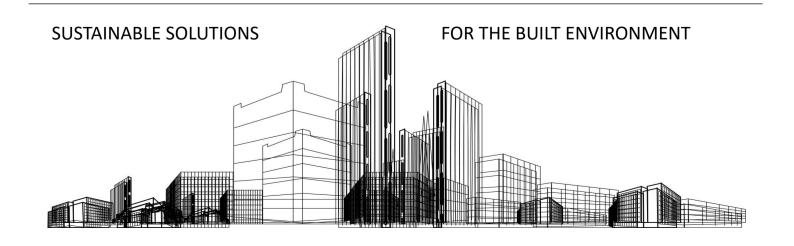


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7-9 NICHOLSON COURT CLAYTON

SUSTAINABILITY MANAGEMENT PLAN V2

3RD AUGUST, 2022





Project Title: 7-9 Nicholson Court Clayton

To: Andrew Bromley (Pitard Group)

From: Patrick Phelan

Document Title: Sustainability Management Plan Version 2

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1. Executive Summary

The purpose of this ESD Submission is to show the results and initiatives included in a Sustainability Management Plan (SMP) for the 7-9 Nicholson Court Clayton development for review by the City of Monash. The development has been assessed against City of Monash Council Planning Scheme requirements and the National Construction Code energy efficiency regulations.

Table 1 below is a checklist showing compliance with the various environmentally sustainable design requirements.

Table 1: SMP Checklist for 7-9 Nicholson Court Clayton Development

Item	In Documents / Will be achieved	Required / Recommended by	Reference if Applicable
Minimum 6 Star average under the House Energy Rating scheme	√	National Construction Code	Refer to Section 3.2 and Appendix A
Water Sensitive Urban Design	√	City of Monash planning scheme	Refer to Section 4.4 and Appendix B.2.
BESS sustainability tool assessment	√	City of Monash planning scheme	Refer to Section 3.3 and Appendix B
An SMP describing sustainable initiatives for the development, targets and implementation	√	City of Monash planning scheme.	Refer to Section 4

The implementation of the initiatives within the Sustainability Management Plan are the responsibility of the developer/lead contractor.

Where operational practices are required they will be carried out by body corporate.



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2. Introduction

The purpose of this ESD Submission is to show the results and initiatives included in a Sustainability Management Plan (SMP) for the 7-9 Nicholson Court Clayton development for review by the City of Monash. It also shows the targets and the responsibility for implementation. The development has been assessed against City of Monash Council Planning Scheme requirements and the National Construction Code energy efficiency regulations.

3. Performance Requirements

3.1 National Construction Code 2019 Part J - Class Type

This development is defined as majority Class 2 by the National Construction Code with a basement car park.

3.2 National Construction Code 2019 Part J – House Energy Ratings

As a part of this ESD submission, a selection of dwellings were initially rated using the FirstRate 5 house energy rating software. The average house energy rating was 7.4 Stars with all dwellings achieving above 5 Stars (subject to the building fabric assumptions made in the ratings). Refer to Appendix A for detailed results and assumptions for the house energy ratings.

3.3 BESS Assessment

Built Environment Sustainability Scorecard (BESS) is an assessment tool created by CASBE council which is now widely used to benchmark proposed residential building developments. Based on the initiatives listed in Section 4 below, a BESS assessment has been undertaken for the 7-9 Nicholson Court Clayton design. The results of the BESS assessment are shown on the overleaf.



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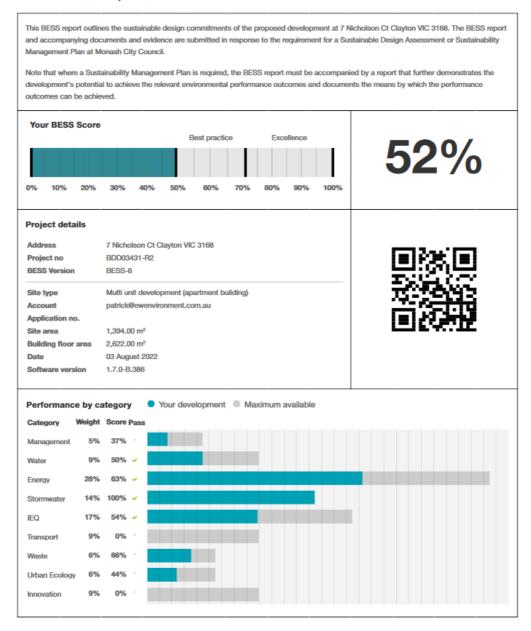
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BESS, 7 Nicholson Ct Clayton 3168

BESS Report

Built Environment Sustainability Scorecard





The Built Environment Sustainability Scorecard is an initiative of the Council Alliance for a Sustainable Built Environment (CASBE). For more details see www.bess.net.au

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The BESS online tool was completed and the full score sheet has been provided in Appendix B.1.



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4. ESD Initiatives

The following sections outline the ESD initiatives and management processes that are proposed for the 7-9 Nicholson Court Clayton development. These are based on consideration of the following categories:

- Indoor Environment Quality (IEQ)
- Energy Efficiency
- Water Efficiency
- Stormwater Management
- Building Materials
- Transport
- Waste Management
- Urban Ecology
- Innovation
- Construction and Building Management

Each of the above categories have been broken down into sub-categories and then into particular initiatives in the tables below.

The implementation of the initiatives within the Sustainability Management Plan are the responsibility of the developer/lead contractor.

