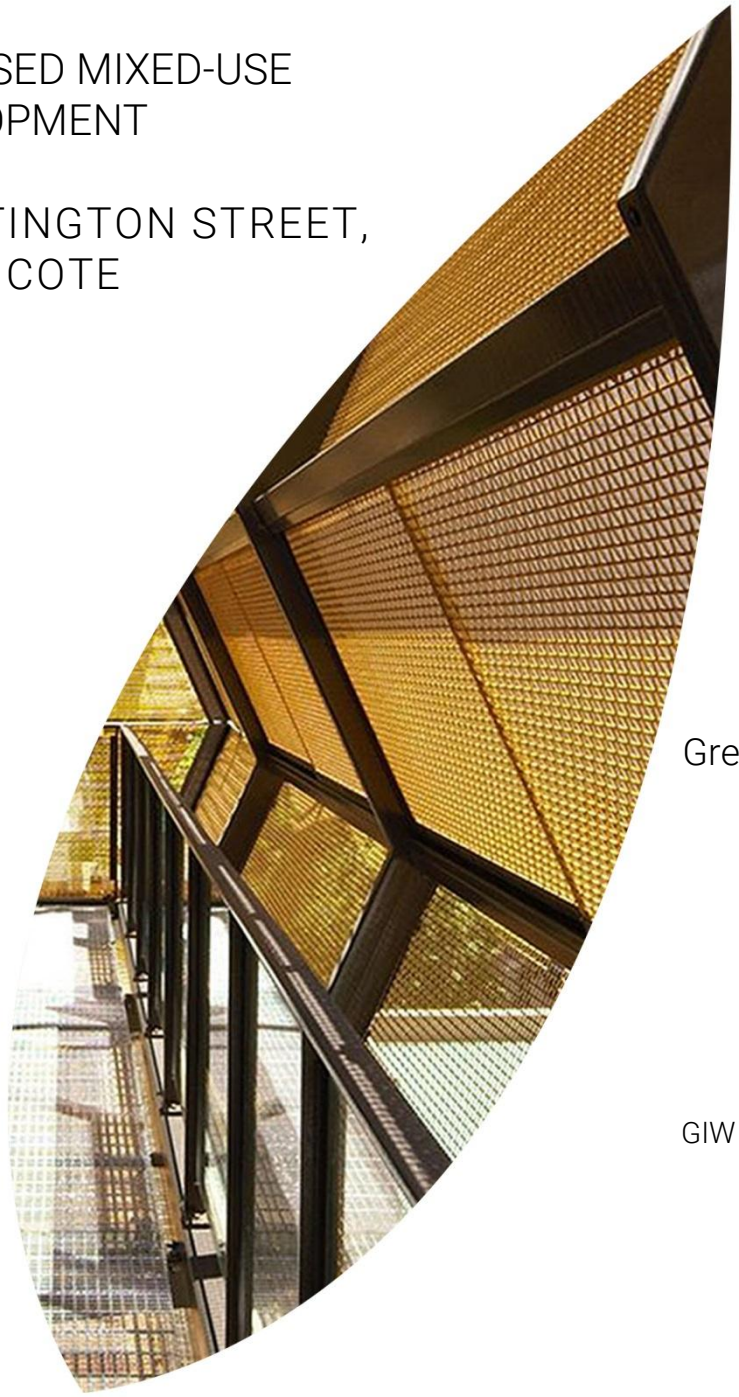
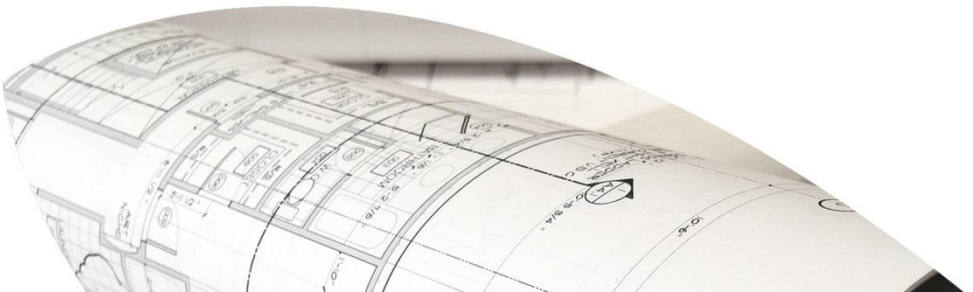
SUSTAINABLE MANAGEMENT PLAN

PROPOSED MIXED-USE DEVELOPMENT

7 HARTINGTON STREET, NORTHCOTE





GIW24146
Revision B

Prepared for:
Green Orthodox Archdiocese of Australia Consolidated Trust

8 August 2025

Prepared by:
GIW Environmental Solutions Pty Ltd
285 Lennox Street, Richmond
Victoria 3121, Australia
T +61 3 9044 5111
giw.com.au

Limitations

This Report has been prepared by GIW Environmental Solutions Pty Ltd for the sole use of Green Orthodox Archdiocese of Australia Consolidated Trust ("the Client"). This Report should only be presented in full and should not be used to support any objective other than those detailed within the Agreement. In particular, the Report does not contain sufficient information to enable it to be used for any use other than the project specific requirements for which the Report has been carried out.

Any reliance on this Report by a third party shall be entirely at such party's own risk. GIW Environmental Solutions Pty Ltd provides no warranty or guarantee to any third party, express or implied, as to the information and/or professional advice indicated in the Report, and accepts no liability for or in respect of any use or reliance upon the Report by a third party. Any publication of this Report must be in accordance with the Planning and Environment Act 1987 procedures under the Freedom of Information Act 1982. GIW will require formal notification by the Responsible Authority to use this Report for public access purposes. This Report is to be removed by the Responsible Authority from the public domain immediately following the public consultation period.

Copyright

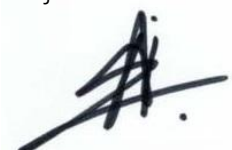
Revision History

Revision Number	Date Issued	Author	Approved	Comments
A	18/7/2025	MS	IB	Draft
B	8/8/2025	MS	IB	Final

Prepared by:
Project Consultant:

Mareena Saleem
Senior ESD engineer
B.Eng (Mechanical)
M. (Energy Efficient and Sustainable Building)

Approved by:
Project Team Leader



Ines Buskermolen
Associate Director
B.Sc. (Science, Business and Innovation)
M.Sc. (Sustainable Development)

Contents

1. Introduction

Project Information

GIW Environmental Solutions Pty Ltd ("GIW") has been engaged by Green Orthodox Archdiocese of Australia Consolidated Trust to provide Environmentally Sustainable Design (ESD) consulting services for the proposed mixed use development at 7 Hartington Street, Northcote. The proposed development will include 5 buildings plus basement carpark and will consist of the following:

Building A – Existing Building and Platia
- 3 x 1-bedroom apartments
- 1 x 2-bedroom apartments
- 9 x 3-bedroom apartments
- 1,496.6m^2 hotel (NLA)
- 1,926.8m^2 church/function (NLA)
- 488.8m^2 art spaces (NLA)
- 158.2 café (NLA)

Building B – Townhouses
- 22 x 3-bedroom townhouses

Building C1 – Apartments
- 3 x 1-bedroom apartments
- 3 x 2-bedroom apartments
- 16 x 3-bedroom apartments

Building C2 – Apartments
- 3 x 1-bedroom apartments
- 3 x 2-bedroom apartments
- 19 x 3-bedroom apartments

Building D – Theatre and Early Learning Centre (ELC)
- 1,275m^2 ELC (NLA)
- 1,173m^2 theatre (NLA)

The site located at 7 Hartington Street, Northcote has an approximate surface area of 26,204m^2 and is currently the location of a 3-storey brick heritage building. Distance from the site to Melbourne CBD is approximately 6.7km.

Figure 1 - Pre-existing sites at 7 Hartington Street, Northcote.

Statutory Requirements

This Sustainable Management Plan (SMP) has been prepared to inform City of Darebin of the proposed development's sustainability credentials and performance targets. The project team is committed to achieving a building solution which responds to City of Darebin Planning Scheme - Clause 15.01-2L-01 Environmentally Sustainable Development.

Development Type	Application Requirement	Example Tools
• Development of 10 or more dwellings. • Development of a building for accommodation other than dwellings with a gross floor area of more than 1000m^2.	Sustainability Management Plan (SMP)	BESS Green Star MUSIC STORM

Further to the above, this SMP also responds to Victoria Planning Provisions VC216 – 15.01-2S.

Built Environment Sustainability Scorecard (BESS)

The proposed mixed-use development will be assessed against the Built Environment Sustainability Scorecard (BESS) guidelines. The BESS tool addresses nine key environmental categories as follows:

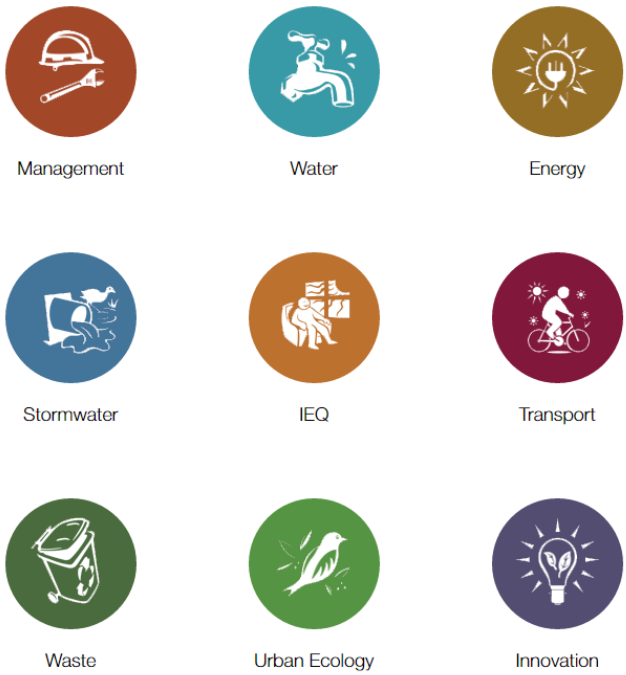


Figure 2 - BESS Environmental Categories (www.bess.net.au)

All ESD measures described under the nine key environmental categories are to be suitably incorporated into relevant project documentation at the appropriate project phase.

Responsibilities & Implementation

Green Orthodox Archdiocese of Australia Consolidated Trust will be responsible for the suitable implementation of the requirements of this report throughout the design and development phases. Should the development be sold the responsibility will pass to the new owner. At such time as a builder is novated or a building contract is put in place the builder will be responsible for implementation during the construction phase. At occupancy, the Owners Corporation and individual lot owners and or tenants will be responsible for the correct use of installed equipment and building systems in line with the provided Building User's Guide.

Sources of Information

The following 'Sources of Information' have been used to guide the design solutions:

- KUD– Project No. 22-004 – Building A Coordination Plans (Draft – dated 28/7/2025)
- KUD– Project No. 22-004 – Building B Coordination Plans (Draft – dated 28/7/2025)
- KUD– Project No. 22-004 – Building C Coordination Plans (Draft – dated 28/7/2025)
- KUD– Project No. 22-004 – Building D Coordination Plans (Draft – dated 28/7/2025)
- Municipal Association of Victoria - SDAPP Explained; Building Design for a Sustainable Future
- Built Environment Sustainability Scorecard (BESS)
- CSIRO 1999, Urban Stormwater – Best Practise Environmental Management Guidelines

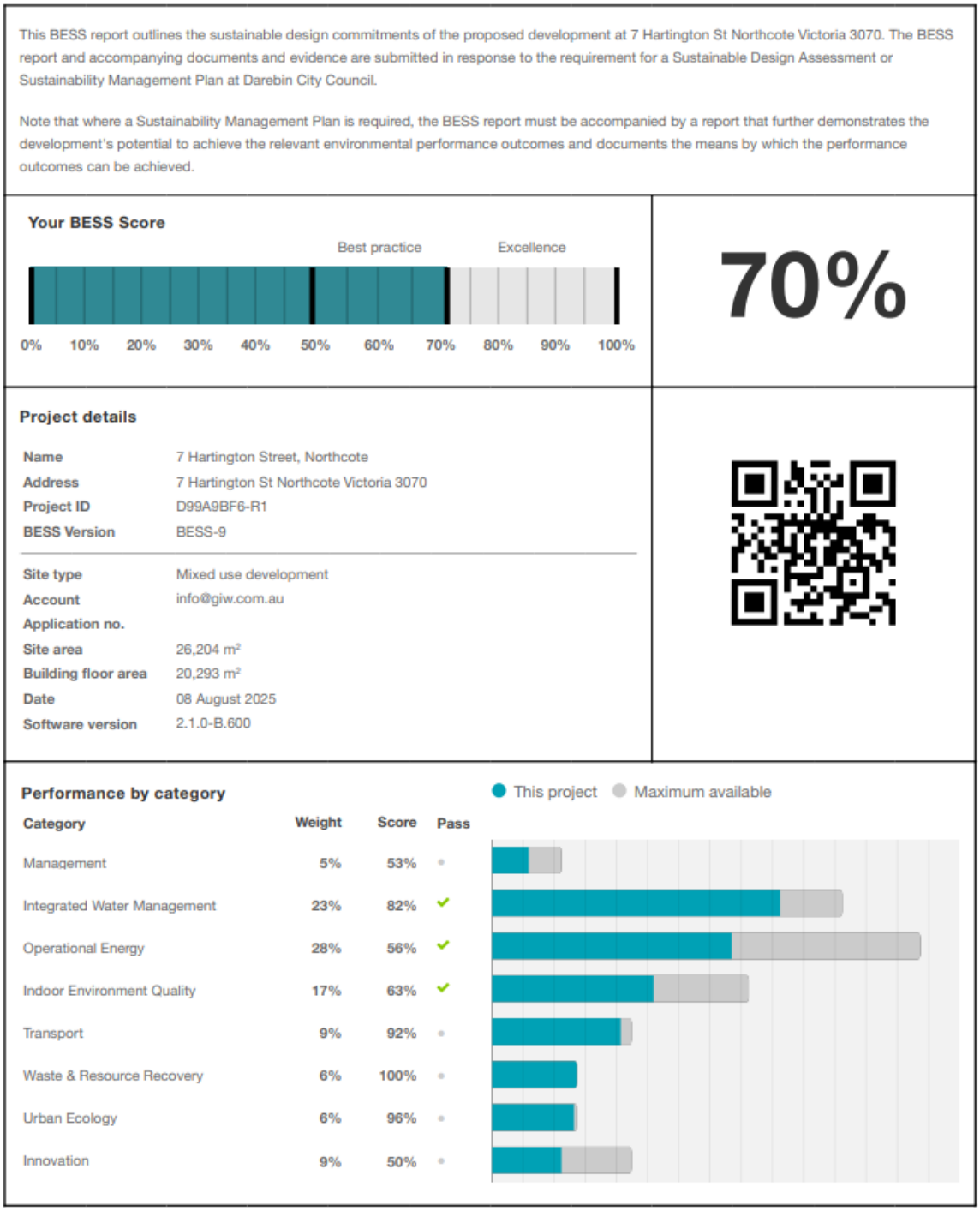
2. ESD Summary

The proposed mixed-use development at 7 Hartington Street, Northcote will implement the following ESD initiatives:

1. The project achieves a total BESS score of 70% with no mandatory category (IEQ, Energy, Water, Stormwater) below 50%.
2. 68% (41 out of 60) of the development's apartments are naturally cross-ventilated.
3. BESS built in calculator has been utilised to demonstrate daylight compliance.
4. The non-residential areas are targeting a 2% DF to 33% of the nominated area.
5. 45% (27 out of 60) of apartments achieve at least 3 hours of sunlight.
6. The development is provided with a comprehensive shading strategy.
7. The development is to achieve a 7.5 Star average NatHERS Energy Rating result.
8. The non-residential areas aim to reduce heating and cooling energy consumption below the reference case (BCA Section J 2022).
9. A 10.8kW solar PV system is to be located on the Building C (C1 and C2) roof.
10. A 3.6 kW solar PV system is proposed for the roof of 19 x Building B townhouses without roof terraces, totalling 68.4 kW.
11. Building A, C and D: Centralised electric heat pump hot water systems.
    Building B: Individual instantaneous or heat pump hot water systems.
12. Electricity and cold-water metering is to be provided to all apartments, townhouses, hotel, church/function areas, art spaces, restaurant, ELC, theatre and common areas.
13. Water efficient fittings and fixtures are applied throughout.
14. Rainwater collection from Building B, C (1 and 2) and D non-trafficable roofs will be directed into individual 60,000-litre rainwater tanks (totalling 180,000-litres). These tanks will be connected to all respective toilets and landscape irrigation.
15. A compliant MUSIC result is achieved.
16. Landscape irrigation demand will be connected to the rainwater tanks.
17. In total 146 bicycle spaces are to be provided for residents.
18. In total 19 bicycle spaces are to be provided for residential visitors.
19. In total 32 bicycle spaces are to be provided for employees & 23 bicycle spaces are to be provided for non-residential visitors.
20. Min. 443m2 of communal space will be provided.

3. BESS Performance

The project achieves a total BESS score of 70% with no mandatory category (IEQ, Energy, Water, Stormwater) below 50%. This figure represents a percentage improvement over a benchmark project. A score of 50% and higher equates to 'best practice' and is an effective pass of the BESS tool. A score of 70% and higher equates to BESS 'excellence' and exists as a higher benchmark in the tool.



This BESS report outlines the sustainable design commitments of the proposed development at 7 Hartington St Northcote Victoria 3070. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Darebin City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score

Best practice Excellence

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

70%

Project details

Name	7 Hartington Street, Northcote
Address	7 Hartington St Northcote Victoria 3070
Project ID	D99A9BF6-R1
BESS Version	BESS-9
Site type	Mixed use development
Account	info@giw.com.au
Application no.	
Site area	26,204 m²
Building floor area	20,293 m²
Date	08 August 2025
Software version	2.1.0-B.600

Performance by category

This project Maximum available

Category	Weight	Score	Pass
Management	5%	53%	
Integrated Water Management	23%	82%	✓
Operational Energy	28%	56%	✓
Indoor Environment Quality	17%	63%	✓
Transport	9%	92%	
Waste & Resource Recovery	6%	100%	
Urban Ecology	6%	96%	
Innovation	9%	50%	

4. ESD Assessment

Management

Council ESD objectives:

- To encourage a holistic and integrated design and construction process and ongoing high performance.

Council Best Practice Standard

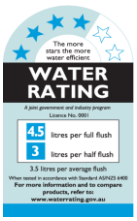
Criteria		Construction and Building Management Actions
Pre-Application Meeting	To ensure appropriate sustainable design principles and strategies are considered from the preliminary design stage of each development.	GIW has been actively involved in the preliminary design stage, but has not been involved in a pre-application meeting with Council.
Metering	To provide building users with information that allows monitoring of energy and water consumption	Electricity and cold-water metering is to be provided to all apartments, townhouses, hotel, church/function areas, art spaces, restaurant, ELC, theatre and common areas. Lighting and general power to common areas is to be separately metered to quantify energy used for common areas spaces. Additionally, the main electrical switchboard to contain at least two empty three-phase circuit breaker slots and four DIN rail spaces labelled to indicate the use of each space for a battery system.
Building User's Guide	To encourage and recognise initiatives that will help building users to use the building more efficiently.	A Building User's Guide will be provided to all occupants explaining the correct use of installed equipment and building systems. This shall cover at a minimum: • Energy and Environmental Strategy • Monitoring and Targeting • Building Services • Transport Facilities • Materials and Waste Policy • Expansion/Re-fit Considerations • References and Further Information

Water

Council ESD objectives:

- To ensure the efficient use of water
- To reduce total operating potable water use
- To encourage the collection and reuse of stormwater
- To encourage the appropriate use of alternative water sources (e.g. grey water)
- To minimize associated water costs

Council Best Practice Standard

Criteria		Development Provision
Potable Water Reduction	To reduce total potable water use due through the use of efficient fixtures, appliances, and the use of rainwater.	WELS 4 Star - Toilets  WELS 5 Star - Bathroom Taps  WELS 6 Star - Kitchen Taps  WELS 4 Star - Shower-head  WELS 5 Star - Dishwasher 
Rainwater Collection & Reuse		Rainwater collection from Building B, C (1 and 2) and D non-trafficable roofs will be directed into individual 60,000-litre rainwater tanks (totalling 180,000-litres). These tanks will be connected to all respective toilets and landscape irrigation. It is estimated that this will save more than 1,260kL of potable water every year. Stormwater drainage mechanism is to be determined by the hydraulics services engineer at the design development phase. Refer Appendix A – WSUD Response
Landscape Irrigation	To ensure the efficient use of water and to reduce total operating potable water use through encouraging water efficient landscape design.	Landscape irrigation demand will be connected to the rainwater tanks.

Council Best Practice Standard

Criteria		Development Provision
Building System Water Use Reduction	Ensure the efficient use of water, to reduce total operating potable water use and to encourage the appropriate use of alternative water sources for cooling and fire testing systems.	>80% of fire test water (e.g. hydrant pump test water or SCV annubar test) is to be reused on site. The proposed development is to incorporate air-cooled HVAC systems for both the residential and non-residential areas within the development.

Energy

Council ESD objectives:

- To ensure the efficient use of energy
- To reduce total operating greenhouse emissions
- To reduce energy peak demand
- To reduce associated energy costs

Council Best Practice Standard

Criteria		Development Provision
Thermal Performance Rating - Residential	To reduce energy needed to achieve thermal comfort in summer and winter - improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs.	The National Construction Code (NCC) Class 2 – Sole Occupancy Unit(s) residential building component is to be designed in accordance with NCC Section J (2022) NatHERS requirements. The residential units must achieve an average 7.5 Star rating, with no unit achieving below 6.0 Stars. Further to this the development will need to comply with the following heating and cooling load limits:

Climate Zone	Heating load limits (MJ/m2)	Cooling load limits (MJ/m2)
21 Melbourne RO	Maximum: 55	Maximum: 30 (BADS)

The apartments and townhouses are currently achieving a combined 7.5 Star average. The below sample ratings demonstrate the developments ability to achieve these requirements. Refer Appendix B for Preliminary FirstRate5 Certificates.

Unit No.	ACE Total MJ/M^2	ACE Heating MJ/M^2	ACE Cooling MJ/M^2	ACE NCFA	Star Rating	
B1.01	73.5	51.6	21.9	208.2	6.4	2
B1.04	51.4	32.6	18.8	213.9	7.5	10
B1.12	49.7	35	14.7	171.2	7.6	2
B2.06	56	40	16	158.7	7.3	8
TH Average	**57.7**	**39.8**	**17.9**	**188.0**	**7.2**	
TH Weighted Average					**7.3**	
C1 0.5	37.5	15	22.5	145.7	8.3	
C1 1.2	43.3	25.2	18.1	213.9	8	

Council Best Practice Standard

Criteria	Development Provision					
	C1 2.6	56.5	33.6	22.9	39.7	7.3
	C1 3.4	63.6	36.9	26.7	142.2	6.9
	Apt Average	**50.2**	**27.7**	**22.6**	**135.4**	**7.6**
	Combined Average	**54.4**	**34.4**	**19.9**	**164.6**	**7.5**

*Units are assessed using FirstRate5 v5.5.5

Construction assumptions for preliminary FirstRate5 ratings are listed below. Note, these assumptions are based on the sample of apartments assessed and may vary throughout the development. These assumptions are not to be relied upon for any other purpose beyond Town Planning assessment.

Element	Material	Insulation Value
Concrete Slab on Ground (Building C Apartments)	Concrete	Nil
Concrete Slab on Ground (Building B Townhouses)	Concrete	R2.7
Concrete Slab (where exposed / carpark below and above – Building C Apartments)	Concrete	R3.2
Concrete Slab (where exposed / carpark below and above - Building B Townhouses)	Concrete	R4.6
Concrete Roof (Building C Apartments	Concrete	R4.6
Slate Roof (Building C Apartments)	Tiles	R6.0

Council Best Practice Standard

Criteria		Development Provision		
		Slate Roof (Building B Townhouses)	Tiles	R7.0 + R1.3
		External Walls	Concrete / Brick	R2.7 + RFL
		Internal Walls	Plasterboard	R2.5
			Concrete	R1.8
		Fixed Windows	Aluminium Framed, Double Glazed, Argon Filled, Low-E, Clear	Total System – U-Value: 2.71 – SHGC: 0.58
		Sliding Doors	Aluminium Framed, Double Glazed, Argon Filled, Low-E, Clear	Total System – U-Value: 3.19 – SHGC: 0.48
		Awning Windows	Aluminium Framed, Double Glazed, Argon Filled, Low-E, Clear	Total System – U-Value: 4.42 – SHGC: 0.40
		Fixed Windows (B1.01, B1.12 only)	Aluminium Framed, Double Glazed, Argon Filled, Low-E, Spectrally Selective, Clear	Total System – U-Value: 2.65 – SHGC: 0.25
		Sliding Doors (B1.01, B1.12 only)	Aluminium Framed, Double Glazed, Argon Filled, Low-E, Spectrally Selective, Clear	Total System – U-Value: 2.79 – SHGC: 0.24
		Awning Windows (B1.01, B1.12 only)	Aluminium Framed, Double Glazed, Argon Filled, Low-E, Spectrally Selective, Clear	Total System – U-Value: 3.07 – SHGC: 0.22
Thermal Performance Rating – Non-Residential	To reduce energy needed to achieve thermal comfort in summer and winter -	The non-residential areas aim to reduce heating and cooling energy consumption below the reference case (BCA Section J 2022). Refer Appendix C for Preliminary Part J4D6 Building Fabric.		

