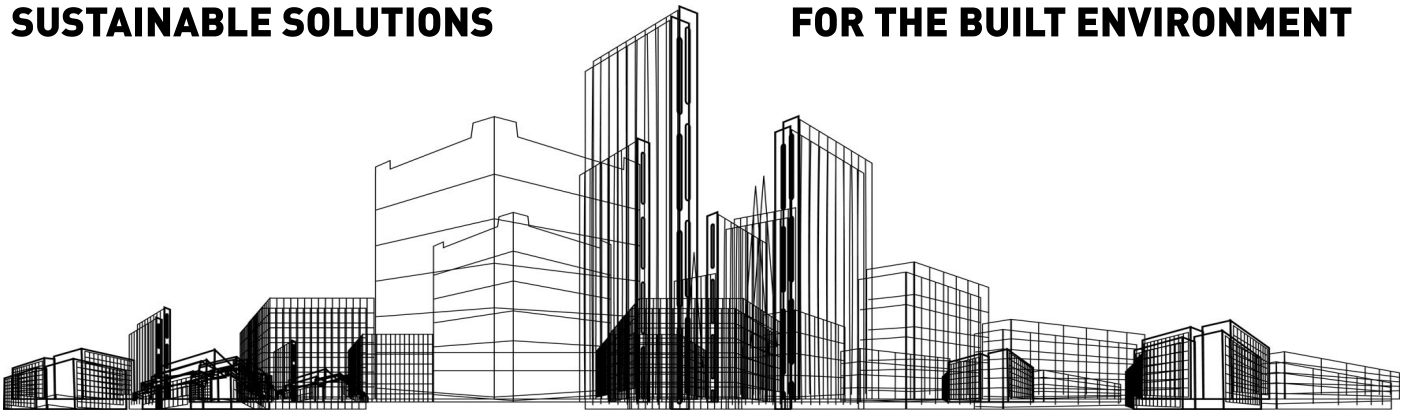
ENERGY
WATER
ENVIRONMENT

OUR LADY OF THE IMMACULATE CONCEPTION SUNSHINE PRIMARY SCHOOL

SUSTAINABLE DESIGN ASSESSMENT V1

22ND APRIL, 2021

SUSTAINABLE SOLUTIONS FOR THE BUILT ENVIRONMENT



Date:	22/4/2021
Project Number:	PJ516
Project Title:	Our Lady of the Immaculate Conception Sunshine Primary School
To:	Wilson Lau (Clarke Hopkins Clarke) Brimbank City Council
From:	Patrick Phelan

Document Title: Sustainable Design Assessment Version 1

Table of Contents

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1. Executive Summary

The purpose of this Sustainable Design Assessment (SDA) is to show the sustainable design initiatives proposed for the Our Lady of the Immaculate Conception Sunshine Primary School Learning Building at the planning stage. The school is located at 32 Station Place, Sunshine. It is subject to the ESD requirements of Brimbank City Council. At the planning stage, the proposed development has been assessed against Brimbank City 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 : SDA Checklist for Our Lady of the Immaculate Conception Sunshine Primary School Learning Building

Item	In Documents / Will be achieved	Required / Recommended by	Reference if Applicable
JV3 Assessment for all conditioned components of the development	✓	National Construction Code and BESS	Refer to Section 3.2 and Appendix A
Water Sensitive Urban Design	✓	Brimbank City Council planning scheme	Refer to Section 4.4 and Appendix B.2.
BESS sustainability tool assessment	✓	Brimbank City Council planning scheme	Refer to Section 3.3 and Appendix B
An SDA describing sustainable initiatives for the development, targets and implementation	✓	Brimbank City Council planning scheme.	Refer to Section 4

The implementation of the initiatives within the Sustainable Design Assessment are the responsibility of the design team, the Our Lady of the Immaculate Conception Sunshine Primary School and the lead and sub-contractors.

Where operational practices are required they will be carried out by the management of the Our Lady of the Immaculate Conception Sunshine Primary School.

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2. Introduction

The purpose of this Sustainable Design Assessment (SDA) is to show the sustainable design initiatives proposed for the Our Lady of the Immaculate Conception Sunshine Primary School Learning Building at the planning stage. The school is located at 32 Station Place, Sunshine. It is subject to the ESD requirements of Brimbank City Council. At the planning stage, the proposed development has been assessed against Brimbank City 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 an education development and contains the following class types (to ultimately be confirmed by the building surveyor):

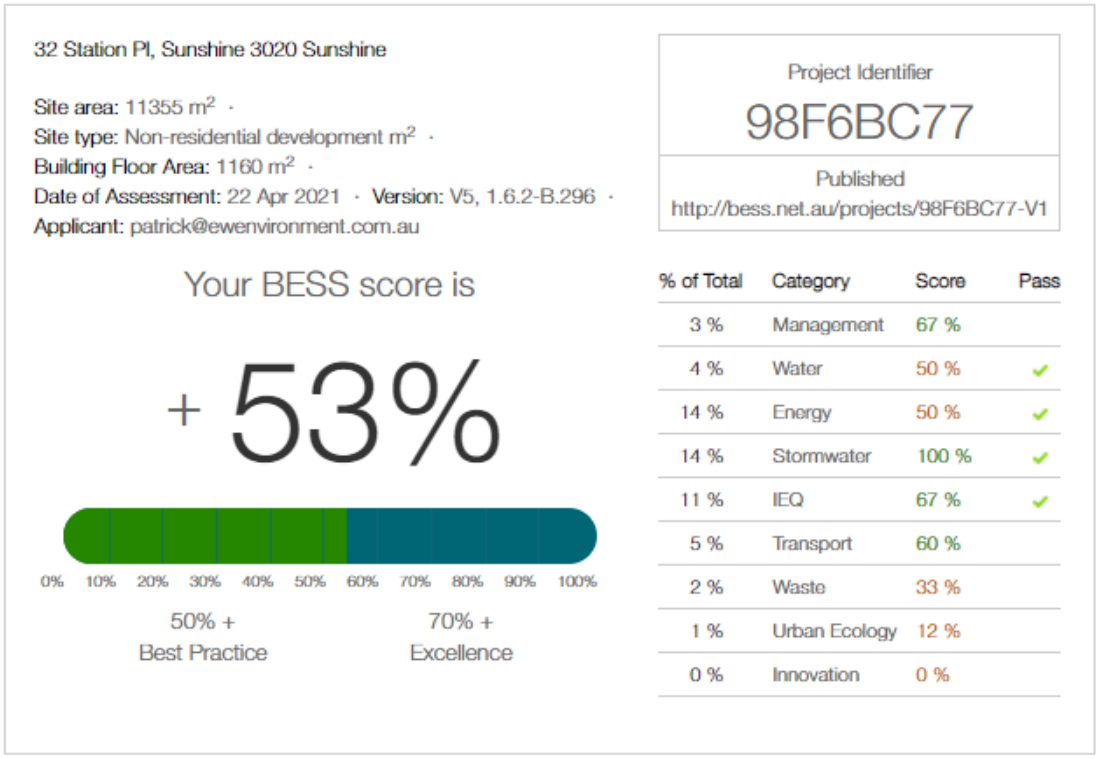
- Class 9b assembly building

As a part of further iterations of the ESD reports and submissions, JV3 modelling shall show compliance with the NCC Part J.

3.2 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, an initial BESS assessment has been undertaken for the Our Lady of the Immaculate Conception Sunshine Primary School Learning Building design. The results of the BESS assessment are shown on the overleaf.

