

7-15 Horne Street, Elsternwick

Mixed-Use Development

Sustainability Management Plan / prepared for Auyin Property Development

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1 Introduction

1.1 Purpose

Waterman has been engaged to prepare Sustainability Management Plan for the proposed mixed-use development.

This Sustainability Management Plan lists the sustainable initiatives and attributes currently considered for the design of the project. The project team will endeavour to ensure that all aspects of the design listed within this report are fully implemented into the design documents and the constructed building.

1.2 General Scope of Work

The project involves the development of a new mixed-use building at 7-15 Horne Street, Elsternwick with 14 levels above ground and two basement levels for carparking. The total of floor area of the development is approximately 10,400 m² of 40 apartments, including 2-bed and 3-bed arrangements with associated residential amenities, ground floor retail space, café and a basement car park.

The pedestrians shall access via Horne Street on the North-East of the building and vehicles including cars and bicycles access via Laneway on the South-West side of the building.

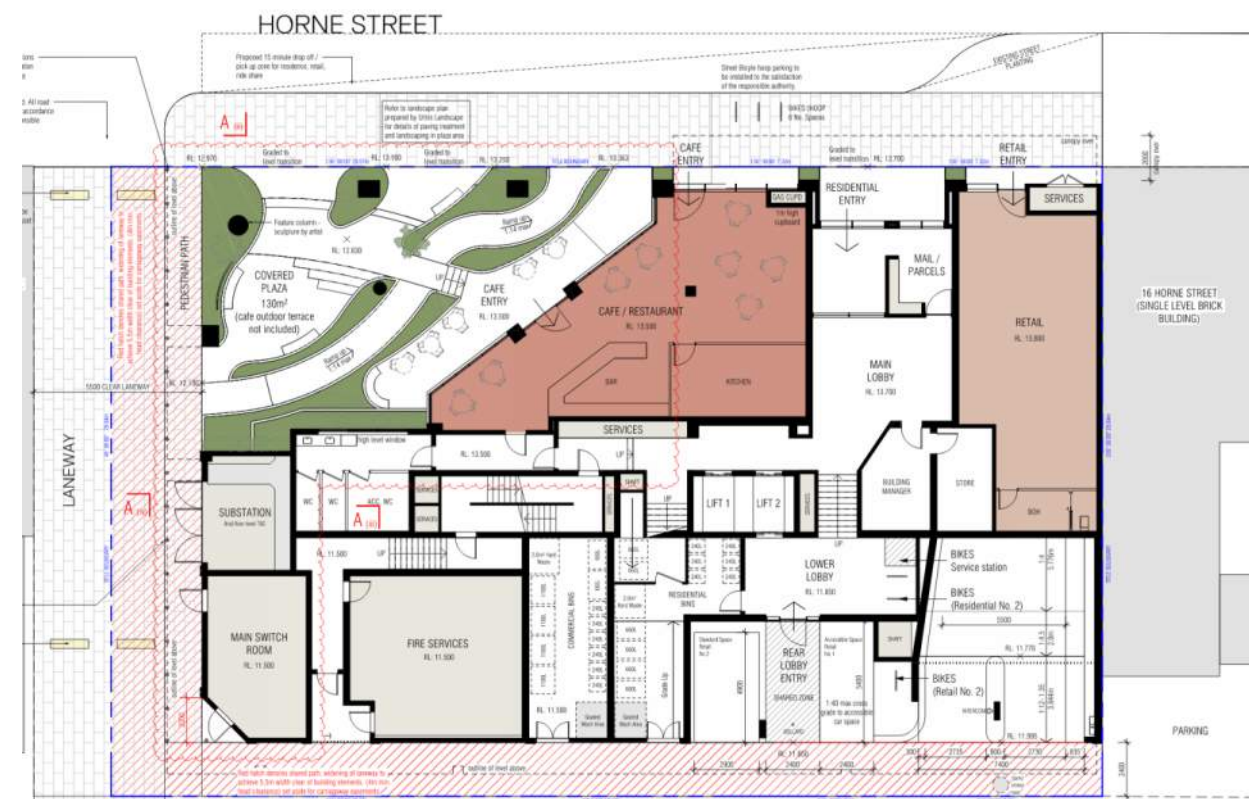


Figure 1.1 – Proposed Ground Level / Site Location Plan

7-15 Horne Street, Elsternwick / Sustainability Management Plan

Ground Floor

- > Residential Main Lobby.
- > Lower Lift Lobby
- > Café/Restaurant
- > Retail space
- > Bin areas
- > 1 Indoor Retail Bike Rack, 2 parking places for staff, and Bike Services Station
- > 3 Outdoor Visitor Bike Racks at front of the building next to the main entrance, 4 parking places for residential visitors and 2 parking places for retail visitors.
- > 2 Indoor Residential Visitor Bike Racks, 4 parking places, at Ground Level
- > Common Bathroom at Upper Ground Level
- > Residential Bike store at Upper Ground Level (34 parking places)
- > Communal Health Facilities/Studio at Upper Ground Level

Level 1 ~ Level 2

- > 5 two-bedroom and 2 three-bedroom apartments at each level
- > Lift Lobby

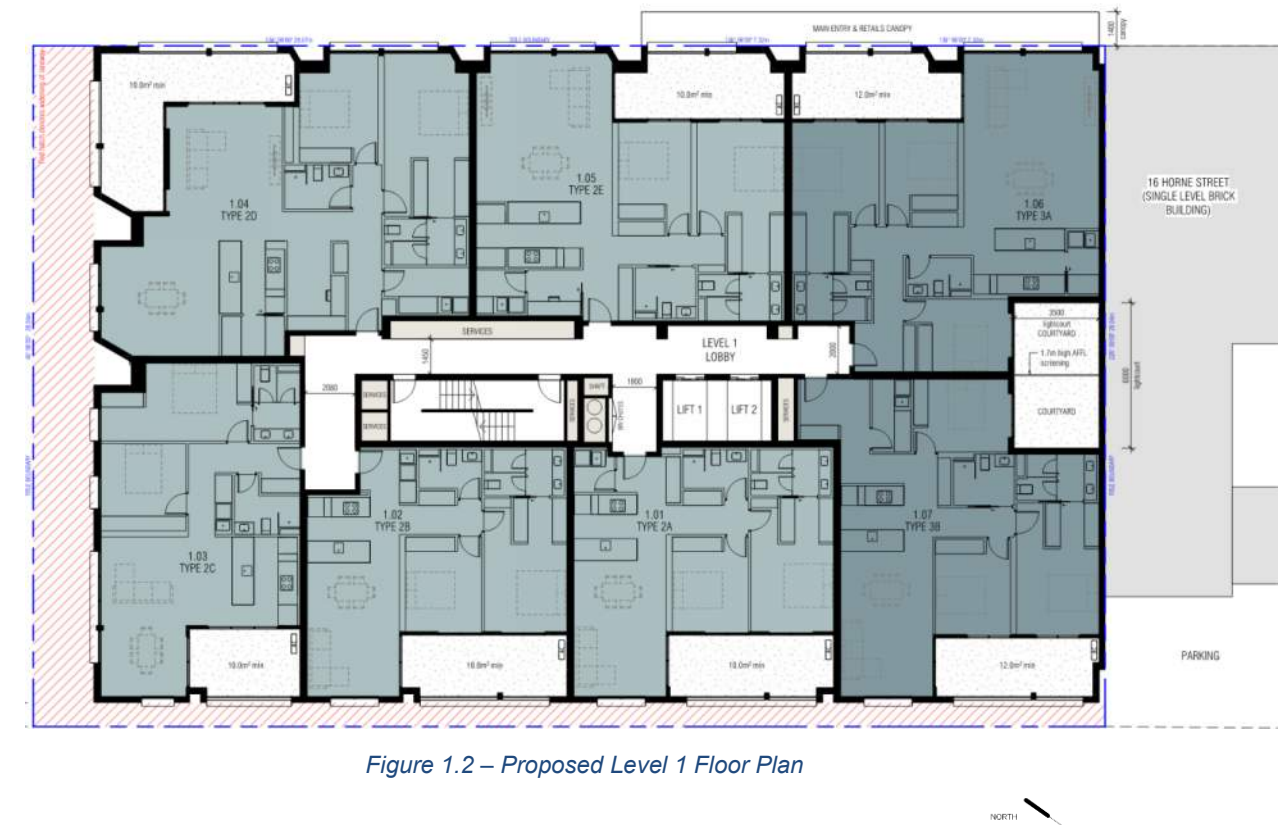


Figure 1.2 – Proposed Level 1 Floor Plan

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Level 3

- > 3 two-bedroom apartments
- > One Indoor Communal space including Residents Lounge and Multi-Purpose Room
- > Lift Lobby