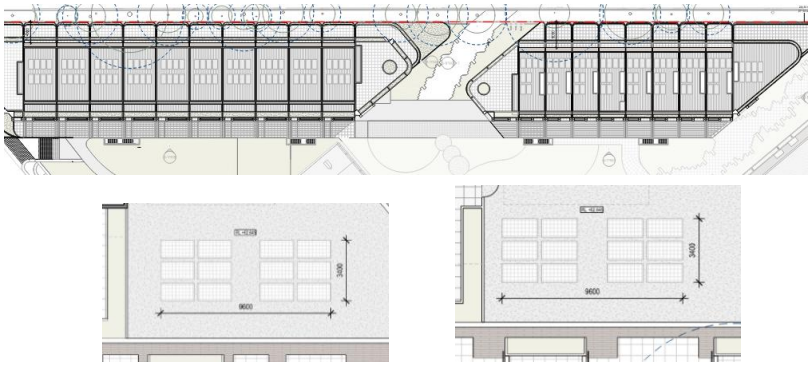
Council Best Practice Standard

Criteria		Development Provision
	improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs.	
Electrification	To support the transition to renewable energy sources.	The development will be all-electric with gas connection for commercial cooking only.
HVAC System	To ensure the efficient use of energy and to reduce consumption of electricity.	Inverter split systems are to be installed and sized to maintain conditions of the habitable rooms of each apartment. The efficiency of the air conditioning system is to be within 1 star rating of best available under MEPS 2019 measurement standard. VRV / VRF systems with a COP of 3.4 are to be installed to the non-residential areas. Furthermore, heat pump chillers with a COP of 3.0 are proposed for Building A.
Hot Water System	To ensure the efficient use of energy and to reduce consumption and greenhouse emissions from water heating.	Building A, C and D: Centralised electric heat pump hot water system. Building B: Individual instantaneous or heat pump hot water systems.
Car Park Ventilation	To ensure the efficient use of energy, reduce total operating greenhouse gas emissions and to reduce energy peak demand.	Carpark ventilation fans are driven by a VSD motor connected to CO sensors within the carpark. The inclusion of CO sensor control will allow the ventilation fans to ramp down when the car park is unoccupied. The system is to be designed in accordance with AS1668.2. The mechanical services engineer is responsible for the design and specification of the system. The contractor is to procure and install the specified system. Maintenance requirements of the CO sensor system are to be

Council Best Practice Standard

Criteria		Development Provision
		included in the O&M manual.
Clothes Drying	Ensure the efficient use of energy and to reduce energy consumption and greenhouse emissions associated with clothes drying	Private outdoor clothes drying lines for the Building B townhouses. Additionally, communal outdoor clothes drying lines for the Building C apartments.
Internal Lighting - Residential	To ensure the efficient use of energy, to reduce energy consumption, greenhouse emissions associated with artificial lighting, and to reduce energy peak demand.	The maximum illumination power density (W/sqm) is at least 20% lower than NCC 2022 requirements. Lighting power density shall be as follows: • Dwellings: No greater than average 4W/m^2 • POS: No greater than average 3.2W/m^2 • Back of house and indoor car parks: No greater than average 1.6W/m^2 All common area, external and carpark lighting is to be controlled with daylight, motion sensors or timers (whichever is deemed appropriate).
Internal Lighting – Non-Residential	To ensure the efficient use of energy, to reduce energy consumption, greenhouse emissions associated with artificial lighting, and to reduce energy peak demand.	The maximum illumination power density (W/m2) in the non-residential areas meets the requirements of Table J7D3a of the NCC 2022 Section J. Lighting power density shall be as follows: • Hotel rooms: No greater than average 5W/m^2 • Church: No greater than average 8W/m^2 • Function spaces: No greater than average 4.5W/m^2 • ELC / Art spaces: No greater than average 4.5W/m^2 • Office: No greater than average 4.5W/m^2 • Cafe: No greater than average 14W/m^2
Renewable Energy Systems - Solar	To encourage on-site renewable energy generation and reduce greenhouse emissions.	A 3.6 kW solar PV system is proposed for the roof of 19 x Building B townhouses without roof terraces, totalling 68.4 kW. The systems are expected to generate approximately 91,666kWh annually. Additionally, a 10.8kW solar PV system is to be located on the Building C (C1 and C2) roof. The system is expected to generate

Council Best Practice Standard

Criteria	Development Provision
	approximately 14,474kWh annually.  Location Solar PV System Refer Appendix D – Renewable Energy

Stormwater

Council ESD objectives:

- To reduce the impact of stormwater run-off
- To improve the water quality of stormwater run-off
- To achieve best practice stormwater quality outcomes
- To incorporate water sensitive urban design principles

Council Best Practice Standard

Criteria		Development Provision
Stormwater Treatment	To minimise negative environmental impacts of stormwater runoff and maximise onsite re-use of stormwater.	The eWater - Model for Urban Stormwater Improvement Conceptualisation (MUSIC) tool has been applied to determine performance relative to Best Practice Environmental Management Guidelines (Victoria Stormwater Committee, 1999). As per City of Darebin Planning Scheme - Clause 53.18 Stormwater Management in Urban Development, the development is required to achieve a compliant MUSIC result. A compliant MUSIC result is achieved via the following: • Building A roof is excluded based on heritage grounds. • Rainwater collection off Building B non-trafficable roof areas to be directed into a 60,000-litre rainwater tank connected to all toilets and landscape irrigation. • Rainwater collection off Building B terraces (including planters) is to be directed into raingardens totalling ≥17m^2, minimum 1,250mm deep raingarden with 300mm of extended detention. • Rainwater collection off Building C1 and C2 non-trafficable roof areas is to be directed into a 60,000-litre rainwater tank connected to all toilets and landscape irrigation. • Rainwater collection off Building C1 and C2 terraces (including planters) is to be directed into raingardens totalling ≥25m^2, minimum 1,250mm deep raingarden with 300mm of extended detention. • Rainwater collection off Building D non-trafficable roof areas is to be directed into a 60,000-litre rainwater tank connected to all toilets and landscape irrigation. • Rainwater collection off Building D green roof is to be directed in a ≥5m^2, minimum 1,250mm deep raingarden with 300mm of extended detention.

Council Best Practice Standard

Criteria	Development Provision
	• Rainwater collection off min. 10,000m2 of impervious ground area is to be directed into raingardens totalling ≥200m^2, minimum 1,250mm deep raingarden with 300mm of extended detention. Refer Appendix A – WSUD Response.

Indoor Environment Quality

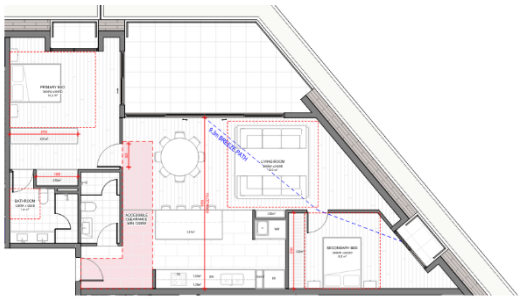
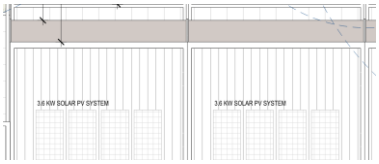
Council ESD objectives:

- to achieve a healthy indoor environment quality for the wellbeing of building occupants.
- to provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

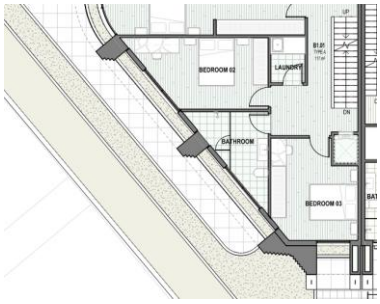
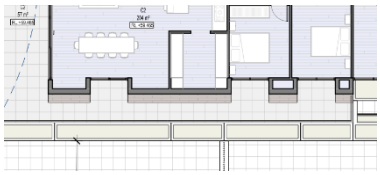
Council Best Practice Standard

Criteria		Development Provision
Daylight Access - Residential	To provide a high level of amenity and energy efficiency through design for natural light.	BESS built in calculator has been utilised to demonstrate compliance.
Winter Sunlight	To provide a high level of amenity and reduce need for artificial heating in winter.	45% (27 out of 60) of apartments achieve at least 3 hours of sunlight.
Daylight Access – Non-Residential	To provide a high level of amenity and energy efficiency through design for natural light.	The non-residential areas are targeting a 2% DF to 33% of the nominated area.
Minimal Internal Bedrooms	90% of bedrooms have an external window.	NIL internal bedrooms.
Effective Natural Ventilation	To provide fresh air and passive cooling opportunities.	68% (41 out of 60) of the development's apartments are naturally cross-ventilated. Apartments are provided with windows on opposite or adjacent facades or are effective single sided ventilated.

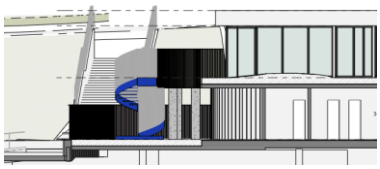
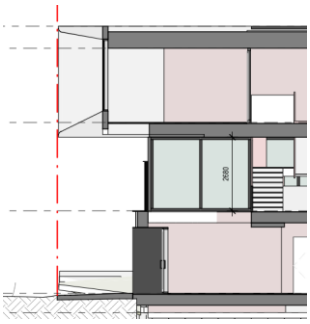
Council Best Practice Standard

Criteria		Development Provision
		 Typical natural cross-ventilated apartment
Ventilation – Non-Residential	To provide fresh air and passive cooling opportunities.	Hotel - Min. 60% of the regular use areas is effectively naturally ventilated. Through operable windows to all suites and common areas. Church/function, art spaces, café, theatre, ELC spaces, cafe - Min. 60% of the regular use areas is effectively naturally ventilated. For those areas where effective natural ventilation is not achieved, outdoor air rate is to be 50% increase compared to AS 1668:2012 OR the ventilation system will be designed to achieve, monitor and maintain CO2 concentrations below 800ppm. This is to be included in the mechanical design and specifications.
Thermal Comfort	To provide comfortable indoor spaces and reduce energy needed for heating and cooling.	The development is provided with a comprehensive shading strategy:  <u>Building B</u> GF and L1 north oriented windows are suitably shaded by the overhanging slab of the floor.  <u>Building B</u> L2 north oriented windows are shaded by 780mm deep overhangs.

Council Best Practice Standard

Criteria		Development Provision
		 Building B East and west oriented windows are suitably shaded by vertical elements.  Building C1 and C2 GF- L2 north, east and west oriented windows are suitably shaded by 800mm deep vertical elements  Building C1 and C2 L3 north, east and west oriented are suitably recessed by min. 700mm
Thermal Comfort –	To provide comfortable	The development is provided with a comprehensive shading strategy:

Council Best Practice Standard

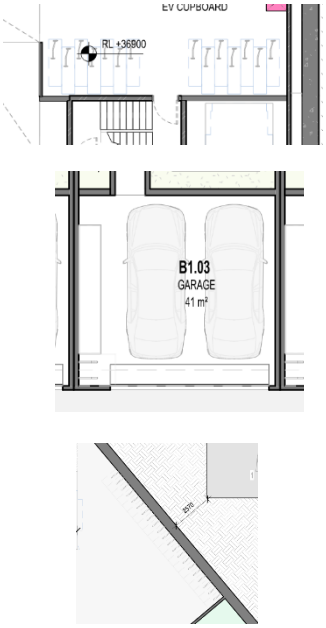
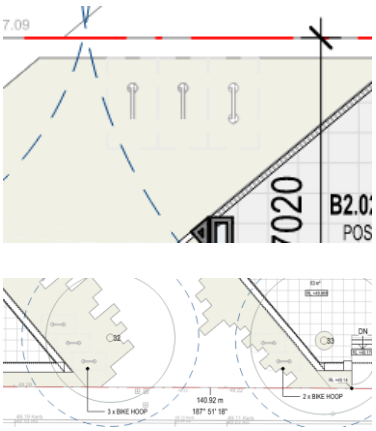
Criteria		Development Provision
Non-Residential	indoor spaces and reduce energy needed for heating and cooling.	 Building D ELC north L1 & L2 oriented windows are shaded by the overhanging roof.  Building D ELC – Ground Floor and L2 west oriented windows are shaded by the overhanging roof above Note: Building A is excluded from shading requirements based on heritage grounds.
		None of the regular use areas of the commercial areas are provided with ceiling fans.
Air Quality – Non-Residential	All paints and adhesives meet the maximum total indoor pollutant emission limits.	All internally applied paints adhesives and sealants are to have a low or ultra-low VOC content in line with Green Star Buildings V1 Credit 13.
	All carpet meets the maximum total indoor pollutant emission limits.	All internally applied carpets are to have a low VOC content in line with Green Star Buildings V1 Credit 13.
	All engineered wood meets the maximum total indoor pollutant emission limits.	All internally applied engineered wood products are to have low formaldehyde levels in line with Green Star Buildings V1 Credit 13.

Transport

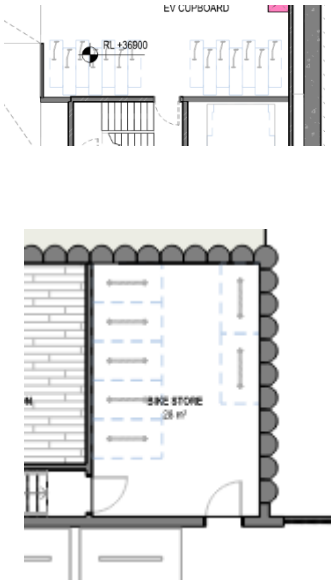
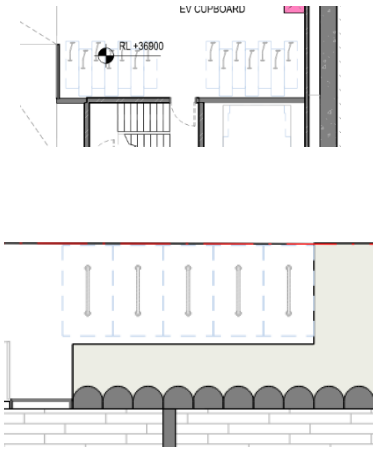
Council ESD objectives:

- To minimise car dependency.
- To ensure that the built environment is designed to promote the use of public transport, walking and cycling.

Council Best Practice Standard

Criteria		Development Provision	
Bicycle Parking – Residential & Residential Visitors	To encourage and recognise initiatives that facilitate cycling.	 Building A: 24 x secure residential spaces Building B: 44 x secure residential spaces Building C1 and C2: 78 x secure residential spaces including 37 x vertical and 41 x over bonnet spaces This will provide a ratio of approximately 1 resident bicycle space for every apartment.	 Building A: 3 x residential visitor spaces Building B: 6 x residential visitor spaces Building C1 and C2: 10 x residential visitor spaces This will provide a ratio of approximately 1 visitor bicycle space for every 5 apartments/TH.

Council Best Practice Standard

Criteria		Development Provision	
Bicycle Parking – Non-Residential & Non-Residential Visitors	To encourage and recognise initiatives that facilitate cycling.		
		<u>Building A:</u> 12 x secure non-residential spaces <u>Building D:</u> 20 x secure non-residential spaces This represents a 50% increase over the planning scheme requirements.	<u>Building A:</u> 13 x non-residential visitor spaces <u>Building D:</u> 10 x non-residential visitor spaces This represents a 50% increase over the planning scheme requirements.
End of Trip Facilities – Non-Residential	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking and cycling.	Nil.	

Council Best Practice Standard

Criteria		Development Provision
Electric Vehicle Infrastructure	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking and cycling.	One charging point for electrical vehicles is integrated in the proposed development. Future infrastructure for electrical charging points is incorporated in the services design including dedicated electrical distribution boards (DB-EV) for EV charging on every floor of the parking lot per NCC 2022 Table J9D4. Each DB-EV must be fitted with a charging control system with the ability to manage and schedule charging of electric vehicles in response to total building demand. When associated with a Class 2 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 11:00 pm to 7:00 am daily. Additionally, each DB-EV must be sized to support the future installation of a 7 kW (32 A) type 2 electric vehicle charger in 100% of the car parking spaces associated with a Class 2 building.
Car Share Scheme	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking and cycling.	The proposed development will integrate a formal car sharing scheme into the development.
Motorbikes / Mopeds	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking and cycling.	Min. 5% of vehicle parking spaces to be design for motorbike spaces.

Materials

ESD objectives:

- Use of low embodied energy materials.
- Encourage use of recycled and reusable materials in building construction and undertake adaptive reuse of buildings, where practical.

Council Best Practice Standard

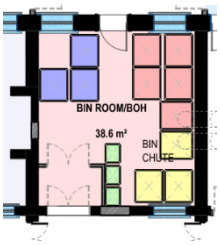
Criteria		Development Provision
Embodied Energy	Limited use of high embodied energy metals and materials, especially in a design with intended high churn (e.g. retail)	The design will seek to limit the use of high embodied energy metal finishes. Concrete mixes used within the project will seek to reduce Portland cement and aggregate content where deemed appropriate by the structural engineer.
Structural and Reinforcing Steel	Commitment to source structural and reinforcing steel from a responsible steel maker	The building's steel (by mass) is to be sourced from a Responsible Steel Maker with: • a currently valid and certified ISO 14001 Environmental Management System (EMS) in place; and • is a member of the World Steel Association's (WSA) Climate Action Programme (CAP)
Sustainable Timber	Commitment to source timber from sustainably managed source, with proof of audit trail.	Where timber is to be used, such timbers are to accord with the GBCA's 'Essential' criteria for forest certification. This may include FSC and / or PEFC Certification which are both internationally recognised schemes ensuring that timber is sourced from sustainable sources. Alternatively, recycled timber will be used.
PVC	Commitment to source best practice PVC products	Permanent formwork, pipes, flooring, blinds and cables in the project will seek to comply with the following: • Meet the GBCA's Best Practice Guidelines for PVC. or; • The supplier holds a valid ISO140001 certification.
Sustainable Products	Commitment to source products that meet the transparency and sustainability requirements	The project will incorporate products that meet the transparency and sustainability requirements where deemed appropriate. This includes the following: reused products, recycled content products, environmental product declarations, third party certified and stewardship programs.

Waste Management

Council ESD objectives:

- To ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development.
- To ensure long term reusability of building materials.
- To meet Councils' requirement that all multi-unit developments must provide a Waste Management Plan in accordance with the *Guide to Best Practice for Waste Management in Multi-unit Developments 2010*, published by Sustainability Victoria.

Council Best Practice Standard

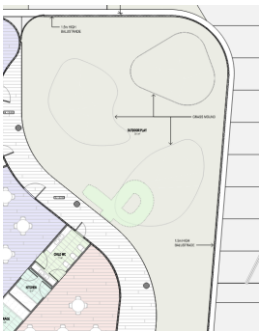
Criteria		Development Provision
Building Re-use	To ensure waste avoidance, reuse and recycling during the design.	At least 30% of the existing structure is re-used.
Construction and Demolition Waste	To reduce construction waste going to landfill	At least 90% of the waste generated during construction and demolition has been diverted from landfill.
Food & Garden Waste	To ensure waste avoidance, reuse and recycling during the operational life of the building.	Green waste storage is provided in the dedicated bin rooms of each building.
Convenience of Recycling	To ensure waste avoidance, reuse and recycling during the operational life of the building.	   (Typical) Separate general, recycling and organic waste storage will be provided at the dedicated bin rooms of each building. Kitchen joinery for the residential units is to provide appropriate spatial allowance for food and organics, general and recycling waste collection.

Urban Ecology

Council ESD objectives:

- To protect and enhance biodiversity.
- To provide sustainable landscaping.
- To protect and manage all remnant indigenous plant communities.
- To encourage the planting of indigenous vegetation.

Council Best Practice Standard

Criteria		Development Provision
Communal Space	To encourage and recognise initiatives that facilitate interaction between building occupants.	Min. 443m^2 of communal space will be provided. Communal space will include the following amenities: outdoor spaces at GF, communal roof terraces at Building C and 514m^2 outdoor play area at Building D.  Communal outdoor play space provided at Building D.
Vegetation	To encourage and recognise the use of vegetation and landscaping within and around developments.	Planter boxes are to be located at Building B and C (1 and 2) Landscaped area is to be located throughout the site. The total area of vegetation is 30% of the site area.
Green Walls / Roof	To encourage the appropriate use of green roofs, walls and facades to mitigate the impact of the urban heat island effect.	The proposed development will incorporate a green wall i.e. creepers.

Council Best Practice Standard

Criteria		Development Provision
Private Open Space - Balcony / Courtyard Ecology	To encourage plants in a healthy ecological context to be grown on balconies and in courtyards.	All balconies or private open space have been provided with a tap and floor waste allowing residents to cultivate their own gardens.
Food Production - Residential	To encourage the production of fresh food on-site.	Min. 64m2 of communal food production area will be provided throughout the site.
Heat Island Effect	To reduce the contribution of the project site to the 'heat island effect	Roofs are to have a three year SRI of minimum 60 Unshaded hard-scaping elements are to have a three year SRI of minimum 40.

Innovation

Council ESD objectives:

- To encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

Council Best Practice Standard

Criteria		Development Provision
Smart Building Communication App	To enable sustainable building management through improved resident communication.	Building smart phone app to facilitate communication between facility management team and residents and between residents.
Digital Noticeboard	To encourage sustainable behaviour through accessible, real-time information in shared spaces.	A digital noticeboard in the lobby or lift to include PTV timetable/map, weather forecast, environmental reminders, real-time and cumulative solar PV output, and rainwater harvested.
IEQ Sensors	To deliver healthy spaces.	IEQ sensors are to be installed to all regular use areas. The sensors are to measure at a minimum VOC levels, humidity, PPM and temperature.
ESD Checkpoint during Construction Phase	To ensure that all ESD items are suitably installed and incorporated during construction.	An ESD professional will be engaged throughout the design and construction process. The ESD professional will perform a minimum of 2 site inspections during the construction phase to ensure suitable implementation of the ESD initiatives. Any deficiencies compared to the endorsed SMP will be escalated to the project manager and resolved. The checkpoint assessments will be undertaken at two stages as follows: • Site Inspection 1: Prior to installation of internal linings. • Site inspection 2: At the time of project completion.

Appendices

Appendix A: WSUD Response

Site layout Plan

The following architectural mark-up illustrates the rainwater collection and impervious areas of the proposed development site.

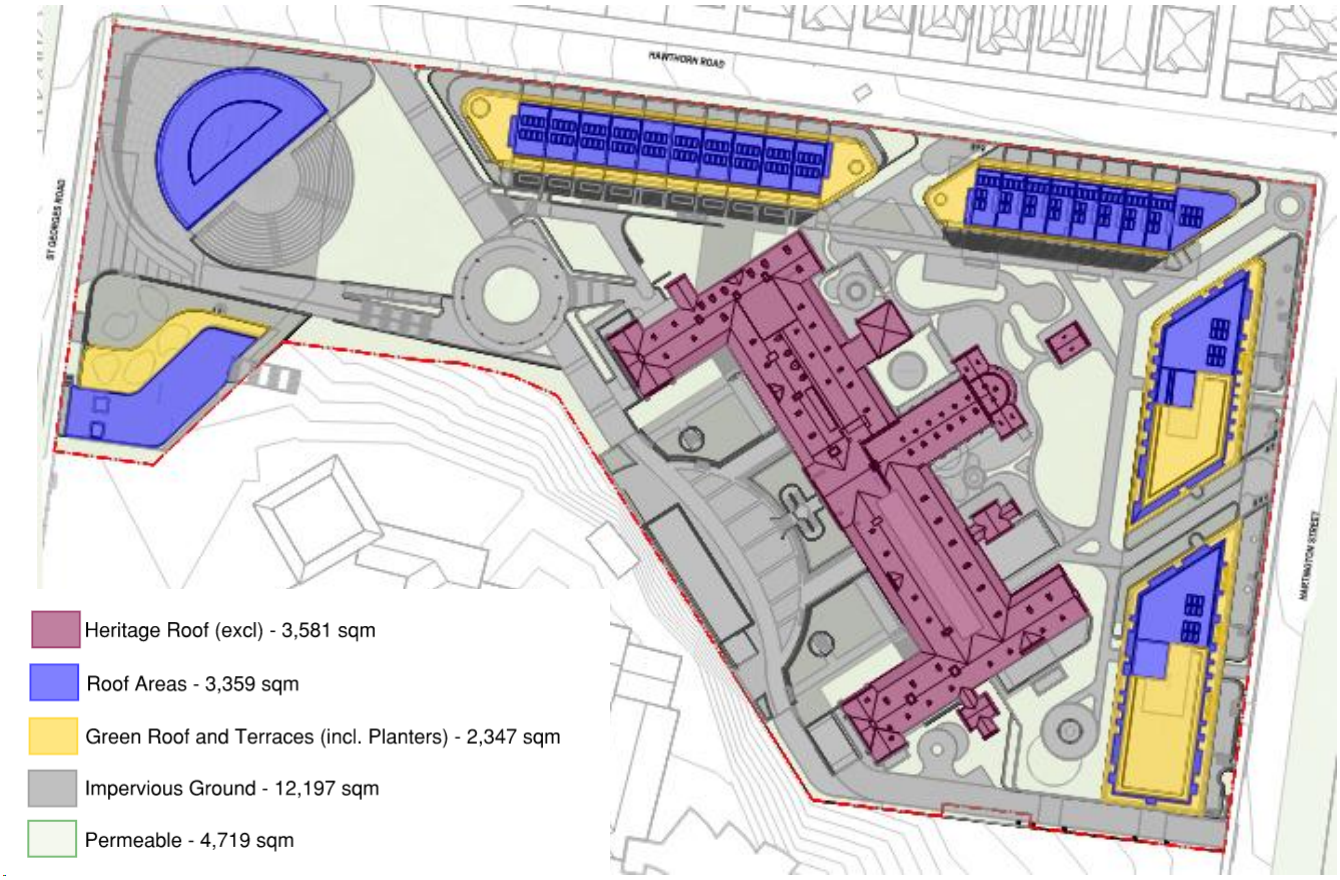


Figure 1 - Mark-up of water catchment and impervious areas

Weather File

Rainfall Station	Time Step
Melbourne City	6 minutes

Demand Inputs

Building B

A 60,000-litre rainwater tank is to be connected to all toilets and landscape irrigation. The following demand assumptions have been included in the modelling:

	Toilet Flushing
Assumption	• Total 66 occupants • 20L per day per occupant for toilet flushing.
Volume (kL/yr)	481.8kL

The tank is also to be connected to the landscape irrigation with a total annual demand of 2,915.2kL/yr. The following monthly demand assumptions have been included in the modelling:

Monthly Demand	Percentage of Annual Demand (%)
January	15
February	13
March	7
April	7
May	7
June	3
July	3
August	3
September	9
October	9
November	9
December	15

Building C (1 and 2)

A 60,000-litre rainwater tank is to be connected to all toilets and landscape irrigation. The following demand assumptions have been included in the modelling:

	Toilet Flushing
Assumption	• Total 120 occupants • 20L per day per occupant for toilet flushing.
Volume (kL/yr)	876kL

The tank is also to be connected to the landscape irrigation with a total annual demand of 2,820.2kL/yr. The following monthly demand assumptions have been included in the modelling:

Monthly Demand	Percentage of Annual Demand (%)
January	15
February	13
March	7
April	7
May	7
June	3
July	3
August	3
September	9
October	9
November	9
December	15

Building D

A 60,000-litre rainwater tank is to be connected to all toilets and landscape irrigation. The following demand assumptions have been included in the modelling:

	Toilet Flushing
Assumption	• Total 329 occupants. • 20L per day per occupant for toilet flushing.
Volume (kL/yr)	2,569.6kL

The tank is also to be connected to the landscape irrigation with a total annual demand of 2,446.2kL/yr. The following monthly demand assumptions have been included in the modelling:

Monthly Demand	Percentage of Annual Demand (%)
January	15
February	13
March	7
April	7
May	7
June	3
July	3
August	3
September	9
October	9
November	9
December	15

MUSIC Model

A compliant MUSIC result can be achieved by implementing the following initiatives:

- Building A roof is excluded based on heritage grounds.
- Rainwater collection off Building B non-trafficable roof areas to be directed into a 60,000-litre rainwater tank connected to all toilets and landscape irrigation.
- Rainwater collection off Building B terraces (including planters) is to be directed into raingardens totalling ≥17m^2, minimum 1,250mm deep raingarden with 300mm of extended detention.
- Rainwater collection off Building C1 and C2 non-trafficable roof areas is to be directed into a 60,000-litre rainwater tank connected to all toilets and landscape irrigation.
- Rainwater collection off Building C1 and C2 terraces (including planters) is to be directed into raingardens totalling ≥25m^2, minimum 1,250mm deep raingarden with 300mm of extended detention.
- Rainwater collection off Building D non-trafficable roof areas is to be directed into a 60,000-litre rainwater tank connected to all toilets and landscape irrigation.
- Rainwater collection off Building D green roof is to be directed in a ≥5m^2, minimum 1,250mm deep raingarden with 300mm of extended detention.
- Rainwater collection off min. 10,000m2 of impervious ground area is to be directed into raingardens totalling ≥200m^2, minimum 1,250mm deep raingarden with 300mm of extended detention.

