

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0008826125

Generated on 11 Aug 2023 using AccuRate Sustainability V2.4.3.21

### Property

**Address** 44 Tennyson Road , Cromer , NSW , 2099  
**Lot/DP** Lot 117 DP 1433  
**NCC Class\*** 1a  
**Type** New Home

### Plans

**Main plan** August, 2023  
**Prepared by** Action Plans

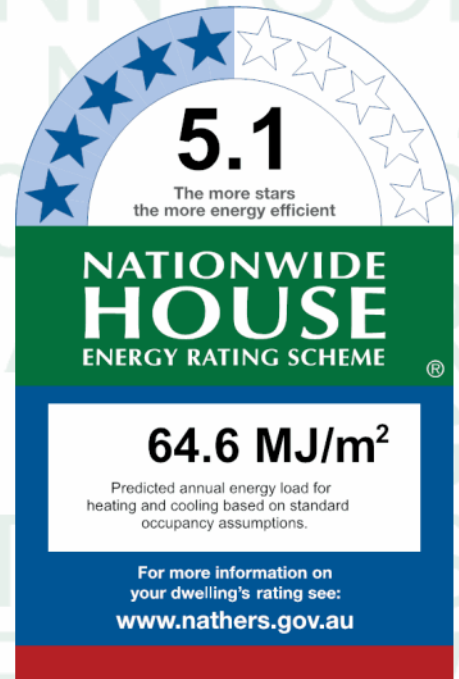
### Construction and environment

<b>Assessed floor area (m<sup>2</sup>)*</b>	<b>Exposure type</b>
Conditioned* 309.0	Suburban
Unconditioned* 94.5	<b>NatHERS climate zone</b>
Total 403.5	56
Garage 58.0	



### Accredited assessor

**Name** Paul Brennan  
**Business name** The House Energy Rating Company of Australia Pty Ltd  
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**Phone** (02) 9345 0219  
**Accreditation No.** 20069  
**Assessor Accrediting Organisation** ABSA  
**Declaration of interest** Declaration completed: no conflicts



### Thermal performance

<b>Heating</b>	<b>Cooling</b>
<b>38.7</b>	<b>25.9</b>
<b>MJ/m<sup>2</sup></b>	<b>MJ/m<sup>2</sup></b>

### 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=DXTiQSzHG](https://hstar.com.au/QR/Generate?p=DXTiQSzHG). When using either link, ensure you are visiting [hstar.com.au](https://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](https://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

Rated with sealed exhaust ventilation.

Not rated with recessed lighting.

## 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-001-04 A	Aluminium A SG Low Solar Gain Low-E	5.6	0.36	0.34	0.38
ALM-002-04 A	Aluminium B SG Low Solar Gain Low-E	5.6	0.41	0.39	0.43
ATB-006-04 B	AI Thermally Broken B DG Argon Fill Low Solar Gain low-E -Clear	3.0	0.26	0.25	0.27
ATB-005-04 B	AI Thermally Broken A DG Argon Fill Low Solar Gain low-E -Clear	3.0	0.27	0.26	0.28