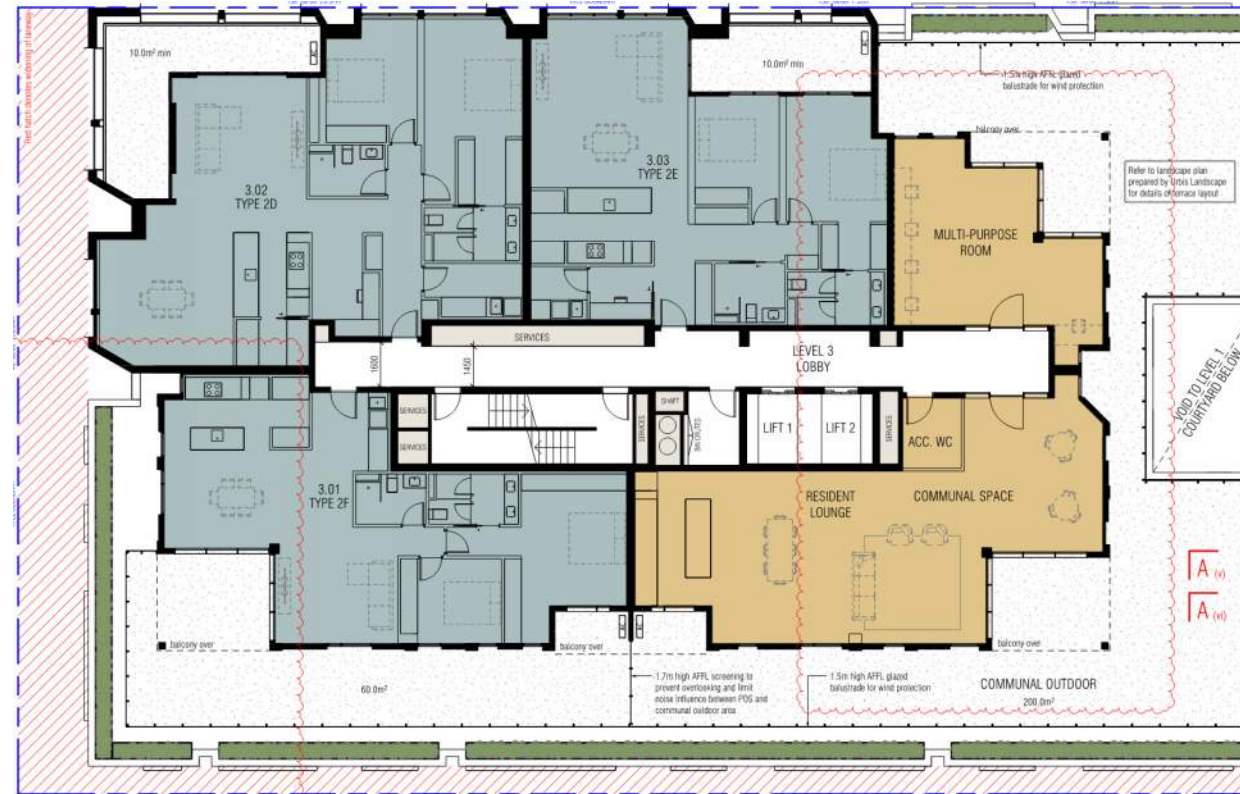


Figure 1.3 – Proposed Level 3 Floor Plan

Level 4 to Level 6

- > Four two-bedroom apartments at each level
- > Lift Lobby

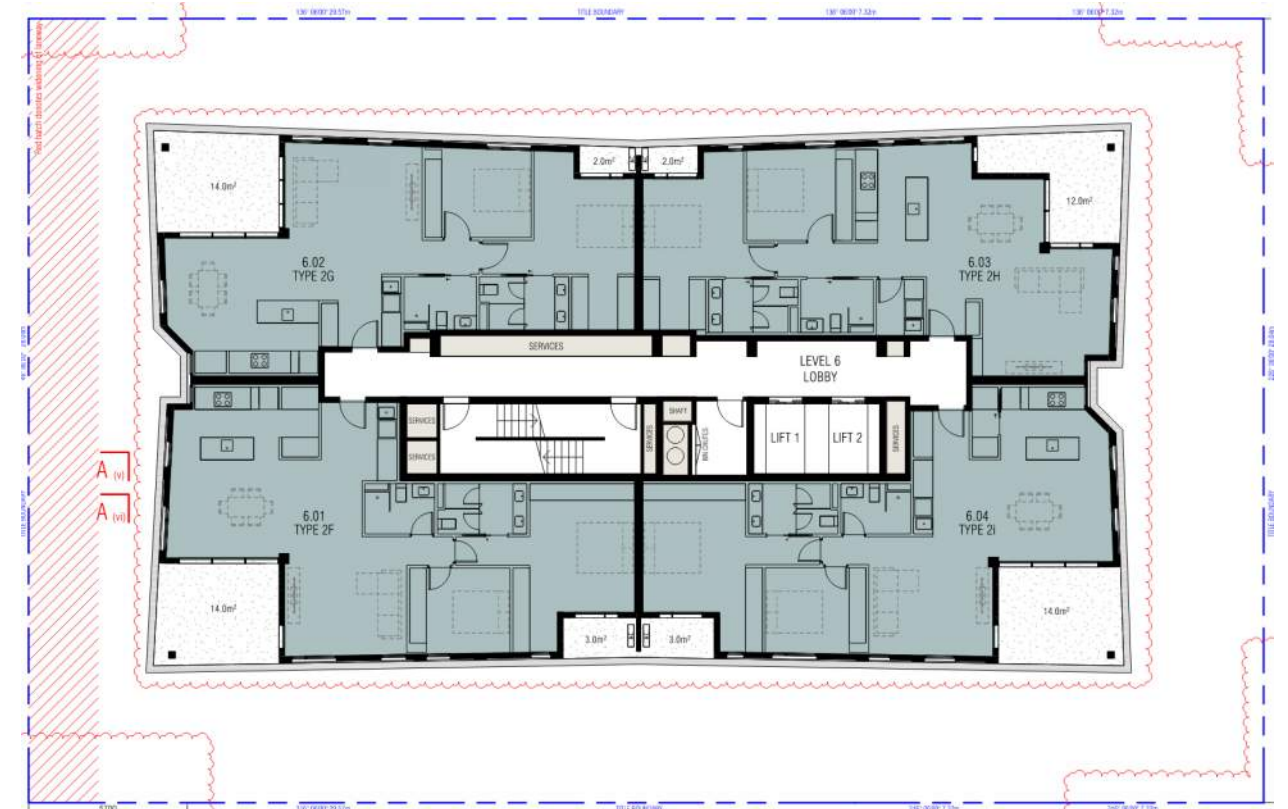


Figure 1.4 – Proposed Level 6 Floor Plan

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Level 7~ Level 11

- > Two three -bedroom apartments at each level
- > Lift Lobby

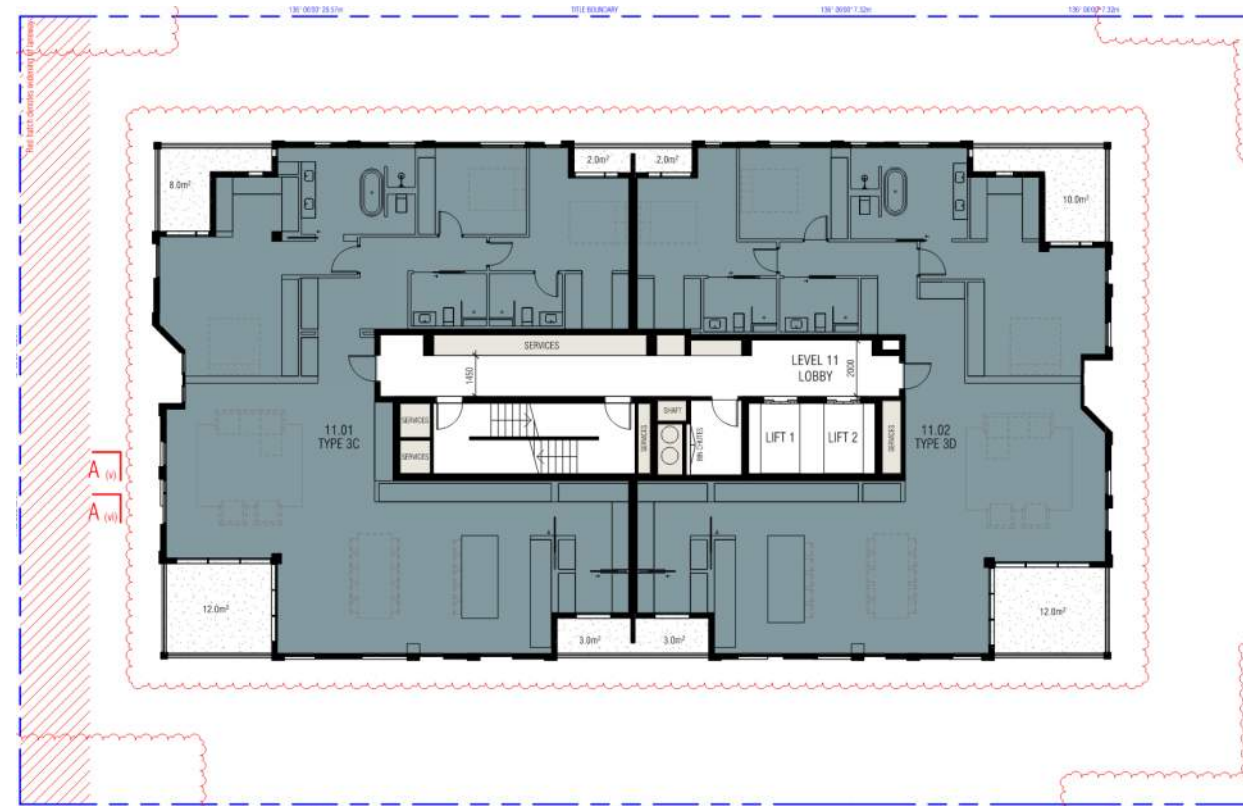


Figure 1.5 – Proposed Level 11 Floor Plan

Level 12

- > One three -bedroom penthouse apartment

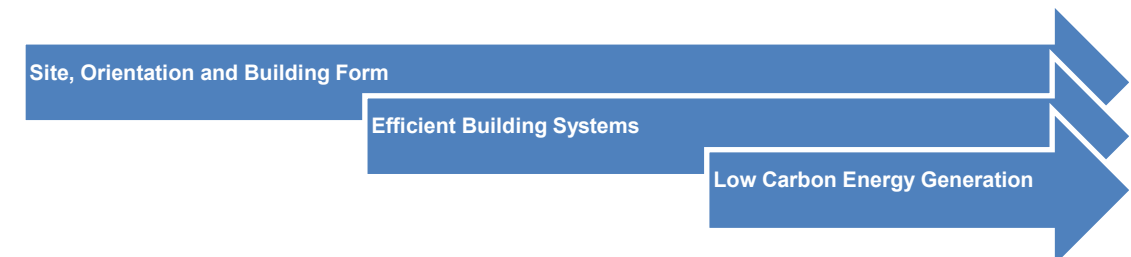


Figure 1.6 – Proposed Level 12 Floor Plan

1.3 Design Philosophy

Sustainability has been integrated into the heart of this development with careful consideration given to sustainable outcomes from the initial siting, massing and orientation of the building.

In addition to these core features, this project has included wide ranging initiatives to ensure the building is a healthy, energy and water efficient building with a minimal ecological footprint.



The proposed building services arrangements presented within this report have been based on the above briefing information, discussions / directions from the Client, and our relevant experience in comparable facilities.

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1.4 Statutory Framework

This Sustainability Management Plan benchmarks the project against the relevant planning requirements of the relevant authority.

For this project, the relevant authority is the City of Glen Eira and the following benchmarks are required to be satisfied:

Planning Control	Project Response
LPP 15.01-2L-02 Environmentally sustainable development The application requirements apply to the “development of a non-residential building” which including; • A Sustainability Management Plan including an assessment using BESS/Green Star and STORM/Music or other methods. • A Green Travel Plan	The project achieves a score of 61% under the BESS scorecard, which achieves the overall minimum required score for the Best Practice outcomes for the project sustainable design. The BESS report is attached as Appendix A. We note that the project is to confirm a compliant score for the Indoor Environment Quality (IEQ) subsection as the project is achieving one of the IEQ mandatory credits, Daylight Access. A set of daylight modelling assessments will need to be undertaken for the project design in order to confirming if Daylight compliance is achieved. A preliminary NatHERS assessment has been undertaken to the proposed apartment design, and an average of 7.2 stars was predicated with the nominated high performance façade inputs listed in Appendix B. A summary of the NCC Section J4 DTS assessment results for non-residential spaces and BESS Operational Energy minimum requirements to the building fabrics is attached as Appendix C. 20% of non-trafficable roof area, 64 m², is recommended for solar PV panel installation and a minimum of 10kW solar PV array system is included to the project on-site renewable energy generation (Figure 1.9 Proposed Roof Plan). A set of the stormwater treatments, an 18,000 litre rainwater tank and a high flow rate membrane filtration system, Jellyfish JF-900-1-1, are included in the Civil Design. A MUSIC assessment has been undertaken and confirm the best practice performance for the on-site stormwater management is achieved. Refer Section 3 of the report. A revised WMP is provided with inclusion of food waste and recycling bin areas in the proposed floor plan design

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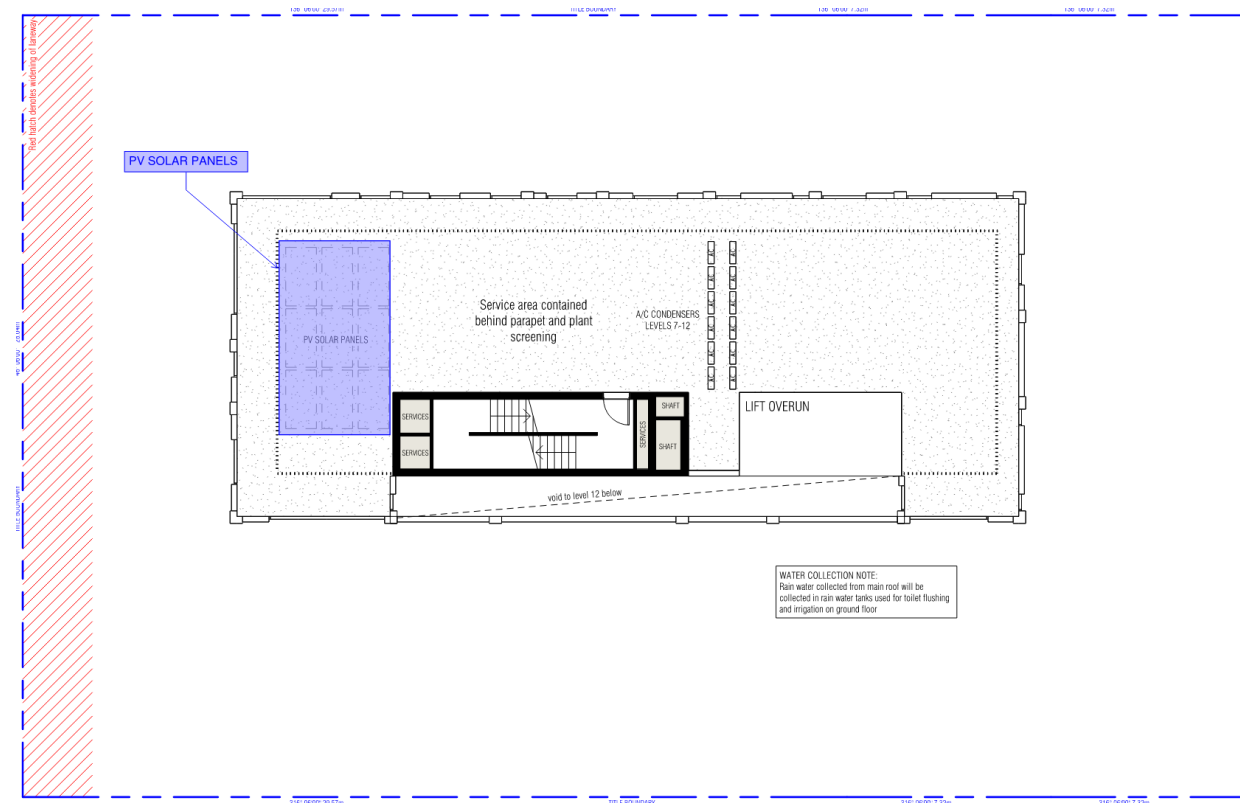


Figure 1.7 – Proposed Roof Plan

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1.5 Sources of Information and Limitations

This report has been based on the following design information:

- CBG Architects & Interior Designers. Job No. 2538. Architectural Drawing Set – Issue for DFP submission - Response to Urban Design Memorandum 20.04.26
- Adams Engineering Projects. Project Number: 210943. OSD And Filtration Concept – Rev.1. Date: 05/03/2026.
- Ratio Consultants. Waste Management Plan, Version R06F01. Date: 13/06/2024.

