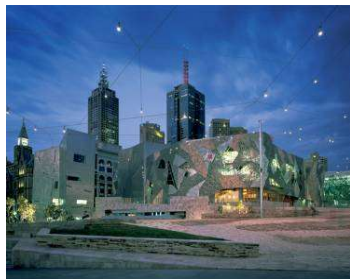


55-61 Atherton Road, Oakleigh

Mixed-Use Development

Sustainability Management Plan / prepared for DC Atherton Pty Ltd



www.watermangroup.com



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Document Status

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Author(s) Li Chen			
Approved by Brian Mason			
Version	Issue Description		Date
1	Draft for Review		15 May 2025
2	Issue for Town Planning		27 May 2025
3	Issue for Town Planning		09 October 2025
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1.1 Introduction

1.2 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.

1.3 General Scope of Work

The project involves the mixed-use development is located on the corner of Atherton and Atkinson Roads, Oakleigh, Victoria.



Figure 1.1 – Site Location Bird-View from South-East

The development shall contain approximately 19,372 m² of retails and residential apartments over twenty levels above ground and carparking spaces plus storage spaces at four basement levels:

Basement 4

- > 43 residential carparking spaces.
- > 32 apartment storage cages.

55-61 Atherton Road, Oakleigh / Sustainability Management Plan

Basement 3 ~ Basement 2

- > 41 residential carparking spaces at each level.
- > 32 apartment storage cages at each level.

Basement 1

- > 33 residential carparking spaces plus 5 retail carparking spaces including 1 disabled parking space.
- > 1 EV charging station.
- > 13 apartment storage cages.



Figure 1.2 – Proposed Ground Floor Plan

Ground Floor

- > Retail spaces.
- > Residential lobby and lifts.
- > 38 residential bike store spots including 25 spots for residents and 13 spots for residential visitors.
- > 8 retail bike store spots including 4 spots for staff members and 4 spots for retail visitors.
- > Waste and recycling storage and separation spaces.
- > Staff amenities.
- > Core and plantrooms.

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Level 1

- > Residential communal areas.
- > 6 storage cages.
- > 2 one-bedroom apartment and 5 two-bedroom apartments.
- > Lift lobby and amenities.



Figure 1.3 – Typical Office Floor Plan - Level 1

Level 2

- > 2 one-bedroom apartments, 7 two-bedroom apartments and 1 three-bedroom apartment.
- > Lift lobby and amenities.

Level 3 ~ Level 13

- > 1 one-bedroom apartment, 6 two-bedroom apartments and 2 three-bedroom apartment at each floor level.
- > Lift lobby and amenities at each floor level.

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Figure 1.4 – Typical Apartment Floor Plan - Level 4

Level 14

- > 3 two-bedroom apartments and 3 three-bedroom apartments.
- > Lift lobby and amenities at each floor level.

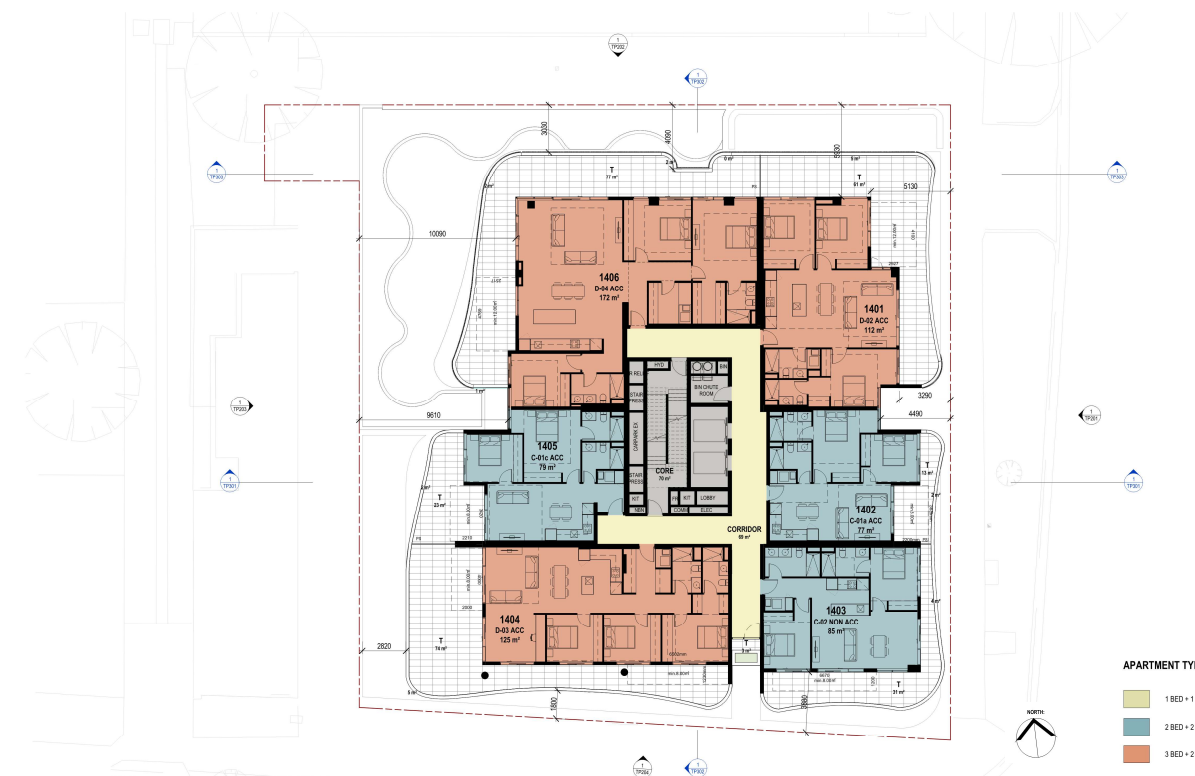
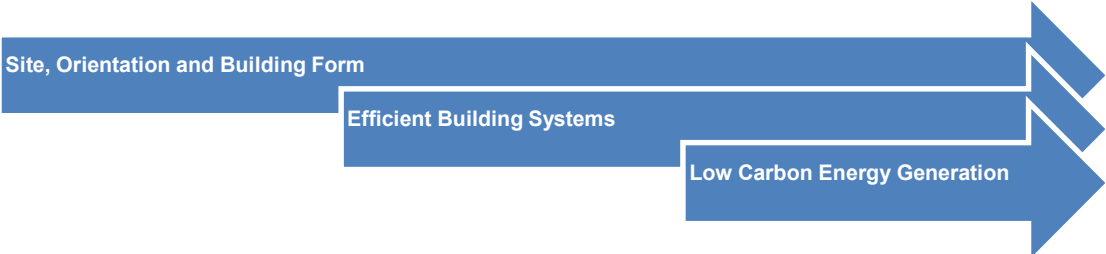


Figure 1.5 – Typical Apartment Floor Plan - Level 14

1.4 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.

1.5 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 Monash and the following benchmarks are required to be satisfied.

Planning Control	Project Response
LPP 22.13 Environmentally Sustainable Development Policy The application requirements apply to the “Mixed Use with residential component Development of 10 or more dwellings” which including; • A Sustainability Management Plan including an assessment using BESS/Green Star, Music or other methods.	The project achieves a score of 51% 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.

Planning Control	Project Response
A Sustainability Management Plan including an assessment using BESS/Green Star, Music or other methods.	In order to confirm a compliant score for the Indoor Environment Quality (IEQ) subsection, the project is required to achieve one of the IEQ mandatory credits, Daylight Access, and the criteria include; > A minimum 33% of regular use floor area to the retails achieving a target Daylight Factor of not less than 2%, > A minimum 80% of apartment living areas meet the target Daylight Factor of not less than 1%, and, > A minimum 80% of apartment bedrooms meet the target Daylight Factor of not less than 0.5%. A daylight modelling assessment will need to be undertaken for the project to confirm if compliance is achieved.
	A summary of the NCC Section J4 DTS assessment results to the non-residential spaces and the compliance requirements to the building fabrics is attached as Appendix B.
	This project is designed to achieve an average of 7.5 Stars NatHERS rating for the façade and glazing design which is 0.5 stars exceeding the NCC minimum compliance requirement, 6.0 stars. A summary of the Preliminary NatHERS assessment results is attached as Appendix C.
	Non-trafficable roof area, 949m², is recommended for solar PV panel installation and as such, a minimum of 10kW solar PV array is recommended to the project on-site renewable energy generation.
	A MUSIC rating assessment has been undertaken. The report is attached as Appendix D with a minimum of 20,000L of rainwater tanking and a Jellyfish-1-1 900 Square Filter system included. The MUSIC rating assessment report is attached as Appendix D.
	A Green Travel Plan will be prepared by the Traffic Consultant.

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1.6 Sources of Information and Limitations

This report has been based on the following architectural information:

- Peddle Thorp. Project No.: 3-23-0047. Drawing Set – Town Planning Revision 2. Date: 15/08/2025.

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.

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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 in order to reduce 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 51% under the BESS scorecard, which achieves the overall minimum required score and all mandatory targets required by 9 categories of the BESS scorecard for the project sustainable design except the IEQ.

