

BESS Report

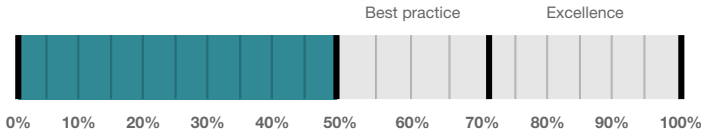
Built Environment Sustainability Scorecard



This BESS report outlines the sustainable design commitments of the proposed development at 17 Regal Ave Thomastown Victoria 3074. 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 Whittlesea 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



52%

Project details

Address	17 Regal Ave Thomastown Victoria 3074
Project no	B2F4C2DE-R1
BESS Version	BESS-8
Site type	Non-residential development
Account	info@nedesign.net.au
Application no.	
Site area	600.00 m ²
Building floor area	560.00 m ²
Date	18 June 2024
Software version	1.8.1-B.407



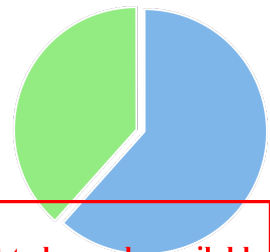
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Performance by category

● Your development ● Maximum available

Category	Weight	Score	Pass
Management	5%	16%	*
Water	9%	75%	✓
Energy	28%	72%	✓
Stormwater	14%	100%	✓
IEQ	17%	53%	✓
Transport	9%	0%	*
Waste	6%	33%	*
Urban Ecology	6%	20%	*
Innovation	9%	0%	*

Building Type composition



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Buildings

Name	Height	Footprint	% of total footprint	
School Redevelopment	1	815 m ²	100%	

Dwellings & Non Res Spaces			Building		% of total area	
Name	Quantity	Area				
Non-Res Spaces						
Administration Building	1	345 m ²	School Redevelopment	61%		
Total	1	345 m²	61%			
Other building						
Alteration (Classrooms)	1	215 m ²	School Redevelopment	38%		
Total	1	215 m²	38%			

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Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status
Water 3.1	Annotation: Water efficient garden details	To be printed Refer to notes on plans	✔
Stormwater 1.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)	To be printed Refer to notes on plans	✔
Urban Ecology 1.1	Location and size of communal spaces	To be printed Refer to plans	✔
Urban Ecology 2.1	Location and size of 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 preliminary facade calculation within the SMP	✔
Energy 1.1	Energy Report showing calculations of reference case and proposed buildings	To be printed N/A No modelling undertaken	✔
Energy 3.7	Average lighting power density and lighting type(s) to be used	To be printed SMP SMP	✔
Stormwater 1.1	STORM report or MUSIC model	To be printed SMP SMP	✔
IEQ 1.4	A short report detailing assumptions used and results achieved.	To be printed Daylight Report Daylight Report	✔

Credit	Requirement	Response	Status
Waste 1.1	Details regarding how the existing building is being reused on-site	To be printed Plans Plans	✔

Credit summary

Management Overall contribution 4.5%

		16%
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 tenants		
3.3 Metering - Common Areas		N/A ✦ Scoped Out
No major common areas		
4.1 Building Users Guide		0%

Water Overall contribution 9.0%

		75%	✔ Pass
Minimum required 50%			
1.1 Potable Water Use Reduction		70%	
3.1 Water Efficient Landscaping		100%	
4.1 Building Systems Water Use Reduction		N/A ✦ Scoped Out	
No testing fire safety systems or chillers proposed			

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Energy Overall contribution 27.5%

		Minimum required 50%	72%	✔ Pass
1.1 Thermal Performance Rating - Non-Residential			37%	
2.1 Greenhouse Gas Emissions			100%	
2.2 Peak Demand			100%	
2.6 Electrification			100%	
2.7 Energy consumption			100%	
3.1 Carpark Ventilation			N/A	✦ Scoped Out
No new carpark proposed				
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 cogeneration or trigeneration system in use.				
4.2 Renewable Energy Systems - Solar			0%	⊘ Disabled
No solar PV renewable energy is in use.				
4.4 Renewable Energy Systems - Other			N/A	✦ Scoped Out
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%	53%	✔ Pass
1.4 Daylight Access - Non-Residential			66%	✔ Achieved
2.3 Ventilation - Non-Residential			48%	✔ Achieved
3.4 Thermal comfort - Shading - Non-Residential			41%	
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%

		0%
1.4 Bicycle Parking - Non-Residential		0%
1.5 Bicycle Parking - Non-Residential Visitor		0%
1.6 End of Trip Facilities - Non-Residential		0% <input checked="" type="checkbox"/> Disabled
Credit 1.4 must be complete first.		
2.1 Electric Vehicle Infrastructure		N/A <input checked="" type="checkbox"/> Scoped Out
No carpark proposed		
2.2 Car Share Scheme		N/A <input checked="" type="checkbox"/> Scoped Out
N		
2.3 Motorbikes / Mopeds		0%

Waste Overall contribution 5.5%

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

Urban Ecology Overall contribution 5.5%

		20%
1.1 Communal Spaces		61%
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% <input checked="" type="checkbox"/> Disabled
A minimum project score of 50% is required before an Innovation Credit can be used.		

