

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0004952263

Generated on 24 Jun 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

**Address** 10 Gardere Avenue , CURL CURL , NSW  
, 2096

**Lot/DP** 5/6000

**NCC Class\*** 1A

**Type** New Dwelling

### Plans

**Main Plan** Torrington

**Prepared by** UrbanHarmnoy

### Construction and environment

<b>Assessed floor area (m<sup>2</sup>)*</b>	<b>Exposure Type</b>
Conditioned* 276.0	Suburban
Unconditioned* 63.0	<b>NatHERS climate zone</b>
Total 339.0	56
Garage 42.0	



### Accredited assessor

**Name** Brad Hoad

**Business name** Thermal Performance

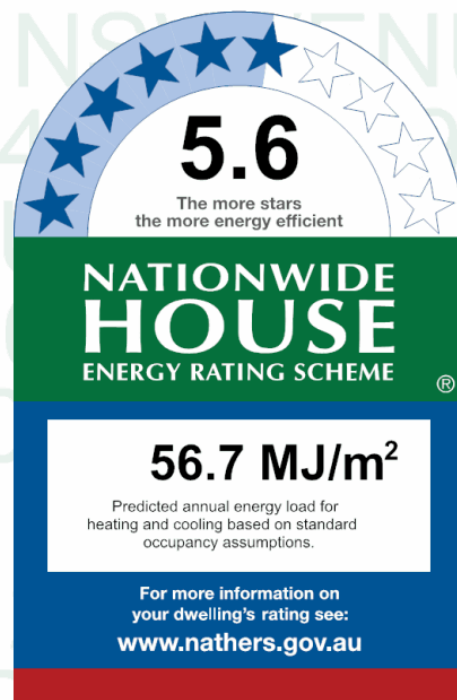
**Email** brad@thermalperformance.com.au

**Phone** 0458-221-211

**Accreditation No.** 20731

**Assessor Accrediting Organisation**  
ABSA

**Declaration of interest** Declaration completed: no conflicts



### Thermal performance

<b>Heating</b>	<b>Cooling</b>
37.8 MJ/m <sup>2</sup>	18.9 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 [www.hstar.com.au/QR/Generate?p=lgbgoVMOL](http://www.hstar.com.au/QR/Generate?p=lgbgoVMOL). When using either link, ensure you are visiting [www.hstar.com.au](http://www.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](http://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?

### Apartment entrance doors

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

### Exposure\*

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

### Provisional\* values

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

## Additional notes

## Window and glazed door *type and performance*

### Default\* windows

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

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
VAN-004-08 A	VAN-004-08 A SERIES 525 LOUVRE WINDOW SG 6ET	4.5	0.54	0.51	0.57
AWS-013-03 A	AWS-013-03 A 541/542 AI Sliding Door DG 4/10Ar/4ET	3.2	0.57	0.54	0.60
AWS-001-01 A	AWS-001-01 A 502/504 AI Sliding Window SG 3Clr	6.4	0.73	0.69	0.77
AWS-018-01 A	AWS-018-01 A 549 ED AI Entry Door SG 5Clr	5.9	0.56	0.53	0.59

## Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
AWS-003-03 A	AWS-003-03 A 502/504 AI Sliding Window DG 4/10Ar/4ET	3.5	0.55	0.52	0.58
AWS-007-07 A	AWS-007-07 A 516 AI Awining Window SG 6.38CP	4.9	0.41	0.39	0.43
AWS-025-03 A	AWS-025-03 A 702/704 SM Slidemaster AI Sliding Door DG 4/10Ar/4ET	3.3	0.56	0.53	0.59

