low	er limit	SHGC upper limit		
No Data Ava	ilable									
Roof w	indow so	chedule								
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	or Indoor shade		

 Location
 ID
 no.
 %
 (mm)
 Orientation
 shade

 No Data Available
 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)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance	
No Data Available									

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

No Data Available

# External wall type

Wall Wall ID type	Solar absorptance		Bulk insulation (R-value)	Reflective wall wrap*
EW-1 Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-2 Metal Clad Cavity Panel Direct Fix	0.85	Dark	Foil, Anti-glare one side + Bulk Insulation R1.5	No

8.4 Star Rating as of 17 Feb 2023



Wall ID		Solar absorptance		Bulk insulation (R-value)	Reflective wall wrap*
EW-3	Brick Veneer	0.85	Dark	Foil, Anti-glare one side, Reflective other	Yes

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3595	Ν	3400	YES
Bedroom 1	EW-2	750	3600	Ν	0	NO
Bedroom 1	EW-3	1950	3600	Ν	1500	NO
Bedroom 1	EW-2	750	1900	E	0	YES
Bedroom 1	EW-3	1950	1900	E	3700	YES
Bedroom 1	EW-2	750	1800	W	0	NO
Bedroom 1	EW-3	1950	1800	W	300	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		58.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		37.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	25.30 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	8.70 None	No Insulation	Ceramic Tiles 8mm
Hall	Concrete Slab, Unit Below 200mm	5.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	14.90 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bath	Plasterboard	Bulk Insulation R2.5	No
Hall	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	

\* Refer to glossary. Generated on 17 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 21, 66-70 Pegler Avenue , South Granville , NSW , 2142

0008427320-01 NatHERS Certificate

8.4 Star Rating as of 17 Feb 2023



Location	Quantity	Туре	Diameter (mm )	Sealed/unsealed
Bath	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

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

# Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



### **Explanatory notes**

#### About this report

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### Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.						
, and a onergy roug	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						
Assessed floor area	design documents.						
O liter and the first	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes						
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.						
	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it						
Conditioned	will include garages.						
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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).						
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered						
Exposure category - open	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 me.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.						
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(NOC) Class	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.						
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional						
Provisional value	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 NathEPS 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.						
Color hast usin as officiant (CLCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released						
Solar heat gain coefficient (SHGC)	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 know n 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						
vertical shaung leatures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).						

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427338

Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Unit 22, 66-70 Pegler Avenue, South Granville, NSW, 2142 14.15.16/36280

Lot/DP NCC Class'

Type

New Dwelling

# Plans

Main Plan Prepared by

**BGWT6** Brewster Murray

### Construction and environmen

#### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	65.0
Unconditioned*	8.0
Total	74.0
Garage	0.0

Suburban NatHERS climate zone 56

Exposure Type

# ccredited assessor

Name **Business name** Email Phone Accreditation No. Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683

DMN/13/1645

Assessor Accrediting Organisation

**Design Matters National** 

**Declaration of interest** 

Declaration completed: no conflicts

# the more energy efficient NATIONWIDE ENERGY RATING SCHEME

The more stars

# 26.2 MJ/m<sup>2</sup>

R

Predicted annual energy load for heating and cooling based on standard occupancy assumptions

> For more information on your dwelling's rating see: www.nathers.gov.au

# Thermal performance

Heating 🕖 🔘	Cooling
13.1	13.1
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

#### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=EEbritgEP. When using either link, ensure you are visiting hstar.com.au

#### 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.



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### Additional notes

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54	

#### 146 ....

Window ID	Window ID Window Maximum SHGC* -	Substitution tolerance ranges			
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
No Data Availa	ble				

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-01 A	n/a	2400	2050	n/a	45	Ν	Yes

\* Refer to glossary Generated on 16 Feb 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 22, 66-70 Pegler Avenue , South Granville , NSW , 2142