In order to confirm a compliant score for the Indoor Environment Quality (IEQ) subsection, the project is required to achieve one of the IEQ mandatory credits, Daylight Access, and the criteria include;

- > A minimum 33% of regular use floor area to the retails achieving a target Daylight Factor of not less than 2%,
- > A minimum 80% of apartment living areas meet the target Daylight Factor of not less than 1%, and,
- > A minimum 80% of apartment bedrooms meet the target Daylight Factor of not less than 0.5%.

A daylight modelling assessment will need to be undertaken for the project to confirm the compliance under BESS IEQ Daylight Access category.

The project has adopted bicycle parking initiatives for the retails and further credits in energy efficiency via improving the NatHERS star rating to 7.5 stars or over for the residential apartments, commitments to healthy (low VOC) paints, adhesives, sealants and carpets, and commitments to health (low formaldehyde) timber and joinery products.

2.2 Project Commitments

A list of the initiatives proposed to be included within the design has been provided in the 4.1 Implementation Plan section of this report.

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BESS, 55-61 Atherton Rd, Oakleigh VIC 3166 v4 55-61 Atherton Rd , Oakleigh 3...

BESS Report

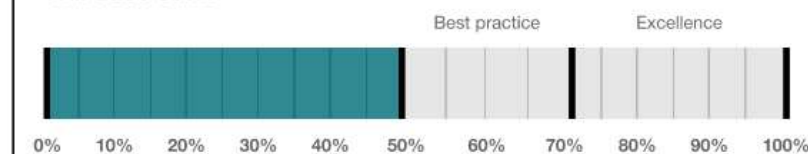
Built Environment Sustainability Scorecard



This BESS report outlines the sustainable design commitments of the proposed development at 55-61 Atherton Rd Oakleigh Victoria 3166. 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 Monash 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



51%

Project details

Name	55-61 Atherton Rd, Oakleigh VIC 3166 v4
Address	55-61 Atherton Rd Oakleigh Victoria 3166
Project ID	5B3D8A12-R1
BESS Version	BESS-9
Site type	Mixed use development
Account	l.chen@waterman-australia.com.au
Application no.	
Site area	1,551 m ²
Building floor area	10,721 m ²
Date	09 October 2025
Software version	2.1.0-B.600



Performance by category

Category	Weight	Score	Pass	Visual
Management	5%	61%	•	
Integrated Water Management	23%	81%	✓	
Operational Energy	28%	64%	✓	
Indoor Environment Quality	17%	49%	✓	
Transport	9%	24%	•	
Waste & Resource Recovery	6%	33%	•	
Urban Ecology	6%	10%	•	
Innovation	9%	0%	•	

Project composition

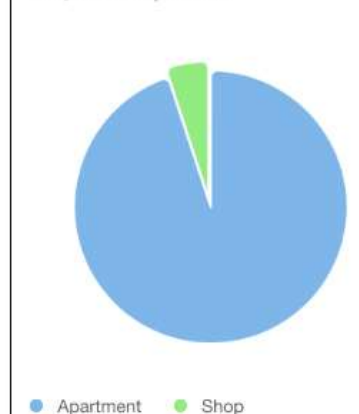


Figure 2.1 – BESS Assessment Report

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.

Showerheads	4 Star WELS (≥ 6.0 L/min. but ≤ 7.5 L/min.)
Kitchen Taps	6 Star WELS
Vanity Taps	6 Star WELS
Dual Flush Toilets	4 Star WELS
Urinals	6 Star WELS
Dishwashers	5 Star WELS

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3.3 On-Site Stormwater Management

Based on the proposed design, the catchment areas and the one-site stormwater management design includes

- > The rainfall over the non-trafficable roof area of 949m² at Level 19 rooftop drains into 20KL rainwater tank for toilet flush, mainly. The overflow of the rainwater tank will discharge to the on-site Jellyfish-1-1 900 Square Filter system for further treatment before discharging to council system.
- > The rainfall over the upper level terrace areas of 507m² drains into the on-site Jellyfish-1-1 900 Square Filter system for treatment before discharging to council system.
- > The rainfall over the remain untreated imperious area, about 32m², will discharge directly to council system.

The proposed catchment plan is shown in Figure 3.1.

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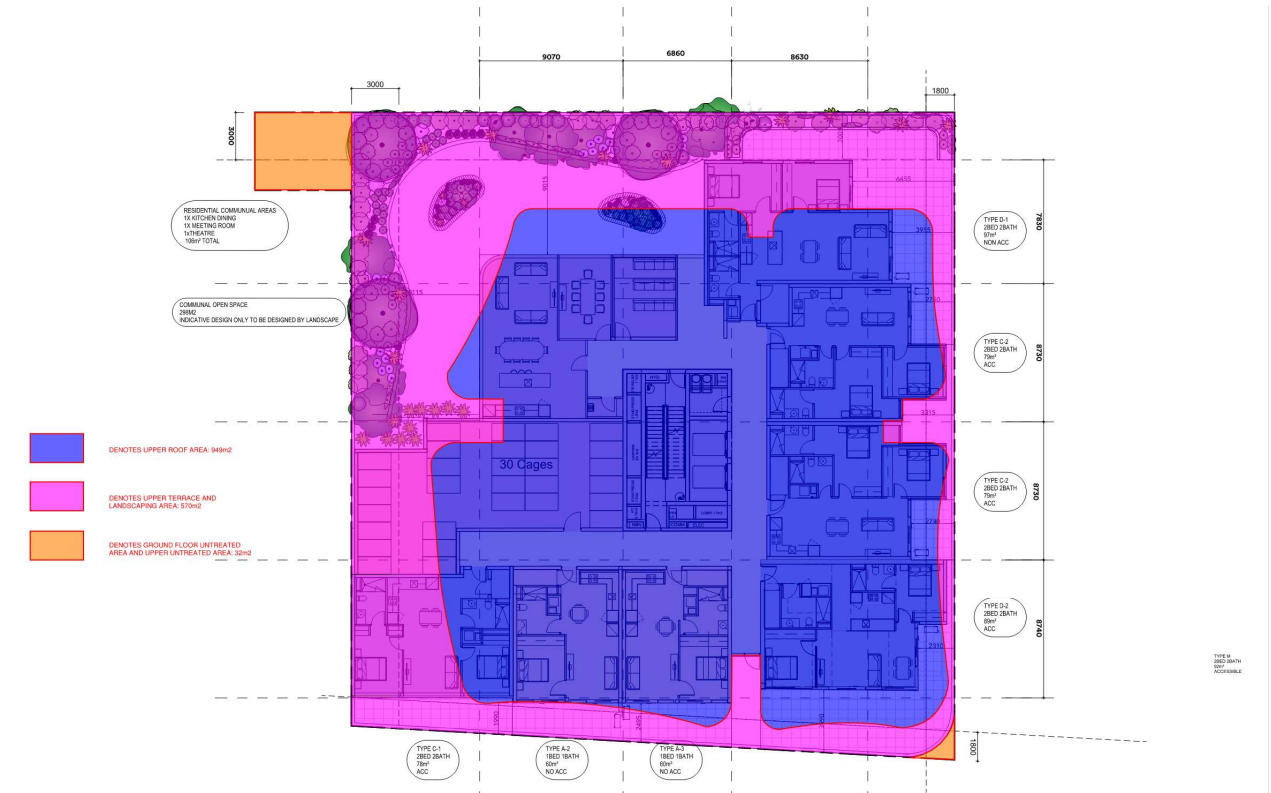


Figure 3.1 – MUSIC Assessment Report

A MUSIC modelling assessment has been undertaken, and the modelling results (Figure 3.2) shows the proposed stormwater management system is sufficient for the compliant requirements of the best practice outcomes.

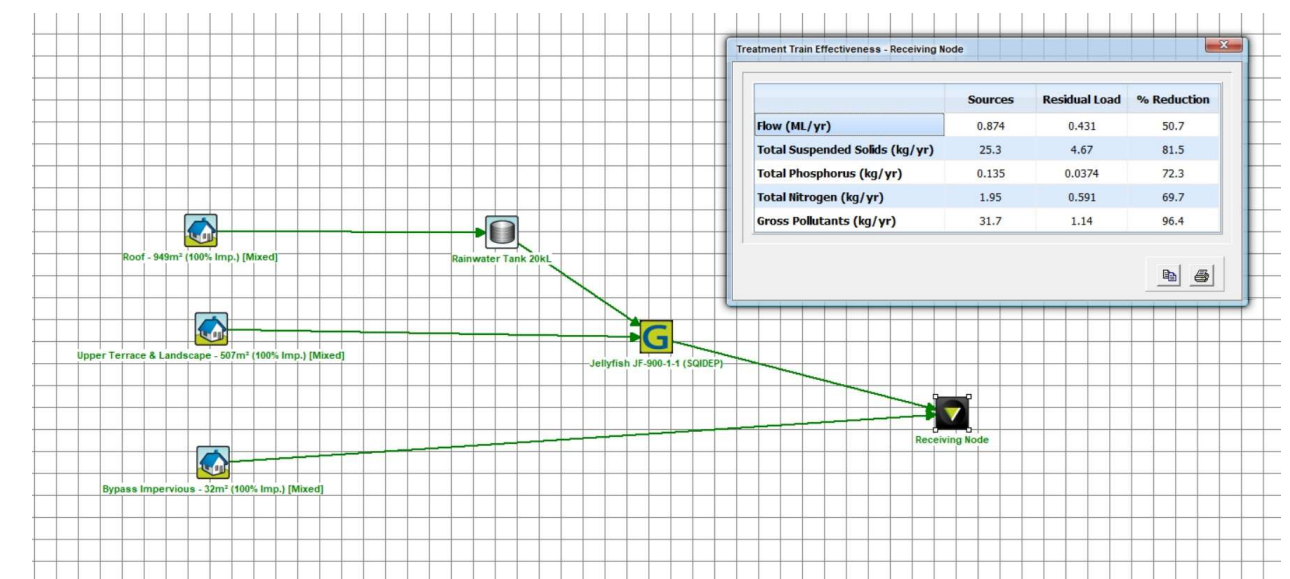


Figure 3.2 – Stormwater Catchment Plan

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.					

Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
INDOOR ENVIRONMENT QUALITY					
At least 33% of the retail regular use floor area to achieve Daylight Factor of 2.0% for the proposed architectural design.	Architect		Y	Y	Y
At least 80% of living areas to achieve Daylight Factor of not less than 1% and at least 80% of bedrooms to meet the target Daylight Factor of not less than 0.5% for the proposed apartment 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
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					
Part of the non-trafficable roof area, 949m ² , is recommended for solar PV panel installation and as such, a minimum 10kW solar PV array is recommended to the project on-site renewable energy generation.	Electrical	Y	Y	Y	Y
Wall-glazing performance to meet the minimum NCC Section J4 requirements for the non-residential façade design. Refer to Appendix B.	Architect ESD		Y	Y	Y
Preliminary apartment energy ratings show an average rating is sufficient to achieve an average 7.5 Stars , 0.5 stars exceeding the NCC 2022 NatHERS 7 star rating compliance requirements. Refer to Appendix C.	Architect ESD		Y	Y	Y
Lighting power density is to improve on the maximum allowance in the NCC by 10%.	Electrical		Y	Y	Y

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Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
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
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
The design will incorporate after hours control with minimum 2 zones, CO2 or occupancy based ventilation controls and full outside air economy cycles to base building air handling systems.	Mechanical		Y	Y	Y
Domestic hot water will be provided by an electric source central heat pump hot water system	Hydraulic		Y	Y	Y
All new lights will be LED type.	Electrical		Y	Y	Y
Daylight and movement sensors will be included to external areas and internal areas such as storerooms, corridors, and other common areas in addition to other switching.	Electrical		Y	Y	Y
Lighting in perimeter zones of higher daylight will be controlled by daylight sensors.	Electrical		Y	Y	Y
TRANSPORT					
38 residential bike store spots, 25 spots for residents and 13 spots for visitors, and 8 retail bike store spots, 4 spots for staff members and 4 spots for visitors, are included in the proposed Ground Floor design. These will form part of the overall Green Travel Plan activities.	Architect	Y	Y	Y	Y

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Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
A Green Travel Plan has been prepared by the Traffic Consultant. The Green Travel Plan considers the site & location 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: - Showerheads: 4 Star WELS (≥ 6.0 L/min. but ≤ 7.5 L/min) - Kitchen Taps: 6 Star WELS - Bathroom Taps: 6 Star WELS - Dual Flush Toilets: 4 Star WELS - Urinals: 6 Star WELS - Dishwashers: 5 Star WELS	Architect		Y	Y	Y
The following initiatives will be implemented in the design: > Water will be collected from the non-trafficable roof, 949m². > Water will be treated via a set of rainwater tanks with a minimum of 20,00L required for the proposed building, connected to all toilets in the building. > Water falling on the terraces landscape areas, 507m², at upper levels will be treated with an on-site Jellyfish-1-1 900 Square Filter system before discharging to the council stormwater system. > A MUSIC assessment has been undertaken and ensure the best practice outcomes of the on-site stormwater treatment. Refer to Appendix D.	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	-	-	-	-

Initiative	Discipline(s)	Project Stage			
		Town Planning Documents	Tender Documents	Construction Documents	Construction & Completion
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.	Fire		Y	Y	Y
MATERIALS & WASTE MANAGEMENT					
All timber used onsite will be reused, recycled or from a sustainably managed forestry operation (<i>i.e.</i> 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
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

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Appendix A

BESS Report

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L3~6 TYPE C-01c @4	4	79.0 m²	55-61 Atherton Road, Oakleigh	2%
L3-6 TYPE A-01 @4	4	54.0 m²	55-61 Atherton Road, Oakleigh	2%
L14 TYPE D-04	1	172 m²	55-61 Atherton Road, Oakleigh	1%
L14 TYPE D-03	1	125 m²	55-61 Atherton Road, Oakleigh	1%
L14 TYPE D-02	1	112 m²	55-61 Atherton Road, Oakleigh	1%
L7~9 TYPE A-01 @3	3	54.0 m²	55-61 Atherton Road, Oakleigh	1%
L2 TYPE D-01	1	118 m²	55-61 Atherton Road, Oakleigh	1%
L2 TYPE C-01c + 01d-2 @2	2	77.0 m²	55-61 Atherton Road, Oakleigh	1%
L2 TYPE A-01c+01d @ 2	2	55.0 m²	55-61 Atherton Road, Oakleigh	1%
L1 TYPE A-01a+01b	2	63.5 m²	55-61 Atherton Road, Oakleigh	1%
L1 TYPE C-01e+01b @ 2	2	82.5 m²	55-61 Atherton Road, Oakleigh	1%
L14 TYPE C-01c	1	79.0 m²	55-61 Atherton Road, Oakleigh	< 1%
L14 TYPE C-02	1	85.0 m²	55-61 Atherton Road, Oakleigh	< 1%
L14 TYPE C-01a	1	77.0 m²	55-61 Atherton Road, Oakleigh	< 1%
L2 TYPE C-04a	1	78.0 m²	55-61 Atherton Road, Oakleigh	< 1%
L2 TYPE C-02a	1	90.0 m²	55-61 Atherton Road, Oakleigh	< 1%
L2 TYPE C-03a	1	92.0 m²	55-61 Atherton Road, Oakleigh	< 1%
L1 TYPE C-04	1	80.0 m²	55-61 Atherton Road, Oakleigh	< 1%
L1 TYPE C-02a	1	90.0 m²	55-61 Atherton Road, Oakleigh	< 1%
L1 TYPE C-03a	1	92.0 m²	55-61 Atherton Road, Oakleigh	< 1%
Total	122	10,180 m²	94%	

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Shop				
Retail	1	541 m²	55-61 Atherton Road, Oakleigh	5%
Total	1	541 m²	5%	

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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		-
Operational Energy 4.2	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 1.3	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.		-
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		-
Waste & Recycling 1.2	Location of recycling facilities		-
Urban Energy 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 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 3.6	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)		-
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.		-

Credit summary

Management Overall contribution 4.5%

		61%
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%

		81%	✔ Pass
1.1 Potable Water Use		41%	✔ Achieved
2.1 Stormwater Treatment		100%	✔ Achieved
3.1 Water Efficient Landscaping		100%	
4.1 Building Systems Water Use		100%	

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Operational Energy Overall contribution 27.5%

		Minimum required 50%	64%	✔ Pass
1.1 Thermal Performance Rating - Non-Residential			37%	
1.2 Thermal Performance Rating - Residential			60%	✔ Achieved
2.1 Greenhouse Gas Emissions			3%	
2.2 Peak Demand			100%	
2.6 Electrification			100%	
2.7 Energy consumption			100%	
3.1 Carpark Ventilation			100%	
3.2 Hot Water - Non-Residential			100%	
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			5%	
4.4 Renewable Energy Systems - Other			N/A	✦ Scoped Out
No other (non-solar PV) renewable energy is in use.				

