Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0007976970-01

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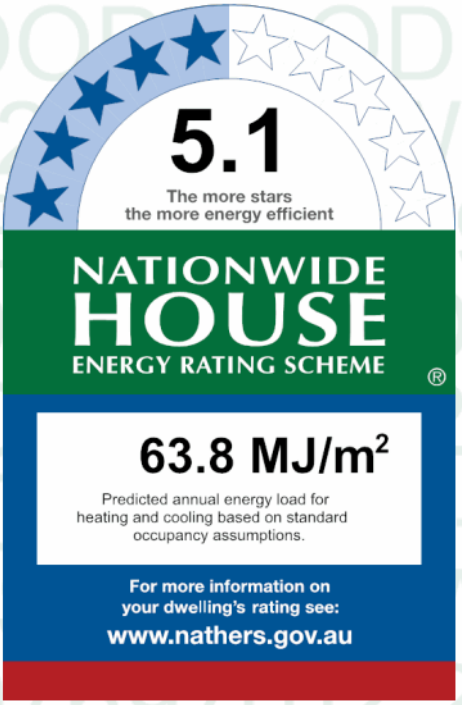

Property

Address	49 WARRIEWOOD RD , WARRIEWOOD , NSW , 2102
Lot/DP	5/1206507
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	RL5778
Prepared by	RESIDENTIAL LOGISTICS P/L

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	163.0	Suburban
Unconditioned*	51.0	**NatHERS climate zone**
Total	214.0	56
Garage	30.0	

Thermal performance

Heating	Cooling
37.7 MJ/m^2	26.0 MJ/m^2

Accredited assessor

Name	Luis Contigiani
Business name	THE LC TRUST
Email	contempoad@bigpond.com
Phone	0481218250
Accreditation No.	DMN/13/1543

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

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=fKlYuTwtg.
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
No Data Available					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DOW-006-03 A	DOW-006-03 A Al Sliding Door SG 6.38CP	4.3	0.44	0.42	0.46
DOW-014-05 A	DOW-014-05 A Aluminium Fixed Light Window SG 6.38CPClr	4.2	0.60	0.57	0.63
DOW-001-01 A	DOW-001-01 A Al Sliding Window SG 3Clr	6.4	0.75	0.71	0.79
DOW-002-04 A	DOW-002-04 A Elite Al Awning Window SG 6.38CP	4.8	0.40	0.38	0.42
DOW-016-05 A	DOW-016-05 A Aluminium French Door SG 6.38CPClr	4.6	0.50	0.48	0.53

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	DOW-006-03 A	n/a	2400	3048	n/a	60	SW	No
Kitchen/Living	DOW-006-03 A	n/a	2400	3048	n/a	60	SW	No
Kitchen/Living	DOW-014-05 A	n/a	500	3610	n/a	00	NW	No
PWR	DOW-001-01 A	n/a	1200	850	n/a	45	NW	No
HALL - STAIRS	DOW-014-05 A	n/a	500	610	n/a	00	SE	No
HALL - STAIRS	DOW-014-05 A	n/a	500	610	n/a	00	SE	No
DINING - LIVING	DOW-001-01 A	n/a	1800	1810	n/a	45	SE	No
DINING - LIVING	DOW-002-04 A	n/a	2057	850	n/a	45	NE	Yes
DINING - LIVING	DOW-002-04 A	n/a	2057	850	n/a	45	NE	Yes
LOUNGE - STAIRS	DOW-014-05 A	n/a	2500	610	n/a	00	SE	No
LOUNGE - STAIRS	DOW-014-05 A	n/a	2500	610	n/a	00	SE	No
LOUNGE - STAIRS	DOW-001-01 A	n/a	1200	610	n/a	10	SW	No
LOUNGE - STAIRS	DOW-016-05 A	n/a	2100	1450	n/a	90	NE	No
LOUNGE - STAIRS	DOW-002-04 A	n/a	2057	610	n/a	10	NE	No
LOUNGE - STAIRS	DOW-002-04 A	n/a	2057	610	n/a	10	NE	No
Bedroom 1	DOW-002-04 A	n/a	1457	610	n/a	10	NE	No
Bedroom 1	DOW-002-04 A	n/a	1457	610	n/a	10	NE	No
ENS	DOW-001-01 A	n/a	857	1810	n/a	10	NW	No
Bedroom 2	DOW-001-01 A	n/a	857	1810	n/a	10	NW	No
BED 3	DOW-001-01 A	n/a	600	1810	n/a	10	NW	No
STUDY	DOW-002-04 A	n/a	1200	2050	n/a	10	SW	No
BATH	DOW-001-01 A	n/a	600	1810	n/a	10	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
LDY	2039	881	90	SE
Garage 1	2130	2280	90	SW
Garage 1	2400	4850	90	NE
HALL - STAIRS	2388	1080	90	NE