Where operational practices are required they will be carried out by body corporate.

4.1 Indoor Environment Quality (IEQ)

Table 2: IEQ Sub-Categories and Initiatives

IEQ Sub- Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target	Schedule of Initiatives and Responsibility
Daylight	■ Each dwelling in the development has been designed with an appropriate amount of glazing area to allow daylight access whilst reducing unwanted solar gains and heat loss. Refer to Appendix C for daylight assessment.	 BESS benchmarking both deemed-to- satisfy (refer Appendix B.1 for full BESS scores) 	 Design phase: Architect Construction phase: Builder, window contractor
External Views	 Dwellings have external views in all living areas. 	 All living areas to have external views via glazing 	Design phase: ArchitectConstruction phase: Builder
Thermal Comfort	 Living areas shall have air conditioning units to control the temperature and provide thermal comfort. Internal blinds will also be supplied to apartments 	 At least one unit per dwelling 	 Implemented as part of construction management (contractor responsibility)
Hazardous Materials	■ No hazardous waste shall be used	No hazardous waste	 Implemented as part of



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	in construction materials	shall be used in construction materials	construction of design drawings (mechanical contractor responsibility)
Product Choice	 In cases where the developer / builder specify paints, flooring and adhesive they will be low VOC to Green Star standards 	 Green Star Multi- Residential Version 1 VOC tables 	 Design phase: Architect Construction phase: Builder, carpet supplier, all trades working with adhesives internally
Natural Ventilation	Openable doors and windows.	 Achieve NCC requirements 	Design phase: ArchitectConstruction phase: Builder

4.2 Energy Efficiency

Table 3: Energy Efficiency Sub-Categories and Initiatives

Energy Efficiency Sub-Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Operating Energy and Building Fabric	 The average house energy rating was 7.4 Stars with all dwellings achieving above 5 Stars (subject to the building fabric assumptions made in the ratings). Refer to Appendix A for detailed results and assumptions for the house energy ratings The minimum star ratings for heating and cooling reverse cycle air conditioners is 4 Stars 	■ To achieve on or above the minimum 6 Stars.	 Design phase: Architect Construction phase: Builder
Energy Sub-Metering	 Each dwelling shall have a retail meter. Common spaces will be separately metered. 	 Each dwelling shall have a retail meter. BESS benchmarking (refer Appendix B.1) 	 Design phase: Architect, Electrical Designer Construction phase: Electrical Contractor
Lighting Power Density	■ Lighting power density shall be 10% lower than those stipulated by the National Construction Code in Part J6. LED lighting will be implemented for the majority of lighting in the residential areas.	 National Construction Code requirements. BESS benchmarking (refer Appendix B.1) 	 Design phase: Architect, Electrical Designer Construction phase: Electrical Contractor
Air leakage minimized	 All dwellings shall be designed and built in accordance with the building sealing requirements of the National Construction Code. 	 National Construction Code requirements. 	 Design phase: Architect, mechanical designer



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Domestic Hot Water	Domestic hot water is provided by 6 Star instantaneous gas heaters	■ BESS benchmarking (refer Appendix B.1)	 Construction phase: Builder, mechanical contractor Design phase: Architect, hydraulic designer Construction phase: Hydraulic contractor
External Lighting	External lighting will be controlled via a time switch and motion detection	BESS benchmarking (refer Appendix B.1)	Design phase: Architect, Electrical Designer Construction phase: Electrical Contractor
Car Park Ventilation	Car park ventilation will be controlled via CO monitors	BESS benchmarking (refer Appendix B.1)	 Design phase: Architect, mechanical designer Construction phase: Builder, mechanical contractor



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4.3 Water Efficiency

Table 4: Water Efficiency Sub-Categories and Initiatives

Water Efficiency Sub-Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target	Schedule of Initiatives and Responsibility
Minimising Amenity Water Demand	 The fittings and fixtures proposed for the development will meet the following Star Ratings under the Water Efficiency Labeling Scheme: Toilets – 4 Star Basin Taps – 5 Star Kitchen Taps – 5 Star Showers – 3 Star (between 6 and 7.5 l/min) 	 As per star rating targets specified. BESS benchmarking (refer Appendix B.1) 	 Design phase: Architect / Hydraulic Designer Construction phase: Builder and hydraulic contractor
Water Meters	 Each dwelling shall have a retail meter. Further water sub-metering is not deemed necessary for National Construction Code Class 2. 	Each dwelling to have a retail meter.	 Design phase: Architect / Hydraulic Designer Construction phase: Builder and hydraulic contractor
Heat Rejection Water	Air conditioning units shall use air-cooled condenser components.	No water to be used in cooling.	 Design phase: Architect / Mechanical Designer Construction phase: Builder and Mechanical Contractor
Rainwater Harvesting	A 12kL rainwater harvesting tank shall collect stormwater runoff from the roof and balconies to flush toilets. The system shall have a UV filter to clean the water before flushing toilets	 12kL rainwater harvesting system 	 Design phase: Architect / Hydraulic Designer Construction phase: Builder and hydraulic contractor



