

Nationwide House Energy Rating Scheme

NatHERS Certificate No. SC678SSLDI

Generated on 10 Mar 2021 using FirstRate5: 5.3.1 (3.21)

Property

Address 346-352 Whale Beach Road, Palm Beach, NSW, 2108
Lot/DP 328-330/16362
NCC Class* Class 1a
Type New Home

Plans

Main plan 18-02-21
Prepared by Harry Seidler & Associates

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned*	658.7
Unconditioned*	165.9
Total	824.6
Garage	80.5

NatHERS climate zone
56, Palm Beach



Accredited assessor

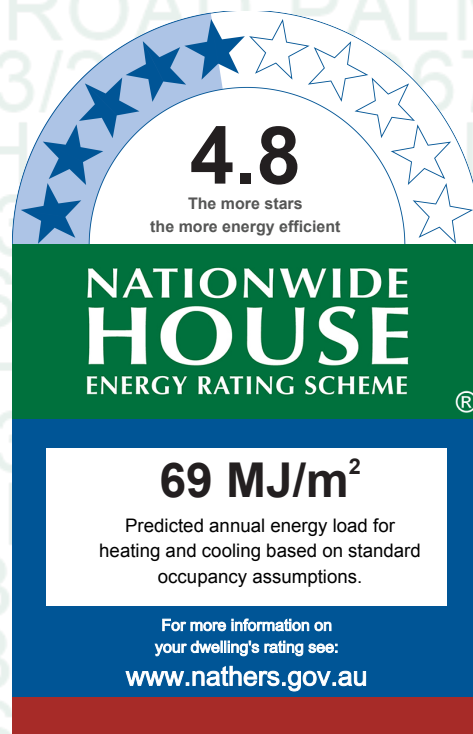
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Assessor Accrediting Organisation HERA
Declaration of interest Declaration completed: no conflicts

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.



Thermal performance

Heating	Cooling
43.2	25.8
MJ/m ²	MJ/m ²

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 <https://www.fr5.com.au/QRCodeLanding?PublicId=SC678SSLDI> When using either link, ensure you are visiting www.FR5.com.au.



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

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	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
AWS-074-04 A	CURTAIN WALL SERIES 168 TB TPS Spacer DG 6mmSupGrn-16Ar-6mmPerformaTechClr	1.76	0.26	0.25	0.27

Window and glazed door *Schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
L0-1 - Entry Hall	AWS-074-04 A	Opening 110	3000	400	fixed	0.0	NE	No
L0-2 - Store	AWS-074-04 A	Opening 112	2750	800	fixed	0.0	NE	No
L0-2 - Store	AWS-074-04 A	Opening 113	2750	800	fixed	0.0	NE	No
Double 10	AWS-074-04 A	Opening 111	2750	400	fixed	0.0	NE	No

* Refer to glossary.