MUSIC Results

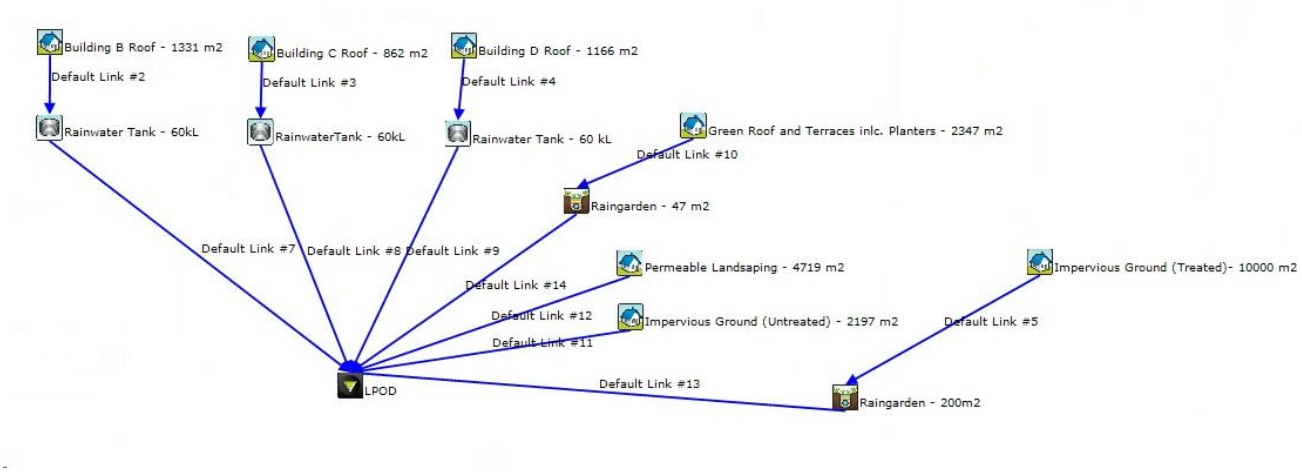


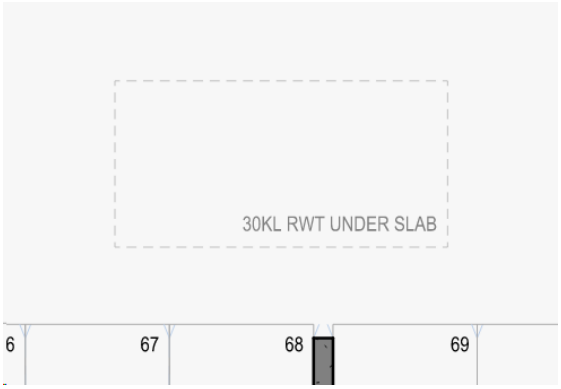
Figure 2 – MUSIC model

	CSIRO performance objectives (reduction %)	7 Hartington St (reduction %)
Suspended Solids	80%	80.01%
Total Nitrogen	45%	61.23%
Total Phosphorus	45%	62.39%
Gross Pollutants	70%	87.73%

Table 1 - Stormwater quality performance objectives

WSUD Strategy

The development will include the provision of 6 x 30,000-litre rainwater tanks (totalling 180,000-litres) and associated pump. The rainwater tank is to be connected to all Building B, C (1 and 2) and D toilets and landscape irrigation.



(Typical)

Figure 2 – Location Rainwater Tanks

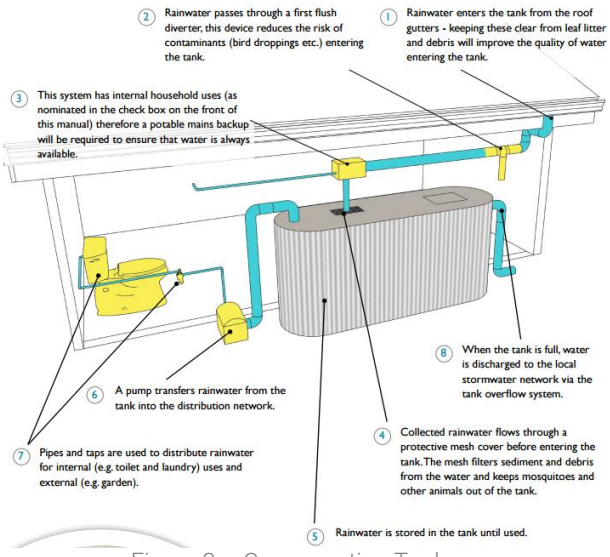


Figure 3 – Cross-section Tank
(City of Port Phillip)

Furthermore, raingardens totalling ≥247m^2, minimum 1,250mm deep raingarden with 300mm of extended detention is to be provided. Rainwater collected from Building B terraces (including planters), Building C1 and C2 terraces (including planters), Building D green roof and min. 10,000m^2 of impervious ground area is to be directed into the raingardens for treatment prior to discharge into the stormwater system.

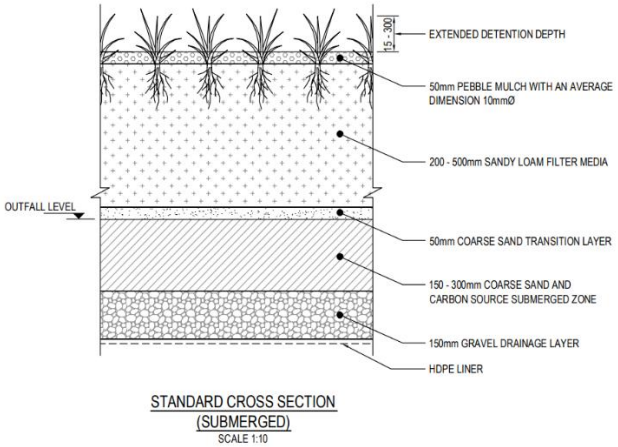


Figure 5 – Cross-section Raingarden
(City of Moreland)

Rainwater Reuse

Building B:

Inputs

Catchment Area	1331 sqm
Number of Occupants	66
Bin Washout	No
Irrigation Area	2787 sqm
Tank Capacity	60,000 Litre

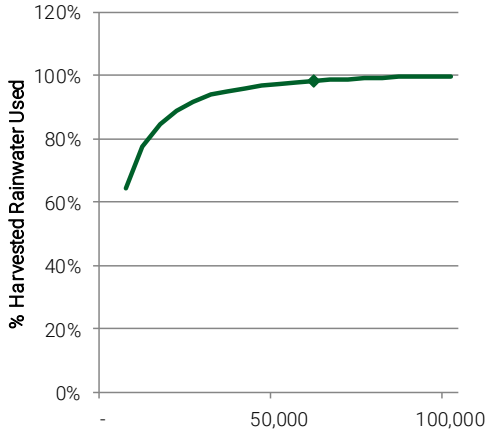
Outputs

% Served by Rainwater	14.8%
% Harvested Rainwater Used	98.4%
Total Potable Water Saved	492,489 Litre

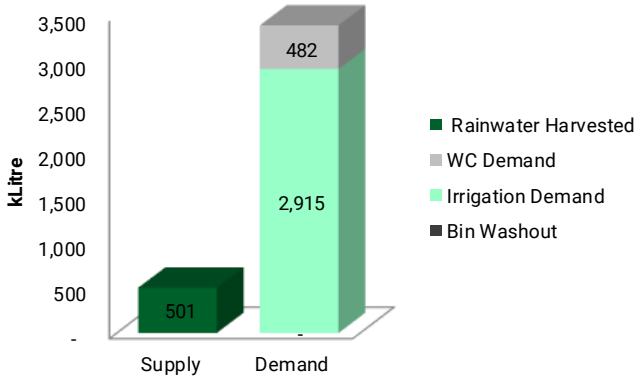
Rainwater Balance (Monthly Averages)

Month	Rainwater Harvested (L)	Irrigation Demand (L)	WC Demand (L)	Bin Washout (L)
Jan	31,891	431,272	40,920	0
Feb	44,284	390,680	36,960	0
Mar	37,264	200,405	40,920	0
Apr	45,749	191,851	39,600	0
May	37,838	197,961	40,920	0
Jun	42,983	90,208	39,600	0
Jul	29,677	91,910	40,920	0
Aug	38,389	91,910	40,920	0
Sep	40,516	263,686	39,600	0
Oct	45,542	268,661	40,920	0
Nov	61,545	262,028	39,600	0
Dec	44,908	434,610	40,920	0
Total	500,587	2,915,184	481,800	0
Equivalent STORM tool		399		0

Tank Sizing



Supply-Demand



Building C (1 and 2):

Inputs

Catchment Area	862 sqm
Number of Occupants	120
Bin Washout	No
Irrigation Area	2697 sqm
Tank Capacity	60,000 Litre

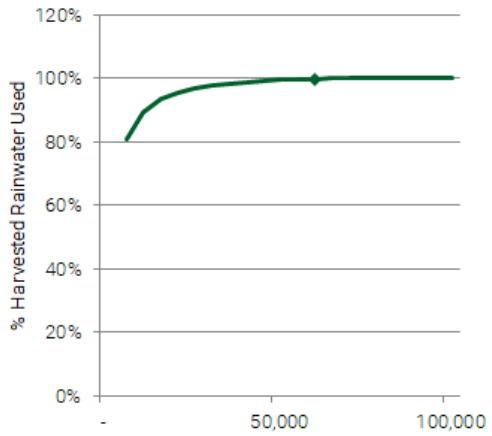
Outputs

% Served by Rainwater	8.9%
% Harvested Rainwater Used	99.7%
Total Potable Water Saved	327,460 Litre

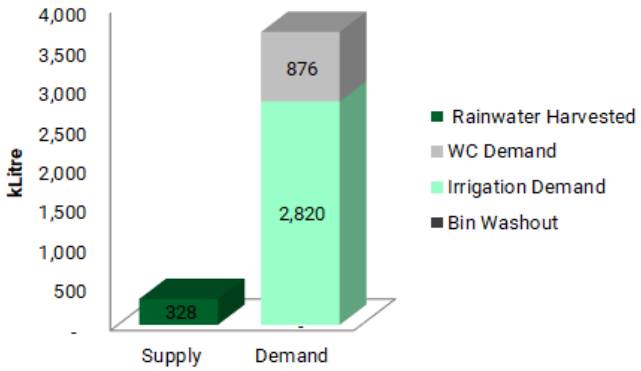
Rainwater Balance (Monthly Averages)

Month	Rainwater Harvested (L)	Irrigation Demand (L)	WC Demand (L)	Bin Washout (L)
Jan	20,654	417,227	74,400	0
Feb	30,126	377,956	67,200	0
Mar	24,724	193,878	74,400	0
Apr	30,397	185,603	72,000	0
May	24,505	191,514	74,400	0
Jun	27,960	87,271	72,000	0
Jul	19,220	88,917	74,400	0
Aug	24,862	88,917	74,400	0
Sep	26,239	255,099	72,000	0
Oct	29,526	259,912	74,400	0
Nov	39,859	253,494	72,000	0
Dec	30,321	420,456	74,400	0
Total	328,393	2,820,245	876,000	0
Equivalent STORM tool		386		0

Tank Sizing



Supply-Demand



Building D:

Inputs

Catchment Area	1166 sqm
Number of Occupants	352
Bin Washout	No
Irrigation Area	2339 sqm
Tank Capacity	60,000 Litre

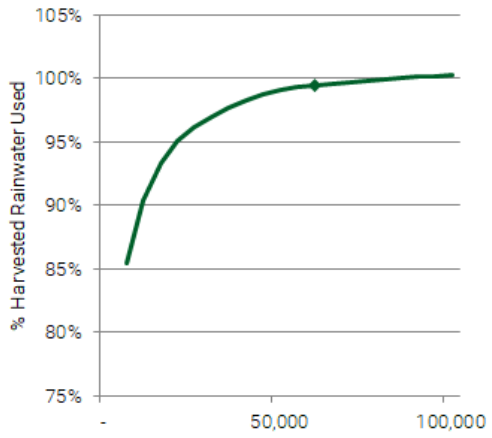
Outputs

% Served by Rainwater	8.8%
% Harvested Rainwater Used	99.4%
Total Potable Water Saved	440,410 Litre

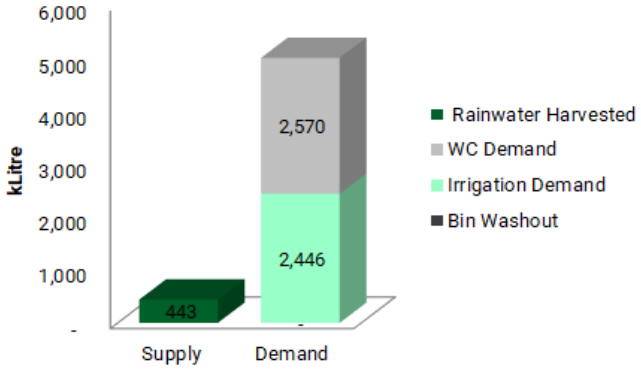
Rainwater Balance (Monthly Averages)

Month	Rainwater Harvested (L)	Irrigation Demand (L)	WC Demand (L)	Bin Washout (L)
Jan	27,937	361,886	218,240	0
Feb	40,110	327,824	197,120	0
Mar	33,443	168,162	218,240	0
Apr	41,116	160,985	211,200	0
May	33,148	166,112	218,240	0
Jun	37,821	75,695	211,200	0
Jul	25,998	77,123	218,240	0
Aug	33,630	77,123	218,240	0
Sep	35,493	221,262	211,200	0
Oct	39,939	225,437	218,240	0
Nov	53,916	219,871	211,200	0
Dec	40,482	364,687	218,240	0
Total	443,034	2,446,167	2,569,600	0
Equivalent STORM tool		335		0

Tank Sizing



Supply-Demand



Site Management Statement

Prevention of litter, sediments and pollution entering the stormwater system in the construction phase is to be addressed through introduction of the following initiatives:

- Buffer strips to pervert stormwater runoff.
- Gravel sausage filters at stormwater inlets to prevent silt, mud or any other site contaminant from entering the stormwater system.
- Silt fences under grates at surface entry inlets to prevent sediment from entering the stormwater system.
- Temporary rumble grids to vibrate mud and dirt off vehicles prior to leaving the site.
- The site is to be kept clean from any loose rubbish or rubble.
- Introduction of offsite construction for building elements where deemed appropriate.

The builder is to include these initiatives in the construction management plan and address these during site induction of relevant contractors.

Maintenance Program

The following maintenance requirements are to be programmed to ensure the rainwater tank operates effectively:

Item	Description	Maintenance Interval
Gutters and downpipes	Eave and box gutters are to be inspected and cleaned to prevent large debris from being washed into rainwater tank.	3 monthly
First flush system (as applicable)	Inspect and clean excess sediment from diverter chamber to prevent blockages.	3 monthly
Tank contents	Siphon the tank to inspect contents. If sludge is present, a plumber will be required to drain tank contents and clean the tank.	2 to 3 years
Tank structure	Inspect tank externally for leaks	Yearly
Pump system	Inspect pump wiring, plumbing and check for smooth operation.	6 monthly
Plumbing	Plumbing and fixtures connected to the rainwater tank is to be inspected for leaks.	Yearly

The following maintenance requirements are to be programmed to ensure the raingarden operates effectively:

Item	Description	Maintenance Interval
Kerbing and paved area	Remove rubbish, leaves and other debris from the surrounding drainage area.	3 monthly
Ponding area	Clear inflow points of built up sediment, rubbish and leaves. Check for erosion or gouging – repair if necessary.	3 monthly
Mulch layer (bark, pebbles, etc.)	Remove rubbish, leaves and other debris. After storm events mulch may need to be redistributed or added around inflow points.	3 monthly
Plants	Water establishing plants monthly during extended dry periods. Check plant health and replace dead plants as necessary. Use native species to suit garden conditions (e.g. full sun or shaded). Remove weeds – do not use herbicides, pesticides and fertilisers as these chemicals will pollute the stormwater runoff.	3 monthly
Rain garden soil mix	Check soil level is below surrounding hard surface level and overflow grate. Use drainage test to check soil is free draining.	Annually
Underdrain system	Use inspection well (if present) to check underdrain is working properly. Check rain garden draining freely using drainage test.	Annually

Appendix B: Preliminary FirstRate5 Certificates

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 8 Aug 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	B1.01, 7 Hartington Street, Northcote, VIC, 3070
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	-
Prepared by	-

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	208.2	suburban
Unconditioned*	250	**NatHERS climate zone**
Total	458.2	21 Melbourne RO
Garage	39.5	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

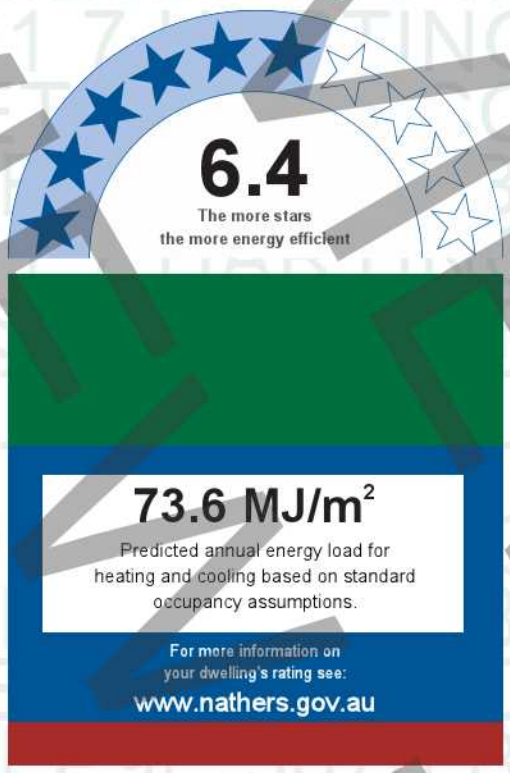
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	51.6	21.9
Load limits	55	38

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage 1	garage	39.5
Theatre	living	12.6
Stairs-Basement	dayTime	3.1
Hall-Basement	dayTime	8.2
Lift-Basement	dayTime	1.3
Void	dayTime	4.1
Shared Basement Driveway	unconditioned	170
Adjacent Garage	unconditioned	37.1
Lift-GF	dayTime	1.3
Stairs-GF	dayTime	3.2
Powder	unconditioned	3.4
Study	dayTime	6.9
Hall-GF	dayTime	10.3
Kitchen/Living 14	kitchen	69.9
Pantry	dayTime	3.2
Ensuite	nightTime	10.6
WIR	dayTime	7.3
Bedroom 1	bedroom	20.9
Bedroom 2	bedroom	13.9
Bath	dayTime	7.4
Bedroom 3	bedroom	13.7
Lift-L1	dayTime	1.3
Stairs-L1	dayTime	3.2
Laundry	dayTime	2.7
Hall-L1	dayTime	12.2
Stairs-Roof	dayTime	4.6
Lift-Roof	dayTime	1.3

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

Substitution tolerance ranges

*Refer to glossary.

Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
CAP-116-13 B	Capral Futureline 54W Awning Window DG 6EcAdGy-12-6	3.07	0.22	0.21	0.23
CAP-127-32 A	Capral : Urban 584 Sliding Door DG 015_AGG MAX Clr 6_8_4	2.79	0.24	0.23	0.25
CAP-055-109 A	Capral 419 Flushline Fixed Window DG 021_AGG MAX Clr 6_12_6	2.65	0.25	0.24	0.26

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Powder	CAP-116-13 B	Opening 40	2700	1155	awning	60.0	SW	No
Study	CAP-116-13 B	Opening 39	2700	1155	awning	60.0	SW	No
Kitchen/Living 14	CAP-127-32 A	Opening 28	2700	5210	sliding	45.0	N	No
Kitchen/Living 14	CAP-116-13 B	Opening 29	2700	1684	awning	60.0	N	No
Kitchen/Living 14	CAP-055-109 A	Opening 30	2700	706	fixed	0.0	N	No
Kitchen/Living 14	CAP-055-109 A	Opening 31	2700	918	fixed	0.0	NW	No
Kitchen/Living 14	CAP-055-109 A	Opening 32	2700	899	fixed	0.0	NW	No
Kitchen/Living 14	CAP-055-109 A	Opening 33	2700	892	fixed	0.0	NW	No
Kitchen/Living 14	CAP-055-109 A	Opening 34	2700	693	fixed	0.0	W	No
Kitchen/Living 14	CAP-055-109 A	Opening 35	2700	705	fixed	0.0	W	No
Kitchen/Living 14	CAP-055-109 A	Opening 36	2700	775	fixed	0.0	W	No
Kitchen/Living 14	CAP-055-109 A	Opening 37	2700	449	fixed	0.0	SW	No
Pantry	CAP-116-13 B	Opening 38	2700	2240	awning	30.0	SW	No
Ensuite	CAP-055-109 A	Opening 41	2200	1465	fixed	0.0	N	No
Ensuite	CAP-116-13 B	Opening 58	2200	2505	awning	30.0	N	No
Bedroom 1	CAP-116-13 B	Opening 43	2200	2306	awning	60.0	N	No
Bedroom 1	CAP-055-109 A	Opening 44	2200	930	fixed	0.0	N	No
Bedroom 1	CAP-055-109 A	Opening 45	2200	857	fixed	0.0	NW	No
Bedroom 1	CAP-055-109 A	Opening 46	2200	902	fixed	0.0	NW	No
Bedroom 1	CAP-055-109 A	Opening 47	2200	771	fixed	0.0	W	No
Bedroom 1	CAP-055-109 A	Opening 48	2200	743	fixed	0.0	W	No
Bedroom 1	CAP-055-109 A	Opening 49	2200	684	fixed	0.0	W	No
Bedroom 1	CAP-055-109 A	Opening 50	2200	494	fixed	0.0	SW	No
Bedroom 2	CAP-055-109 A	Opening 51	2200	2049	fixed	0.0	SW	No
Bedroom 2	CAP-116-13 B	Opening 57	2200	1061	awning	60.0	SW	No
Bedroom 3	CAP-116-13 B	Opening 52	2200	1292	awning	60.0	S	No

Roof window* *type and performance value*

*Refer to glossary.

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 %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Hall-GF	2100	1230	100.0	S
Stairs-Roof	2100	679	100.0	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	7 Hartington - Concrete Ext	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
2	7 Hartington - Plasterboard Int	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5)	No
3	7 Hartington - Retaining	0.5	Medium		No
4	FR5 - Internal Plasterboard Stud Wall	0.5	Medium		No

External wall *schedule*

*Refer to glossary.

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage 1	1	2760	307	NE	0	Yes
Garage 1	1	2760	460	NE	0	Yes
Garage 1	1	2760	4190	N	0	No
Garage 1	1	2760	635	N	0	Yes
Garage 1	1	2760	646	NW	0	Yes
Garage 1	1	2760	643	NW	0	Yes
Garage 1	1	2760	359	W	0	Yes
Garage 1	2	2760	2715	E	0	No
Garage 1	3	2760	3480	E	0	No
Stairs-Basement	2	2760	1702	E	0	No
Hall-Basement	2	2760	1027	E	0	No
Shared Basement Driveway	1	2760	7129	N	0	Yes
Shared Basement Driveway	1	2760	6996	W	0	No
Shared Basement Driveway	1	2760	15090	SW	0	No
Shared Basement Driveway	1	2760	1542	SW	0	No
Shared Basement Driveway	1	2760	1819	SW	0	No
Shared Basement Driveway	1	2760	7208	S	0	No
Shared Basement Driveway	4	2760	5998	E	0	No
Adjacent Garage	4	2760	5943	E	0	No
Adjacent Garage	4	2760	6236	N	0	No
Lift-GF	2	2700	1254	E	0	No
Stairs-GF	2	2700	3561	E	0	No
Powder	1	2700	2484	SW	483	Yes
Powder	1	2700	548	SW	483	Yes
Powder	4	2700	463	S	0	No
Study	1	2700	678	SW	404	Yes
Study	1	2700	1982	SW	0	Yes
Study	4	2700	164	S	0	Yes
Hall-GF	1	2700	584	S	0	No
Hall-GF	1	2700	1664	S	1159	Yes
Hall-GF	2	2700	3025	E	0	No
Hall-GF	2	2700	815	E	0	No
Kitchen/Living 14	2	2700	3088	E	0	No
Kitchen/Living 14	1	2700	701	E	5919	Yes
Kitchen/Living 14	1	2700	5933	N	269	Yes
Kitchen/Living 14	1	2700	2224	N	269	Yes
Kitchen/Living 14	1	2700	716	N	347	Yes

*Refer to glossary.

Kitchen/Living 14	1	2700	944	NW	408	Yes
Kitchen/Living 14	1	2700	903	NW	376	No
Kitchen/Living 14	1	2700	912	NW	399	No
Kitchen/Living 14	1	2700	706	W	370	No
Kitchen/Living 14	1	2700	713	W	398	Yes
Kitchen/Living 14	1	2700	784	W	357	Yes
Kitchen/Living 14	1	2700	813	SW	373	Yes
Kitchen/Living 14	1	2700	1038	SW	373	Yes
Pantry	1	2700	3570	SW	550	Yes
Ensuite	2	2700	1151	E	0	No
Ensuite	1	2700	687	E	5827	Yes
Ensuite	1	2700	5154	N	478	Yes
Bedroom 1	1	2700	488	N	495	Yes
Bedroom 1	1	2700	732	N	495	No
Bedroom 1	1	2700	2391	N	495	Yes
Bedroom 1	1	2700	942	N	395	No
Bedroom 1	1	2700	866	NW	298	No
Bedroom 1	1	2700	914	NW	433	No
Bedroom 1	1	2700	772	W	324	No
Bedroom 1	1	2700	750	W	504	No
Bedroom 1	1	2700	690	W	479	Yes
Bedroom 1	1	2700	506	SW	433	Yes
Bedroom 1	1	2700	169	S	0	Yes
Bedroom 2	1	2700	3737	SW	544	Yes
Bedroom 2	1	2700	156	S	0	Yes
Bath	1	2700	1040	SW	0	Yes
Bath	1	2700	4440	SW	490	Yes
Bedroom 3	1	2700	929	S	0	No
Bedroom 3	1	2700	1915	S	1149	Yes
Bedroom 3	2	2700	3010	E	0	No
Bedroom 3	4	2700	195	W	0	Yes
Bedroom 3	1	2700	1229	SW	645	No
Lift-L1	2	2700	1262	E	0	No
Stairs-L1	2	2700	3578	E	0	No
Hall-L1	2	2700	959	E	0	No
Hall-L1	2	2700	1693	E	0	No
Stairs-Roof	1	2400	4714	W	0	No
Stairs-Roof	2	2400	4714	E	0	No
Stairs-Roof	1	2400	991	N	0	No

*Refer to glossary.