Table 2 : BESS Minimum Requirements and Calculated Scores for Our Lady of the Immaculate Conception Sunshine Primary School Learning Building Design



32 Station Pl, Sunshine 3020 Sunshine

Site area: 11355 m² · Site type: Non-residential development m² · Building Floor Area: 1160 m² · Date of Assessment: 22 Apr 2021 · Version: V5, 1.6.2-B.296 · Applicant: patrick@ewenvironment.com.au

Your BESS score is

+ 53%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

50% + Best Practice

70% + Excellence

Project Identifier
98F6BC77
Published
http://bess.net.au/projects/98F6BC77-V1

% of Total	Category	Score	Pass
3 %	Management	67 %	
4 %	Water	50 %	✔
14 %	Energy	50 %	✔
14 %	Stormwater	100 %	✔
11 %	IEQ	67 %	✔
5 %	Transport	60 %	
2 %	Waste	33 %	
1 %	Urban Ecology	12 %	
0 %	Innovation	0 %	

Refer to Appendix B.1 and B.2 for the BESS and STORM calculations respectively.

4. ESD Initiatives

The following sections outline the ESD initiatives and management processes that are proposed for the Our Lady of the Immaculate Conception Sunshine Primary School Learning Building 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 Sustainable Design Assessment are the responsibility of the design team, the Our Lady of the Immaculate Conception Sunshine Primary School and the lead and sub-contractors.

Where operational practices are required they will be carried out by the management of the Our Lady of the Immaculate Conception Sunshine Primary School.

4.1 Indoor Environment Quality (IEQ)

Table 3 : IEQ Sub-Categories and Initiatives

IEQ Sub-Categories	Proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building Initiatives	Performance Target	Schedule of Initiatives and Responsibility
Daylight	▪ Habitable spaces achieve 64% of area coverage over daylight factor of 2%	▪ BESS benchmarking Refer to Appendix C for daylight calculations	▪ Design phase: Architect ▪ Construction phase: Builder, window contractor
Hazardous Materials	▪ No hazardous waste shall be used in construction materials	▪ No hazardous waste shall be used in construction materials	▪ Implemented as part of construction of design drawings (mechanical contractor responsibility)
Acoustics	▪ All mechanical equipment shall meet the Australian Standards for noise levels	▪ To meet Australian Standards for noise levels	▪ Design phase: Architect ▪ Construction phase: Builder
Natural Ventilation	▪ Openable doors and windows.	▪ Achieve NCC requirements	▪ Design phase: Architect ▪ Construction phase: Builder

4.2 Energy Efficiency

Table 4 : Energy Efficiency Sub-Categories and Initiatives

Energy Efficiency Sub-Categories	Proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Operating Energy and Building Fabric	▪ JV3 assessment shows an improvement of over 10% of NCC Part J benchmarks	▪ 10% improvement on NCC Part J	▪ Design phase: Architect ▪ Construction phase: Builder
Heating and Cooling	▪ Cooling shall be provided via VRV systems to all habitable spaces. The nominated COP for the systems is minimum 3.5	▪ COP of 3.5	▪ Design phase: Architect, mechanical designer ▪ Construction phase: Builder, mechanical contractor
Lighting Power Density	▪ Lighting power density shall be 20% lower than those stipulated by the National Construction Code in Part J6 for all NCC class types components. LED lighting will be implemented	▪ Lighting power density of <= 3.5w/m^2 shall be implemented to meet the 20% reduction target. ▪ National Construction Code requirements. ▪ BESS benchmarking (refer Appendix B.1)	▪ Design phase: Architect, Electrical Designer ▪ Construction phase: Electrical Contractor
Domestic Hot Water	▪ Domestic hot water shall be electric hot water	▪ BESS benchmarking (refer Appendix B.1)	▪ 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

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4.3 Water Efficiency

Table 5 : Water Efficiency Sub-Categories and Initiatives

Water Efficiency Sub-Categories	Proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building 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 – 6 Star ▪ Kitchen Taps – 6 Star	▪ As per star rating targets specified. ▪ BESS benchmarking (refer Appendix B.1)	▪ 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
Water Efficient Landscaping	▪ Water efficient garden	The landscape schedule is yet to be finalised however drought tolerant tree, shrub and grass species shall make up the majority of the landscaping	▪ Design phase: Architect / Landscape Designer ▪ Construction phase: Builder and Landscape Contractor

4.4 Stormwater Management

Table 6 : Stormwater Management Sub-Categories and Initiatives

Stormwater Management Sub-Categories	Proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building Initiatives	Performance Target	Schedule of Initiatives and Responsibility
STORM rating	▪ The calculated STORM rating is 101%. Refer to Appendix B.2 for the STORM report.	▪ A minimum of 100% in STORM.	▪ Design phase: Architect / ESD Consultant / Hydraulic Designer / Civil Designer / Landscape Consultant ▪ Construction phase: Builder, civil contractor, landscape contractor 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 – 6 Star ▪ Kitchen Taps – 6 Star	▪ Implemented as part of construction of design drawings (contractor responsibility)
Watercourse Pollution	▪ Raingardens are proposed for the development to meet the watercourse pollution requirements of Council. These raingardens will be designed to have minimal maintenance and sustainable plantations. Refer to Appendix B for the STORM report, rain garden cross-sections and maintenance plan.	▪ A minimum of 100% in STORM.	▪ Design phase: Architect / ESD Consultant / Hydraulic Designer / Civil Designer / Landscape Consultant ▪ Construction phase: Builder, civil contractor, landscape contractor and hydraulic contractor

4.5 Building Materials

Table 7 : Building Materials Sub-Categories and Initiatives

Building Materials Sub-Categories	Proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building Initiatives	Performance Target and Implementation	
Storage for Recycling Waste	▪ Appropriate bin storage space including space for recycling bins has been allocated.	▪ Refer to Waste Design Assessment for details.	▪ Design phase: Architect ▪ Construction 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: Architect ▪ Construction phase: Builder

4.6 Transport

Bicycle racks on other parts of the site to be used by staff and students.

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4.7 Waste Management

Table 8 : Waste Management Sub-Categories and Initiatives

Waste Management Sub-Categories	Proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Construction Environmental Management Plan	▪ A construction environmental Design Assessment 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 Design Assessment to be implemented.	▪ Minimum 80% of construction waste to be reused or recycled. ▪ BESS benchmarking (refer Appendix B.1)	▪ Architectural preliminaries to require a WMP ▪ Lead contractor responsibility
Operational Waste	▪ Green and garden waste and recycling waste shall be separated from general waste and disposed / re-used accordingly	▪ Waste initiatives, requirements and instructions for both garden waste and recycling shall be incorporated into the building users guide.	▪ Architect in the design phase and schooling in the operation phase

4.8 Urban Ecology

Table 9 : Urban Ecology Sub-Categories and Initiatives

Urban Ecology Sub-Categories	Proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Landscaped Areas	▪ Landscaping will be provided as shown in Landscape drawings.	▪ The landscape schedule is yet to be finalised however drought tolerant tree, shrub and grass species shall make up the majority of the landscaping	▪ Design phase: Architect / Landscape Architect ▪ Construction phase: Builder / Landscape Contractor

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 Our Lady of the Immaculate Conception Sunshine Primary School Learning Building Initiatives	Performance Target and Implementation	Schedule of Initiatives and Responsibility
Construction Environmental Design Assessment	▪ A construction environmental Design Assessment 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 Design Assessment	▪ A stormwater construction Design Assessment will be implemented as part of the construction environmental Design Assessment.	▪ Council requirements.	▪ Architectural preliminaries to require a SDA ▪ Lead contractor responsibility
Building User Guide	▪ A building user guide to be handed over to all	▪ Sustainability and maintenance	▪ Lead contractor responsibility

	owners after construction.	information to be included in building user guide. ▪ The building user guide shall be based on City of Port Phillip's *Building User's Guide – Expected Content*. See Appendix E for attachment of this template document ▪ Waste initiatives, requirements and instructions for both garden waste and recycling shall be incorporated into the building users guide.	