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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 NCC2022 Section J4D6?
Question	Criteria Achieved ?
Office	Yes
Other building	Yes
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2022 Section J (Energy Efficiency), NABERS or Green Star?
Question	Criteria Achieved ?
Office	No
Other building	No
3.2 Metering - Non-Residential	N/A ✦ Scoped Out
This credit was scoped out	No individual tenants
3.3 Metering - Common Areas	N/A ✦ Scoped Out
This credit was scoped out	No major common areas
4.1 Building Users Guide	0%
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	No

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Water Overall contribution 7% 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	
Showerhead:	
Administration Building	4 Star WELS (>= 6.0 but <= 7.5)
Alteration (Classrooms)	Scope out
Bath: All	Scope out
Kitchen Taps: All	>= 5 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers:	
Administration Building	>= 3 Star WELS rating
Alteration (Classrooms)	Scope out
WC: All	>= 4 Star WELS rating
Urinals:	
Administration Building	Scope out
Alteration (Classrooms)	Waterless urinal
Washing Machine Water Efficiency: All	Scope out
Which non-potable water source is the dwelling/space connected to?:	
Administration Building	Admin tank
Alteration (Classrooms)	-1
Non-potable water source connected to Toilets:	
Administration Building	Yes
Alteration (Classrooms)	No
Non-potable water source connected to Laundry (washing machine): All	
Administration Building	No
Non-potable water source connected to Hot Water System: All	
Administration Building	No
Rainwater Tank	
What is the total roof area connected to the rainwater tank?:	355 m ²
Administration Building	Admin tank
Tank Size: Administration Building	5,000 Litres
Irrigation area connected to tank: Administration Building	25.0 m ²
Is connected irrigation area a water efficient garden?: Administration Building	Yes
Administration Building	tank
Other external water demand connected to tank?: Administration Building	0.0 Litres/Day

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1.1 Potable Water Use Reduction		70%
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	793 kL	
Output	Proposed (excluding rainwater and recycled water use)	
Project	590 kL	
Output	Proposed (including rainwater and recycled water use)	
Project	414 kL	
Output	% Reduction in Potable Water Consumption	
Project	47 %	
Output	% of connected demand met by rainwater	
Project	99 %	
Output	How often does the tank overflow?	
Project	Very Often	
Output	Opportunity for additional rainwater connection	
Project	143 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 testing fire safety systems or chillers proposed	

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Energy Overall contribution 20% 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 meeting the required NCC2022 insulation levels (total R-value upwards and downwards)?:	Yes
Does all wall and glazing demonstrate meeting the required NCC2022 facade calculator (or better than the total allowance)?:	Yes
Are heating and cooling systems within one Star of the most efficient equivalent capacity unit available, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) not less than 85% of the CoP & EER of the most efficient equivalent capacity unit available?:	Yes
Are water heating systems within one star of the best available, or 85% or better than the most efficient equivalent capacity unit?:	Yes
Non-Residential Building Energy Profile	
Heating, Cooling & Comfort Ventilation - Electricity Reference fabric & services:	-
Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and reference services:	-
Heating, Cooling & Comfort Ventilation - Electricity Proposed fabric & services:	-
Heating - Wood - reference fabric and services:	-
Heating - Wood - proposed fabric and reference services:	-
Heating - Wood - proposed fabric and services:	-
Hot Water - Electricity - Reference:	-
Hot Water - Electricity - Proposed:	-
Lighting - Reference:	-
Lighting - Proposed:	-
Peak Thermal Cooling Load - Reference:	-
Peak Thermal Cooling Load - Proposed:	-
1.1 Thermal Performance Rating - Non-Residential	37%
Score Contribution	This credit contributes 36.4% towards the category score.
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC2022 Section J)?
2.1 Greenhouse Gas Emissions	100%
Score Contribution	This credit contributes 9.1% 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 4.5% towards the category score.
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?