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit

## Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				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*
living	ATB-005-04 B	D05	2400	4000	Sliding	60	W	None
living	ATB-005-04 B	W05	2100	3600	Double Hung	25	N	None
kitchen/dining	ATB-006-04 B	WW9	600	2400	Other	00	W	None
kitchen/dining	ATB-006-04 B	W06	750	3400	Other	00	E	None
kitchen/dining	ATB-006-04 B	D04A	2400	8700	Sliding	75	N	None
laundry	ALM-001-04 A	D02	2048	835	Other	100	W	None
garage	ALM-002-04 A	WE4	600	1600	Sliding	45	E	None
garage	ALM-002-04 A	WE5	600	1600	Sliding	45	E	None
garage	ALM-001-04 A	WN4	2100	900	Other	100	N	None
rumpus	ATB-005-04 B	W02	1900	900	Awning	65	W	None
rumpus	ATB-005-04 B	W03	1900	900	Awning	65	W	None
rumpus	ATB-006-04 B	W01	2200	3000	Other	00	S	None
bathroom	ALM-002-04 A	W04	750	2200	Louvre	90	W	None
entry hall	ALM-002-04 A	D01	300	1140	Other	00	S	None
butlers pantry	ATB-005-04 B	D03	2048	938	Other	100	S	None
master bed	ALM-001-04 A	W18	800	3300	Awning	60	E	None
master bed	ALM-002-04 A	D06	2400	3800	Sliding	60	S	None
bed 2	ALM-001-04 A	W08	800	2900	Awning	60	W	None
bed 2	ALM-002-04 A	W07	1500	3000	Other	00	S	None
bed 3	ALM-002-04 A	WW4	1500	2000	Double Hung	17	W	None
bed 4	ALM-002-04 A	W10	900	2400	Sliding	33	S	None
bed 4	ALM-002-04 A	W11	1200	3000	Sliding	33	N	None
bed 6	ALM-001-04 A	W14	700	2700	Awning	60	E	None
bed 6	ALM-002-04 A	W13	1200	3000	Sliding	33	N	None
upper bath	ALM-002-04 A	WE09	1000	1900	Louvre	90	W	None

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
bath3	ALM-002-04 A	W15	700	1490	Louvre	90	E	None
upper hall	ALM-002-04 A	W16	2400	2400	Other	00	E	None
upper hall	ALM-002-04 A	WS5	1800	1200	Other	00	S	None
ensuite	ALM-002-04 A	W17	1000	1800	Louvre	90	E	None
bed 5	ALM-002-04 A	W12	1200	3000	Sliding	33	N	None

## 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
VEL-011-01 W	VELUX FS - Fixed Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.6	0.24	0.23	0.25

## Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
upper hall	VEL-011-01 W	S01	0	1140	1140	N	None	None
upper hall	VEL-011-01 W	S02	0	1140	1140	E	None	None
upper hall	VEL-011-01 W	S03	0	1140	1140	E	None	None

## 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	Height (mm)	Width (mm)	Opening %	Orientation
garage	2400	5000	100	S
entry hall	2100	1140	100	S

### External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-002	Timber/Plasterboard	30	Light	Polystyrene expanded: R3.0	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
living	EW-002	3100	5200	W	500	Yes
living	EW-002	3100	1000	S		No
living	EW-002	3100	5200	E		No
living	EW-002	3100	5600	N		No
kitchen/dining	EW-002	3100	6700	W		No
kitchen/dining	EW-002	3100	4700	E		No
kitchen/dining	EW-002	3100	9500	N	5000	Yes
laundry	EW-002	3100	2000	W		No
garage	EW-002	3100	9600	E		No
garage	EW-002	3100	1000	W	1800	Yes
garage	EW-002	3100	1100	N		No
garage	EW-002	3100	6200	S		No
rumpus	EW-002	3100	5000	W		No
rumpus	EW-002	3100	4000	S		No

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
rumpus	EW-002	3100	1000	E	1800	Yes
bathroom	EW-002	3100	2400	W		No
entry hall	EW-002	3100	1800	E		No
entry hall	EW-002	3100	1800	S	2000	Yes
butlers pantry	EW-002	3100	1600	W		No
butlers pantry	EW-002	3100	3000	S		No
master bed	EW-002	2700	6300	E		No
master bed	EW-002	2700	4700	S	1200	Yes
bed 2	EW-002	2700	4000	W		No
bed 2	EW-002	2700	1000	E		No
bed 2	EW-002	2700	4000	S		No
bed 3	EW-002	2700	4000	W		No
bed 4	EW-002	2700	4500	W		No
bed 4	EW-002	2700	2900	S	500	Yes
bed 4	EW-002	2700	4100	N		No
bed 6	EW-002	2700	3600	W		No
bed 6	EW-002	2700	3600	E	700	Yes
bed 6	EW-002	2700	4400	N		No
upper bath	EW-002	2700	3000	W		No
bath3	EW-002	2700	1500	E	700	Yes
upper hall	EW-002	2700	8700	E	700	Yes
upper hall	EW-002	2700	2000	S		No
upper hall	EW-002	2700	20000	W		No
upper hall	EW-002	2700	600	N		No
ensuite	EW-002	2700	2000	E		No
bed 5	EW-002	2700	4500	N		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-001	Plasterboard	335.95	

