

# Sustainability Management Plan

1-5 Kintore St,  
Springvale VIC

08/11/2024

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# Sustainability Management Plan (SMP)

## Proposed Mixed-Use Development

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### DOCUMENT VERSION

Version	Date	Changelog	Author	Review
0	02/10/24	Issued for Client Review	JC	DG
1	02/11/24	Updated as per client’s comments	JC	-
2	08/11/24	Updated as per client’s comments	JC	-



## INITIATIVES TO BE MARKED ON DRAWINGS

### Water & Stormwater Management

- Mark-up showing roof catchment area to be diverted to the Rainwater tank for the development – If required, the use of charged pipe system will be explicitly acknowledged on the drawings and charged pipes will not be running underneath the building footprint.
- A filtering system is to be installed for the tanks due to catchment from trafficable areas.
- Location and size of each Rainwater tank proposed
- Note showing connection to the toilets
- Potable (mains) water consumption from fire testing and building systems (HVAC) will be **reduced by at least 80%** by collecting and recycling.
- Note showing the use of native or drought-tolerant species for landscaped areas. Watering will not be required after the initial period when plants are established. If irrigation is required, it will be connected to rainwater tanks.
- Note showing WELS rating for water fittings/fixtures (refer to report) – Fixtures (e.g. dishwasher) provided as part of base building work have to be chosen within one WELS star of best available at the time of purchase.

### Energy Efficiency

- Note showing commitment to exceeding section J energy efficiency requirement of NCC 2022
- Commitment to 7.0 Star average energy rating for the development (on planning and construction drawings)
- Note showing commitment that the maximum illumination power density (W/m<sup>2</sup>) of the apartments will be reduced by 20% compared to NCC 2022 requirements.
- Note showing the maximum illumination power density (W/m<sup>2</sup>) of the tenancy area meets the NCC 2022 requirements
- Lighting sensors for external lighting (motion detectors, timers etc.)
- 12kW (40 panels approx.) Solar PV system on the roof of the development
- CO sensors for car park ventilation
- All-Electric development

### Indoor Environment Quality

- Glazing in apartments to have a minimum VLT of 60%
- Note showing commitment to Outside Air Fan for the tenancy-office/all the regular spaces provided. A1987 rates 50% above minimum from AS1668

### Transport

- 42 bike spaces provided on the ground floor
- Minimum one EV charging in the carpark for the development (minimum Level 2 – 32amp) – Distribution board is shown in the basement (electrical infrastructure to allow the operator to install a battery if that is their preference)

### Waste

- Four-bin system, including rubbish, recycling, organic/garden waste, and glass.

### Urban Ecology

- Show the extent of vegetated areas around the site (including lawn)

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## INTRODUCTION

Frater Consulting Services has been engaged to undertake a Sustainability Management Plan (SMP) for the proposed mixed-use development located at 1-5 Kintore Street, Springvale. This plan has been prepared to address the Great Dandenong City Council's sustainability requirements in Planning Policy Clause 22.06 Environmentally Sustainable Development.

Within Clause 22.06, the City of Great Dandenong has identified the following key categories to be addressed:

- Energy Performance;
- Water Resources;
- Stormwater Management;
- Indoor Environment Quality;
- Construction, Building & Waste Management;
- Building Materials;
- Transport; and
- Urban Ecology.

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The site has been assessed using the BESS tool. BESS was developed by association of councils led by the Merri-bek City Council. This tool assesses the energy and water efficiency, thermal comfort and overall environmental sustainability performance of new buildings or alterations. It was created to demonstrate how new development can meet sustainability requirements as part of a planning permit application for the participating council.

Each target area within the BESS tool generally receives a score of between 1% and 100%. A minimum score of 50% is required for the energy, water, stormwater and IEQ areas. An overall score of 50% represents 'Best Practice' while over 70% represents 'Excellence'. The result of the BESS assessment is included in Appendix H.

The Stormwater Treatment Objective—Relative Measure (STORM) calculator, which addresses stormwater quality considerations, has been used to ensure that stormwater management best practice requirements have been achieved. The result of the STORM assessment is included in Appendix A.



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# SITE DESCRIPTION

The proposed site is located at 1-5 Kintore Street, Springvale. The 1,757m<sup>2</sup> site is currently vacant for development. It is approximately 29 km southeast of the Melbourne CBD.

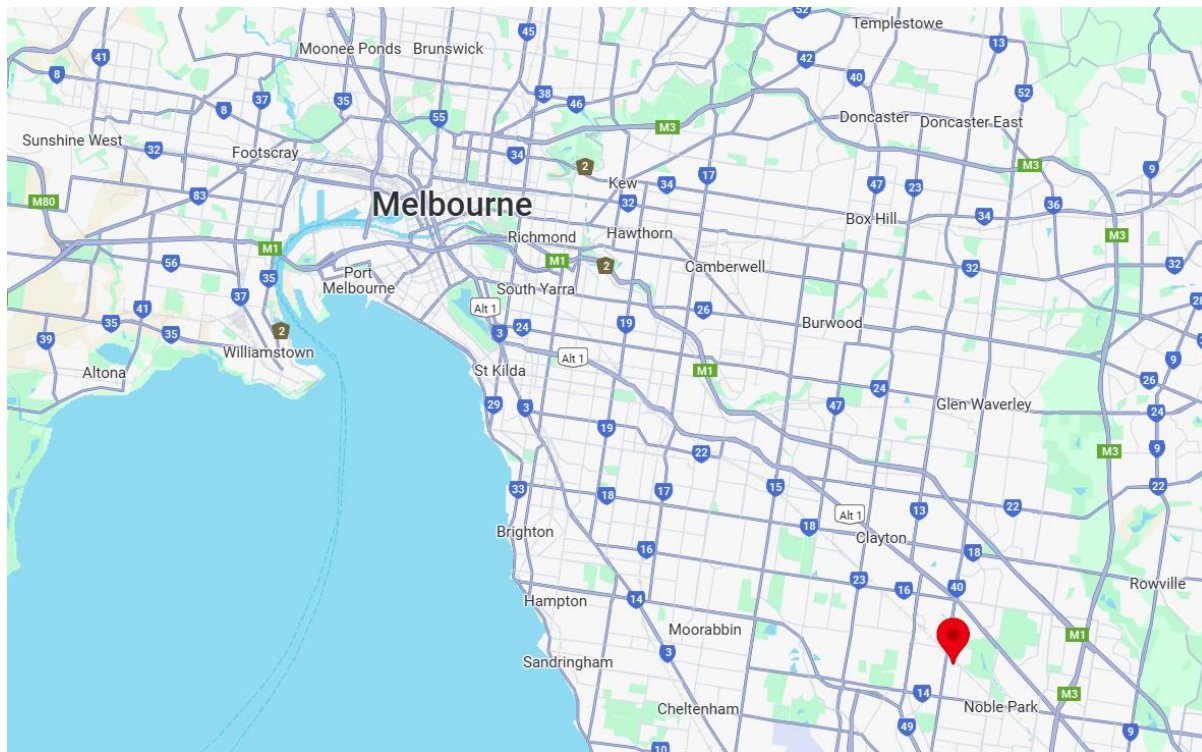


Figure 1: Location of the proposed development in Springvale with relation to Melbourne CBD  
(Source: Google Maps)

# PROPOSED DEVELOPMENT

The proposal involves developing the site into a seven-story mixed-use development with 87 apartments (51 x 1-bedroom, 27 x 2-bedroom, and 9 x 3-bedroom) and an office on the ground floor level with frontage on Kintore Street. Bicycle parking will be available on the ground level. The basement will accommodate 34 parking spaces, a central waste storage area, and storage cages. The total area of the site is approximately 1,757m<sup>2</sup>.