L0-3 - Store	AWS-074-04 A	Opening 115	2800	800	fixed	0.0	NE	No
L0-3 - Big Void	AWS-074-04 A	Opening 114	2800	400	fixed	0.0	NE	No
L0-4 Stairs	AWS-074-04 A	Opening 116	4800	425	fixed	0.0	NE	No
Day 22	AWS-074-04 A	Opening 164	2100	600	fixed	0.0	NE	No
L1 - Ens 2	AWS-074-04 A	Opening 163	2100	600	fixed	0.0	NE	No
Bedroom 26	AWS-074-04 A	Opening 159	2700	4079	sliding	45.0	NE	No
Night 28	AWS-074-04 A	Opening 162	3000	300	awning	20.0	SE	No
Bedroom 29	AWS-074-04 A	Opening 160	2700	2500	fixed	0.0	SE	No
Bedroom 29	AWS-074-04 A	Opening 158	2100	3978	sliding	45.0	NE	No
Bedroom 29	AWS-074-04 A	Opening 161	2700	1000	awning	20.0	SW	No
Bedroom 31	AWS-074-04 A	Opening 165	2700	3530	fixed	0.0	SE	No
Bedroom 31	AWS-074-04 A	Opening 166	2700	3895	sliding	45.0	NE	No
Living 32	AWS-074-04 A	Opening 167	2700	6700	sliding	90.0	NE	No
Living 32	AWS-074-04 A	Opening 168	1670	300	awning	60.0	NW	No
L2 - Stairs	AWS-074-04 A	Opening 181	2400	300	awning	20.0	NW	No
L2 - Bath	AWS-074-04 A	Opening 207	3400	300	awning	10.0	NW	No
L2 - Entrance	AWS-074-04 A	Opening 206	3400	440	awning	10.0	SW	No
L2 - Circ	AWS-074-04 A	Opening 183	3400	2651	fixed	0.0	SE	No
L2 - Butlers	AWS-074-04 A	Opening 208	3400	200	awning	10.0	NW	No
Day 41	AWS-074-04 A	Opening 179	2000	900	awning	60.0	NW	No
Day 41	AWS-074-04 A	Opening 180	2000	1950	fixed	0.0	NW	No
Day 41	AWS-074-04 A	Opening 178	2700	510	awning	20.0	SE	No
Day 41	AWS-074-04 A	Opening 182	2700	10137	sliding	60.0	NE	No
Night 42	AWS-074-04 A	Opening 175	3000	280	awning	20.0	SE	No
Night 42	AWS-074-04 A	Opening 176	3000	280	awning	20.0	NW	No
Bedroom 43	AWS-074-04 A	Opening 174	3000	1000	awning	20.0	SW	No
Bedroom 43	AWS-074-04 A	Opening 169	370	3943	fixed	0.0	SE	No
Bedroom 43	AWS-074-04 A	Opening 170	3000	3570	fixed	0.0	SE	No
Bedroom 43	AWS-074-04 A	Opening 171	3000	8234	sliding	45.0	NE	No
Bedroom 43	AWS-074-04 A	Opening 172	1360	220	other	90.0	NW	No
Bedroom 43	AWS-074-04 A	Opening 173	1400	700	fixed	0.0	NW	No
Bedroom 43	AWS-074-04 A	Opening 177	3000	1000	awning	20.0	SW	No
L2 - Kit/Liv	AWS-074-04 A	Opening 186	3400	5703	sliding	35.0	SE	No
L2 - Kit/Liv	AWS-074-04 A	Opening 187	3400	4073	sliding	90.0	NE	No
L2 - Kit/Liv	AWS-074-04 A	Opening 184	1600	1200	fixed	0.0	SE	No
L2 - Kit/Liv	AWS-074-04 A	Opening 185	850	550	fixed	0.0	SE	No
L2 - Kit/Liv	AWS-074-04 A	Opening 188	3400	1615	sliding	90.0	SE	No
L2 - Kit/Liv	AWS-074-04 A	Opening 189	3400	7356	sliding	15.0	NE	No
L2 - Kit/Liv	AWS-074-04 A	Opening 203	2600	3235	awning	10.0	NW	No
L2 - Kit/Liv	AWS-074-04 A	Opening 204	260	1335	fixed	0.0	NW	No
L2 - Kit/Liv	AWS-074-04 A	Opening 205	3400	165	fixed	0.0	NW	No

L2 - Kit/Liv	AWS-074-04 A	Opening 216	3400	800	fixed	0.0	NW	No
L2 - Bridge	AWS-074-04 A	Opening 190	2400	9710	awning	2.0	NE	No
L2 - Bridge	AWS-074-04 A	Opening 191	2400	10735	awning	1.5	SW	No
L2 - Retreat	AWS-074-04 A	Opening 201	600	4600	awning	20.0	SW	No
L2 - Retreat	AWS-074-04 A	Opening 192	2700	1340	fixed	0.0	SW	No
L2 - Retreat	AWS-074-04 A	Opening 193	2700	4713	fixed	0.0	SE	No
L2 - Retreat	AWS-074-04 A	Opening 194	2700	7392	sliding	45.0	NE	No
L2 - Retreat	AWS-074-04 A	Opening 195	2700	740	fixed	0.0	NW	No
L2 - Ens B	AWS-074-04 A	Opening 214	2000	300	awning	30.0	NE	No
L2 - Ens B	AWS-074-04 A	Opening 200	2500	300	awning	20.0	NW	No
L2 - Ens B	AWS-074-04 A	Opening 211	2100	1570	casement	90.0	SW	No
L2 - Bed B	AWS-074-04 A	Opening 198	3000	4996	sliding	30.0	NE	No
L2 - Bed B	AWS-074-04 A	Opening 199	3000	4913	sliding	30.0	NW	No
L2 - Bed B	AWS-074-04 A	Opening 197	3000	3500	fixed	0.0	SE	No
L3 - Stairs	AWS-074-04 A	Opening 210	2770	300	fixed	0.0	NW	No