5. Conclusion

The ESD components for the Our Lady of the Immaculate Conception Sunshine Primary School Learning Building development have been proposed with reference to current construction code standards, the industry benchmarking tool BESS and Brimbank City Council Planning Scheme ESD requirements. At the planning stage, the proposed design meets best practice as set out by these items.

Appendix A –NCC Part J Assessment

National Construction Code 2019 Part J – Non-Residential JV3 Report

Introduction – JV3 Report

The purpose of this component of the SDA is to show compliance of the proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building design with the energy efficiency requirements of the National Construction Code 2019. This report is for the information of the building surveyor and shows, based on the documentation used in the calculation and associated assumptions, the proposed Our Lady of the Immaculate Conception Sunshine Primary School Learning Building design complies with the requirements and will meet a 21% improvement on heating and cooling based on the assumptions made in this section of the SDA. The overall JV3 assessment shows an improvement of 20%.

The proposed building fabric requirements (assumptions) are shown in the table below.
Table 11 : Proposed Building Fabric Requirements

Element of Model	Proposed Model – Design Requirements
Walls	**Metal stud walls (450mm spaces) with thickness of BMT1.15 (assumption) - insulation batts of R2.5 (standard insulation between metal studs). No further thermal break required**
Floor	**Concrete slab on ground with no additional insulation**
Roof	**Metal roof sheeting. Ceiling insulation of R3.5 (whole system R3.7)**
External Glazing	**U-values of a maximum of 5.0 (including the frame) and solar heat gain coefficient of 0.5 – single glazing**

Compliance has been shown using the verification method JV3. Computer simulation energy modeling has been undertaken using IES Virtual Environment Software Version 2019. Three models were created and each yielded an annual energy calculation for the purposes of comparison. The figure below shows the calculation requirements for the JV3 method with regards to the three models that are required to be produced.

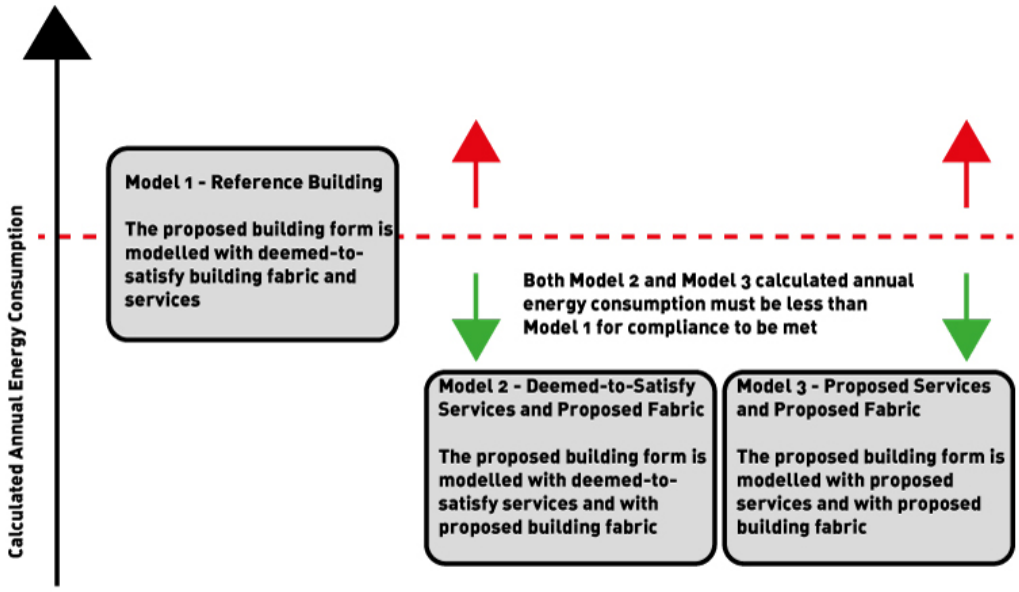

Figure 1 Illustration of the 3 Model Calculation System Required by JV3

Results JV3 Report

Table 1 below shows the calculated annual energy consumption of the Our Lady of the Immaculate Conception Sunshine Primary School Learning Building for all three models.

Table 12 : Calculated Energy Consumption for 3 Models

Model	Calculated Annual Energy Consumption (MWh / annum)
Model 1 – Deemed-to-Satisfy Building Fabric and Services	99.06 (Reference)
Model 2 – Deemed-to-Satisfy Services and Proposed Building Fabric	96.93 (lower than reference)
Model 3 – Proposed Services and Proposed Building Fabric	60.49 (lower than reference)

As Model 2 and Model 3 have a lower energy consumption than Model 1, the design is compliant with the National Construction Code energy efficiency requirements.

The BESS inputs and breakdowns are show below:

BESS Energy Input	OLOTICSPS Calculated Annual Energy Consumption (kWh/annum)
Heating, Cooling & Comfort Ventilation - Electricity Reference fabric & services (kWh/annum)	76,200
Heating, Cooling & Comfort Ventilation - Electricity Proposed fabric & reference services (kWh/annum)	74,066
Heating, Cooling & Comfort Ventilation - Electricity Proposed fabric & services (kWh/annum)	60,452
Gas Heating- Reference fabric & services (MJ/annum)	Not applicable
Gas Heating - Proposed fabric & reference services (MJ/annum)	Not applicable
Gas Heating - Proposed fabric & services (MJ/annum)	Not applicable
Hot Water - Electricity -Reference (MJ/annum)	2,265
Hot Water - Electricity -Proposed (MJ/annum)	2,265
Lighting – Reference (kWh/annum)	22,860
Lighting – Proposed (kWh/annum)	18,288
Peak Thermal Cooling Load Reference fabric and services kW	91
Peak Thermal Cooling Load Proposed fabric and services kW	68

Modelling Inputs

Element of Model	Deemed to Satisfy Model (Not for Construction)	Proposed Model – Minimum Design Requirements
Walls	Lightweight cladding as detailed in Clarke Hopkins Clarke planning documentation. Insulation level of entire wall construction R2.8	Metal stud walls (450mm spaces) with thickness of BMT1.15 (assumption) - insulation batts of R2.5 (standard insulation between metal studs). No further thermal break required
Floor	Concrete slab on ground	Concrete slab on ground with no additional insulation
Roof	Metal roof sheeting. Insulation of entire roof construction R3.2	Metal roof sheeting. Ceiling insulation of R3.5 (whole system R3.7)
External Glazing	Deemed-to-satisfy façade calculator in next section	U-values of a maximum of 5.0 (including the frame) and solar heat gain coefficient of 0.5 – single glazing
Ceilings	Ceiling tiles	As per deemed-to-satisfy model
Internal Partitions	Plasterboard as detailed in Clarke Hopkins Clarke documentation	As per deemed-to-satisfy model
Artificial Lighting	Illumination power densities and usage profile as per deemed-to-satisfy requirements of Part J6 and Specification JV respectively	Design illumination power densities shall be at least 20% lower than NCC requirements
HVAC System	A VRV system for heating and cooling to nominated spaces. The COP for cooling is 2.8. Temperature setpoint is 18-26 degrees Celsius for heating and cooling respectively Air flow rate as required by Part F4	A VRV split system for heating and cooling to nominated spaces. The COP for cooling shall be minimum 3.5. Temperature setpoint is 18-26 degrees Celsius for heating and cooling respectively Air flow rate as required by Part F4
HVAC Operation	HVAC usage profile as per Specification JV	As per deemed-to-satisfy model
Location and Weather File	Melbourne 1971 TRY weather file	As per deemed-to-satisfy model
Domestic Hot Water	Not required for this calculation	
Lift Energy	Not applicable	
Infiltration Rate	Pressurised areas have an infiltration rate of 1 air change per hour, non-pressurised areas have an infiltration rate of 1.5 air changes per hour	As per deemed-to-satisfy model
Occupancy	Occupancy heat gains are 75W/person for sensible heat gain and 55W/person for latent heat gain	As per deemed-to-satisfy model
Appliances	Appliance heat gains and usage profile as per Specification JV	As per deemed-to-satisfy model
Information	Information is based on planning package supplied to Energy Water and Environment by Clarke Hopkins Clarke	As per deemed-to-satisfy model