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4.4 Stormwater Management

Table 5: Stormwater Management Sub-Categories and Initiatives

Stormwater Management Sub- Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target	Schedule of Initiatives and Responsibility
STORM rating	 A 12kL rainwater harvesting tank shall collect stormwater runoff from the roof and balconies to flush toilets. The system shall have a UV filter to clean the water before flushing toilets A STORM rating of 105% is achieved 	 12kL rainwater harvesting system Minimum of 100% in STORM 	 Design phase: Architect / Hydraulic Designer Construction phase: Builder and hydraulic contractor
Discharge to Sewer	Low flow fittings and fixtures shall be used and shall reduce the discharge to sewer.	 The fittings and fixtures proposed for the development will meet the following Star Ratings under the Water Efficiency Labeling Scheme: Toilets – 4 Star Basin Taps – 5 Star Kitchen Taps – 5 Star Showers 3 Star (between 6 and 7.5 I/min) 	Implemented as part of construction of design drawings (contractor responsibility)
Construction phase stormwater pollution strategy	 As a part of the construction management plan a stormwater pollution reduction strategy for the construction phase will be implemented 	To Monash Council standards	Lead contractor



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4.5 Building Materials

Table 6: Building Materials Sub-Categories and Initiatives

Building Materials Sub-Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target and Implementation	
Storage for Recycling Waste	 Appropriate bin storage space including space for recycling bins has been allocated in the basement area. 	 Refer to Waste Management Plan for details. 	Design phase: ArchitectConstruction phase: Builder
Environmental Toxicity	 Both refrigerants and insulation materials shall be specified to be non-ozone depleting in both composition and manufacture. 	 Zero ozone depleting materials used in both composition and manufacture. 	Design phase: ArchitectConstruction phase: Builder

4.6 Transport

Table 7: Transport Sub-Categories and Initiatives

Transport Sub- Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Car Parks	 There is on-site car parking proposed for the development. 	 Car parking not to exceed planning maximums. 	Design phase: ArchitectConstruction phase: Builder
Bike Storage	 Provision for bike storage has been made in the ground level entrance area. Refer to architectural plans. 	Bike storage for residents	Design phase: ArchitectConstruction phase: Builder

4.7 Waste Management

Table 8: Waste Management Sub-Categories and Initiatives

Waste Management Sub- Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Construction Environmental Management Plan	 A construction environmental management plan will be required to be implemented by the lead contractor. 	 Production and implementation of an EMP. 	 Architectural preliminaries to require a CEMP Lead contractor responsibility
Waste Management Plan	 Construction phase environmental 	 Minimum 80% of construction waste 	Architectural preliminaries to



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	management plan to be implemented.	to be reused or recycled. BESS benchmarking (refer Appendix B.1)	require a WMP Lead contractor responsibility
Storage spaces for recycling and green waste	 Appropriate bin storage space including space for recycling bins has been allocated in the basement area. Green waste and composting will also be included. 	 Refer to Waste Management Plan for details. 	Design phase: ArchitectConstruction phase: Builder

4.8 Urban Ecology

Table 9: Urban Ecology Sub-Categories and Initiatives

Urban Ecology Sub- Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Reuse of already developed land	The site has previously been developed.	 Develop on previously developed site. 	Inherent property of the site
Landscaped Areas	 Landscaping will be provided as shown in Landscape drawings. 	 To provide landscaping in nominated areas. 	 Design phase: Architect / Landscape Architect Construction phase: Builder / Landscape Contractor



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4.9 Innovation

There are no initiatives that cannot be categorised within the other 9 categories, therefore the innovation category is not applicable.

4.10 Construction and Building Management

Table 10: Construction and Building Management Sub-Categories and Initiatives

Construction and Building Management Sub-Categories	Proposed 7-9 Nicholson Court Clayton Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Construction Environmental Management Plan	 A construction environmental management plan will be required to be implemented by the lead contractor. 	 Production and implementation of an EMP. 	 Architectural preliminaries to require a CEMP Lead contractor responsibility
Stormwater Construction Management Plan	 A stormwater construction management plan will be implemented as part of the construction environmental management plan. 	Council requirements.	 Architectural preliminaries to require a SMP Lead contractor responsibility
Building User Guide	A building user guide to be handed over to all owners after construction.	 Sustainability and maintenance information to be included in building user guide. 	Lead contractor responsibility

5. Conclusion

The ESD components for the 7-9 Nicholson Court Clayton development have been proposed with reference to current construction code standards, the industry benchmarking tool BESS and City of Monash Planning Scheme ESD requirements. The proposed design meets best practice as set out by these items.



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Appendix A – House Energy Ratings

As a part of this ESD submission, a selection of dwellings were rated using the FirstRate 5 house energy rating software. The average house energy rating was 7.4 Stars with all dwellings achieving above 5 Stars (subject to the building fabric assumptions made in the ratings). Table 12 below shows the results for the individual units and whether it is modelled or estimated.

Table 11: House Energy Rating Results

Dwelling Number	Star Rating	Compliant with 6 Star Standard	Modelled or Estimated
G01	6.4	✓	Estimated
G02	7.4	✓	Modelled (Preliminary)
G03	6.2	✓	Estimated
G04	7.4	✓	Modelled (Preliminary)
G05	5.8	✓	Estimated
G06	7.4	✓	Modelled (Preliminary)
G07	5.9	✓	Estimated
G08	7.4	✓	Modelled (Preliminary)
101	8.5	✓	Estimated
102	8.8	√	Modelled (Preliminary)
103	7.4	✓	Modelled (Preliminary)
104	7.4	✓	Estimated
105	7.4	√	Estimated
106	8	√	Estimated
107	8.1	√	Modelled (Preliminary)
108	7.4	√	Modelled (Preliminary)
109	7.4	√	Estimated
110	7.4	√	Estimated
201	8.4	✓	Estimated
202	7.4	√	Modelled (Preliminary)
203	7.4	√	Estimated
204	7.4	√	Estimated
205	7.4	✓	Estimated
206	8.1	✓	Estimated
207	7.4	✓	Modelled (Preliminary)
208	7.4	✓	Estimated
301	7.4	✓	Estimated
302	7.4	✓	Estimated
303	7.4	✓	Estimated
304	7.4	✓	Estimated
305	7.4	✓	Estimated
401	7.4	✓	Estimated
Average	7.4		



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The table below shows the assumptions made for the house energy ratings.