Roof window *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	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
Velux:VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.2	0.22

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Area (m²)	Orientation	Outdoor shade	Indoor shade
L0-3 - Big Void	Velux:VEL-010-01 W	Element 10	0.0	0.7	N	None	None
L2 - Bath	Velux:VEL-010-01 W	Element 20	0.0	3.5	N	None	None
L2 - Butlers	Velux:VEL-010-01 W	Element 16	0.0	2.3	N	None	None
Night 42	Velux:VEL-010-01 W	Element 18	0.0	18.8	N	None	None
L2 - Kit/Liv	Velux:VEL-010-01 W	Element 15	0.0	2.3	N	None	None
L2 - Ens B	Velux:VEL-010-01 W	Element 12	0.0	4.7	N	None	None
L2 - Ens B	Velux:VEL-010-01 W	Element 13	0.0	5.6	N	None	None
L3 - Stairs	Velux:VEL-010-01 W	Element 17	0.0	15.4	N	None	None

Skylight *type and performance*

Skylight ID	Skylight description
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No Data Available

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	3000	6350	100.0	NE
L0-1 - Entry Hall	3000	1700	100.0	NE
L2 - Entrance	3400	1600	100.0	NE
L3 - Stairs	2100	900	100.0	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
1	Whale_Wall Ground Adjacent	0.5	Medium	Polystyrene extruded (k = 0.028) (R2.3); Polystyrene extruded: R1.0 (R1.0)	No
2	Whale_Wall Rock Face	0.5	Medium	Polystyrene extruded (k = 0.028) (R2.3)	No
3	Whale_Wall Ext Conc	0.5	Medium	Polystyrene extruded (k = 0.028) (R2.3); Polystyrene extruded: R1.0 (R1.0)	No
4	FR5 - Cast Concrete	0.5	Medium		No
5	FR5 - Metal Clad Framed	0.5	Medium		No
6	FR5 - Brick Veneer	0.5	Medium		No
7	FR5 - Fibro Clad Framed	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No
8	FR5 - Cast Concrete	0.5	Medium	Polystyrene extruded: R2.0 (R2.0)	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	1	3200	12205	SE	0	No
Garage	2	3200	6526	NE	0	Yes
Garage	3	3200	1941	NW	0	Yes
Garage	1	3200	6876	SW	0	No
L0-1 - Lift	1	3200	2644	NW	0	No
L0-1 - Lift	1	3200	2047	SW	0	No
L0-1 - Entry Hall	3	3200	1952	NE	0	Yes
L0-1 - Entry Hall	3	3200	377	SE	0	Yes
L0-1 - Entry Hall	3	3200	409	NE	0	Yes

* Refer to glossary.

