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Sustainability Management Plan

+ Green Travel Plan

Report No: 2021-2547-SMP

SMP

Date: 3rd March 2022

Address: 186-192 Clayton Road, Clayton, VIC 3168

Pages: 62

Your EcoResults Consultant: Luana Linke

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Project Details

Project Details		
	Property Address	186-192 Clayton Road, Clayton, VIC 3168
	Project Description	Development consisting of a Medical Centre, Shops, Café & Pharmacy
	Council	City of Monash
	Site Area	2,907m^2
	Client	WL Newlands Pty Ltd ATF Wang Clayton Family Trust
	Client Representative	Jack Tu | The Arch Deli

Tracking	Date	Issue	Description
	10th December 2021	1	Original Report Issued
	3rd March 2022	2	Updated STORM based on drawing no. ADD-120, dated 25.02.22 Rev O

Purpose & Scope of Report

EcoResults has been engaged as Environmentally Sustainable Design (ESD) consultants to prepare a SMP & GTP for the proposed development to ensure that the development adequately responds to the City of Monash Planning Scheme Local Policy Clauses 22.13 (ESD), along with 53.18-5 & 55.03-4 (WSUD).

- The purpose of this report is to detail how the proposed design and operation of the building, as detailed in the planning drawings and our comments and recommendations listed in this herein, satisfies both clauses.
- EcoResults has consulted extensively with the designer, planning consultant and other relevant sub-consultants on how best to incorporate sustainability principles in the proposed design, and to comply with the current benchmarks required.
- The BESS and STORM assessment tools have been used as benchmark assessment tools. The proposed development meets the benchmarks set out by BESS.
- This report should be attached to and read in conjunction with the town planning drawings as well as the BESS printouts in the appendix.
- This report is limited to an assessment of the proposed development as drawn and specified by HATZ Architects, dated 19/11/2021, provided to EcoResults.
- An in-depth list of all ESD commitments for this project is located on pages 10 & 11 of this report.

Monash City Council ESD Policy

Clause 22.13-1 | Policy Basis

Monash City Council is committed to make Monash a more sustainable place to live, work and play. Critical to achieving this commitment is for the development to meet appropriate environmental design standards. This policy aims to integrate environmental sustainability into land use planning, new developments and redevelopment of existing infrastructure.

This policy provides a framework for early consideration of environmental sustainability at the building design stage in order to achieve the following efficiencies and benefits:

- Easier compliance with building requirements through passive design;
- Reduction of costs over the life of the building;
- Improved affordability over the longer term through reduced running costs;
- Improved amenity and liveability;
- More environmentally sustainable urban form; and
- Integrated water management.

If environmentally sustainable design is not considered at the time of planning approval, the ability to achieve environmentally sustainable development may be compromised by the time these matters are considered as part of a building approval. In addition, there may be difficulties or extra costs associated with retrofitting the development to implement environmentally sustainable design principles.

This policy does not prescribe performance outcomes. The policy enables the provision of information and provides decision guidelines, which will assist in the assessment of whether development meets environmentally sustainable development objectives.

This policy complements a range of non-statutory measures aimed at encouraging environmentally sustainable development. These measures include educating residents and applicants, assisting applicants to use Environmentally Sustainable Development (ESD) tools, leading by example with Council projects, promotion of exemplary private projects and promotion of use of materials with favourable life cycle impacts.

Clause 22.13.2 | Objectives

The overarching objective is that development should achieve best practice in environmentally sustainable development from the design stage through to construction and operation.

In the context of this policy best practice is defined as a combination of commercially proven techniques, methodologies and systems, appropriate to the scale of development and site-specific opportunities and constraints, which are demonstrated and locally available and have already led to optimum ESD outcomes. Best practice in the built environment encompasses the full life of the build.

It is policy to ensure innovative technology, design and processes positively influence the sustainability of all development.

The following objectives should be satisfied where applicable:

Energy Performance

- To improve the efficient use of energy, by ensuring development demonstrates design potential for ESD initiatives at the planning stage
- To reduce total operating greenhouse gas emissions
- To reduce energy peak demand through particular design measures (eg. Appropriate building orientation, shading to glazed surfaces, optimise glazing to exposed surfaces, space allocation for solar panels and external heating and cooling systems)

Water Resources

- To improve water efficiency
- To reduce total operating potable water use
- To encourage the collection and reuse of stormwater
- To encourage the appropriate use of alternative water sources (eg. greywater)

Indoor Environment Quality

- To achieve a healthy indoor environment quality for the wellbeing of building occupants, including the provision of fresh air intake, cross ventilation, and natural daylight
- To achieve thermal comfort levels with minimised need for mechanical heating, ventilation and cooling
- To reduce indoor air pollutants by encouraging use of materials with low toxic chemicals
- To reduce reliance on mechanical heating, ventilation, cooling and lighting systems
- To minimise noise levels and noise transfer within and between buildings and associated external areas

Stormwater Management

- To reduce the impact of stormwater run-off
- To improve the water quality of stormwater run-off
- To achieve best practice stormwater quality outcomes
- To incorporate the use of water sensitive urban design, including stormwater re-use

Transport

- To ensure that the built environment is designed to promote the use of walking, cycling and public transport, in that order
- To minimise car dependency
- To promote the use of low emissions vehicle technologies and supporting infrastructure

Waste Management

- To promote waste avoidance, reuse and recycling during the design, construction and operation stages of development
- To ensure durability and long-term reusability of building materials
- To ensure sufficient space is allocated for future change in waste management needs, including (where possible) composting and green waste facilities

Urban Ecology

- To protect and enhance biodiversity within the municipality
- To provide environmentally sustainable landscapes and natural habitats, and minimise the urban heat island effect
- To encourage the retention of significant trees
- To encourage the planting of indigenous vegetation
- To encourage provision of space for productive gardens, particularly in larger developments

Clause 22.13-3 & 22.13-4 | Policy & Application Requirements

It is policy that applications for the types of development listed in Table 1 be accompanied by information, which demonstrates how relevant policy objectives, will be achieved:

A Sustainability Management Plan (SMP) is required for:

- **Development of a non-residential building with a gross floor area of more than 1,000m²**

A Sustainability Management Plan should:

- provide a detailed assessment of the development. It may use relevant tools from the example tools listed in the table, or an alternative assessment approach to the satisfaction of the responsible authority; and
- identify achievable environmental performance outcomes having regard to the objectives of this policy (as appropriate); and
- demonstrate that the building has the design potential to achieve the relevant environmental performance outcomes; having regard to the site's opportunities and constraints; and
- document the means by which the performance outcomes can be achieved.

Various assessment tools have been listed in Table 1, which may be used to assess how the proposed development addresses the objectives of this policy, as appropriate.

Example tools listed include BESS and STORM, which have been used in preparing this SMP

Clause 22.13-5 | Decision Guidelines

In determining an application, the responsible authority will consider as appropriate:

- The extent to which the development meets the objectives and requirements of this policy from the design stage through to construction and operation
- Whether the proposed environmentally sustainable development performance standards are functional and effective to minimise environmental impact
- Whether the proposed environmentally sustainable development initiatives are reasonable having regard to the type and scale of the development and any site constraints
- Whether an appropriate assessment method has been used
- Whether an ESD plan or framework has previously been approved by the responsible authority (whether under a planning control or otherwise).

Clause 55.03-4 | Permeability and Stormwater Management Objectives

Objectives

- To reduce the impact of increased stormwater run-off on the drainage system.
- To facilitate on-site stormwater infiltration.
- To encourage stormwater management that maximises the retention and reuse of stormwater.

Standard B9

The site area covered by the pervious surfaces should be at least:

- The minimum area specified in a schedule to the zone, or
- If no minimum is specified in a schedule to the zone, 20 percent of the site.

The stormwater management system should be designed to:

- Meet the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater - Best Practice Environmental Management Guidelines (Victorian Stormwater Committee, 1999).
- Contribute to cooling, improving local habitat and providing attractive and enjoyable spaces.

Decision Guidelines

Before deciding on an application, the responsible authority must consider:

- The design response.
- The capacity of the site to incorporate stormwater retention and reuse.
- The existing site coverage and any constraints imposed by existing development.
- The capacity of the drainage network to accommodate additional stormwater.
- The capacity of the site to absorb run-off. The practicality of achieving the minimum site coverage of pervious surfaces, particularly on lots of less than 300 square meters.
- Whether the owner has entered into an agreement to contribute to off-site stormwater management in lieu of providing an on-site stormwater management system.

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ESD Schedule of Commitments

All ESD measures listed below are commitments and should be shown/noted on plans

Building Fabric	▪ A commitment has been made to meet the minimum requirement of the NCC 2019 o A NCC JV3 Verification Method Assessment will be done prior to building approval
Lighting	▪ LED downlights and other high efficiency light fittings to be used throughout ▪ The maximum illumination power density (W/m^2) in at least 90% of the relevant Building Class will meet the requirements in Table J6.2a of the NCC 2019 Volume 1
Water	▪ 5 star WELS rated basin taps in kitchens and bathrooms ▪ 4 star WELS rated toilets ▪ 4 star WELS rated shower heads (flow between 4.5 and 6.0L/min) ▪ Refer to WSUD Commitments below

WSUD	▪ Rainwater tank with a total capacity of 40,000L (1,930m^2 roof area connected to tank), to be dedicated to reuse:
	  o Tank will be connected to all toilets on Ground and Level 3 for flushing
	  o Tank will be connected to garden irrigation system (approx. 400m^2)
	  o Tank(s) and any associated filtration to be specified by civil/services engineer so as to be appropriate for the intended usage of harvested water
	  o Selected fittings and appliances to be suitable for the RWT/filtration system specified
	▪ See detailed WSUD measures required to achieve the STORM score below
	▪ All requirements will need to be noted/shown on plans

IEQ	▪ A Daylight assessment has been undertaken on the development. Refer to pages 18-22 for more information. Any assessed glazing should not have a visible light transmittance less than 40%
	▪ All paints, sealants, and adhesives, to meet indoor pollutant limits. Refer to page 17 of this report for details of acceptable standards
	Medical Tenancies/Suites:
	▪ Ventilation systems to be designed to achieve, monitor, and maintain:
	  o A maximum CO2 concentration of 800ppm
	  o 60% increase in outdoor air (L/s) available to regular use areas
	  ▪ Compared to the minimum requirement by AS 1668.2:2012

Transport	▪ A total of 33 bicycle parking spaces provided:
	  o 21 secure bicycle parking spaces for employees located on ground level
	  o 12 bicycle parking spaces for visitors located on ground level
	▪ End of trip facilities provided, including 2 showers & 22 lockers
	▪ 5 Electric vehicle charging stations located in ground floor carpark
	▪ 8 motorbike parking spaces provided

Waste	▪ All waste receptacles and disposal points must include recycling facilities which are as convenient or more convenient to use compared with facilities for waste for landfill ▪ At least 80% of demolition/construction waste will be reused or recycled
Management	▪ Utility Meters to be provided for all individual commercial tenants ▪ Major common area services to be separately sub metered ▪ A Building Users Guide will be issued to occupants