Table 12: House Energy Rating Assumptions

Item	Assumption
Floor	All floors are concrete slab with timber floor coverings to living kitchen areas, carpet to bedrooms and tiles to bathrooms. Insulation is required on the car park ceiling soffit of R0.8
Walls	Mixture of brickwork, blockwork and light weight construction as indicated in plans and elevations drawn with R2.0 insulation to external
Roof	R5.0 batts on ceiling level
Windows	Aluminium framed thermally improved double glazed clear with solar heat gain coefficient of 0.5 and U-value of 4.5
Other	Weather sealing on all external doors and windows and seals to all exhaust fans. All dwellings were modeled from drawings sent by Pitard Group



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Appendix B – BESS and STORM Calculations

B.1 BESS Assessment

The full BESS assessment is attached on the overleaf.

ABN:50 800 554 305

BESS Report

Built Environment Sustainability Scorecard



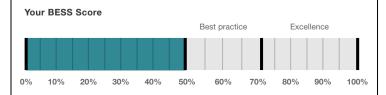






This BESS report outlines the sustainable design commitments of the proposed development at 7 Nicholson Ct Clayton VIC 3168. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Monash 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



52%

Project details

Address 7 Nicholson Ct Clayton VIC 3168

Project no BDD03431-R2
BESS Version BESS-6

Site type Multi unit development (apartment building)

Account patrick@ewenvironment.com.au

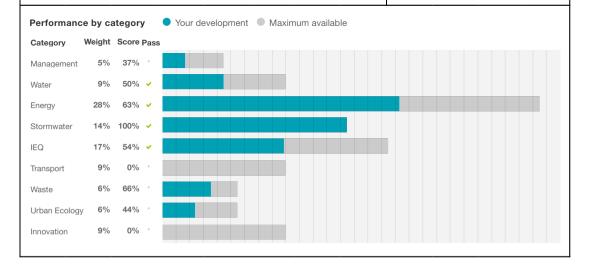
Application no.

 Site area
 1,394.00 m²

 Building floor area
 2,622.00 m²

 Date
 03 August 2022

 Software version
 1.7.0-B.386



Buildings

Name	Height	Footprint	% of total footprint	
7-9 Nicholson Court	5	1,114 m²	100%	

Dwellings & Non Res Spaces

Dwellings

Dwellings				
Name	Quantity	Area	Building	% of total area
Apartment				
401	1	126 m²	7-9 Nicholson Court	4%
301	1	106 m ²	7-9 Nicholson Court	4%
G06	1	105 m ²	7-9 Nicholson Court	4%
G04	1	105 m ²	7-9 Nicholson Court	4%
G01	1	112 m ²	7-9 Nicholson Court	4%
305	1	85.0 m ²	7-9 Nicholson Court	3%
302	1	89.0 m ²	7-9 Nicholson Court	3%
208	1	90.0 m ²	7-9 Nicholson Court	3%
205	1	79.0 m²	7-9 Nicholson Court	3%
201	1	90.0 m ²	7-9 Nicholson Court	3%
106	1	80.0 m ²	7-9 Nicholson Court	3%
104	1	80.0 m ²	7-9 Nicholson Court	3%
101	1	79.0 m²	7-9 Nicholson Court	3%
G03	1	80.0 m ²	7-9 Nicholson Court	3%
G02	1	80.0 m ²	7-9 Nicholson Court	3%
304	1	78.0 m ²	7-9 Nicholson Court	2%
303	1	78.0 m ²	7-9 Nicholson Court	2%
207	1	76.0 m ²	7-9 Nicholson Court	2%
206	1	76.0 m ²	7-9 Nicholson Court	2%
204	1	78.0 m ²	7-9 Nicholson Court	2%
203	1	76.0 m ²	7-9 Nicholson Court	2%
202	1	76.0 m ²	7-9 Nicholson Court	2%
110	1	55.0 m²	7-9 Nicholson Court	2%
109	1	78.0 m²	7-9 Nicholson Court	2%
108	1	76.0 m ²	7-9 Nicholson Court	2%
107	1	76.0 m ²	7-9 Nicholson Court	2%
103	1	76.0 m²	7-9 Nicholson Court	2%
102	1	76.0 m ²	7-9 Nicholson Court	2%
G08	1	78.0 m ²	7-9 Nicholson Court	2%
G07	1	78.0 m ²	7-9 Nicholson Court	2%
G05	1	55.0 m ²	7-9 Nicholson Court	2%
105	1	50.0 m ²	7-9 Nicholson Court	1%
Total	32	2,622 m²	100%	

Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status
Management 3.1	Individual utility meters annotated	To be printed Refer architectural drawings	~
Management 3.3	Common area submeters annotated	To be printed Refer architectural drawings	~
Water 3.1	Water efficient garden annotated	To be printed Noted in SMP	~
Energy 3.1	Carpark with natural ventilation or CO monitoring system	To be printed Refer architectural drawings	~
Stormwater 1.1	Location of any stormwater management systems used in STORM or MUSIC modelling (e.g. Rainwater tanks, raingarden, buffer strips)	To be printed Refer architectural drawings	~
IEQ 1.1	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.	To be printed SMP shows daylight results for each habitable space	~
IEQ 1.2	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.	To be printed SMP shows daylight results for each habitable space	~
IEQ 1.3	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.	To be printed SMP shows daylight results for each habitable space	✓
IEQ 1.5	Floor plans with compliant bedrooms marked	To be printed Not provided	~
Waste 2.1	Location of food and garden waste facilities	To be printed Refer to architectural plans	~
Waste 2.2	Location of recycling facilities	To be printed Refer to architectural plans	~
Urban Ecology 1.1	Size and location of communal spaces	To be printed Refer to architectural plans	~
Urban Ecology 2.1	Vegetated areas	To be printed Refer to architectural plans	~

Supporting evidence

Credit	Requirement	Response	Status
Energy 3.1	Provide a written explanation of either the fully natural carpark ventilation or carbon monxide monitoring, describing how these systems will work, what systems are required for them to be fully integrated and who will be responsible for their implementation throughout the design, procurement and operational phases of the building life.	To be printed Refer SMP Refer SMP	*
Energy 3.6	Provide a written description of the average lighting power density to be installed in the development and specify the lighting type(s) to be used.	To be printed Refer SMP Refer SMP	*
Stormwater 1.1	STORM report or MUSIC model	To be printed Refer SMP Refer SMP	*
IEQ 1.1	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.	To be printed Refer SMP Refer SMP	*
IEQ 1.2	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.	To be printed Refer SMP Refer SMP	*
IEQ 1.3	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.	To be printed Refer SMP Refer SMP	*

Credit	Requirement	Response	Status
IEQ 1.5	A list of compliant bedrooms	To be printed	✓
		Refer SMP	
		Refer SMP	

Credit summary

Management Overall contribution 4.5%

	37%
1.1 Pre-Application Meeting	0%
2.2 Thermal Performance Modelling - Multi-Dwelling Residential	0%
3.1 Metering - Residential	100%
3.3 Metering - Common Areas	100%
4.1 Building Users Guide	100%

Water Overall contribution 9.0%

	Minimum required 50%	50%	✓ Pass
1.1 Potable water use reduction		40%	
3.1 Water Efficient Landscaping		100%	
4.1 Building Systems Water Use Reduction		N/A	Scoped Out

Energy Overall contribution 27.5%

	Minimum required 50% 63	% ✓ Pass
1.2 Thermal Performance Rating - Residential	509	6
2.1 Greenhouse Gas Emissions	1009	6
2.2 Peak Demand	1009	6
2.3 Electricity Consumption	1009	6
2.4 Gas Consumption	N/	A
		No gas connection in use
3.1 Carpark Ventilation	1009	6
3.2 Hot Water	09	6
3.4 Clothes Drying	09	6
3.6 Internal Lighting - Residential Multiple Dwellings	1009	6
4.2 Renewable Energy Systems - Solar	09	6
4.4 Renewable Energy Systems - Other	N/	A Ø Disabled
	No other (non-solar PV) r	enewable energy is in use.

Stormwater Overall contribution 13.5%

	Minimum required 100%	100%	✓ Pass
1.1 Stormwater Treatment		100%	

IEQ Overall contribution 16.5%

	Minimum required 50%	54% ✓ Pass
1.1 Daylight Access - Living Areas		66%
1.2 Daylight Access - Bedrooms		66%
1.3 Winter Sunlight		100%
1.5 Daylight Access - Minimal Internal Bedrooms		100%
2.1 Effective Natural Ventilation		0%

Transport Overall contribution 9.0%

	0%
1.1 Bicycle Parking - Residential	0%
1.2 Bicycle Parking - Residential Visitor	0%
1.3 Bicycle Parking - Convenience Residential	N/A Ø Disabled
	Credit 1.1 must be achieved first.
2.1 Electric Vehicle Infrastructure	0%
2.2 Car Share Scheme 0%	
2.3 Motorbikes / Mopeds	0%

Waste Overall contribution 5.5%

	66%
1.1 - Construction Waste - Building Re-Use	0%
2.1 - Operational Waste - Food & Garden Waste	100%
2.2 - Operational Waste - Convenience of Recycling	100%

Urban Ecology Overall contribution 5.5%

	44%	
1.1 Communal Spaces	100%	
2.1 Vegetation	75%	
2.2 Green Roofs	0%	
2.3 Green Walls and Facades	0%	
2.4 Private Open Space - Balcony / Courtyard Ecology	0%	
3.1 Food Production - Residential	0%	