L0-1 - Entry Hall	1	3200	2571	NW	0	No
L0-1 - Entry Hall	1	3200	1196	NE	0	No
L0-1 - Entry Hall	1	3200	1065	NW	0	No
L0-1 - Entry Hall	1	3200	1004	NW	0	No
L0-1 - Entry Hall	1	3200	1161	SW	0	No
L0-1 - Stairs	1	3200	2955	NW	0	No
L0-2 - G.Void	1	1500	5762	SE	0	No
L0-2 - G.Void	1	1500	6897	SW	0	No
L0-2 - Lift	1	2750	2625	NW	0	No
L0-2 - Lift	1	2750	2078	SW	0	No
L0-2 - Store	1	2750	3713	SE	0	No
L0-2 - Store	2	2750	1013	NE	0	Yes
L0-2 - Store	2	2750	601	SE	0	Yes
L0-2 - Store	2	2750	3535	NE	0	Yes
L0-2 - Store	2	2750	1968	SE	0	Yes
L0-2 - Store	2	2750	3900	NE	0	Yes
L0-2 - Store	3	2750	1585	NW	0	Yes
L0-2 - Stair	1	2750	1011	NE	0	No
L0-2 - Stair	1	2750	5278	NW	0	No
L0-2 - Stair	1	2750	1033	SW	0	No
Double 10	1	2750	2438	NW	0	No
Double 10	3	2750	434	NE	0	Yes
Wine cellar	1	2500	5752	SE	0	No
Wine cellar	1	2500	6778	SW	0	No
L0-3 - Lift	1	3000	2615	NW	0	No
L0-3 - Lift	1	3000	2111	SW	0	No
L0-3 stairs	1	3000	4253	NW	0	No
L0-3 - Store	1	3000	3746	SE	0	No
L0-3 - Store	2	3000	1006	NE	600	Yes
L0-3 - Store	2	3000	600	SE	0	Yes
L0-3 - Store	2	3000	5491	NE	0	Yes
L0-3 - Big Void	2	3000	1990	NE	0	Yes
L0-3 - Big Void	3	3000	369	SE	0	Yes
L0-3 - Big Void	2	3000	419	NE	4030	Yes
L0-3 - Big Void	1	3000	2407	NW	0	No
L0-3 small void	1	3000	1063	NE	0	No
L0-3 small void	1	3000	1012	NW	0	No
L0-3 small void	1	3000	1058	SW	0	No
L0-4 Lift	1	3000	2648	NW	0	No
L0-4 Stairs	1	5000	4113	SE	0	No
L0-4 Stairs	1	5000	1337	SW	0	No

L0-4 Stairs	3	3000	6966	SE	10244	No
L0-4 Stairs	2	3000	3680	NE	3653	Yes
L0-4 Stairs	1	3000	3015	NW	0	No
L0-4 Stairs	1	5000	5136	NW	0	No
L0-4 Stairs	1	5000	2295	SW	0	No
L1 - Lift	3	3000	2638	NW	0	Yes
Day 20	2	3000	5034	NW	0	Yes
Day 20	2	3000	3621	SW	0	Yes
Day 20	2	3000	510	SE	0	Yes
Day 21	3	3000	11932	SW	0	Yes
Day 21	2	3000	961	NW	0	Yes
Day 21	2	3000	803	SW	0	Yes
Day 22	3	3000	644	SE	0	No
Day 22	3	3000	1372	NE	0	Yes
L1 - Pool Plant	3	3000	1192	NE	4194	Yes
L1 - Pool Plant	3	3000	543	NW	3951	No
L1 - Pool Plant	3	3000	560	N	5702	No
L1 - Pool Plant	3	3000	551	NNE	6159	Yes
L1 - Pool Plant	3	3000	571	NE	5476	Yes
L1 - Pool Plant	3	3000	567	ENE	8024	Yes
L1 - Pool Plant	3	3000	555	E	9239	Yes
Unconditioned 24	3	3000	2168	NE	4184	Yes
L1 - Ens 2	3	3000	2032	NE	4188	Yes
Bedroom 26	4	3000	4079	NE	1366	Yes
Bedroom 26	3	3000	1883	NW	9314	Yes
Night 27	2	3000	2544	SW	0	Yes
Night 28	2	3000	1984	SE	0	Yes
Night 28	2	3000	1677	SW	0	Yes
Bedroom 29	2	3000	3997	SE	479	No
Bedroom 29	4	3000	2500	SE	744	No
Bedroom 29	4	3000	3978	NE	1357	Yes
Bedroom 29	2	3000	1256	SW	0	Yes
Day 30	3	3000	3775	SE	9277	Yes
Day 30	3	2400	958	NE	0	Yes
Bedroom 31	2	3000	1292	SE	0	Yes
Bedroom 31	2	3000	294	SW	0	Yes
Bedroom 31	4	3000	3593	SE	1102	Yes
Bedroom 31	4	3000	3919	NE	4580	Yes
Living 32	3	3000	7618	NE	1444	Yes
Living 32	3	3000	6974	NW	0	Yes
Living 32	3	3000	7632	SW	0	Yes