Lift-Roof	1	2400	1251	W	0	No
Lift-Roof	1	2400	1016	S	0	No
Lift-Roof	2	2400	1251	E	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	7 Hartington - Plasterboard Int	56.3	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	277.4	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage 1	FR5 - 200mm concrete slab	17.4	Enclosed	R0.0	none
Garage 1	FR5 - 200mm concrete slab	22.2	Enclosed	R0.0	none
Theatre	FR5 - 200mm concrete slab	12.6	Enclosed	R3.0	Carpet
Stairs-Basement	FR5 - 200mm concrete slab	3.1	Enclosed	R3.0	Timber
Hall-Basement	FR5 - 200mm concrete slab	8.2	Enclosed	R3.0	Timber
Lift-Basement	FR5 - 200mm concrete slab	1.3	Enclosed	R3.0	none
Void	FR5 - 200mm concrete slab	4.1	Enclosed	R3.0	none
Shared Basement Driveway	FR5 - 200mm concrete slab	55	Enclosed	R0.0	none
Shared Basement Driveway	FR5 - 200mm concrete slab	115	Enclosed	R0.0	none
Adjacent Garage	FR5 - 200mm concrete slab	37.1	Enclosed	R0.0	none
Lift-GF	FR5 - 200mm concrete slab	1.3	Enclosed	R0.0	none
Stairs-GF	FR5 - 200mm concrete slab	3.2	Enclosed	R0.0	Timber
Powder	FR5 - 200mm concrete slab	3.4	Enclosed	R4.6	Tiles
Study	FR5 - 200mm concrete slab	0	Enclosed	R0.0	Tiles
Study	FR5 - 200mm concrete slab	6.9	Enclosed	R4.6	Tiles
Hall-GF	FR5 - 200mm concrete slab	4.1	Enclosed	R0.0	Tiles
Hall-GF	FR5 - 200mm concrete slab	6.3	Enclosed	R4.6	Tiles
Kitchen/Living 14	FR5 - 200mm concrete slab	17.9	Enclosed	R0.0	Timber
Kitchen/Living 14	FR5 - 200mm concrete slab	42.2	Enclosed	R4.6	Timber
Kitchen/Living 14	FR5 - 200mm concrete slab	5.9	Enclosed	R4.6	Tiles
Kitchen/Living 14	FR5 - 200mm concrete slab	3.9	Enclosed	R0.0	Tiles
Pantry	FR5 - 200mm concrete slab	3.2	Enclosed	R4.6	Tiles
Ensuite	7 Hartington St - Timber Flooring Ins	10.6	Enclosed	R5.0	Tiles
WIR	7 Hartington St - Timber Flooring Ins	7.3	Enclosed	R5.0	Timber
Bedroom 1	7 Hartington St - Timber Flooring Ins	10.7	Enclosed	R5.0	Timber

*Refer to glossary.

Bedroom 1	7 Hartington St - Timber Flooring Ins	10.2	Enclosed	R5.0	Timber
Bedroom 2	7 Hartington St - Timber Flooring Ins	13.9	Enclosed	R5.0	Timber
Bath	7 Hartington St - Timber Flooring Ins	7.4	Enclosed	R5.0	Tiles
Bedroom 3	7 Hartington St - Timber Flooring Ins	13.7	Enclosed	R5.0	Timber
Lift-L1	7 Hartington St - Timber Flooring Ins	1.3	Enclosed	R5.0	Timber (Jarrah)
Stairs-L1	7 Hartington St - Timber Flooring Ins	3.2	Enclosed	R5.0	Timber
Laundry	7 Hartington St - Timber Flooring Ins	2.7	Enclosed	R5.0	Tiles
Hall-L1	7 Hartington St - Timber Flooring Ins	1	Enclosed	R5.0	Timber
Hall-L1	7 Hartington St - Timber Flooring Ins	11.2	Enclosed	R5.0	Timber
Stairs-Roof	7 Hartington St - Timber Flooring Ins	4.6	Enclosed	R5.0	Timber
Lift-Roof	7 Hartington St - Timber Flooring Ins	1.3	Enclosed	R5.0	Timber (Jarrah)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage 1	FR5 - 200mm concrete slab	R0.0	No
Garage 1	FR5 - 200mm concrete slab	R4.6	No
Garage 1	Plasterboard	R0.0	No
Theatre	FR5 - 200mm concrete slab	R0.0	No
Theatre	FR5 - 200mm concrete slab	R4.6	No
Stairs-Basement	FR5 - 200mm concrete slab	R0.0	No
Hall-Basement	FR5 - 200mm concrete slab	R0.0	No
Lift-Basement	FR5 - 200mm concrete slab	R0.0	No
Void	FR5 - 200mm concrete slab	R0.0	No
Void	FR5 - 200mm concrete slab	R4.6	No
Shared Basement Driveway	FR5 - 200mm concrete slab	R4.6	No

*Refer to glossary.

Shared Basement Driveway	FR5 - 200mm concrete slab	R4.6	No
Shared Basement Driveway	Plasterboard	R0.0	No
Adjacent Garage	Plasterboard	R0.0	No
Lift-GF	7 Hartington St - Timber Flooring Ins	R5.0	No
Stairs-GF	7 Hartington St - Timber Flooring Ins	R5.0	No
Powder	7 Hartington St - Timber Flooring Ins	R5.0	No
Study	7 Hartington St - Timber Flooring Ins	R5.0	No
Study	7 Hartington St - Timber Flooring Ins	R5.0	No
Hall-GF	7 Hartington St - Timber Flooring Ins	R5.0	No
Hall-GF	7 Hartington St - Timber Flooring Ins	R5.0	No
Kitchen/Living 14	7 Hartington St - Timber Flooring Ins	R5.0	No
Kitchen/Living 14	Plasterboard	R0.0	No
Kitchen/Living 14	7 Hartington St - Timber Flooring Ins	R5.0	No
Kitchen/Living 14	7 Hartington St - Timber Flooring Ins	R5.0	No
Kitchen/Living 14	7 Hartington St - Timber Flooring Ins	R5.0	No
Pantry	7 Hartington St - Timber Flooring Ins	R5.0	No
Ensuite	Plasterboard	R7.0	No
WIR	Plasterboard	R7.0	No
Bedroom 1	Plasterboard	R7.0	No
Bedroom 1	Plasterboard	R7.0	No
Bedroom 2	Plasterboard	R7.0	No
Bath	Plasterboard	R7.0	No
Bedroom 3	Plasterboard	R7.0	No
Lift-L1	7 Hartington St - Timber Flooring Ins	R5.0	No
Stairs-L1	7 Hartington St - Timber Flooring Ins	R5.0	No
Laundry	Plasterboard	R7.0	No
Hall-L1	7 Hartington St - Timber Flooring Ins	R5.0	No
Hall-L1	Plasterboard	R7.0	No

*Refer to glossary.

Stairs-Roof	Plasterboard	R8.3	No
Lift-Roof	Plasterboard	R8.3	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Theatre	5	Downlights	80	80	Sealed
Hall-Basement	3	Downlights	80	80	Sealed
Powder	1	Exhaust Fans	200	200	Sealed
Powder	1	Downlights	80	80	Sealed
Study	2	Downlights	80	80	Sealed
Hall-GF	4	Downlights	80	80	Sealed
Kitchen/Living 14	28	Downlights	80	80	Sealed
Kitchen/Living 14	1	Exhaust Fans	200	200	Sealed
Pantry	1	Downlights	80	80	Sealed
Ensuite	1	Exhaust Fans	200	200	Sealed
Ensuite	4	Downlights	80	80	Sealed
WIR	3	Downlights	80	80	Sealed
Bedroom 1	8	Downlights	80	80	Sealed
Bedroom 2	5	Downlights	80	80	Sealed
Bath	1	Exhaust Fans	200	200	Sealed
Bath	3	Downlights	80	80	Sealed
Bedroom 3	5	Downlights	80	80	Sealed
Laundry	1	Exhaust Fans	200	200	Sealed
Laundry	1	Downlights	80	80	Sealed
Hall-L1	5	Downlights	80	80	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium
Ceil: Ceiling	0.0	0.5	Medium
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium
GreenRoofIntensive:Slab - 500mm Substrate : 200mm:200mm Slab - 500mm Substrate	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

*Refer to glossary.

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
External wall	90 x 40	600	0.75	0
Floor	100 x 50	450	1.50	0
Cathedral ceiling/flat roof	200 x 75	900	1.50	0

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 8 Aug 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	B1.04, 7 Hartington Street, Northcote, VIC, 3070
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	-
Prepared by	-

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	213.2	suburban
Unconditioned*	296.9	**NatHERS climate zone**
Total	510.1	21 Melbourne RO
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

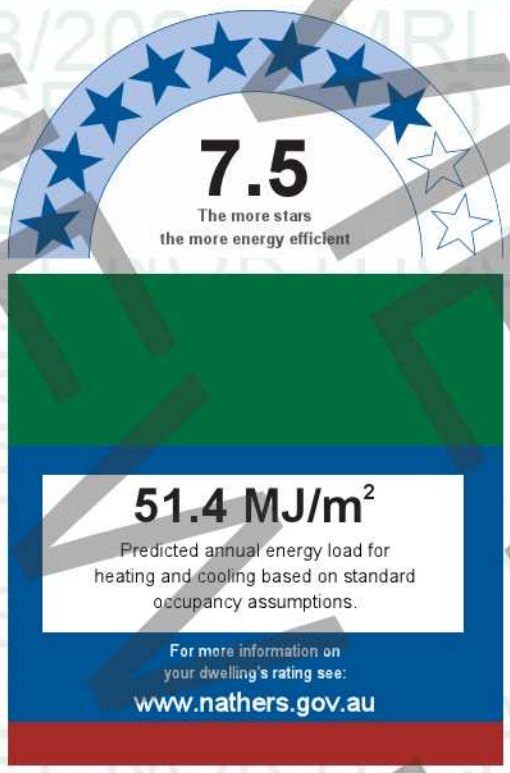
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	32.6	18.8
Load limits	55	38

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	unconditioned	36.7
Theatre	living	18.7
Hall-Basement	dayTime	6.1
Lift-Basement	dayTime	1.4
Stairs-Basement	dayTime	2.1
shared Basement driveway	unconditioned	255.2
Entry-GF	dayTime	6.4
Kitchen-GF	kitchen	8.1
Study-GF	dayTime	4.5
Pantry GF	dayTime	6.8
Powder GF	dayTime	2.9
Lift-GF	dayTime	1.4
Stairs-GF	dayTime	3.3
Kitchen/Living	living	39
Bedroom 1 L1	bedroom	14.6
Bath1 L1	unconditioned	4.9
Laundry L1	dayTime	5.6
Ensuite L1	nightTime	5.1
WIR	nightTime	3.9
Study L1	dayTime	2.2
Master Bed L1	bedroom	15.3
Lift L1	dayTime	1.4
Passage L1	dayTime	15.7
Stairs L1	dayTime	3.3
ENsuite2 L2	nightTime	10.9
Study2 L2	dayTime	7.6
WIR	nightTime	9.3
Master bed2 L2	bedroom	19.4
Lift L2	dayTime	1.4
Stairs L2	dayTime	3.3
Passage L2	dayTime	8.9

Window and glazed door *type and performance*

Default* windows

	Substitution tolerance ranges

*Refer to glossary.

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
CAP-051-06 A	Capral 35 Awning in 400 Frame DG 6EA/12Ar/6	4.42	0.41	0.39	0.43
CAP-041-52 A	Capral 425 Fixed Window DG 6/12Ar/6EA	2.71	0.58	0.55	0.61
CAP-048-06 A	200 Hinged Door into 400 Narrowline DG 6EA-12Ar-6	3.6	0.44	0.42	0.46

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Study-GF	CAP-051-06 A	Opening 24	2000	1961	awning	30.0	S	No
Pantry GF	CAP-051-06 A	Opening 25	2000	700	awning	60.0	S	No
Kitchen/Living	CAP-041-52 A	Opening 26	2700	3596	fixed	0.0	N	No
Kitchen/Living	CAP-048-06 A	Opening 49	2700	1100	casement	90.0	N	No
Bedroom 1 L1	CAP-051-06 A	Opening 29	2000	970	awning	60.0	S	No
Bedroom 1 L1	CAP-041-52 A	Opening 30	2000	2914	fixed	0.0	S	No
Bath1 L1	CAP-051-06 A	Opening 50	2000	1015	awning	60.0	S	No
Master Bed L1	CAP-051-06 A	Opening 28	2000	3443	awning	30.0	N	No
Passage L1	CAP-051-06 A	Opening 27	2000	738	awning	60.0	N	No
ENsuite2 L2	CAP-051-06 A	Opening 43	2700	1146	awning	60.0	S	No
ENsuite2 L2	CAP-041-52 A	Opening 46	2700	2292	fixed	0.0	S	No
Study2 L2	CAP-051-06 A	Opening 44	2700	706	awning	60.0	S	No
Study2 L2	CAP-041-52 A	Opening 47	2700	1331	fixed	0.0	S	No
Master bed2 L2	CAP-051-06 A	Opening 41	2200	3199	awning	30.0	N	No
Passage L2	CAP-048-06 A	Opening 51	2700	1000	casement	90.0	N	No

Roof window* *type and performance value*

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

Substitution tolerance ranges

*Refer to glossary.

Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Entry-GF	2100	934	100.0	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	7 Hartington - Plasterboard Int	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5)	No
2	7 Hartington - BS 1 Retaining	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
3	7 Hartington - Concrete Ext	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
4	FR5 - Internal Plasterboard Stud Wall	0.5	Medium		No
5	7 Hartington - Brick Ext	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2400	5893	E	0	No
Garage	1	2400	5863	W	0	No

*Refer to glossary.

Theatre	1	2400	4899	E	0	No
Theatre	2	2400	3778	N	0	No
Hall-Basement	2	2400	996	N	0	No
Hall-Basement	1	2400	218	W	0	Yes
Hall-Basement	1	2400	940	W	0	No
Lift-Basement	2	2400	1109	N	0	No
Lift-Basement	1	2400	1224	W	0	No
Stairs-Basement	1	2400	2117	W	0	No
shared Basement driveway	3	2400	42120	S	0	No
shared Basement driveway	4	2400	6080	E	0	No
shared Basement driveway	4	2400	22736	N	0	Yes
shared Basement driveway	4	2400	13128	N	0	Yes
shared Basement driveway	4	2400	6040	W	0	No
Entry-GF	5	2700	1556	S	0	Yes
Entry-GF	1	2700	4112	W	0	No
Kitchen-GF	1	2700	1108	E	0	No
Kitchen-GF	1	2700	833	W	0	No
Study-GF	5	2700	2770	S	0	Yes
Pantry GF	5	2700	1585	S	0	Yes
Pantry GF	1	2700	3768	E	0	No
Lift-GF	3	2700	1107	N	1248	No
Lift-GF	1	2700	1218	W	0	No
Stairs-GF	1	2700	3270	W	0	No
Kitchen/Living	5	2700	224	W	0	Yes
Kitchen/Living	1	2700	945	W	0	No
Kitchen/Living	1	2700	1214	W	0	No
Kitchen/Living	1	2700	7262	E	0	No
Kitchen/Living	5	2700	4975	N	1113	Yes
Bedroom 1 L1	5	2700	4561	S	1232	Yes
Bedroom 1 L1	1	2700	3192	E	0	No
Bath1 L1	1	2700	3190	W	0	No
Bath1 L1	5	2700	1560	S	1225	Yes
Laundry L1	1	2700	1697	E	0	No
Ensuite L1	1	2700	1583	E	0	No
WIR	1	2700	1654	E	0	No
Master Bed L1	1	2700	3797	E	0	No
Master Bed L1	5	2700	3989	N	1611	Yes
Lift L1	3	2700	1113	N	1749	No
Lift L1	1	2700	1225	W	0	No

*Refer to glossary.

Passage L1	1	2700	3034	W	0	No
Passage L1	5	2700	871	N	1633	Yes
Passage L1	4	2700	211	W	0	Yes
Passage L1	1	2700	946	W	0	No
Stairs L1	1	2700	3268	W	0	No
ENsuite2 L2	5	2700	3542	S	0	Yes
ENsuite2 L2	1	2700	3094	E	0	No
Study2 L2	1	2700	3148	W	0	No
Study2 L2	5	2700	2415	S	0	Yes
WIR	1	2700	2323	E	0	No
Master bed2 L2	1	2700	4833	E	0	No
Master bed2 L2	5	2700	3978	N	478	Yes
Lift L2	3	2700	1107	N	615	Yes
Lift L2	1	2700	1218	W	0	No
Stairs L2	1	2700	3265	W	0	No
Passage L2	5	2700	872	N	484	Yes
Passage L2	5	2700	228	W	0	Yes
Passage L2	1	2700	942	W	0	No
Passage L2	1	2700	1208	W	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	7 Hartington - Plasterboard Int	39.1	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	271.8	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 200mm concrete slab	36.7	Enclosed	R0.0	none
Theatre	FR5 - 200mm concrete slab	18.7	Enclosed	R2.7	Carpet
Hall-Basement	FR5 - 200mm concrete slab	6.1	Enclosed	R2.7	Timber
Lift-Basement	FR5 - 200mm concrete slab	1.4	Enclosed	R2.7	none
Stairs-Basement	FR5 - 200mm concrete slab	2.1	Enclosed	R2.7	Timber
shared Basement driveway	FR5 - 200mm concrete slab	7.7	Enclosed	R0.0	none
shared Basement driveway	FR5 - 200mm concrete slab	247.5	Enclosed	R0.0	none
Entry-GF	FR5 - 200mm concrete slab	4.1	Enclosed	R4.6	Tiles
Entry-GF	FR5 - 200mm concrete slab	2.3	Enclosed	R4.6	Tiles
Kitchen-GF	FR5 - 200mm concrete slab	8.1	Enclosed	R4.6	Tiles
Study-GF	FR5 - 200mm concrete slab	0.5	Enclosed	R0.0	Tiles

*Refer to glossary.

Study-GF	FR5 - 200mm concrete slab	4	Enclosed	R4.6	Tiles
Pantry GF	FR5 - 200mm concrete slab	4.5	Enclosed	R4.6	Tiles
Pantry GF	FR5 - 200mm concrete slab	2.3	Enclosed	R4.6	Tiles
Powder GF	FR5 - 200mm concrete slab	2.9	Enclosed	R4.6	Tiles
Lift-GF	FR5 - 200mm concrete slab	1.4	Enclosed	R0.0	none
Stairs-GF	FR5 - 200mm concrete slab	2.2	Enclosed	R0.0	Timber
Stairs-GF	FR5 - 200mm concrete slab	1.1	Enclosed	R4.6	Timber
Kitchen/Living	FR5 - 200mm concrete slab	13.1	Enclosed	R4.6	Timber
Kitchen/Living	FR5 - 200mm concrete slab	25.9	Enclosed	R0.0	Timber
Bedroom 1 L1	Timber Flooring Ins	7.2	Enclosed	R5.0	Timber
Bedroom 1 L1	Timber Flooring Ins	7.3	Enclosed	R5.0	Timber
Bath1 L1	Timber Flooring Ins	2.4	Enclosed	R5.0	Timber
Bath1 L1	Timber Flooring Ins	2.5	Enclosed	R5.0	Timber
Laundry L1	Timber Flooring Ins	5.6	Enclosed	R5.0	Timber
Ensuite L1	Timber Flooring Ins	5.1	Enclosed	R5.0	Timber
WIR	Timber Flooring Ins	3.9	Enclosed	R5.0	Timber
Study L1	Timber Flooring Ins	2.2	Enclosed	R5.0	Timber
Master Bed L1	Timber Flooring Ins	15.3	Enclosed	R5.0	Timber
Lift L1	Timber Flooring Ins	1.4	Enclosed	R5.0	Timber (Jarrah)
Passage L1	Timber Flooring Ins	15.7	Enclosed	R5.0	Timber
Stairs L1	Timber Flooring Ins	3.3	Enclosed	R5.0	Timber
ENsuite2 L2	Timber Flooring Ins	10.9	Enclosed	R5.0	Tiles
Study2 L2	Timber Flooring Ins	7.6	Enclosed	R5.0	Timber
WIR	Timber Flooring Ins	9.3	Enclosed	R5.0	Timber
Master bed2 L2	Timber Flooring Ins	19.4	Enclosed	R5.0	Timber
Lift L2	Timber Flooring Ins	1.4	Enclosed	R5.0	Timber (Jarrah)
Stairs L2	Timber Flooring Ins	3.3	Enclosed	R5.0	Timber
Passage L2	Timber Flooring Ins	8.9	Enclosed	R5.0	Timber

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	FR5 - 200mm concrete slab	R4.6	No
Garage	FR5 - 200mm concrete slab	R0.0	No
Garage	Plasterboard	R0.0	No
Theatre	FR5 - 200mm concrete slab	R0.0	No
Hall-Basement	FR5 - 200mm concrete slab	R0.0	No

*Refer to glossary.

Lift-Basement	FR5 - 200mm concrete slab	R0.0	No
Stairs-Basement	FR5 - 200mm concrete slab	R0.0	No
shared Basement driveway	FR5 - 200mm concrete slab	R4.6	No
shared Basement driveway	FR5 - 200mm concrete slab	R4.6	No
shared Basement driveway	Plasterboard	R0.0	No
Entry-GF	Timber Flooring Ins	R5.0	No
Entry-GF	Timber Flooring Ins	R5.0	No
Kitchen-GF	Timber Flooring Ins	R5.0	No
Study-GF	Timber Flooring Ins	R5.0	No
Study-GF	Timber Flooring Ins	R5.0	No
Pantry GF	Timber Flooring Ins	R5.0	No
Pantry GF	Timber Flooring Ins	R5.0	No
Powder GF	Timber Flooring Ins	R5.0	No
Lift-GF	Timber Flooring Ins	R5.0	No
Stairs-GF	Timber Flooring Ins	R5.0	No
Stairs-GF	Timber Flooring Ins	R5.0	No
Kitchen/Living	Timber Flooring Ins	R5.0	No
Kitchen/Living	Timber Flooring Ins	R5.0	No
Bedroom 1 L1	Timber Flooring Ins	R5.0	No
Bedroom 1 L1	Plasterboard	R8.3	No
Bath1 L1	Timber Flooring Ins	R5.0	No
Bath1 L1	Plasterboard	R8.3	No
Laundry L1	Timber Flooring Ins	R5.0	No
Ensuite L1	Timber Flooring Ins	R5.0	No
WIR	Timber Flooring Ins	R5.0	No
Study L1	Timber Flooring Ins	R5.0	No
Master Bed L1	Timber Flooring Ins	R5.0	No
Lift L1	Timber Flooring Ins	R5.0	No
Passage L1	Timber Flooring Ins	R5.0	No
Passage L1	Plasterboard	R0.0	No
Stairs L1	Timber Flooring Ins	R5.0	No
ENsuite2 L2	Plasterboard	R8.3	No
Study2 L2	Plasterboard	R8.3	No
WIR	Plasterboard	R8.3	No
Master bed2 L2	Plasterboard	R8.3	No
Lift L2	Plasterboard	R8.3	No

*Refer to glossary.

Stairs L2	Plasterboard	R8.3	No
Passage L2	Plasterboard	R8.3	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Theatre	7	Downlights	80	80	Sealed
Hall-Basement	2	Downlights	80	80	Sealed
Entry-GF	2	Downlights	80	80	Sealed
Kitchen-GF	3	Downlights	80	80	Sealed
Kitchen-GF	1	Exhaust Fans	250	250	Sealed
Study-GF	1	Downlights	80	80	Sealed
Pantry GF	2	Downlights	80	80	Sealed
Powder GF	1	Downlights	80	80	Sealed
Powder GF	1	Exhaust Fans	250	250	Sealed
Kitchen/Living	16	Downlights	80	80	Sealed
Bedroom 1 L1	6	Downlights	80	80	Sealed
Bath1 L1	2	Downlights	80	80	Sealed
Bath1 L1	1	Exhaust Fans	250	250	Sealed
Laundry L1	1	Downlights	80	80	Sealed
Laundry L1	1	Exhaust Fans	250	250	Sealed
Ensuite L1	1	Downlights	80	80	Sealed
Ensuite L1	1	Exhaust Fans	250	250	Sealed
WIR	1	Downlights	80	80	Sealed
Study L1	1	Downlights	80	80	Sealed
Master Bed L1	6	Downlights	80	80	Sealed
Passage L1	6	Downlights	80	80	Sealed
ENsuite2 L2	4	Downlights	80	80	Sealed
ENsuite2 L2	1	Exhaust Fans	250	250	Sealed
Study2 L2	4	Downlights	80	80	Sealed
WIR	4	Downlights	80	80	Sealed
Master bed2 L2	8	Downlights	80	80	Sealed
Passage L2	4	Downlights	80	80	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]

*Refer to glossary.

Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium
Ceil: Ceiling	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
External wall	90 x 40	600	0.75	0
Floor	100 x 50	450	1.50	0
Cathedral ceiling/flat roof	200 x 75	900	1.50	0

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

*Refer to glossary.

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 8 Aug 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	B1.12, 7 Hartington Street, Northcote, VIC, 3070
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	-
Prepared by	-

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	171.2	suburban
Unconditioned*	290.2	**NatHERS climate zone**
Total	461.4	21 Melbourne RO
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

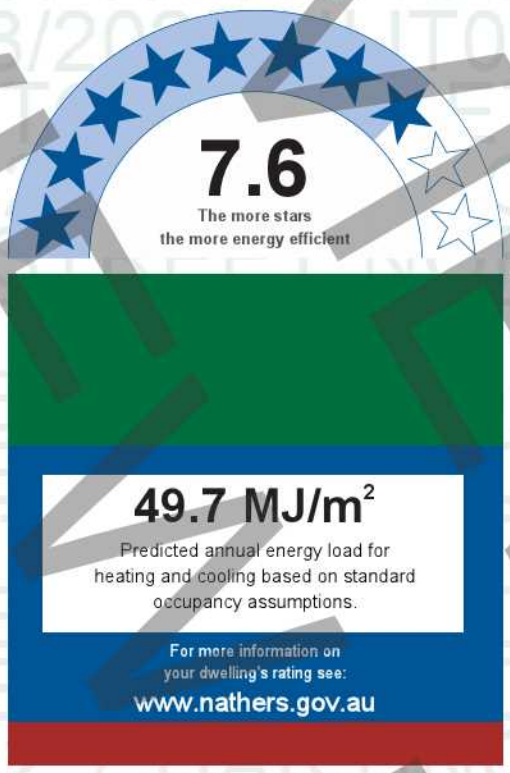
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	35	14.7
Load limits	55	38

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Theatre	living	18.5
Garage	unconditioned	38
Day 3	dayTime	6.1
Lift-BS	dayTime	1.6
Stairs-BS	dayTime	2.2
Unconditioned 6	unconditioned	247.7
Entry GF	dayTime	6.2
Pantry GF	unconditioned	4.5
Kitchen/Living	kitchen	59.6
Powder GF	dayTime	2.1
Stairs GF	dayTime	3.2
Lift GF	dayTime	2.1
Bedroom 2 L1	bedroom	13.6
Bedroom 2 L1	bedroom	14
Ensuite L1	nightTime	7.5
WIR L1	nightTime	7.1
Master Bed L1	bedroom	12.1
Bath1 L1	dayTime	4.2
Passage 1 L1	dayTime	11
Lift L1	dayTime	2.1
Stairs L1	dayTime	3.2
Stairs L2	dayTime	4.6
Lift L2	dayTime	2.1

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
CAP-116-13 B	Capral Futureline 54W Awning Window DG 6EcAdGy-12-6	3.07	0.22	0.21	0.23
CAP-057-13 A	Capral 900 Sliding Door DG 6EA/12Ar/6	3.19	0.48	0.46	0.5

*Refer to glossary.