IEQ Overall contribution 16.5%

		Minimum required 50%	49%	✔ Pass
1.1 Daylight Access - Living Areas			66%	
1.2 Daylight Access - Bedrooms			66%	
1.3 Winter Sunlight			100%	
1.4 Daylight Access - Non-Residential			33%	✔ Achieved
2.1 Ventilation - Natural - Apartments			0%	
2.3 Ventilation - Non-Residential			50%	✔ Achieved
3.4 Thermal comfort - Shading - Non-Residential			80%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential			0%	
4.1 Air Quality - Non-Residential			100%	

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Transport Overall contribution 9.0%

		24%
1.1 Bicycle Parking - Residential		0%
1.2 Bicycle Parking - Residential Visitor		0%
1.3 Bicycle Parking - Convenience Residential		0%  Disabled
Credit 1.1 must be achieved first.		
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		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%

Urban Ecology Overall contribution 5.5%

		10%
1.1 Communal Spaces		94%
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%

		61%
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 23.7% 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 1.3% towards the category score.	
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2022 Section J4D6?	
Question	Criteria Achieved ?	
Shop	Yes	
3.1 Metering - Residential		100%
Score Contribution	This credit contributes 11.9% 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 0.6% 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%

		81% ✔ 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:	100
	Flow:	50 %
	Total Suspended Solids:	81 %
	Total Phosphorus:	72 %
	Total Nitrogen:	69 %
	Rainwater tank profile	
	What is the total roof area connected to the rainwater tank?: Rainwater Tank	949 m²
	Tank Size: Rainwater Tank	20,000 Litres
	Irrigation area connected to tank: Rainwater Tank	128 m²
	Is connected irrigation area a water efficient garden?: Rainwater Tank	Yes
	Other external water demand connected to tank?: Rainwater Tank	0.0 Litres/Day
	Fixtures, fittings & connections profile	
Building: All	55-61 Atherton Road, Oakleigh	
Showerhead: All	4 Star WELS (>= 6.0 but <= 7.5)	

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Bath:		
Retail	Scope out	
L1 TYPE C-03a	Medium Sized Contemporary Bath	
L1 TYPE C-01e+01b @ 2		
L1 TYPE C-02a		
L1 TYPE A-01a+01b		
L1 TYPE C-04		
L2 TYPE C-03a		
L2 TYPE C-02a		
L2 TYPE A-01c+01d @ 2		
L2 TYPE C-04a		
L2 TYPE C-01c + 01d-2 @2		
L2 TYPE D-01		
L3~6 TYPE C-03 @ 4		
L2~6 TYPE C-01d-1-2+01a @2x5		
L3~6 TYPE C-02 @4		
L3-6 TYPE A-01 @4		
L3-6 TYPE D-05 @4		
L3~6 TYPE C-01c @4		
L3~6 TYPE C-01d-2 @4		
L3~6 TYPE D-01 @4		
L7~9 TYPE C-03 @3		
L7~9 TYPE TYPE C-01d-1 + C-01a @3x2		
L7~9 TYPE C-02 @3		
L7~9 TYPE A-01 @3		
L7~9 TYPE D-05 @3		
L7~9 TYPE C-01c @3		
L7~9 TYPE C-01d-2 @3		
L7~9 TYPE D-01 @3		
L10~13 TYPE C-03 @4		
L10~13 TYPE TYPE C-01d-1 + C-01a @4x2		
L10~13 TYPE TYPE C-02 @4		
L10~13 TYPE TYPE A-01 @4		
L10~13 TYPE TYPE D-05 @4		
L10~13 TYPE TYPE C-01c @4		
L10~13 TYPE TYPE C-01-2 @4		
L10~13 TYPE TYPE D-01 @4		
L14 TYPE D-02		
L14 TYPE C-01a		
L14 TYPE C-02		
L14 TYPE D-03		
L14 TYPE C-01c		
L14 TYPE D-04		
Kitchen Taps: All	>= 6 Star WELS rating	
Bathroom Taps: All	>= 6 Star WELS rating	

Dishwashers:		
Retail	Scope out	
L1 TYPE C-03a	>= 5 Star WELS rating	
L1 TYPE C-01e+01b @ 2		
L1 TYPE C-02a		
L1 TYPE A-01a+01b		
L1 TYPE C-04		
L2 TYPE C-03a		
L2 TYPE C-02a		
L2 TYPE A-01c+01d @ 2		
L2 TYPE C-04a		
L2 TYPE C-01c + 01d-2 @2		
L2 TYPE D-01		
L3~6 TYPE C-03 @ 4		
L2~6 TYPE C-01d-1-2+01a @2x5		
L3~6 TYPE C-02 @4		
L3-6 TYPE A-01 @4		
L3-6 TYPE D-05 @4		
L3~6 TYPE C-01c @4		
L3~6 TYPE C-01d-2 @4		
L3~6 TYPE D-01 @4		
L7~9 TYPE C-03 @3		
L7~9 TYPE TYPE C-01d-1 + C-01a @3x2		
L7~9 TYPE C-02 @3		
L7~9 TYPE A-01 @3		
L7~9 TYPE D-05 @3		
L7~9 TYPE C-01c @3		
L7~9 TYPE C-01d-2 @3		
L7~9 TYPE D-01 @3		
L10~13 TYPE C-03 @4		
L10~13 TYPE TYPE C-01d-1 + C-01a @4x2		
L10~13 TYPE TYPE C-02 @4		
L10~13 TYPE TYPE A-01 @4		
L10~13 TYPE TYPE D-05 @4		
L10~13 TYPE TYPE C-01c @4		
L10~13 TYPE TYPE C-01-2 @4		
L10~13 TYPE TYPE D-01 @4		
L14 TYPE D-02		
L14 TYPE C-01a		
L14 TYPE C-02		
L14 TYPE D-03		
L14 TYPE C-01c		
L14 TYPE D-04		
WC: All	>= 4 Star WELS rating	

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Urinals:		
Retail	>= 5 Star WELS rating	
L1 TYPE C-03a		Scope out
L1 TYPE C-01e+01b @ 2		
L1 TYPE C-02a		
L1 TYPE A-01a+01b		
L1 TYPE C-04		
L2 TYPE C-03a		
L2 TYPE C-02a		
L2 TYPE A-01c+01d @ 2		
L2 TYPE C-04a		
L2 TYPE C-01c + 01d-2 @2		
L2 TYPE D-01		
L3~6 TYPE C-03 @ 4		
L2~6 TYPE C-01d-1-2+01a @2x5		
L3~6 TYPE C-02 @4		
L3-6 TYPE A-01 @4		
L3-6 TYPE D-05 @4		
L3~6 TYPE C-01c @4		
L3~6 TYPE C-01d-2 @4		
L3~6 TYPE D-01 @4		
L7~9 TYPE C-03 @3		
L7~9 TYPE TYPE C-01d-1 + C-01a @3x2		
L7~9 TYPE C-02 @3		
L7~9 TYPE A-01 @3		
L7~9 TYPE D-05 @3		
L7~9 TYPE C-01c @3		
L7~9 TYPE C-01d-2 @3		
L7~9 TYPE D-01 @3		
L10~13 TYPE C-03 @4		
L10~13 TYPE TYPE C-01d-1 + C-01a @4x2		
L10~13 TYPE TYPE C-02 @4		
L10~13 TYPE TYPE A-01 @4		
L10~13 TYPE TYPE D-05 @4		
L10~13 TYPE TYPE C-01c @4		
L10~13 TYPE TYPE C-01-2 @4		
L10~13 TYPE TYPE D-01 @4		
L14 TYPE D-02		
L14 TYPE C-01a		
L14 TYPE C-02		
L14 TYPE D-03		
L14 TYPE C-01c		
L14 TYPE D-04		
Washing Machine Water Efficiency: All		Occupant to Install
Which non-potable water source is the dwelling/space connected to?: All		229413
Non-potable water source connected to Toilets: All		Yes
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		41%   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	19008 kL	
Output	Proposed (excluding rainwater and recycled water use)	
Project	14724 kL	
Output	Proposed (including rainwater and recycled water use)	
Project	13995 kL	
Output	% Reduction in Potable Water Consumption	
Project	26 %	
Output	% of connected demand met by rainwater	
Project	42 %	
Output	How often does the tank overflow?	
Project	Never / Rarely	
Output	Opportunity for additional rainwater connection	
Project	7088 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?	
Flow		
Project	50 %	
Output	Min Suspended Solids reduction	
Project	80 %	
Output	Total Suspended Solids reduction	
Project	81 %	
Output	Min Phosphorus reduction	
Project	45 %	
Output	Total Phosphorus reduction	
Project	72 %	
Output	Min Nitrogen reduction	
Project	45 %	
Output	Total Nitrogen reduction	
Project	69 %	
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%	64%	✔ 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)?: No		
	Energy Supply: All-electric		
	Solar Photovoltaic system profile		
	System Size (lesser of inverter and panel capacity): Solar PV Panels 10.0 kW peak		
	Orientation (which way is the system facing)?: Solar PV Panels North		
	Inclination (angle from horizontal): Solar PV Panels 37.0 Angle (degrees)		
	Which Building Class does this apply to?: Solar PV Panels Shop		
	Dwellings profile		
	Building: All 55-61 Atherton Road, Oakleigh		
	Below the floor is: All Another Occupancy		