This Sustainability Management Plan is based on our interpretation of the architectural documentation and project briefing requirements issued to us to date. It is also based on our understanding of the key design considerations that we believe are beneficial to a development of this type and size in order to reduce the development's impact on the environment. Initial feedback from the client has also been considered as part of this assessment.

This report has been specifically prepared for the organisation noted on the cover of the report.

No responsibility or liability to any third party is accepted for any loss or damage arising from the use of this report by any third party. Any third party wishing to act upon any material contained in this report should confer with Waterman for detailed advice to take into account that party's particular requirements.

This report is not to be used for any other project.

2 Summary and Conclusions

This report outlines a number of sustainable design initiatives which are to be integrated into the design and specification of the proposed development to reducing the development's environmental impact.

The performance outcomes presented in this report demonstrate that the proposed development meets the City of Wyndham standard for sustainable development.

2.1 BESS

The project achieves a score of **61%** under the BESS scorecard, which achieves the overall minimum required score and all mandatory targets required by 8 categories of the BESS scorecard for the project sustainable design.

A set of daylight modelling assessments are required to be undertaken to confirm the mandatory compliance threshold for the Daylight Access requirements of BESS IEQ.

A copy of the BESS scorecard report is attached as Appendix A to the report.

2.2 Project Commitments

A list of the initiatives proposed to be included within the design has been provided in the Implementation Plan section of this report.

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BESS, 7-15 Horne Street Elsternwick v9 7-15 Horne Street, Elsternwick 3185

BESS Buildings Report

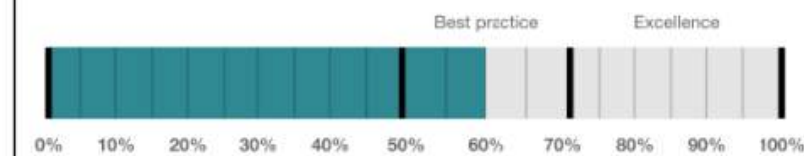
Built Environment Sustainability Scorecard



This BESS report outlines the sustainable design commitments of the proposed development at 7-15 Horne Street Elsternwick Victoria 3185. 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 Glen Eira 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



61%

Project details

Name	7-15 Horne Street Elsternwick v9
Address	7-15 Horne Street Elsternwick Victoria 3185
Project ID	5A08FB52-R2
BESS Version	BESS-10
Date	04 June 2026
Software version	2.3.0-D.654
Site type	Mixed use development
Account	lchen@waterman-australia.com.au
Application no.	
Site area	1,240 m ²
Building floor area	5,893 m ²



Figure 2.1 – BESS Assessment Summary

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3 Water Resources

3.1 Water Balance

A carefully designed, holistic water strategy can reduce the reliance of a building on potable water supply and local water catchment areas, while improving the local biodiversity. A typical water strategy will include the following objectives.

- > Reduce water demand through efficient fittings and fixtures.
- > Collect and reuse rainwater for irrigation in lieu of potable water supply.
- > Treat outflows from the site to minimise pollutants in the local stormwater systems.

3.2 Water Efficiency

This project will incorporate efficient fittings and fixtures designed to minimise water use within the building.

Fixture / Fitting Description	Minimum WELS Rating	Nominal Water Consumption
Toilets	4 stars	• 4.5 Litre per full flush • 3.0 Litre per half flush
Shower Heads	4 stars	• ≥ 6.0 Litre per minute but ≤ 7.5 Litre per minute
Basin Taps	6 stars	• 4.5 Litre per minute
Urinals	6 stars	• 1.0 Litre per minute
Dishwasher	5 stars	• 12 Litre per wash

Table 3.1 – WELS rating for fittings

3.3 On-Site Stormwater Management

This project includes a stormwater management system to support the proposed development. The stormwater treatment solutions provided include rainwater tank collection from various non-trafficable roof areas and an on-site swale area used to convey the stormwater run-off from the pedestrian pavement.

The rainwater will be collected from 340 m² non-traffic roof area for reuse in an 18,000L rainwater tank and used in landscape irrigation and toilet flush to the building.

Water run-off from the terrace area, 786 m², and overflow from the rainwater tank will be treated via an on-site Jellyfish filtration system.

A MUSIC assessment is to be undertaken by Civil Consultant to demonstrate that the proposed stormwater management system is to be sufficient for the compliance requirements of the best practice outcomes.

Pollutant	Applicable to Project	Best Practice Targets	Reduction Achieved	Compliant (Yes/No)
Flow	Y	0%	27.46%	Yes
Total Suspended Solids (TSS) ¹	Y	80%	80.4%	Yes
Total Nitrogen (TN) ²	Y	45%	53.93%	Yes
Total Phosphorus (TP) ²	Y	45%	55.41%	Yes
Gross Pollutants	Y	70%	90.85%	Yes

Table 3.2 – One-site Stormwater Management /MUSIC Assessment Summary

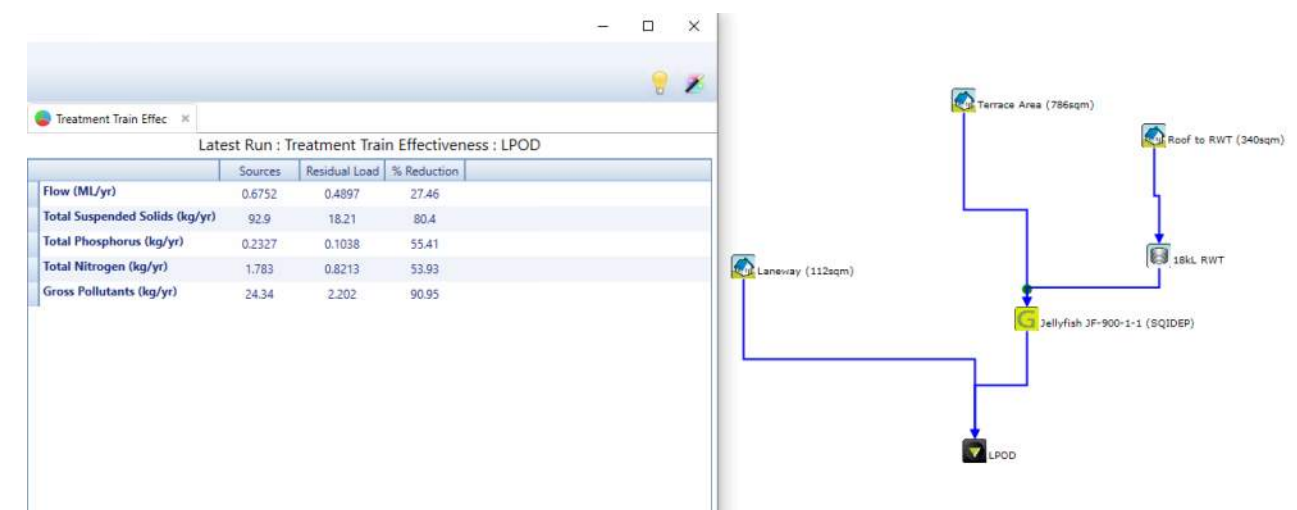


Figure 3.1 – Screenshot of MUSIC Assessment Results

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4 Summary of Initiatives and Implementation Plan

This development includes a wide range of holistic sustainability measures, which have been carefully integrated into the preliminary design of the development so that the occupants will have the opportunity to reduce their environmental footprint without compromising quality of life.

The initiatives in the Implementation Plan have been committed to as part of the planning process. In a typical design process, each initiative will need to be incorporated into the project at the project stages nominated in the table. The nominated Project Manager needs to ensure that all parties are aware of the project requirements and that the documentation reflects the design intent at each project stage. We note that all projects are delivered differently and the project manager may alter the responsibilities to ensure the plan remains relevant to the project.

Typically, the following activities need to occur at each stage to ensure all initiatives are carried through to construction.

Town Planning Documents – ESD Consultant is appointed, drawings show relevant information

Tender Documents – drawings / contract includes all sustainability initiatives so that the builder prices accordingly.

Construction Documents – drawings and specifications are consistent with the design intent.

Construction & Completion – the builder is to carry out the design intent during construction.

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4.1 Implementation Plan

Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
CONSTRUCTION AND BUILDING MANAGEMENT					
Utility meters to be provided for energy, water and gas (if supplied) for the office tenancy.	Electrical		Y	Y	Y
All major common area services to be sub-metered separately for energy. Major uses in this project are considered to be: - General Power (each floor) - Lighting (each floor) - Mechanical Services - Domestic Hot Water	Electrical Mechanical		Y	Y	Y
The builder will be required to implement a site specific Environmental Management Plan (EMP) for the project. The EMP will be required to include measures to limit stormwater impacts during construction, including but not limited to those listed in the WSUD Response section of this report.	Builder		Y		Y
Building Users' Guide is committed to be developed and provided to occupant as per Management 4.1 credit requirements of BESS rating tool. Details of all aspects that will be covered in the Building Users Guide. The Building Users Guide is committed to 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	Builder		Y		Y
A 12 month building tuning process will be adopted for this project.					