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## ENERGY EFFICIENCY

Energy and its key elements should be integrated into the design of the proposed development. These elements contribute to reducing greenhouse gas emissions by utilising energy-efficient appliances, energy conservation measures, and renewable energy.

### Thermal Performance - Residential

Energy ratings will be completed at the building approval stage. A commitment is made that all apartments will meet the energy efficiency requirements of a minimum 7.0-star average energy rating, with no individual apartment scoring less than 6.5 stars (10% improvement above BCA requirements). This will be achieved using appropriate insulation levels in all external walls, roofs, and floors, as well as thermally efficient glazing windows throughout habitable rooms. For the BESS assessment, 7.0-star average results with cooling energy lower than 20 MJ/m<sup>2</sup> have been assumed.

### Energy Efficiency – Tenancy 1

Prior to the building construction stage of the project, a section J (NCC 2022) DTS assessment will occur with the following commitments:

- 10% improvement on floor and ceiling insulation level requirement from NCC 2022;
- Wall and glazing performance to be in line with DTS requirements
- Heating/cooling system to be chosen within one star of the best available product in the range at the time of purchase or COP/EER 85% or better than the most efficient equivalent capacity unit available if no star rating is available; and
- Water heating system to be chosen within one star of the best available product in the range at the time of purchase or 85% or better than most efficient equivalent capacity unit available if no star rating is available.

Alternatively, prior to the building construction stage of the project, energy modelling will occur with the aim of exceeding the requirements of NCC 2022, using an NCC JV3 modelling process. This will be achieved through the use of high-performance building fabric and glazing, low-energy lighting and building services. **The reference building model will include the minimum improvement committed above for floors and ceilings.** This method will allow for flexibility in glazing performance. Results in BESS using the J1V3 approach would yield a slightly lower score under BESS Energy 1.1; however, our BESS assessment has been prepared to ensure that the energy section and overall compliance are maintained.

### Heating and Cooling Systems

To reduce energy consumption, heating and cooling will be provided by energy-efficient air conditioners chosen with a minimum 3-star rating (cooling and heating) or within one star of the best available product in the range at the time of purchase, whichever is greater.

COP/EER 85% or better than the most efficient equivalent capacity unit available if no star rating is available.

Please note that a 3-star energy rating has been entered in BESS as an average; however, the actual star rating will depend on the product range.

### **Hot Water Heating**

Hot water will be provided with an efficient electric heat pump systems.

### **All-Electric Development**

No gas connection will be provided for the development. This will reduce reliance on fossil fuels and will be in line with local and state targets of decarbonisation.

### **Lighting - Apartments**

LED lighting will reduce energy consumption from artificial lighting within the apartments, not exceeding the lighting level of 4W/m<sup>2</sup>. The use of light internal colours will improve daylight penetration, thus reducing the need for artificial lighting.

### **Lighting - Tenancy**

The maximum illumination power density (W/m<sup>2</sup>) of the development will meet NCC 2022 requirements by the use of LED throughout the development. **Lighting levels will not exceed 4.5 W/m<sup>2</sup> for the office.**

### **Lighting Sensors**

Common areas will be controlled using occupancy sensors and/or daylight sensors. Ventilation in these areas will be controlled using timers and other sensors.

### **Car Park Ventilation**

Car park ventilation will be designed to best practice energy efficiency with the exhaust fans installed with CO sensors, which will only operate when required.

### **Solar PV System**

A 12kW solar photovoltaic system for renewable energy generation will be installed on the development's roof. This will offset a portion of the project's greenhouse gas emissions and energy use (lighting, pumps, etc.).

Solar PV system could be provided by Solar Battery Group. Solar Battery Group is a market leading solar PV and solar battery company that provides end-to-end services. For more information, please see Appendix G.

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## WATER EFFICIENCY & STORMWATER MANAGEMENT

Water saving, use, and reuse, as well as its key elements, should be integrated into the design of the proposed development. These principles contribute to reducing the water demand and promoting water reuse. Stormwater management and its key elements should be integrated into the design of the proposed development. These principles contribute to ensuring natural systems are protected and enhanced whilst promoting on-site retention and aim to reduce runoff or peak flows.

### Water Efficient Fittings

The development will include efficient fittings and fixtures to reduce the volume of mains water used in the development. The following WELS star ratings will be specified;

- Toilets – 4 Star;
- Taps (bathroom and kitchen) – 5 Star;
- Showerhead – 4 Star with aeration device (6.0-7.5L/min); and
- Dishwasher – 5 Star.

### Rainwater Collection & Use

Rainwater runoff from the roof area of the development will be collected and stored in rainwater tanks<sup>1</sup> with a total effective capacity of 24,000L.

If required, a charged pipe system or multiple tanks will be installed to collect water from part of the roof of the development.

**Collection will occur from trafficable areas; therefore, an appropriate filtering system (first flush, cartridge filter) will be required to be installed and maintained. The filtering system will be in line with guidelines and standards for rainwater reuse from Water Quality Australia (<https://www.waterquality.gov.au/guidelines/recycled-water>).**

**In the case of a charged pipe system, the charged pipes will not run underneath the building footprint (slab), and the stakeholders (builder/developer/architect) will be required to explicitly acknowledge this solution and have the capacity to install it.**

The collected rainwater will be used for toilet flushing in all apartments. These initiatives will significantly reduce the development's stormwater impacts and help achieve compliance with the STORM calculator (See Appendix A).

### Water Efficient Appliances

All appliances provided in the development as part of the base building work (e.g. dishwasher) will be chosen within one WELS star of the best available.

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<sup>1</sup> Please note that any stormwater detention volume requirement for the site will be in addition to the proposed rainwater retention and that the proposed tank will not be directly topped up by mains water.