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Above the ceiling is:		
L1 TYPE C-03a	Another Occupancy	
L1 TYPE C-01e+01b @ 2		
L1 TYPE C-02a		
L1 TYPE A-01a+01b		
L1 TYPE C-04		
L2 TYPE C-03a		
L2 TYPE C-02a		
L2 TYPE A-01c+01d @ 2		
L2 TYPE C-04a		
L2 TYPE C-01c + 01d-2 @2		
L2 TYPE D-01		
L3~6 TYPE C-03 @ 4		
L2~6 TYPE C-01d-1-2+01a @2x5		
L3~6 TYPE C-02 @4		
L3-6 TYPE A-01 @4		
L3-6 TYPE D-05 @4		
L3~6 TYPE C-01c @4		
L3~6 TYPE C-01d-2 @4		
L3~6 TYPE D-01 @4		
L7~9 TYPE C-03 @3		
L7~9 TYPE TYPE C-01d-1 + C-01a @3x2		
L7~9 TYPE C-02 @3		
L7~9 TYPE A-01 @3		
L7~9 TYPE D-05 @3		
L7~9 TYPE C-01c @3		
L7~9 TYPE C-01d-2 @3		
L7~9 TYPE D-01 @3		
L10~13 TYPE C-03 @4		
L10~13 TYPE TYPE C-01d-1 + C-01a @4x2		
L10~13 TYPE TYPE C-02 @4		
L10~13 TYPE TYPE A-01 @4		
L10~13 TYPE TYPE D-05 @4		
L10~13 TYPE TYPE C-01c @4		
L10~13 TYPE TYPE C-01-2 @4		
L10~13 TYPE TYPE D-01 @4		
L14 TYPE D-02		
L14 TYPE C-01a		
L14 TYPE C-02		
L14 TYPE D-03		
L14 TYPE C-01c	Outside	
L14 TYPE D-04		

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Exposed sides:		
L1 TYPE C-03a	2	
L2 TYPE D-01		
L3-6 TYPE D-05 @4		
L3~6 TYPE D-01 @4		
L7~9 TYPE D-05 @3		
L7~9 TYPE D-01 @3		
L10~13 TYPE TYPE D-05 @4		
L10~13 TYPE TYPE D-01 @4		
L14 TYPE D-02		
L14 TYPE D-03		
L14 TYPE D-04		
L1 TYPE C-01e+01b @ 2	1	
L1 TYPE C-02a		
L1 TYPE A-01a+01b		
L1 TYPE C-04		
L2 TYPE C-03a		
L2 TYPE C-02a		
L2 TYPE A-01c+01d @ 2		
L2 TYPE C-04a		
L2 TYPE C-01c + 01d-2 @2		
L3~6 TYPE C-03 @ 4		
L2~6 TYPE C-01d-1-2+01a @2x5		
L3~6 TYPE C-02 @4		
L3-6 TYPE A-01 @4		
L3~6 TYPE C-01c @4		
L3~6 TYPE C-01d-2 @4		
L7~9 TYPE C-03 @3		
L7~9 TYPE TYPE C-01d-1 + C-01a @3x2		
L7~9 TYPE C-02 @3		
L7~9 TYPE A-01 @3		
L7~9 TYPE C-01c @3		
L7~9 TYPE C-01d-2 @3		
L10~13 TYPE C-03 @4		
L10~13 TYPE TYPE C-01d-1 + C-01a @4x2		
L10~13 TYPE TYPE C-02 @4		
L10~13 TYPE TYPE A-01 @4		
L10~13 TYPE TYPE C-01c @4		
L10~13 TYPE TYPE C-01-2 @4		
L14 TYPE C-01a		
L14 TYPE C-02		
L14 TYPE C-01c		

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NatHERS Annual Energy Loads - Heat:		
L1 TYPE C-03a	61.7 MJ/sqm	
L1 TYPE C-01e+01b @ 2	29.5 MJ/sqm	
L1 TYPE C-02a	70.4 MJ/sqm	
L1 TYPE A-01a+01b	39.8 MJ/sqm	
L10~13 TYPE TYPE D-01 @4		
L1 TYPE C-04	51.5 MJ/sqm	
L2 TYPE C-03a	25.0 MJ/sqm	
L2 TYPE C-02a	74.4 MJ/sqm	
L2 TYPE A-01c+01d @ 2	40.3 MJ/sqm	
L2 TYPE C-04a	85.2 MJ/sqm	
L2 TYPE C-01c + 01d-2 @2	50.1 MJ/sqm	
L2 TYPE D-01	44.4 MJ/sqm	
L3~6 TYPE C-03 @ 4	37.1 MJ/sqm	
L2~6 TYPE C-01d-1-2+01a @2x5	38.6 MJ/sqm	
L14 TYPE C-01a		
L3~6 TYPE C-02 @4	76.5 MJ/sqm	
L3-6 TYPE A-01 @4	50.3 MJ/sqm	
L3-6 TYPE D-05 @4	76.4 MJ/sqm	
L3~6 TYPE C-01c @4	57.2 MJ/sqm	
L3~6 TYPE C-01d-2 @4	61.4 MJ/sqm	
L3~6 TYPE D-01 @4	27.6 MJ/sqm	
L7~9 TYPE C-03 @3	32.5 MJ/sqm	
L7~9 TYPE TYPE C-01d-1 + C-01a @3x2	40.4 MJ/sqm	
L7~9 TYPE C-02 @3	84.4 MJ/sqm	
L7~9 TYPE A-01 @3	58.1 MJ/sqm	
L7~9 TYPE D-05 @3	84.1 MJ/sqm	
L7~9 TYPE C-01c @3	62.9 MJ/sqm	
L7~9 TYPE C-01d-2 @3	63.3 MJ/sqm	
L7~9 TYPE D-01 @3	32.9 MJ/sqm	
L10~13 TYPE C-03 @4	40.0 MJ/sqm	
L10~13 TYPE TYPE C-01d-1 + C-01a @4x2	42.4 MJ/sqm	
L10~13 TYPE TYPE C-02 @4	86.4 MJ/sqm	
L10~13 TYPE TYPE A-01 @4	60.0 MJ/sqm	
L10~13 TYPE TYPE D-05 @4	94.5 MJ/sqm	
L10~13 TYPE TYPE C-01c @4	64.5 MJ/sqm	
L10~13 TYPE TYPE C-01-2 @4	65.5 MJ/sqm	
L14 TYPE D-02	71.8 MJ/sqm	
L14 TYPE C-02	97.3 MJ/sqm	
L14 TYPE D-03	104 MJ/sqm	
L14 TYPE C-01c	94.2 MJ/sqm	
L14 TYPE D-04	53.7 MJ/sqm	

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NatHERS Annual Energy Loads - Cool:		
L1 TYPE C-03a	8.0 MJ/sqm	
L7~9 TYPE C-01c @3		
L1 TYPE C-01e+01b @ 2	9.5 MJ/sqm	
L3~6 TYPE C-01d-2 @4		
L10~13 TYPE TYPE D-05 @4		
L1 TYPE C-02a	13.4 MJ/sqm	
L1 TYPE A-01a+01b	9.0 MJ/sqm	
L10~13 TYPE C-03 @4		
L1 TYPE C-04	7.6 MJ/sqm	
L10~13 TYPE TYPE C-01c @4		
L2 TYPE C-03a	8.2 MJ/sqm	
L2 TYPE C-02a	13.5 MJ/sqm	
L2 TYPE A-01c+01d @ 2	13.6 MJ/sqm	
L2 TYPE C-04a	8.8 MJ/sqm	
L7~9 TYPE C-03 @3		
L2 TYPE C-01c + 01d-2 @2	11.5 MJ/sqm	
L2 TYPE D-01	10.4 MJ/sqm	
L3~6 TYPE C-03 @ 4	9.2 MJ/sqm	
L7~9 TYPE D-05 @3		
L2~6 TYPE C-01d-1-2+01a @2x5	7.7 MJ/sqm	
L14 TYPE C-01a		
L3~6 TYPE C-02 @4	10.8 MJ/sqm	
L3-6 TYPE A-01 @4	11.7 MJ/sqm	
L7~9 TYPE D-05 @4	10.2 MJ/sqm	
L3~6 TYPE C-01c @4	8.4 MJ/sqm	
L14 TYPE D-02		
L3~6 TYPE D-01 @4	9.8 MJ/sqm	
L7~9 TYPE TYPE C-01d-1 + C-01a @3x2	7.3 MJ/sqm	
L7~9 TYPE C-02 @3	13.3 MJ/sqm	
L7~9 TYPE A-01 @3	11.2 MJ/sqm	
L7~9 TYPE C-01d-2 @3	8.9 MJ/sqm	
L7~9 TYPE D-01 @3	8.7 MJ/sqm	
L10~13 TYPE TYPE C-01d-1 + C-01a @4x2	7.2 MJ/sqm	
L10~13 TYPE TYPE C-02 @4	13.0 MJ/sqm	
L10~13 TYPE TYPE A-01 @4	11.3 MJ/sqm	
L10~13 TYPE TYPE C-01-2 @4	8.5 MJ/sqm	
L10~13 TYPE TYPE D-01 @4	9.1 MJ/sqm	
L14 TYPE C-02	12.3 MJ/sqm	
L14 TYPE D-03	6.6 MJ/sqm	
L14 TYPE C-01c	9.3 MJ/sqm	
L14 TYPE D-04	11.9 MJ/sqm	