Innovation Overall contribution 9.0%

		0%	
1.1 Innovation		0%	

Credit breakdown

Management Overall contribution 2%

1.1 Pre-Application Meeting		0%
Score Contribution	This credit contributes 37.5% towards the cat-	egory score.
Criteria	Has an ESD professional been engaged to pro	ovide sustainability advice from schematic
	design to construction? AND Has the ESD pro	ofessional been involved in a pre-
	application meeting with Council?	
Question	Criteria Achieved ?	
Project	No	
2.2 Thermal Performance Modellin Residential	ng - Multi-Dwelling	0%
Score Contribution	This credit contributes 25.0% towards the cat-	egory score.
Criteria	Have preliminary NatHERS ratings been under	rtaken for all thermally unique dwellings?
Question	Criteria Achieved ?	
Apartment	No	
3.1 Metering - Residential		100%
Score Contribution	This credit contributes 12.5% towards the cat-	egory score.
Criteria	Have utility meters been provided for all individ	dual dwellings?
Question	Criteria Achieved ?	
Apartment	Yes	
3.3 Metering - Common Areas		100%
Score Contribution	This credit contributes 12.5% towards the cat-	egory score.
Criteria	Have all major common area services been se	parately submetered?
Question	Criteria Achieved ?	
Apartment	Yes	
4.1 Building Users Guide		100%
Score Contribution	This credit contributes 12.5% towards the cat-	egory score.
Criteria	Will a building users guide be produced and is	ssued to occupants?
Question	Criteria Achieved ?	
Project	Yes	

Water Overall contribution 4% Minimum required 50%

Water Approach	
What approach do you want to use for Water?:	Use the built in calculation tools
Project Water Profile Question	
Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Are you installing a rainwater tank?:	Yes
Water fixtures, fittings and connections	
Building: All	7-9 Nicholson Court
Showerhead: All	4 Star WELS (>= 6.0 but <= 7.5)
Bath: All	Scope out
Kitchen Taps: All	>= 5 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers: All	>= 4 Star WELS rating
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out
Washing Machine Water Efficiency: All	Occupant to Install
Which non-potable water source is the dwelling/space connected to?: All	Tank 1
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: A	II No
Rainwater Tank	
What is the total roof area connected to the rainwater tank?: Tank 1	942 m²
Tank Size: Tank 1	12,000 Litres
Irrigation area connected to tank: Tank 1	0.0 m ²
Is connected irrigation area a water efficient garden?: Tank 1	Yes
Other external water demand connected to tank?: Tank 1	0.0 Litres/Day

1.1 Potable water use reduction	40%
Score Contribution	This credit contributes 83.3% 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	4006 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	3233 kL
Output	Proposed (including rainwater and recycled water use)
Project	2832 kL
Output	% Reduction in Potable Water Consumption
Project	29 %
Output	% of connected demand met by rainwater
Project	100 %
Output	How often does the tank overflow?
Project	Very Often
Output	Opportunity for additional rainwater connection
Project	1519 kL
3.1 Water Efficient Landscaping	100%
Score Contribution	This credit contributes 16.7% towards the category score.
Criteria	Will water efficient landscaping be installed?
Question	Criteria Achieved ?
Project	Yes
4.1 Building Systems Water Use Red	luction N/A • Scoped O

Energy Overall contribution 17% Minimum required 50%

Dwellings Energy Approach				
What approach do you want to use for	or Energy?:	Provide our own calculations		
Solar Photovoltaic system				
System Size (lesser of inverter and pa	anel capacity): PV	20.0 kW peak		
Orientation (which way is the system	facing)?: PV	North		
Inclination (angle from horizontal): P	V	20.0 Angle (degrees)		
1.2 Thermal Performance Rating -	Residential	50%		
Score Contribution	This credit contrib	outes 31.6% towards the category score.		
Criteria	What is the avera	ge NatHERS rating?		
Question	NATHERS Rating	?		
Apartment	7.4 Stars			
2.1 Greenhouse Gas Emissions		100%		
Score Contribution	This credit contrib	outes 10.5% towards the category score.		
Criteria	What is the % red	duction in annual greenhouse gas emissions against the benchmark?		
Question	Criteria Achieved	?		
Apartment	Yes			
2.2 Peak Demand		100%		
Score Contribution	This credit contrib	outes 5.3% towards the category score.		
Criteria	What is the % red	duction in the instantaneous (peak-hour) demand against the		
	benchmark?			
Question	Criteria Achieved	?		
Apartment	Yes			
2.3 Electricity Consumption		100%		
Score Contribution	This credit contrib	outes 10.5% towards the category score.		
Criteria	What is the % red	duction in annual electricity consumption against the benchmark?		
Question	Criteria Achieved	?		
Apartment	Yes			
2.4 Gas Consumption		N/A Scoped Out		
This credit was scoped out	No gas connection	on in use		
3.1 Carpark Ventilation		100%		
Score Contribution	This credit contrib	outes 10.5% towards the category score.		
Criteria	If you have an en	closed carpark, is it: (a) fully naturally ventilated (no mechanical		
		ventilation system) or (b) 40 car spaces or less with Carbon Monoxide monitoring to		
	*	tion and speed of the ventilation fans?		
Question	Criteria Achieved			
Project	Yes			

3.2 Hot Water		0%				
Score Contribution	This credit contributes 5.3% towards the catego	ory score.				
Criteria	What is the % reduction in annual energy consult water system against the benchmark?	mption (gas and electr	ricity) of	f the hot		
Question	Criteria Achieved ?					
Apartment	No					
3.4 Clothes Drying		0%				
Score Contribution	This credit contributes 5.3% towards the catego	ory score.				
Criteria	What is the % reduction in annual energy consul	mption (gas and electr	ricity) fr	om a		
	combination of clothes lines and efficient driers	against the benchmarl	k?			
Question	Criteria Achieved ?					
Apartment	No					
3.6 Internal Lighting - Residen	tial Multiple Dwellings	100%				
Score Contribution	This credit contributes 10.5% towards the categ	ory score.				
Criteria	Is the maximum illumination power density (W/m	n2) in at least 90% of t	he rele	vant		
	building class at least 20% lower than required by	building class at least 20% lower than required by Table J6.2a of the NCC 2019 Vol 1				
	(Class 2-9) and Clause 3.12.5.5 NCC 2019 Vol 2	(Class 1 & 10)?				
Question	Criteria Achieved ?					
Apartment	Yes					
4.2 Renewable Energy System	s - Solar	0%				
Score Contribution	This credit contributes 5.3% towards the catego	ory score.				
Criteria	What % of the estimated energy consumption of	What % of the estimated energy consumption of the building class it supplies does the				
	solar power system provide?					
4.4 Renewable Energy System	s - Other	N/A	0	Disable		
This credit is disabled	No other (non-solar PV) renewable energy is in u	ise.				