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Implementation Schedule

The ESD initiatives set out in this report will be coordinated by the Development Manager in conjunction with the listed project design team members

#	Requirement (Refer to ESD Schedule of Commitments above)	Responsibility	Stage
Coordination	Full Implementation of all ESD Commitments as per this SMP	Development Manager	All Stages
Building Fabric	NCC Reports for Building Approval	ESD Consultant (EcoResults)	Construction Documentation
	Drawings and specifications to reflect requirements of NCC Reports when completed	Architect Services Engineer	Construction Documentation
Materials	Specify materials in accordance with nominated schedule. Refer also to Building Materials section within this SMP for additional specific commitments	Architect Builder	Construction Documentation
Appliances	All appliances must be specified in line with SMP	Services Engineer Builder	Construction Documentation
Lighting	Specification of nominated energy efficiency lighting types to the relevant commitment (noting there may be a commitment over NCC requirements in the SMP). Refer to ESD Schedule of Commitments above for details	Building Services Engineer	Construction Documentation

Stormwater	Specify all WSUD treatment measures required by this SMP	Services Engineer	Construction Documentation
Waste	Specify bin and associated waste management equipment in line with Waste Management Section within this SMP and Waste Management Plan (if available)	Architect Waste Management consultant	Construction Documentation Occupation
Water	Specify water fixtures and fittings in line with SMP. Refer to ESD Schedule of Commitments within this SMP for details	Architect Services Engineer	Construction Documentation
Transport	All Transport commitments must be specified in line with SMP	Architect Builder	Construction Documentation Occupation
Construction	All endorsed ESD Commitments to be implemented including any commitment to recycle demolition/construction waste	Builder	Construction
Commissioning	Specification to include performance standards for commissioning	Services Engineer	Construction Documentation
	Commission and tune all equipment in accordance with performance standards and targets	Services Contractor Independent Commissioning Agent (if applicable)	Pre- Occupancy Post-Occupancy

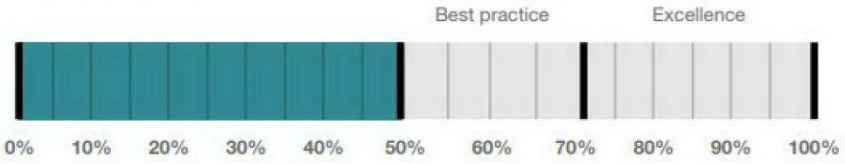
Confirmation	ESD Implementation Report confirming all ESD commitments are included as built. Please contact EcoResults prior to construction to confirm process	ESD Consultant (EcoResults)	Post-Construction Pre-Occupancy
Maintenance	Maintain all ESD measures in accordance with ESD commitments	Owners Corporation Building Manager	Occupancy

BESS Assessment & Scores for this Project

BESS assessment scores are percentages. Best practice in ESD is defined as an overall 50% score, and WSUD 100%. The scores achieved for each category on this project are shown as a percentage, with Energy, Water and IEQ each requiring a score of 50% to pass and Stormwater requiring a score of 100%.

For the building to achieve the BESS and STORM scores listed, it must be constructed according to the planning drawings, as well as the specifications listed in the notes and BESS printouts below.

Your BESS Score

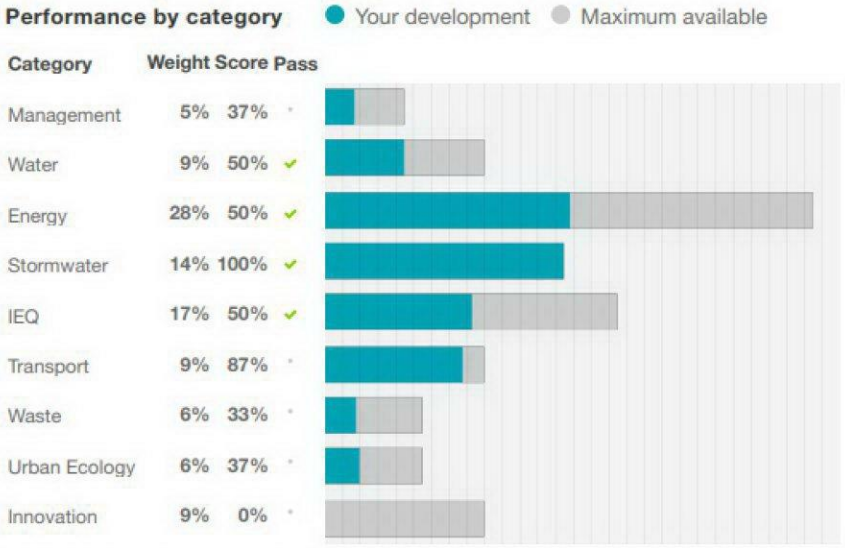


53%

Project details

Address	186-192 Clayton Rd Clayton VIC 3168
Project no	D455C156-R3
BESS Version	BESS-6
Site type	Non-residential development
Account	luana@ecoresults.com.au
Application no.	
Site area	2,907 m²
Building floor area	5,017.0 m²
Date	03 March 2022
Software version	1.7.0-B.377

Performance by category



Building Type composition

10 Key Sustainable Building Categories

The objectives below explain how the design and operation addresses the 10 key sustainable building categories identified by the Municipal Association of Victoria's SDAPP (Sustainable Design Assessment in the Planning Process) program.

Objective: Indoor Environment Quality

City of Monash Clause 22.13

- To achieve a healthy indoor environment quality for the wellbeing of building occupants, including the provision of fresh air intake, cross ventilation, and natural daylight
- To achieve thermal comfort levels with minimised need for mechanical heating, ventilation, and cooling
- To reduce indoor air pollutants by encouraging use of materials with low toxic chemicals
- To reduce reliance on mechanical heating, ventilation, cooling and lighting systems
- To minimise noise levels and noise transfer within and between buildings and associated external areas

Indoor Environment Quality

Indoor Environment Quality

Issue	Assessment Results and Design Response
BESS IEQ Score	BESS requires a pass score of 50% for this category. The IEQ score for the development is 50%
Natural Ventilation	Shop (Tenancies 1, 2, 3 & 4): ▪ 100% of regular use areas are effectively naturally ventilated achieved by a breeze path length less than15m between ventilation openings
Ventilation	Medical Tenancies/Suites: Ventilation systems to be designed to achieve, monitor, and maintain: ▪ A maximum CO2 concentration of 800ppm ▪ A 60% increase in outdoor air (L/s) available to regular use areas o Compared to the minimum requirement by AS 1668.2:2012
Natural Daylight	A Daylight assessment has been undertaken for primary spaces, refer to pages 18-22 of this report for details Office Building (Ground Floor Tenancy 5&6 average): ▪ 67% of the nominated areas achieve a daylight factor of at least 2% o L3, L4 & L5 Medical Suits have not been assessed or included in the Daylight assessments as there are currently no primary spaces on plans. However, it is expected future fit-out will take in to account glazing opportunities for primary spaces such as offices and reception areas Shop (average): ▪ 74% of the nominated areas achieve a daylight factor of at least 2%

Hazardous Materials & VOC	Low Volatile Organic Compounds (VOC) paints and/or adhesives to be used throughout the development ○ Accepted standards include meeting current GECA, Global GreenTag GreenRate, Carpet Institute Australia Environmental Classification Scheme Level 2, Green Star or WELL standards for TVOC in paints, adhesives and sealants (by volume) and carpets (by area) as well as for Formaldehyde in engineered wood (by area).

Table 13.1.1B: Maximum TVOC Limits for Paints, Adhesives and Sealants

Product Category	Max TVOC content in grams per litre (g/L) of ready to use product.
General purpose adhesives and sealants	50
Interior wall and ceiling paint, all sheen levels	16
Trim, varnishes and wood stains	75
Primers, sealers and prep coats	65
One and two pack performance coatings for floors	140
Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives	250
Structural glazing adhesive, wood flooring and laminate adhesives and sealants	100

Source: Green Star Design & As Built Guidelines v1.3

Daylight Assessment

- The objective of the Daylight Assessment is to achieve Council's SDAPP (Sustainable Design Assessment in the Planning Process) Best Practice Standard for daylight access to non-residential developments.
- Best Practice is defined as achieving a daylight factor of at least 2.0% for at least 30% of the floor area of regularly occupied primary spaces where a person would be expected to remain for over 2 hours.
- The method used for the Daylight Assessment was Green Star hand daylight calculations. This memorandum of advice provides a summary of the internal daylight levels achieved for a representative sample of the nominated areas within the development.
- The project must not overshadowed, in accordance with the overshadowing requirements outlined by Green Star
- The building glazing must have a visual light transmittance (VLT) of equal to or greater than 40% as outline By Green Star

Daylight Results

Daylight Results

Type	Rated Floor Area (m^2)	Area >2% DF (m^2)	Percentage of area >2% DF
Tenancy 1 (Shop)	91	83.2	91.4
Tenancy 2 (Shop)	76	49.9	65.7
Tenancy 3 (Café)	82	54.4	66.3
Shop Areas Total	**83.0**	**62.5**	**74.5**
Tenancy 5 (Medical)	103	67.2	65.2
Tenancy 6 (Medical)	95	65.9	69.4
Office Areas Total (L3,L4 & L5 not included in total)*	**99**	**66.5**	**67.3**

*L3, L4 & L5 Medical Suits have not been assessed or included in the Daylight assessments as there are currently no primary spaces on plans. However, it is expected future fit-out will take in to account glazing opportunities for primary spaces such as offices and reception areas.