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Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
INDOOR ENVIRONMENT QUALITY					
At least 33% of the regular use floor area of Café and Retail spaces at Ground Level to achieve Daylight Factor of 2.0% for the proposed design.	Architect		Y	Y	Y
At least 80% of Living Areas of apartments meet the Daylight Factor of 1.0% for the proposed design. At least 80% of Bedrooms of apartments meet the Daylight Factor of 0.5% for the proposed design.	Architect		Y	Y	Y
All areas are to have sufficient artificial lighting to achieve the minimum lighting levels in AS1680:2006.	Electrical		Y	Y	Y
CO2 sensors are included for Café and Retail spaces in the Mechanical Services design with a concentration of 800 ppm to be maintained in the proposed ventilation systems.	Mechanical		Y	Y	Y
All paints, adhesives, sealants and carpets are to be low VOC, in accordance with the latest Green Star criteria.	Architect		Y	Y	Y
All engineered wood products are to be E0.	Architect		Y	Y	Y
ENERGY					
20% non-trafficable roof area, approximately 64 m², is recommended for solar PV panel installation and a minimum 10kW solar PV array system is included for the project's on-site renewable energy generation.	Electrical	Y	Y	Y	Y
Wall-glazing performance to meet the NCC minimum Section J4D6 requirements to the non-residential areas.	Architect ESD		Y	Y	Y
Lighting power density is to improve on the maximum allowance in the NCC by 20% to apartments.	Electrical		Y	Y	Y
All heating and cooling systems are to achieve one of the following benchmarks: - COP/EER not less than 85% that the most efficient equivalent capacity unit available. - Energy rating within one star of the most efficient equivalent capacity unit available.	Mechanical		Y	Y	Y

Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
All common area lighting is to be controlled via motion sensors and/or a timer.	Electrical		Y	Y	Y
All external lighting will be controlled via a time clock and daylight sensors. Motion sensors will be installed in applicable areas.	Electrical		Y	Y	Y
All lifts will incorporate controls to power off the majority of systems when not in use.	Lift		Y	Y	Y
Domestic hot water will be provided by an electric source central heat pump hot water system	Hydraulic		Y	Y	Y
All lights will be LED type.	Electrical		Y	Y	Y
TRANSPORT					
A minimum of 40 bicycle spaces to the residents and 8 spaces for residential visitors are included.	Architect				
A minimum of 2 bicycle spaces to the Café and Retail staff members and 2 spaces for retail visitors are included.		Y	Y	Y	Y
These will form part of the on-site Green Travel Plan activities.					
A Green Travel Plan is required to be prepared by the Traffic Consultant. The Green Travel Plan considers the building site in a holistic manner and is not limited to the scope of the proposed building in isolation	Traffic	Y	Y	Y	Y
WATER / STORMWATER					
The following fixtures and fitting benchmarks are to be met: - Shower Heads: 4 Star WELS (≥ 6.0 Litre per minute but ≤ 7.5 Litre per minute) - Basin Taps: 6 Star WELS (4.5 Litre per minute) - Dual Flush Toilets: 4 Star WELS (4.5 Litre per minute per full flush & 3.0 litre per half flush) - Urinals: 6 Star WELS (1.0 Litre per minute) - Dishwasher: 5 Star WELS (12.0 Litre per wash)	Architect		Y	Y	Y

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Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
The following initiatives will be implemented in the design: - Water will be collected from the non-trafficable roof, 340 m². - Water will be treated via a set of rainwater tanking with a minimum of 18,000L required for the proposed building, connected to all toilets in the building including residential apartments. - Water run-off from the terrace area, 786 m², and overflow from the rainwater tank will be treated via an on-site Jellyfish filtration system.	Hydraulic Civil Landscape	Y	Y	Y	Y
All landscaping is to consist of low water use plant selections where practical, include mulching and use an efficient irrigation system (surface or sub-surface drip irrigation with moisture sensors).	Landscape	Y	Y	Y	Y
No water-based air-conditioning system has been included in the services design.	Mechanical	-	-	-	-
The following initiatives will be implemented in the design: - Testing water from pumps goes back to the fire water tank. - Sprinkler system testing water goes to the Civil Stormwater Drainage system for reuse to the landscape.	Fire		Y	Y	Y
MATERIALS & WASTE MANAGEMENT					
All timber used onsite will be reused, recycled or from a sustainably managed forestry operation (i.e. FSC or PEFC certified timber).	Architect		Y	Y	Y
Preference will be given to sustainable materials, and materials with a recycled content.	Architect		Y	Y	Y
Preference is to be given to products with a third-party environmental certification such as Ecospecifier or GECA.	Architect		Y	Y	Y
Waste storage to include a dedicated food and/or garden waste disposal.	Waste	Y	Y	Y	Y

Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
Recycling is to be at least as convenient as general waste disposal.	Waste	Y	Y	Y	Y
The project will adopt a 90% diversion from landfill target during demolition and construction will be adopted.	Builder		Y	Y	Y
URBAN ECOLOGY					
A Light roof colour is recommended to be provided where the roof upper surface is required to have a solar absorptance not more than 0.45.	Architect		Y	Y	Y

Table 4.1 – Implementation Plan

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Appendix A

BESS Report

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Site type	Mixed use development
Account	l.chen@waterman-australia.com.au
Application no.	
Site area	1,240 m ²
Building floor area	5,893 m ²



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Property Type	Percentage
Apartment	95%
Shop	5%

Name	Height	Footprint	% of total footprint
7-15 Horne St Elsterwick	13	1,240 m ²	100%

Name	Quantity	Area	Building	% of total area
Apartment				
L9 9.02 + L8 8.02 + L10 10.02	3	224 m²	7-15 Horne St Elsterwick	11%
L9 9.01 + L8 8.01 + L10 10.01	3	230 m²	7-15 Horne St Elsterwick	11%
L12 12.01	1	258 m²	7-15 Horne St Elsterwick	4%
L2 2.06 + L1 1.06	2	129 m²	7-15 Horne St Elsterwick	4%
L11 11.02	1	186 m²	7-15 Horne St Elsterwick	3%
L 11 11.01	1	188 m²	7-15 Horne St Elsterwick	3%
L7 7.02	1	224 m²	7-15 Horne St Elsterwick	3%
L7 7.01	1	230 m²	7-15 Horne St Elsterwick	3%

L6 6.04 + L5 5.04	2	109 m²	7-15 Horne St Elsterwick	3%
L6.03 + L5.03	2	107 m²	7-15 Horne St Elsterwick	3%
L6 6.02 + L5 5.02	2	107 m²	7-15 Horne St Elsterwick	3%
L6 6.01 + L5 5.01	2	112 m²	7-15 Horne St Elsterwick	3%
L4 4.01 + L3 3.01	2	112 m²	7-15 Horne St Elsterwick	3%
L2 2.01 + 2.02	2	90.0 m²	7-15 Horne St Elsterwick	3%
L1 1.07 + L2 2.07	2	114 m²	7-15 Horne St Elsterwick	3%
L1 1.01 + 1.02	2	90.0 m²	7-15 Horne St Elsterwick	3%
L3 3.03	1	118 m²	7-15 Horne St Elsterwick	2%
L3 3.02	1	145 m²	7-15 Horne St Elsterwick	2%
L2 2.05	1	118 m²	7-15 Horne St Elsterwick	2%
L2 2.04	1	145 m²	7-15 Horne St Elsterwick	2%
L1 1.05	1	118 m²	7-15 Horne St Elsterwick	2%
L1 1.04	1	145 m²	7-15 Horne St Elsterwick	2%
L4 4.04	1	109 m²	7-15 Horne St Elsterwick	1%
L4 4.03	1	107 m²	7-15 Horne St Elsterwick	1%
L4 4.02	1	107 m²	7-15 Horne St Elsterwick	1%
L2 2.03	1	97.0 m²	7-15 Horne St Elsterwick	1%
L1 1.03	1	97.0 m²	7-15 Horne St Elsterwick	1%
Total	40	5,694 m²	96%	

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Shop				
Retail	1	82.5 m²	7-15 Horne St Elsterwick	1%
Cafe/Restaurant	1	117 m²	7-15 Horne St Elsterwick	1%
Total	2	199 m²	3%	

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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		-
Indoor Environment Quality 2.1	Dwellings meeting the requirements for being 'naturally ventilated'		-
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		-
Waste & Resource Recovery 2.2	Location of recycling facilities		-
Urban Ecology 1.1	Location and size of communal spaces		-

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 3.1	Details of either the fully natural carpark ventilation or CO monitoring system proposed		-
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		-
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.		-
Indoor Environment Quality 1.3	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
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		-

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Credit summary

Management Overall contribution 4.5%

			62%
1.1	Pre-Application Meeting		0%
2.2	Thermal Performance Modelling - Multi-Dwelling Residential		100%
2.3	Thermal Performance Modelling - Non-Residential		50%
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%

			93%	✔ Pass
1.1	Potable Water Use		78%	✔ 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%	67%	✔ Pass
1.1	Thermal Performance Rating - Non-Residential		0%	
1.2	Thermal Performance Rating - Residential		20%	✔ Achieved
2.1	Greenhouse Gas Emissions		97%	
2.2	Peak Demand		0%	
2.6	Electrification		100%	
2.7	Energy consumption		96%	
3.1	Carpark Ventilation		100%	
3.2	Hot Water - Non-Residential		0%	
3.4	Clothes Drying		0%	
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		0%	
4.4	Renewable Energy Systems - Other		0%	

IEQ Overall contribution 16.5%

		Minimum required 50%	69%	✔ Pass
1.1	Daylight Access - Living Areas		66%	✔ Achieved
1.2	Daylight Access - Bedrooms		66%	✔ Achieved
1.3	Winter Sunlight		100%	
1.4	Daylight Access - Non-Residential		33%	✔ Achieved
1.5	Daylight Access - Main Living Areas		N/A	✦ Scoped Out
Spatial daylight autonomy metric not in use				
1.6	Daylight Access - Secondary Habitable Rooms		N/A	✦ Scoped Out
Spatial daylight autonomy metric not in use				
2.1	Ventilation - Natural - Apartments		66%	
2.3	Ventilation - Non-Residential		66%	✔ Achieved
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%

		55%
1.1	Bicycle Parking - Residential	100%
1.2	Bicycle Parking - Residential Visitor	100%
1.3	Bicycle Parking - Convenience Residential	100%
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	0%
2.2	Car Share Scheme	0%
2.3	Motorbikes / Mopeds	0%

Waste & Resource Recovery Overall contribution 5.5%

		33%
1.1	Construction Waste - Building Re-Use	0%
2.1	Operational Waste - Food & Garden Waste	0%
2.2	Operational Waste - Convenience of Recycling	100%

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Urban Ecology Overall contribution 5.5%

		10%
	1.1 Communal Spaces	96%
	2.1 Vegetation	0%
	2.2 Green Roofs	0%
	2.3 Green Walls and Facades	0%
	2.4 Balconies, Courtyards & Roof terraces	0%
	3.1 Food Production - Residential	0%
	3.2 Food Production - Non-Residential	0%

Innovation Overall contribution 9.0%

	0%
1.1 Innovation	0%

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Credit breakdown

Management Overall contribution 4.5%

	62%
1.1 Pre-Application Meeting	0%
Score Contribution	This credit contributes 37.5% 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 24.2% towards the category score.
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?
Question	Criteria Achieved ?
Apartment	Yes
2.3 Thermal Performance Modelling - Non-Residential	50%
Score Contribution	This credit contributes 0.8% towards the category score.
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2022 Section J4D6?
Question	Criteria Achieved ?
Shop	Yes
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2022 Section J (Energy Efficiency), NABERS or Green Star?
Question	Criteria Achieved ?
Shop	No
3.1 Metering - Residential	100%
Score Contribution	This credit contributes 12.1% 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 0.4% towards the category score.
Criteria	Have utility meters been provided for all individual commercial tenants?
Question	Criteria Achieved ?
Shop	Yes
3.3 Metering - Common Areas	100%

	Score Contribution	This credit contributes 12.5% towards the category score.
	Criteria	Have all major common area services been separately submetered?
	Question	Criteria Achieved ?
	Apartment	Yes
	Shop	Yes
	4.1 Building Users Guide	100%
	Score Contribution	This credit contributes 12.5% towards the category score.
	Criteria	Will a building users guide be produced and issued to occupants?
	Question	Criteria Achieved ?
	Project	Yes

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IWM Overall contribution 22.5%

	93%  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
	Blue Factor score achieved?:	100
	Flow:	27 %
	Total Suspended Solids:	80 %
	Total Phosphorus:	55 %
	Total Nitrogen:	53 %
	Rainwater tank profile	
	What is the total roof area connected to the rainwater tank?:	
	Rainwater Tank 1	340 m²
		-
	Tank Size:	
	Rainwater Tank 1	18,000 Litres
		-
	Irrigation area connected to tank:	
	Rainwater Tank 1	0.0 m²
		-
	Is connected irrigation area a water efficient garden?:	
	Rainwater Tank 1	Yes
		-
	Other external water demand connected to tank?:	
	Rainwater Tank 1	0.0 Litres/Day
		-
	Fixtures, fittings & connections profile	
	Building: All	7-15 Horne St Elsterwick

Showerhead:	
Cafe/Restaurant	4 Star WELS (>= 6.0 but <= 7.5)
L1 1.01 + 1.02	
L1 1.03	
L1 1.04	
L1 1.05	
L2 2.06 + L1 1.06	
L1 1.07 + L2 2.07	
L2 2.01 + 2.02	
L2 2.03	
L2 2.04	
L2 2.05	
L3 3.02	
L3 3.03	
L4 4.01 + L3 3.01	
L4 4.02	
L4 4.03	
L4 4.04	
L6 6.01 + L5 5.01	
L6 6.02 + L5 5.02	
L6.03 + L5.03	
Retail	
L6 6.04 + L5 5.04	-
L7 7.01	
L7 7.02	
L9 9.01 + L8 8.01 + L10 10.01	
L9 9.02 + L8 8.02 + L10 10.02	
L 11 11.01	
L11 11.02	
L12 12.01	