Stormwater Overall contribution 14% Minimum required 100%

Which stormwater modelling are you	using?: Melbourne Water STORM tool
 1.1 Stormwater Treatment	100%
Score Contribution	This credit contributes 100.0% towards the category score.
Criteria	Has best practice stormwater management been demonstrated?
Question	STORM score achieved
Project	105
Output	Min STORM Score
Project	100

IEQ Overall contribution 9% Minimum required 50%

IEQ DTS				
Use the BESS Deemed to Satisfy (DtS	6) method for IEQ?:	No		
Dwellings IEQ Approach				
What approach do you want to use fo	r dwellings?:	Provide our own calculations		
1.1 Daylight Access - Living Areas	66%			
Score Contribution	This credit cont	ibutes 27.3% towards the category score.		
Criteria	What % of living	areas achieve a daylight factor greater than 1%		
Question	Percentage Ach	ieved ?		
Apartment	81 %			
1.2 Daylight Access - Bedrooms		66%		
Score Contribution	This credit cont	ibutes 27.3% towards the category score.		
Criteria	What % of bed	ooms achieve a daylight factor greater than 0.5%		
Question	Percentage Ach	Percentage Achieved ?		
Apartment	80 %	80 %		
1.3 Winter Sunlight		100%		
Score Contribution	This credit cont	ibutes 9.1% towards the category score.		
Criteria	Do 70% of dwe	Do 70% of dwellings receive at least 3 hours of direct sunlight in all Living areas		
	between 9am a	nd 3pm in mid-winter?		
Question	Criteria Achieve	Criteria Achieved ?		
Apartment	Yes			
1.5 Daylight Access - Minimal Inter	nal Bedrooms	100%		
Score Contribution	This credit cont	ibutes 9.1% towards the category score.		
Criteria	Do at least 90%	of dwellings have an external window in all bedrooms?		
Question	Criteria Achieve	?		
Apartment	Yes			
2.1 Effective Natural Ventilation		0%		
Score Contribution	This credit cont	ibutes 27.3% towards the category score.		
Criteria	What % of dwe	lings are effectively naturally ventilated?		
Question	Percentage Ach	ieved?		
Apartment	0 %			

Transport Overall contribution 0%

1.1 Bicycle Parking - Residential		0%		
Score Contribution	This credit contributes 22.2% towards the category score	> .		
Criteria	How many secure and undercover bicycle spaces are the	ere per dwelling f	or re	sidents?
Question	Bicycle Spaces Provided ?			
Apartment	0			
1.2 Bicycle Parking - Residential Visi	tor	0%		
Score Contribution	This credit contributes 22.2% towards the category score) .		
Criteria	How many secure bicycle spaces are there per 5 dwelling	gs for visitors?		
Question	Visitor Bicycle Spaces Provided ?			
Apartment	5			
Output	Min Visitor Bicycle Spaces Required			
Apartment	7			
1.3 Bicycle Parking - Convenience R	esidential	N/A	0	Disabled
This credit is disabled	Credit 1.1 must be achieved first.			
2.1 Electric Vehicle Infrastructure		0%		
Score Contribution	This credit contributes 22.2% 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 11.1% 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 11.1% towards the category score).		
Criteria	Are a minimum of 5% of vehicle parking spaces designed	and labelled fo	r mo	torbikes
	(must be at least 5 motorbike spaces)?			
Question	Criteria Achieved ?			
Project	No			

Waste Overall contribution 4%

1.1 - Construction Waste - B	uilding 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 - Foo	od & Garden Waste	100%		
Score Contribution	This credit contributes 33.3% towards	the category score.		
Criteria	Are facilities provided for on-site manaç	Are facilities provided for on-site management of food and garden waste?		
Question	Criteria Achieved ?	Criteria Achieved ?		
Project	Yes			
2.2 - Operational Waste - Co	nvenience of Recycling	100%		
Score Contribution	This credit contributes 33.3% towards	the category score.		
Criteria	Are the recycling facilities at least as co	onvenient for occupants as facilities for general		
	waste?			
Question	Criteria Achieved ?			
Project	Yes			

Urban Ecology Overall contribution 2%

1.1 Communal Spaces	100%
Score Contribution	This credit contributes 11.1% 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 5
	and 250 * Additional 0.25m² for each occupant above 251?
Question	Common space provided
Apartment	100 m²
Output	Minimum Common Space Required
Apartment	58 m²
2.1 Vegetation	75%
Score Contribution	This credit contributes 44.4% 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	23 %
2.2 Green Roofs	0%
Score Contribution	This credit contributes 11.1% 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 11.1% towards the category score.
Criteria	Does the development incorporate a green wall or green façade?
Question	Criteria Achieved ?
Project	No
2.4 Private Open Space - Balcony /	Courtyard Ecology 0%
Score Contribution	This credit contributes 11.1% towards the category score.
Criteria	Is there a tap and floor waste on every balcony / in every courtyard?
Question	Criteria Achieved ?
Apartment	No
3.1 Food Production - Residential	0%
Score Contribution	This credit contributes 11.1% towards the category score.
Criteria	What area of space per resident is dedicated to food production?
Question	Food Production Area
Apartment	0.0 m ²
Output	Min Food Production Area
Apartment	17 m²

Innovation Overall contribution 0%

1.1 Innovation	0%
Score Contribution	This credit contributes 100.0% towards the category score.
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?