Detailed Compliance Report

The following formula have been used to perform the Green Star hand daylight calculations:

Depth of the zone of compliance = h x 2

'w' width of the zone of compliance = width of the glazing

Zone of compliance = h x 2 x w

Area based credits:

Zone of compliance = h x 2 x w (m2)

Nominated areas = ^{A}nominated (m2)

Percentage of compliant area = (zone of compliance)/(^{A}nominated) x100 (%)

	Tenancy 1 Assessed above desk height at 700mm	
Tenancy 1	Window Height above 0.7 (m)	3.2
	Width of Glazing to Room	13
	Assessed Floor Area	91
	Zone of Compliance	83.2
	Daylight Factor Result over 2% (%)	91.4

	Tenancy 2 Assessed above desk height at 700mm	
Tenancy 2	Window Height above 0.7 (m)	3.2
	Width of Glazing to Room	7.8
	Assessed Floor Area	76
	Zone of Compliance	49.9
	Daylight Factor Result over 2% (%)	65.7

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Tenancy 3

Tenancy 3 Assessed above desk height at 700mm	
Window Height above 0.7 (m)	3.2
Width of Glazing to Room	10.5
Assessed Floor Area	82
Zone of Compliance	54.4
Daylight Factor Result over 2% (%)	66.3

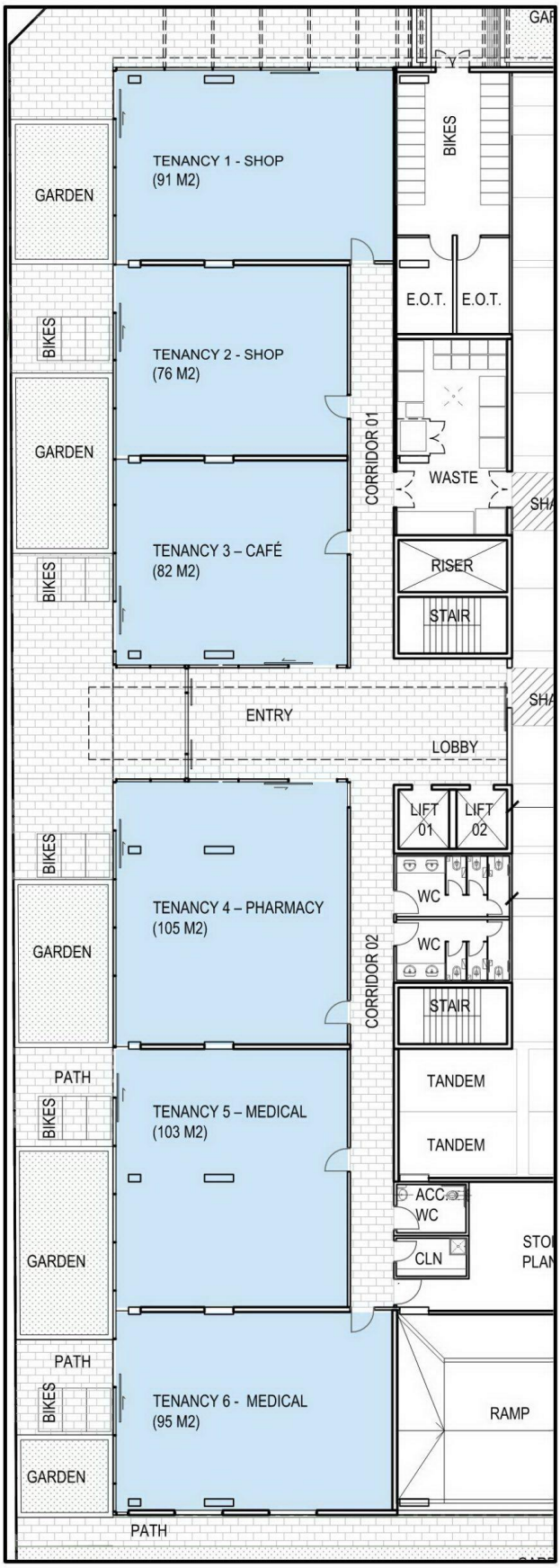
Tenancy 5

Tenancy 5 Assessed above desk height at 700mm	
Window Height above 0.7 (m)	3.2
Width of Glazing to Room	10.5
Assessed Floor Area	103
Zone of Compliance	67.2
Daylight Factor Result over 2% (%)	65.2

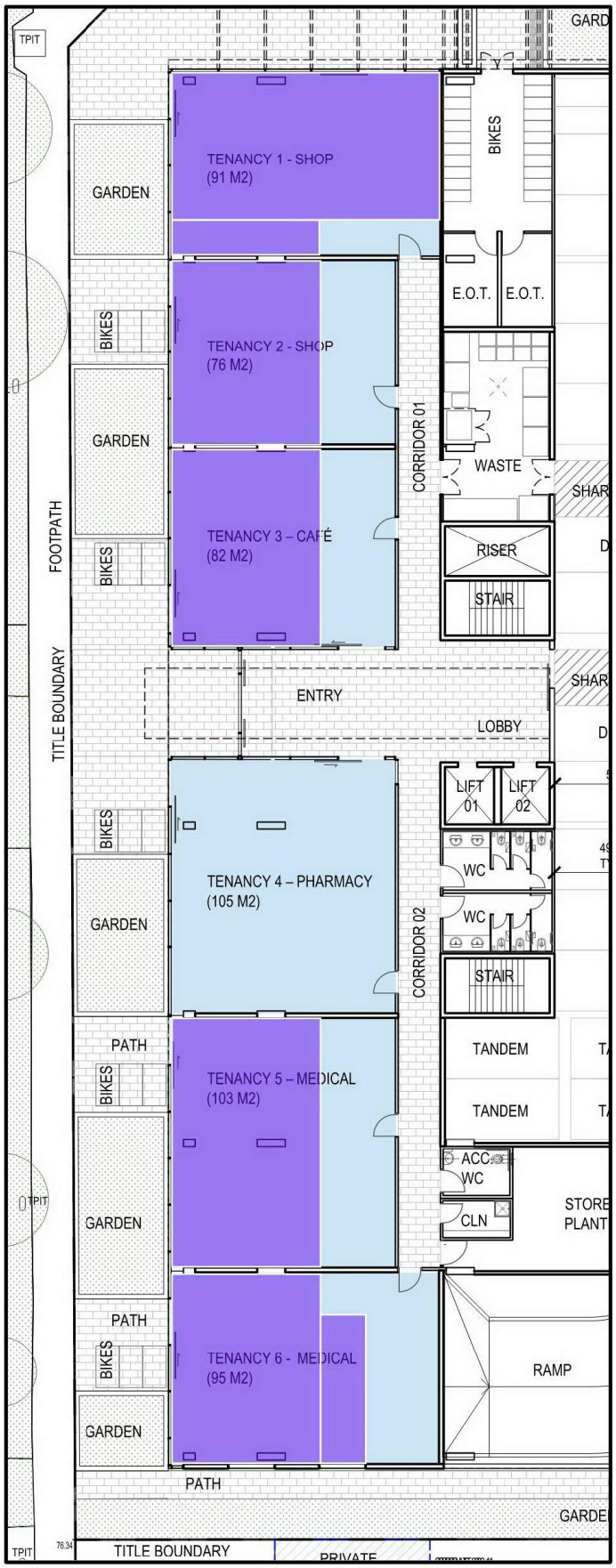
Tenancy 6

Tenancy 6 Assessed above desk height at 700mm	
Window Height above 0.7 (m)	3.2
Width of Glazing to Room	10.3
Assessed Floor Area	95
Zone of Compliance	65.9
Daylight Factor Result over 2% (%)	69.4

Nominated Areas



Zone of Compliance



Objective: Energy Efficiency

City of Monash Clause 22.13

- To improve the efficient use of energy, by ensuring development demonstrates design potential for ESD initiatives at the planning stage
- To reduce total operating greenhouse gas emissions
- To reduce energy peak demand through particular design measures (eg. Appropriate building orientation, shading to glazed surfaces, optimise glazing to exposed surfaces, space allocation for solar panels and external heating and cooling systems)

Energy Efficiency

	Issue	Assessment Results and Design Response
Energy Efficiency	BESS Energy Score	BESS requires a pass score of 50% for this category. The Energy score for the development is 50%
	NCC Energy Efficiency Requirements	A commitment has been made to meet the minimum requirement of the NCC 2019 ▪ A NCC JV3 Verification Method Assessment will be done prior to building approval
	Gas Consumption	Natural Gas will be connected
	Internal Lighting	▪ LED downlights and other high efficiency light fittings will be used throughout (not incandescent or halogen) ▪ The maximum illumination power density (W/m2) in at least 90% of the area of the relevant building class meets the requirements in Table J6.2a of the NCC 2019 Vol 1
	Energy Sub-Metering	All commercial tenants will feature their own electricity and gas meters, which incentivises energy efficiency for occupants

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Objective: Water Resources

City of Monash Clause 22.13

- To improve water efficiency
- To reduce total operating potable water use
- To encourage the collection and reuse of stormwater
- To encourage the appropriate use of alternative water sources (e.g. Grey water)

Water Resources

Water Resources	Issue	Assessment Results and Design Response
	BESS Water Score	BESS requires a pass score of 50% for this category. The Water score for the development is 50%
	Potable Water Use Reduction	▪ BESS has calculated a 36% reduction in Potable Water Consumption due to efficient fixtures, appliances, rainwater and recycled water use ▪ Rainwater tank with a total capacity dedicated to re-use of 40,000L will store stormwater for re-use in the flushing of toilets located on Ground and Level 3 and for garden irrigation system (approx. 400m^2)
	Fixtures/Fittings and Connections	▪ 5 star WELS rated kitchen and bathroom taps ▪ 4 Star WELS rated shower heads (flow between 4.5 and 6.0L/min) ▪ 4 star WELS rated toilets will reduce mains flushing demand
	Water Meter	All commercial tenants are to have individual water meters, which will have the effect of incentivising water efficiency for occupants
	Landscaping and Irrigation	Landscape irrigation areas connected to rainwater tank only

Objective: Stormwater Management (WSUD)

City of Monash Clause 55.03-4 & Standard W2 of Clause 53.18-5

- To reduce the impact of stormwater run-off
- To improve the water quality of stormwater run-off
- To achieve best practice stormwater quality outcomes
- To incorporate the use of water sensitive urban design, including stormwater re- use

Stormwater Management (WSUD)

	Issue	Assessment Results and Design Response
Srotmwater Managment	BESS Stormwater Score	BESS requires a pass score of 100% for this category. The Stormwater score for the development is 100%
	STORM Rating	Stormwater quality for this project is assessed as performing at 115%, meeting the current best practice design for urban pollutant loads ▪ To comply with the objectives outlined in Clause 55.03-4 & Standard W2 of Clause 53.18-5 a STORM assessment has been conducted, which includes proposed rainwater capture and reuse in order to comply with Melbourne Water's STORM assessment tool benchmarks ▪ A compliant STORM assessment meets the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater Best Practice Environmental Management Guidelines (BPEM). We have noted the results and required treatment measures listed below ▪ Plans and design details to be shown on plans by designer. See below for more information and contact EcoResults with any queries on compliance
	WSUD Measures	▪ Runoff from the roof (1,909m^2) to be diverted to a 40,000L rainwater tank dedicated to reuse: o The tank is to be connected to the toilet flushing of all toilets located on Ground and Level 3 of the development o The tank is to be connected to garden irrigation areas o The tank may be connected to other uses, e.g. outdoor taps, laundry etc, but this is not required to achieve the STORM score o The tank capacity may be achieved by installing several independent tanks as long as they are connected to operate in series as if they were one tank ▪ The detailed, site specific design of WSUD measures should be undertaken by a suitably qualified person ▪ Tank(s) and any associated filtration to be specified by civil/services engineer so as to be appropriate for the intended usage of harvested water ▪ Ensure that selected fittings and appliances are suitable for the Rainwater/filtration system specified

	Note: ▪ Refer to maintenance program for WSUD measures below ▪ All areas measured in STORM are in a horizontal plan and open to sky
Maintenance for WSUD measures	**Rainwater tanks:** ▪ The project's hydraulic/services engineers will be responsible for the design of the tanks and rainwater reticulation, shall inform the building facility manager and/or owners corporation in writing, of the required maintenance tasks to keep the system operational including: ▪ Regular inspections of the tank(s), pump(s), reticulation system and toilets to ensure that the system is operating for toilet flushing as designed ▪ Periodic cleaning and major maintenance of the tank(s), pump(s) and reticulation system to ensure the long term viability of the system ▪ The building facility manager and/or owners corporation shall include on their building maintenance schedule the required maintenance tasks specified by the hydraulic/services engineers at the required intervals.