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Bath:	
Cafe/Restaurant	Scope out
Retail	
L1 1.01 + 1.02	Medium Sized Contemporary Bath
L1 1.03	
L1 1.04	
L1 1.05	
L2 2.06 + L1 1.06	
L1 1.07 + L2 2.07	
L2 2.01 + 2.02	
L2 2.03	
L2 2.04	
L2 2.05	
L3 3.02	
L3 3.03	
L4 4.01 + L3 3.01	
L4 4.02	
L4 4.03	
L4 4.04	
L6 6.01 + L5 5.01	
L6 6.02 + L5 5.02	
L6.03 + L5.03	
L6 6.04 + L5 5.04	-
L7 7.01	
L7 7.02	
L9 9.01 + L8 8.01 + L10 10.01	
L9 9.02 + L8 8.02 + L10 10.02	
L 11 11.01	
L11 11.02	
L12 12.01	

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Kitchen Taps:		
Cafe/Restaurant	>= 6 Star WELS rating	
L1 1.01 + 1.02		
L1 1.03		
L1 1.04		
L1 1.05		
L2 2.06 + L1 1.06		
L1 1.07 + L2 2.07		
L2 2.01 + 2.02		
L2 2.03		
L2 2.04		
L2 2.05		
L3 3.02		
L3 3.03		
L4 4.01 + L3 3.01		
L4 4.02		
L4 4.03		
L4 4.04		
L6 6.01 + L5 5.01		
L6 6.02 + L5 5.02		
L6.03 + L5.03		
Retail		
L6 6.04 + L5 5.04	-	
L7 7.01		
L7 7.02		
L9 9.01 + L8 8.01 + L10 10.01		
L9 9.02 + L8 8.02 + L10 10.02		
L 11 11.01		
L11 11.02		
L12 12.01		

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Bathroom Taps:		
Cafe/Restaurant	>= 6 Star WELS rating	
L1 1.01 + 1.02		
L1 1.03		
L1 1.04		
L1 1.05		
L2 2.06 + L1 1.06		
L1 1.07 + L2 2.07		
L2 2.01 + 2.02		
L2 2.03		
L2 2.04		
L2 2.05		
L3 3.02		
L3 3.03		
L4 4.01 + L3 3.01		
L4 4.02		
L4 4.03		
L4 4.04		
L6 6.01 + L5 5.01		
L6 6.02 + L5 5.02		
L6.03 + L5.03		
Retail		
L6 6.04 + L5 5.04	-	
L7 7.01		
L7 7.02		
L9 9.01 + L8 8.01 + L10 10.01		
L9 9.02 + L8 8.02 + L10 10.02		
L 11 11.01		
L11 11.02		
L12 12.01		

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Dishwashers:		
Cafe/Restaurant	>= 5 Star WELS rating	
L1 1.01 + 1.02		
L1 1.03		
L1 1.04		
L1 1.05		
L2 2.06 + L1 1.06		
L1 1.07 + L2 2.07		
L2 2.01 + 2.02		
L2 2.03		
L2 2.04		
L2 2.05		
L3 3.02		
L3 3.03		
L4 4.01 + L3 3.01		
L4 4.02		
L4 4.03		
L4 4.04		
L6 6.01 + L5 5.01		
L6 6.02 + L5 5.02		
L6.03 + L5.03		
Retail	>= 6 Star WELS rating	
L6 6.04 + L5 5.04	-	
L7 7.01		
L7 7.02		
L9 9.01 + L8 8.01 + L10 10.01		
L9 9.02 + L8 8.02 + L10 10.02		
L 11 11.01		
L11 11.02		
L12 12.01		

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WC:		
Cafe/Restaurant	>= 4 Star WELS rating	
L1 1.01 + 1.02		
L1 1.03		
L1 1.04		
L1 1.05		
L2 2.06 + L1 1.06		
L1 1.07 + L2 2.07		
L2 2.01 + 2.02		
L2 2.03		
L2 2.04		
L2 2.05		
L3 3.02		
L3 3.03		
L4 4.01 + L3 3.01		
L4 4.02		
L4 4.03		
L4 4.04		
L6 6.01 + L5 5.01		
L6 6.02 + L5 5.02		
L6.03 + L5.03		
Retail		
L6 6.04 + L5 5.04	-	
L7 7.01		
L7 7.02		
L9 9.01 + L8 8.01 + L10 10.01		
L9 9.02 + L8 8.02 + L10 10.02		
L 11 11.01		
L11 11.02		
L12 12.01		

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Urinals:		
Cafe/Restaurant	>= 5 Star WELS rating	
Retail		
L1 1.01 + 1.02	Scope out	
L1 1.03		
L1 1.04		
L1 1.05		
L2 2.06 + L1 1.06		
L1 1.07 + L2 2.07		
L2 2.01 + 2.02		
L2 2.03		
L2 2.04		
L2 2.05		
L3 3.02		
L3 3.03		
L4 4.01 + L3 3.01		
L4 4.02		
L4 4.03		
L4 4.04		
L6 6.01 + L5 5.01		
L6 6.02 + L5 5.02		
L6.03 + L5.03		
L6 6.04 + L5 5.04	-	
L7 7.01		
L7 7.02		
L9 9.01 + L8 8.01 + L10 10.01		
L9 9.02 + L8 8.02 + L10 10.02		
L 11 11.01		
L11 11.02		
L12 12.01		

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Washing Machine Water Efficiency:		
Cafe/Restaurant	Occupant to Install	
L1 1.01 + 1.02		
L1 1.03		
L1 1.04		
L1 1.05		
L2 2.06 + L1 1.06		
L1 1.07 + L2 2.07		
L2 2.01 + 2.02		
L2 2.03		
L2 2.04		
L2 2.05		
L3 3.02		
L3 3.03		
L4 4.01 + L3 3.01		
L4 4.02		
L4 4.03		
L4 4.04		
L6 6.01 + L5 5.01		
L6 6.02 + L5 5.02		
L6.03 + L5.03		
Retail		
L6 6.04 + L5 5.04	-	
L7 7.01		
L7 7.02		
L9 9.01 + L8 8.01 + L10 10.01		
L9 9.02 + L8 8.02 + L10 10.02		
L 11 11.01		
L11 11.02		
L12 12.01		

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Which non-potable water source is the dwelling/space connected to?:	
Cafe/Restaurant	Rainwater Tank 1
L1 1.01 + 1.02	
L1 1.03	
L1 1.04	
L1 1.05	
L2 2.06 + L1 1.06	
L1 1.07 + L2 2.07	
L2 2.01 + 2.02	
L2 2.03	
L2 2.04	
L2 2.05	
L3 3.02	
L3 3.03	
L4 4.01 + L3 3.01	
L4 4.02	
L4 4.03	
L4 4.04	
L6 6.01 + L5 5.01	
L6 6.02 + L5 5.02	
L6.03 + L5.03	
Retail	
L6 6.04 + L5 5.04	-
L7 7.01	
L7 7.02	
L9 9.01 + L8 8.01 + L10 10.01	
L9 9.02 + L8 8.02 + L10 10.02	
L 11 11.01	
L11 11.02	
L12 12.01	

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Non-potable water source connected to Toilets:	
Cafe/Restaurant	Yes
L1 1.01 + 1.02	
L1 1.03	
L1 1.04	
L1 1.05	
L2 2.06 + L1 1.06	
L1 1.07 + L2 2.07	
L2 2.01 + 2.02	
L2 2.03	
L2 2.04	
L2 2.05	
L3 3.02	
L3 3.03	
L4 4.01 + L3 3.01	
L4 4.02	
L4 4.03	
L4 4.04	
L6 6.01 + L5 5.01	
L6 6.02 + L5 5.02	
L6.03 + L5.03	
Retail	
L6 6.04 + L5 5.04	-
L7 7.01	
L7 7.02	
L9 9.01 + L8 8.01 + L10 10.01	
L9 9.02 + L8 8.02 + L10 10.02	
L 11 11.01	
L11 11.02	
L12 12.01	

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Non-potable water source connected to Laundry (washing machine):	
Cafe/Restaurant	No
L1 1.01 + 1.02	
L1 1.03	
L1 1.04	
L1 1.05	
L2 2.06 + L1 1.06	
L1 1.07 + L2 2.07	
L2 2.01 + 2.02	
L2 2.03	
L2 2.04	
L2 2.05	
L3 3.02	
L3 3.03	
L4 4.01 + L3 3.01	
L4 4.02	
L4 4.03	
L4 4.04	
L6 6.01 + L5 5.01	
L6 6.02 + L5 5.02	
L6.03 + L5.03	
Retail	
L6 6.04 + L5 5.04	-
L7 7.01	
L7 7.02	
L9 9.01 + L8 8.01 + L10 10.01	
L9 9.02 + L8 8.02 + L10 10.02	
L 11 11.01	
L11 11.02	
L12 12.01	

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Non-potable water source connected to Hot Water System:	
Cafe/Restaurant	No
L1 1.01 + 1.02	
L1 1.03	
L1 1.04	
L1 1.05	
L2 2.06 + L1 1.06	
L1 1.07 + L2 2.07	
L2 2.01 + 2.02	
L2 2.03	
L2 2.04	
L2 2.05	
L3 3.02	
L3 3.03	
L4 4.01 + L3 3.01	
L4 4.02	
L4 4.03	
L4 4.04	
L6 6.01 + L5 5.01	
L6 6.02 + L5 5.02	
L6.03 + L5.03	
Retail	
L6 6.04 + L5 5.04	-
L7 7.01	
L7 7.02	
L9 9.01 + L8 8.01 + L10 10.01	
L9 9.02 + L8 8.02 + L10 10.02	
L 11 11.01	
L11 11.02	
L12 12.01	

1.1 Potable Water Use

78% ✔ Achieved

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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	8286 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	4075 kL
Output	Proposed (including rainwater and recycled water use)
Project	3844 kL
Output	% Reduction in Potable Water Consumption
Project	53 %
Output	% of connected demand met by rainwater
Project	49 %
Output	How often does the tank overflow?
Project	Never / Rarely
Output	Opportunity for additional rainwater connection
Project	1995 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	27 %
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	55 %
Output	Min Nitrogen reduction
Project	45 %
Output	Total Nitrogen reduction
Project	53 %

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

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Operational Energy Overall contribution 27.5%

		Minimum required 50%	67%	✔ Pass
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Project profile		
Use the BESS Deem to Satisfy (DtS) method for Non-residential spaces?: Yes		
Are you installing any renewable energy system(s) (other than solar photovoltaic)?: Yes		
Energy Supply: All-electric		
Solar Photovoltaic system profile		
System Size (lesser of inverter and panel capacity): Solar Photovoltaic system 1 10.0 kW peak		
Orientation (which way is the system facing)?: Solar Photovoltaic system 1 North		
Inclination (angle from horizontal): Solar Photovoltaic system 1 34.0 Angle (degrees)		
Which Building Class does this apply to?: Solar Photovoltaic system 1 Shop		
Dwellings profile		
Building: All 7-15 Horne St Elsterwick		
Below the floor is:		
L1 1.01 + 1.02 L1 1.04 Ground or Carpark		
L1 1.03 L1 1.05 L2 2.06 + L1 1.06 L1 1.07 + L2 2.07 L2 2.01 + 2.02 L2 2.03 L2 2.04 L2 2.05 L3 3.02 L3 3.03 L4 4.01 + L3 3.01 L4 4.02 L4 4.03 L4 4.04 L6 6.01 + L5 5.01 L6 6.02 + L5 5.02 L6.03 + L5.03 L6 6.04 + L5 5.04 L7 7.01 L7 7.02 L9 9.01 + L8 8.01 + L10 10.01 L9 9.02 + L8 8.02 + L10 10.02 L 11 11.01 L11 11.02 L12 12.01 Another Occupancy		