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## Water Efficient Landscaping

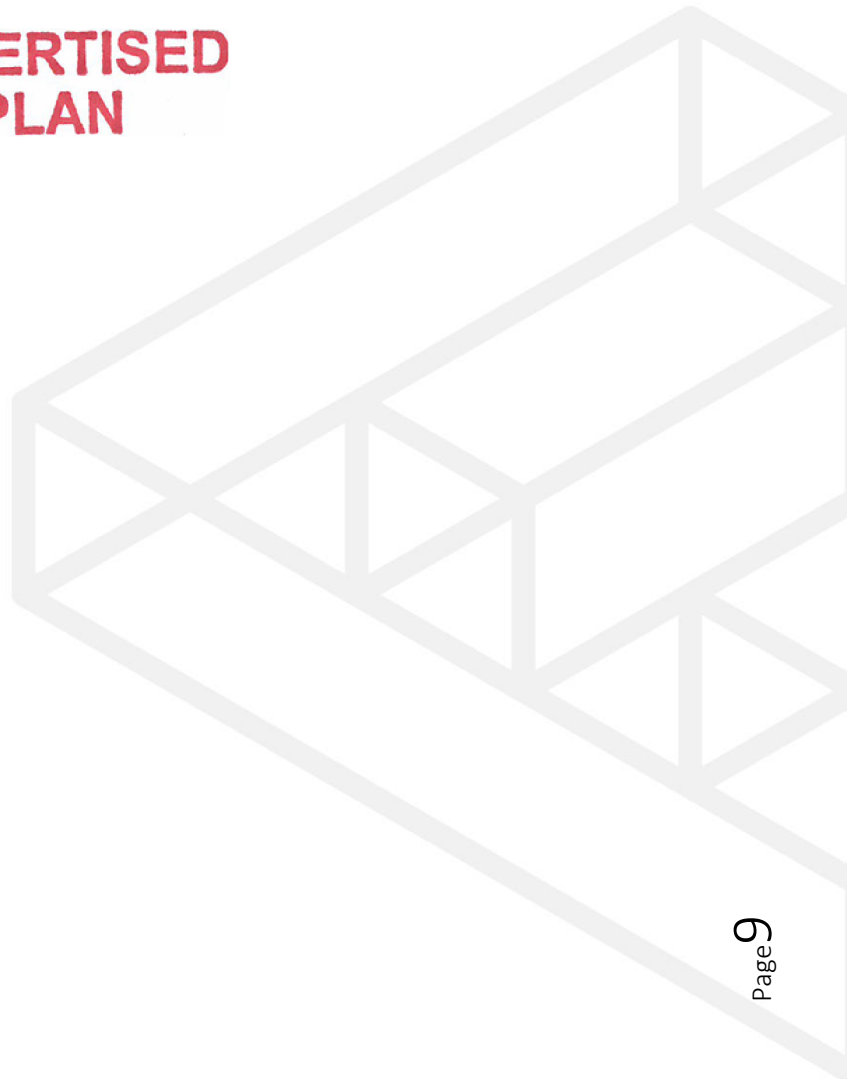
Native or drought-tolerant plants will be implemented for the landscaped areas on site. Use of water or irrigation will not be required after an initial period when plants are getting established. If irrigation is required, it will be connected to rainwater tanks.

## Building System Water

Potable (mains) water consumption from fire testing and building systems (HVAC) will be **reduced by at least 80%** by collecting and recycling. This requirement will need to be integrated into the service design. Building air-conditioning will not use potable water for cooling.

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## INDOOR ENVIRONMENT QUALITY

Indoor Environment Quality and its key elements should be integrated into the design of the proposed development. These elements play a significant role in the health, wellbeing and satisfaction of the development occupants. Facilitating a good (IEQ) design provides a naturally comfortable indoor environment and less dependence on building services such as, artificial lighting, mechanical ventilation and heating and cooling device.

### Volatile Organic Compounds

All paints, adhesives and sealants and flooring will have low VOC content. Alternatively, products will be selected with no VOCs. Paints such as eColour, or equivalent should be considered. Please refer to Appendix C for VOC limits.

### Formaldehyde Minimisation

All engineered wood products will have 'low' formaldehyde emissions and be certified as E0 or better. Alternatively, products will be specified with no Formaldehyde. Products such as ecological panel – 100% post-consumer recycled wood (or similar) will be considered for use within the development. Please refer to Appendix C for formaldehyde limits.

### Daylight Levels

#### **Apartments**

Daylight penetration will be enhanced with light internal colours to improve daylight reflection. Most of the living/kitchen areas (except for Living rooms G03, G04, 1.03, 1.04, 1.05, 1.06, 2.03, 2.04, 2.05, 2.06, 3.03, 3.04, 3.05, 3.06, 4.02 4.03, 4.04 and 4.05) have limited room depth (<5m from windows in the southern part of the building) allowing for good daylight access. Additionally, most of the living/living areas (except for rooms G06, 1.11, 2.11, 3.11 and 4.10) comply with the BESS separation table requirements. All bedrooms will have access to a window, so no bedroom will rely on borrowed daylight. Ceiling height throughout the habitable rooms will be a minimum of 2.7m, and the glazing provided will be a **60% Visual Light Transmittance** minimum.

**Daylight access has been assessed using the BESS daylight built-in calculator and BESS DTS criteria. For residential daylight calculations, please refer to Appendix E.**

#### **Office**

Light internal colours will enhance daylight inputs through windows/openings in the office spaces, allowing better internal reflection of daylight. The offices will have large glazing to allow for good daylight penetration. The offices will achieve good daylight amenities (beyond compliance with the SDAPP guidelines).

Please refer to Appendix F for daylight Hand Calculation, which shows compliance with best practice requirements in the office area.

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## Mechanical Ventilation – Improved Outside Air Rates - Tenancy

Office spaces will be provided with O/A fans which will commit to provide 50% increase on O/A provision from AS1668.

### Ventilation

All kitchens will have a separate dedicated exhaust fan (range-hood) which will be directly exhausted out of the building.

External windows in the apartments will generally include an operable component. This will help introduce fresh air to the residents and reduce the need for mechanical cooling when weather conditions are suitable.

Most apartments (more than 41%) will have access to effective crossflow ventilation, with windows in opposing or adjacent walls. Window locks and door catches will be included to encourage and improve natural ventilation in the apartments.

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## CONSTRUCTION, BUILDING & WASTE MANAGEMENT

Building Management and its key elements should be integrated into the design of the proposed development. These principles contribute to ensuring efficient and effective ongoing building performance. Waste management and its key elements should be integrated into the design of the proposed development. These principles contribute to ensuring minimal waste is transported to landfills by means of disposal, recycling, and on-site waste storage and/or collection methods.

### Metering / Monitoring

Each apartment will be separately metered for potable water and energy. Effective metering ensures that residents/tenants are responsible for their consumption and they can reduce their consumption.

### Construction Waste Management

A waste management plan will be introduced to all on-site staff at a site orientation session to ensure that the waste generated on-site is minimised and disposed of correctly. A minimum of 80% of all construction waste generated on-site will be reused or recycled.