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Rumpus	VAN-004-08 A	n/a	2400	600	n/a	90	NW	No
Rumpus	VAN-004-08 A	n/a	2400	600	n/a	90	NW	No
Rumpus	VAN-004-08 A	n/a	2400	600	n/a	90	SE	No
Rumpus	VAN-004-08 A	n/a	2400	600	n/a	90	SE	No
Rumpus	AWS-013-03 A	n/a	2400	4200	n/a	45	SW	No
Bedroom 3	AWS-001-01 A	n/a	1500	1800	n/a	45	SE	No
Bedroom 2	AWS-001-01 A	n/a	1500	1800	n/a	45	SE	No
Ensuite	AWS-001-01 A	n/a	600	1500	n/a	45	SE	No
Laundry	AWS-018-01 A	n/a	2400	900	n/a	90	SE	No
Garage	AWS-018-01 A	n/a	2400	900	n/a	90	SE	No
Entry	AWS-003-03 A	n/a	2700	600	n/a	00	NE	No
Bath	AWS-001-01 A	n/a	600	1500	n/a	45	NW	No
Bedroom 1	AWS-001-01 A	n/a	1500	2700	n/a	10	SE	No
Bedroom 1	VAN-004-08 A	n/a	600	3600	n/a	90	SW	No
Ensuite	AWS-001-01 A	n/a	600	2000	n/a	45	NW	No
Ensuite	AWS-001-01 A	n/a	900	600	n/a	45	NW	No
Study	AWS-001-01 A	n/a	1500	1800	n/a	10	SE	No
Powder	AWS-001-01 A	n/a	600	1500	n/a	45	SE	No
Guest	AWS-001-01 A	n/a	1500	1800	n/a	10	SE	No
Kit/Liv/Stairs	AWS-007-07 A	n/a	2400	1800	n/a	30	NW	No
Kit/Liv/Stairs	VAN-004-08 A	n/a	2100	600	n/a	90	NW	No
Kit/Liv/Stairs	VAN-004-08 A	n/a	2100	600	n/a	90	NW	No
Kit/Liv/Stairs	VAN-004-08 A	n/a	2100	600	n/a	90	NW	No
Kit/Liv/Stairs	AWS-025-03 A	n/a	2700	6600	n/a	70	NE	No
Kit/Liv/Stairs	AWS-003-03 A	n/a	750	6600	n/a	00	NE	No
Kit/Liv/Stairs	VAN-004-08 A	n/a	2100	600	n/a	90	SE	No
Kit/Liv/Stairs	VAN-004-08 A	n/a	2100	600	n/a	90	SE	No
Kit/Liv/Stairs	AWS-007-07 A	n/a	600	4000	n/a	30	SE	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Liv/Stairs	AWS-007-07 A	n/a	600	1200	n/a	30	SE	No

## Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

## 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
GEN-04-008a	Double-glazed clear, Timber and Aluminium Frame

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
Kit/Liv/Stairs	GEN-04-008a	n/a	500	2.30	NW	None	No	0.80

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	5030	90	NE
Entry	2700	1020	90	NE

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Cavity Brick	0.30	Light	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	Yes
EW-2	Weatherboard Cavity Panel Direct Fix	0.30	Light	Anti-glare foil with bulk no gap R2.5	Yes

## External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Rumpus	EW-1	2700	6745	NW	0	NO
Rumpus	EW-1	2700	6945	SE	0	NO
Rumpus	EW-1	2700	4700	SW	1500	YES
Rumpus	EW-1	2700	600	SE	4700	YES
Rumpus	EW-1	2700	1900	SW	0	NO
Bedroom 3	EW-1	2700	4690	SE	0	NO
Bedroom 2	EW-1	2700	3990	SE	0	NO
Ensuite	EW-1	2700	600	NE	13300	YES
Ensuite	EW-1	2700	1945	SE	0	NO
Laundry	EW-1	2700	3090	SE	600	YES
Garage	EW-1	2700	600	SW	0	YES
Garage	EW-1	2700	1600	SW	0	YES
Garage	EW-1	2700	6900	NW	500	NO
Garage	EW-1	2700	6100	NE	3200	NO
Garage	EW-1	2700	6900	SE	0	NO
Entry	EW-1	2700	2145	NW	700	YES
Entry	EW-1	2700	700	SW	11900	YES
Entry	EW-1	2700	7100	NW	0	NO
Entry	EW-1	2700	2100	NE	12800	YES
Entry	EW-1	2700	2645	NW	2100	YES
Bath	EW-1	2700	2845	NW	0	NO
Bath	EW-1	2700	700	NE	0	YES
Bedroom 1	EW-2	2700	5595	NW	400	NO
Bedroom 1	EW-2	2700	4695	SE	400	NO
Bedroom 1	EW-2	2700	4700	SW	900	YES
Bedroom 1	EW-2	2700	600	SE	5100	YES
Bedroom 1	EW-2	2700	1900	SW	300	NO
Ensuite	EW-2	2700	4090	NW	400	NO
Study	EW-2	2700	2490	SE	400	NO
Powder	EW-2	2700	2190	SE	400	NO
Guest	EW-2	2700	4390	SE	400	NO
Kit/Liv/Stairs	EW-2	2700	17595	NW	400	NO
Kit/Liv/Stairs	EW-2	3450	6600	NE	3000	NO
Kit/Liv/Stairs	EW-2	2700	12895	SE	400	NO

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Single Skin Brick		110.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		87.00	No insulation