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NatHERS star rating:		
L1 TYPE C-03a L7~9 TYPE A-01 @3	7.6	
L1 TYPE C-01e+01b @ 2	8.8	
L1 TYPE C-02a	7.0	
L1 TYPE A-01a+01b L7~9 TYPE TYPE C-01d-1 + C-01a @3x2 L10~13 TYPE C-03 @4 L10~13 TYPE TYPE C-01d-1 + C-01a @4x2 L10~13 TYPE TYPE D-01 @4	8.4	
L1 TYPE C-04 L2 TYPE C-01c + 01d-2 @2 L3-6 TYPE A-01 @4	7.9	
L2 TYPE C-03a	9.0	
L2 TYPE C-02a L2 TYPE C-04a L3~6 TYPE C-02 @4 L3-6 TYPE D-05 @4	6.9	
L2 TYPE A-01c+01d @ 2 L2 TYPE D-01 L14 TYPE C-01a	8.2	
L3~6 TYPE C-03 @ 4 L2~6 TYPE C-01d-1-2+01a @2x5	8.5	
L3~6 TYPE C-01c @4 L14 TYPE D-04	7.7	
L3~6 TYPE C-01d-2 @4 L7~9 TYPE C-01c @3 L10~13 TYPE TYPE A-01 @4	7.5	
L3~6 TYPE D-01 @4	8.9	
L7~9 TYPE C-03 @3 L7~9 TYPE D-01 @3	8.7	
L7~9 TYPE C-02 @3	6.5	
L7~9 TYPE D-05 @3	6.7	
L7~9 TYPE C-01d-2 @3 L10~13 TYPE TYPE C-01c @4 L10~13 TYPE TYPE C-01-2 @4	7.4	
L10~13 TYPE TYPE C-02 @4	6.4	
L10~13 TYPE TYPE D-05 @4 L14 TYPE C-01c	6.3	
L14 TYPE D-02	7.2	
L14 TYPE C-02 L14 TYPE D-03	6.1	
Type of Heating System: All	Reverse cycle ducted	
Heating System Efficiency: All	3 Stars (2011 MEPS)	
Type of Cooling System: All	Refrigerative ducted	
Cooling System Efficiency: All	3 Stars (2011 MEPS)	
Type of Hot Water System: All	Electric Heat Pump Band 2	

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) demonstrate meeting the 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)?:		
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?:		
Are water heating systems within one star of the best available, or 85% or better than the most efficient equivalent capacity unit?:		
1.1 Thermal Performance Rating - Non-Residential		37%
Score Contribution	This credit contributes 2.3% 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		60% ✔ Achieved
Score Contribution	This credit contributes 16.5% towards the category score.	
Criteria	What is the average NatHERS rating?	
Output	Average NATHERS Rating (Weighted)	
Apartment	7.7 Stars	
2.1 Greenhouse Gas Emissions		3%
Score Contribution	This credit contributes 17% 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	229,685 kg CO2	
Output	Proposed Building with Proposed Services (Actual Building)	
Apartment	236,215 kg CO2	
Output	% Reduction in GHG Emissions	
Apartment	-3 %	
2.2 Peak Demand		100%
Score Contribution	This credit contributes 0.3% 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 17.3% towards the category score.
	Criteria	Is the development all-electric?
	Question	Criteria Achieved?
	Project	Yes
	2.7 Energy consumption	100%
	Score Contribution	This credit contributes 23.1% 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	2,222,212 MJ
	Output	Proposed Building with Proposed Services (Actual Building)
	Apartment	1,076,424 MJ
	Output	% Reduction in total energy
	Apartment	51 %
	3.1 Carpark Ventilation	100%
	Score Contribution	This credit contributes 5.8% 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 0.3% 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 5.5% 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
	Apartment	51,276 kWh
	Output	Proposed
	Apartment	51,276 kWh
	Output	Improvement
	Apartment	0 %
	3.6 Internal Lighting - Apartments	100%

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	Score Contribution	This credit contributes 5.5% 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 0.6% 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	5%
	Score Contribution	This credit contributes 5.8% 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
	Shop	13,030 kWh
	Output	% of Building's Energy
	Shop	21 %
	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.

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IEQ Overall contribution 16.5%

		Minimum required 50%	49%	✔ 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?: Provide our own calculations			
	1.1 Daylight Access - Living Areas		66%	
	Score Contribution	This credit contributes 27.5% towards the category score.		
	Criteria	What % of living areas achieve the daylight criteria?		
	Question	Percentage Achieved ?		
	Apartment	80 %		
	1.2 Daylight Access - Bedrooms		66%	
	Score Contribution	This credit contributes 27.5% 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 9.2% 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 2.9% towards the category score.		
	Criteria	What % of the nominated floor area has at least 2% daylight factor?		
	Question	Percentage Achieved?		
	Shop	33 %		
	2.1 Ventilation - Natural - Apartments		0%	
	Score Contribution	This credit contributes 27.5% towards the category score.		
	Criteria	What % of dwellings are effectively naturally ventilated?		
	Question	Percentage Achieved?		
	Apartment	45 %		
	2.3 Ventilation - Non-Residential		50%	✔ Achieved
	Score Contribution	This credit contributes 2.9% towards the category score.		
	Criteria	What % of the regular use areas are effectively naturally ventilated?		
	Question	Percentage Achieved?		
	Shop	0 %		

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	100 %
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?
Question	Value
Shop	0 ppm
3.4 Thermal comfort - Shading - Non-Residential	80%
Score Contribution	This credit contributes 1.5% towards the category score.
Criteria	What percentage of east, north and west glazing to regular use areas is effectively shaded?
Question	Percentage Achieved?
Shop	70 %
3.5 Thermal Comfort - Ceiling Fans - Non-Residential	0%
Score Contribution	This credit contributes 0.5% 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 0.5% 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%

			24%
1.1 Bicycle Parking - Residential			0%
Score Contribution	This credit contributes 21.2% towards the category score.		
Criteria	How many secure and undercover bicycle spaces are there for residents?		
Question	Bicycle Spaces Provided ?		
Apartment	25		
Output	Min Bicycle Spaces Required		
Apartment	122		
1.2 Bicycle Parking - Residential Visitor			0%
Score Contribution	This credit contributes 21.2% towards the category score.		
Criteria	How many secure bicycle spaces are there for visitors?		
Question	Visitor Bicycle Spaces Provided ?		
Apartment	13		
Output	Min Visitor Bicycle Spaces Required		
Apartment	25		
1.3 Bicycle Parking - Convenience Residential			0%  Disabled
Credit 1.1 must be achieved first.			
This credit is disabled		Credit 1.1 must be achieved first.	
1.4 Bicycle Parking - Non-Residential			100%
Score Contribution	This credit contributes 1.1% 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	4		
1.5 Bicycle Parking - Non-Residential Visitor			100%
Score Contribution	This credit contributes 0.6% 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	4		
1.6 End of Trip Facilities - Non-Residential			0%

	Score Contribution	This credit contributes 0.6% 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	2	
	Question	Number of lockers provided ?	
	Shop	0	
	Output	Min Showers Required	
	Shop	1	
	Output	Min Lockers Required	
	Shop	4	
	2.1 Electric Vehicle Infrastructure		100%
	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	Yes	
	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		94%
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	310 m²	
Shop	0.0 m²	
Output	Minimum Common Space Required	
Apartment	201 m²	
Shop	52 m²	
2.1 Vegetation		0%
Score Contribution	This credit contributes 44.7% 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 10.6% 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 10.6% 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	65 m²

	3.2 Food Production - Non-Residential	0%
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	Score Contribution	This credit contributes 0.6% 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	14 m²

Innovation Overall contribution 9.0%

	0%
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	1.1 Innovation	0%
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	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

NCC Section J4 DTS Assessment & Fabric Compliance Requirements

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NCC Section J4 Assessment and Fabric Compliance Requirements

According to the NCC 2022, the proposed development is a mixed use building and located in Climate Zone 6 for the location of Oakleigh, Victoria. The non-residential areas include,

- Class 6 retail spaces at ground floor level.
- Class 2 residential lobby at ground floor level and common areas at Level 1

The proposed design to the non-residential areas 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 Façade Calculator Method 2:

Facade item	DTS Min. Compliance Requirements
J4D4 Roofing and Ceiling system forming thermal envelope	• Min. $R_{T3.2}$ m².K/W for complete roofing system • Solar absorptance: Max. 0.45
J4D6 Walls forming thermal envelope including partition walls adjacent non-conditioned spaces	• Min. $R_{T1.4}$ m².K/W for complete wall system
J4D6 External Glazing forming thermal envelope	• U-Value not more than $U_{w3.0}$ W/m²K & SHGC not more than $SHGC_{w0.21}$ for complete window system
J4D7 Floor slab system above non-conditioned spaces including basement carpark or exposed to ambient forming thermal envelope	• Min. $R_{T2.0}$ m².K/W for complete floor system

Table B1: NCC Section J4 DTS Min. Compliance Requirements

If any part of the building fabric cannot achieve the requirements (and is required to meet full compliance by the building surveyor) it may be possible to offset this element against the following via a JV3 energy modelling assessment.