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STORM Rating Results

STORM Rating Report

TransactionID:	1331804
Municipality:	MONASH
Rainfall Station:	MONASH
Address:	186-192 Clayton Road
	Clayton
	VIC 3168
Assessor:	Savannah McMaster
Development Type:	Commercial/Retail
Allotment Site (m2):	2,897.00
STORM Rating %:	115

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roofs (split for accurate occupancy numbers)	1,193.00	Rainwater Tank	25,000.00	100	138.30	76.00
Roofs (split for accurate occupancy numbers)	716.00	Rainwater Tank	15,000.00	80	138.30	76.00
Open Carpark	236.00	None	0.00	0	0.00	0.00
Driveway	22.00	None	0.00	0	0.00	0.00
Paths	121.00	None	0.00	0	0.00	0.00
Entry Roof	12.00	None	0.00	0	0.00	0.00

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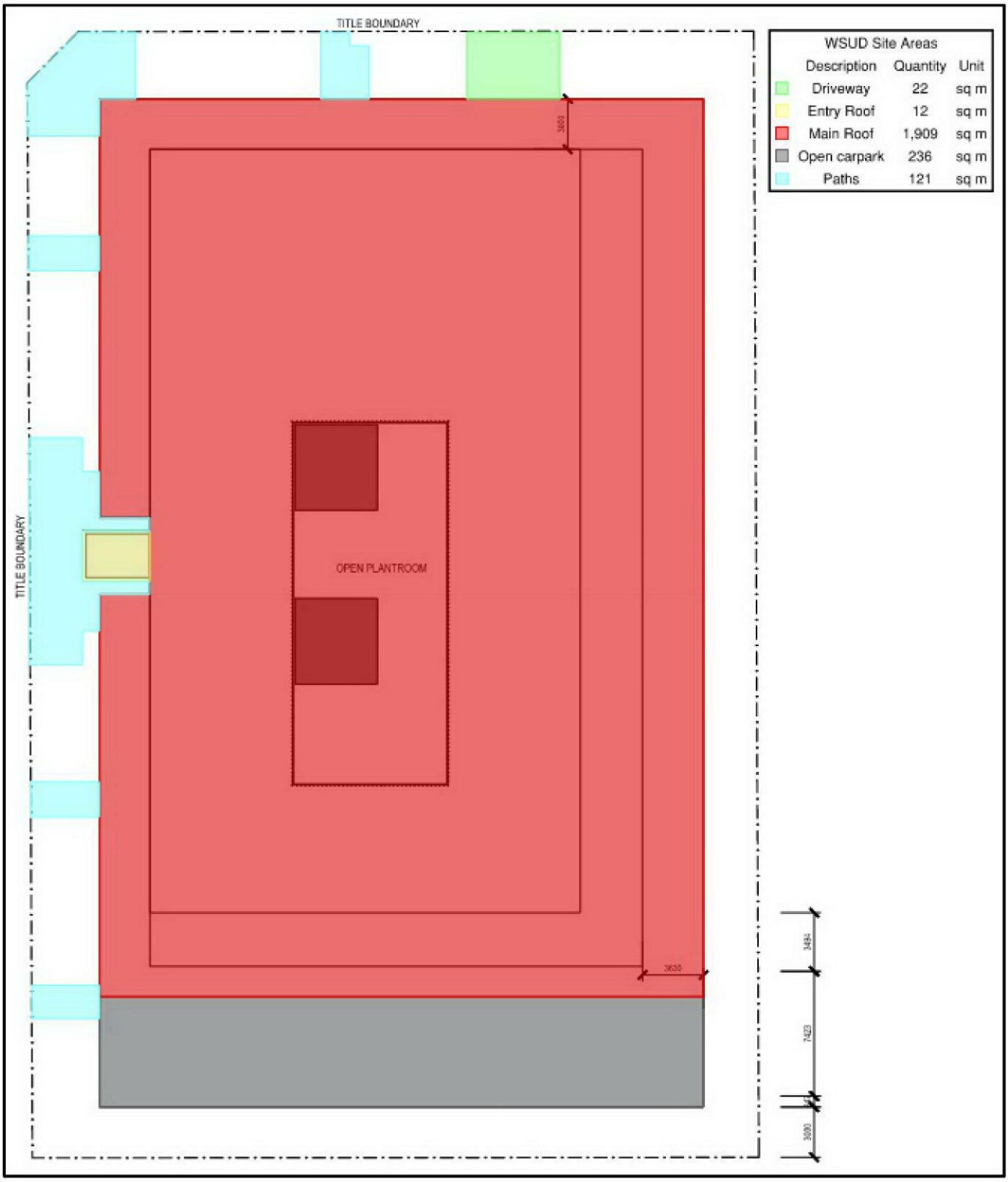
STORM Mark-up



Objective: Building Materials

Objective details (not in City of Monash Clause 22.13)

- To minimise the environmental impact of materials used by encouraging the use of materials with a favourable lifecycle assessment based on fate of material, recycling/reuse, embodied energy, biodiversity, human health, environmental toxicity, environmental responsibility

Building Materials

	Issue	Design Response
Building Materials	Embodied Energy (EE) of Materials	Refer to materials scheduled on floorplans for details of proposed materials
	Maintenance/ Durability	Aluminium, steel and concrete are low in maintenance and high in durability relative to the usage and life expectancy of the development, which reduces the need for replacement of materials during the lifecycle of the building
	Recyclability of materials	▪ Steel and metal items including roof sheet, window frames and other steel framing materials can be melted and reused within new steel products ▪ Aluminium can be 100% recycled ▪ Gypsum plasterboard can and should be recycled ▪ Timber can either be directly reused or turned into horticultural mulch ▪ Brickwork, concrete slabs and asphalt can be crushed and used as aggregate for new concrete or road base and fill ▪ Any bricks in good enough condition to be reused may be cleaned and re-sold as garden/paving supplies ▪ Plastics can often be granulated and reused to make new plastic products
	Transport	The development commits to preference Victorian made materials, then Australian made, then Internationally made as a last resort
	Toxicity	Refer to IEQ objective within this SMP for commitments in relation to Toxicity

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Objective: Transport incorporating Green Travel Plan

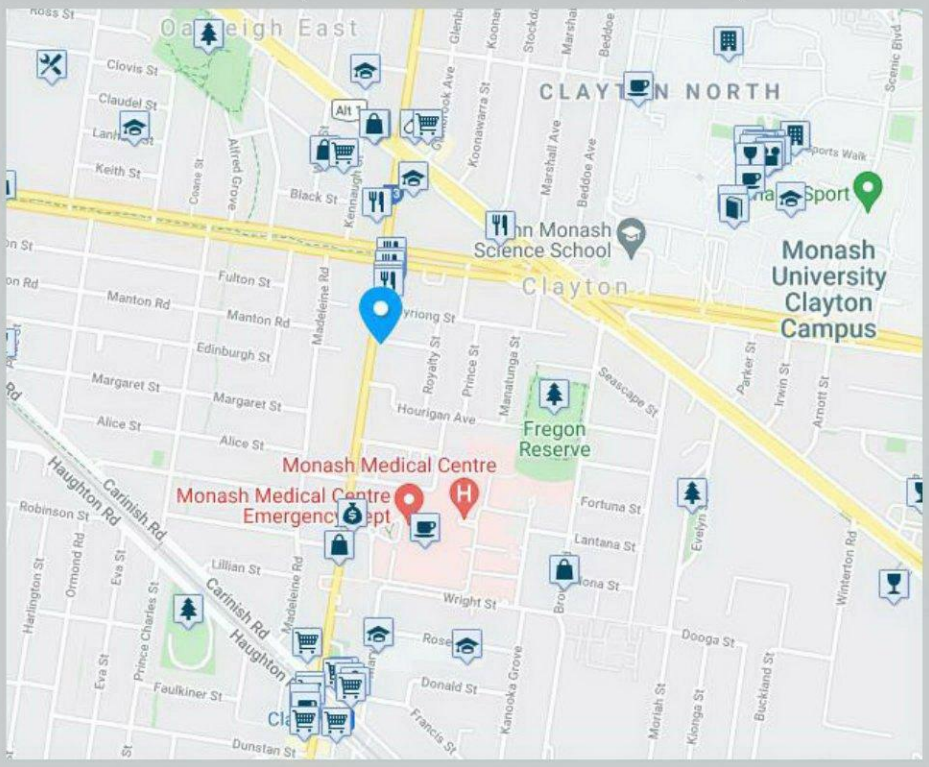
City of Monash Clause 22.13

- To ensure that the built environment is designed to promote the use of walking, cycling and public transport in that order
- To minimise car dependency
- To promote the use of low emissions vehicle technologies and supporting infrastructure

Transport/ Green Travel Plan

Transport

Issue	Assessment Results and Design Response
BESS Transport Score	The Transport score for the development is 87%
BESS Transport Score Details	This credit has been achieved in the following ways: ▪ 33 employee/visitor bicycle parking spaces in total ▪ End of trip facilities ▪ 5 charging stations for electric vehicles ▪ 8 motorbike parking spaces
Proximity to Amenities & Other Offsite Facilities	This location is in the Clayton neighbourhood in Melbourne. Nearby parks include Princes Highway Reserve, Fregon Reserve & Meade Reserve. Various Grocery Stores, Post Offices, Banks, ATMs, Cafes, and Restaurants are within 1.5km of the site. See map below – the site is shown as a blue pin



source: www.walkscore.com

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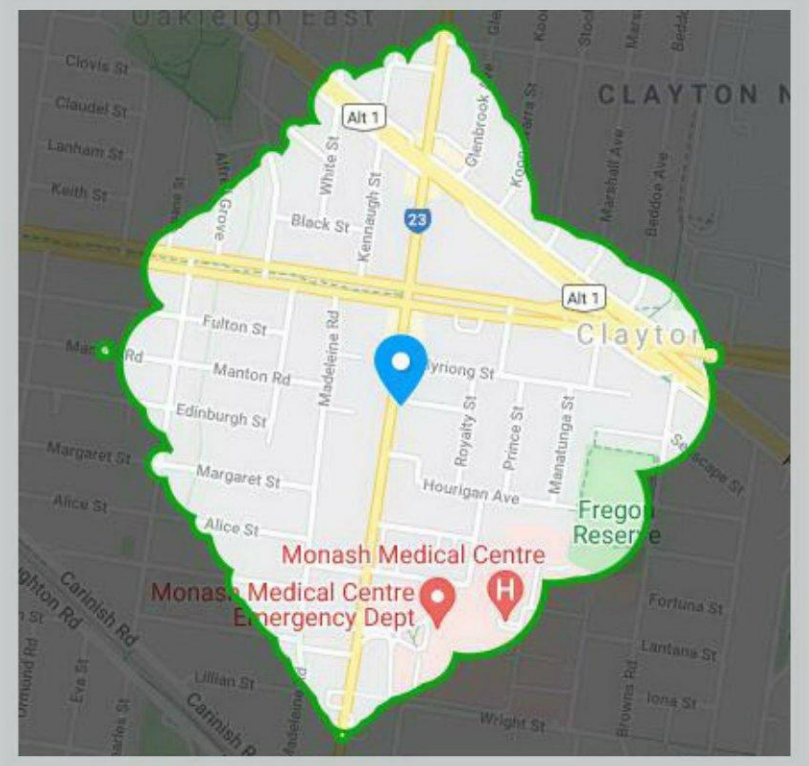
Walk Score