#### 0008427338 NatHERS Certificate

#### 7.9 Star Rating as of 16 Feb 2023



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-003-01 A	n/a	2400	600	n/a	45	Ν	No
Bedroom 1	ALM-003-01 A	n/a	1450	850	n/a	10	Ν	Yes
Bedroom 1	ALM-003-01 A	n/a	1500	1570	n/a	10	E	No
Bedroom 2	ALM-003-01 A	n/a	1450	850	n/a	10	W	No
Bath	ALM-003-01 A	n/a	1450	850	n/a	10	W	No

# Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SUCC*	Substitution to	lerance ranges	
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					
Custom* roof w	vindows					
Window		Maximum	SHGC*	Substitution tolerance ranges		
Window ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Availat						

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Avai	lable							

### Skylight type and performance

Skylight ID	Skylight description
No Data Available	
Skylight schedule	

#### Skylight Skylight Skylight Outdoor Skylight shaft Area shaft length Orientation Diffuser Location ID No. $(m^{2})$ shade reflectance (mm) No Data Available

# External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				



# External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Metal Clad Cavity Panel Direct Fix	0.85	Dark	Foil, Anti-glare one side + Bulk Insulation R1.5	No
EW-2	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-3	Brick Veneer	0.85	Dark	Foil, Anti-glare one side, Reflective other	Yes
EW-4	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	880	4395	Ν	0	YES
Kitchen/Living	EW-3	1820	4395	Ν	2500	YES
Kitchen/Living	EW-1	880	2295	S	0	YES
Kitchen/Living	EW-3	1820	2295	S	100	YES
Bedroom 1	EW-1	880	3295	W	0	NO
Bedroom 1	EW-3	1820	3295	W	100	NO
Bedroom 1	EW-1	880	4300	Ν	0	NO
Bedroom 1	EW-3	1820	4300	Ν	100	NO
Bedroom 1	EW-1	880	2400	E	0	YES
Bedroom 1	EW-3	1820	2400	E	4500	YES
Bedroom 2	EW-1	880	4100	S	0	NO
Bedroom 2	EW-3	1820	4100	S	100	NO
Bedroom 2	EW-1	880	3095	W	0	NO
Bedroom 2	EW-3	1820	3095	W	100	NO
Bedroom 2	EW-4	2206	2505	Ν	7800	NO
Bedroom 2	EW-4	2206	600	W	2600	NO
Bath	EW-1	880	3490	W	0	NO
Bath	EW-3	1820	3490	W	900	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		53.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		26.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	33.40 None	No Insulation	Ceramic Tiles 8mm

#### 7.9 Star Rating as of 16 Feb 2023



Location	Construction	Area Sub-floor (m) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab, Unit Below 200mm	4.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	13.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	8.40 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Hallway	Plasterboard	Bulk Insulation R2.5	No
Bedroom 2	Plasterboard	Bulk Insulation R2.5	No
Bath	Plasterboard	Bulk Insulation R2.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

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

# Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



### **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 softw are 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.
, and a onergy roug	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
Assessed floor area	design documents.
O liter and the first	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	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).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category - open	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 me.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	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4
(NOC) Class	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.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	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 NathEPS 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.
Color hast usin as officiant (CLCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	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 know n 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
vertical shaung leatures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008427346-01

Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Lot/DP NCC Class\* Type Unit 23, 66-70 Pegler Avenue , South Granville , NSW , 2142 14,15,16/36280 2 New Dwelling

### Plans

Main plan Prepared by BGWT6 Brewster Murray

### **Construction and environment**

Assessed floor	area (m <sup>2</sup>
Conditioned*	44.0
Unconditioned*	9.0
Total	52.0
Garage	0.0

Exposure type Suburban NatHERS climate zone 56



### Accredited assessor

NameDoBusiness nameGiEmaildePhone85Accreditation No.DiAssessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDe

Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

# 24.6 19.9

Thermal performance

the more energy efficient

NATIONWIDE

44.4 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see:

www.nathers.gov.au

MJ/m<sup>2</sup>

Cooling

### About the rating

Heating

MJ/m<sup>2</sup>

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=ICfZmgGWd. When using either link, ensure you are visiting hstar.com.au