CAP-055-109 A	Capral 419 Flushline Fixed Window DG 021_AGG MAX Clr 6_12_6	2.65	0.25	0.24	0.26

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Pantry GF	CAP-116-13 B	Opening 23	2100	1200	awning	60.0	SE	No
Kitchen/Living	CAP-057-13 A	Opening 24	2700	2400	sliding	45.0	SE	No
Kitchen/Living	CAP-055-109 A	Opening 40	2100	661	fixed	0.0	E	No
Kitchen/Living	CAP-055-109 A	Opening 39	2100	643	fixed	0.0	E	No
Kitchen/Living	CAP-055-109 A	Opening 37	2700	967	fixed	0.0	NE	No
Kitchen/Living	CAP-116-13 B	Opening 38	2700	971	awning	60.0	NE	No
Kitchen/Living	CAP-055-109 A	Opening 35	2700	807	fixed	0.0	N	No
Kitchen/Living	CAP-057-13 A	Opening 36	2700	2483	sliding	45.0	N	No
Bedroom 2 L1	CAP-055-109 A	Opening 25	2700	2300	fixed	0.0	SE	No
Bedroom 2 L1	CAP-116-13 B	Opening 26	2700	1000	awning	60.0	SE	No
Bedroom 2 L1	CAP-116-13 B	Opening 27	2700	1100	awning	60.0	SE	No
Ensuite L1	CAP-055-109 A	Opening 28	2700	575	fixed	0.0	E	No
Ensuite L1	CAP-055-109 A	Opening 29	2700	569	fixed	0.0	E	No
Ensuite L1	CAP-055-109 A	Opening 31	2700	1100	fixed	0.0	NE	No
WIR L1	CAP-116-13 B	Opening 32	2700	1000	awning	60.0	NE	No
Master Bed L1	CAP-116-13 B	Opening 33	2700	2270	awning	30.0	N	No
Passage 1 L1	CAP-116-13 B	Opening 34	2700	800	awning	60.0	N	No

Roof window* *type and performance value*

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 %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

*Refer to glossary.

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Stairs L2	2100	800	100.0	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	7 Hartington - BS 1 Retaining	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
2	7 Hartington - Retaining	0.5	Medium		No
3	7 Hartington - Brick Ext	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
4	FR5 - Internal Plasterboard Stud Wall	0.5	Medium		No
5	7 Hartington - Plasterboard Int	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5)	No
6	7 Hartington - Concrete Ext	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
7	7 Hartington - Metal Clad Ext	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Theatre	1	2700	5071	E	0	No
Theatre	1	2700	3614	N	0	No
Garage	2	2700	5934	E	0	No
Garage	3	2700	5951	W	0	No
Day 3	1	2700	1221	N	0	No
Day 3	3	2700	933	W	0	No

*Refer to glossary.

Lift-BS	1	2700	1080	N	0	No
Lift-BS	3	2700	1467	W	0	No
Stairs-BS	3	2700	2250	W	0	No
Unconditioned 6	2	2700	41840	S	0	No
Unconditioned 6	4	2700	6000	E	0	No
Unconditioned 6	2	2700	12480	N	0	No
Unconditioned 6	4	2700	23137	N	0	Yes
Unconditioned 6	4	2700	5840	W	0	No
Entry GF	3	2700	2608	SE	0	Yes
Entry GF	3	2700	201	E	0	Yes
Entry GF	5	2700	2650	W	0	No
Pantry GF	3	2700	753	SE	0	Yes
Pantry GF	3	2700	3446	SE	0	Yes
Pantry GF	3	2700	137	SW	0	Yes
Kitchen/Living	3	2700	110	S	0	Yes
Kitchen/Living	3	2700	647	SE	0	Yes
Kitchen/Living	3	2700	3474	SE	0	Yes
Kitchen/Living	3	2700	1173	SE	0	Yes
Kitchen/Living	3	2700	602	E	0	Yes
Kitchen/Living	3	2700	581	E	0	Yes
Kitchen/Living	3	2700	4446	NE	0	Yes
Kitchen/Living	3	2700	607	NE	0	Yes
Kitchen/Living	3	2700	952	N	0	Yes
Kitchen/Living	3	2700	4285	N	0	Yes
Kitchen/Living	5	2700	917	W	0	No
Kitchen/Living	5	2700	858	W	0	No
Powder GF	5	2700	2224	W	0	No
Stairs GF	5	2700	3339	W	0	No
Lift GF	3	2700	1063	N	0	Yes
Lift GF	5	2700	1953	W	0	No
Bedroom 2 L1	3	2700	2594	SE	0	Yes
Bedroom 2 L1	3	2700	783	SE	0	Yes
Bedroom 2 L1	3	2700	1328	SE	0	Yes
Bedroom 2 L1	5	2700	5061	W	0	No
Bedroom 2 L1	3	2700	2086	SE	0	Yes
Bedroom 2 L1	3	2700	1730	SE	0	Yes
Ensuite L1	3	2700	3551	SE	977	Yes
Ensuite L1	3	2700	592	E	917	Yes
Ensuite L1	3	2700	585	E	875	Yes

*Refer to glossary.

Ensuite L1	3	2700	2372	NE	915	Yes
WIR L1	3	2700	2515	NE	959	Yes
WIR L1	3	2700	660	N	0	Yes
WIR L1	3	2700	180	E	0	Yes
Master Bed L1	3	2700	3254	N	978	Yes
Passage 1 L1	3	2700	952	N	0	Yes
Passage 1 L1	5	2700	939	W	0	No
Passage 1 L1	5	2700	950	W	0	No
Lift L1	6	2700	1075	N	0	Yes
Lift L1	5	2700	1966	W	0	No
Stairs L1	5	2700	3334	W	0	No
Stairs L2	5	2400	4468	W	0	No
Stairs L2	7	2400	969	S	0	No
Stairs L2	7	2400	4498	E	0	No
Lift L2	7	2400	1941	E	0	No
Lift L2	7	2400	1079	N	0	No
Lift L2	7	2400	682	W	0	No
Lift L2	5	2400	1274	W	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	7 Hartington - Plasterboard Int	19.9	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	199.3	
3	7 Hartington - Brick Ext	5.7	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Theatre	FR5 - 200mm concrete slab	18.5	Enclosed	R2.7	Carpet
Garage	FR5 - 200mm concrete slab	38	Enclosed	R0.0	none
Day 3	FR5 - 200mm concrete slab	6.1	Enclosed	R2.7	Timber
Lift-BS	FR5 - 200mm concrete slab	1.6	Enclosed	R2.7	none
Stairs-BS	FR5 - 200mm concrete slab	2.2	Enclosed	R2.7	Timber
Unconditioned 6	FR5 - 200mm concrete slab	247.7	Enclosed	R0.0	none
Entry GF	FR5 - 200mm concrete slab	6.2	Enclosed	R4.6	Tiles
Pantry GF	FR5 - 200mm concrete slab	4.5	Enclosed	R4.6	Tiles
Kitchen/Living	FR5 - 200mm concrete slab	15.4	Enclosed	R4.6	Timber
Kitchen/Living	FR5 - 200mm concrete slab	3.4	Enclosed	R4.6	Timber
Kitchen/Living	FR5 - 200mm concrete slab	15.1	Enclosed	R4.6	Timber

*Refer to glossary.

Kitchen/Living	FR5 - 200mm concrete slab	25.7	Enclosed	R0.0	Timber
Powder GF	FR5 - 200mm concrete slab	2.1	Enclosed	R4.6	Tiles
Stairs GF	FR5 - 200mm concrete slab	2.3	Enclosed	R0.0	Timber
Stairs GF	FR5 - 200mm concrete slab	1	Enclosed	R4.6	Timber
Lift GF	FR5 - 200mm concrete slab	0.5	Enclosed	R4.6	none
Lift GF	FR5 - 200mm concrete slab	1.6	Enclosed	R0.0	none
Bedroom 2 L1	TimbeFlooring Ins	13.6	Enclosed	R5.0	Timber (Jarrah)
Bedroom 2 L1	TimbeFlooring Ins	3.1	Enclosed	R5.0	Timber (Jarrah)
Bedroom 2 L1	TimbeFlooring Ins	10.9	Enclosed	R5.0	Timber (Jarrah)
Ensuite L1	TimbeFlooring Ins	1.5	Enclosed	R5.0	Timber (Jarrah)
Ensuite L1	TimbeFlooring Ins	6	Enclosed	R5.0	Timber (Jarrah)
WIR L1	TimbeFlooring Ins	0.6	Enclosed	R5.0	Timber (Jarrah)
WIR L1	TimbeFlooring Ins	6.5	Enclosed	R5.0	Timber (Jarrah)
Master Bed L1	TimbeFlooring Ins	12.1	Enclosed	R5.0	Timber (Jarrah)
Bath1 L1	TimbeFlooring Ins	4.2	Enclosed	R5.0	Timber (Jarrah)
Passage 1 L1	TimbeFlooring Ins	1	Enclosed	R5.0	Timber (Jarrah)
Passage 1 L1	TimbeFlooring Ins	10.1	Enclosed	R5.0	Timber (Jarrah)
Lift L1	TimbeFlooring Ins	2.1	Enclosed	R5.0	Timber (Jarrah)
Stairs L1	TimbeFlooring Ins	3.2	Enclosed	R5.0	Timber (Jarrah)
Stairs L2	TimbeFlooring Ins	4.6	Enclosed	R5.0	Timber (Jarrah)
Lift L2	TimbeFlooring Ins	2.1	Enclosed	R5.0	Timber (Jarrah)

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Theatre	FR5 - 200mm concrete slab	R0.0	No
Garage	FR5 - 200mm concrete slab	R4.6	No
Garage	Plasterboard	R0.0	No
Day 3	FR5 - 200mm concrete slab	R0.0	No
Lift-BS	FR5 - 200mm concrete slab	R0.0	No
Stairs-BS	FR5 - 200mm concrete slab	R0.0	No
Unconditioned 6	FR5 - 200mm concrete slab	R4.6	No
Unconditioned 6	Plasterboard	R0.0	No
Entry GF	TimbeFlooring Ins	R5.0	No
Pantry GF	TimbeFlooring Ins	R5.0	No
Kitchen/Living	TimbeFlooring Ins	R5.0	No

*Refer to glossary.

Kitchen/Living	TimbeFlooring Ins	R5.0	No
Kitchen/Living	TimbeFlooring Ins	R5.0	No
Kitchen/Living	TimbeFlooring Ins	R5.0	No
Powder GF	TimbeFlooring Ins	R5.0	No
Stairs GF	TimbeFlooring Ins	R5.0	No
Stairs GF	TimbeFlooring Ins	R5.0	No
Lift GF	TimbeFlooring Ins	R5.0	No
Lift GF	TimbeFlooring Ins	R5.0	No
Bedroom 2 L1	Plasterboard	R8.3	No
Bedroom 2 L1	Plasterboard	R7.0	No
Bedroom 2 L1	Plasterboard	R8.3	No
Ensuite L1	Plasterboard	R7.0	No
Ensuite L1	Plasterboard	R8.3	No
WIR L1	Plasterboard	R7.0	No
WIR L1	Plasterboard	R8.3	No
Master Bed L1	Plasterboard	R8.3	No
Bath1 L1	Plasterboard	R8.3	No
Passage 1 L1	TimbeFlooring Ins	R5.0	No
Passage 1 L1	TimbeFlooring Ins	R5.0	No
Passage 1 L1	Plasterboard	R8.3	No
Lift L1	TimbeFlooring Ins	R5.0	No
Stairs L1	TimbeFlooring Ins	R5.0	No
Stairs L2	Plasterboard	R8.3	No
Lift L2	Plasterboard	R8.3	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Theatre	7	Downlights	80	80	Sealed
Day 3	2	Downlights	80	80	Sealed
Entry GF	2	Downlights	80	80	Sealed
Pantry GF	2	Downlights	80	80	Sealed
Kitchen/Living	24	Downlights	80	80	Sealed
Powder GF	1	Downlights	80	80	Sealed
Bedroom 2 L1	5	Downlights	80	80	Sealed
Bedroom 2 L1	5	Downlights	80	80	Sealed
Ensuite L1	3	Downlights	80	80	Sealed
Ensuite L1	1	Exhaust Fans	250	250	Sealed
WIR L1	2	Downlights	80	80	Sealed
Master Bed L1	5	Downlights	80	80	Sealed

*Refer to glossary.

Bath1 L1	1	Exhaust Fans	250	250	Sealed
Bath1 L1	1	Downlights	80	80	Sealed
Passage 1 L1	4	Downlights	80	80	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium
GreenRoofIntensive:Slab - 500mm Substrate : 200mm:200mm Slab - 500mm Substrate	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
External wall	90 x 40	600	0.75	0
Floor	100 x 50	450	1.50	0
Cathedral ceiling/flat roof	200 x 75	900	1.50	0
Internal wall	90 x 40	600	0.75	0

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

*Refer to glossary.

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 8 Aug 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	7 Hartington Street, Northcote, VIC, 3070
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	-
Prepared by	-

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	158.7	suburban
Unconditioned*	341.8	**NatHERS climate zone**
Total	500.5	21 Melbourne RO
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

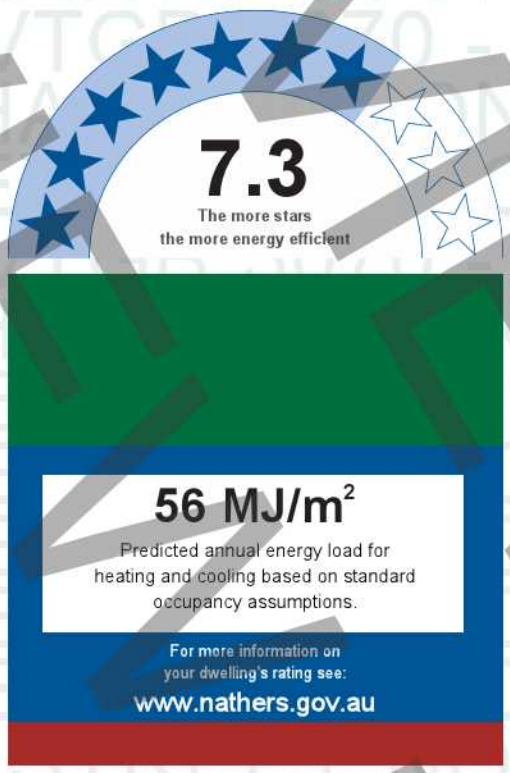
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	40	16
Load limits	55	38

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	unconditioned	47.2
Stairs-Basement	dayTime	5
Lift- Basement	dayTime	1.8
Hall Basement	dayTime	0.8
Unconditioned 5	unconditioned	292.9
Entry	dayTime	5
Powder GF	unconditioned	1.7
Lift GF	dayTime	1.4
Kitchen/Living 9	kitchen	36.9
Pantry-GF	dayTime	5.1
Stairs GF	dayTime	3.6
Bedroom 1 L1	bedroom	17.1
Lift L1	dayTime	1.4
Laundry L1	dayTime	5
Bath 1 L1	dayTime	4.4
Bedroom 2 L1	bedroom	20
Hall L1	dayTime	8.1
Stairs L1	dayTime	3.8
Study	dayTime	8.3
Ensuite L2	nightTime	9.7
WIR L2	dayTime	11.7
Master Bed L2	bedroom	17.4
Lift L2	dayTime	1.4
Stairs L2	dayTime	4.4

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
CAP-051-06 A	Capral 35 Awning in 400 Frame DG 6EA/12Ar/6	4.42	0.41	0.39	0.43

*Refer to glossary.

CAP-055-109 A	Capral 419 Flushline Fixed Window DG 021_AGG MAX Clr 6_12_6	2.65	0.25	0.24	0.26
CAP-057-13 A	Capral 900 Sliding Door DG 6EA/12Ar/6	3.19	0.48	0.46	0.5

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Entry	CAP-051-06 A	Opening 27	2100	230	awning	60.0	S	No
Powder GF	CAP-055-109 A	Opening 28	2100	667	fixed	0.0	S	No
Kitchen/Living 9	CAP-057-13 A	Opening 29	2700	4525	sliding	45.0	N	No
Pantry-GF	CAP-055-109 A	Opening 26	2100	915	fixed	0.0	S	No
Bedroom 1 L1	CAP-051-06 A	Opening 32	2700	1334	awning	60.0	S	No
Bedroom 1 L1	CAP-055-109 A	Opening 33	2700	1123	fixed	0.0	S	No
Bedroom 1 L1	CAP-055-109 A	Opening 34	2700	2122	fixed	0.0	S	No
Bedroom 2 L1	CAP-051-06 A	Opening 30	2200	1510	awning	60.0	N	No
Bedroom 2 L1	CAP-055-109 A	Opening 31	2200	2645	fixed	0.0	N	No
Study	CAP-051-06 A	Opening 22	2700	800	awning	60.0	S	No
Study	CAP-055-109 A	Opening 23	2700	1463	fixed	0.0	S	No
Ensuite L2	CAP-051-06 A	Opening 24	2700	800	awning	60.0	S	No
Ensuite L2	CAP-055-109 A	Opening 25	2700	1300	fixed	0.0	S	No
Master Bed L2	CAP-051-06 A	Opening 35	2200	1539	awning	60.0	N	No
Master Bed L2	CAP-055-109 A	Opening 36	2200	2905	fixed	0.0	N	No

Roof window* *type and performance value*

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 %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

*Refer to glossary.

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Entry	2100	787	100.0	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	7 Hartington - Plasterboard Int	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5)	No
2	7 Hartington - Retaining	0.5	Medium		No
3	7 Hartington - Concrete Ext	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
4	7 Hartington - Brick Ext	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	2400	3387	E	0	No
Garage	2	2400	4928	N	0	No
Garage	1	2400	11273	W	0	No
Stairs-Basement	1	2400	5045	E	0	No
Lift- Basement	1	2400	1658	E	0	No
Hall Basement	1	2400	825	E	0	No
Unconditioned 5	3	2400	6449	S	0	Yes
Unconditioned 5	2	2400	16991	S	0	No
Unconditioned 5	3	2400	7823	S	0	Yes
Unconditioned 5	2	2400	16897	S	0	No
Unconditioned 5	2	2400	6080	E	0	No
Unconditioned 5	3	2400	21810	N	0	Yes
Unconditioned 5	3	2400	21453	N	0	Yes

*Refer to glossary.

Unconditioned 5	3	2400	6041	W	0	No
Entry	4	2700	1743	S	0	Yes
Powder GF	4	2700	980	S	0	Yes
Powder GF	1	2700	1737	E	0	No
Lift GF	1	2700	1339	E	0	No
Kitchen/Living 9	1	2700	943	E	0	No
Kitchen/Living 9	1	2700	3115	E	0	No
Kitchen/Living 9	4	2700	4907	N	1402	Yes
Kitchen/Living 9	1	2700	8027	W	0	No
Pantry-GF	4	2700	1900	S	0	Yes
Pantry-GF	1	2700	3196	W	0	No
Stairs GF	1	2700	3612	E	0	No
Bedroom 1 L1	4	2700	4958	S	0	Yes
Bedroom 1 L1	1	2700	1737	E	0	No
Bedroom 1 L1	1	2700	4256	W	0	No
Lift L1	1	2700	1327	E	0	No
Laundry L1	1	2700	1768	W	0	No
Bath 1 L1	1	2700	1602	W	0	No
Bedroom 2 L1	1	2700	3508	E	0	No
Bedroom 2 L1	4	2700	5022	N	0	Yes
Bedroom 2 L1	1	2700	4745	W	0	No
Hall L1	1	2700	793	E	0	No
Hall L1	1	2700	924	E	0	No
Stairs L1	1	2700	3877	E	0	No
Study	1	2700	1761	E	0	No
Study	4	2700	2555	S	0	Yes
Ensuite L2	4	2700	2163	S	0	Yes
Ensuite L2	1	2700	4499	W	0	No
WIR L2	1	2700	3036	W	0	No
Master Bed L2	1	2700	3555	E	0	No
Master Bed L2	4	2700	4927	N	0	Yes
Master Bed L2	1	2700	3508	W	0	No
Lift L2	1	2700	1342	E	0	No
Stairs L2	1	2700	4309	E	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	191.9	
2	7 Hartington - Plasterboard Int	20.6	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.5)

*Refer to glossary.

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - CSOG: Slab on Ground	47.2	Enclosed	R0.0	none
Stairs-Basement	FR5 - CSOG: Slab on Ground	5	Enclosed	R2.7	Timber
Lift- Basement	FR5 - CSOG: Slab on Ground	1.8	Enclosed	R2.7	none
Hall Basement	FR5 - CSOG: Slab on Ground	0.8	Enclosed	R2.7	Timber
Unconditioned 5	FR5 - CSOG: Slab on Ground	292.9	Enclosed	R0.0	none
Entry	FR5 - 200mm concrete slab	5	Enclosed	R4.6	Tiles
Powder GF	FR5 - 200mm concrete slab	1.7	Enclosed	R4.6	Tiles
Lift GF	FR5 - 200mm concrete slab	1.4	Enclosed	R0.0	none
Kitchen/Living 9	FR5 - 200mm concrete slab	36.9	Enclosed	R4.6	Timber
Pantry-GF	FR5 - 200mm concrete slab	5.1	Enclosed	R4.6	Tiles
Stairs GF	FR5 - 200mm concrete slab	3.6	Enclosed	R0.0	Timber
Bedroom 1 L1	Timber Flooring Ins	17.1	Enclosed	R5.0	Timber
Lift L1	Timber Flooring Ins	1.4	Enclosed	R5.0	Timber (Jarrah)
Laundry L1	Timber Flooring Ins	5	Enclosed	R5.0	Tiles
Bath 1 L1	Timber Flooring Ins	4.4	Enclosed	R5.0	Tiles
Bedroom 2 L1	Timber Flooring Ins	7	Elevated	R5.0	Timber
Bedroom 2 L1	Timber Flooring Ins	13.1	Enclosed	R5.0	Timber
Hall L1	Timber Flooring Ins	8.1	Enclosed	R5.0	Timber
Stairs L1	Timber Flooring Ins	3.8	Enclosed	R5.0	Timber
Study	Timber Flooring Ins	8.3	Enclosed	R5.0	Timber
Ensuite L2	Timber Flooring Ins	9.7	Enclosed	R5.0	Tiles
WIR L2	Timber Flooring Ins	11.7	Enclosed	R5.0	Timber
Master Bed L2	Timber Flooring Ins	17.4	Enclosed	R5.0	Timber
Lift L2	Timber Flooring Ins	1.4	Enclosed	R5.0	Timber (Jarrah)
Stairs L2	Timber Flooring Ins	4.4	Enclosed	R5.0	Timber

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	FR5 - 200mm concrete slab	R4.6	No
Garage	Plasterboard	R0.0	No
Stairs-Basement	FR5 - 200mm concrete slab	R4.6	No

*Refer to glossary.

Stairs-Basement	FR5 - 200mm concrete slab	R0.0	No
Lift- Basement	FR5 - 200mm concrete slab	R4.6	No
Lift- Basement	FR5 - 200mm concrete slab	R0.0	No
Hall Basement	FR5 - 200mm concrete slab	R4.6	No
Unconditioned 5	FR5 - 200mm concrete slab	R4.6	No
Unconditioned 5	Plasterboard	R0.0	No
Entry	Timber Flooring Ins	R5.0	No
Powder GF	Timber Flooring Ins	R5.0	No
Lift GF	Timber Flooring Ins	R5.0	No
Kitchen/Living 9	Timber Flooring Ins	R5.0	No
Pantry-GF	Timber Flooring Ins	R5.0	No
Stairs GF	Timber Flooring Ins	R5.0	No
Bedroom 1 L1	Timber Flooring Ins	R5.0	No
Bedroom 1 L1	Plasterboard	R0.0	No
Lift L1	Timber Flooring Ins	R5.0	No
Laundry L1	Timber Flooring Ins	R5.0	No
Bath 1 L1	Timber Flooring Ins	R5.0	No
Bedroom 2 L1	Plasterboard	R7.0	No
Bedroom 2 L1	Timber Flooring Ins	R5.0	No
Hall L1	Timber Flooring Ins	R5.0	No
Stairs L1	Timber Flooring Ins	R5.0	No
Study	Plasterboard	R8.3	No
Ensuite L2	Plasterboard	R8.3	No
WIR L2	Plasterboard	R8.3	No
Master Bed L2	Plasterboard	R8.3	No
Lift L2	Plasterboard	R8.3	No
Stairs L2	Plasterboard	R8.3	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Entry	2	Downlights	80	80	Sealed
Powder GF	1	Downlights	80	80	Sealed
Powder GF	1	Exhaust Fans	250	250	Sealed
Kitchen/Living 9	11	Downlights	80	80	Sealed
Kitchen/Living 9	1	Exhaust Fans	250	250	Sealed

*Refer to glossary.

Pantry-GF	2	Downlights	80	80	Sealed
Bedroom 1 L1	7	Downlights	80	80	Sealed
Laundry L1	2	Downlights	80	80	Sealed
Laundry L1	1	Exhaust Fans	250	250	Sealed
Bath 1 L1	2	Downlights	80	80	Sealed
Bath 1 L1	1	Exhaust Fans	250	250	Sealed
Bedroom 2 L1	8	Downlights	80	80	Sealed
Hall L1	3	Downlights	80	80	Sealed
Study	3	Downlights	80	80	Sealed
Ensuite L2	4	Downlights	80	80	Sealed
Ensuite L2	1	Exhaust Fans	250	250	Sealed
WIR L2	4	Downlights	80	80	Sealed
Master Bed L2	7	Downlights	80	80	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium
Ceil: Ceiling	0.0	0.5	Medium
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
Floor	100 x 50	450	1.50	0
External wall	90 x 40	600	0.75	0
Cathedral ceiling/flat roof	200 x 75	900	1.50	0

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

*Refer to glossary.

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 8 Aug 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	C1-0.5, 7 Hartington Street, Northcote, VIC, 3070
Lot/DP	N/A
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	06/06/2025
Prepared by	Kavellaris Urban Design

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	145.7	suburban
Unconditioned*	4.4	**NatHERS climate zone**
Total	150.1	21 Melbourne RO
Garage	-	

Accredited assessor

Name	N/A
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

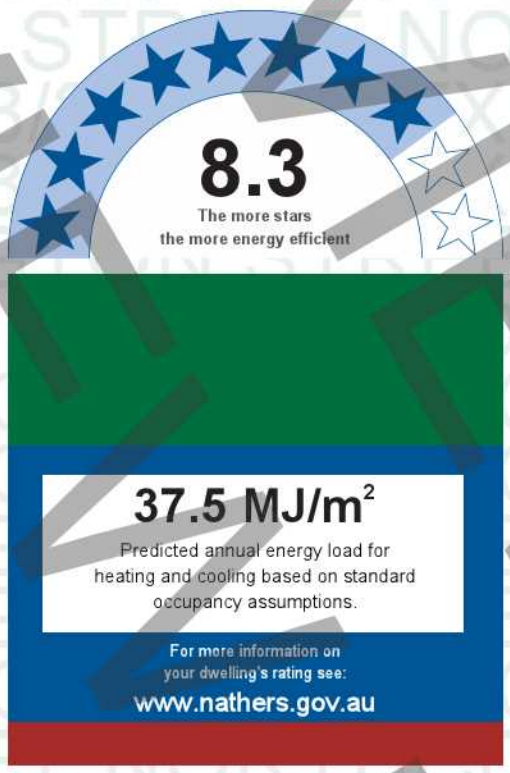
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	15	22.5
Load limits	55	38

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Carpark	basementCarPark	2039.3
Common Circulation	glazedCorridor	73.6
Kitchen/Living 4	kitchen	78.2
Bedroom 2	bedroom	11
Bedroom 3	bedroom	11
WIR	nightTime	5.4
Bedroom 1	bedroom	13.1
Ensuite	nightTime	8.3
Laundry	dayTime	5.6
Bathroom	unconditioned	4.4
Entry Hallway	dayTime	13.3

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
CAP-057-13 A	Capral 900 Sliding Door DG 6EA/12Ar/6	3.19	0.48	0.46	0.5
CAP-055-52 A	Capral 419 Flushline Fixed Window DG 6/12Ar/6EA	2.71	0.58	0.55	0.61
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Common Circulation	CAP-057-13 A	Opening 39	3000	4000	sliding	20.0	E	No
Kitchen/Living 4	CAP-057-13 A	Opening 26	2700	2650	sliding	45.0	E	No
Kitchen/Living 4	CAP-057-13 A	Opening 27	2700	3850	sliding	45.0	E	No
Kitchen/Living 4	CAP-055-52 A	Opening 30	2000	700	fixed	0.0	E	No
Kitchen/Living 4	CAP-055-52 A	Opening 36	2700	305	fixed	0.0	E	No
Kitchen/Living 4	CAP-055-52 A	Opening 35	2700	333	fixed	0.0	NE	No

*Refer to glossary.

