

BESS Report

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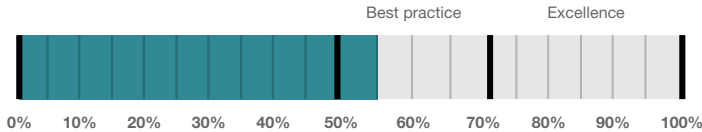
Built Environment Sustainability Scorecard



This BESS report outlines the sustainable design commitments of the proposed development at Baird Street North Fawkner VIC 3060. 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 Moreland 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



57%

Project details

Address	Baird Street North Fawkner VIC 3060
Project no	767BF729-R3
BESS Version	BESS-6
Site type	Non-residential development
Account	info@nedesign.net.au
Application no.	
Site area	1,048.00 m ²
Building floor area	1,657.00 m ²
Date	09 June 2022
Software version	1.7.0-B.386



Performance by category

● Your development ● Maximum available

Category	Weight	Score	Pass
Management	5%	33%	*
Water	9%	50%	✓
Energy	28%	66%	✓
Stormwater	14%	100%	✓
IEQ	17%	75%	✓
Transport	9%	28%	*
Waste	6%	66%	*
Urban Ecology	6%	25%	*
Innovation	9%	0%	*

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Buildings

Name	Height	Footprint	% of total footprint	
Building 1	2	923 m ²	100%	

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Dwellings & Non Res Spaces

Non-Res Spaces				
Name	Quantity	Area	Building	% of total area
Other building				
College Addition	1	1,657 m ²	Building 1	100%
Total	1	1,657 m²	100%	

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Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status
Water 3.1	Water efficient garden annotated	To be printed Refer to Plans	✓
Energy 4.2	Floor plans showing location of photovoltaic panels as described.	To be printed Refer to plans	✓
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 to Plans	✓
Transport 2.1	Location of electric vehicle charging infrastructure	To be printed Refer to plans	✓
Waste 2.1	Location of food and garden waste facilities	To be printed Refer to WMP	✓
Waste 2.2	Location of recycling facilities	To be printed Refer to Plans	✓
Urban Ecology 1.1	Size and location of communal spaces	To be printed Refer to Plans	✓
Urban Ecology 2.1	Vegetated areas	To be printed Refer to plans	✓


Supporting evidence

Credit	Requirement	Response	Status
Management 2.3a	Section J glazing assessment	To be printed SMP Refer to SMP	✓
Energy 1.1	Energy Report showing calculations of reference case and proposed buildings	To be printed N/A No energy modelling undertaken	✓
Energy 3.7	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 SMP Refer to SMP	✓


Credit	Requirement	Response	Status
Energy 4.2	Specifications of the solar photovoltaic system(s).	To be printed SMP SMP	✓
Stormwater 1.1	STORM report or MUSIC model	To be printed SMP Refer to SMP	✓
IEQ 1.4	A short report detailing assumptions used and results achieved.	To be printed Daylight Report Refer to daylight Report	✓

Credit summary

Management Overall contribution 4.5%

	33%
1.1 Pre-Application Meeting	0%
2.3 Thermal Performance Modelling - Non-Residential	50%
3.2 Metering - Non-Residential	N/A ✦ Scoped Out
No individual commercial tenants	
3.3 Metering - Common Areas	N/A ✦ Scoped Out
No major Common area	
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		
No chillers or testing fire safety systems proposed			

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Energy Overall contribution 27.5%

		Minimum required 50%	66%	✔ Pass
1.1 Thermal Performance Rating - Non-Residential			37%	
2.1 Greenhouse Gas Emissions			100%	
2.2 Peak Demand			100%	
2.3 Electricity Consumption			100%	
2.4 Gas Consumption			N/A	⚡ Scoped Out
No gas connection in use				
3.1 Carpark Ventilation			N/A	⚡ Scoped Out
No reason provided				
3.2 Hot Water			100%	
3.7 Internal Lighting - Non-Residential			100%	
4.1 Combined Heat and Power (cogeneration / trigeneration)			N/A	⚡ Scoped Out
No reason provided				
4.2 Renewable Energy Systems - Solar			100%	
4.4 Renewable Energy Systems - Other			N/A	🚫 Disabled
No other (non-solar PV) renewable energy is in use.				