### Construction Environmental Management

The builder will identify environmental risks related to construction and include management strategies such as maintaining effective erosion and sediment control measures during construction and operation and ensuring appropriate staging of earthworks (e.g., avoid bare earthworks in high-risk areas of the site during the dominant rainfall period).

### Operational Waste

The development will have a central waste storage room in the basement. The room will have general waste, recycling, and hard rubbish facilities. Space will also be provided for future glass bins.

Recycle bins will be provided next to general waste bins in kitchens. Please refer to the Waste Management Plan for further details.



Figure 2: Examples of kitchen receptacles for general waste and recycling.



## TRANSPORT

### **Bicycle Parking**

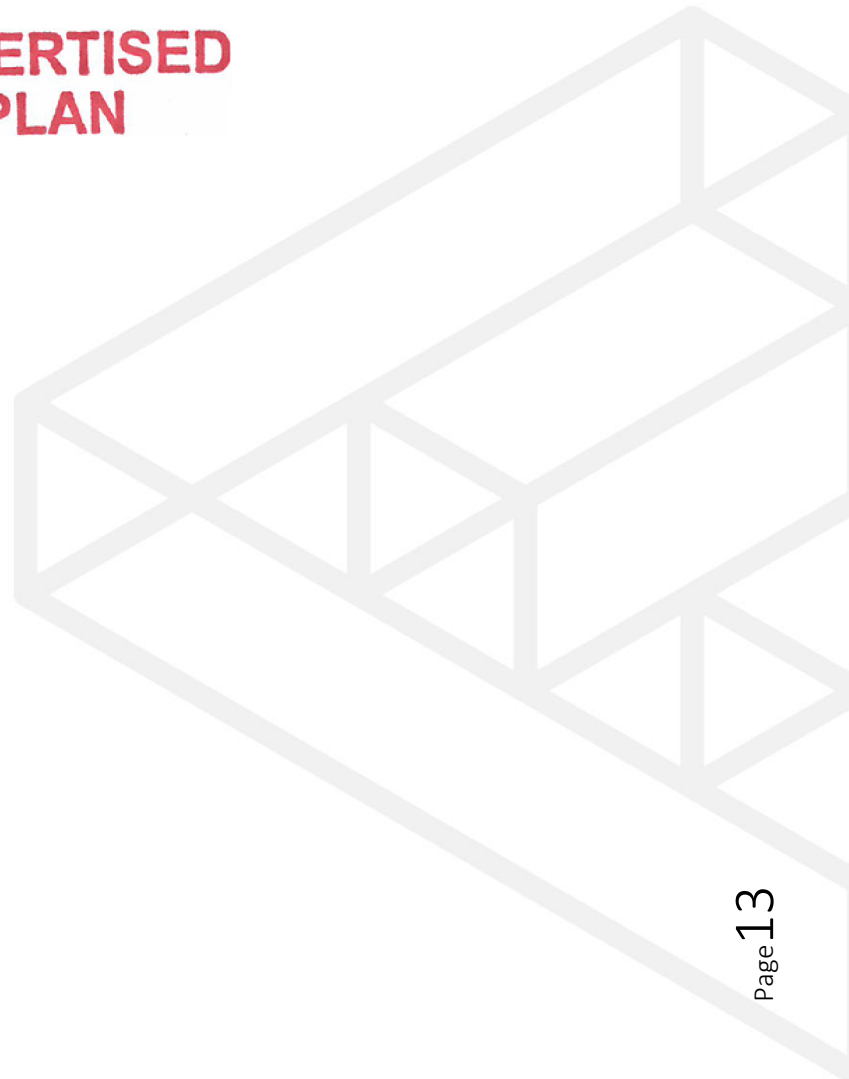
Residents will be able to securely park their bicycles in the dedicated bicycle storage areas provided on the ground floor. This will be protected from weather and theft. A total of 42 bicycle racks are provided for residents.

### **Electric Vehicle Car Charging Infrastructure**

At least one charging infrastructure (minimum Level 2 – 32amp) for electric vehicle will be provided in the car park. An electrical infrastructure will be provided to allow the operator to install a battery if that is their preference.

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## URBAN ECOLOGY

In highly urbanised environments, such as metropolitan Melbourne, it is important to recognise the importance of maintaining and increasing the health of our urban ecosystems to improve living conditions not only for the fauna but also for ourselves. We can improve our urban ecosystem by incorporating vegetation through landscaping for both new and existing developments.

### Re-use of Land

The development is a redevelopment of an established site; therefore, increased density in an established urban area will reduce urban sprawl.

### Landscaping

Landscaped areas will be provided around the site, providing the occupants with a pleasant surrounding environment. The design will incorporate a mix of native species to help maintain local biodiversity.

### Insulant ODP

All thermal insulation used in the development will not contain any ozone-depleting substances and will not use any in its manufacturing.

## IMPLEMENTATION & MONITORING

The proposed development will meet the best practice requirement of the City of Greater Dandenong through the different initiatives describe in this report such as thermally efficient building envelope, efficient air conditioning and hot water system and sustainable materials. An appropriate implementation and monitoring of the initiatives outlined within this report will be required.

Implementation of the ESD initiatives outlined in this report requires the following processes:

- Full integration with architectural plans and specifications
- Full integration with building services design drawings and specifications
- Endorsement of the ESD Report with town planning drawings
- ESD initiatives to be included in plans and specifications for building approval

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## APPENDIX A – WSUD REPORT / STORM ASSESSMENT

New development must comply with the best practice performance targets for suspended solids, total phosphorous and total nitrogen, as set out in the Urban Stormwater Best Practice Environmental Management Guidelines, Victoria Stormwater Committee 1999. Currently, these water quality performance targets require:

- Suspended Solids - 80% retention of typical urban annual load
- Total Nitrogen - 45% retention of typical urban annual load.
- Total Phosphorus - 45% retention of typical urban annual load
- Litter - 70% reduction of typical urban annual load.

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The STORM tool, an industry accepted tool, was used to assess the development and ensure that the best practice targets described above are met. A minimum compliance score of 100% is required for the development.

### Site Delineation

For the purpose of the assessment, the development has been delineated into the following surface types:

- Site area of 1,757m<sup>2</sup>;
- Roof area runoff of 1,176.5m<sup>2</sup> which will be diverted into rainwater tank(s);
- Permeable areas of 174.4m<sup>2</sup> comprised of landscaped areas around the site;
- Remainder of impervious areas 406.1m<sup>2</sup> comprised of part of the communal and other areas around the site.