Kitchen/Living 4	CAP-055-52 A	Opening 34	2700	334	fixed	0.0	NE	No
Kitchen/Living 4	CAP-055-52 A	Opening 33	2700	305	fixed	0.0	N	No
Kitchen/Living 4	CAP-055-52 A	Opening 32	2700	375	fixed	0.0	N	No
Kitchen/Living 4	CAP-055-52 A	Opening 31	2000	700	fixed	0.0	NW	No
Kitchen/Living 4	CAP-055-52 A	Opening 12	2000	2100	fixed	0.0	NW	No
Kitchen/Living 4	CAP-061-06 A	Opening 19	2000	800	awning	90.0	NW	No
Kitchen/Living 4	CAP-055-52 A	Opening 16	2000	1695	fixed	0.0	NW	No
Kitchen/Living 4	CAP-061-06 A	Opening 19	2000	800	awning	90.0	NW	No
Kitchen/Living 4	CAP-055-52 A	Opening 18	2000	1550	fixed	0.0	NW	No
Kitchen/Living 4	CAP-061-06 A	Opening 19	2000	800	awning	90.0	NW	No
Bedroom 2	CAP-057-13 A	Opening 21	2700	2350	sliding	45.0	E	No
Bedroom 3	CAP-057-13 A	Opening 22	2700	2350	sliding	45.0	E	No
Bedroom 1	CAP-057-13 A	Opening 20	2700	2850	sliding	45.0	E	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

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

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation

*Refer to glossary.

Common Circulation	2050	1250	100.0	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	7 Har. St - Concrete Basement Wall	0.5	Medium		No
2	7 Har. St - Carpark Earth Retaining Wall	0.5	Medium		No
3	7 Har. St - R2.5 Concrete Partition Wall	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No
4	7 Har. St - Uninsulated Brick External Wall	0.5	Medium		No
5	7 Har. St - Uninsulated Concrete Internal Wall	0.5	Medium		No
6	7 Har. St - R2.5 Brick External Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Carpark	1	3000	20356	S	0	No
Carpark	2	3000	62150	E	0	No
Carpark	2	3000	1556	N	0	No
Carpark	2	3000	35994	E	0	No
Carpark	2	3000	21161	N	0	No
Carpark	2	3000	41199	W	0	No
Carpark	2	3000	2372	S	0	No
Carpark	2	3000	56933	W	0	No
Common Circulation	3	3000	1795	S	0	No
Common Circulation	3	3000	2575	E	0	No
Common Circulation	3	3000	345	S	0	No
Common Circulation	3	3000	1478	E	0	No
Common Circulation	3	3000	339	N	0	No
Common Circulation	3	3000	5616	E	0	No
Common Circulation	3	3000	3538	S	0	No
Common Circulation	4	3000	4006	E	5480	Yes
Common Circulation	3	3000	3565	N	0	No
Common Circulation	3	3000	1990	E	0	No
Common Circulation	3	3000	255	S	0	No
Common Circulation	3	3000	1758	E	0	No
Common Circulation	3	3000	255	N	0	No
Common Circulation	3	3000	3065	E	0	No

*Refer to glossary.

Common Circulation	3	3000	248	W	0	No
Common Circulation	3	3000	260	N	0	No
Common Circulation	3	3000	1441	W	0	No
Common Circulation	3	3000	254	S	0	No
Common Circulation	3	3000	3108	W	0	No
Common Circulation	5	3000	2789	W	0	No
Common Circulation	5	3000	4613	N	0	No
Common Circulation	3	3000	3726	N	0	No
Common Circulation	4	3000	2497	W	1880	Yes
Common Circulation	3	3000	3582	S	0	No
Common Circulation	5	3000	4761	S	0	No
Common Circulation	5	3000	2604	W	0	No
Common Circulation	3	3000	4926	W	0	No
Common Circulation	3	3000	272	N	0	No
Common Circulation	3	3000	1484	W	0	No
Common Circulation	3	3000	276	S	0	No
Common Circulation	3	3000	1382	W	0	No
Kitchen/Living 4	6	3000	7490	E	789	Yes
Kitchen/Living 4	6	3000	928	E	796	Yes
Kitchen/Living 4	6	3000	316	E	0	No
Kitchen/Living 4	6	3000	343	NE	705	No
Kitchen/Living 4	6	3000	339	NE	247	No
Kitchen/Living 4	6	3000	307	N	686	No
Kitchen/Living 4	6	3000	383	N	0	No
Kitchen/Living 4	6	3000	1233	NW	796	Yes
Kitchen/Living 4	6	3000	10323	NW	859	Yes
Kitchen/Living 4	3	3000	3607	W	0	No
Bedroom 2	6	3000	3003	E	782	Yes
Bedroom 3	6	3000	3006	E	804	Yes
WIR	3	3000	2371	S	0	No
Bedroom 1	3	3000	2375	S	0	No
Bedroom 1	6	3000	907	S	3831	Yes
Bedroom 1	6	3000	3397	E	794	Yes
Ensuite	3	3000	2283	S	0	No
Entry Hallway	3	3000	493	E	0	No
Entry Hallway	3	3000	8067	W	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation

*Refer to glossary.

1	7 Har. St - Internal Plasterboard Stud Wall	144.9	
2	7 Har. St - R2.5 Concrete Partition Wall	5.2	Glass fibre batt: R2.5 (R2.5)

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Carpark	7 Har. St - Slab on Ground	2039.3	Enclosed	R0.0	none
Common Circulation	7 Har. St - Uninsulated 200mm Suspended CS	73.6	Enclosed	R0.0	Carpet
Kitchen/Living 4	7 Har. St - Slab on Ground	19	Enclosed	R0.0	Timber
Kitchen/Living 4	7 Har. St - Slab on Ground	59.1	Enclosed	R0.0	Timber
Bedroom 2	7 Har. St - Slab on Ground	11	Enclosed	R0.0	Timber
Bedroom 3	7 Har. St - Slab on Ground	11	Enclosed	R0.0	Timber
WIR	7 Har. St - Slab on Ground	2.6	Enclosed	R0.0	Timber
WIR	7 Har. St - R2.3 200mm Concrete Slab Lined	2.7	Enclosed	R3.2	Timber
Bedroom 1	7 Har. St - Slab on Ground	9.3	Enclosed	R0.0	Timber
Bedroom 1	7 Har. St - R2.3 200mm Concrete Slab Lined	3.8	Enclosed	R3.2	Timber
Ensuite	7 Har. St - Slab on Ground	5.7	Enclosed	R0.0	Tiles
Ensuite	7 Har. St - R2.3 200mm Concrete Slab Lined	2.6	Enclosed	R3.2	Tiles
Laundry	7 Har. St - Slab on Ground	5.6	Enclosed	R0.0	Tiles
Bathroom	7 Har. St - Slab on Ground	4.4	Enclosed	R0.0	Tiles
Entry Hallway	7 Har. St - Slab on Ground	10.4	Enclosed	R0.0	Vinyl
Entry Hallway	7 Har. St - R2.3 200mm Concrete Slab Lined	2.9	Enclosed	R3.2	Vinyl

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Carpark	7 Har. St - Uninsulated 200mm Suspended CS	R0.0	No
Carpark	7 Har. St - R2.3 200mm Concrete Slab Lined	R3.2	No
Carpark	Plasterboard	R0.0	No
Kitchen/Living 4	Plasterboard	R3.2	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Kitchen/Living 4	31	Downlights	90	90	Sealed
Kitchen/Living 4	1	Exhaust Fans	250	250	Sealed

*Refer to glossary.

Bedroom 2	4	Downlights	90	90	Sealed
Bedroom 3	4	Downlights	90	90	Sealed
WIR	2	Downlights	90	90	Sealed
Bedroom 1	5	Downlights	90	90	Sealed
Ensuite	1	Exhaust Fans	250	250	Sealed
Ensuite	2	Downlights	90	90	Sealed
Laundry	1	Exhaust Fans	250	250	Unsealed
Laundry	2	Downlights	90	90	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bathroom	1	Downlights	90	90	Sealed
Entry Hallway	5	Downlights	90	90	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
External wall	90 x 40	600	0.75	0
Floor	100 x 50	450	1.50	0
Internal wall	90 x 40	600	0.75	0

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

*Refer to glossary.

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 8 Aug 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	C1-1.2, 7 Hartington Street, Northcote, VIC, 3070
Lot/DP	N/A
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	06/06/2025
Prepared by	Kavellaris Urban Design

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	116.5	suburban
Unconditioned*	3.1	**NatHERS climate zone**
Total	119.6	21 Melbourne RO
Garage	-	

Accredited assessor

Name	N/A
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	25.2	18.1
Load limits	55	38

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

Greenhouse gas emissions:

Cost:

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Bedroom 2	bedroom	10.9
Bedroom 3	bedroom	10.9
Bathroom	dayTime	4.8
Laundry	unconditioned	3.1
Kitchen/Living/Dining	kitchen	45
Hallway	dayTime	8.3
Bedroom 1	bedroom	18.3
WIR	nightTime	4.7
Ensuite	nightTime	7.5
Pantry	dayTime	5.9

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
CAP-057-13 A	Capral 900 Sliding Door DG 6EA/12Ar/6	3.19	0.48	0.46	0.5
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-055-52 A	Capral 419 Flushline Fixed Window DG 6/12Ar/6EA	2.71	0.58	0.55	0.61

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 2	CAP-057-13 A	Opening 58	2000	1650	sliding	30.0	SE	No
Bedroom 3	CAP-057-13 A	Opening 59	2000	1650	sliding	30.0	SE	No
Kitchen/Living/-Dining	CAP-057-13 A	Opening 49	3000	4950	sliding	45.0	W	No
Bedroom 1	CAP-057-13 A	Opening 57	2000	1650	sliding	30.0	SE	No
Bedroom 1	CAP-061-06 A	Opening 53	2300	800	awning	90.0	W	No
Bedroom 1	CAP-055-52 A	Opening 54	2300	1900	fixed	0.0	W	No
Bedroom 1	CAP-061-06 A	Opening 55	2300	800	awning	90.0	W	No

*Refer to glossary.

Bedroom 1	CAP-055-52 A	Opening 56	2300	1400	fixed	0.0	W	No
Ensuite	CAP-061-06 A	Opening 50	2300	1150	awning	90.0	W	No
Ensuite	CAP-061-06 A	Opening 52	2300	900	awning	90.0	W	No

Roof window* *type and performance value*

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 %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	7 Har. St - R2.5 Brick External Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
2	7 Har. St - R2.5 Concrete Partition Wall	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No

*Refer to glossary.

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Bedroom 2	1	3000	3637	SE	391	Yes
Bedroom 3	1	3000	3630	SE	388	Yes
Kitchen/Living/Dining	2	3000	6040	E	0	No
Kitchen/Living/Dining	2	3000	1702	N	0	No
Kitchen/Living/Dining	2	3000	1047	W	0	No
Kitchen/Living/Dining	2	3000	6993	N	0	No
Kitchen/Living/Dining	1	3000	4969	W	3210	Yes
Bedroom 1	1	3000	5836	SE	396	Yes
Bedroom 1	1	3000	107	NW	5227	Yes
Bedroom 1	1	3000	5602	W	760	Yes
WIR	1	3000	2921	W	766	Yes
Ensuite	1	3000	2454	N	4829	Yes
Ensuite	1	3000	2933	W	745	Yes
Pantry	1	3000	548	SE	456	Yes
Pantry	1	3000	351	NE	2293	Yes
Pantry	1	3000	822	SE	772	Yes
Pantry	2	3000	1981	E	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	7 Har. St - Internal Plasterboard Stud Wall	127.4	
2	FR5 - Internal Plasterboard Stud Wall	2.6	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 2	7 Har. St - Uninsulated 200mm Suspended CS	10.9	Enclosed	R0.0	Timber
Bedroom 3	7 Har. St - Uninsulated 200mm Suspended CS	10.9	Enclosed	R0.0	Timber
Bathroom	7 Har. St - Uninsulated 200mm Suspended CS	4.8	Enclosed	R0.0	Tiles
Laundry	7 Har. St - Uninsulated 200mm Suspended CS	3.1	Enclosed	R0.0	Tiles
Kitchen/Living/D- ining	7 Har. St - Uninsulated 200mm Suspended CS	16.3	Enclosed	R0.0	Tiles
Kitchen/Living/D- ining	7 Har. St - Uninsulated 200mm Suspended CS	28.7	Enclosed	R0.0	Timber

*Refer to glossary.

Hallway	7 Har. St - Uninsulated 200mm Suspended CS	8.3	Enclosed	R0.0	Timber
Bedroom 1	7 Har. St - Uninsulated 200mm Suspended CS	18.3	Enclosed	R0.0	Timber
WIR	7 Har. St - Uninsulated 200mm Suspended CS	4.7	Enclosed	R0.0	Timber
Ensuite	7 Har. St - Uninsulated 200mm Suspended CS	7.5	Enclosed	R0.0	Tiles
Pantry	7 Har. St - Uninsulated 200mm Suspended CS	5.9	Enclosed	R0.0	Tiles

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
No Data Available			

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bedroom 2	4	Downlights	90	90	Sealed
Bedroom 3	4	Downlights	90	90	Sealed
Bathroom	1	Downlights	90	90	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	90	90	Sealed
Laundry	1	Exhaust Fans	250	250	Unsealed
Kitchen/Living/Dining	1	Exhaust Fans	250	250	Sealed
Kitchen/Living/Dining	18	Downlights	90	90	Sealed
Hallway	2	Downlights	90	90	Sealed
Bedroom 1	7	Downlights	0	0	Sealed
WIR	1	Downlights	90	90	Sealed
Ensuite	2	Downlights	90	90	Sealed
Ensuite	1	Exhaust Fans	250	250	Sealed
Pantry	2	Downlights	90	90	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium

*Refer to glossary.

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
External wall	90 x 40	600	0.75	0

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 8 Aug 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	C1-2.6, 7 Hartington Street, Northcote, VIC, 3070
Lot/DP	N/A
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	06/06/2025
Prepared by	Kavellaris Urban Design

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	39.7	suburban
Unconditioned*	4.3	**NatHERS climate zone**
Total	44	21 Melbourne RO
Garage	-	

Accredited assessor

Name	N/A
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	33.6	22.9
Load limits	55	38

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Bathroom	unconditioned	4.3
WIR	nightTime	3.2
Bedroom 12	bedroom	10.2
Living/Kitchen	kitchen	26.3

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
CAP-055-52 A	Capral 419 Flushline Fixed Window DG 6/12Ar/6EA	2.71	0.58	0.55	0.61
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-057-13 A	Capral 900 Sliding Door DG 6EA/12Ar/6	3.19	0.48	0.46	0.5

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 12	CAP-055-52 A	Opening 45	2300	1100	fixed	0.0	E	No
Bedroom 12	CAP-061-06 A	Opening 51	2300	400	awning	90.0	E	No
Bedroom 12	CAP-057-13 A	Opening 52	3000	2070	sliding	30.0	N	No
Living/Kitchen	CAP-057-13 A	Opening 48	3000	3801	sliding	45.0	E	No

Roof window* *type and performance value*

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

*Refer to glossary.

No Data Available

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	7 Har. St - R2.5 Brick External Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
2	7 Har. St - R2.5 Concrete Partition Wall	0.5	Medium	Glass fibre batt: R2.5 (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)
Bathroom	1	3000	2632	S	3997	Yes
Bathroom	2	3000	236	N	0	No
Bathroom	2	3000	1546	W	0	No
WIR	1	3000	1790	S	3995	Yes
Bedroom 12	1	3000	3401	S	3995	Yes
Bedroom 12	1	3000	2992	E	793	Yes
Bedroom 12	1	3000	2661	N	3729	Yes
Living/Kitchen	1	3000	3904	E	3456	Yes
Living/Kitchen	2	3000	5397	N	0	No
Living/Kitchen	2	3000	3293	W	0	No

*Refer to glossary.

Living/Kitchen	2	3000	253	S	0	No
Living/Kitchen	2	3000	2043	W	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	7 Har. St - Internal Plasterboard Stud Wall	29.2	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bathroom	7 Har. St - Uninsulated 200mm Suspended CS	4.3	Enclosed	R0.0	Tiles
WIR	7 Har. St - Uninsulated 200mm Suspended CS	3.2	Enclosed	R0.0	Timber
Bedroom 12	7 Har. St - Uninsulated 200mm Suspended CS	6.3	Enclosed	R0.0	Timber
Bedroom 12	7 Har. St - Uninsulated 200mm Suspended CS	3.9	Enclosed	R0.0	Timber
Living/Kitchen	7 Har. St - Uninsulated 200mm Suspended CS	8.8	Enclosed	R0.0	Tiles
Living/Kitchen	7 Har. St - Uninsulated 200mm Suspended CS	17.5	Enclosed	R0.0	Timber

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Bedroom 12	Plasterboard	R3.2	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bathroom	1	Downlights	90	90	Sealed
Bathroom	1	Exhaust Fans	250	250	Unsealed
WIR	1	Downlights	90	90	Sealed
Bedroom 12	4	Downlights	90	90	Sealed
Living/Kitchen	1	Exhaust Fans	250	250	Sealed
Living/Kitchen	10	Downlights	90	90	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

*Refer to glossary.

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
External wall	90 x 40	600	0.75	0

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 8 Aug 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	C1-3.4, 7 Hartington Street, Northcote, VIC, 3070
Lot/DP	N/A
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	06/06/2025
Prepared by	Kavellaris Urban Design

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	142.2	open
Unconditioned*	3.1	**NatHERS climate zone**
Total	145.3	21 Melbourne RO
Garage	-	

Accredited assessor

Name	N/A
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	37	26.8
Load limits	55	38

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Study	dayTime	4.5
Living/Kitchen/Dining	kitchen	54.6
Hallway	dayTime	24.6
Bedroom 3	bedroom	12.2
Bathroom	dayTime	4.2
Bedroom 2	bedroom	10.4
Ensuite	nightTime	9
Pantry	dayTime	2.7
Laundry	unconditioned	3.1
Bedroom 1	bedroom	20.7

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
CAP-057-13 A	Capral 900 Sliding Door DG 6EA/12Ar/6	3.19	0.48	0.46	0.5

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Study	CAP-057-13 A	Opening 69	2700	1000	awning	60.0	N	No
Living/Kitchen/-Dining	CAP-057-13 A	Opening 56	2700	1000	awning	60.0	S	No
Living/Kitchen/-Dining	CAP-057-13 A	Opening 58	2700	4824	sliding	45.0	W	No
Bedroom 3	CAP-057-13 A	Opening 57	2700	1980	sliding	45.0	W	No
Bedroom 2	CAP-057-13 A	Opening 72	2700	1980	sliding	45.0	W	No
Bedroom 1	CAP-057-13 A	Opening 73	2700	1980	sliding	45.0	W	No

Roof window* *type and performance value*

Default* roof windows

Substitution tolerance ranges

*Refer to glossary.

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

Custom* roof windows

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

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	7 Har. St - R2.5 Brick External Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	Yes
2	7 Har. St - R2.5 Concrete Partition Wall	0.5	Medium	Glass fibre batt: R2.5 (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)
Study	1	2250	1773	N	4924	Yes
Living/Kitchen/Dining	1	1500	116	S	0	Yes
Living/Kitchen/Dining	1	2250	577	NE	0	Yes
Living/Kitchen/Dining	2	3000	311	NE	0	No

*Refer to glossary.

Living/Kitchen/Dining	2	3000	4048	E	0	No
Living/Kitchen/Dining	1	2250	547	N	0	Yes
Living/Kitchen/Dining	1	2250	1899	S	4912	Yes
Living/Kitchen/Dining	1	3000	5403	W	1322	Yes
Hallway	2	3000	12703	E	0	No
Hallway	2	3000	3341	N	0	No
Hallway	2	3000	2141	E	0	No
Hallway	2	3000	1200	N	0	No
Bedroom 3	1	2250	548	N	0	Yes
Bedroom 3	1	1500	557	S	0	Yes
Bedroom 3	1	3000	2290	W	0	Yes
Bedroom 2	1	2250	558	S	0	Yes
Bedroom 2	1	3000	2300	W	0	Yes
Ensuite	1	2250	541	S	0	Yes
Ensuite	2	3000	420	N	0	No
Ensuite	2	3000	253	E	0	No
Ensuite	2	3000	1443	N	0	No
Ensuite	1	2250	919	N	2418	Yes
Ensuite	1	2250	532	S	0	Yes
Ensuite	1	3000	1730	W	0	Yes
Ensuite	1	2250	530	N	0	Yes
Bedroom 1	1	3000	2274	W	0	Yes
Bedroom 1	1	2250	556	N	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	7 Har. St - R2.5 Brick External Wall	33.6	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)
2	7 Har. St - Internal Plasterboard Stud Wall	153.3	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Study	7 Har. St - Uninsulated 200mm Suspended CS	0.8	Enclosed	R0.0	Timber
Study	7 Har. St - Uninsulated 200mm Suspended CS	3.7	Enclosed	R0.0	Timber
Living/Kitchen/D- ining	7 Har. St - R2.3 200mm Concrete Slab Lined	2.9	Elevated	R3.2	Timber
Living/Kitchen/D- ining	7 Har. St - Uninsulated 200mm Suspended CS	43	Enclosed	R0.0	Timber

*Refer to glossary.

Living/Kitchen/D- ining	7 Har. St - R2.3 200mm Concrete Slab Lined	2.7	Elevated	R3.2	Timber
Living/Kitchen/D- ining	7 Har. St - Uninsulated 200mm Suspended CS	1.3	Enclosed	R0.0	Timber
Living/Kitchen/D- ining	7 Har. St - Uninsulated 200mm Suspended CS	1.4	Enclosed	R0.0	Timber
Living/Kitchen/D- ining	7 Har. St - Uninsulated 200mm Suspended CS	3.4	Enclosed	R0.0	Timber
Hallway	7 Har. St - Uninsulated 200mm Suspended CS	24.6	Enclosed	R0.0	Timber
Bedroom 3	7 Har. St - Uninsulated 200mm Suspended CS	8.4	Enclosed	R0.0	Timber
Bedroom 3	7 Har. St - R2.3 200mm Concrete Slab Lined	2.3	Elevated	R3.2	Timber
Bedroom 3	7 Har. St - R2.3 200mm Concrete Slab Lined	0.8	Elevated	R3.2	Timber
Bedroom 3	7 Har. St - Uninsulated 200mm Suspended CS	0.6	Enclosed	R0.0	Timber
Bathroom	7 Har. St - Uninsulated 200mm Suspended CS	4.2	Enclosed	R0.0	Tiles
Bedroom 2	7 Har. St - Uninsulated 200mm Suspended CS	1	Enclosed	R0.0	Timber
Bedroom 2	7 Har. St - R2.3 200mm Concrete Slab Lined	0.5	Elevated	R3.2	Timber
Bedroom 2	7 Har. St - R2.3 200mm Concrete Slab Lined	0.3	Elevated	R3.2	Timber
Bedroom 2	7 Har. St - Uninsulated 200mm Suspended CS	8.7	Enclosed	R0.0	Timber
Ensuite	7 Har. St - Uninsulated 200mm Suspended CS	6.6	Enclosed	R0.0	Tiles
Ensuite	7 Har. St - Uninsulated 200mm Suspended CS	2.4	Enclosed	R0.0	Tiles
Pantry	7 Har. St - Uninsulated 200mm Suspended CS	0.5	Enclosed	R0.0	Timber
Pantry	7 Har. St - Uninsulated 200mm Suspended CS	2.2	Enclosed	R0.0	Timber
Laundry	7 Har. St - Uninsulated 200mm Suspended CS	3.1	Enclosed	R0.0	Tiles
Bedroom 1	7 Har. St - Uninsulated 200mm Suspended CS	16.8	Enclosed	R0.0	Timber
Bedroom 1	7 Har. St - R2.3 200mm Concrete Slab Lined	2	Elevated	R3.2	Timber
Bedroom 1	7 Har. St - R2.3 200mm Concrete Slab Lined	2	Elevated	R3.2	Timber

Ceiling *type*

*Refer to glossary.

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Study	Plasterboard	R3.2	No
Study	Plasterboard	R6.0	No
Living/Kitchen/D- ining	Plasterboard	R3.2	No
Living/Kitchen/D- ining	Plasterboard	R3.2	No
Living/Kitchen/D- ining	Plasterboard	R6.0	No
Living/Kitchen/D- ining	Plasterboard	R6.0	No
Living/Kitchen/D- ining	Plasterboard	R6.0	No
Living/Kitchen/D- ining	Plasterboard	R6.0	No
Hallway	Plasterboard	R3.2	No
Bedroom 3	Plasterboard	R3.2	No
Bedroom 3	Plasterboard	R3.2	No
Bedroom 3	Plasterboard	R6.0	No
Bedroom 3	Plasterboard	R6.0	No
Bathroom	Plasterboard	R3.2	No
Bedroom 2	Plasterboard	R6.0	No
Bedroom 2	Plasterboard	R6.0	No
Bedroom 2	Plasterboard	R3.2	No
Ensuite	Plasterboard	R3.2	No
Ensuite	Plasterboard	R6.0	No
Pantry	Plasterboard	R6.0	No
Laundry	Plasterboard	R3.2	No
Bedroom 1	Plasterboard	R3.2	No
Bedroom 1	Plasterboard	R3.2	No
Bedroom 1	Plasterboard	R6.0	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Study	1	Downlights	90	90	Sealed
Living/Kitchen/Dining	21	Downlights	90	90	Sealed
Living/Kitchen/Dining	1	Exhaust Fans	250	250	Sealed
Hallway	9	Downlights	90	90	Sealed
Bedroom 3	4	Downlights	90	90	Sealed
Bathroom	1	Downlights	90	90	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bedroom 2	4	Downlights	90	90	Sealed
Ensuite	2	Downlights	90	90	Sealed
Ensuite	1	Exhaust Fans	250	250	Sealed

*Refer to glossary.

Pantry	1	Downlights	90	90	Sealed
Laundry	1	Downlights	90	90	Sealed
Laundry	1	Exhaust Fans	250	250	Unsealed
Bedroom 1	8	Downlights	90	90	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium
Cont:Attic-Continuous	1.3	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
Internal wall	90 x 40	600	0.75	0
External wall	90 x 40	600	0.75	0
Ceiling	90 x 40	900	0.75	0
Floor	100 x 50	450	1.50	0

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

*Refer to glossary.