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Deemed to Satisfy Façade Calculator Reference - Ground Floor

Wall U-Value (W/m².K)	Method 2 Glazing U-Value (W/m².K)	SHGC
0.36	4.81	0.36

Deemed to Satisfy Façade Calculator Reference – Level 1

Wall U-Value (W/m².K)	Method 2 Glazing U-Value (W/m².K)	SHGC
0.36	5.80	0.46

Appendix B – BESS and STORM Calculations

B.1 BESS Assessment

The full BESS assessment is shown on the overleaf.

BESS Report

This BESS report outlines the sustainable design commitments of the proposed development at 32 Station Pl Sunshine VIC 3020. 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 Brimbank 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.

32 Station Pl, Sunshine 3020 Sunshine

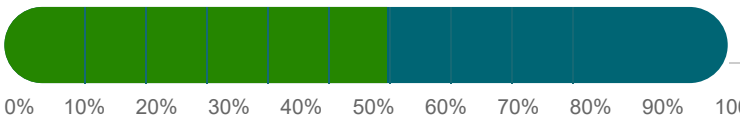
Site area: 11355 m^2 ·
Site type: Non-residential development m^2 ·
Building Floor Area: 1160 m^2 ·
Date of Assessment: 22 Apr 2021 ·
Version: V5, 1.6.2-B.296 ·
Applicant: patrick@ewenvironment.com.au

Project Identifier
98F6BC77

Published
http://bess.net.au/projects/98F6BC77-V1

Your BESS score is

+ 53%



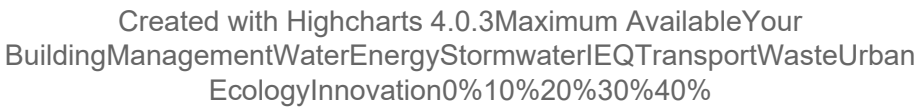
50% +
Best Practice

70% +
Excellence

% of Total	Category	Score	Pass
3 %	Management	67 %	
4 %	Water	50 %	✓
14 %	Energy	50 %	✓
14 %	Stormwater	100 %	✓
11 %	IEQ	67 %	✓
5 %	Transport	60 %	
2 %	Waste	33 %	
1 %	Urban Ecology	12 %	

0 %	Innovation	0 %

How did this Development Perform in each Environmental Category?



Sustainable design commitments by category

The sustainable design commitments for this project are listed below. These are to be incorporated into the design documentation and subsequently implemented.

Management

67% - contributing 3% to overall score

Credit	Disabled Scoped out Score
Management 2.3 Thermal Performance Modelling - Non-Residential	100 %
Management 2.4 Thermal Performance Modelling - Non-Residential	100 %
Management 3.2 Metering	100 %

Management 3.3 Metering	100 %
Management 4.1 Building Users Guide	100 %

Management 2.3 Thermal Performance Modelling - Non-Residential

100%

Score Contribution	This credit contributes 22.2% towards this section's score.
Aim	To encourage and recognise developments that have used modelling to inform passive design at the early design stage

Questions

Has preliminary modelling been undertaken in accordance with either NCC2019 Section J (Energy Efficiency), NABERS or Green Star? *

Yes

Management 2.4 Thermal Performance Modelling - Non-Residential

100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	To encourage and recognise developments that have used modelling to inform passive design at the early design stage

Questions

Has a preliminary Section J facade assessment been undertaken? *

Yes

Management 3.2 Metering

100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	To provide building users with information that allows monitoring of energy and water consumption
Notes	Metering shall be provided to the building as part of monitoring the overall school energy use

Questions

Have utility meters been provided for all individual commercial tenants? *

Yes

Management 3.3 Metering 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	To provide building users with information that allows monitoring of energy and water consumption

Questions

Have all major common area services been separately submetered? *

Yes

Management 4.1 Building Users Guide 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	To encourage and recognise initiatives that will help building users to use the building efficiently

Questions

Will a building users guide be produced and issued to occupants? *

Yes

Water 50% - contributing 4% to overall score

Credit	Disabled	Scoped out	Score
Water 1.1 Potable water use reduction			40 %
Water 3.1 Water Efficient Landscaping			100 %
Water 4.1 Building Systems Water Use Reduction		✔	N/A

Water Approachs

What approach do you want to use Water?	Use the built in calculation tools
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?	No

Water fixtures, fittings and connections

	Learning Building (Type is Office as School is Not an Option)
Showerhead	Scope out
Bath	Scope out
Kitchen Taps	>= 6 Star WELS rating
Bathroom Taps	>= 6 Star WELS rating
Dishwashers	Scope out
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?	-1

Water 1.1 Potable water use reduction 40%

Score Contribution	This credit contributes 83.3% towards this section's score.
Aim	Water 1.1 Potable water use reduction (interior uses) What is the reduction in total water use due to efficient fixtures, appliances, and rainwater use? To achieve points in this credit there must be >25% potable water reduction. You are using the built in calculation tools. This credit is calculated from information you have entered above.
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.

Calculations

Reference (kL) *

1591

Proposed (excluding rainwater and recycled water use) (kL) *

1016

Rainwater or recycled water supplied (Internal + External) (kL) *

-

Proposed (including rainwater and recycled water use) (kL) *

1016

% Reduction in Potable Water Consumption * Percentage %

36 %

Water 3.1 Water Efficient Landscaping 100%

Score Contribution	This credit contributes 16.7% towards this section's score.
Aim	Are water efficiency principles used for landscaped areas? This includes low water use plant selection (e.g. xeriscaping). Note: food producing landscape areas and irrigation areas connected to rainwater or an alternative water source are excluded from this section.

Questions

Will water efficient landscaping be installed? *

Yes

Water 4.1 Building Systems Water Use Reduction N/A

This credit was scoped out: No water to be used in heat rejection

Aim	Will the project minimise water use for building systems such as evaporative cooling and fire testing systems?