L2 - Stairs	2	3900	3378	NW	0	Yes
L2 - Stairs	2	3900	3587	SW	0	Yes
L2 - Stairs	2	3900	468	SE	0	Yes
L2 - Stairs	2	3600	3319	SE	1506	Yes
L2 - Bath	2	3400	1734	NW	0	Yes
L2 - Bath	2	3400	2602	SW	0	Yes
L2 - Entrance	2	3400	1922	NE	0	Yes
L2 - Entrance	2	3400	1800	NW	0	Yes
L2 - Entrance	2	3400	891	SW	0	Yes
L2 - Circ	5	3400	2670	SE	1938	Yes
L2 - Butlers	2	3400	204	NW	0	Yes
L2 - Butlers	2	3400	240	NE	0	Yes
L2 - Butlers	3	3400	1408	NW	0	Yes
L2 - Butlers	3	3400	6246	SW	0	Yes
Day 41	3	2700	1988	SW	0	Yes
Day 41	3	2700	3239	NW	-218	Yes
Day 41	3	2700	8131	SW	0	No
Day 41	2	2700	3234	SE	0	Yes
Day 41	5	2700	10137	NE	926	Yes
Night 42	2	3000	5296	SW	0	Yes
Night 42	2	3000	1977	SE	0	Yes
Night 42	2	3000	966	NW	0	Yes
Bedroom 43	2	3000	1133	SW	28	Yes
Bedroom 43	2	3000	3943	SE	476	No
Bedroom 43	5	3000	3532	SE	770	No
Bedroom 43	5	3000	8200	NE	1328	Yes
Bedroom 43	6	3000	7271	NW	0	Yes
Bedroom 43	2	3000	1212	SW	80	Yes
L2 - Kit/Liv	5	3400	5703	SE	1819	Yes
L2 - Kit/Liv	5	3400	4088	NE	4949	Yes
L2 - Kit/Liv	6	3400	3190	SE	5745	Yes
L2 - Kit/Liv	5	3400	7356	NE	1732	Yes
L2 - Kit/Liv	3	3400	7041	NW	3717	Yes
L2 - Bridge	5	2400	9710	NE	1666	Yes
L2 - Bridge	7	2400	1794	SE	0	Yes
L2 - Bridge	2	2400	3014	NW	0	Yes
L2 - Bridge	5	2400	10735	SW	6592	Yes
L2 - Retreat	2	2700	5025	SW	0	Yes
L2 - Retreat	7	2700	606	SE	0	Yes
L2 - Retreat	5	2700	1345	SW	420	Yes
L2 - Retreat	5	2700	4713	SE	1225	Yes

L2 - Retreat	5	2700	7402	NE	492	Yes
L2 - Retreat	2	2700	1153	NW	114	Yes
L2 - Ens B	2	3000	662	SE	0	Yes
L2 - Ens B	2	3000	2277	NE	0	Yes
L2 - Ens B	2	3000	2204	NW	0	Yes
L2 - Ens B	2	3000	2361	SW	0	Yes
L2 - Bed B	5	3000	5006	NE	539	No
L2 - Bed B	5	3000	4913	NW	822	Yes
L2 - Bed B	2	3000	3845	SE	490	Yes
L2 - WIR B	7	3000	1497	NW	795	No
L2 - WIR B	3	3000	5002	SW	0	Yes
L3 - Lift	8	2770	2628	SE	0	Yes
L3 - Lift	8	2770	2085	NE	0	No
L3 - Lift	8	2770	2636	NW	0	No
L3 - Stairs	2	2770	5056	SE	0	No
L3 - Stairs	2	2770	1548	NE	0	Yes
L3 - Stairs	2	2770	5056	NW	0	No
L3 - Stairs	2	2770	3627	SW	0	No

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
1	FR5 - Cast Concrete	104.1	Polystyrene extruded: R1.0 (R1.0)
2	FR5 - Internal Plasterboard Stud Wall	94.5	Glass fibre batt: R2.5 (R2.5)
3	FR5 - Metal Clad Framed	15.9	
4	FR5 - Internal Plasterboard Stud Wall	239.5	
5	Whale_Wall Rock Face	92.5	Polystyrene extruded (k = 0.028) (R2.3)
6	FR5 - Cast Concrete	28	