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Appendix C: Preliminary Part J4D6 Building Fabric

J4D6 Façade Calculator

Address	7 HARTINGTON STREET, NORTHCOTE
Climate Zone	6
Building Classification	Class 9b
Level	3

	North	East	South	West	Internal
Façade area (m2)	248.6	32.8	266.6	81.8	0.0

Number of Rows 12

		Dimensions			Shading (m)	
Window No.	Orientation	Height (m)	Width (m)	Area (m2)	P	H
L1, 3-4Y/O(1), Glazing door	North	2.7	3.698	9.985	1.852	3.215
L1, 3-4Y/O(2), Glazing door	North	2.7	3.838	10.363	2.100	3.215
L1, 4Y/O, Glazing door	North	2.7	4.321	11.667	2.949	3.215
L1, Staff offices, Window(1)	South	2.7	0.42	1.134	0.304	3.215
L1, Staff offices, Window(2)	South	2.7	0.42	1.134	0.3	3.215
L1, Kitchen, Window(1)	South	2.7	0.42	1.134	0.3	3.215
L1, Kitchen, Window(2)	South	2.7	0.42	1.134	0.3	3.215
L2, Staff planning, Glass Curtain	West	2.6	9.04	23.504	1.600	2.288
L2, Corridor, Glazing door	North	2.7	1.933	5.2191	1	2.7
L2, 2-3Y/O(1), Glazing door	North	2.7	5.169	13.9563	1.438	2.7
L2, Child WC(1), Window	North	2.7	0.89	2.403	1.800	2.7
L2, 1-2Y/O, Window	North	2.7	8.097	21.8619	1.800	2.7
L2, Child WC(2), Window	North	2.7	2.5	6.75	1.800	2.7
L2, 0-1Y/O, Window	North	2.7	11.457	30.9339	1.800	2.7
				0		

RESULTS

Method 1	U-Value	SHGC	Min. Wall R-values
North	3.20	0.55	1
East	7.50	0.87	1.4
South	7.50	0.87	1.4
West	4.48	0.87	1
Internal	7.50		1.4

	U-Value	SHGC
Method 2	6.06	0.61

Appendix D: Renewable Energy

Building B - Solar PV

Inputs Solar PV

Peak Wattage of System	68.4	kWp
Azimuth	0	degrees
Inclination	10	degrees

Outputs Solar PV

Electricity Produced per Year	91,666	kWh
No. Panels Required	152	
Total Roof Area Required	362	sqm
Annual Carbon Savings	102,666	kg CO2

Economic Output

Cost of System	102,600	$
Annual Savings	18,333	$
Simple Payback	6	Years

Building C - Solar PV

Inputs Solar PV

Peak Wattage of System	10.8	kWp
Azimuth	0	degrees
Inclination	10	degrees

Outputs Solar PV

Electricity Produced per Year	14,474	kWh
No. Panels Required	24	
Total Roof Area Required	58	sqm
Annual Carbon Savings	16,210	kg CO2

Economic Output

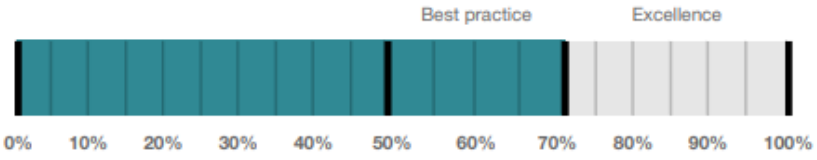
Cost of System	16,200	$
Annual Savings	2,895	$
Simple Payback	6	Years

Appendix E: BESS Assessment

This BESS report outlines the sustainable design commitments of the proposed development at 7 Hartington St Northcote Victoria 3070. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Darebin City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score

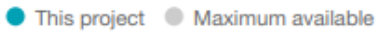


70%

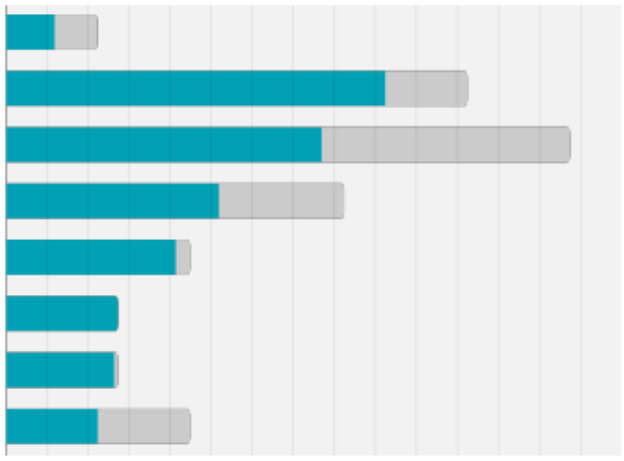
Project details

Name	7 Hartington Street, Northcote
Address	7 Hartington St Northcote Victoria 3070
Project ID	D99A9BF6-R1
BESS Version	BESS-9
Site type	Mixed use development
Account	info@giw.com.au
Application no.	
Site area	26,204 m²
Building floor area	20,293 m²
Date	08 August 2025
Software version	2.1.0-B.600

Performance by category



Category	Weight	Score	Pass
Management	5%	53%	-
Integrated Water Management	23%	82%	✓
Operational Energy	28%	56%	✓
Indoor Environment Quality	17%	63%	✓
Transport	9%	92%	-
Waste & Resource Recovery	6%	100%	-
Urban Ecology	6%	96%	-
Innovation	9%	50%	-



Buildings

Name	Height	Footprint	% of total footprint
Building A - Existing Building and Platia	4	12,427 m²	45%
Building B - Townhouses	3	5,335 m²	19%
Building D - Theatre, Elc and Restaurant	3	2,641 m²	9%
Building C1 - Apartment	4	3,081 m²	11%
Building C2 - Apartment	4	3,728 m²	13%

Dwellings & Non Res Spaces

Dwellings

Name	Quantity	Area	Building	% of total area
Townhouse				
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	9	276 m²	Building B - Townhouses	12%
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	6	208 m²	Building B - Townhouses	6%
Type I - B2.10	1	215 m²	Building B - Townhouses	1%
Type H - B2.05	1	208 m²	Building B - Townhouses	1%
Type G - B2.02	1	203 m²	Building B - Townhouses	1%
Type D - B1.12	1	241 m²	Building B - Townhouses	1%
Type C - B1.06	1	276 m²	Building B - Townhouses	1%
Type A - B1.01	1	275 m²	Building B - Townhouses	1%
Type E - B2.01	1	185 m²	Building B - Townhouses	< 1%
Total	**22**	**5,335 m²**	**26%**	
Apartment				
0.5, 1.5	2	170 m²	Building C1 - Apartment	1%
0.4, 1.4	2	129 m²	Building C1 - Apartment	1%
0.2, 1.2	2	141 m²	Building C1 - Apartment	1%
0.1, 1.1	2	127 m²	Building C1 - Apartment	1%
3.3	1	217 m²	Building C2 - Apartment	1%
3.2	1	208 m²	Building C2 - Apartment	1%
3.1	1	313 m²	Building C2 - Apartment	1%
0.6, 1.6	2	158 m²	Building C2 - Apartment	1%
0.5, 1.5	2	144 m²	Building C2 - Apartment	1%
0.3, 1.3	2	140 m²	Building C2 - Apartment	1%
0.2, 1.2	2	138 m²	Building C2 - Apartment	1%
0.1, 1.1	2	128 m²	Building C2 - Apartment	1%
LG.01	1	267 m²	Building A - Existing Building and Platia	1%

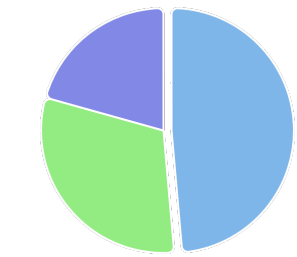
G.03	1	244 m²	Building A - Existing Building and Platia	1%
G.01	1	231 m²	Building A - Existing Building and Platia	1%
1.05	1	215 m²	Building A - Existing Building and Platia	1%
1.03	1	246 m²	Building A - Existing Building and Platia	1%
1.01	1	232 m²	Building A - Existing Building and Platia	1%
3.4	1	177 m²	Building C1 - Apartment	< 1%
3.3	1	168 m²	Building C1 - Apartment	< 1%
3.2	1	181 m²	Building C1 - Apartment	< 1%
3.1	1	132 m²	Building C1 - Apartment	< 1%
2.6	1	53.1 m²	Building C1 - Apartment	< 1%
2.5	1	150 m²	Building C1 - Apartment	< 1%
2.4	1	129 m²	Building C1 - Apartment	< 1%
2.3	1	92.2 m²	Building C1 - Apartment	< 1%
2.2	1	141 m²	Building C1 - Apartment	< 1%
2.1	1	120 m²	Building C1 - Apartment	< 1%
0.6, 1.6	2	59.2 m²	Building C1 - Apartment	< 1%
0.3, 1.3	2	92.2 m²	Building C1 - Apartment	< 1%
2.7	1	56.4 m²	Building C2 - Apartment	< 1%
0.7, 1.7	2	62.7 m²	Building C2 - Apartment	< 1%
2.6	1	150 m²	Building C2 - Apartment	< 1%
2.5	1	144 m²	Building C2 - Apartment	< 1%
2.4	1	89.4 m²	Building C2 - Apartment	< 1%
2.3	1	140 m²	Building C2 - Apartment	< 1%
2.2	1	124 m²	Building C2 - Apartment	< 1%
2.1	1	126 m²	Building C2 - Apartment	< 1%
0.4, 1.4	2	89.3 m²	Building C2 - Apartment	< 1%
LG.02	1	104 m²	Building A - Existing Building and Platia	< 1%
G.06	1	114 m²	Building A - Existing Building and Platia	< 1%
G.05	1	162 m²	Building A - Existing Building and Platia	< 1%
G.04	1	199 m²	Building A - Existing Building and Platia	< 1%
2.01	1	112 m²	Building A - Existing Building and Platia	< 1%
1.04	1	201 m²	Building A - Existing Building and Platia	< 1%
1.02	1	52.3 m²	Building A - Existing Building and Platia	< 1%
Total	**59**	**8,440 m²**	**41%**	

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Shop				
Cafe	1	158 m²	Building A - Existing Building and Platia	< 1%
Total	**1**	**158 m²**	**< 1%**	
Public building				

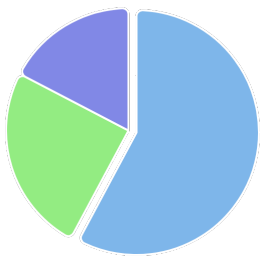
Church/Function	1	1,927 m²	Building A - Existing Building and Platia	9%
Theatre	1	1,173 m²	Building D - Theatre, Elc and Restaurant	5%
Art Spaces	1	489 m²	Building A - Existing Building and Platia	2%
Total	**3**	**3,588 m²**	**17%**	
Other building				
Hotel	1	1,497 m²	Building A - Existing Building and Platia	7%
ELC	1	1,275 m²	Building D - Theatre, Elc and Restaurant	6%
Total	**2**	**2,771 m²**	**13%**	

Project composition



Apartment Townhouse Public building

Building composition



Building A - Existing Building and Platia Building B - Townhouses Building C2 - Apartment

Supporting Evidence

Shown on Floor Plans

Credit	Requirement	Response	Status
Management 3.1	Annotation: Individual utility meters to be provided to all individual dwellings		-
Management 3.2	Annotation: Individual utility meters to be provided to all individual commercial tenancies		-
Management 3.3	Annotation: Sub-meters to be provided to all major common area services (list each)		-
Integrated Water Management 2.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)		-
Integrated Water Management 3.1	Annotation: Water efficient garden details		-
Operational Energy 3.1	Carpark with natural ventilation or CO monitoring system		-
Operational Energy 3.3	Annotation: External lighting controlled by motion sensors		-
Operational Energy 3.4	Location of clothes line (if proposed)		-
Operational Energy 4.2	Location and size of solar photovoltaic system		-

Credit	Requirement	Response	Status
Operational Energy 4.5	Location and size of solar photovoltaic system		-
Indoor Environment Quality 1.1	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.		-
Indoor Environment Quality 1.2	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.		-
Indoor Environment Quality 2.1	Dwellings meeting the requirements for being 'naturally ventilated'		-
Indoor Environment Quality 2.2	Annotation: Dwellings designed for 'natural cross flow ventilation' (If not all dwellings, include a list of compliant dwellings)		-
Indoor Environment Quality 3.1	Annotation: Glazing specification (U-value, SHGC)		-
Indoor Environment Quality 3.2	Shading devices		-
Indoor Environment Quality 3.3	North-facing living areas		-
Transport 1.1	Location of residential bicycle parking spaces		-
Transport 1.2	Location of residential visitor bicycle parking spaces		-
Transport 1.4	Location of non-residential bicycle parking spaces		-
Transport 1.5	Location of non-residential visitor bicycle parking spaces		-
Transport 2.1	Location of electric vehicle charging infrastructure		-
Transport 2.2	Location of car share parking space(s)		-
Transport 2.3	Location of nominated motorbicycle parking spaces		-
Waste & Resource Recovery 2.1	Location of food and garden waste facilities		-
Waste & Resource Recovery 2.2	Location of recycling facilities		-
Urban Ecology 1.1	Location and size of communal spaces		-
Urban Ecology 2.1	Location and size of vegetated areas		-
Urban Ecology 2.2	Location and size of green roof		-
Urban Ecology 2.3	Location and size of green facade		-
Urban Ecology 2.4	Location of taps and floor waste on balconies / courtyards		-
Urban Ecology 3.1	Location of food production areas		-

Supporting Documentation

Credit	Requirement	Response	Status
Management 2.2	Preliminary NatHERS assessments		-
Management 2.3a	Section J glazing assessment		-
Integrated Water Management 2.1	STORM report or MUSIC model		-
Operational Energy 1.1	Energy Report showing calculations of reference case and proposed buildings		-
Operational Energy 3.1	Details of either the fully natural carpark ventilation or CO monitoring system proposed		-
Operational Energy 3.5	Average lighting power density and lighting type(s) to be used		-
Operational Energy 3.6	Average lighting power density and lighting type(s) to be used		-
Operational Energy 3.7	Average lighting power density and lighting type(s) to be used		-
Operational Energy 4.2	Specifications of the solar photovoltaic system(s)		-
Operational Energy 4.5	Specifications of the solar photovoltaic system(s)		-
Indoor Environment Quality 1.1	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
Indoor Environment Quality 1.2	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-

Credit	Requirement	Response	Status
Indoor Environment Quality 1.4	A short report detailing assumptions used and results achieved.		-
Indoor Environment Quality 2.1	A list of naturally ventilated dwellings		-
Indoor Environment Quality 2.2	A list of dwellings with natural cross flow ventilation		-
Indoor Environment Quality 3.1	Reference to floor plans or energy modelling showing the glazing specification (U-value and Solar Heat Gain Coefficient, SHGC)		-
Indoor Environment Quality 3.2	Reference to floor plans and elevations showing shading devices		-
Indoor Environment Quality 3.3	Reference to the floor plans showing living areas orientated to the north		-
Waste & Resource Recovery 1.1	Details regarding how the existing building is being reused on-site		-

Credit summary

Management **Overall contribution 4.5%**

53%

1.1 Pre-Application Meeting	0%
2.2 Thermal Performance Modelling - Multi-Dwelling Residential	100%
2.3 Thermal Performance Modelling - Non-Residential	27%
3.1 Metering - Residential	100%
3.2 Metering - Non-Residential	100%
3.3 Metering - Common Areas	100%
4.1 Building Users Guide	100%

IWM **Overall contribution 22.5%**

82% ✔ **Pass**

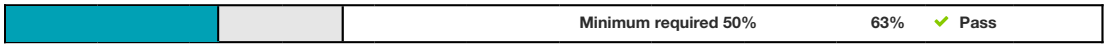
1.1 Potable Water Use	43%	✔ Achieved
2.1 Stormwater Treatment	100%	✔ Achieved
3.1 Water Efficient Landscaping	100%	
4.1 Building Systems Water Use	100%	

Operational Energy Overall contribution 27.5%

	Minimum required 50%	56%	✔ Pass

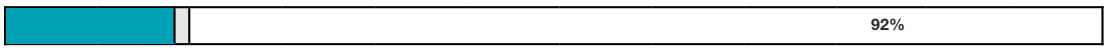
1.1 Thermal Performance Rating - Non-Residential	12%	
1.2 Thermal Performance Rating - Residential	50%	✔ Achieved
2.1 Greenhouse Gas Emissions	53%	
2.2 Peak Demand	0%	
2.6 Electrification	0%	⊘ Disabled
Credit is available when the energy supply is set to all-electric (no gas or wood).		
2.7 Energy consumption	100%	
3.1 Carpark Ventilation	100%	
3.2 Hot Water - Non-Residential	100%	
3.3 External Lighting	100%	
3.4 Clothes Drying	66%	
3.5 Internal Lighting - Houses and Townhouses	100%	
3.6 Internal Lighting - Apartments	100%	
3.7 Internal Lighting - Non-Residential	100%	
4.1 Combined Heat and Power (cogeneration / trigeneration)	N/A	⌖ Scoped Out
No cogeneration or trigeneration system in use.		
4.2 Renewable Energy Systems - Solar	56%	
4.4 Renewable Energy Systems - Other	N/A	⌖ Scoped Out
No other (non-solar PV) renewable energy is in use.		
4.5 Solar PV - Houses and Townhouses	100%	

IEQ Overall contribution 16.5%



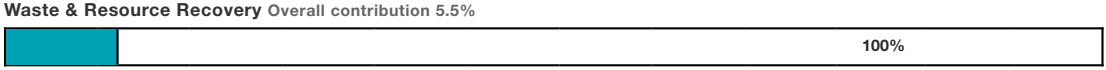
1.1 Daylight Access - Living Areas	100%	
1.2 Daylight Access - Bedrooms	100%	
1.3 Winter Sunlight	0%	
1.4 Daylight Access - Non-Residential	33%	✔ Achieved
2.1 Ventilation - Natural - Apartments	66%	
2.2 Cross Flow Ventilation	100%	
2.3 Ventilation - Non-Residential	33%	✔ Achieved
3.1 Thermal comfort - Double Glazing	100%	
3.2 Thermal Comfort - External Shading	100%	
3.3 Thermal Comfort - Orientation	100%	
3.4 Thermal comfort - Shading - Non-Residential	66%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential	0%	
4.1 Air Quality - Non-Residential	100%	

Transport Overall contribution 9.0%



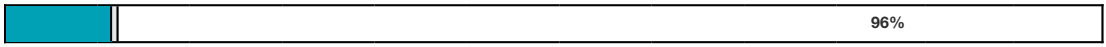
1.1 Bicycle Parking - Residential	100%	
1.2 Bicycle Parking - Residential Visitor	100%	
1.3 Bicycle Parking - Convenience Residential	0%	
1.4 Bicycle Parking - Non-Residential	100%	
1.5 Bicycle Parking - Non-Residential Visitor	100%	
1.6 End of Trip Facilities - Non-Residential	0%	
2.1 Electric Vehicle Infrastructure	100%	
2.2 Car Share Scheme	100%	
2.3 Motorbikes / Mopeds	100%	

Waste & Resource Recovery Overall contribution 5.5%



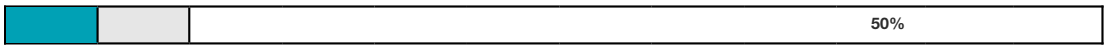
1.1 Construction Waste - Building Re-Use	100%	
2.1 Operational Waste - Food & Garden Waste	100%	
2.2 Operational Waste - Convenience of Recycling	100%	

Urban Ecology Overall contribution 5.5%



1.1 Communal Spaces	100%
2.1 Vegetation	100%
2.2 Green Roofs	100%
2.3 Green Walls and Facades	100%
2.4 Balconies, Courtyards & Roof terraces	100%
3.1 Food Production - Residential	100%
3.2 Food Production - Non-Residential	0%

Innovation Overall contribution 9.0%



1.1 Innovation	50%

Credit breakdown

Management Overall contribution 4.5%

53%

1.1 Pre-Application Meeting	0%
Score Contribution	This credit contributes 40.1% towards the category score.
Criteria	Has an ESD professional been engaged to provide sustainability advice from schematic design to construction? AND Has the ESD professional been involved in a pre-application meeting with Council?
Question	Criteria Achieved ?
Project	No
2.2 Thermal Performance Modelling - Multi-Dwelling Residential	100%
Score Contribution	This credit contributes 18.2% towards the category score.
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?
Question	Criteria Achieved ?
Townhouse	Yes
Apartment	Yes
2.3 Thermal Performance Modelling - Non-Residential	27%
Score Contribution	This credit contributes 8.6% towards the category score.
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2022 Section J4D6?
Question	Criteria Achieved ?
Shop	No
Public building	Yes
Other building	No
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2022 Section J (Energy Efficiency), NABERS or Green Star?
Question	Criteria Achieved ?
Shop	No
Public building	No
Other building	No
3.1 Metering - Residential	100%
Score Contribution	This credit contributes 5.6% towards the category score.
Criteria	Have utility meters been provided for all individual dwellings?
Question	Criteria Achieved ?
Apartment	Yes
3.2 Metering - Non-Residential	100%

Score Contribution	This credit contributes 4.3% towards the category score.
Criteria	Have utility meters been provided for all individual commercial tenants?
Question	Criteria Achieved ?
Shop	Yes
Public building	Yes
Other building	Yes

3.3 Metering - Common Areas	100%

Score Contribution	This credit contributes 9.9% towards the category score.
Criteria	Have all major common area services been separately submetered?
Question	Criteria Achieved ?
Apartment	Yes
Shop	Yes
Public building	Yes
Other building	Yes

4.1 Building Users Guide	100%

Score Contribution	This credit contributes 13.4% towards the category score.
Criteria	Will a building users guide be produced and issued to occupants?
Question	Criteria Achieved ?
Project	Yes

IWM Overall contribution 22.5%

82% ✔ Pass

Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Stormwater profile	
Which stormwater modelling software are you using?:	MUSIC or other modelling software
STORM score achieved:	-
Flow:	0 %
Total Suspended Solids:	80 %
Total Phosphorus:	62 %
Total Nitrogen:	61 %
Rainwater tank profile	
What is the total roof area connected to the rainwater tank?:	
Rainwater Tank 2 - Building B	1,331 m²
Rainwater Tank 3 - Building C1	428 m²
Rainwater Tank 4 - Building C2	434 m²
Rainwater Tank 5 - Building D	1,166 m²
Tank Size:	
Rainwater Tank 2 - Building B	60,000 Litres
Rainwater Tank 3 - Building C1	30,000 Litres
Rainwater Tank 4 - Building C2	30,000 Litres
Rainwater Tank 5 - Building D	60,000 Litres
Irrigation area connected to tank:	
Rainwater Tank 2 - Building B	2,787 m²
Rainwater Tank 3 - Building C1	1,348 m²
Rainwater Tank 4 - Building C2	1,349 m²
Rainwater Tank 5 - Building D	2,339 m²
Is connected irrigation area a water efficient garden?:	
Rainwater Tank 2 - Building B	No
Rainwater Tank 3 - Building C1	No
Rainwater Tank 4 - Building C2	No
Rainwater Tank 5 - Building D	No
Other external water demand connected to tank?:	
Rainwater Tank 2 - Building B	0.0 Litres/Day
Rainwater Tank 3 - Building C1	0.0 Litres/Day
Rainwater Tank 4 - Building C2	0.0 Litres/Day
Rainwater Tank 5 - Building D	0.0 Litres/Day
Fixtures, fittings & connections profile	

Building:	
1.01	Building A - Existing Building and Platia
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
Hotel	
Church/Function	
Art Spaces	
Cafe	
Type A - B1.01	Building B - Townhouses
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	
ELC	Building C2 - Apartment
Theatre	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	Building C1 - Apartment
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	

Showerhead:	
1.01	4 Star WELS (>= 6.0 but <= 7.5)
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
Hotel	
Type A - B1.01	
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	

Bath: All	Scope out
Kitchen Taps: All	>= 6 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers: All	>= 5 Star WELS rating
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out

Washing Machine Water Efficiency:	
1.01	Occupant to Install
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
Type A - B1.01	
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
3.4	

Which non-potable water source is the dwelling/space connected to?:	
1.01 1.02 1.03 1.04 1.05 2.01 G.03 G.04 G.05 G.06 LG.01 LG.02 Hotel Church/Function Art Spaces Cafe	-1
G.01 Type A - B1.01 Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11 Type C - B1.06 Type D - B1.12 Type E - B2.01 Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09 Type G - B2.02 Type H - B2.05 Type I - B2.10	230969
ELC Theatre	230972
0.1, 1.1 0.2, 1.2 0.3, 1.3 0.4, 1.4 0.5, 1.5 0.6, 1.6 2.1 2.2 2.3 2.4 2.5 2.6 3.1 3.2 3.3 0.7, 1.7 2.7	230971
0.1, 1.1 0.2, 1.2 0.3, 1.3 0.4, 1.4 0.5, 1.5 0.6, 1.6 2.1 2.2	230970

Non-potable water source connected to Toilets:	
1.01	No
1.02	
1.03	
1.04	
1.05	
2.01	
Hotel	
Cafe	
G.01	Yes
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
Church/Function	
Art Spaces	
Type A - B1.01	
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	
ELC	
Theatre	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	

Non-potable water source connected to Laundry (washing machine): All	No
Non-potable water source connected to Hot Water System: All	No

1.1 Potable Water Use		43%	✔ Achieved
Score Contribution	This credit contributes 31.2% towards the category score.		
Criteria	What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction.		
Output	Reference		
Project	30234 kL		
Output	Proposed (excluding rainwater and recycled water use)		
Project	23829 kL		
Output	Proposed (including rainwater and recycled water use)		
Project	21772 kL		
Output	% Reduction in Potable Water Consumption		
Project	27 %		
Output	% of connected demand met by rainwater		
Project	29 %		
Output	How often does the tank overflow?		
Project	Never / Rarely		
Output	Opportunity for additional rainwater connection		
Project	8987 kL		

2.1 Stormwater Treatment		100%	✔ Achieved
Score Contribution	This credit contributes 56.2% towards the category score.		
Criteria	Has best practice stormwater management been demonstrated?		
Output	Flow		
Project	0 %		
Output	Min Suspended Solids reduction		
Project	80 %		
Output	Total Suspended Solids reduction		
Project	80 %		
Output	Min Phosphorus reduction		
Project	45 %		
Output	Total Phosphorus reduction		
Project	62 %		
Output	Min Nitrogen reduction		
Project	45 %		
Output	Total Nitrogen reduction		
Project	61 %		

3.1 Water Efficient Landscaping		100%

Score Contribution	This credit contributes 6.2% towards the category score.
Criteria	Will water efficient landscaping be installed?
Question	Criteria Achieved ?
Project	Yes

4.1 Building Systems Water Use	100%

Score Contribution	This credit contributes 6.2% towards the category score.
Criteria	Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?
Question	Criteria Achieved ?
Project	Yes

Operational Energy Overall contribution 27.5%

		Minimum required 50%	56%	✔ Pass

Project profile	
Use the BESS Deem to Satisfy (DtS) method for Non-residential spaces?:	No
Are you installing any renewable energy system(s) (other than solar photovoltaic)?:	No
Energy Supply:	Electricity & Natural Gas
Are you installing a cogeneration or trigeneration system?:	No
Solar Photovoltaic system profile	
System Size (lesser of inverter and panel capacity):	
10.8 kWp peak	Solar Photovoltaic system 1
68.8 kWp peak	Solar Photovoltaic system 2
Orientation (which way is the system facing)?:	
Solar Photovoltaic system 1	North
Solar Photovoltaic system 2	North
Inclination (angle from horizontal):	
Solar Photovoltaic system 1	10.0 Angle (degrees)
Solar Photovoltaic system 2	10.0 Angle (degrees)
Which Building Class does this apply to?:	
Solar Photovoltaic system 1	Apartment
Solar Photovoltaic system 2	Townhouse
Dwellings profile	