Energy

50% - contributing 14% to overall score

Credit	Disabled	Scoped out	Score
Energy 1.1 Thermal Performance Rating - Non-Residential			12 %
Energy 2.1 Greenhouse Gas Emissions			100 %
Energy 2.2 Peak Demand			100 %
Energy 2.3 Electricity Consumption			100 %
Energy 2.4 Gas Consumption	✔	✔	N/A
Energy 3.1 Carpark Ventilation		✔	N/A
Energy 3.2 Hot Water			100 %
Energy 3.7 Internal Lighting - Non-Residential			100 %
Energy 4.1 Combined Heat and Power (cogeneration / trigeneration)	✔	✔	N/A

Use the BESS Deem to Satisfy (DtS) method for Energy?	No

Non-Residential Spaces Energy Profiles

	Learning Building (Type is Office as School is Not an Option)
Heating, Cooling & Comfort Ventilation - Electricity Reference fabric & services kWh	76200.0
Heating, Cooling & Comfort Ventilation - Electricity Proposed fabric & reference services kWh	74066.0
Heating, Cooling & Comfort Ventilation - Electricity Proposed fabric & services kWh	60452.0
Hot Water - Electricity Reference kWh	2265.0
Hot Water - Electricity Proposed kWh	2265.0
Lighting - Reference kWh	22860.0
Lighting - Proposed kWh	18288.0
Peak Thermal Cooling Load Reference fabric and services kW	91.0
**Peak Thermal Cooling Load ** kW	68.0

Proposed fabric and services

Energy 1.1 Thermal Performance Rating - Non-Residential 12%

Score Contribution	This credit contributes 44.4% towards this section's score.
Aim	Reduce reliance on mechanical systems to achieve thermal comfort in summer and winter - improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs.
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC 2019 Section J)?

Calculations

Total Improvement * Percentage %

2 %

Energy 2.1 Greenhouse Gas Emissions 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	Reduce the building's greenhouse gas emissions
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?

Calculations

Reference Building with Reference Services (BCA only) * kg CO2

80034.3

Proposed Building with Proposed Services (Actual Building) * kg CO2

63971.3

% Reduction in GHG Emissions * Percentage %

20 %

Energy 2.2 Peak Demand 100%

Score Contribution	This credit contributes 5.6% towards this section's score.

Aim	Reduce demand on electrical infrastructure during peak cooling periods
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?

Calculations

Peak Thermal Cooling Load - Baseline * kW

91.0

Peak Thermal Cooling Load - Proposed * kW

68.0

Peak Thermal Cooling Load - % Reduction * Percentage %

25 %

Energy 2.3 Electricity Consumption 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	Reduce consumption of electricity
Criteria	What is the % reduction in annual electricity consumption against the benchmark?

Calculations

Reference * kWh

78465.0

Proposed * kWh

62717.0

Improvement * Percentage %

20 %

Energy 2.4 Gas Consumption N/A

This credit was scoped out: No gas connection in use

This credit was disabled: No gas connection in use

Aim	Reduce consumption of gas
Criteria	What is the % reduction in annual gas consumption against the benchmark?

Energy 3.1 Carpark Ventilation N/A

This credit was scoped out: No car park as part of this project

Energy 3.2 Hot Water 100%

Score Contribution	This credit contributes 5.6% towards this section's score.
Criteria	What is the % reduction in annual hot water system energy use (gas and electricity) against the benchmark?

Calculations

Reference * kWh

2265.0

Proposed * kWh

2265.0

Improvement * Percentage %

0 %

Energy 3.7 Internal Lighting - Non-Residential 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	Reduce energy consumption associated with internal lighting

Questions

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? *

Yes

Energy 4.1 Combined Heat and Power (cogeneration / trigeneration)

N/A

This credit was scoped out: No cogeneration or trigeneration system in use.

This credit was disabled: No cogeneration or trigeneration system in use.

Aim	Reduce energy consumption
Criteria	Does the CHP system reduce the class of buildings GHG emissions by more than 25%?

Stormwater

100% - contributing 14% to overall score

Credit	Disabled Scoped out Score
Stormwater 1.1 Stormwater Treatment	100 %

Which stormwater modelling are you using?	Melbourne Water STORM tool

Stormwater 1.1 Stormwater Treatment

100%

Score Contribution	This credit contributes 100.0% towards this section's score.
Aim	To achieve best practice stormwater quality objectives through reduction of pollutant load (suspended solids, nitrogen and phosphorus)
Criteria	Has best practice stormwater management been demonstrated?

Questions

STORM score achieved *

101

Calculations

Min STORM Score *

100

IEQ

67% - contributing 11% to overall score

Credit	Disabled	Scoped out	Score
IEQ 1.4 Daylight Access - Non-Residential			67 %

IEQ 1.4 Daylight Access - Non-Residential

67%

Score Contribution	This credit contributes 100.0% towards this section's score.
Aim	To provide a high level of amenity and energy efficiency through design for natural light.
Criteria	What % of the nominated floor area has at least 2% daylight factor?

Questions

% Achieved ? *

64 %

Transport

60% - contributing 5% to overall score

Credit	Disabled	Scoped out	Score
Transport 1.4 Bicycle Parking - Non-Residential			100 %
Transport 1.5 Bicycle Parking - Non-Residential Visitor			100 %
Transport 2.1 Electric Vehicle Infrastructure		✔	N/A
Transport 2.3 Motorbikes / Mopeds		✔	N/A

Transport 1.4 Bicycle Parking - Non-Residential

100%

Score Contribution	This credit contributes 40.0% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate cycling
	Have the planning scheme requirements for employee bicycle

Criteria	parking been exceeded by at least 50% (or a minimum of 2 where there is no planning scheme requirement)?
Notes	Existing bike parking is provided on site

Questions

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)? *

Yes

Bicycle Spaces Provided ? *

15

Transport 1.5 Bicycle Parking - Non-Residential Visitor 100%

Score Contribution	This credit contributes 20.0% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate cycling
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)?
Notes	Existing bike parking is provided on site

Questions

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)? *

Yes

Bicycle Spaces Provided ? *

3

Transport 2.1 Electric Vehicle Infrastructure N/A

This credit was scoped out: Not applicable as no car parking has been provided

Aim	To facilitate the expansion of infrastructure to support electric vehicle charging

Transport 2.3 Motorbikes / Mopeds

N/A

This credit was scoped out: Not applicable as no car parking has been provided as part of these works

Aim	To encourage and recognise initiatives that help to minimise the use of private passenger cars

Waste

33% - contributing 2% to overall score

Credit	Disabled Scoped out Score
Waste 2.2 - Operational Waste - Convenience of Recycling	100 %

Waste 2.2 - Operational Waste - Convenience of Recycling

100%

Score Contribution	This credit contributes 33.3% towards this section's score.
Aim	To minimise recyclable material going to landfill
Notes	As part of existing waste plan recycling facilities are provided

Questions

Are the recycling facilities at least as convenient for occupants as facilities for general waste? *

Yes

Urban Ecology

12% - contributing 1% to overall score

Credit	Disabled Scoped out Score
Urban Ecology 1.1 Communal Spaces	100 %

Urban Ecology 1.1 Communal Spaces

100%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate interaction between building occupants
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?
Notes	External space around the building = 270, there are further spaces internally

Questions

Common space provided * Square Metres

270.0

Calculations

Minimum Common Space Required * Square Metres

71

Innovation

0% - contributing 0% to overall score

Items to be marked on floorplans

Management 3.2: Individual utility meters annotated — To be printed

Floorplans & elevations - Check meters shall be provided to the building as part of wider school monitoring

Management 3.3: Common area submeters annotated — To be printed

Floorplans & elevations - Check meters shall be provided to the building as part of wider school monitoring