Above the ceiling is:
L1 1.01 + 1.02 L1 1.03 L1 1.04 L1 1.05 L2 2.06 + L1 1.06 L1 1.07 + L2 2.07 L2 2.01 + 2.02 L2 2.03 L2 2.04 L2 2.05 L3 3.02 L3 3.03 L4 4.01 + L3 3.01 L4 4.02 L4 4.03 L4 4.04 L6 6.01 + L5 5.01 L6 6.02 + L5 5.02 L6.03 + L5.03 L6 6.04 + L5 5.04 L7 7.01 L7 7.02 L9 9.01 + L8 8.01 + L10 10.01 L9 9.02 + L8 8.02 + L10 10.02 L 11 11.01 L11 11.02 L12 12.01 Another Occupancy Outside

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Exposed sides:		
L1 1.01 + 1.02	1	
L1 1.05		
L2 2.01 + 2.02		
L2 2.05		
L1 1.03	2	
L1 1.04		
L2 2.06 + L1 1.06		
L1 1.07 + L2 2.07		
L2 2.03		
L2 2.04		
L3 3.02		
L3 3.03		
L4 4.01 + L3 3.01		
L4 4.02		
L4 4.03		
L4 4.04		
L6 6.01 + L5 5.01		
L6 6.02 + L5 5.02		
L6.03 + L5.03		
L6 6.04 + L5 5.04		
L7 7.01	3	
L7 7.02		
L9 9.01 + L8 8.01 + L10 10.01		
L9 9.02 + L8 8.02 + L10 10.02		
L 11 11.01		
L11 11.02	4	
L12 12.01		

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NatHERS Annual Energy Loads - Heat:		
L1 1.01 + 1.02	53.4 MJ/sqm	
L1 1.03	33.0 MJ/sqm	
L1 1.04	36.8 MJ/sqm	
L1 1.05	5.8 MJ/sqm	
L2 2.06 + L1 1.06	25.1 MJ/sqm	
L1 1.07 + L2 2.07	29.9 MJ/sqm	
L2 2.01 + 2.02	32.4 MJ/sqm	
L2 2.03	18.1 MJ/sqm	
L2 2.04	7.0 MJ/sqm	
L2 2.05	3.5 MJ/sqm	
L3 3.02	17.5 MJ/sqm	
L3 3.03	12.7 MJ/sqm	
L4 4.01 + L3 3.01	48.5 MJ/sqm	
L4 4.02	24.1 MJ/sqm	
L4 4.03	30.9 MJ/sqm	
L4 4.04	55.2 MJ/sqm	
L6 6.01 + L5 5.01	49.7 MJ/sqm	
L6 6.02 + L5 5.02	24.9 MJ/sqm	
L6.03 + L5.03	34.7 MJ/sqm	
L6 6.04 + L5 5.04	56.7 MJ/sqm	
L7 7.01	30.3 MJ/sqm	
L7 7.02	34.5 MJ/sqm	
L9 9.01 + L8 8.01 + L10 10.01	34.4 MJ/sqm	
L9 9.02 + L8 8.02 + L10 10.02	35.5 MJ/sqm	
L 11 11.01	47.3 MJ/sqm	
L11 11.02	54.1 MJ/sqm	
L12 12.01	56.1 MJ/sqm	

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NatHERS Annual Energy Loads - Cool:		
L1 1.01 + 1.02	10.4 MJ/sqm	
L1 1.03	25.1 MJ/sqm	
L9 9.01 + L8 8.01 + L10 10.01		
L1 1.04	10.6 MJ/sqm	
L1 1.05	11.4 MJ/sqm	
L2 2.06 + L1 1.06	15.5 MJ/sqm	
L1 1.07 + L2 2.07	10.1 MJ/sqm	
L2 2.01 + 2.02	14.4 MJ/sqm	
L2 2.03	22.7 MJ/sqm	
L2 2.04	14.9 MJ/sqm	
L2 2.05	11.1 MJ/sqm	
L3 3.02	13.7 MJ/sqm	
L3 3.03	11.2 MJ/sqm	
L4 4.01 + L3 3.01	34.7 MJ/sqm	
L4 4.02	29.6 MJ/sqm	
L4 4.03	23.2 MJ/sqm	
L4 4.04	25.0 MJ/sqm	
L6 6.01 + L5 5.01	32.1 MJ/sqm	
L6 6.02 + L5 5.02	29.1 MJ/sqm	
L6.03 + L5.03	18.1 MJ/sqm	
L6 6.04 + L5 5.04	24.8 MJ/sqm	
L9 9.02 + L8 8.02 + L10 10.02		
L7 7.01	26.0 MJ/sqm	
L7 7.02	24.9 MJ/sqm	
L 11 11.01	18.4 MJ/sqm	
L11 11.02	14.3 MJ/sqm	
L12 12.01	28.8 MJ/sqm	

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NatHERS star rating:		
L1 1.01 + 1.02	6.9	
L1 1.03	7.2	
L7 7.01		
L1 1.04	7.8	
L2 2.01 + 2.02		
L1 1.05	9.6	
L2 2.06 + L1 1.06	8.2	
L1 1.07 + L2 2.07		
L2 2.03		
L2 2.04	9.2	
L2 2.05	9.7	
L3 3.02	8.7	
L3 3.03	9.1	
L4 4.01 + L3 3.01	5.9	
L6 6.01 + L5 5.01		
L6 6.04 + L5 5.04		
L12 12.01		
L4 4.02	7.4	
L4 4.03		
L6 6.02 + L5 5.02		
L6.03 + L5.03		
L4 4.04	6.0	
L7 7.02	7.1	
L9 9.01 + L8 8.01 + L10 10.01		
L9 9.02 + L8 8.02 + L10 10.02		
L 11 11.01	6.8	
L11 11.02	6.6	
Type of Heating System:	All	Reverse cycle space
Heating System Efficiency:	All	Current Default / MEPS
Type of Cooling System:	All	Refrigerative space
Cooling System Efficiency:	All	3 Stars (2019 MEPS)
Type of Hot Water System:	All	Electric Heat Pump Band 3
Is the hot water system shared by multiple dwellings?:	All	Yes
% Contribution from solar hot water system:	All	0 %
Clothes Line:	All	No drying facilities
Clothes Dryer:	All	Occupant to install
Non-residential Deemed-to-Satisfy profile		
Do all exposed floors and ceilings (forming part of the envelope) No demonstrate a minimum 10% improvement in required NCC2022 insulation levels (total R-value upwards and downwards)?:		
Does all wall and glazing demonstrate meeting the required NCC2022 facade calculator (or better than the total allowance)?:		
		Yes

	Are heating and cooling systems within one Star of the most efficient equivalent capacity unit available, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) not less than 85% of the CoP & EER of the most efficient equivalent capacity unit available?:	Yes
	Are water heating systems within one star of the best available, or 85% or better than the most efficient equivalent capacity unit?:	Yes
1.1 Thermal Performance Rating - Non-Residential		
0%		
	Score Contribution	This credit contributes 1.5% towards the category score.
	Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC2022 Section J)?
1.2 Thermal Performance Rating - Residential		
20% ✔ Achieved		
	Score Contribution	This credit contributes 15.9% towards the category score.
	Criteria	What is the average NatHERS rating?
	Output	Average NATHERS Rating (Weighted)
	Apartment	7.2 Stars
2.1 Greenhouse Gas Emissions		
97%		
	Score Contribution	This credit contributes 16.3% 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)
	Apartment	101,011 kg CO2
	Output	Proposed Building with Proposed Services (Actual Building)
	Apartment	77,332 kg CO2
	Output	% Reduction in GHG Emissions
	Apartment	23 %
2.2 Peak Demand		
0%		
	Score Contribution	This credit contributes 0.2% towards the category score.
	Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?
2.6 Electrification		
100%		
	Score Contribution	This credit contributes 16.5% towards the category score.
	Criteria	Is the development all-electric?
	Question	Criteria Achieved?
	Project	Yes
2.7 Energy consumption		
96%		

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	Score Contribution	This credit contributes 21% towards the category score.
	Criteria	What is the % reduction in annual energy consumption against the benchmark?
	Output	Reference Building with Reference Services (BCA only)
	Apartment	977,994 MJ
	Output	Proposed Building with Proposed Services (Actual Building)
	Apartment	356,918 MJ
	Output	% Reduction in total energy
	Apartment	63 %
3.1 Carpark Ventilation		
100%		
	Score Contribution	This credit contributes 5.5% 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		
0%		
	Score Contribution	This credit contributes 0.2% towards the category score.
	Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?
3.4 Clothes Drying		
0%		
	Score Contribution	This credit contributes 5.3% 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
	Apartment	21,727 kWh
	Output	Proposed
	Apartment	21,727 kWh
	Output	Improvement
	Apartment	0 %
3.6 Internal Lighting - Apartments		
100%		
	Score Contribution	This credit contributes 5.3% 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%		

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Score Contribution	This credit contributes 0.4% 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	
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		0%
Score Contribution	This credit contributes 5.5% 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	
Shop	13,030 kWh	
Output	% of Building's Energy	
Shop	0 %	
4.4 Renewable Energy Systems - Other		0%
Score Contribution	This credit contributes 5.5% towards the category score.	
Criteria	Does another form of renewable energy (not solar) provide 5% of the estimated energy consumption of the building class it supplies?	
Question	Other Renewable Energy - Energy Generation per year	
Apartment	-	
Shop	-	

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IEQ Overall contribution 16.5%

		Minimum required 50%	69%	✔ Pass
What metric do you want to use for daylight to apartments?:	Daylight factor			
Daylight Factor: use the BESS Deemed to Satisfy (DtS) method?:	No			
Daylight Factor: what calculation approach do you want to use?:	Provide our own calculations			
1.1 Daylight Access - Living Areas		66%	✔ Achieved	
Score Contribution	This credit contributes 28.3% towards the category score.			
Criteria	What % of living areas achieve the daylight criteria?			
Question	Percentage Achieved ?			
Apartment	80 %			
1.2 Daylight Access - Bedrooms		66%	✔ Achieved	
Score Contribution	This credit contributes 28.3% towards the category score.			
Criteria	What % of bedrooms achieve the daylight criteria?			
Question	Percentage Achieved ?			
Apartment	80 %			
1.3 Winter Sunlight		100%		
Score Contribution	This credit contributes 9.4% 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	Yes			
1.4 Daylight Access - Non-Residential		33%	✔ Achieved	
Score Contribution	This credit contributes 1% towards the category score.			
Criteria	What % of the nominated floor area has at least 2% daylight factor?			
Question	Percentage Achieved?			
Shop	33 %			
1.5 Daylight Access - Main Living Areas		N/A	✦ Scoped Out	
Spatial daylight autonomy metric not in use				
This credit was scoped out	Spatial daylight autonomy metric not in use			
1.6 Daylight Access - Secondary Habitable Rooms		N/A	✦ Scoped Out	
Spatial daylight autonomy metric not in use				
This credit was scoped out	Spatial daylight autonomy metric not in use			
2.1 Ventilation - Natural - Apartments		66%		

Score Contribution	This credit contributes 28.3% towards the category score.		
Criteria	What % of dwellings are effectively naturally ventilated?		
Question	Percentage Achieved?		
Apartment	82 %		
2.3 Ventilation - Non-Residential			66% ✔ Achieved
Score Contribution	This credit contributes 1% towards the category score.		
Criteria	What % of the regular use areas are effectively naturally ventilated?		
Question	Percentage Achieved?		
Shop	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	0 %		
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?		
Question	Value		
Shop	800 ppm		
3.4 Thermal comfort - Shading - Non-Residential			66%
Score Contribution	This credit contributes 0% 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 %		
3.5 Thermal Comfort - Ceiling Fans - Non-Residential			0%
Score Contribution	This credit contributes 0.3% towards the category score.		
Criteria	What percentage of regular use areas in tenancies have ceiling fans?		
Question	Percentage Achieved?		
Shop	0 %		
4.1 Air Quality - Non-Residential			100%
Score Contribution	This credit contributes 0.3% towards the category score.		
Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?		
Question	Criteria Achieved ?		
Shop	Yes		

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

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Transport Overall contribution 9.0%