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Weatherboard Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-4	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	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	2700	4400	SW	600	YES
Kitchen/Living	EW-1	2700	400	SE	5000	YES
Kitchen/Living	EW-1	2700	3800	SW	700	NO
Kitchen/Living	EW-1	2700	6795	NW	13	NO
Kitchen/Living	EW-1	2700	3495	SE	600	NO
LDY	EW-1	2700	300	NE	0	YES
LDY	EW-1	2700	2795	SE	0	NO
PWR	EW-1	2700	1690	NW	50	YES
Garage 1	EW-1	3043	2700	SW	600	YES
Garage 1	EW-1	3043	5400	NW	600	NO
Garage 1	EW-2	3043	5600	NE	1200	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
HALL - STAIRS	EW-1	2700	1590	NE	1200	YES
HALL - STAIRS	EW-1	2700	2390	SE	0	YES
DINING - LIVING	EW-1	2700	4795	SE	0	NO
DINING - LIVING	EW-1	2700	300	SW	6900	YES
DINING - LIVING	EW-1	2700	1495	NW	7800	YES
DINING - LIVING	EW-1	2700	3700	NE	0	NO
DINING - LIVING	EW-1	2700	1495	SE	0	NO
LOUNGE - STAIRS	EW-3	2700	4800	SE	600	NO
LOUNGE - STAIRS	EW-4	2700	300	SW	7300	YES
LOUNGE - STAIRS	EW-4	2700	2395	SE	900	YES
LOUNGE - STAIRS	EW-4	2700	1190	SW	600	YES
LOUNGE - STAIRS	EW-3	2700	4395	NE	2600	NO
Bedroom 1	EW-3	2700	3595	NW	600	NO
Bedroom 1	EW-3	2700	3795	NE	600	NO
ENS	EW-3	2700	2190	NW	600	NO
Bedroom 2	EW-4	2700	3090	NW	600	NO
BED 3	EW-4	2700	400	SE	5000	YES
BED 3	EW-4	2700	3800	SW	700	NO
BED 3	EW-4	2700	2995	NW	600	NO
STUDY	EW-4	2700	1595	SE	600	NO
STUDY	EW-4	2700	3195	SW	600	NO
BATH	EW-4	2700	300	NE	9800	YES
BATH	EW-4	2700	2695	SE	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		119.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		22.00	Bulk Insulation, No Air Gap R2.5
IW-3 - Cavity wall, direct fix plasterboard, single gap		55.00	Bulk Insulation, No Air Gap R1.7

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Waffle pod slab 300 mm 85mm	44.10	None	Waffle Pod 300mm	Ceramic Tiles 8mm
LDY	Waffle pod slab 300 mm 85mm	7.80	None	Waffle Pod 300mm	Ceramic Tiles 8mm
PWR	Waffle pod slab 300 mm 85mm	5.10	None	Waffle Pod 300mm	Ceramic Tiles 8mm
Garage 1	Waffle pod slab 225 mm 100mm	29.90	None	Waffle Pod 225mm	Bare
HALL - STAIRS	Waffle pod slab 300 mm 85mm	18.80	None	Waffle Pod 300mm	Ceramic Tiles 8mm