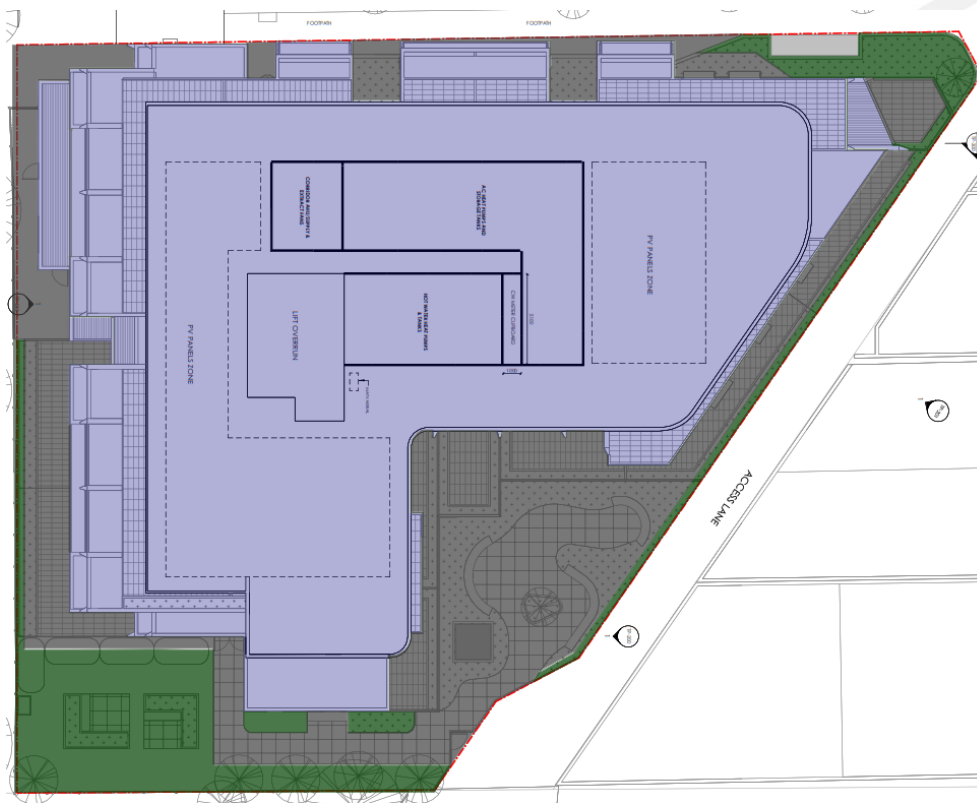


Figure 3: Roof catchment area to RWT (blue), permeable areas (green) and impervious area above the basement (Grey)

## Stormwater initiatives

### Rainwater Tank (Rainwater tank for toilet flushing)

The roof catchment area (as described above) will be diverted to 24,000L rainwater tanks. The rainwater collected will be used for toilet flushing.

If required, a charged pipe system or multiple tanks will be installed to collect water from part of the roof of the development.

In the case of a charged pipe system, the charged pipes will not be running underneath the slab and the stakeholders (builder/developer/architect) will be required to explicitly acknowledge this solution and have the capacity to install it.

Collection will occur from trafficable areas; therefore, an appropriate filtering system will be required to be installed (first flush, cartridge filter) and maintained. The filtering system will be in line with guidelines and standards for rainwater reuse from Water Quality Australia <https://www.waterquality.gov.au/guidelines/recycled-water>.

The remainder of impervious areas will directly be released at the legal point of discharge on site.

Permeable areas are excluded from the STORM assessment.

It should be noted that permeable areas have been maximised in the development which will reduce the overall stormwater outflows from the site. Vegetated areas are provided in the proposed development, reducing the heat island effect and improving the local habitat.

## Stormwater Results

The initiatives and areas described above have been applied to the STORM calculator and the proposed development has achieved a score of 108%.



## STORM Rating Report

TransactionID: 0  
 Municipality: GREATER DANDENONG  
 Rainfall Station: GREATER DANDENONG  
 Address: 1-5 Kintore St  
 Springvale  
 VIC 3171  
 Assessor: Frater Consulting Services  
 Development Type: Residential - Multiunit  
 Allotment Site (m2): 1,757.00  
 STORM Rating %: 108

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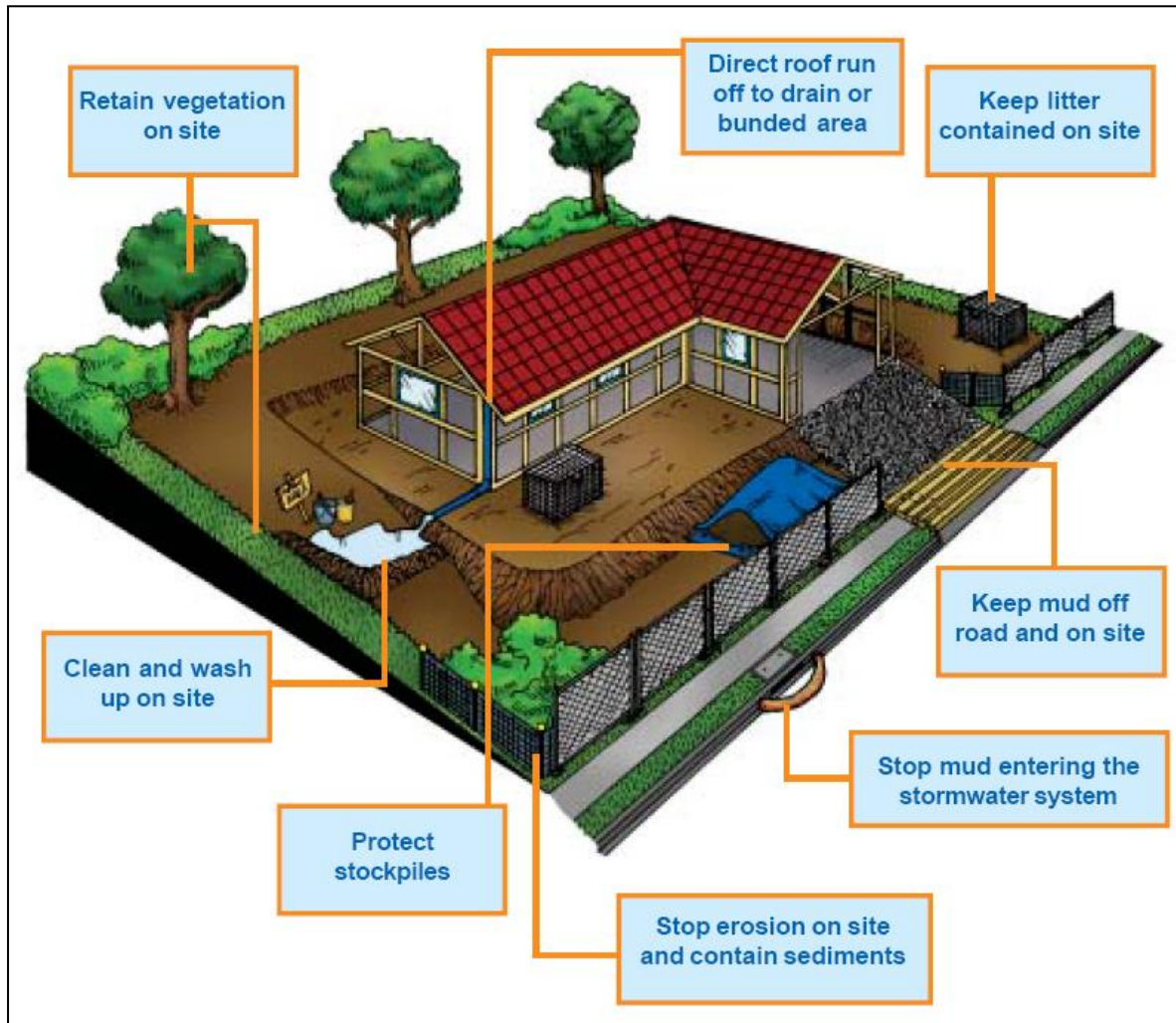
Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof to RWT	1,176.50	Rainwater Tank	24,000.00	90	145.40	78.00
Other Impervious	406.10	None	0.00	0	0.00	0.00