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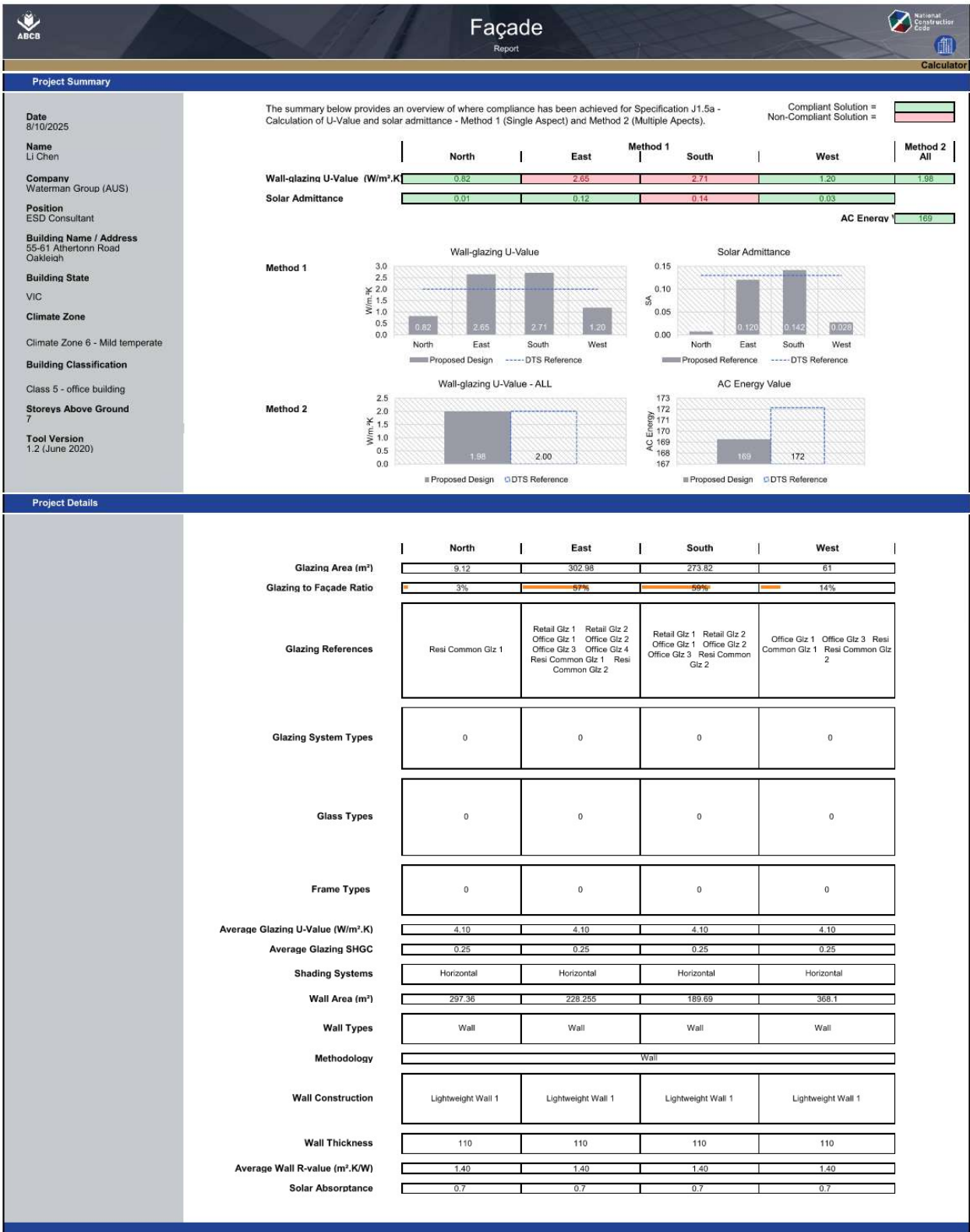


Table B2: NCC Section J4 Façade Calculator Assessment Report

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Appendix C

NatHERS Results

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NatHERS Results

Preliminary NatHERS assessments of the dwellings have been undertaken to ensure that thermal performance proposed is sufficient to meet all planning requirements for this development.

The required performance parameters and assessment results are listed below, based on a representative sample of apartments.

NatHERS Results - Dwellings

Fabric Element	Performance Requirements (NatHERS model setups)
Roof and ceiling system	Slab roof with minimum added $R_{m4.0}$ insulation.
Exposed ceiling slab system below balconies	Slab ceiling with minimum added $R_{m4.0}$ insulation.
External walls	Precast or stud framed wall with added $R_{m2.0}$ insulation.
Levels 1 and 2 floor slab system above non-conditioned spaces or ambient	Slab with minimum added $R_{m2.0}$ insulation.
External windows and glazing doors in general	Awnings - <i>Double LowE Tinted plus Thermally Broken Aluminium Frame</i> U-Value not more than $U2.6 \text{ W/m}^2\text{.K}$ & SHGC not less than SHGC0.27 for complete window system Other Windows - <i>Double LowE Tinted plus Thermally Broken Aluminium Frame</i> (including fixed windows and sliding doors) U-Value not more than $U2.5 \text{ W/m}^2\text{.K}$ & SHGC not less than SHGC0.25 for complete window system

Table C1: NatHERS 7.5 star rating fabric requirements

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Apartment No.	Apartment Type	No. Bedrooms	Total Area (m ²)	Rating Stars	Heating energy (MJ/m ²)	Cooling energy (MJ/m ²)
101 L1 TYPE C-03a	2BED 2BATH	2	92	7.6	61.7	8.0
103 L1 TYPE C-01b	2BED 2BATH	2	84	8.8	29.5	9.5
104 L1 TYPE C-02a ACC D21	2BED 2BATH	2	90	7.0	70.4	13.4
106 L1 TYPE A-01b ACC	1BED 1BATH	1	63	8.4	39.8	9.0
107 L1 TYPE C-04 ACC	2BED 2BATH	2	80	7.9	51.5	7.6
201 L2 TYPE C-03a NON ACC	2BED 1BATH	2	92	9.0	25.0	8.2
204 L2 TYPE C-02a ACC	2BED 1BATH	2	90	6.9	74.4	13.5
206 L2 TYPE A-01d ACC	1BED 1BATH	1	51	8.2	40.3	13.6
207 L2 TYPE C-04a ACC	2BED 1BATH	2	78	6.9	85.2	8.8
209 L2 TYPE C-01d-2 ACC	2BED 1BATH	2	75	7.9	50.1	11.5
210 L2 TYPE D-01 ACC	3BED 2BATH	3	118	8.2	44.4	10.4
601 L6 TYPE C-03 NON ACC	2BED 2BATH	2	86	8.5	37.1	9.2
603 L6 TYPE C-01a ACC	2BED 2BATH	2	77	8.5	38.6	7.7
604 L6 TYPE C-02 NON ACC	2BED 2BATH	2	85	6.9	76.5	10.8
605 L6 TYPE A-01 Non ACC	1BED 1BATH	1	54	7.9	50.3	11.7
606 L6 TYPE D-05 Non ACC	3BED 2BATH	3	93	6.9	76.4	10.2
607 L6 TYPE C-01c ACC	2BED 2BATH	2	79	7.7	57.2	8.4
608 L6 TYPE C-01d-2 ACC	2BED 2BATH	2	75	7.5	61.4	9.5
609 L6 TYPE D-01 ACC	3BED 2BATH	3	118	8.9	27.6	9.8
901 L9 TYPE C-03 NON ACC	2BED 2BATH	2	86	8.7	32.5	8.8
903L9 TYPE C-01a ACC	2BED 2BATH	2	77	8.4	40.4	7.3
904 L9 TYPE C-02 NON ACC	2BED 2BATH	2	85	6.5	84.4	13.3

Apartment No.	Apartment Type	No. Bedrooms	Total Area (m²)	Rating Stars	Heating energy (MJ/m²)	Cooling energy (MJ/m²)
905 L9 TYPE A-01 Non ACC	1BED 1BATH	1	54	7.6	58.1	11.2
906 L9 TYPE D-05 NON ACC	3BED 2BATH	3	93	6.7	84.1	9.2
907 L9 TYPE C-01c ACC	2BED 2BATH	2	79	7.5	62.9	8.0
908 L9 TYPE C-01d-2 ACC	2BED 2BATH	2	75	7.4	63.3	8.9
909 L9 TYPE D-01 ACC	3BED 2BATH	3	118	8.7	32.9	8.7
1301 L13 TYPE C-03 NON ACC	2BED 2BATH	2	86	8.4	40.0	9.0
1303 L13 TYPE C-01a ACC	2BED 2BATH	2	77	8.4	42.4	7.2
1304 L13 TYPE C-02 NON ACC	2BED 2BATH	2	85	6.4	86.4	13.0
1305 L13 TYPE A-01 Non ACC	1BED 1BATH	1	54	7.5	60.0	11.3
1306 L13 TYPE D-05 NON ACC	3BED 2BATH	3	95	6.3	94.5	9.5
1307 L13 TYPE C-01c ACC	2BED 2BATH	2	79	7.4	64.5	7.6
1308 L13 TYPE C-01d-2 ACC	2BED 2BATH	2	75	7.4	65.5	8.5
1309 L13 TYPE D-01 ACC	3BED 2BATH	3	118	8.4	39.8	9.1
1401 L14 TYPE D-02 ACC	3BED 2BATH	3	112	7.2	71.8	8.4
1402 L14 TYPE C-01a ACC	2BED 2BATH	2	77	8.5	38.6	7.7
1403 L14 TYPE C-02 NON ACC	2BED 2BATH	2	85	6.1	97.3	12.3
1404 L14 TYPE D-03 ACC	3BED 2BATH	3	125	6.1	103.5	6.6
1405 L14 TYPE C-01c acc	2BED 2BATH	2	79	6.3	94.2	9.3
1406 L14 TYPE D-04 ACC	3BED 2BATH	3	172	7.7	53.7	11.9
Total		41	87	3,566		
Average				7.6	58.7	9.7
Lowest Score				6.1	97.3	12.3

Table C2: Preliminary NatHERS assessment results for reference only
(41 typical apartments assessed about 34% of total of 122 apartments)

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Appendix D

MUSIC Rating Report

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WSUD Response

All developments in Victoria are required to meet the requirements of VPP 56.07 of the Victorian Planning Scheme, which requires that projects meet current best practice performance objectives for stormwater quality.