Water 3.1: Water efficient garden annotated **Floorplans & elevations** - Refer to architectural plans	To be printed
Stormwater 1.1: Location of any stormwater management systems used in STORM or MUSIC modelling (e.g. Rainwater tanks, raingarden, buffer strips) **Floorplans & elevations** - Refer to SDA with marked up raingarden location in Appendix B	To be printed
Transport 1.4: All nominated non-residential bicycle parking spaces **Floorplans & elevations** - Refer to site plan which shows existing bike racks	To be printed
Transport 1.5: All nominated non-residential visitor bicycle parking spaces **Floorplans & elevations** - Refer to architectural site plan which shows existing bike racks	To be printed
Waste 2.2: Location of recycling facilities **Floorplans & elevations** - Refer to architectural site plans which shows existing bin store	To be printed
Urban Ecology 1.1: Size and location of communal spaces **Floorplans & elevations** - Refer to architectural plans which show communal external and internal spaces for the building for students	To be printed

Documents and evidence

Management 2.3: Preliminary modelling report **Refer to Appendix A of SDA** - Refer to Appendix A of SDA	To be printed
Management 2.4: Section J glazing assessment **Refer to Appendix A of SDA** - Refer to Appendix A of SDA	To be printed
Energy 1.1: Energy Report showing calculations of reference case and proposed buildings **Refer to Appendix A of SDA** - Refer to Appendix A of SDA	To be printed
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. **Refer to SDA** - Refer to SDA	To be printed
Stormwater 1.1: STORM report or MUSIC model	To be printed

Refer to Appendix B of the SDA - Refer to Appendix B of the SDA

IEQ 1.4: A short report detailing assumptions used and results achieved. Refer to SDA Appendix C - Refer to SDA Appendix C — To be printed

B.2 STORM Report

Melbourne Water

STORM Rating Report

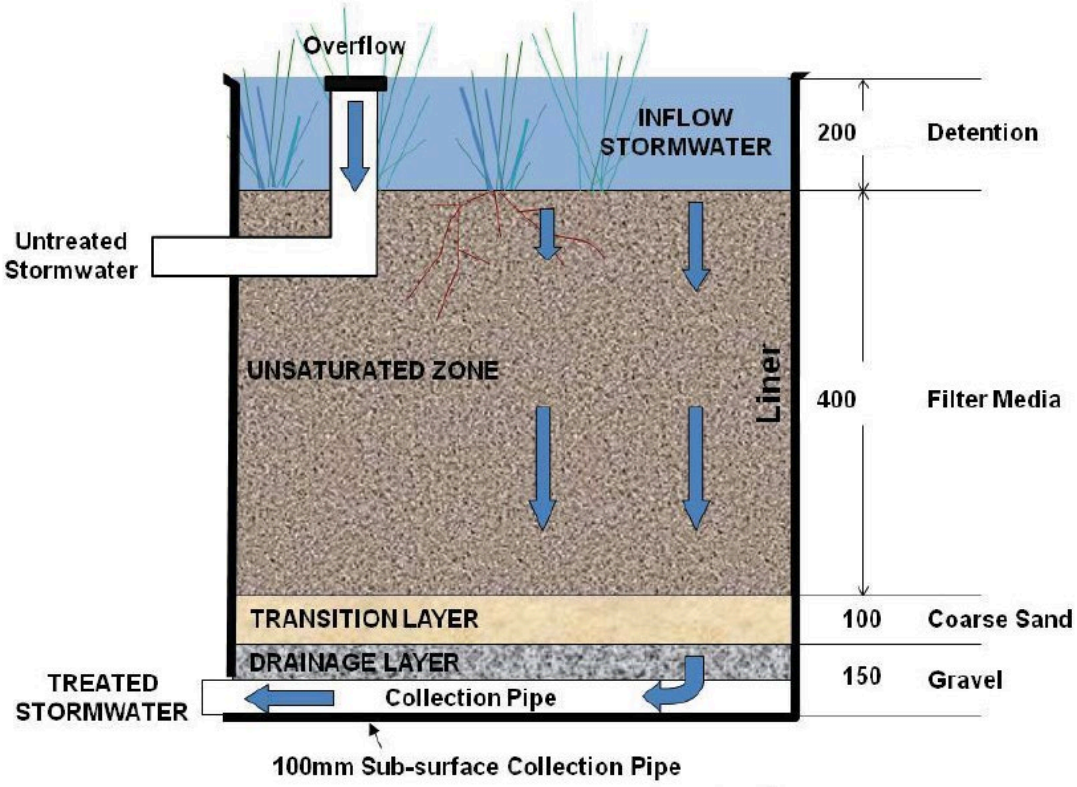
TransactionID:	1139410	
Municipality:	BRIMBANK	
Rainfall Station:	BRIMBANK	
Address:	32 Station Place	
	Sunshine	
	VIC	3020
Assessor:	Patrick Phelan	
Development Type:	Other	
Allotment Site (m2):	11,355.00	
STORM Rating %:	101	

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof Area and Learning Courts	740.00	Raingarden 100mm	9.00	0	117.75	0.00
Deck and Hard Surface Around Sandpit	126.00	None	0.00	0	0.00	0.00

B.3 Details of Water Treatment

Confirming that the water treatment quality standards of Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO 1999 are met by this design.
The diagrams on the overleaf show the cross section and isometric section of the rain gardens proposed for the development. The raingardens will be built and maintained in accordance with the document on Melbourne Water's website. Refer to overleaf for attached document.

Raingardens will be maintained half yearly as a part of the body corporate maintenance plan.



B.4 Raingarden Quality, Filtration and Maintenance

The filtration of the raingardens will meet the water quality standards as per 1 point in the Green Star Design and As Built V1.3 tool. The following table shows the standards.

Pollutant	**Reduction Target** (% of the typical urban annual load).
	A
Total Suspended Solids (TSS)[1]	80%
Gross Pollutants	85%
Total Nitrogen (TN)[2]	30%
Total Phosphorus (TP)[2]	30%
Total Petroleum Hydrocarbons[3]	60%
Free Oils[3]	90%

[1] Load based on the following particulate size distribution (by mass): 20% <20 µm; 20% 20-60 µm; 20% 60-150 µm; 20% 150-400 µm; 20% 400-2000 µm

[2] Load includes particulate and dissolved fraction.

[3] This requirement is not applicable where the site contains less than a total of 200m2 of uncovered areas where vehicles are likely to transit and/or park e.g. roads, loading docks, refuelling bays, car parking etc.

A raingarden maintenance plan has been specified for the proposed OLOTICSPS Learning Building and is attached on the overleaf.