## Stormwater Management at Construction Site

To manage stormwater management in the construction stage, measures will be put in place to minimise the likelihood of contaminating stormwater. This will mean ensuring buffer strips are in place, sediment traps are installed, and the site will be kept clean from any loose rubbish. The builder will follow the process outlined in “Keeping Our Stormwater Clean – A Builder’s Guide” by Melbourne Water.



Copies of “Keeping Our Stormwater Clean – A Builder’s Guide” booklet can be downloaded from the following website.

<https://www.clearwatervic.com.au/resource-library/guidelines-and-strategy/keeping-our-stormwater-clean-a-builders-guide.php>

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## APPENDIX B – WSUD MAINTENANCE & INSTALLATION

### Installation

#### Rainwater Tank(s)

The rainwater tank(s) will be installed on the ground floor. Its manufacturer or material has not been nominated. It will be installed with a mesh insect cover over the inlet pipe to ensure the tank does not become a breeding ground for pests. Mesh needs to be installed over overflow pipes, and if a manhole is present, it needs to be properly sealed.

Please refer to the architectural drawings for the location of the rainwater tank.

#### Pumps

The pumps required either to divert the stormwater runoff to the rainwater tank or to distribute the collected water to the end uses (toilets) will be required to be installed as per the chosen manufacturer specifications.

#### Filtration System

The filtration system required to ensure that the reused water is in line with the *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks* will be required to be installed as per the chosen manufacturer specifications. A filtration system is required due to collection from trafficable areas (terraces).

### Inspection Requirements

#### Rainwater Tanks

Inspections of roof areas and gutters leading to the tank should take place every 6 months. Rainwater in the tanks should be checked every 6 months for mosquito infestation.

The rainwater tank should be examined every 2 years for sludge buildup.

Ensure the monitoring system (be it digital or a simple float system) is functioning properly by checking the water level in the rainwater tanks.

#### Pumps

The pumps required will be required to be routinely inspected by listening for the day-to-day operation of the pumps. Unusual noise or no noise should be investigated. Inspection should occur as per the chosen manufacturer's specifications.

#### Filtration System

The filtration system will be required to be routinely inspected. Inspection should occur as per the chosen manufacturer specifications.

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## Clean Out / Maintenance Procedure

### Rainwater Tank, Roof and Gutters

Rainwater tanks will require the roof and gutters onsite to be maintained; gutters should be checked, maintained and cleaned every six months to avoid blockages from occurring. If a leaf blocking system is installed this can be completed annually.

Any trees onsite should be maintained every 6 months with branches overhanging the roof removed.

Water ponding in gutters should be avoided as this provides a breeding ground for mosquitos; tanks should also not become breeding grounds for mosquitoes. If mosquitoes are detected in the tank, remedial steps need to be taken to prevent breeding. If mosquitoes or other insects are found in rainwater tanks, the point of entry should be located and repaired. In addition to preventing further access, this will prevent the escape of emerging adults. Gutters should be inspected to ensure they do not contain ponded water and be cleaned if necessary.

Please refer to <https://www.health.vic.gov.au/sites/default/files/2022-11/Keeping-your-rainwater-tank-safe-from-mosquitos.pdf> for more information on mosquito control.

Rainwater tanks should be checked by a regular maintenance person every 3-6 months to ensure that connection to the building is maintained and there are no blockages.

A simple way to ensure the tank is operating as intended would be to install a smart monitoring device (e.g. OneBox<sup>®</sup>). These systems allow users to operate tanks remotely from the Internet or their smartphones, monitor and control the tanks in real time, automatically release stored water prior to storm events, alert users if there is any blockage, and view tank history and usage patterns.

Alternatively, onsite tank gauges can help those familiar with the tank know if the tank is not working correctly.

### Pumps

Maintenance should occur as per the chosen manufacturer's specifications. All strainers and filters should be cleaned every 6 months. Good quality pumps should provide trouble-free service for up to 10 years.

### Filtration System

Maintenance should occur as per the chosen manufacturer's specifications.

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## Commissioning

### Rainwater Tank

All rainwater tanks should be washed or flushed out prior to use. All inlets and outlets should be correctly sealed to prevent insects entering. Connection to all toilets in the development should be tested (dye test or equivalent).

Please note that if a new roof coating or paint is to be installed, the first few run-offs after installation need to be discarded.

### Pumps

Commissioning should occur as per the chosen manufacturer's specifications.

### Filtration System

Commissioning should occur as per the chosen manufacturer's specifications.

## Summary

The following needs to occur onsite to ensure compliance with WSUD requirements and maintain operation of rainwater tank and connections onsite.

Task	When?	Requirement
Inspect Rainwater tanks	Every 6 months	<ul style="list-style-type: none"> <li>• Check for any damage/compression</li> <li>• Mosquitoes infestation</li> </ul>
	Every 2 years	<ul style="list-style-type: none"> <li>• Sludge Build up – if sludge build up occurs a vacuum tank needs to be called out to site.</li> </ul>
Inspect roofs & gutters	Every 6 months	<ul style="list-style-type: none"> <li>• Clean out of leaves / debris.</li> <li>• Remove any overhanging branches onsite.</li> </ul>

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# APPENDIX C – VOC & FORMALDEHYDE EMISSION LIMITS

The following table is an extract of the Green Star Design and as-built submission guidelines:

**Table 13.1.1: 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

The product complies with the Total VOC (TVOC) limits specified in the Table below.