The walk score for the development is 81 which is classified as Very Walkable, meaning that most errands can be accomplished on foot

- The map below shows how far you can walk from the site in 10 minutes



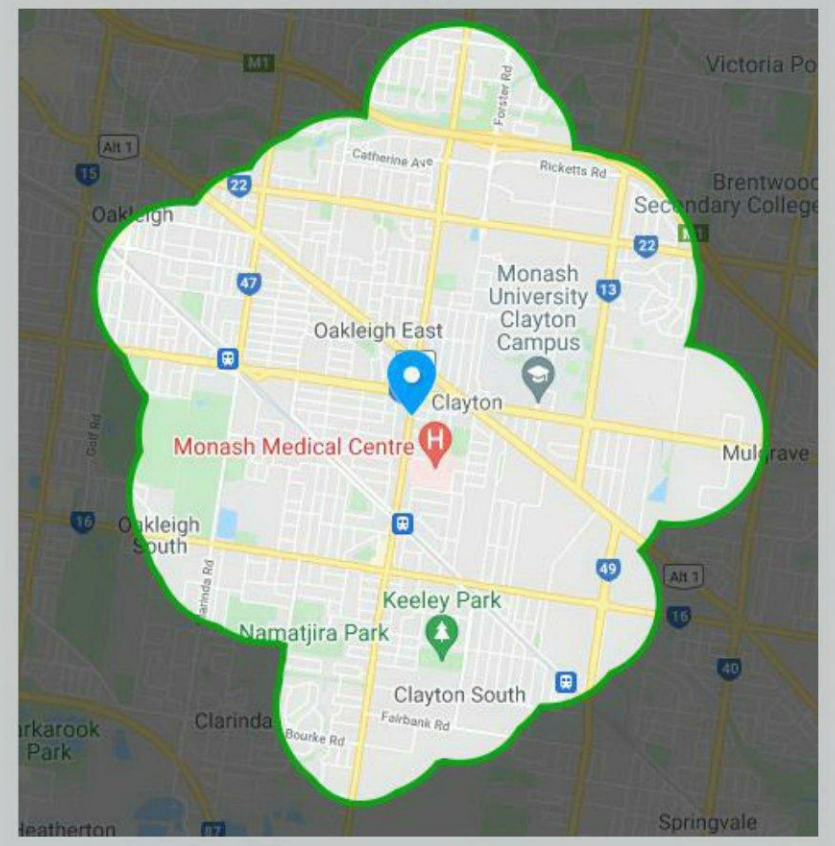
Source: www.walkscore.com

Providing Convenient & Secure Bicycle Storage

The development is providing 33 bicycle parking spaces in total. These spaces are aimed at encouraging the use of alternative transport, thus reducing traffic congestion and pollution

- 21 secure employee bicycle spaces provided on the ground floor within the northern end of the building
- 12 visitor bicycle parking spaces provided at ground level on the western boundary (Clayton Rd)

- The map below shows how far you can ride a bike from the site in 15 minutes



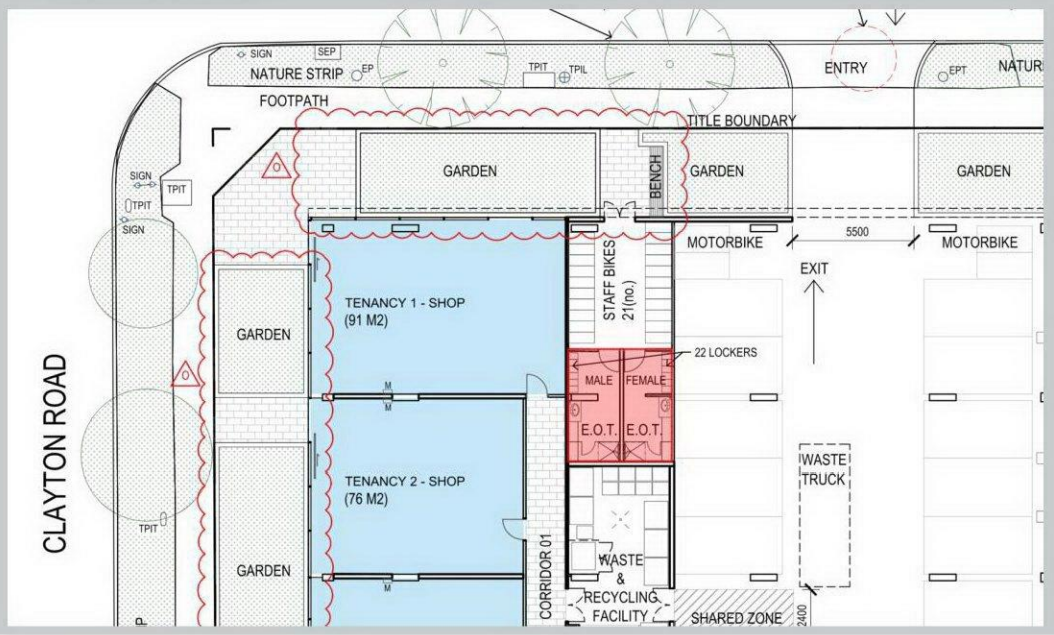
Source: www.walkscore.com

End of Trip Facilities

End of trip facilities have been designed and provided to support employees who cycle, jog or walk to work rather than using motorised transport methods.

End of trip facilities include:

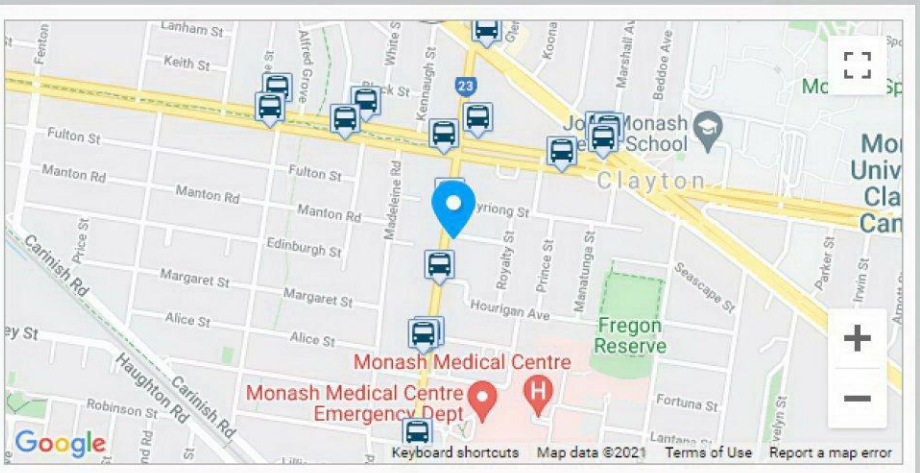
- 21 secure employee bicycle parking spaces
- 2 showers/change rooms
- 22 secure lockers



Transit Score

The transit score for the development is 67 which is classified as Good Transit, meaning that there are many nearby public transport options

- The development is a 13min walk from the Clayton Railway Station
- The development is a 100m walk from several bus lines, including the 631 Southland SC – Waverly Gardens SC bus line and the 733 Box Hill – Oakleigh bus line



Rail lines:

Cranbourne City (Flinders St...	1.0 km	Pakenham City (Flinders Str...	1.0 km
Melbourne - Bairnsdale Via ...	1.0 km	Traralgon - Melbourne Via ...	1.0 km

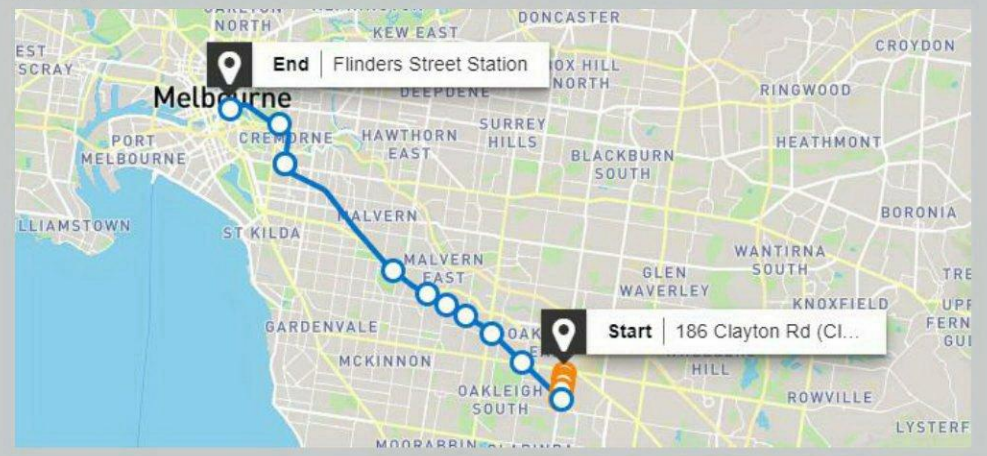
Bus lines:

703 Blackburn - Middle Brig...	0.1 km	733 Box Hill - Oakleigh	0.1 km
631 Southland SC - Waverle...	0.1 km	630 Monash University - Elw...	0.2 km
900 Caulfield - Stud Park SC ...	0.2 km	802 Chadstone SC - Danden...	0.4 km
800 Dandenong - Chadston...	0.4 km	804 Chadstone SC - Danden...	0.4 km
862 Dandenong - Chadston...	0.4 km	Melbourne - Traralgon Via P...	1.0 km