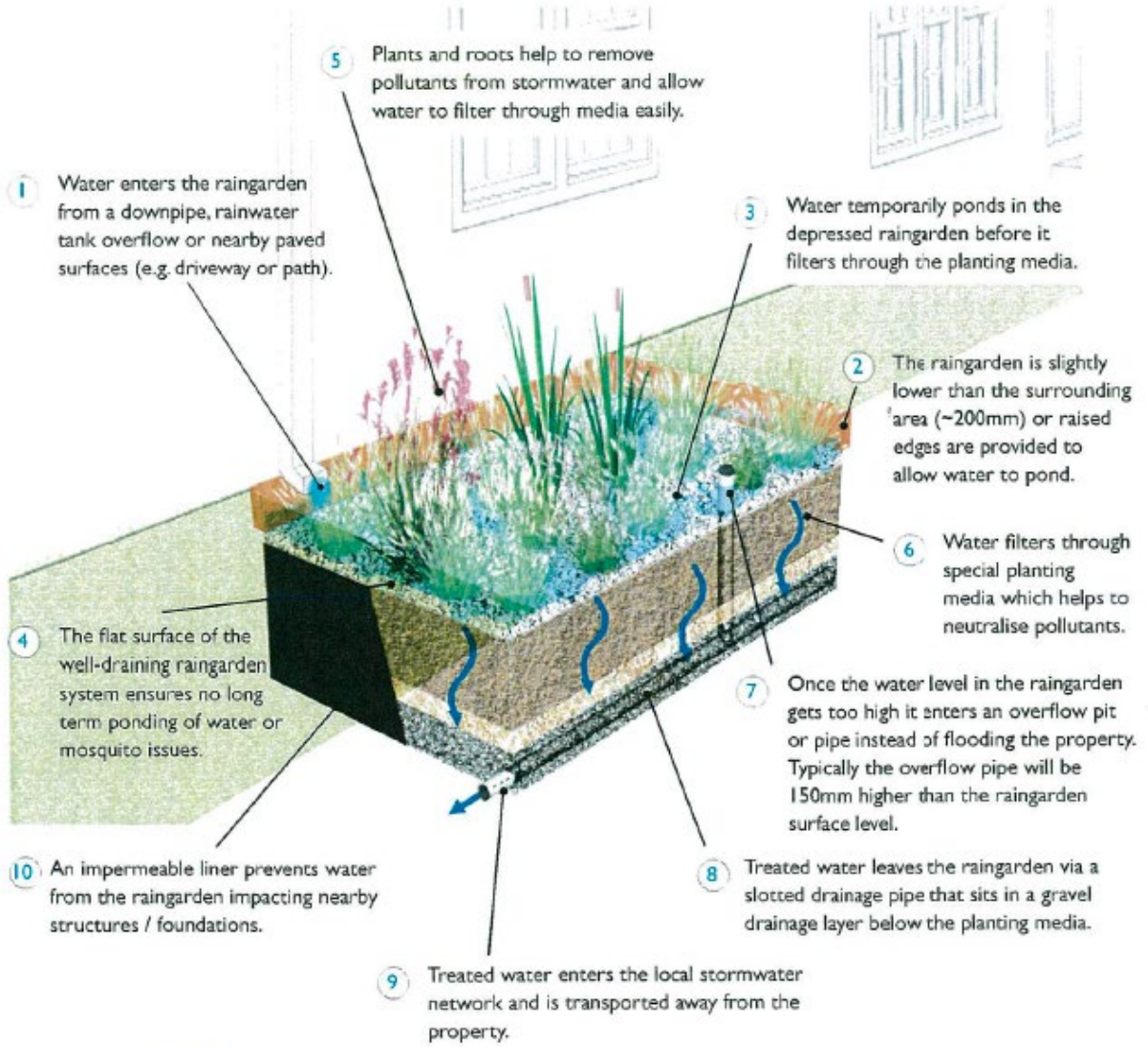
Tips for undertaking maintenance

Things to look for and how to fix them.

Scour or erosion	**Weeds**
Erosion and scour reduce the overall area of treatment by directing flows to certain areas only. Erosion or scour can be re-profiled with hand tools, limiting the damage to adjacent vegetation. If fill material is required to create a flat surface, use an appropriate raingarden planting media mix. If erosion / scour keeps happening at the inlet, place some small rocks where erosion occurs.	Weeds can take over the plants which are needed in the raingarden for treatment. Hand pull weeds and dispose of appropriately. Plant bare patches if needed. Weeding should take place before the plants flower to reduce the likelihood of seed dispersal and further regeneration.
Rubbish, leaf litter or sediment	**Moss or clay on surface**
A lot of rubbish or leaf litter at the inlet or on the surface of the raingarden can affect how well water can enter and filter through the raingarden. This material can be removed easily by hand or with tongs / rakes. Collected litter should be placed into bags or similar for disposal.	Moss or clay on the surface of the raingarden can result in a crust forming which prevents water from filtering and being treated. Use hand tools to scrape off the clay or moss and dispose of appropriately. Check raingarden drains.
Uneven surface	**Raingarden outlets not draining**
An uneven surface may result in some areas not getting wet during rain events, reducing the area of treatment. Depressions or mounds can be flattened with hand tools, limiting the damage to vegetation.	Blockages of outlet pits and pipes can cause a flooding risk for the property as water is unable to leave the raingarden. Blockages are typically caused by sediment, leaf litter and rubbish. Blockages should be removed manually, by hand or with hand tools such as tongs and shovels. Large blockages in pits may require vacuuming or other appropriate machinery.
Elevated surface level / lots of excess sediment on surface	**Impermeable liner**
If sediment has entered the system and has raised the level of the surface, this reduces the amount of water which can be filtered. Use hand tools to remove/scrape sediment from around the plants. Remove sediment from the raingarden and dispose of appropriately.	An impermeable liner (e.g. geotextile or flexible membrane) is sometimes used to ensure water does not move into the surrounding soils. This may be required if the surrounding soils are very sensitive to any added moisture (e.g. sodic soils, shallow groundwater or close proximity to significant structures such as building foundations).
Unhealthy or dying plants / bare patches	**Raingarden holding water on the surface because of blocked planting media**
Good plant cover is critical for raingardens so if plants are looking stressed in dry periods, irrigation may be required. Remove (prune) any areas affected by disease or pests. If the plants are dying and have created bare patches, the plants need to be replaced. If the plants keep struggling, replace with a plant type which is growing well in the raingarden.	Generally raingardens should be able to filter water at a rate of ~100mm per hour. If the surface of the raingarden is clogged (by clay or moss etc.) or the underlying filter media is not appropriate then water will not be able to drain through the system to be treated. If the surface is clogged use hand tools to scrape off the clay or moss. If this doesn't fix the drainage issue remove an area of planting media to expose the filter media. Check that water can pass through the filter media by pouring water on its exposed surface. If the water can drain then replace the top planting media and check for blockages elsewhere. If the water does not drain the filter media will need to be replaced.

Raingarden Maintenance

This diagram depicts an in-ground raingarden. Raised bed raingardens are also common (refer to photograph).



Note: It is important not to add fertiliser, compost or floatable mulch to a raingarden as the nutrients will pass through the raingarden and pollute the Bay. The plants best suited to raingardens will grow well in the planting media and take nutrients for their growth from the water entering the raingarden.

Maintenance Checklist

The property owner is responsible for checking the maintenance items in this checklist at the recommended frequency at the bottom of the table. The maintenance log at the bottom of the page should be filled in once each maintenance check is complete. Upkeep of this maintenance log should continue throughout the life of the raingarden.

Item	Raingarden element	Inspection item	Y/N	Likely maintenance task
1	Raingarden inlet	Is there scour or erosion where water enters the raingarden?		Re-profile with hand tools, place gravel or stones at the inlet.
		Is there rubbish, leaf litter or sediment blocking the inlet?		Remove by hand and dispose responsibly.
2	Raingarden surface level	Is the level of the raingarden surface sitting less than 5 cm below the raingarden edges/borders?		Remove sediment from the surface so it is sitting about 10-20 cm below surrounding areas.
3	Raingarden temporary detention	Is there moss or clay on the surface of the raingarden which seem to be slowing the filtration of flows?		Remove the crust from the top of the raingarden and check water will filter through exposed media.
4	Raingarden surface	Are there areas which appear to be higher and are not getting wet during rain events?		Smooth out surface so it is flat with hand tools.
		Are there areas which have been eroded away or scoured?		
5	Plants	Are the plants looking unhealthy or dying?		Prune diseased sections, irrigate and/or replace dead plants. If plants keep dying, replace with a different type which is doing well. Do not use fertilizer to improve plant health as this will pollute the raingarden.
		Are there bare patches forming between plants?		
		Are there weeds present?		Remove weeds by hand and dispose responsibly.
6	Planting media	Is the raingarden holding water for more than a couple of hours after the rain has stopped?		Remove and replace the top 100 mm of planting material (loamy sand).
7	Overflow pit / pipe	Is there anything blocking the top of the overflow pit / pipe preventing water from entering?		Remove blockages and dispose responsibly.
8	Underdrainage	Is there rain draining to the bottom of the raingarden following heavy rain?		Flush the underdrain or uncover it to check for blockages.
9	Stormwater network connection	Is there water ponding in the overflow pit or pipe and not entering the stormwater network?		Remove blockages and dispose responsibly.