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
DINING - LIVING	Waffle pod slab 300 mm 85mm	17.20	None	Waffle Pod 300mm	Ceramic Tiles 8mm
DINING - LIVING	Waffle pod slab 300 mm 85mm	5.40	None	Waffle Pod 300mm	Ceramic Tiles 8mm
LOUNGE - STAIRS/Kitchen/Living	Timber Above Plasterboard 19mm	5.00		Bulk Insulation R1.7	Carpet 10mm
LOUNGE - STAIRS/HALL - STAIRS	Timber Above Plasterboard 19mm	13.70		Bulk Insulation R1.7	Carpet 10mm
LOUNGE - STAIRS/DINING - LIVING	Timber Above Plasterboard 19mm	17.30		Bulk Insulation R1.7	Carpet 10mm
Bedroom 1/Garage 1	Timber Above Plasterboard 19mm	10.20		Bulk Insulation R1.7	Carpet 10mm
Bedroom 1/HALL - STAIRS	Timber Above Plasterboard 19mm	3.20		Bulk Insulation R1.7	Carpet 10mm
WIR/Garage 1	Timber Above Plasterboard 19mm	1.30		Bulk Insulation R1.7	Carpet 10mm
WIR/HALL - STAIRS	Timber Above Plasterboard 19mm	1.00		Bulk Insulation R1.7	Carpet 10mm
ENS/PWR	Timber Above Plasterboard 19mm	0.80		Bulk Insulation R1.7	Ceramic Tiles 8mm
ENS/Garage 1	Timber Above Plasterboard 19mm	3.50		Bulk Insulation R1.7	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	5.90		Bulk Insulation R1.7	Carpet 10mm
Bedroom 2/PWR	Timber Above Plasterboard 19mm	4.10		Bulk Insulation R1.7	Carpet 10mm
Bedroom 2/HALL - STAIRS	Timber Above Plasterboard 19mm	1.20		Bulk Insulation R1.7	Carpet 10mm
BED 3/Kitchen/Living	Timber Above Plasterboard 19mm	11.10		Bulk Insulation R1.7	Carpet 10mm
STUDY/Kitchen/Living	Timber Above Plasterboard 19mm	4.60		Bulk Insulation R1.7	Carpet 10mm
BATH/Kitchen/Living	Timber Above Plasterboard 19mm	0.70		Bulk Insulation R1.7	Ceramic Tiles 8mm
BATH/LDY	Timber Above Plasterboard 19mm	7.50		Bulk Insulation R1.7	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 R4.1	No
Kitchen/Living	Timber Above Plasterboard	Bulk Insulation R1.7	No
LDY	Timber Above Plasterboard	Bulk Insulation R1.7	No
PWR	Timber Above Plasterboard	Bulk Insulation R1.7	No
Garage 1	Plasterboard	Bulk Insulation R5	No
Garage 1	Timber Above Plasterboard	Bulk Insulation R1.7	No
HALL - STAIRS	Timber Above Plasterboard	Bulk Insulation R1.7	No
DINING - LIVING	Timber Above Plasterboard	Bulk Insulation R1.7	No
DINING - LIVING	Plasterboard	Bulk Insulation R4.1	No
LOUNGE - STAIRS	Plasterboard	Bulk Insulation R4.1	No
Bedroom 1	Plasterboard	Bulk Insulation R4.1	No
WIR	Plasterboard	Bulk Insulation R4.1	No
ENS	Plasterboard	Bulk Insulation R4.1	No
Bedroom 2	Plasterboard	Bulk Insulation R4.1	No
BED 3	Plasterboard	Bulk Insulation R4.1	No
STUDY	Plasterboard	Bulk Insulation R4.1	No
BATH	Plasterboard	Bulk Insulation R4.1	No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kitchen/Living	18	Downlights - LED	150	Sealed
LDY	3	Downlights - LED	150	Sealed
PWR	2	Downlights - LED	150	Sealed
PWR	1	Exhaust Fans	300	Sealed
HALL - STAIRS	8	Downlights - LED	150	Sealed
DINING - LIVING	7	Downlights - LED	150	Sealed
DINING - LIVING	2	Downlights - LED	150	Sealed
LOUNGE - STAIRS	15	Downlights - LED	150	Sealed
Bedroom 1	5	Downlights - LED	150	Sealed
WIR	1	Downlights - LED	150	Sealed
ENS	2	Downlights - LED	150	Sealed
ENS	1	Exhaust Fans	300	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
BED 3	4	Downlights - LED	150	Sealed
STUDY	2	Downlights - LED	150	Sealed
BATH	3	Downlights - LED	150	Sealed
BATH	1	Exhaust Fans	300	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 R2	0.50	Medium
Waterproofing Membrane	Foil, No Gap, Reflective Side Down, Anti-glare Up	0.50	Medium
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R2	0.50	Medium

* Refer to glossary.

Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

Glossary

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