#### 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.

\* Refer to glossary Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 23, 66-70 Pegler Avenue , South Granville , NSW , 2142



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### **Default\* windows**

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges		
	Description	U-value*	0100	SHGC lower limit	SHGC upper limit	
	ALM-004-01 A					
ALM-004-01 A	Aluminium B DG Air Fill	4.8	0.59	0.56	0.62	
	Clear-Clear					
	ALM-003-01 A					
ALM-003-01 A	Aluminium A DG Air Fill	4.8	0.51	0.48	0.54	
	Clear-Clear					

#### **Custom\* windows**

Window ID	Window	Maximum	Maximum U-value* SHGC*	Substitution tolerance ranges		
	Description	U-value*		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*
Kitchen/Living	ALM-004-01 A	n/a	2400	2050	n/a	45	E	Yes
Kitchen/Living	ALM-003-01 A	n/a	2400	600	n/a	45	E	Yes
Bedroom 1	ALM-003-01 A	n/a	1500	1570	n/a	10	E	No
Bath	ALM-003-01 A	n/a	600	850	n/a	10	S	No

### Roof window type and performance

### Default\* roof windows

Window ID	Window	SH	SHGC*	Substitution tolerance ranges		
	Description		31160	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

### **Custom\* roof windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	U-value*		SHGC upper limit	
No Data Availa	ble					

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Available								

# Skylight type and performance

 Skylight ID
 Skylight description

 No Data Available

### Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> ) Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance	
No Data Av	No Data Available							

### External door schedule



Location	Helght (mm)	Width (mm)	Opening %	Orlentation

No Data Available

# External wall type

Wall ID	Wall type	Solar absorptanc		le Bulk insulation (R-value)	Reflective wall wrap*
EW- 1	Metal Clad Cavity Panel Direct Fix	0.85	Dark	Foil, Anti-glare one side + Bulk Insulation R1.5	No
EW- 2	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW- 3	Brick Veneer	0.85	Dark	Foil, Anti-glare one side, Reflective other	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	750	300	S	0	YES
Kitchen/Living	EW-3	1950	300	S	4300	YES
Kitchen/Living	EW-1	750	1700	Ν	0	YES
Kitchen/Living	EW-3	1950	1700	Ν	400	YES
Kitchen/Living	EW-2	2700	3500	E	2800	NO
Bedroom 1	EW-1	750	3495	E	0	YES
Bedroom 1	EW-3	1950	3495	E	700	YES
Bedroom 1	EW-1	750	4195	S	0	NO
Bedroom 1	EW-3	1950	4195	S	800	NO
Hallway	EW-1	750	2090	S	0	NO
Hallway	EW-3	1950	2090	S	800	NO
Bath	EW-1	750	2495	S	0	NO
Bath	EW-3	1950	2495	S	800	NO

# Internal wall type

Wall ID

Wall type

Area (m<sup>2</sup>) Bulk insulation



Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		39.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor Added insulation (m <sup>2</sup> ) ventilation (R-value)		Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	22.60 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	14.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab, Unit Below 200mm	6.90 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	8.60 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Hallway	Plasterboard	Bulk Insulation R2.5	No
Bath	Plasterboard	Bulk Insulation R2.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm)	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	
Bath	1	Exhaust Fans	300	Sealed	

### Ceiling fans

Location	Quantity	Diameter (mm)
Kitchen/Living	1	1400
Bedroom 1	1	1200



# Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.50	Medium



### **Explanatory notes**

#### About this report

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### 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	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models
(NCC) Class	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).