### Carpet Test Standards and TVOC Emissions Limits

Test protocol	Limit
ASTM D5116 - Total VOC limit	0.5mg/m <sup>2</sup> per hour
ASTM D5116 - 4-PC (4-Phenylcyclohexene)	0.05mg/m <sup>2</sup> per hour
ISO 16000 / EN 13419 - TVOC at three days	0.5 mg/m <sup>2</sup> per hour
ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours	0.5mg/m <sup>2</sup> per hour

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**Table 13.2: Formaldehyde Emission Limit Values for Engineered Wood Products**

Test Protocol	Emission Limit/ Unit of Measurement
AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	≤1mg/ L
AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1.5 mg/L
AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1mg/ L
AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)	≤1mg/ L
Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL	≤1mg/ L
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	≤1mg/ L
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	≤1mg/ L
JIS A1901 (not applicable to Plywood, applicable to high pressure laminates and compact laminates)	≤0.1 mg/m <sup>2</sup> hr*
ASTM D5116 (applicable to high pressure laminates and compact laminates)	≤0.1 mg/m <sup>2</sup> hr
ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates	≤0.1 mg/m <sup>2</sup> hr (at 3 days)
ASTM D6007	≤0.12mg/m <sup>3</sup> **
ASTM E1333	≤0.12mg/m <sup>3</sup> ***
EN 717-1 (also known as DIN EN 717-1)	≤0.12mg/m <sup>3</sup>
EN 717-2 (also known as DIN EN 717-2)	≤3.5mg/m <sup>2</sup> hr

\*mg/m<sup>2</sup>hr may also be represented as mg/m<sup>2</sup>/hr.

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## APPENDIX D – GREEN TRAVEL PLAN CONSIDERATION

The site is conveniently located near Melbourne's Public Transport system, providing easy access for residents and visitors without the need for personal cars. The Springvale train station and the Springvale Railway bus stops are both within walking distance of the development.

### Train Services

- Springvale train station is only 400 meters from the development site.
- This station offers access to trains servicing the Pakenham and Cranbourne lines.
- Facilities at the station include bicycle racks, toilets, and parking.
- Trains run every 3-10 minutes during peak hours and every 10 minutes during off peak times.
- On weekdays, peak hour train services operate from around 6:30 am to 12:30 am inbound and from 5 pm to 7 pm outbound.

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### Bus Routes

The nearest bus stop is 400 meters from the proposed development. Five bus routes operate via Spring Station.

- 705: to Mordialloc Station (Peak hour only)
- 811: From Dandenong Station to Brighton
- 813: From Dandenong Station to Waverley Gardens Shopping Centre
- 814: Springvale South - Dandenong
- 885: to Glen Waverley Station

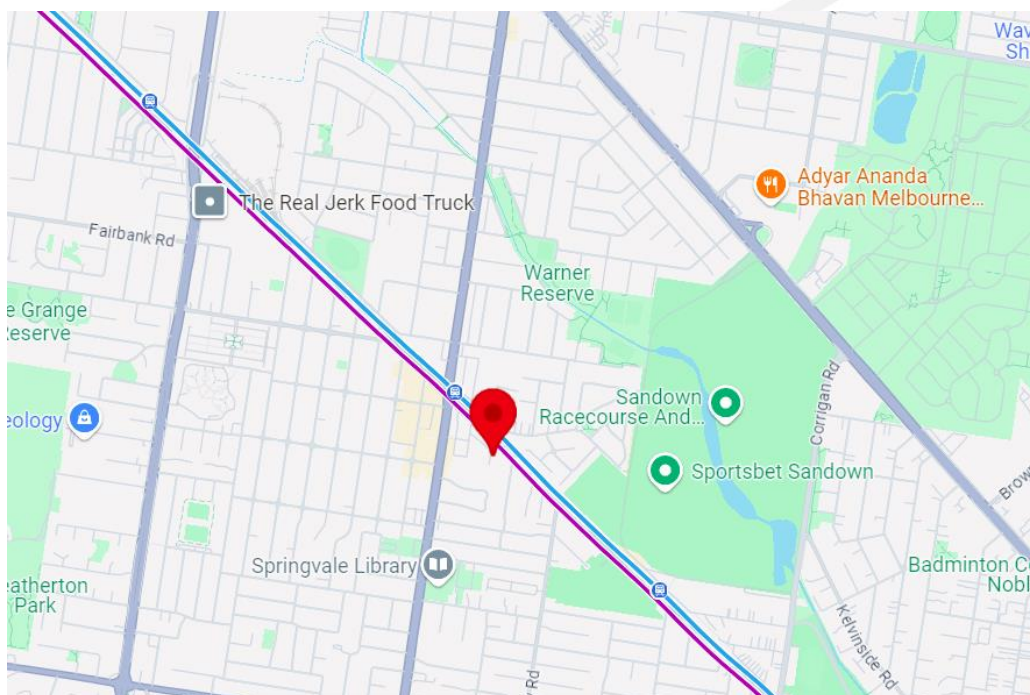


Figure 4: Location of public transport train line (Purple) and bus lines (blue) in reference to the development (red pin).

## Alternative Modes of Transport

Non-motorised forms of travel will be heavily promoted throughout the development using a range of prompts. This will be achieved by preparing Welcome Packs and Information Boards, encouraging residents to use non-motorised means of travel.

### Cycling

Cycling is one of the most healthy and sustainable forms of Green Travel. In inner urban areas, cycling is often much faster than walking, and when traffic is heavy, it can be much quicker to travel by bike than by car or public transport.

The main trail is located along Lightwood Road towards Noble Park or Westall Road. At some points, the track is shared with pedestrians, while at other points it becomes an exclusive path for cyclists. This allows cyclists to avoid major roads and vehicular traffic congestion.

Other shared paths or informal bike routes are available around the development. More information can be found at <https://www.vicroads.vic.gov.au/traffic-and-road-use/cycling/bicycle-route-maps>