		55%
1.1 Bicycle Parking - Residential		100%
Score Contribution	This credit contributes 21.6% towards the category score.	
Criteria	How many secure and undercover bicycle spaces are there for residents?	
Question	Bicycle Spaces Provided ?	
Apartment	40	
Output	Min Bicycle Spaces Required	
Apartment	40	
1.2 Bicycle Parking - Residential Visitor		100%
Score Contribution	This credit contributes 21.6% towards the category score.	
Criteria	How many secure bicycle spaces are there for visitors?	
Question	Visitor Bicycle Spaces Provided ?	
Apartment	8	
Output	Min Visitor Bicycle Spaces Required	
Apartment	8	
1.3 Bicycle Parking - Convenience Residential		100%
Score Contribution	This credit contributes 10.8% towards the category score.	
Criteria	Are bike parking facilities for residents located at ground or entry level?	
Question	Criteria Achieved ?	
Apartment	Yes	
1.4 Bicycle Parking - Non-Residential		100%
Score Contribution	This credit contributes 0.8% 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	
Question	Bicycle Spaces Provided ?	
Shop	2	
1.5 Bicycle Parking - Non-Residential Visitor		100%
Score Contribution	This credit contributes 0.4% 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	
Question	Bicycle Spaces Provided ?	
Shop	2	
1.6 End of Trip Facilities - Non-Residential		0%

Score Contribution	This credit contributes 0.4% 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	1	
Question	Number of lockers provided ?	
Shop	0	
Output	Min Showers Required	
Shop	1	
Output	Min Lockers Required	
Shop	2	
2.1 Electric Vehicle Infrastructure		0%
Score Contribution	This credit contributes 22.3% towards the category score.	
Criteria	Are facilities provided for the charging of electric vehicles?	
Question	Criteria Achieved ?	
Project	No	
2.2 Car Share Scheme		0%
Score Contribution	This credit contributes 11.2% towards the category score.	
Criteria	Has a formal car sharing scheme been integrated into the development?	
Question	Criteria Achieved ?	
Project	No	
2.3 Motorbikes / Mopeds		0%
Score Contribution	This credit contributes 11.2% 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	No	

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Waste & Resource Recovery Overall contribution 5.5%

		33%
1.1 Construction Waste - Building Re-Use		0%
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	No	
2.1 Operational Waste - Food & Garden Waste		0%
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	No	
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	

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Urban Ecology Overall contribution 5.5%

		10%
1.1 Communal Spaces		96%
Score Contribution	This credit contributes 11.2% 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	188 m²	
Shop	0.0 m²	
Output	Minimum Common Space Required	
Apartment	81 m²	
Shop	19 m²	
2.1 Vegetation		0%
Score Contribution	This credit contributes 44.6% 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	0 %	
2.2 Green Roofs		0%
Score Contribution	This credit contributes 11.2% towards the category score.	
Criteria	Does the development incorporate a green roof?	
Question	Criteria Achieved ?	
Project	No	
2.3 Green Walls and Facades		0%
Score Contribution	This credit contributes 11.2% towards the category score.	
Criteria	Does the development incorporate a green wall or green façade?	
Question	Criteria Achieved ?	
Project	No	
2.4 Balconies, Courtyards & Roof terraces		0%
Score Contribution	This credit contributes 10.8% towards the category score.	
Criteria	Is there a tap and floor waste on every balcony and courtyard (including any roof terraces)?	
Question	Criteria Achieved ?	
Apartment	No	
3.1 Food Production - Residential		0%

Score Contribution	This credit contributes 10.8% towards the category score.
Criteria	What area of space per resident is dedicated to food production?
Question	Food Production Area
Apartment	0.0 m²
Output	Min Food Production Area
Apartment	29 m²

3.2 Food Production - Non-Residential	0%
---------------------------------------	----

Score Contribution	This credit contributes 0.4% towards the category score.
Criteria	What area of space per occupant is dedicated to food production?
Question	Food Production Area
Shop	0.0 m²
Output	Min Food Production Area
Shop	5 m²

Innovation Overall contribution 9.0%

	0%
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1.1 Innovation	0%
----------------	----

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

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Appendix B

NatHERS Star Rating Assessment for Apartments

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NatHERS 7 Star Rating Façade Setups For Apartments

NatHERS Rating Summary

Fabric Element	7.0 Star Rating Requirements of Apartments
Roofing & Ceilings	
Concrete roof slab to Level 12	• 4.0 added insulation to proposed concrete roof design.
Exposed ceiling slab at Level 2, Level 3, Level 10 and Level 11:	• R1.8 added insulation to proposed metal roof design.
Level 3 Exposed Concrete Slab below Level 4 balconies	• R3.0 added insulation to proposed concrete roof design.
Internal ceiling/floor slab adjacent two apartments	• R1.8 added acoustic insulation above ceiling board to Kitchen, Bathroom, Ensuite and Laundry spaces
Walls	
Concrete wall panels	• R2.5 added insulation to proposed concrete panel design.
Spandrel wall system	• R2.5 added insulation to proposed spandrel design.
Party walls adjacent two apartments	• R2.0 added insulation to proposed wall design.
Party walls adjacent between apartments and corridors	• R2.0 added insulation to proposed wall design.
Party walls adjacent between apartments and lifts, stairs or services spaces	• R2.0 added insulation to proposed wall design.
Floors	
Floor Slab to Level 1 exposed to ambient or above non-conditioned services spaces	• R2.0 added insulation to proposed floor slab design.
Exposed Floor Slab to Levels 7 and 11	• R2.0 added insulation to proposed floor slab design.
External windows and glazing doors	
External Awning Windows and Fixed Windows to Exposed Façade	• To be developed as part of Design documentation but expected to be Thermally Broken Aluminium Frame plus Double Low-e Tinted Glazing with U-Value not more than Uw3.0 and SHGC not less than SHGCw0.27 for window system or as required to achieve required NatHERS rating.
External Sliding Doors and Casement Doors adjacent to Balconies / Terraces	• To be developed as part of Design documentation but expected to be Thermally Broken Aluminium Frame plus Double Low-e Glazing with U-Value not more than Uw2.9 and SHGC not less than SHGCw0.51 for glazing system or as required to achieve required NatHERS rating.

Table B1 - Building Fabric Elements for 7 Star Apartment Rating

Provided below is a summary of the Preliminary NatHERS rating assessments that have been undertaken at this initial project stage. All values noted are indicative and will be subject to change as the design detailing is developed. Importantly, the preliminary assessment shows that the proposed design is capable of achieving compliance with the NatHERS rating requirements applicable to the development.

Apartment No.	Apartment Type	No. Bedrooms	Total Area on plan (m ²)	Heating energy (MJ/m ²)	Cooling energy (MJ/m ²)	Rating Stars
Level 1						
1.01	2 Bed	2	90	53.4	10.4	6.9
1.02	2 Bed	2	91	53.4	10.4	6.9
1.03	2 Bed	2	97	33.0	25.1	7.2
1.04	2 Bed	2	145	36.8	10.6	7.8
1.05	2 Bed	2	118	5.8	11.4	9.6
1.06	3 Bed	3	129	25.1	15.5	8.2
1.07	3 Bed	3	114	29.9	10.1	8.2
Sub Total		7	16	784		
Sub Average				33.9	13.4	7.8
Level 2						
2.01	2 Bed	2	90	32.4	14.4	7.8
2.02	2 Bed	2	91	32.4	14.4	7.8
2.03	2 Bed	2	97	18.1	22.7	8.2
2.04	2 Bed	2	145	7.0	14.9	9.2
2.05	2 Bed	2	118	3.5	11.1	9.7
2.06	3 Bed	3	129	25.1	15.5	8.2
2.07	3 Bed	3	114	29.9	10.1	8.2
Sub Total		7	16	784		
Sub Average				21.2	14.7	8.4
Level 3						
3.01	2 Bed	2	112	48.5	34.7	5.9
3.02	2 Bed	2	145	17.5	13.7	8.7
3.03	2 Bed	2	118	12.7	11.2	9.1
Sub Total		3	6	375		
Sub Average				15.1	12.5	8.9
Level 4						
4.01	2 Bed	2	112	48.5	34.7	5.9
4.02	2 Bed	2	107	24.1	29.6	7.4
4.03	2 Bed	2	107	30.9	23.2	7.4
4.04	2 Bed	2	109	55.2	25.0	6.0
Sub Total		4	8	435		
Sub Average				36.7	25.9	6.9
Level 5						
5.01	2 Bed	2	112	49.7	32.1	5.9
5.02	2 Bed	2	107	24.9	29.1	7.4

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Apartment No.	Apartment Type	No. Bedrooms	Total Area on plan (m²)	Heating energy (MJ/m²)	Cooling energy (MJ/m²)	Rating Stars
5.03	2 Bed	2	107	34.7	18.1	7.4
5.04	2 Bed	2	109	56.7	24.8	5.9
Sub Total		4	8	435		
Sub Average				41.5	26.0	6.7
Level 6						
6.01	2 Bed	2	112	49.7	32.1	5.9
6.02	2 Bed	2	107	24.9	29.1	7.4
6.03	2 Bed	2	107	34.7	18.1	7.4
6.04	2 Bed	2	109	56.7	24.8	5.9
Sub Total		4	8	435		
Sub Average				41.5	26.0	6.7
Level 7						
7.01	3 Bed	3	230	31.3	26.0	7.2
7.02	3 Bed	3	224	34.5	24.9	7.1
Sub Total		2	6	454		
Sub Average				32.9	25.5	7.2
Level 8						
8.01	3 Bed	3	230	34.4	25.1	7.1
8.02	3 Bed	3	224	35.5	24.8	7.1
Sub Total		2	6	454		
Sub Average				35.0	25.0	7.1
Level 9						
9.01	3 Bed	3	230	34.4	25.1	7.1
9.02	3 Bed	3	224	35.5	24.8	7.1
Sub Total		2	6	454		
Sub Average				35.0	25.0	7.1
Level 10						
10.01	3 Bed	3	230	34.4	25.1	7.1
10.02	3 Bed	3	224	35.5	24.8	7.1
Sub Total		2	6	454		
Sub Average				35.0	25.0	7.1
Level 11						
11.01	3 Bed	3	188	47.3	18.4	6.8
11.02	3 Bed	3	186	54.1	14.3	6.6
Sub Total		2	6	374		
Sub Average				50.7	16.4	6.7
Level 12						
12.01	3 Bed PENTHOUSE	3	258	56.1	28.8	5.9
Sub Total		1	3	258		
Sub Average				56.1	28.8	5.9

Apartment No.	Apartment Type	No. Bedrooms	Total Area on plan (m²)	Heating energy (MJ/m²)	Cooling energy (MJ/m²)	Rating Stars
Building Total		40	95	5,696		
Building Average				34.7	21.0	7.2

Table B2 - Preliminary NatHERS Star Rating Summary

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Appendix C

NCC Section J4 DTS Assessment

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NCC Section J4 Assessment

According to the NCC, the classification to the proposed non-residential spaces include,

- Class 6 Café / Restaurant at Gound Level
- Class 6 Retail at Ground Level with glazing shopfront
- Class 2 Apartment Building Common Area - Main Lobby at Ground Level
- Class 2 Apartment Building Common Area - Indoor Communal at Level 3

The development located in Climate Zone 6 for the location of Elsternwick, Victoria.