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B.2 Stormwater

The minimum STORM rating for an effective WSUD is 100% using the STORM rating calculator. The STORM rating for the proposed 7-9 Nicholson Court Clayton development is 105%. Refer to the Storm Rating Report below which shows all inputs and the STORM Rating Score.

The rating is achieved by the utilisation of an 12kL rainwater harvesting system treating 970m2 of the roof and balcony area via toilet flushing (with UV filters). Note that flow and detention requirements of Clause 53.18 are being undertaken by others.

Stormwater management during the construction phase shall be undertaken by mitigation of pollutants generated by construction site during a rainfall event.

Melbourne Water

STORM Rating Report

TransactionID: 1381007 Municipality: MONASH Rainfall Station: MONASH

Address: 7-9 Nicholson Court

Clayton

VIC

3168

Assessor: Patrick Phelan

Development Type: Residential - Mixed Use

Allotment Site (m2): 1,394.00 STORM Rating %: 105

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof and Balconies	970.00	Rainwater Tank	12,000.00	60	115.90	62.00
Hard Surface	97.00	None	0.00	0	0.00	0.00



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Appendix C - Daylight Assessment

A daylight assessment has been undertaken as required by the BESS assessment process using the IES VE Software.

The analysis showed that daylight targets of 1% daylight factor is achieved for over 90% of the room area for 81% of living areas.

The analysis also showed that daylight targets of 0.5% daylight factor is achieved for over 90% of the room area for 80% of bedroom areas.

The following table shows the daylight factor for each level and the total weighted daylight factor.

Apartment	Living Compliant (Y/N)	Bed 1 Compliant (Y/N)	Bed 2 Compliant (Y/N)	Bed 3 Compliant (Y/N)
G01	Υ	Υ	Υ	Υ
G02	N	Υ	N	
G03	N	Υ	N	
G04	Υ	Υ	Υ	Υ
G05	Υ	Υ		
G06	Υ	Υ	Υ	Y
G07	Υ	Υ	N	
G08	Υ	Υ	N	
101	Υ	Υ	Υ	
102	N	Υ	N	
103	N	Υ	N	
104	Υ	Υ	Υ	
105	Υ	Υ		
106	Υ	Υ	Υ	
107	N	Υ	N	
108	N	Υ	N	
109	Y	Υ	Y	
110	Υ	Υ		
201	Υ	Υ	Υ	
202	Y	Υ	N	
203	Y	Υ	N	
204	Y	Υ	Υ	
205	Y	Υ	Υ	
206	Y	Υ	Υ	
207	Y	Υ	N	
208	Y	Υ	N	



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301	Υ	Y	Y	Υ
302	Υ	Υ	Υ	
303	Υ	Υ	Υ	
304	Υ	Y	Υ	
303 304 305 401	Υ	Υ	Υ	
401	Υ	Υ	Υ	
	81%	80%		

The assumptions mate for the daylight analysis are shown in the following table.

Element	Description
Weather file	ACADS-BSG/CSIRO Melbourne Regional Office Test Reference Year
Sky	Uniform Design Sky
Software	Integrated Environmental Solutions – Virtual Environment 2019 with Radiance Toolkit
Working Plane	Daylight factors taken at floor level
Floor / Roof	0.3
Reflectance	0.0
Wall Reflectance	0.7
Ceiling Reflectance	0.8
Ground Reflectance	0.2
External Wall Reflectance	0.5 (Medium paint colour)
External Glazing VLT	Single glazing with VLT 50%
	Note- this is similar to the glass selected to meet the energy efficiency requirements for
	these spaces
Internal glazing VLT	Not Applicable



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Appendix D – Response to Council Comments

The following table shows the responses to Council comments (City of Monash) provided 21 June 2022.

Council Comment	Response
Clarification is required regarding the referenced plans assessed in the Sustainable Management Plan as it would appear there is some inconsistency. For example the living areas of apartments G.02, G.03, 102, 103 are identified in the report as having not been provided with the required daylight factor but are north facing.	Daylight modelling is done with a uniform design sky (effectively overcast) as an industry standard. Therefore orientation does not affect the daylight coverage. The results in Appendix C have been checked and remain correct. A table has been added (refer to previous page) to show the modelling inputs and assumptions for the daylight modelling.
The Sustainable Management Plan to provide a natural ventilation assessment and compliance with Standard D29.	Whilst openable doors and windows will provide natural ventilation, no points have been claimed in BESS for natural ventilation and therefore a detailed natural ventilation assessment has not been provided. NCC regarding ventilation shall be met.
The site area referred to the BESS report of 1,403 m2 does not accord with the site area provided on the development plan 1,394 m2.	This has been amended in the BESS assessment. Refer to Section 3.3 and Appendix B.