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	FR5 - CSOG: Slab on Ground	70.9	Enclosed	R2.0	none
Garage	FR5 - CSOG: Slab on Ground	9.3	Enclosed	R2.0	none
L0-1 - Lift	FR5 - CSOG: Slab on Ground	5.4	Enclosed	R2.0	none
L0-1 - Entry Hall	Whale_Slab on ground	20.3	Enclosed	R1.1;R2.0	Ceramic tile
L0-1 - Stairs	Whale_Slab on ground	3.1	Enclosed	R1.1;R2.0	Ceramic tile
L0-2 - G.Void	FR5 - 200mm concrete slab	38.5	Enclosed	R0.0	none
L0-2 - Lift	FR5 - 200mm concrete slab	5.4	Enclosed	R0.0	none
L0-2 - Store	FR5 - 200mm concrete slab	27.6	Enclosed	R2.0	none
L0-2 - Store	FR5 - 200mm concrete slab	3.8	Enclosed	R2.0	none
L0-2 - Store	FR5 - 200mm concrete slab	3.4	Elevated	R2.0	none
Day 8	Whale_Slab Internal	12.4	Enclosed	R1.1	Ceramic tile

L0-2 - Stair	Whale_Slab Internal	5.4	Enclosed	R1.1	Ceramic tile
Double 10	FR5 - 200mm concrete slab	5	Enclosed	R0.0	none
Wine cellar	FR5 - 200mm concrete slab	30.6	Enclosed	R2.0	none
Wine cellar	FR5 - 200mm concrete slab	3.4	Enclosed	R2.0	none
L0-3 - Lift	FR5 - 200mm concrete slab	5.6	Enclosed	R0.0	none
L0-3 stairs	Whale_Slab Internal	10.7	Enclosed	R1.1	Ceramic tile
L0-3 stairs	Whale_Slab Internal	5.3	Enclosed	R1.1	Ceramic tile
L0-3 - Store	FR5 - 200mm concrete slab	27.6	Enclosed	R2.0	none
L0-3 - Big Void	FR5 - 200mm concrete slab	5.1	Enclosed	R0.0	none
L0-3 small void	FR5 - 200mm concrete slab	1.1	Enclosed	R0.0	none
L0-4 Lift	FR5 - 200mm concrete slab	5.6	Enclosed	R0.0	none
L0-4 Stairs	Whale_Slab Internal	14.9	Enclosed	R1.1	Ceramic tile
L0-4 Stairs	Whale_Slab on ground	12.7	Enclosed	R1.1;R2.3	Ceramic tile
L1 - Lift	FR5 - 200mm concrete slab	5.6	Enclosed	R0.0	none
Day 20	Whale_Slab Internal	12.8	Enclosed	R1.1	Ceramic tile
Day 20	Whale_Slab Elevated	5.3	Elevated	R1.1;R2.3	Ceramic tile
Day 21	Whale_Slab on ground	16.3	Enclosed	R1.1;R2.3	Ceramic tile
Day 21	Whale_Slab Elevated	3.2	Elevated	R1.1;R2.3	Ceramic tile
Day 22	Whale_Slab Elevated	8.8	Elevated	R1.1;R2.3	Ceramic tile
L1 - Pool Plant	Whale_Slab Elevated	10.3	Elevated	R1.1;R2.3	Ceramic tile
Unconditioned 24	Whale_Slab Elevated	7.9	Elevated	R1.1;R2.3	Ceramic tile
L1 - Ens 2	Whale_Slab Elevated	8.6	Elevated	R1.1;R2.3	Ceramic tile
Bedroom 26	Whale_Slab on ground	12.8	Enclosed	R1.1;R2.3	Ceramic tile
Bedroom 26	Whale_Slab Elevated	12	Elevated	R1.1;R2.3	Ceramic tile
Night 27	Whale_Slab on ground	6.3	Enclosed	R1.1;R2.3	Ceramic tile
Night 28	Whale_Slab on ground	5.3	Enclosed	R1.1;R2.3	Ceramic tile
Bedroom 29	Whale_Slab on ground	10.5	Enclosed	R1.1;R2.3	Ceramic tile
Bedroom 29	Whale_Slab Elevated	11.7	Elevated	R1.1;R2.3	Ceramic tile
Day 30	Whale_Slab Internal	9.1	Enclosed	R1.1	Ceramic tile
Day 30	Whale_Slab Elevated	3.3	Elevated	R1.1;R2.3	Ceramic tile
Bedroom 31	Whale_Slab Internal	5	Enclosed	R1.1	Ceramic tile
Bedroom 31	Whale_Slab Elevated	5.4	Elevated	R1.1;R2.3	Ceramic tile
Bedroom 31	Whale_Slab Elevated	9.9	Elevated	R1.1;R2.3	Ceramic tile
Living 32	Whale_Slab on ground	40.7	Enclosed	R1.1;R2.3	Ceramic tile
Living 32	Whale_Slab Elevated	11.9	Elevated	R1.1;R2.3	Ceramic tile
Double 33	FR5 - 200mm concrete slab	5.6	Enclosed	R0.0	none
L2 - Stairs	Whale_Slab Internal	18.1	Enclosed	R1.1	Ceramic tile
L2 - Bath	Whale_Slab Elevated	4.5	Elevated	R1.1;R2.3	Ceramic tile
L2 - Entrance	Whale_Slab Elevated	5	Elevated	R1.1;R2.3	Ceramic tile
L2 - Circ	Whale_Slab Internal	3.5	Enclosed	R1.1	Ceramic tile
L2 - Butlers	Whale_Slab Elevated	16.1	Elevated	R1.1;R2.3	Ceramic tile