Maintenance frequency

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			x						x		

+ after heavy rainfall

WWW.EWENVIRONMENT.COM.AU
ABN:50 800 554 305

B.5 Locations of Raingardens

Refer to attached architectural Ground Floor Plan for locations and notes on raingardens.

Legend -

- SETOUT POINT
- EXISTING BUILDING TO REMAIN - NO WORKS
- REFURBISHMENT WORKS TO EXISTING BUILDING
- NEW BUILDING WORKS
- EXISTING RELOCATABLES
- EXISTING BUILDINGS AFTER RELOCATION
- ASPHALT PAVING
- CONCRETE PAVING

VICTORIA STREET

MONASH STREET

SECONDARY SCHOOL ENTRY

EXISTING GATE

CHURCH

CHESS

PASSIVE PLAY

EXISTING TREES

(ASTROTURF)

HANDBALL

CRICKET/ HANDBALL

BASKETBALL/ NETBALL

MARY MACKILLOP VILLAGE

SITE STORE

BUILDING 4: MARY MACKILLOP CENTRE

BITUMEN PLAY AREA (PARISH CARPARK WEEKENDS)

TREE 7 2300 SRZ TPZ 4200

TREE 6 2300 SRZ TPZ 4200

TREE 5 2300 SRZ TPZ 4200

TREE 9 SRZ 1.5 TPZ 2.0

SPITE

EXISTING SITE ACCESS

EXISTING BIKE PARK (18 BICYCLE SPOTS)

EXISTING GATE

BUILDING 2: ART/STAFF

PASSIVE PLAY

POTENTIAL AREA FOR NEW LINEMARKING OVAL

EXISTING SHADESAILS & PLAY EQUIPMENT

Civil pit and pump to raingarden to collect all roof and learning court areas. To be coordinated with civil

9m2 (minimum size) raingarden

EXISTING TREES/ GRASS TABLES & SEATS

BUILDING 7: FOUNDATION & YR 1 CLASSROOMS

PLAYING FIELD (ASTROTURF)

PROPOSED LEARNING BUILDING

1180m²

29920

20626

LEARNING COURT

TYRES

SANDPIT

DECK

SAND PLAY

EXISTING PATH

BUILDING 3: MULTIPURPOSE HALL

BUILDING 1: ADMINISTRATION

GARDEN

PARISH HALL

AC COMPOUND

EX PLANTER

2100

4567

TREE 2 2200 SRZ TPZ 4200

TREE 3 2700 SRZ TPZ 4200

TREE 10 2600 SRZ TPZ 5100

TREE 11 2700 SRZ TPZ 5400

EXISTING TREES

GRASSED AREA

EXISTING GARDEN

EXISTING FENCE

MAIN SCHOOL ENTRY

EXISTING TREE

ON STREET ANGLED PARKING (NO TIME RESTRICTION)

ON STREET ANGLED PARKING (2HR TIME RESTRICTION)

ON STREET PARKING

ON STREET PARKING (2HR TIME RESTRICTION)

STATION PLACE

TOWN PLANNING

Revision/Issue		Date
P 1	Preliminary	04.03.2021
P 2	Issued for Coordination	06.04.2021

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Scale	1 : 200 @ A1
Date	January 2021
Drawn	W.L
Architect	S.L

Project
Our Lady of The Immaculate Conception Parish Primary School, 32 Station Place, Sunshine

Drawing
Proposed Site Plan

Drawing No.
200174/TP02 P2

Appendix C – Daylight Assessment

A daylight assessment has been carried out for the Our Lady of the Immaculate Conception Sunshine Primary School Learning Building using the IES VE Software.

The analysis showed that for the primary usable spaces the percentage of area achieving a daylight factor of 2% or above was 64% of area.

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

Area	Area of Primary Space Above DF 2% (m^2)	Area of Primary Space (m^2)	% Area of Primary Space Above DF 2%
Ground	307	509	60.3%
Level 1	348	507	68.0%
		Weighted Average	64.4%

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 Reflectance	0.3
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 58% Note- this is similar to the glass selected to meet the energy efficiency requirements for these spaces
Internal glazing VLT	Not Applicable

Appendix D – Sample Building User Guide

The sample building user guide – *Building User's Guide – Expected Content* has been attached on the overleaf.

Building User's Guide -

Expected Content

City of Port Phillip ASSIST
03 9209 6777 www.portphillip.vic.gov.au/contact_us.htm

General Building Information

Building Orientation

Location of the building on a map with surrounding services (train stations, tram/bus stations, post office, shopping centres, schools and childcare centres).

Brief description of the building.

Building's access

Location of bike, motorcycle and car parking, including all modes of visitors' parking on a site plan + site specific pictures.

Communal spaces

Location and description of communal and shared spaces on architectural/ landscape drawings.

Disabled facilities

Provide information on ramp locations, disabled toilets, lifts, disabled refuge areas.

Security

CCTV

Provide information on the CCTV system, operation and purpose.

Access control

Provide description and pictures of security systems to control access to the building.

Building Environment

Heating:

Description of the operating and maintenance of the heating system.

A picture of the installed system is to be provided.

Receipts, warranties and product users notice are to be annexed to the Building user's guide.

Cooling and ventilation

Description of the operating and maintenance of the cooling/ventilation system.

A picture of the installed system is to be provided.

Receipts, warranties and product users notice are to be annexed to the Building user's guide.

Lighting

Description of the lighting system (detection lighting, passive infrared lighting, etc.).

Receipts, warranties and product users notice are to be annexed to the Building user's guide.

External shading

Description, operation and purpose of the external shading device.

Picture of the installed device and operating system.

Water management

Cold Water system

Description of WC water flush systems.

Description of the potable water system.

Description of the grey water system.

Description of the purple water system (tap and third pipe location).

Description of the black waster system (pipe location).

Water tanks location, description, picture and maintenance.

Receipts, warranties and product users notice of the water tank are to be annexed to the Building user's guide.

Hot Water System

Description, operation, location and maintenance of the Hot Water System.

Receipts, warranties and product users notice are to be annexed to the document.

Water reduction strategy

Description and location of the metering system.

WELS certificate of water appliances.

Picture of the water meter, submeters.

Power

Energy production

PV: location and maintenance of PVs systems.

Receipts, warranties and product users notice are to be annexed to the document.

Energy saving strategy

Description and location of energy meters and systems.

Cleaning and Waste Management

Cleaning of windows, facades and common areas.

Required cleaning frequency and description of products to be used.

Waste management

Location and pictures of bins and waste facilities, including organic waste disposal systems and opportunities within the development where compost can be used.

Waste reduction strategy

Compost guide.

Soft Plastic strategy.

E Waste.

Open space management

Description of the open space (landscape plan), irrigation and maintenance strategies.

Picture of the open space and the irrigation systems to be provided.

Emergency Information

Fire safety

Description of the fire/smoke alarm system and maintenance.

Location of Emergency exist and assembly points on a site plan.

Accident/incident reporting

Contact details of appropriate emergency services.

Location of first kit aid + picture of kit.