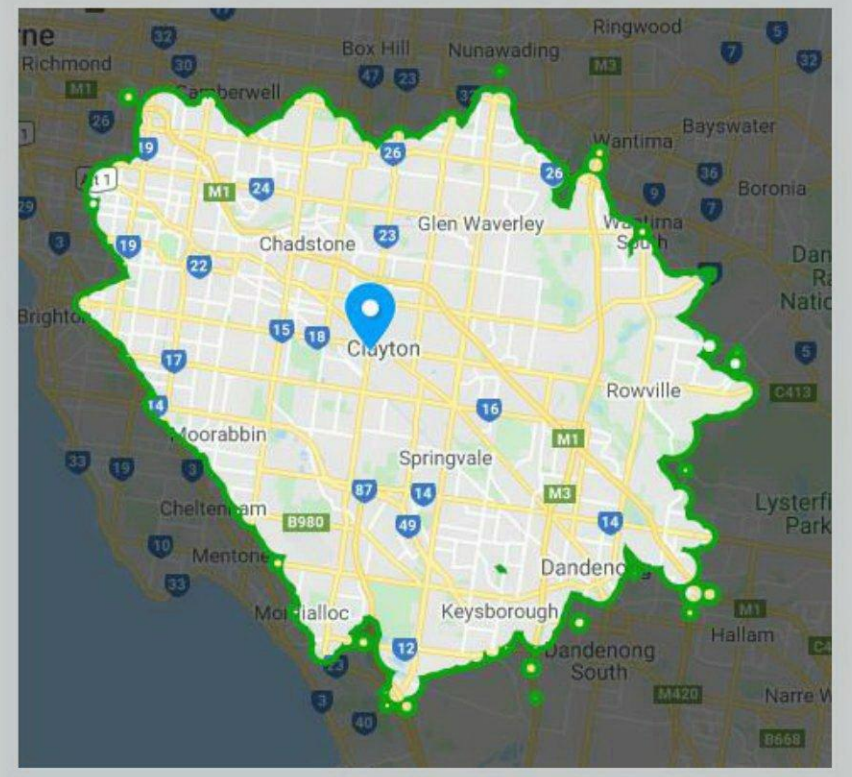
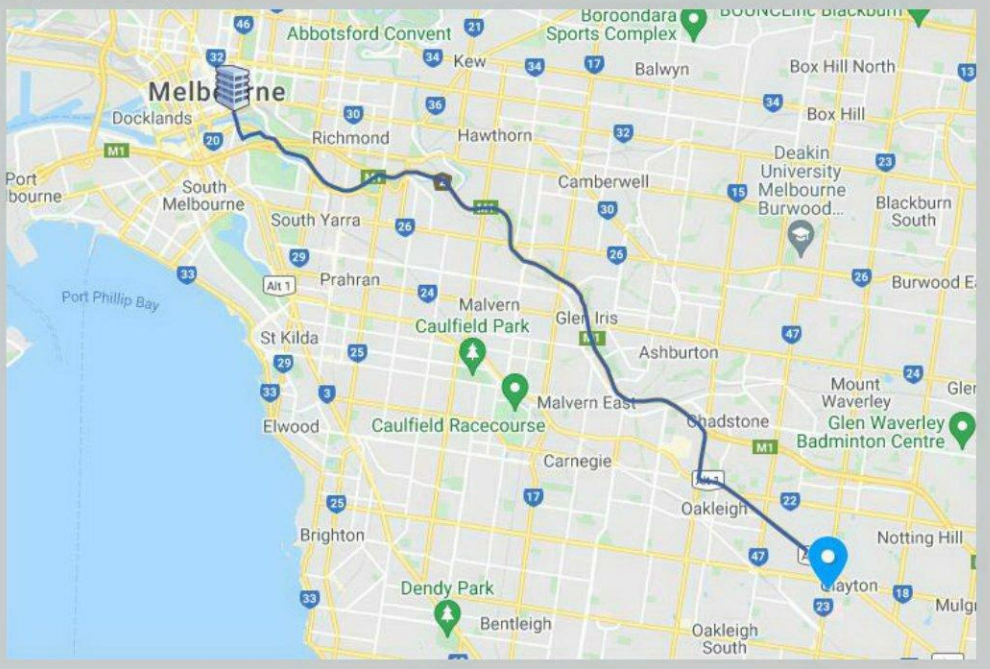
Source: walkscore.com

Commuting to Melbourne by Public Transport

The commute from the development to Melbourne CBD (Flinders Street Station) using public transport during peak hour is approximately 48mins including a 5 minute walk to change services from the Clayton Station/Clayton Rd bus stop to the Clayton Railway Station



Source:ptv.vic.gov.au/journey

Car Spaces/Electric Vehicle Charging Infrastructure	The development will be providing 151 car parking spaces ▪ 8 motorbike spaces have been provided ▪ 5 electric vehicle charging stations have been provided located in the ground floor carpark ▪ The map below shows how far you can drive from the site in 15 minutes.  Source:walkscore.com
Commuting to Melbourne by Car	The commute from the development to Melbourne CBD by car (20km) takes approximately 20-35mins  Source:walkscore.com

Objective: Waste Management

City of Monash Clause 22.13

- To promote waste avoidance, reuse and recycling during the design, construction, and operation stages of development
- To ensure durability and long-term reusability of building materials
- To ensure sufficient space is allocated for future change in waste management needs, including (where possible) composting and green waste facilities

Waste Management

Waste Management

Issue	Assessment Results and Design Response
BESS Waste Score	The Waste score for the development is 33%
Construction Waste Management	▪ A commitment has been made to recycle or reuse at least 80% of the materials through the demolition/construction phase. For example: o Steel and metal items including roof sheet, window frames and other steel framing materials can be melted and reused within new steel products o Aluminium can be 100% recycled o Gypsum plasterboard can and should be recycled o Timber can either be directly reused or turned into horticultural mulch o Brickwork, concrete slabs and asphalt can be crushed and used as aggregate for new concrete or road base and fill o Any bricks in good enough condition to be reused may be cleaned and re-sold as garden/paving supplies or crushed for backfill, aggregate and gravel o Plastics can often be granulated and reused to make new plastic products
Operational Waste Management	All waste receptacles and disposal points must include recycling facilities which are as convenient or more convenient to use compared with facilities for waste for landfill o Refer to Waste Management Plan prepared by Ratio for more information

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Objective: Urban Ecology

City of Monash Clause 22.13

- To protect and enhance biodiversity within the municipality to encourage the planting of indigenous vegetation
- To provide environmentally sustainable landscapes and natural habitats, and minimise the urban heat island effect
- To encourage the retention of significant trees
- To encourage the provision of space for productive gardens, particularly in larger residential developments

Urban Ecology

Urban Ecology

Issue	Assessment Results and Design Response
BESS Urban Ecology Score	The Urban Ecology score for the development is 37%
Maintaining & Enhancing Ecological Value	▪ The proposed development reuses land which is already developed with residential dwellings ▪ The existing site has some ecological value in its current state. 21% of the new development will be covered with vegetation. ▪ It is envisaged that the landscaping will include small trees and evergreen shrubs, improving the overall ecological and aesthetic value of the development. These shrubs and trees can be of various sizes and heights providing visual interest as well as "softening" the lines of the building ▪ With the increased vegetation, less CO2 is released into the atmosphere 

Objective: Innovation

City of Monash Clause 22.13

- To encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings

Innovation

Innovation	Issue	Assessment Results and Design Response
	BESS Innovation Score	The Innovation score for the development is 0% Whilst nothing in this development is eligible for BESS innovation credits, as noted through this SMP there are many highly commendable ESD features

Objective: Construction and Building Management

Objective details (not in City of Monash Clause 22.13)

- To encourage a holistic and integrated design and construction process and ongoing high performance

Construction and Building Management

Issue	Assessment Results and Design Response
BESS Management Score	The Management score for the development is 37%
Building User's Guide that Explains ESD Principles	A Building Users' Guide is to be written in non-technical language, for the benefit of property managers and contractors, as well as provided to occupants prior to occupation. It will detail how to operate the building efficiently and how to service and maintain the building systems, as well as include advice on maximising sustainability within the building and outline the development's: ▪ Key environmental strategies and targets ▪ Building service controls, for example: o How to minimise the need to operate HVAC systems o How to minimise energy use when operating HVAC systems o How to minimise the use of artificial lighting ▪ Potable and non-potable water supply ▪ Onsite energy generation (if applicable) ▪ Pro-active maintenance regime ▪ Fine-tuning strategy (especially for complex HVAC systems) ▪ How to maintain biodiversity and sustainable gardening ▪ Waste minimisation and separation policies ▪ Sustainable transport options, for example o Bike parking provisions o End of trip facilities o Public transport availability ▪ Provision of sub-metering and the interpretation of the metering data ▪ Environmental monitoring or participation in environmental reporting schemes ▪ Building Management and other building supply contacts
Construction Management	▪ For comments regarding Construction Waste Management see the Waste Management section of this SMP ▪ A stormwater pollution reduction strategy for the building construction works to be prepared by the construction company o This can be incorporated into a broader Construction or Site/Environment Management Plan which may include control of noise, dust, erosion/sediment, waste, chemicals, significant flora and fauna and archelogy/heritage

	Ongoing Building Management	▪ The Operator will be responsible to arrange for regular fine-tuning of the building services and their ongoing maintenance to ensure efficient optimum performance ▪ The Operator will be responsible to ensure the commitments made to within the WMP are adhered to ▪ The Operator will be responsible to arrange for a copy of the BUG to provide to building managers/occupants and contractors (when applicable)

Conclusion

Our sustainable building consultants have found that:

- The proposal has met the benchmarks set out by the BESS and STORM assessment tools
- The project has included a range of other ESD features over and above those measured by the BESS and STORM benchmarks.
    - These features combine significantly to further enhance the energy efficiency of the development,
    - Lessen its environmental impact, and
    - Encourage sustainable lifestyle choices by the occupants of the building during its life-cycle.

The development will meet the objectives and application requirements of the City of Monash Clause 22.13 if it is constructed in accordance with the application drawings and the measures detailed in this SMP.

Appendix (21 Pages)

- Appendix A – BESS Assessment Printout (19 pages)
- Appendix B – Rainwater Tank Fact Sheet (2 pages)

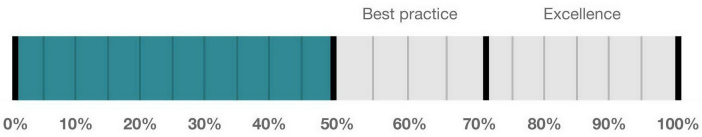
BESS Report

Built Environment Sustainability Scorecard

This BESS report outlines the sustainable design commitments of the proposed development at 186-192 Clayton Rd Clayton VIC 3168. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Monash City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score

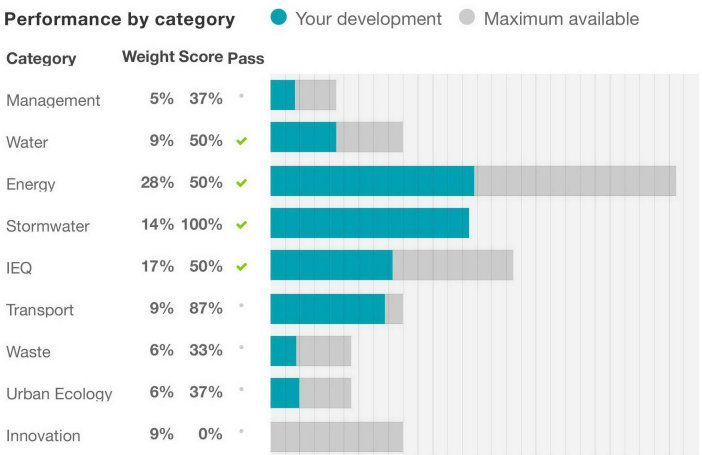


53%

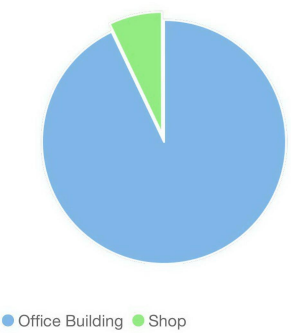
Project details

Address	186-192 Clayton Rd Clayton VIC 3168
Project no	D455C156-R3
BESS Version	BESS-6
Site type	Non-residential development
Account	luana@ecoresults.com.au
Application no.	
Site area	2,907 m²
Building floor area	5,017.0 m²
Date	03 March 2022
Software version	1.7.0-B.377