Stormwater Overall contribution 13.5%

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

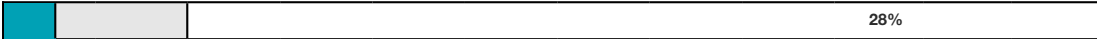
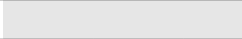
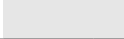
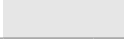





IEQ Overall contribution 16.5%

		Minimum required 50%	75%	✔ Pass
1.4 Daylight Access - Non-Residential			91%	✔ Achieved
2.3 Ventilation - Non-Residential			72%	✔ Achieved
3.4 Thermal comfort - Shading - Non-residential			66%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential			0%	
4.1 Air Quality - Non-Residential			100%	

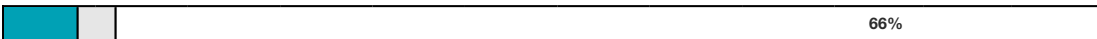


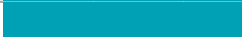
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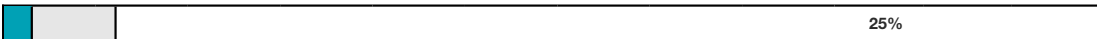





Transport Overall contribution 9.0%

		28%
1.4 Bicycle Parking - Non-Residential		0%
1.5 Bicycle Parking - Non-Residential Visitor		0%
1.6 End of Trip Facilities - Non-Residential		N/A  Disabled
Credit 1.4 must be complete first.		
2.1 Electric Vehicle Infrastructure		100%
2.2 Car Share Scheme		N/A  Scoped Out
N/		
2.3 Motorbikes / Mopeds		0%

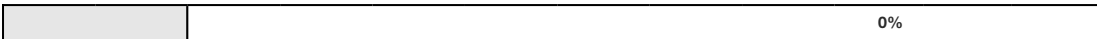

Waste Overall contribution 5.5%

		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%

		25%
1.1 Communal Spaces		100%
2.1 Vegetation		25%
2.2 Green Roofs		0%
2.3 Green Walls and Facades		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 1%

1.1 Pre-Application Meeting		0%
Score Contribution	This credit contributes 50.0% 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	
2.3 Thermal Performance Modelling - Non-Residential		50%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2019 Section J1.5?	
Question	Criteria Achieved ?	
Other building	Yes	
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2019 Section J (Energy Efficiency), NABERS or Green Star?	
Question	Criteria Achieved ?	
Other building	No	
3.2 Metering - Non-Residential	N/A	✦ Scoped Out
This credit was scoped out	No individual commercial tenants	
3.3 Metering - Common Areas	N/A	✦ Scoped Out
This credit was scoped out	No major Common area	
4.1 Building Users Guide		100%
Score Contribution	This credit contributes 16.7% 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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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:	Building 1
Showerhead:	4 Star WELS (>= 6.0 but <= 7.5)
Bath:	Scope out
Kitchen Taps:	>= 5 Star WELS rating
Bathroom Taps:	>= 5 Star WELS rating
Dishwashers:	>= 5 Star WELS rating
WC:	>= 4 Star WELS rating
Urinals:	Scope out
Washing Machine Water Efficiency:	Scope out
Which non-potable water source is the dwelling/space connected to?:	Tank
Non-potable water source connected to Toilets:	Yes
Non-potable water source connected to Laundry (washing machine):	No
Non-potable water source connected to Hot Water System:	No
Rainwater Tank	
What is the total roof area connected to the rainwater tank?: Tank	773 m ²
Tank Size: Tank	16,000 Litres
Irrigation area connected to tank: Tank	0.0 m ²
Is connected irrigation area a water efficient garden?: Tank	No
Other external water demand connected to tank?: Tank	-

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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	3143 kL	
Output	Proposed (excluding rainwater and recycled water use)	
Project	2464 kL	
Output	Proposed (including rainwater and recycled water use)	
Project	2081 kL	
Output	% Reduction in Potable Water Consumption	
Project	33 %	
Output	% of connected demand met by rainwater	
Project	76 %	
Output	How often does the tank overflow?	
Project	Never / Rarely	
Output	Opportunity for additional rainwater connection	
Project	571 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 Reduction		N/A ✦ Scoped Out
This credit was scoped out	No chillers or testing fire safety systems proposed	

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Energy Overall contribution 18% Minimum required 50%

Use the BESS Deem to Satisfy (DtS) method for Energy?:	Yes
Do all exposed floors and ceilings (forming part of the envelope) demonstrate a minimum 10% improvement in required NCC2019 insulation levels (total R-value upwards and downwards)?:	Yes
Does all wall and glazing demonstrate meeting the required NCC2019 facade calculator (or better than the total allowance)?:	Yes
Are heating and cooling systems within one Star of the most efficient equivalent capacity unit available, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) not less than 85% of the CoP & EER of the most efficient equivalent capacity unit available?:	Yes
Are water heating systems within one star of the best available, or 85% or better than the most efficient equivalent capacity unit?:	Yes