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
living/Ground	as_FLOR-B004 #2505 © 250mm Concrete Floor slab with ceramic tiles (no insul)	29.00			Ceramic tile
kitchen/dining/Ground	as_FLOR-B004 #2505 © 250mm Concrete Floor slab with ceramic tiles (no insul)	68.00			Ceramic tile
laundry/Ground	as_FLOR-B004 #2505 © 250mm Concrete Floor slab with ceramic tiles (no insul)	10.00			Ceramic tile
garage/Ground	as_FLOR-B004 #2506 © 250mm Concrete Floor slab (no insul)	58.00			
rumpus/Ground	as_FLOR-B004 #2505 © 250mm Concrete Floor slab with ceramic tiles (no insul)	20.00			Ceramic tile
bathroom/Ground	as_FLOR-B004 #2505 © 250mm Concrete Floor slab with ceramic tiles (no insul)	10.00			Ceramic tile
entry hall/Ground	as_FLOR-B004 #2505 © 250mm Concrete Floor slab with ceramic tiles (no insul)	30.00			Ceramic tile
butlers pantry/Ground	as_FLOR-B004 #2505 © 250mm Concrete Floor slab with ceramic tiles (no insul)	7.00			Ceramic tile
master bed/garage	as_FLOR-B010 #2032 © Framed flr with timber on packing strips - PB ceiling under - R2.0 insul	30.00		R2.0	
bed 2/rumpus	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	15.00			
bed 3/bathroom	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	10.00			
bed 3/rumpus	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	4.00			
bed 3/laundry	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	1.00			
bed 4/kitchen/dining	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	18.00			
bed 6/living	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	16.00			
upper bath/laundry	as_FLOR-B010 #1005 © Framed flr with ceramic tiles - PB ceiling under	9.00			Ceramic tile
upper bath/butlers pantry	as_FLOR-B010 #1005 © Framed flr with ceramic tiles - PB ceiling under	3.00			Ceramic tile
bath3/living	as_FLOR-B010 #1005 © Framed flr with ceramic tiles - PB ceiling under	4.50			Ceramic tile
upper hall/entry hall	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	30.00			

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
upper hall/rumpus	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	1.00			
upper hall/living	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	2.00			
upper hall/kitchen/dining	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	29.00			
ensuite/garage	as_FLOR-B010 #2052 © Framed flr with ceramic tiles - PB ceiling under - R2.0 bulk insul	8.00		R2.0	Ceramic tile
bed 5/kitchen/dining	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under	15.00			

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
bed 6/living	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
upper hall/living	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
bath3/living	as_FLOR-B010 #1005 © Framed flr with ceramic tiles - PB ceiling under		No
bed 5/kitchen/dining	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
bed 4/kitchen/dining	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
upper hall/kitchen/dining	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
bed 3/laundry	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
upper bath/laundry	as_FLOR-B010 #1005 © Framed flr with ceramic tiles - PB ceiling under		No
master bed/garage	as_FLOR-B010 #2032 © Framed flr with timber on packing strips - PB ceiling under - R2.0 insul	R2.0	No
ensuite/garage	as_FLOR-B010 #2052 © Framed flr with ceramic tiles - PB ceiling under - R2.0 bulk insul	R2.0	No
bed 2/rumpus	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
bed 3/rumpus	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
upper hall/rumpus	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
bed 3/bathroom	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No
upper hall/entry hall	as_FLOR-B010 #1003 © Framed flr with timber on packing strips - PB ceiling under		No



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
upper bath/butlers pantry	as_FLOR-B010 #1005 © Framed flr with ceramic tiles - PB ceiling under		No

### Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
kitchen/dining	1	Ceiling exhaust fan	180	Sealed
ensuite	1	Ceiling exhaust fan	180	Sealed

### Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

### Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
as_ROOF-A021 #E017 © Horiz pitch Colourbond steel roof + Anticon R1.5 insul with R4.0 bulk insul + Plasterb'd ceiling under	R5.5	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 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 10 m 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 operability 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).