Performance by category



Building Type composition



Buildings

Name	Height	Footprint	% of total footprint
Medical Centre	5	2,100 m²	100%

Dwellings & Non Res Spaces

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Office Building				
Level 3 (Medical Suites)	1	1,880 m²	Medical Centre	37%
Level 4 (Medical Suites)	1	1,425 m²	Medical Centre	28%
Level 5 (Medical Suites)	1	1,160 m²	Medical Centre	23%
Tenancy 5 (Medical)	1	103 m²	Medical Centre	2%
Tenancy 6 (Medical)	1	95.0 m²	Medical Centre	1%
Total	**5**	**4,663 m²**	**92%**	
Shop				
Tenancy 4 (Pharmacy)	1	105 m²	Medical Centre	2%
Tenancy 3 (Cafe)	1	82.0 m²	Medical Centre	1%
Tenancy 2 (Shop)	1	76.0 m²	Medical Centre	1%
Tenancy 1 (Shop)	1	91.0 m²	Medical Centre	1%
Total	**4**	**354 m²**	**7%**	

Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status
Management 3.2	Individual utility meters annotated	To be printed Architect to note on plans.	✔
Management 3.3	Common area submeters annotated	To be printed Architect to note on 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 Architect to note on plans.	✔
Transport 1.4	All nominated non-residential bicycle parking spaces	To be printed Architect to note on plans.	✔
Transport 1.5	All nominated non-residential visitor bicycle parking spaces	To be printed Architect to note on plans.	✔
Transport 1.6	Showers, change rooms and lockers as nominated	To be printed Architect to note on plans.	✔
Transport 2.1	Location of electric vehicle charging infrastructure	To be printed Architect to note on plans.	✔
Transport 2.3	All nominated motorbicycle parking spaces	To be printed Architect to note on plans.	✔
Waste 2.2	Location of recycling facilities	To be printed Architect to note on plans.	✔

Credit	Requirement	Response	Status
Urban Ecology 2.1	Vegetated areas	To be printed Architect to note on plans.	✔

Supporting evidence

Credit	Requirement	Response	Status
Energy 1.1	Energy Report showing calculations of reference case and proposed buildings	To be printed SMP Refer to SMP	✔
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	✔
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 SMP Refer to SMP	✔

Credit summary

Management Overall contribution 4.5%

37%

1.1 Pre-Application Meeting	0%
2.3 Thermal Performance Modelling - Non-Residential	0%
3.2 Metering	100%
3.3 Metering	100%
4.1 Building Users Guide	100%

Water Overall contribution 9.0%

Minimum required 50% **50%** ✔ **Pass**

1.1 Potable water use reduction	60%
3.1 Water Efficient Landscaping	N/A ◈ Scoped Out
	Garden areas irrigated by rainwater-reuse
4.1 Building Systems Water Use Reduction	0%

Energy Overall contribution 27.5%

	Minimum required 50%	50%	Pass
1.1 Thermal Performance Rating - Non-Residential		12%	
2.1 Greenhouse Gas Emissions		100%	
2.2 Peak Demand		100%	
2.3 Electricity Consumption		100%	
2.4 Gas Consumption		100%	
3.1 Carpark Ventilation		0%	
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		N/A	Disabled
No solar PV renewable energy is in use.			
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%	

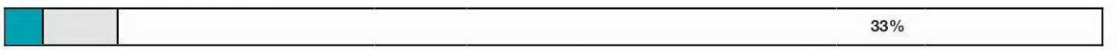
IEQ Overall contribution 16.5%

	Minimum required 50%	50%	Pass
1.4 Daylight Access - Non-Residential		67%	Achieved
2.3 Ventilation - Non-Residential		68%	Achieved
3.4 Thermal comfort - Shading - Non-residential		0%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential		0%	
4.1 Air Quality - Non-Residential		34%	

Transport Overall contribution 9.0%

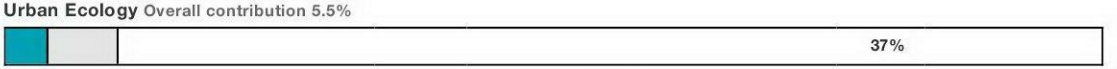
1.4 Bicycle Parking - Non-Residential	100%
1.5 Bicycle Parking - Non-Residential Visitor	100%
1.6 End of Trip Facilities - Non-Residential	100%
2.1 Electric Vehicle Infrastructure	100%
2.2 Car Share Scheme	0%
2.3 Motorbikes / Mopeds	100%

Waste Overall contribution 5.5%



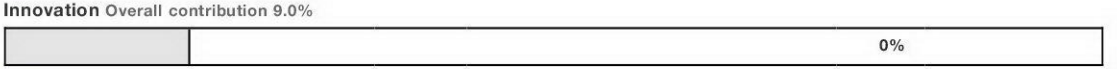
1.1 - Construction Waste - Building Re-Use	0%
2.1 - Operational Waste - Food & Garden Waste	0%
2.2 - Operational Waste - Convenience of Recycling	100%

Urban Ecology Overall contribution 5.5%



1.1 Communal Spaces	0%
2.1 Vegetation	75%
2.2 Green Roofs	0%
2.3 Green Walls and Facades	0%
3.2 Food Production - Non-Residential	0%

Innovation Overall contribution 9.0%



1.1 Innovation	0%

Credit breakdown

Management Overall contribution 2%

1.1 Pre-Application Meeting	0%
Score Contribution	This credit contributes 37.5% towards the 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	0%
Score Contribution	This credit contributes 25.0% towards the category score.
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2019 Section J1.5?
Question	Criteria Achieved ?
Office Building	No
Shop	No
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2019 Section J (Energy Efficiency), NABERS or Green Star?
Question	Criteria Achieved ?
Office Building	No
Shop	No
3.2 Metering	100%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Have utility meters been provided for all individual commercial tenants?
Question	Criteria Achieved ?
Office Building	Yes
Shop	Yes
3.3 Metering	100%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Have all major common area services been separately submetered?
Question	Criteria Achieved ?
Office Building	Yes
Shop	Yes
4.1 Building Users Guide	100%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Will a building users guide be produced and issued to occupants?
Question	Criteria Achieved ?
Project	Yes

Water

Overall contribution 4% Minimum required 50%

Water Approach	
What approach do you want to use for Water?:	Use the built in calculation tools
Project Water Profile Question	
Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Are you installing a rainwater tank?:	Yes
Water fixtures, fittings and connections	
Building: All	Medical Centre
Showerhead:	
Tenancy 1 (Shop) Tenancy 3 (Cafe) Tenancy 4 (Pharmacy) Tenancy 5 (Medical) Tenancy 6 (Medical) Level 5 (Medical Suites)	Scope out
Tenancy 2 (Shop) Level 3 (Medical Suites) Level 4 (Medical Suites)	4 Star WELS (>= 4.5 but <= 6.0)
Bath: All	Scope out
Kitchen Taps: All	>= 5 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers:	
Tenancy 1 (Shop) Tenancy 2 (Shop) Tenancy 4 (Pharmacy) Tenancy 5 (Medical) Tenancy 6 (Medical) Level 3 (Medical Suites) Level 4 (Medical Suites) Level 5 (Medical Suites)	Scope out
Tenancy 3 (Cafe)	Default or unrated
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out
Washing Machine Water Efficiency: All	Scope out
Which non-potable water source is the dwelling/space connected to?:	
Tenancy 1 (Shop) Tenancy 2 (Shop) Tenancy 3 (Cafe) Tenancy 4 (Pharmacy) Tenancy 5 (Medical) Tenancy 6 (Medical) Level 3 (Medical Suites)	Tank 1
Level 4 (Medical Suites) Level 5 (Medical Suites)	-1

Non-potable water source connected to Toilets:	
Tenancy 1 (Shop) Tenancy 2 (Shop) Tenancy 3 (Cafe) Tenancy 4 (Pharmacy) Tenancy 5 (Medical) Tenancy 6 (Medical) Level 3 (Medical Suites)	Yes
Level 4 (Medical Suites) Level 5 (Medical Suites)	No
Non-potable water source connected to Laundry (washing machine): All	No
Non-potable water source connected to Hot Water System: All	No

Rainwater Tank

What is the total roof area connected to the rainwater tank?: Tank 1	1,930 m²
Tank Size: Tank 1	40,000 Litres
Irrigation area connected to tank: Tank 1	400 m²
Is connected irrigation area a water efficient garden?: Tank 1	No
Other external water demand connected to tank?: Tank 1	-

1.1 Potable water use reduction — 60%

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	8194 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	5995 kL
Output	Proposed (including rainwater and recycled water use)
Project	4753 kL
Output	% Reduction in Potable Water Consumption
Project	41 %
Output	% of connected demand met by rainwater
Project	92 %
Output	How often does the tank overflow?
Project	Often
Output	Opportunity for additional rainwater connection
Project	2264 kL

3.1 Water Efficient Landscaping — N/A — Scoped Out

This credit was scoped out	Garden areas irrigated by rainwater-reuse

4.1 Building Systems Water Use Reduction	0%
Score Contribution	This credit contributes 16.7% towards the category score.
Criteria	Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?
Question	Criteria Achieved ?
Project	No

Energy Overall contribution 14% Minimum required 50%

Section Notes: Please note a commitment has been made to meet the minimum requirement of the NCC 2019 o A NCC JV3 Verification Method Assessment will be done prior to building approval. Figures have been entered into BESS to show that the energy section reaches compliance with no improvement on NCC minimums

Use the BESS Deem to Satisfy (DtS) method for Energy?:	No
Are you installing a cogeneration or trigeneration system?:	No
Non-Residential Building Energy Profile	
Heating, Cooling & Comfort Ventilation - Electricity - reference fabric and reference services:	1,000 kWh
Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and reference services:	1,000 kWh
Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and proposed services:	1,000 kWh
Heating - Gas - reference fabric and reference services:	1,000 MJ
Heating - Gas - proposed fabric and reference services:	1,000 MJ
Heating - Gas - proposed fabric and proposed services:	1,000 MJ
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:	-
Hot Water - Gas - Baseline:	1,000 MJ
Hot Water - Gas - Proposed:	1,000 MJ
Lighting - Baseline:	500 kWh
Lighting - Proposed:	500 kWh
Peak Thermal Cooling Load - Baseline:	100 kW
Peak Thermal Cooling Load - Proposed:	100 kW

1.1 Thermal Performance Rating - Non-Residential 12%

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 (NCC 2019 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?
Output	Reference Building with Reference Services (BCA only)
Office Building	1,044 kg CO2
Shop	79.2 kg CO2
Output	Proposed Building with Proposed Services (Actual Building)
Office Building	1,044 kg CO2
Shop	79.2 kg CO2
Output	% Reduction in GHG Emissions
Office Building	0 %
Shop	0 %

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?