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Non-Residential Building Energy Profile	
Heating, Cooling & Comfort Ventilation - Electricity - reference fabric and reference services:	-
Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and reference services:	-
Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and proposed services:	-
Heating - Wood - reference fabric and reference services:	-
Heating - Wood - proposed fabric and reference services:	-
Heating - Wood - proposed fabric and proposed services:	-
Hot Water - Electricity - Baseline:	-
Hot Water - Electricity - Proposed:	-
Lighting - Baseline:	-
Lighting - Proposed:	-
Peak Thermal Cooling Load - Baseline:	-
Peak Thermal Cooling Load - Proposed:	-

Solar Photovoltaic system	
System Size (lesser of inverter and panel capacity): PV	15.0 kW peak
Orientation (which way is the system facing)?: PV	North
Inclination (angle from horizontal): PV	25.0 Angle (degrees)

1.1 Thermal Performance Rating - Non-Residential		37%
Score Contribution	This credit contributes 44.4% towards the category score.	
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC 2019 Section J)?	

2.1 Greenhouse Gas Emissions		100%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?	

2.2 Peak Demand		100%
Score Contribution	This credit contributes 5.6% towards the category score.	
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?	
2.3 Electricity Consumption		100%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	What is the % reduction in annual electricity consumption against the benchmark?	
2.4 Gas Consumption		N/A ✦ Scoped Out
This credit was scoped out	No gas connection in use	
3.1 Carpark Ventilation		N/A ✦ Scoped Out
This credit was scoped out	None	
3.2 Hot Water		100%
Score Contribution	This credit contributes 5.6% towards the category score.	
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?	
3.7 Internal Lighting - Non-Residential		100%
Score Contribution	This credit contributes 11.1% 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 J6.2a of the NCC 2019 Vol 1?	
Question	Criteria Achieved ?	
Other building	Yes	
4.1 Combined Heat and Power (cogeneration / trigeneration)		N/A ✦ Scoped Out
This credit was scoped out	None	
4.2 Renewable Energy Systems - Solar		100%
Score Contribution	This credit contributes 5.6% 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	
Other building	19,350 kWh	
Output	% of Building's Energy	
Other building	41 %	
4.4 Renewable Energy Systems - Other		N/A ⚙ Disabled
This credit is disabled	No other (non-solar PV) renewable energy is in use	

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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	133	
Output	Min STORM Score	
Project	100	

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Transport Overall contribution 3%

1.4 Bicycle Parking - Non-Residential		0%
Score Contribution	This credit contributes 28.6% 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 ?	
Other building	No	
Question	Bicycle Spaces Provided ?	
Other building	0	
1.5 Bicycle Parking - Non-Residential Visitor		0%
Score Contribution	This credit contributes 14.3% 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 ?	
Other building	No	
Question	Bicycle Spaces Provided ?	
Other building	0	
1.6 End of Trip Facilities - Non-Residential		N/A ⊘ Disabled
This credit is disabled		Credit 1.4 must be complete first.
2.1 Electric Vehicle Infrastructure		100%
Score Contribution	This credit contributes 28.6% towards the category score.	
Criteria	Are facilities provided for the charging of electric vehicles?	
Question	Criteria Achieved ?	
Project	Yes	
2.2 Car Share Scheme		N/A ⊕ Scoped Out
This credit was scoped out		N/
2.3 Motorbikes / Mopeds		0%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Are a minimum of 5% of vehicle parking spaces designed and provided for motorbikes (must be at least 5 motorbike spaces)	
Question	Criteria Achieved ?	
Project	No	

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Waste Overall contribution 4%

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		100%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	Are facilities provided for on-site management of food and garden waste?	
Question	Criteria Achieved ?	
Project	Yes	
2.2 - Operational Waste - Convenience of Recycling		100%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	Are the recycling facilities at least as convenient for occupants as facilities for general waste?	
Question	Criteria Achieved ?	
Project	Yes	

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Urban Ecology Overall contribution 1%

1.1 Communal Spaces	100%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Is there at least the following amount of common space measured in square meters : * 1m ² for each of the first 50 occupants * Additional 0.5m ² for each occupant between 51 and 250 * Additional 0.25m ² for each occupant above 251?
Question	Common space provided
Other building	144 m ²
Output	Minimum Common Space Required
Other building	66 m ²

2.1 Vegetation	25%
Score Contribution	This credit contributes 50.0% 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	5 %

2.2 Green Roofs	0%
Score Contribution	This credit contributes 12.5% 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 12.5% towards the category score.
Criteria	Does the development incorporate a green wall or green façade?
Question	Criteria Achieved ?
Project	No

3.2 Food Production - Non-Residential	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	What area of space per occupant is dedicated to food production?
Question	Food Production Area
Other building	0.0 m ²
Output	Min Food Production Area
Other building	21 m ²

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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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