The proposed design is targeting to achieve compliance over the NCC 2022 Section J4 minimum requirements, and as such the performance targets recommended for the proposed design and the façade calculator results are summarized as follows,

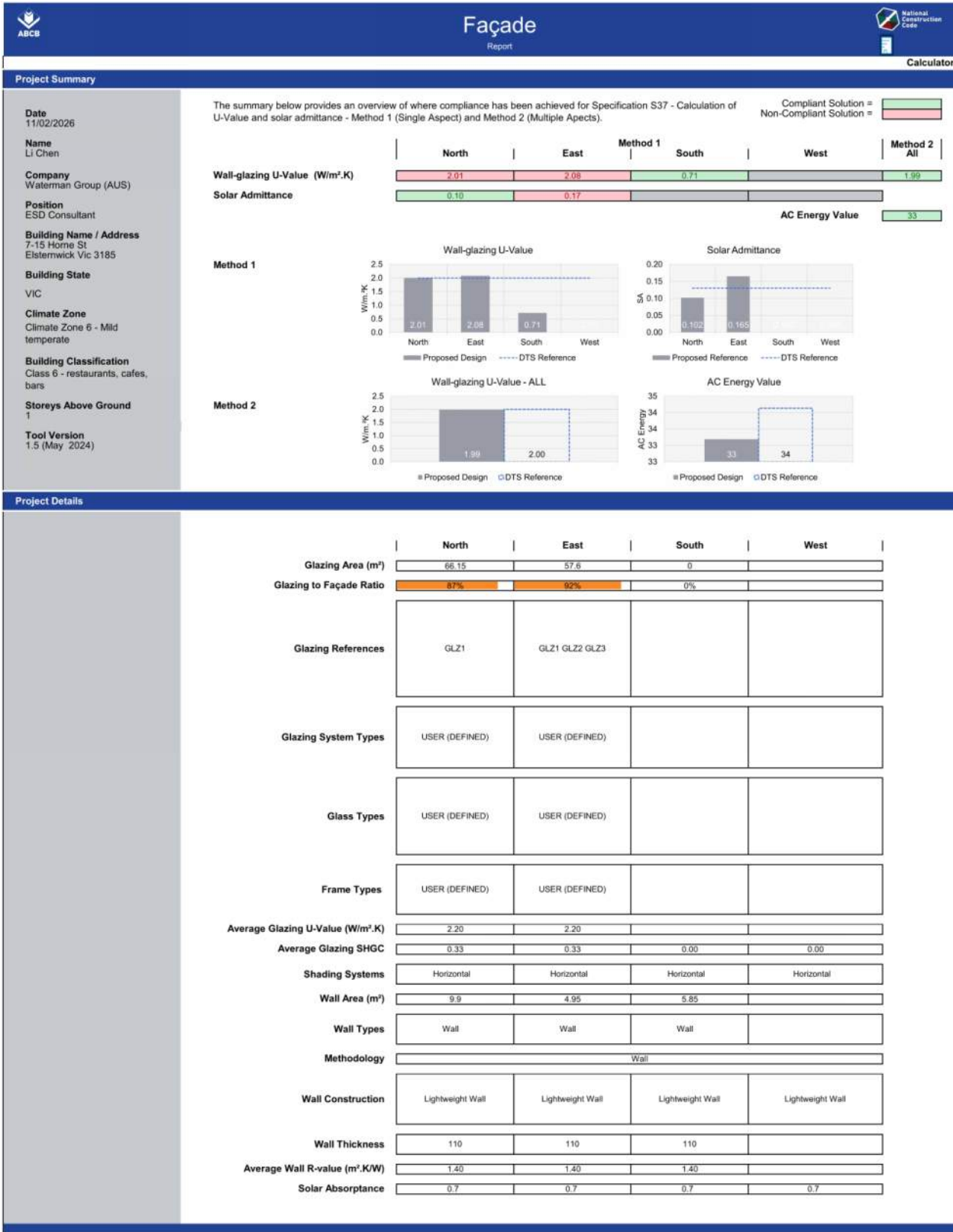
- Thermal performance requirements to be adopted for compliance for the proposed building façade design assessed via NCC Section J4 DTS Method:

Fabric Element	NCC 2022 Section J4 Requirements to Non-Residential Façade Design
J4D4 Exposed Ceiling Slabs forming thermal envelope	• Min. $R_{T3.2}$ m².K/W • Max. Solar absorptance: 0.45
J4D6 Walls forming thermal envelope including external walls and partitions between non-conditioned carpark/services spaces and conditioned spaces	• Min. $R_{T1.4}$ m².K/W
J4D6 External Glazing forming thermal envelope	
Ground Café	• Max. $U_{W2.20}$ W/m²K & Max. $SHGC_{W0.33}$
Ground Retail Shopfront	• Max. $U_{W5.8}$ W/m²K & Max. $SHGC_{W0.81}$
Ground Apartment Main Lobby	• Max. $U_{W1.95}$ W/m²K & Max. $SHGC_{W0.20}$
Level 3 Indoor Communal	• Max. $U_{W2.50}$ W/m²K & Max. $SHGC_{W0.23}$
J4D7 Concrete Slab above non-conditioned carpark/ services spaces forming thermal envelope	• Min. $R_{T2.0}$ m².K/W

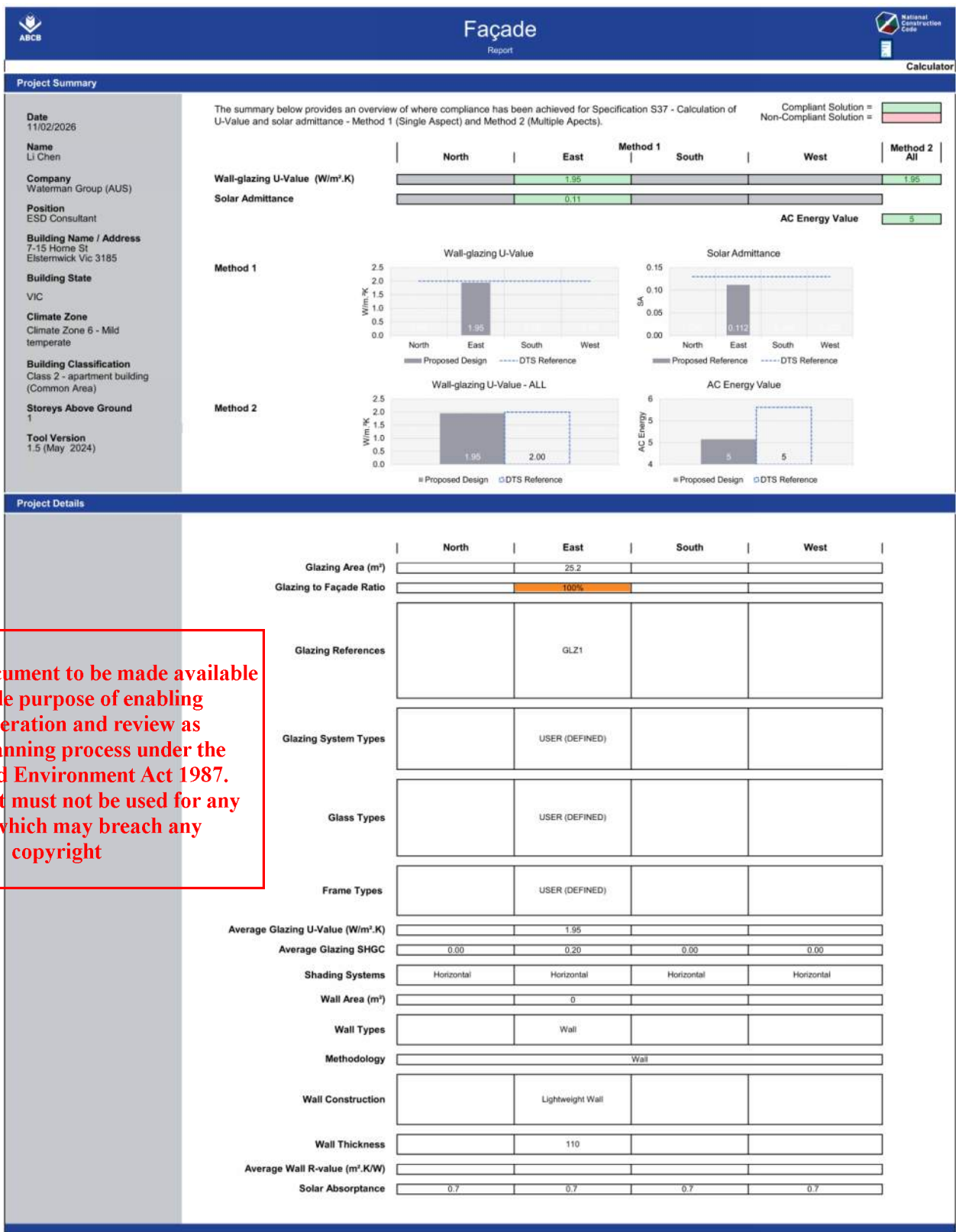
Table C1 – Non-residential Fabric Elements for NCC Section J4 Compliance

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Ground Level Café J4D6 Façade System Calculator Report

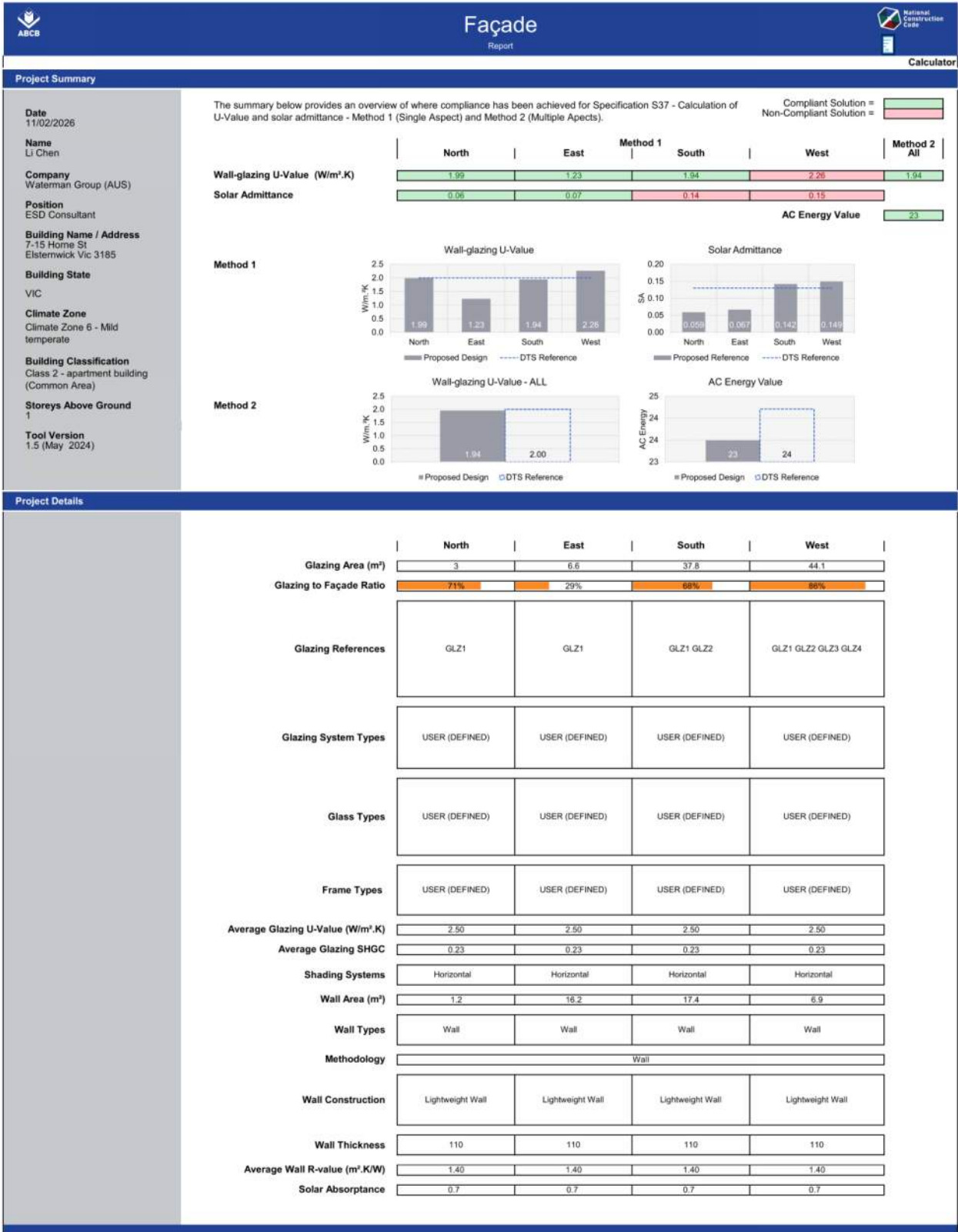


Ground Level Apartment Main Lobby J4D6 Façade System Calculator Report



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Level 3 Indoor Communal J4D6 Façade System Calculator Report



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