2.3 Electricity Consumption	100%
Score Contribution	This credit contributes 9.1% towards the category score.
Criteria	What is the % reduction in annual electricity consumption against the benchmark?
Output	Reference
Office Building	929 kWh
Shop	70.6 kWh
Output	Proposed
Office Building	929 kWh
Shop	70.6 kWh
Output	Improvement
Office Building	0 %
Shop	0 %

2.4 Gas Consumption	100%
Score Contribution	This credit contributes 9.1% towards the category score.
Criteria	What is the % reduction in annual gas consumption against the benchmark?
Output	Reference
Office Building	1,859 MJ
Shop	141 MJ
Output	Proposed
Office Building	1,859 MJ
Shop	141 MJ
Output	Improvement
Office Building	0 %
Shop	0 %

3.1 Carpark Ventilation		0%	
Score Contribution	This credit contributes 9.1% towards the category score.		
Criteria	If you have an enclosed carpark, is it: (a) fully naturally ventilated (no mechanical ventilation system) or (b) 40 car spaces or less with Carbon Monoxide monitoring to control the operation and speed of the ventilation fans?		
Question	Criteria Achieved ?		
Project	No		
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?		
Output	Reference		
Office Building	258 kWh		
Shop	19.6 kWh		
Output	Proposed		
Office Building	258 kWh		
Shop	19.6 kWh		
Output	Improvement		
Office Building	0 %		
Shop	0 %		
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 J6.2a of the NCC 2019 Vol 1?		
Question	Criteria Achieved ?		
Office Building	Yes		
Shop	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		N/A	Disabled
This credit is disabled	No solar PV renewable energy is in use.		
4.4 Renewable Energy Systems - Other		N/A	Disabled
This credit is disabled	No other (non-solar PV) renewable energy is in use.		

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	100
Output	Min STORM Score
Project	100

IEQ

Overall contribution 8% Minimum required 50%

1.4 Daylight Access - Non-Residential		67%	✔ 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 Building	67 %		
Shop	74 %		
2.3 Ventilation - Non-Residential		68%	✔ 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 Building	0 %		
Shop	100 %		
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 Building	60 %		
Shop	0 %		
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?		
Question	Value		
Office Building	800 ppm		
Shop	0 ppm		
3.4 Thermal comfort - Shading - Non-residential		0%	
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 Building	16 %		
Shop	0 %		
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 tenancies have ceiling fans?		
Question	Percentage Achieved?		
Office Building	0 %		
Shop	0 %		
4.1 Air Quality - Non-Residential		34%	
Score Contribution	This credit contributes 5.9% towards the category score.		

Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Project	Yes
Criteria	Does all carpet meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Project	No
Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Project	No

Transport Overall contribution 8%

1.4 Bicycle Parking - Non-Residential	100%
Score Contribution	This credit contributes 25.0% 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 Building	Yes
Shop	Yes
Question	Bicycle Spaces Provided ?
Office Building	15
Shop	6

1.5 Bicycle Parking - Non-Residential Visitor	100%
Score Contribution	This credit contributes 12.5% 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 Building	Yes
Shop	Yes
Question	Bicycle Spaces Provided ?
Office Building	6
Shop	6

1.6 End of Trip Facilities - Non-Residential	100%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Where adequate bicycle parking has been provided. Is there also: * 1 shower for the first 5 employee bicycle spaces plus 1 to each 10 employee bicycles spaces thereafter, * changing facilities adjacent to showers, and * one secure locker per employee bicycle space in the vicinity of the changing / shower facilities?
Question	Number of showers provided ?
Office Building	1
Shop	1
Question	Number of lockers provided ?
Office Building	15
Shop	7
Output	Min Showers Required
Office Building	1
Shop	1
Output	Min Lockers Required
Office Building	15
Shop	6

2.1 Electric Vehicle Infrastructure	100%
Score Contribution	This credit contributes 25.0% towards the category score.
Criteria	Are facilities provided for the charging of electric vehicles?
Question	Criteria Achieved ?
Project	Yes

2.2 Car Share Scheme	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Has a formal car sharing scheme been integrated into the development?
Question	Criteria Achieved ?
Project	No

2.3 Motorbikes / Mopeds	100%
Score Contribution	This credit contributes 12.5% 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	Yes

Waste Overall contribution 2%

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

2.1 - Operational Waste - Food & Garden Waste	0%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Are facilities provided for on-site management of food and garden waste?
Question	Criteria Achieved ?
Project	No

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

Urban Ecology Overall contribution 2%

1.1 Communal Spaces		0%
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 : * 1m² for each of the first 50 occupants * Additional 0.5m² for each occupant between 51 and 250 * Additional 0.25m² for each occupant above 251?	
Question	Common space provided	
Office Building	-	
Shop	-	
Output	Minimum Common Space Required	
Office Building	230 m²	
Shop	35 m²	
2.1 Vegetation		75%
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	21 %	
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 Building	-	
Shop	-	
Output	Min Food Production Area	
Office Building	94 m²	
Shop	9 m²	

Innovation Overall contribution 0%

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

Disclaimer

The Built Environment Sustainability Scorecard (BESS) has been provided for the purpose of information and communication. While we make every effort to ensure that material is accurate and up to date (except where denoted as 'archival'), this material does in no way constitute the provision of professional or specific advice. You should seek appropriate, independent, professional advice before acting on any of the areas covered by BESS.

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Rainwater Tanks

How does a rainwater tank help protect our local streams?

Stormwater Sensitive Homes

Most people install a rainwater tank primarily to harvest stormwater from their roof and conserve their mains water use. In addition to conserving water, a rainwater tank also helps treat stormwater and protect local streams from high storm flows by reducing the volume of stormwater and quantity of pollutants coming from a house block that would otherwise be delivered to the local stream.

What do I use my tank water for?

Garden irrigation, laundry and toilet flushing consume much of our home water use. In most cases these uses do not require the water to be of drinking quality standard that is provided by mains water. By plumbing your rainwater tank to your toilet or laundry and substituting these mains water needs with the rainwater harvested from your roof, you can conserve mains water whilst reducing the amount of stormwater that enters our streams.

A typical home uses approximately 250,000 litres of water each year.

MelbourneWater®

Melbourne Water 131772
Melbourne Water Corporation, PO Box 4342, Melbourne Victoria 3001

Rainwater Tanks

Why can't I use my rainwater tank for my garden alone?

So that your tank is not too full to collect rainwater when it rains, you need to be consistently using your tank water all year round.

If tank water is used for your garden alone, your tank will remain full and unused during the winter months when your garden does not require watering. With a full tank, your capacity to capture and store the regular winter rainfall and thus benefit the local waterway is significantly reduced.

By plumbing your rainwater tank to your toilet or laundry, your tank water is used consistently all year round allowing rainfall to refill the tank more often especially in winter. This ultimately reduces the volume of stormwater that is delivered to the stream and the quantity of pollutants that are washed with it.

The Victorian Government has recognised the importance of plumbing your tank to your toilet and offers a cash rebate for the installation of connected rainwater tanks (www.dse.vic.gov.au). In addition, a 5 star energy standard has been introduced that requires a connected 2000Lt rainwater tank or solar hot water service to be installed in all new houses and apartments (class 1 and 2 buildings). (www.buildingcommission.com.au).

How do I choose a rainwater tank?

The most important thing to consider when choosing a rainwater tank is to first identify what you want from your rainwater tank. The size and type of rainwater tank you choose will vary depending on your homes water needs and the reliability you seek from your rainwater tank supply. There are a number of factors that may influence this and the following questions should be considered when planning your tank installation:

- what is the water demand of your home?
- how many people are living in your home?
- what is your intended use of rainwater?
- what reliability do you want from your tank?
- what is the total area of roof draining into your tank?
- what is average rainfall of your area?
- do you need extras like a pressure pump, the ability to top up your tank with drinking water, a backflow prevention device or a first flush device?
- are the materials used on your roof suitable to collect rainwater?
- are there physical constraints of your property that may influence the type of rainwater tank you need?

Once you know how much water you can collect and how much water you are going to use then a tank size can be selected to provide the reliability of water supply that you need.

Types of rainwater tanks

Rainwater tanks come in a variety of materials, shapes and sizes and can be incorporated into building design so they don't impact on the aesthetics of the development. They can be located above ground, underground, under the house or can even be incorporated into fences or walls.

There are three main tank systems to consider and a variety of materials to choose from. Features of these are outlined below and in the pictures above:

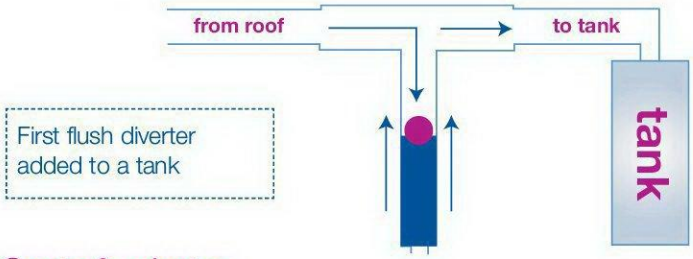
Tank systems:

Gravity Systems - rely on gravity to supply rainwater to the household and the garden by placing the tank on a stand at height.

Dual Supply Systems - top your rainwater tank with mains water when tank level is low ensuring reliable water supply.

Pressure Systems - use a pump to deliver rainwater to household and garden fixtures.

To reduce the amount of sediment and debris entering a tank, mesh screens and 'first flush diverters' can be fitted. A screen will filter large debris such as leaves and sticks while 'first flush diverters' store the 'first flush' of the rainfall that carries the sediment and other pollutants initially washed from your roof (see figure below).



Costs & rebates

Costs of installing a tank vary however a standard 2000Lt tank or bladder will cost around $1000.

Additional plumbing and/ or.....

- Above ground tanks cost approximately $250 for a 500 litre tank.
- Below ground tanks cost between $300-$600 per 1000 litres of storage
- The costs of pumps start from $200.

Additional plumbing and/or excavation costs vary on intended use, pipe layout, materials and site accessibility.

The Victorian Government offers a total rebate of $300 for the installation of a rainwater tank that is plumbed to toilet and connected by a licensed plumber. For further details refer to the Department of Sustainability and Environment website www.dse.vic.gov.au.

For more information:

Melbourne Water's Water Sensitive Urban Design Website: www.wsud.melbournewater.com.au

Municipal Association of Victoria Clearwater Program: www.clearwater.asn.au

Water Sensitive Urban Design in the Sydney Region: www.wsud.org

Urban Stormwater Best Practice Environmental Management Guidelines, Victorian Stormwater Committee, CSIRO publishing, 1999.

WSUD Engineering Procedures: Stormwater, Melbourne Water, 2005.

Delivering Water Sensitive Urban Design: Final Report of Clean Stormwater – a planning framework, ABM, 2004.

Legal Statement

This Sustainable Design Assessment has been prepared in conjunction with Sustainable Design Assessment in the Planning Process (SDAPP) protocols and any required tools including ESD, WSUD, Energy and/or Daylight assessment as required.

The development is assessed to achieve the stated ratings only if it is built in accordance with the specifications listed in the attached assessment tool printouts, and according to the plans provided by the designer to EcoResults. This report must be read in conjunction with all assessment tool printouts.

Any variation to the design or construction of the development will deem this SMP void unless the variations are assessed by EcoResults. Please contact EcoResults if there are any questions or variations that are required.

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