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Rumpus	Waffle pod slab 225 mm 100mm	49.60	None	Waffle Pod 225mm	Cork Tiles or Parquetry 8mm
Bedroom 3	Waffle pod slab 225 mm 100mm	15.70	None	Waffle Pod 225mm	Carpet 10mm
Bedroom 2	Waffle pod slab 225 mm 100mm	15.90	None	Waffle Pod 225mm	Carpet 10mm
Ensuite	Waffle pod slab 225 mm 100mm	3.70	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	8.50	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	41.90	None	Waffle Pod 225mm	Bare
Entry	Waffle pod slab 225 mm 100mm	28.70	None	Waffle Pod 225mm	Cork Tiles or Parquetry 8mm
Bath	Waffle pod slab 225 mm 100mm	4.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Bedroom 1/Rumpus	Concrete Above Plasterboard 19mm	35.90		No Insulation	Carpet 10mm
Ensuite/Rumpus	Concrete Above Plasterboard 19mm	2.50		No Insulation	Ceramic Tiles 8mm
Ensuite/Bath	Concrete Above Plasterboard 19mm	4.60		No Insulation	Ceramic Tiles 8mm
Study/Rumpus	Concrete Above Plasterboard 19mm	7.90		No Insulation	Carpet 10mm
Study/Bedroom 3	Concrete Above Plasterboard 19mm	0.60		No Insulation	Carpet 10mm
Powder/Bedroom 3	Concrete Above Plasterboard 19mm	7.10		No Insulation	Ceramic Tiles 8mm
Guest/Bedroom 3	Concrete Above Plasterboard 19mm	7.80		No Insulation	Carpet 10mm
Guest/Bedroom 2	Concrete Above Plasterboard 19mm	6.20		No Insulation	Carpet 10mm
Kit/Liv/Stairs/Rumpus	Concrete Above Plasterboard 150mm	2.40		No Insulation	Cork Tiles or Parquetry 8mm
Kit/Liv/Stairs/Bedroom 2	Concrete Above Plasterboard 150mm	10.30		No Insulation	Cork Tiles or Parquetry 8mm
Kit/Liv/Stairs/Ensuite	Concrete Above Plasterboard 150mm	4.00		No Insulation	Cork Tiles or Parquetry 8mm
Kit/Liv/Stairs/Laundry	Concrete Above Plasterboard 150mm	8.90		No Insulation	Cork Tiles or Parquetry 8mm
Kit/Liv/Stairs/Garage	Concrete Above Plasterboard 150mm	34.00		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Kit/Liv/Stairs/Entry	Concrete Above Plasterboard 150mm	29.10		No Insulation	Cork Tiles or Parquetry 8mm
Kit/Liv/Stairs	Suspended Concrete Slab 150mm	11.90	Totally Open	Bulk Insulation in Contact with Floor R2.5	Cork Tiles or Parquetry 8mm



## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Rumpus	Concrete Above Plasterboard	No Insulation	No
Bedroom 3	Concrete Above Plasterboard	No Insulation	No
Bedroom 2	Concrete Above Plasterboard	No Insulation	No
Ensuite	Concrete Above Plasterboard	No Insulation	No
Laundry	Concrete Above Plasterboard	No Insulation	No
Garage	Plasterboard	No insulation	No
Garage	Concrete Above Plasterboard	Bulk Insulation R2.5	No
Entry	Concrete Above Plasterboard	No Insulation	No
Bath	Concrete Above Plasterboard	No Insulation	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Study	Plasterboard	Bulk Insulation R4	No
Powder	Plasterboard	Bulk Insulation R4	No
Guest	Plasterboard	Bulk Insulation R4	No
Kit/Liv/Stairs	Plasterboard	Bulk Insulation R4	No

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Rumpus	11	Downlights - LED	150	Sealed
Rumpus	1	Exhaust Fans	300	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Ensuite	1	Downlights - LED	150	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
Laundry	2	Downlights - LED	150	Sealed
Entry	4	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Bedroom 1	8	Downlights - LED	150	Sealed
Ensuite	3	Downlights - LED	150	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
Study	2	Downlights - LED	150	Sealed
Powder	3	Downlights - LED	150	Sealed
Powder	1	Exhaust Fans	300	Sealed
Guest	4	Downlights - LED	150	Sealed
Kit/Liv/Stairs	19	Downlights - LED	150	Sealed

## Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

## Roof *type*

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

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
<b>Ceiling penetrations</b>	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
<b>Conditioned</b>	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>Entrance door</b>	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m; farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<b>Roof window</b>	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
<b>Shading device</b>	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Solar heat gain coefficient (SHGC)</b>	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
<b>Skylight</b> (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b>	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
<b>Vertical shading features</b>	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).