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2.6 Electrification		100%
Score Contribution	This credit contributes 13.6% 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 18.2% towards the category score.	
Criteria	What is the % reduction in annual energy consumption against the benchmark?	
3.1 Carpark Ventilation		N/A ✦ Scoped Out
This credit was scoped out	No new carpark proposed	
3.2 Hot Water		100%
Score Contribution	This credit contributes 4.5% 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 9.1% 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 J7D3a of the NCC 2022 Vol 1?	
Question	Criteria Achieved ?	
Office	Yes	
Other building	Yes	
4.1 Combined Heat and Power (cogeneration / trigeneration)		N/A ✦ Scoped Out
This credit was scoped out	No cogeneration or trigeneration system in use.	
4.2 Renewable Energy Systems - Solar		0% ⊘ Disabled
This credit is disabled	No solar PV renewable energy is in use.	
4.4 Renewable Energy Systems - Other		N/A ✦ Scoped Out
This credit was scoped out	No other (non-solar PV) renewable energy is in use.	
Stormwater	Overall contribution 14%	Minimum required 100%
Which stormwater modelling software 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	

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IEQ Overall contribution 9% Minimum required 50%

1.4 Daylight Access - Non-Residential		66%	✓ Achieved
Score Contribution	This credit contributes 35.3% towards the category score.		
Criteria	What % of the nominated floor area has at least 2% daylight factor?		
Question	Percentage Achieved?		
Office	73 %		
Other building	55 %		
2.3 Ventilation - Non-Residential		48%	✓ Achieved
Score Contribution	This credit contributes 35.3% towards the category score.		
Criteria	What % of the regular use areas are effectively naturally ventilated?		
Question	Percentage Achieved?		
Office	50 %		
Other building	75 %		
Criteria	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668.2:2012?		
Question	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668:2012?		
Office	50 %		
Other building	50 %		
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?		
Question	Value		
Office	0 ppm		
Other building	0 ppm		
3.4 Thermal comfort - Shading - Non-Residential		41%	
Score Contribution	This credit contributes 17.6% towards the category score.		
Criteria	What percentage of east, north and west glazing to regular use areas is effectively shaded?		
Question	Percentage Achieved?		
Office	50 %		
Other building	25 %		
3.5 Thermal Comfort - Ceiling Fans - Non-Residential		0%	
Score Contribution	This credit contributes 5.9% towards the category score.		
Criteria	What percentage of regular use areas in the office have ceiling fans?		
Question	Percentage Achieved?		
Office	0 %		
Other building	0 %		
4.1 Air Quality - Non-Residential			
Score Contribution	This credit contributes 5.9% towards the category score.		

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Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Other building	Yes
Criteria	Does all carpet meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Other building	Yes
Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Other building	Yes

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Transport Overall contribution 0%

1.4 Bicycle Parking - Non-Residential		0%
Score Contribution	This credit contributes 40.0% 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 ?	
Office	No	
Other building	No	
Question	Bicycle Spaces Provided ?	
Office	0	
Other building	-	
1.5 Bicycle Parking - Non-Residential Visitor		0%
Score Contribution	This credit contributes 20.0% 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 ?	
Office	No	
Other building	No	
Question	Bicycle Spaces Provided ?	
Office	-	
Other building	-	
1.6 End of Trip Facilities - Non-Residential		0% <input type="checkbox"/> Disabled
This credit is disabled	Credit 1.4 must be complete first.	
2.1 Electric Vehicle Infrastructure		N/A <input checked="" type="checkbox"/> Scoped Out
This credit was scoped out	No carpark proposed	
2.2 Car Share Scheme		N/A <input checked="" type="checkbox"/> Scoped Out
This credit was scoped out	N	
2.3 Motorbikes / Mopeds		0%
Score Contribution	This credit contributes 20.0% 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 Overall contribution 2%

1.1 - Construction Waste - Building Re-Use		100%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used?	
Question	Criteria Achieved ?	
Project	Yes	
2.1 - Operational Waste - Food & Garden Waste		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		0%
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	No	

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Urban Ecology Overall contribution 1%

1.1 Communal Spaces		61%	
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?		
Annotation	Staff room in admin building is 86 sqm		
Question	Common space provided		
Office	86.0 m ²	ADVERTISED PLAN	
Other building	0.0 m ²		
Output	Minimum Common Space Required		
Office	27 m ²		
Other building	10 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	6 %		
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		
Office	0.0 m ²	This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright	
Other building	0.0 m ²		
Output	Min Food Production Area		
Office	7 m ²		
Other building	3 m ²		

Innovation Overall contribution 0%

1.1 Innovation

0%

⊘ Disabled

This credit is disabled

A minimum project score of 50% is required before an Innovation Credit can be used.

Disclaimer

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