Building:	
1.01 1.02 1.03 1.04 1.05 2.01 G.01 G.03 G.04 G.05 G.06 LG.01 LG.02	Building A - Existing Building and Platia
Type A - B1.01 Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11 Type C - B1.06 Type D - B1.12 Type E - B2.01 Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09 Type G - B2.02 Type H - B2.05 Type I - B2.10	Building B - Townhouses
0.1, 1.1 0.2, 1.2 0.3, 1.3 0.4, 1.4 0.5, 1.5 0.6, 1.6 2.1 2.2 2.3 2.4 2.5 2.6 3.1 3.2 3.3 0.7, 1.7 2.7	Building C2 - Apartment
0.1, 1.1 0.2, 1.2 0.3, 1.3 0.4, 1.4 0.5, 1.5 0.6, 1.6 2.1 2.2 2.3 2.4 2.5 2.6 3.1 3.2 3.3	Building C1 - Apartment

Below the floor is:	
1.01	Another Occupancy
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
3.4	
Type A - B1.01	Ground or Carpark
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	

Above the ceiling is:	
1.01	Another Occupancy
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
3.4	
Type A - B1.01	Outside
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	

Exposed sides: All	2
NatHERS Annual Energy Loads - Heat: All	34.4 MJ/sqm
NatHERS Annual Energy Loads - Cool: All	19.9 MJ/sqm
NatHERS star rating: All	7.5

Type of Heating System:	
1.01	Reverse cycle space
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
3.4	
Type A - B1.01	Reverse cycle ducted
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	

Heating System Efficiency:	All	2.5 Stars (2019 MEPS)

Type of Cooling System:	
1.01	Refrigerative space
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
3.4	
Type A - B1.01	Refrigerative ducted
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	

Cooling System Efficiency:	All	4 Stars (2019 MEPS)

Type of Hot Water System:	
1.01	Electric Heat Pump Band 1
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
3.4	
Type A - B1.01	Electric Instantaneous
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	

Is the hot water system shared by multiple dwellings?:	
1.01	Yes
1.02	
1.03	
1.04	
1.05	
2.01	
G.01	
G.03	
G.04	
G.05	
G.06	
LG.01	
LG.02	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
0.7, 1.7	
2.7	
0.1, 1.1	
0.2, 1.2	
0.3, 1.3	
0.4, 1.4	
0.5, 1.5	
0.6, 1.6	
2.1	
2.2	
2.3	
2.4	
2.5	
2.6	
3.1	
3.2	
3.3	
3.4	
Type A - B1.01	N/A
Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11	
Type C - B1.06	
Type D - B1.12	
Type E - B2.01	
Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09	
Type G - B2.02	
Type H - B2.05	
Type I - B2.10	

% Contribution from solar hot water system:	All	0 %

Clothes Line:	
1.01 1.02 1.03 1.04 1.05 2.01 G.01 G.03 G.04 G.05 G.06 LG.01 LG.02	No drying facilities
Type A - B1.01 Type B - B1.02, B1.03, B1.04, B1.05, B1.07, B1.08, B1.09, B1.10, B1.11 Type C - B1.06 Type D - B1.12 Type E - B2.01 Type F - B2.03, B2.04, B2.06, B2.07, B2.08, B2.09 Type G - B2.02 Type H - B2.05 Type I - B2.10	Private outdoor clothesline
0.1, 1.1 0.2, 1.2 0.3, 1.3 0.4, 1.4 0.5, 1.5 0.6, 1.6 2.1 2.2 2.3 2.4 2.5 2.6 3.1 3.2 3.3 0.7, 1.7 2.7 0.1, 1.1 0.2, 1.2 0.3, 1.3 0.4, 1.4 0.5, 1.5 0.6, 1.6 2.1 2.2 2.3 2.4 2.5 2.6 3.1 3.2 3.3	Shared clothesline

Clothes Dryer: All	Occupant to install
Non-residential buildings profiles	
Heating, Cooling & Comfort Ventilation Electricity Reference fabric and Reference services: All	1,000 kWh
Heating, Cooling & Comfort Ventilation Electricity Proposed fabric and Reference services: All	1,000 kWh
Heating, Cooling & Comfort Ventilation Electricity Proposed fabric and Proposed services: All	1,000 kWh
Heating - Gas - Reference fabric and services: All	0.0 MJ
Heating - Gas - Proposed fabric and Reference services: All	0.0 MJ
Heating Gas Proposed fabric & Proposed services: All	0.0 MJ
Heating Wood Reference fabric and Reference services: All	0.0 MJ
Heating Wood Proposed fabric and Reference services: All	0.0 MJ
Heating Wood Proposed fabric and Proposed services: All	0.0 MJ
Hot Water Electricity - Reference: All	1,000 kWh
Hot Water Electricity - Proposed: All	1,000 kWh
Hot Water Gas - Reference: All	0.0 MJ
Hot Water Gas - Proposed: All	0.0 MJ
Lighting Electricity - Reference: All	1,000 kWh
Lighting Electricity - Proposed: All	1,000 kWh
Peak Thermal Cooling Load Reference: All	0.0 kW
Peak Thermal Cooling Load Proposed: All	0.0 kW
1.1 Thermal Performance Rating - Non-Residential	12%

Score Contribution	This credit contributes 13.4% towards the category score.
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC2022 Section J)?
Output	Total Improvement
Shop	0 %
Public building	0 %
Other building	0 %

1.2 Thermal Performance Rating - Residential 50% ✔ Achieved

Score Contribution	This credit contributes 10.6% towards the category score.
Criteria	What is the average NatHERS rating?
Output	Average NATHERS Rating (Weighted)
Townhouse	7.5 Stars
Apartment	7.5 Stars

2.1 Greenhouse Gas Emissions 53%

Score Contribution	This credit contributes 13% towards the category score.
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?
Output	Reference Building with Reference Services (BCA only)
Townhouse	74,850 kg CO2
Apartment	142,925 kg CO2
Shop	38.8 kg CO2
Public building	1,349 kg CO2
Other building	1,190 kg CO2
Output	Proposed Building with Proposed Services (Actual Building)
Townhouse	87,211 kg CO2
Apartment	124,503 kg CO2
Shop	38.8 kg CO2
Public building	1,349 kg CO2
Other building	1,190 kg CO2
Output	% Reduction in GHG Emissions
Townhouse	-17 %
Apartment	12 %
Shop	0 %
Public building	0 %
Other building	0 %

2.2 Peak Demand 0%

Score Contribution	This credit contributes 1.7% towards the category score.
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?

2.6 Electrification 0% ⊘ Disabled

Credit is available when the energy supply is set to all-electric (no gas or wood).

This credit is disabled	Credit is available when the energy supply is set to all-electric (no gas or wood).

2.7 Energy consumption		100%
Score Contribution	This credit contributes 20.8% towards the category score.	
Criteria	What is the % reduction in annual energy consumption against the benchmark?	
Output	Reference Building with Reference Services (BCA only)	
Townhouse	662,925 MJ	
Apartment	1,317,285 MJ	
Shop	177 MJ	
Public building	6,147 MJ	
Other building	5,421 MJ	
Output	Proposed Building with Proposed Services (Actual Building)	
Townhouse	397,419 MJ	
Apartment	567,355 MJ	
Shop	177 MJ	
Public building	6,147 MJ	
Other building	5,421 MJ	
Output	% Reduction in total energy	
Townhouse	40 %	
Apartment	56 %	
Shop	0 %	
Public building	0 %	
Other building	0 %	

3.1 Carpark Ventilation		100%
Score Contribution	This credit contributes 5.2% towards the category score.	
Criteria	If you have an enclosed carpark, is it: (a) fully naturally ventilated (no mechanical ventilation system) or (b) 40 car spaces or less with Carbon Monoxide monitoring to control the operation and speed of the ventilation fans?	
Question	Criteria Achieved ?	
Project	Yes	

3.2 Hot Water - Non-Residential	100%

Score Contribution	This credit contributes 1.7% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?
Output	Reference
Shop	88.3 MJ
Public building	3,073 MJ
Other building	2,710 MJ
Output	Proposed
Shop	88.3 MJ
Public building	3,073 MJ
Other building	2,710 MJ
Output	Improvement
Shop	0 %
Public building	0 %
Other building	0 %

3.3 External Lighting 100%

Score Contribution	This credit contributes 0.7% towards the category score.
Criteria	Is the external lighting controlled by a motion detector?
Question	Criteria Achieved ?
Townhouse	Yes

3.4 Clothes Drying 66%

Score Contribution	This credit contributes 3.5% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) from a combination of clothes lines and efficient driers against the benchmark?
Output	Reference
Townhouse	15,109 kWh
Apartment	31,820 kWh
Output	Proposed
Townhouse	3,022 kWh
Apartment	24,607 kWh
Output	Improvement
Townhouse	80 %
Apartment	22 %

3.5 Internal Lighting - Houses and Townhouses 100%

Score Contribution	This credit contributes 0.7% towards the category score.
Criteria	Does the development achieve a maximum illumination power density of 4W/sqm or less?
Question	Criteria Achieved?
Townhouse	Yes

3.6 Internal Lighting - Apartments 100%

Score Contribution	This credit contributes 2.2% towards the category score.
Criteria	Is the maximum illumination power density (W/m2) in at least 90% of the relevant building class at least 20% lower than required by clause J7D3(1)(a) and Table J6.2a of the NCC 2022 Vol 1 (Class 2-9)?
Question	Criteria Achieved ?
Apartment	Yes

3.7 Internal Lighting - Non-Residential 100%

Score Contribution	This credit contributes 3.3% towards the category score.
Criteria	Does the maximum illumination power density (W/m2) in at least 90% of the area of the relevant building class meet the requirements in Table J7D3a of the NCC 2022 Vol 1?
Question	Criteria Achieved ?
Shop	Yes
Public building	Yes
Other building	Yes

4.1 Combined Heat and Power (cogeneration / trigeneration) N/A Scoped Out

No cogeneration or trigeneration system in use.

This credit was scoped out	No cogeneration or trigeneration system in use.

4.2 Renewable Energy Systems - Solar 56%

Score Contribution	This credit contributes 3.8% towards the category score.
Criteria	What % of the estimated energy consumption of the building class it supplies does the solar power system provide?
Output	Solar Power - Energy Generation per year
Apartment	13,088 kWh
Output	% of Building's Energy
Apartment	8 %

4.4 Renewable Energy Systems - Other N/A Scoped Out

No other (non-solar PV) renewable energy is in use.

This credit was scoped out	No other (non-solar PV) renewable energy is in use.

4.5 Solar PV - Houses and Townhouses 100%

Score Contribution	This credit contributes 2.7% towards the category score.
Criteria	What % of the estimated energy consumption of the building class it supplies does the solar power system provide?
Output	Solar Power - Energy Generation per year
Townhouse	82,890 kWh
Output	% of Building's Energy
Townhouse	75 %

IEQ **Overall contribution 16.5%**

		Minimum required 50%	**63%**	✔ **Pass**

Use the BESS Deemed to Satisfy (DtS) method for daylight to Dwellings?:	No
What approach do you want to use for daylight to Dwellings?:	Use the built in calculation tools
Rooms	
Room Designation:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R Building A - Living - G.04 Building A - Living - 1.04 Building A - Living - G.05 Building A - Living - 1.05 Building C2 - All Living except 1.2, 2.2 Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3 Building C1 - Living - 0.2, 1.2 and 2.2 Building C1 - Living - 3.3 Building C2 - Al Living - 1.2, 2.2	Living
Building A - Bedrooms Building C2 - All Bed Building C1 - All Bed	Bedroom
Quantity:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R	10
Building A - Bedrooms	33
Building A - Living - G.04 Building A - Living - 1.04 Building A - Living - G.05 Building A - Living - 1.05 Building C1 - Living - 3.3	1
Building C2 - All Living except 1.2, 2.2	22
Building C2 - All Bed	63
Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3	18
Building C1 - All Bed	57
Building C1 - Living - 0.2, 1.2 and 2.2	3
Building C2 - Al Living - 1.2, 2.2	2

Auto-Pass:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R Building A - Bedrooms Building A - Living - G.04 Building A - Living - 1.04 Building A - Living - G.05 Building A - Living - 1.05 Building C2 - All Living except 1.2, 2.2 Building C2 - All Bed Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3 Building C1 - All Bed	Yes
Building C1 - Living - 0.2, 1.2 and 2.2 Building C1 - Living - 3.3 Building C2 - Al Living - 1.2, 2.2	No
Room Floor Area:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R Building A - Bedrooms Building C2 - All Living except 1.2, 2.2 Building C2 - All Bed Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3 Building C1 - All Bed	0.0 m^2
Building A - Living - G.04 Building A - Living - 1.04	75.0 m^2
Building A - Living - G.05 Building A - Living - 1.05	66.0 m^2
Building C1 - Living - 0.2, 1.2 and 2.2	40.0 m^2
Building C1 - Living - 3.3	56.4 m^2
Building C2 - Al Living - 1.2, 2.2	37.8 m^2
Vertical Angle:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R Building A - Bedrooms Building C2 - All Living except 1.2, 2.2 Building C2 - All Bed Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3 Building C1 - All Bed	0.0 Angle (degrees)
Building A - Living - G.04 Building A - Living - G.05 Building C2 - Al Living - 1.2, 2.2	36.0 Angle (degrees)
Building A - Living - 1.04 Building A - Living - 1.05	21.0 Angle (degrees)
Building C1 - Living - 0.2, 1.2 and 2.2	27.0 Angle (degrees)
Building C1 - Living - 3.3	55.0 Angle (degrees)

Horizontal Angle:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R Building A - Bedrooms Building C2 - All Living except 1.2, 2.2 Building C2 - All Bed Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3 Building C1 - All Bed	0.0 Angle (degrees)
Building A - Living - G.04 Building A - Living - 1.04	110 Angle (degrees)
Building A - Living - G.05 Building A - Living - 1.05	66.0 Angle (degrees)
Building C1 - Living - 0.2, 1.2 and 2.2	73.0 Angle (degrees)
Building C1 - Living - 3.3	106 Angle (degrees)
Building C2 - Al Living - 1.2, 2.2	80.0 Angle (degrees)
Window Area:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R Building A - Bedrooms Building C2 - All Living except 1.2, 2.2 Building C2 - All Bed Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3 Building C1 - All Bed	0.0 m^2
Building A - Living - G.04 Building A - Living - 1.04 Building A - Living - 1.05	10.7 m^2
Building A - Living - G.05	5.3 m^2
Building C1 - Living - 0.2, 1.2 and 2.2	15.0 m^2
Building C1 - Living - 3.3	10.5 m^2
Building C2 - Al Living - 1.2, 2.2	14.4 m^2
Window Orientation:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R Building A - Bedrooms Building C2 - All Living except 1.2, 2.2 Building C2 - All Bed Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3 Building C1 - All Bed	-
Building A - Living - G.04 Building A - Living - 1.04	South-West
Building A - Living - G.05 Building A - Living - 1.05	North-East
Building C1 - Living - 0.2, 1.2 and 2.2	West
Building C1 - Living - 3.3	East
Building C2 - Al Living - 1.2, 2.2	South

Glass Type:	
Building A - Living - LG.01, LG.02, G.01, G.03, G.06, 1.01, 1.02, 1.03, 2.01, A.R Building A - Bedrooms Building C2 - All Living except 1.2, 2.2 Building C2 - All Bed Building C1 - All Living except 0.2, 1.2, 2.2 and 3.3 Building C1 - All Bed	-
Building A - Living - G.04 Building A - Living - 1.04 Building A - Living - G.05 Building A - Living - 1.05 Building C1 - Living - 0.2, 1.2 and 2.2 Building C1 - Living - 3.3 Building C2 - Al Living - 1.2, 2.2	Clear Low-E Double (VLT 0.73)
Daylight Criteria Achieved?: All	Yes

1.1 Daylight Access - Living Areas	100%
Score Contribution	This credit contributes 11.4% towards the category score.
Criteria	What % of living areas achieve the daylight criteria?
Output	Calculated percentage
Apartment	100 %

1.2 Daylight Access - Bedrooms	100%
Score Contribution	This credit contributes 11.4% towards the category score.
Criteria	What % of bedrooms achieve the daylight criteria?
Output	Calculated percentage
Apartment	100 %

1.3 Winter Sunlight	0%
Score Contribution	This credit contributes 3.8% towards the category score.
Criteria	Do 70% of dwellings receive at least 3 hours of direct sunlight in all Living areas between 9am and 3pm in mid-winter?
Question	Criteria Achieved ?
Apartment	No

1.4 Daylight Access - Non-Residential	33% ✔ Achieved
Score Contribution	This credit contributes 17.6% towards the category score.
Criteria	What % of the nominated floor area has at least 2% daylight factor?
Question	Percentage Achieved?
Shop	33 %
Public building	33 %
Other building	33 %

2.1 Ventilation - Natural - Apartments	66%

Score Contribution	This credit contributes 11.4% towards the category score.
Criteria	What % of dwellings are effectively naturally ventilated?
Question	Percentage Achieved?
Apartment	68 %

2.2 Cross Flow Ventilation 100%

Score Contribution	This credit contributes 2.4% towards the category score.
Criteria	Are all habitable rooms designed to achieve natural cross flow ventilation?
Question	Criteria Achieved ?
Townhouse	Yes

2.3 Ventilation - Non-Residential 33% ✔ Achieved

Score Contribution	This credit contributes 17.6% towards the category score.

Criteria	What % of the regular use areas are effectively naturally ventilated?
Question	Percentage Achieved?
Shop	60 %
Public building	-
Other building	60 %

Criteria	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668.2:2012?
Question	Percentage Achieved?
Shop	-
Public building	0 %
Other building	-

Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?
Question	Value
Shop	-
Public building	800 ppm
Other building	-

3.1 Thermal comfort - Double Glazing 100%

Score Contribution	This credit contributes 4.8% towards the category score.
Criteria	Is double glazing (or better) used to all habitable areas?
Question	Criteria Achieved ?
Townhouse	Yes

3.2 Thermal Comfort - External Shading 100%

Score Contribution	This credit contributes 2.4% towards the category score.
Criteria	Is appropriate external shading provided to east, west and north facing glazing?
Question	Criteria Achieved ?
Townhouse	Yes

3.3 Thermal Comfort - Orientation 100%

Score Contribution	This credit contributes 2.4% towards the category score.
Criteria	Are at least 50% of main living areas orientated to the north?
Question	Criteria Achieved ?
Townhouse	Yes

3.4 Thermal comfort - Shading - Non-Residential 66%

Score Contribution	This credit contributes 8.8% towards the category score.

Criteria	What percentage of east, north and west glazing to regular use areas is effectively shaded?
Question	Percentage Achieved?
Shop	50 %
Public building	50 %
Other building	50 %

3.5 Thermal Comfort - Ceiling Fans - Non-Residential 0%

Score Contribution	This credit contributes 2.9% towards the category score.
Criteria	What percentage of regular use areas in tenancies have ceiling fans?
Question	Percentage Achieved?
Shop	-
Public building	-
Other building	-

4.1 Air Quality - Non-Residential 100%

Score Contribution	This credit contributes 2.9% towards the category score.

Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Shop	Yes
Public building	Yes
Other building	Yes

Criteria	Does all carpet meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Shop	Yes
Public building	Yes
Other building	Yes

Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Shop	Yes
Public building	Yes
Other building	Yes

Transport Overall contribution 9.0%

92%

1.1 Bicycle Parking - Residential	100%
Score Contribution	This credit contributes 14.4% towards the category score.
Criteria	How many secure and undercover bicycle spaces are there for residents?
Question	Bicycle Spaces Provided ?
Townhouse	44
Apartment	102
Output	Min Bicycle Spaces Required
Townhouse	22
Apartment	59

1.2 Bicycle Parking - Residential Visitor	100%
Score Contribution	This credit contributes 14.4% towards the category score.
Criteria	How many secure bicycle spaces are there for visitors?
Question	Visitor Bicycle Spaces Provided ?
Townhouse	6
Apartment	13
Output	Min Visitor Bicycle Spaces Required
Townhouse	5
Apartment	12

1.3 Bicycle Parking - Convenience Residential	0%
Score Contribution	This credit contributes 4.4% towards the category score.
Criteria	Are bike parking facilities for residents located at ground or entry level?
Question	Criteria Achieved ?
Apartment	No

1.4 Bicycle Parking - Non-Residential	100%
Score Contribution	This credit contributes 6.8% towards the category score.
Criteria	Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 where there is no planning scheme requirement)?
Question	Criteria Achieved ?
Shop	Yes
Public building	Yes
Other building	Yes
Question	Bicycle Spaces Provided ?
Shop	2
Public building	8
Other building	22

1.5 Bicycle Parking - Non-Residential Visitor	100%

Score Contribution	This credit contributes 3.4% towards the category score.
Criteria	Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 where there is no planning scheme requirement)?
Question	Criteria Achieved ?
Shop	Yes
Public building	Yes
Other building	Yes
Question	Bicycle Spaces Provided ?
Shop	1
Public building	9
Other building	13

1.6 End of Trip Facilities - Non-Residential	0%

Score Contribution	This credit contributes 3.4% towards the category score.
Criteria	Where adequate bicycle parking has been provided. Is there also: * 1 shower for the first 5 employee bicycle spaces plus 1 to each 10 employee bicycles spaces thereafter, * changing facilities adjacent to showers, and * one secure locker per employee bicycle space in the vicinity of the changing / shower facilities?
Question	Number of showers provided ?
Shop	-
Public building	-
Other building	-
Question	Number of lockers provided ?
Shop	-
Public building	-
Other building	-
Output	Min Showers Required
Shop	1
Public building	1
Other building	1
Output	Min Lockers Required
Shop	2
Public building	8
Other building	22

2.1 Electric Vehicle Infrastructure	100%

Score Contribution	This credit contributes 21.2% towards the category score.
Criteria	Are facilities provided for the charging of electric vehicles?
Question	Criteria Achieved ?
Project	Yes

2.2 Car Share Scheme	100%

Score Contribution	This credit contributes 10.6% towards the category score.
Criteria	Has a formal car sharing scheme been integrated into the development?
Question	Criteria Achieved ?
Project	Yes

2.3 Motorbikes / Mopeds 100%

Score Contribution	This credit contributes 21.2% towards the category score.
Criteria	Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)?
Question	Criteria Achieved ?
Project	Yes

Waste & Resource Recovery Overall contribution 5.5%

100%

1.1 Construction Waste - Building Re-Use 100%

Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used?
Question	Criteria Achieved ?
Project	Yes

2.1 Operational Waste - Food & Garden Waste 100%

Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Are facilities provided for on-site management of food and garden waste?
Question	Criteria Achieved ?
Project	Yes

2.2 Operational Waste - Convenience of Recycling 100%

Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Are the recycling facilities at least as convenient for occupants as facilities for general waste?
Question	Criteria Achieved ?
Project	Yes

Urban Ecology **Overall contribution 5.5%**

96%

1.1 Communal Spaces	100%
Score Contribution	This credit contributes 8.8% towards the category score.
Criteria	Is there at least the following amount of common space measured in square meters : * 1m² for each of the first 50 occupants * Additional 0.5m² for each occupant between 51 and 250 * Additional 0.25m² for each occupant above 251?
Question	Common space provided
Apartment	107 m²
Shop	15.0 m²
Public building	227 m²
Other building	94.0 m²
Output	Minimum Common Space Required
Apartment	107 m²
Shop	15 m²
Public building	227 m²
Other building	94 m²

2.1 Vegetation	100%
Score Contribution	This credit contributes 47.5% towards the category score.
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area?
Question	Percentage Achieved ?
Project	30 %

2.2 Green Roofs	100%
Score Contribution	This credit contributes 11.9% towards the category score.
Criteria	Does the development incorporate a green roof?
Question	Criteria Achieved ?
Project	Yes

2.3 Green Walls and Facades	100%
Score Contribution	This credit contributes 11.9% towards the category score.
Criteria	Does the development incorporate a green wall or green façade?
Question	Criteria Achieved ?
Project	Yes

2.4 Balconies, Courtyards & Roof terraces	100%

Score Contribution	This credit contributes 8.1% towards the category score.
Criteria	Is there a tap and floor waste on every balcony and courtyard (including any roof terraces)?
Question	Criteria Achieved ?
Townhouse	Yes
Apartment	Yes

3.1 Food Production - Residential	100%

Score Contribution	This credit contributes 8.1% towards the category score.
Criteria	What area of space per resident is dedicated to food production?
Question	Food Production Area
Townhouse	21.0 m²
Apartment	42.0 m²
Output	Min Food Production Area
Townhouse	21 m²
Apartment	42 m²

3.2 Food Production - Non-Residential	0%

Score Contribution	This credit contributes 3.8% towards the category score.
Criteria	What area of space per occupant is dedicated to food production?
Question	Food Production Area
Shop	-
Public building	0.0 m²
Other building	-
Output	Min Food Production Area
Shop	4 m²
Public building	90 m²
Other building	35 m²

Innovation Overall contribution 9.0%

50%

Project Initiatives	
Initiative:	
Building smart phone app	O
Digital ESD noticeboard	O
ESD verification during construction	O
IEQ Sensors	O
Construction and Demolition Waste	O
Description:	
Building smart phone app	Building smart phone app to facilitate communication between facility management team and residents and between residents
Digital ESD noticeboard	A digital noticeboard in the lobby or lift to include PTV timetable/ map, weather forecast, environmental reminders, real-time and cumulative solar PV output, and rainwater harvested.
ESD verification during construction	An ESD professional to be engaged throughout the design and construction process. The ESD professional will perform a minimum of 2 site inspections during the construction phase to ensure suitable implementation of the ESD initiatives. Any deficiencies compared to the endorsed SMP will be escalated to the project manager and resolved. The checkpoint assessments will be undertaken at two stages as follows: • Site Inspection 1: Prior to installation of internal linings. • Site inspection 2: At the time of project completion.
IEQ Sensors	IEQ sensors are to be installed to all regular use areas. The sensors are to measure at a minimum VOC levels, humidity, PPM and temperature
Construction and Demolition Waste	At least 90% of the waste generated during construction and demolition has been diverted from landfill.
Points Targeted:	
Building smart phone app	1
Digital ESD noticeboard	1
ESD verification during construction	1
IEQ Sensors	1
Construction and Demolition Waste	1
Points:	
Building smart phone app	-
Digital ESD noticeboard	-
ESD verification during construction	-
IEQ Sensors	-
Construction and Demolition Waste	-

1.1 Innovation	50%

Score Contribution	This credit contributes 100% towards the category score.
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?

Disclaimer

The Built Environment Sustainability Scorecard (BESS) has been provided for the purpose of information and communication. While we make every effort to ensure that material is accurate and up to date (except where denoted as 'archival'), this material does in no way constitute the provision of professional or specific advice. You should seek appropriate, independent, professional advice before acting on any of the areas covered by BESS.

The Municipal Association of Victoria (MAV) and CASBE (Council Alliance for a Sustainable Built Environment) member councils do not guarantee, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of BESS, any material contained on this website or any linked sites