Day 41	Whale_Slab Internal	12.5	Enclosed	R1.1	Ceramic tile
Day 41	Whale_Slab on ground	18.5	Enclosed	R1.1;R2.3	Ceramic tile
Day 41	Whale_Slab Elevated	7.5	Elevated	R1.1;R2.3	Ceramic tile
Night 42	Whale_Slab Internal	22.6	Enclosed	R1.1	Ceramic tile
Bedroom 43	Whale_Slab Internal	39.7	Enclosed	R1.1	Ceramic tile
Bedroom 43	Whale_Slab Elevated	7.7	Elevated	R1.1;R2.3	Ceramic tile
L2 - Kit/Liv	Whale_Slab Internal	74.8	Enclosed	R1.1	Ceramic tile
L2 - Kit/Liv	Whale_Slab Elevated	13.8	Elevated	R1.1;R2.3	Ceramic tile
L2 - Kit/Liv	Whale_Slab Elevated	11.1	Elevated	R1.1;R2.3	Ceramic tile
L2 - Bridge	Whale_Slab Elevated	15	Elevated	R1.1;R2.3	Ceramic tile
L2 - Retreat	Whale_Slab Elevated	38.6	Elevated	R1.1;R2.3	Ceramic tile
L2 - Ens B	Whale_Slab on ground	5.2	Enclosed	R1.1;R2.3	Ceramic tile
L2 - Ens B	Whale_Slab Elevated	6	Elevated	R1.1;R2.3	Ceramic tile
L2 - Bed B	Whale_Slab Elevated	23.2	Elevated	R1.1;R2.3	Ceramic tile
L2 - WIR B	Whale_Slab Elevated	8.7	Elevated	R1.1;R2.3	Ceramic tile
L3 - Lift	FR5 - 200mm concrete slab	5.5	Enclosed	R0.0	none
L3 - Stairs	Whale_Slab Internal	18.4	Enclosed	R1.1	Ceramic tile

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	FR5 - 200mm concrete slab	R0.0	No
Garage	FR5 - 200mm concrete slab	R2.0	No
Garage	Plasterboard	R4.3	No
L0-1 - Lift	FR5 - 200mm concrete slab	R0.0	No
L0-1 - Entry Hall	Whale_Slab Internal	R1.1	No
L0-1 - Entry Hall	FR5 - 200mm concrete slab	R0.0	No
L0-1 - Stairs	Whale_Slab Internal	R1.1	No
L0-2 - G.Void	FR5 - 200mm concrete slab	R2.0	No
L0-2 - G.Void	Whale_Slab Internal	R1.1	No
L0-2 - Lift	FR5 - 200mm concrete slab	R0.0	No
L0-2 - Store	FR5 - 200mm concrete slab	R2.0	No
L0-2 - Store	FR5 - 200mm concrete slab	R2.0	No
L0-2 - Store	Plasterboard	R4.3	No
L0-2 - Store	Plasterboard	R4.3	No
Day 8	Whale_Slab Internal	R1.1	No
L0-2 - Stair	FR5 - 200mm concrete slab	R0.0	No
L0-2 - Stair	Plasterboard	R0.0	No
Double 10	FR5 - 200mm concrete slab	R0.0	No
Wine cellar	Whale_Slab Internal	R1.1	No
Wine cellar	Plasterboard	R4.3	No
Wine cellar	Whale_Slab Internal	R1.1	No