# **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0008427353-01

Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

Address

Lot/DP NCC Class\* Type

Unit 24, 66-70 Pegler Avenue, South Granville, NSW, 2142 14,15,16/36280 2 New Dwelling

### Plans

Main plan Prepared by BGWT6 **Brewster Murray** 

### Construction and environment

Assessed floor	area (m <sup>2</sup>
Conditioned*	44.0
Unconditioned*	9.0
Total	53.0
Garage	0.0

Exposure type Suburban NatHERS climate zone 56



### Accredited assessor

Name **Business name** Email Phone Accreditation No. Assessor Accrediting Organisation **Design Matters National Declaration of interest** 

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Declaration completed: no conflicts

# Thermal performance

the more energy efficient

NATIONWIDE

43.3 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see:

www.nathers.gov.au

Heating Cooling 23.6 19.6 MJ/m<sup>2</sup> MJ/m<sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=cQtljHLlc. When using either link, ensure you are visiting hstar.com.au



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.

\* Refer to glossary Generated on 16 Jun 2023 using BERS Pro v4.4.1.5d (3.21) for Unit 24, 66-70 Pegler Avenue , South Granville , NSW , 2142



### **Certificate check**

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

#### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

#### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

#### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

#### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

#### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

#### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

### **Additional notes**

I have modeled the shading in accordance with NatHERS principles

### Window and glazed door type and performance

#### **Default\* windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	0100	SHGC lower limit	SHGC upper limit	
	ALM-004-01 A					
ALM-004-01 A	Aluminium B DG Air Fill	4.8	0.59	0.56	0.62	
	Clear-Clear					
	ALM-003-01 A					
ALM-003-01 A	Aluminium A DG Air Fill	4.8	0.51	0.48	0.54	
	Clear-Clear					

#### **Custom\* windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*				
No Data Availa	able					

### Window and glazed door schedule



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-01 A	n/a	2400	2050	n/a	45	W	No
Kitchen/Living	ALM-003-01 A	n/a	2400	600	n/a	45	W	No
Bedroom 1	ALM-003-01 A	n/a	1500	1570	n/a	10	W	No
Bath	ALM-003-01 A	n/a	1200	860	n/a	90	S	No

### Roof window type and performance

### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Available						

### **Custom\* roof windows**

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Ava	ailable							

# Skylight type and performance

 Skylight ID
 Skylight description

 No Data Available

### Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> ) Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable						

### External door schedule



Location	Height (mm)	Width (mm)	Opening %	Orientation	
No Data Available					

# External wall type

Wall ID	Wall type	Solar absorptanc		le Bulk insulation (R-value)	Reflective wall wrap*
EW- 1	Metal Clad Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R1.5	No
EW- 2	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	880	3500	W	0	NO
Kitchen/Living	EW-2	1820	3500	W	2900	NO
Kitchen/Living	EW-1	880	2700	Ν	0	YES
Kitchen/Living	EW-2	1820	2700	Ν	600	YES
Kitchen/Living	EW-1	880	300	S	0	YES
Kitchen/Living	EW-2	1820	300	S	300	YES
Bedroom 1	EW-1	880	4195	S	0	NO
Bedroom 1	EW-2	1820	4195	S	400	NO
Bedroom 1	EW-1	880	3495	W	0	YES
Bedroom 1	EW-2	1820	3495	W	700	YES
Hallway	EW-1	880	2090	S	0	NO
Hallway	EW-2	1820	2090	S	400	NO
Bath	EW-1	880	2495	S	0	NO
Bath	EW-2	1820	2495	S	400	NO

# Internal wall type

Wall ID

Wall type

Area (m<sup>2</sup>) Bulk insulation



Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		36.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		36.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	22.60 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	14.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab, Unit Below 200mm	6.90 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	8.60 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R2.5	No
Bedroom 1	Plasterboard	Bulk Insulation R2.5	No
Hallway	Plasterboard	Bulk Insulation R2.5	No
Bath	Plasterboard	Bulk Insulation R2.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed

### Ceiling fans

Location	Quantity	Diameter (mm)
Kitchen/Living	1	1400
Bedroom 1	1	1200



# Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.50	Medium



### **Explanatory notes**

#### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

#### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

#### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

### Glossary

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	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models		
(NCC) Class	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).		