The objectives of these clauses are:

- > To achieve best practice stormwater quality:
 - Suspended Solids – 80% retention of typical urban annual load.
 - Total Nitrogen – 45% retention of typical urban annual load.
 - Total Phosphorus – 45% retention of typical urban annual load.
 - Litter – 70% reduction of typical urban annual load.
- > To promote stormwater re-use.
- > To mitigate the detrimental effect of development on downstream waterways.
- > To minimise peak stormwater flows and stormwater pollutants.
- > To reintegrate urban water into the landscape to facilitate benefits such as microclimate cooling, local habitat and provision of attractive spaces for community use and well being.

A development is required to demonstrate that they meet the objectives of the clause by either:

- Meeting a 100% or higher rating on the STORM rating tool; *or*
- Meeting the required discharge quality using the MUSIC rating tool

Additionally, adequate maintenance and management procedures are required to ensure the stormwater treatment / reuse measures work as intended.

Initiatives Proposed

The following initiatives will be implemented in the design:

- > **Rainwater harvesting tank**
 - Water will be collected the non-trafficable rooftop area, 949m².
 - Water will be treated via a minimum **20,000L** rainwater tank, connected to all toilets in the building.
 - Overflow from the tank will drain to the Jellyfish-1-1 900 Square Filter for the treatment before being discharged to council stormwater system.
- > **Jellyfish-1-1 900 Square Filter**
 - Water falling on the surface of the terraces, 507m², at upper levels will drain to the Jellyfish-1-1 900 Square Filter for the treatment before being discharged to council stormwater system.
 - Filter Treatment unit designed for Total Suspended Solids, Total Phosphorus and Total Nitrogen removal via separating and capturing pollutants, sediments, and light liquids.
- > Water falling on other surfaces may be discharged directly to the council stormwater system without treatment.

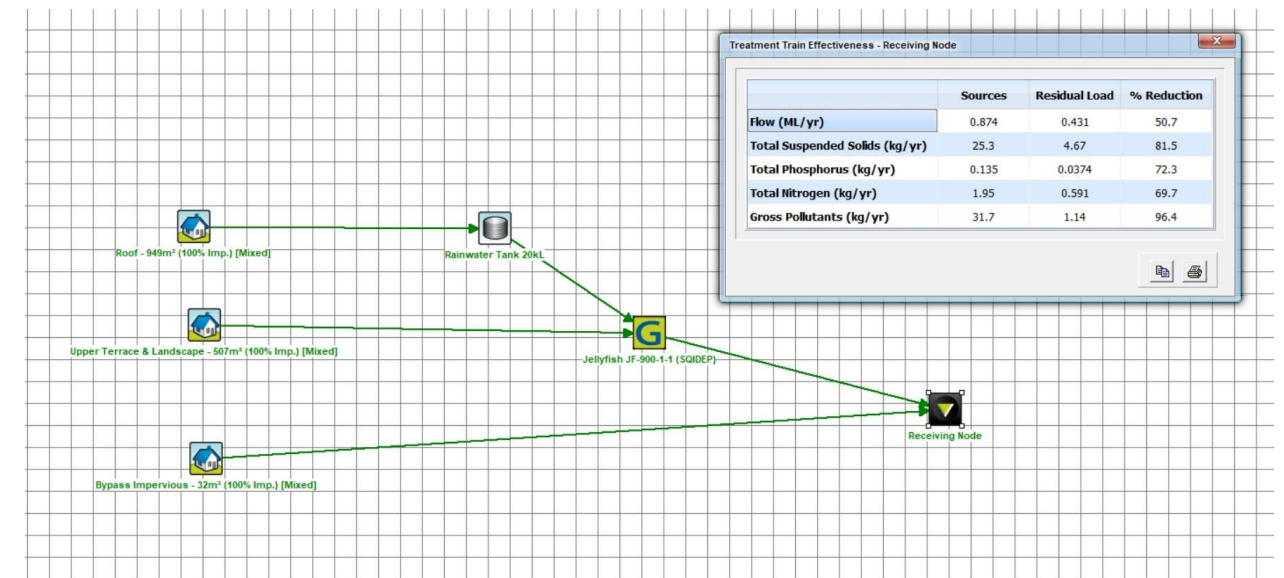


Figure D1 – MUSIC Assessment Report

Pollutant	Sources	Residual Load to City Grid	Reduction Achieved	Best Practice Benchmark in reduction	Compliance (Yes/No)
Rainfall Flow (ML/yr)	0.874	0.431	50.7%	Maintain flows at pre-urbanisation levels	Yes
Total Suspended Solids (kg/yr)	25.3	4.67	81.5%	80.0%	Yes
Total Phosphorus (kg/yr)	0.135	0.0374	72.3%	45.0%	Yes
Total Nitrogen (kg/yr)	1.95	0.591	69.7%	45.0%	Yes
Gross Pollutants - Litter (kg/yr)	31.7	1.14	96.4%	70.0%	Yes

Table D1: MUSIC Assessment Result Summary

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Design Details

Rainwater Tank

A rainwater tank(s) is to be installed for the project with a minimum total storage capacity as noted within the Initiatives Proposed section of this report. This storage capacity is to be in addition to any onsite detention requirements for the project.

Water falling on the surfaces nominated in the Initiatives Proposed section of this WSUD Response are to be directed to the rainwater tank(s), with appropriate overflow measures when the rainwater tank(s) reaches maximum capacity.

A first flush diverter system and fine filter mesh is to be installed to treat water prior to entering the storage tank.

On-site Filter

A Jellyfish-1-1 900 Square Filter rainwater tank(s) is to be installed for the project with a minimum total storage capacity as noted within the Initiatives Proposed section of this report. This storage capacity is to be in addition to any onsite detention requirements for the project.

Water falling on the surfaces nominated in the Initiatives Proposed section of this WSUD Response are to be directed to the rainwater tank(s), with appropriate overflow measures when the rainwater tank(s) reaches maximum capacity.

A first flush diverter system and fine filter mesh is to be installed to treat water prior to entering the storage tank.

Site Management Plan

The following requirements are to be met during onsite works to prevent excessive pollutants entering the local waterways. Prior to construction, the contractor is to develop these requirements into a site specific management plan, nominating locations of treatment facilities based on proposed construction activities.

1. Temporary drains are to be installed to minimise overland water flows and prevent erosion, especially in areas where water is likely to pool.
2. Temporary silt fences are to be installed on the lower end of the site to prevent excessive sedimentation from entering the stormwater system.
3. Temporary side entry filters to be installed to council stormwater pits to prevent sediment entering the stormwater system at the kerb inlet.
4. All stockpiles to be covered to protect from rainfall.
5. Stockpiles to be located away from the predominant overland stormwater pathway.
6. All site litter to be collected and placed in bins (covered if appropriate) so that it cannot end up in the stormwater systems.
7. Waste bins to be provided onsite for workers.

Maintenance Requirements

The following maintenance measures are required to be undertaken at 6 monthly intervals, or when it is evident that a blockage has occurred. The building management is to be responsible for the maintenance of the stormwater system.

Rainwater Tank

- > Roof and gutters to be cleaned to remove leaves and other debris.
- > All screens to be checked for blockages and cleaned if necessary.

- > All pumps or specialist equipment to be installed as part of this system are to be maintained in accordance with the manufacturer's specifications.

On-site Filter

- > Jellyfish Filter cartridges are lightweight, easy to use and reusable.
- > Maintenance of the filter cartridges is performed by removing, rinsing and reusing the cartridge tentacles.
- > Vacuum extraction of captured pollutants in the sump is recommended at the same time.
- > Full cartridge replacement intervals differ by the site due to varying pollutant loading and type.
- > Cartridge replacement is anticipated every 2-5 years.

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