L0-3 - Lift	FR5 - 200mm concrete slab	R0.0	No
L0-3 stairs	Whale_Slab Internal	R1.1	No
L0-3 stairs	Whale_Slab Internal	R1.1	No
L0-3 stairs	Plasterboard	R4.3	No
L0-3 - Store	Plasterboard	R4.3	No
L0-3 - Big Void	Plasterboard	R4.3	No
L0-3 small void	Plasterboard	R4.3	No
L0-4 Lift	FR5 - 200mm concrete slab	R0.0	No
L0-4 Stairs	Whale_Slab Internal	R1.1	No
L0-4 Stairs	Whale_Slab Elevated	R1.1;R2.3	No
L0-4 Stairs	Whale_Slab Internal	R1.1	No
L1 - Lift	FR5 - 200mm concrete slab	R0.0	No
Day 20	Whale_Slab Internal	R1.1	No
Day 20	Whale_Slab Internal	R1.1	No
Day 21	Whale_Slab Internal	R1.1	No
Day 21	Plasterboard	R4.3	No
Day 22	Plasterboard	R4.3	No
L1 - Pool Plant	Plasterboard	R4.3	No
Unconditioned 24	Plasterboard	R4.3	No
L1 - Ens 2	Plasterboard	R4.3	No
Bedroom 26	Whale_Slab Internal	R1.1	No
Bedroom 26	Whale_Slab Internal	R1.1	No
Night 27	Whale_Slab Internal	R1.1	No
Night 28	Whale_Slab Internal	R1.1	No
Bedroom 29	Whale_Slab Internal	R1.1	No
Bedroom 29	Whale_Slab Internal	R1.1	No
Day 30	Whale_Slab Internal	R1.1	No
Day 30	Plasterboard	R4.3	No
Bedroom 31	Whale_Slab Internal	R1.1	No
Bedroom 31	Plasterboard	R4.3	No
Bedroom 31	Whale_Slab Internal	R1.1	No
Living 32	Whale_Slab Internal	R1.1	No
Living 32	Whale_Slab Internal	R1.1	No
Double 33	FR5 - 200mm concrete slab	R0.0	No
L2 - Stairs	Whale_Slab Internal	R1.1	No
L2 - Bath	Plasterboard	R4.3	No
L2 - Entrance	Plasterboard	R4.3	No
L2 - Circ	Plasterboard	R4.3	No
L2 - Butlers	Plasterboard	R4.3	No
Day 41	Plasterboard	R4.3	No
Day 41	Plasterboard	R4.3	No

Day 41	Plasterboard	R4.3	No
Night 42	Plasterboard	R4.3	No
Bedroom 43	Plasterboard	R4.3	No
Bedroom 43	Plasterboard	R4.3	No
L2 - Kit/Liv	Plasterboard	R4.3	No
L2 - Kit/Liv	Plasterboard	R4.3	No
L2 - Kit/Liv	Plasterboard	R4.3	No
L2 - Bridge	Plasterboard	R3.0	No
L2 - Retreat	Plasterboard	R4.3	No
L2 - Ens B	Plasterboard	R4.3	No
L2 - Ens B	Plasterboard	R4.3	No
L2 - Bed B	Plasterboard	R4.3	No
L2 - WIR B	Plasterboard	R4.3	No
L3 - Lift	Plasterboard	R4.3	No
L3 - Stairs	Plasterboard	R4.3	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
No Data Available				

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
SlabExt:Slab - Suspended Slab - External Insul : 200mm: 200mm Suspended Slab - External Insul	0.0	0.5	Medium
SlabExt:Slab - Suspended Slab - External Insul : 200mm: 200mm Suspended Slab - External Insul	0.0	0.3	Light
Ceil: Ceiling	0.0	0.5	Medium
Cont:Attic-Continuous	0.0	0.3	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

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).