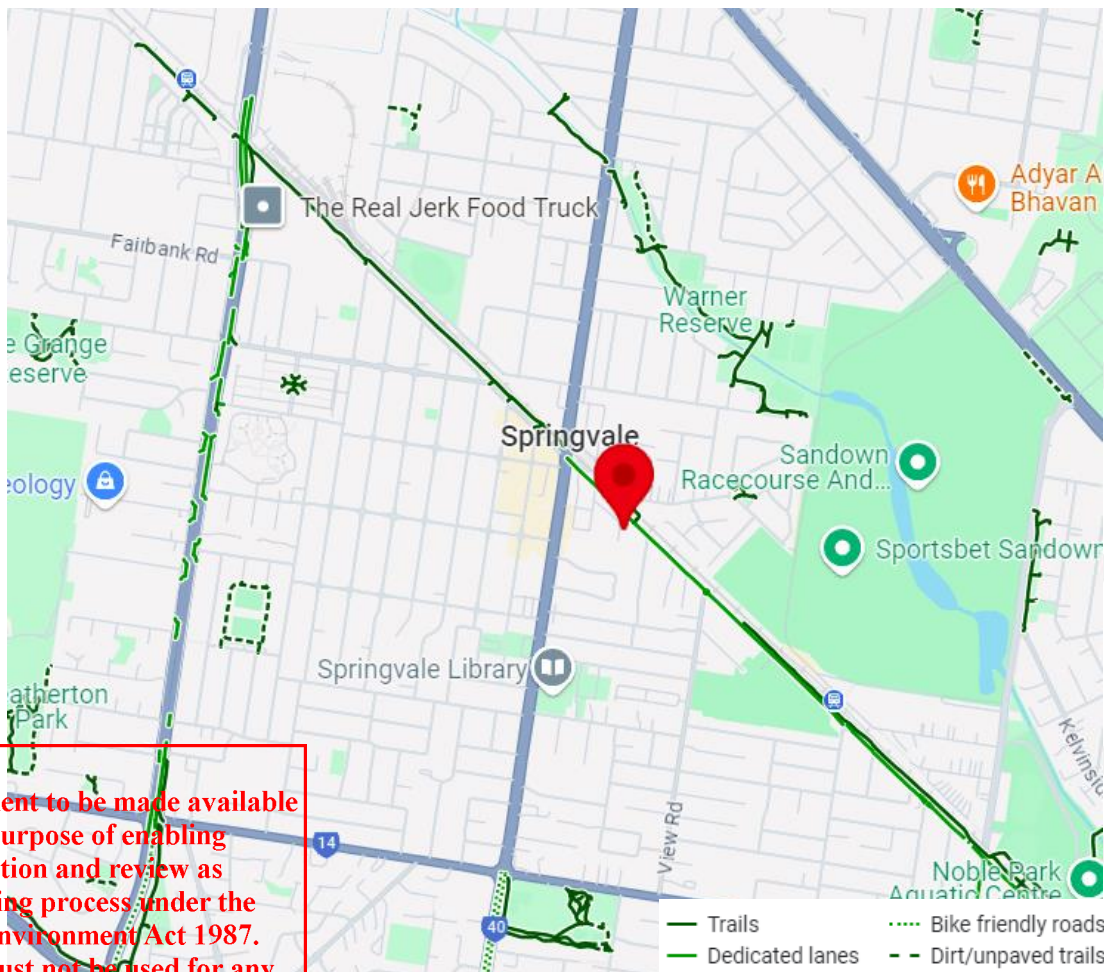


Figure 5: Location of cycling path around the development.

Occupants will be able to store their bicycles in secure bicycle spaces in the development.

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## Carpooling

Any private carpooling agreements between commercial tenancy staff are encouraged. This will help reduce traffic movements within the building and surrounding streets, which in turn will help reduce congestion and vehicle emissions around the building.

Resident information packs will promote the use of a carpooling app, such as:

- Share Ur Ride: <http://www.shareurride.com.au/>
- Coseats: <http://www.coseats.com/>

These apps (and similar apps) are available from the App Store on portable devices such as smartphones or tablets. Alternatively, online options are also available.

## Car Sharing

More details on locations of share car locations, car models and rates can be found here:

- Uber Car Share (Formerly Car Next Door): <https://www.ubercarshare.com/>

Car-sharing apps are also available from the App Store on smartphones or tablets.

As outlined in this Green Travel Plan, a range of alternative sustainable transport options are available for development users to use in their daily travels. These will assist in reducing the use of private cars by single occupants. Consequently, these initiatives have potential to evolve into a daily routine for the users of the development; also, there will be many environmental, financial and health benefits for the users when cycling and walking.

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## APPENDIX E – BESS ASSESSMENT & DAYLIGHT INPUT

The BESS daylight built-in calculator has been used to assess the residential part of this development, as it is deemed sufficient to demonstrate the level of daylight access. The calculation below and in our BESS assessment clearly shows that the overall IEQ levels for the development achieve best practice, which includes daylight access.

The majority of living rooms and all bedrooms in the proposed development comply with BESS Deemed-To-Satisfy daylight criteria as follows:

- Ceiling heights are 2.7m.
- All rooms are less than 8m deep – South-facing living areas are less than 5m.
- Glazing to be 60% VLT in habitable rooms (apartment only).
- External windows are provided for each bedroom.
- Building separation in line with BESS tool notes requirements.

A total of 23 living rooms in the development do not meet the DTS requirements. Please see the mark-up below in LIGHT BLUE for the rooms that failed the BESS DTS requirements. The rest of the rooms have been input as Auto pass in BESS:

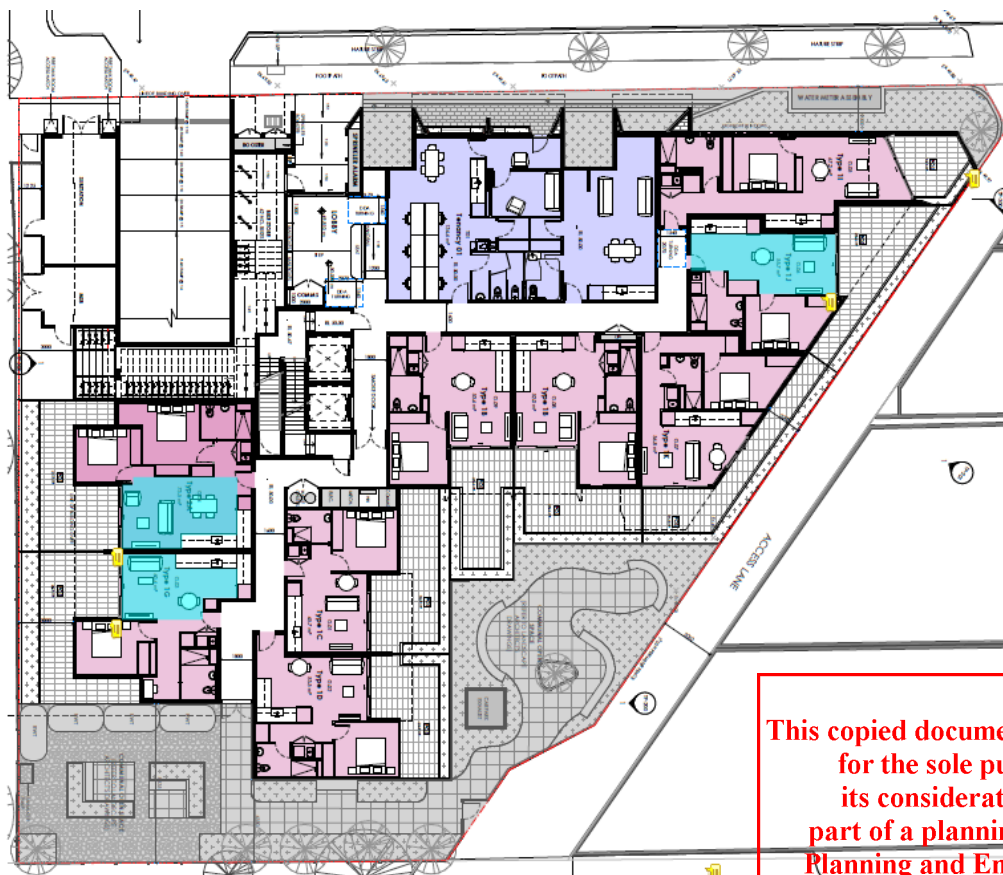
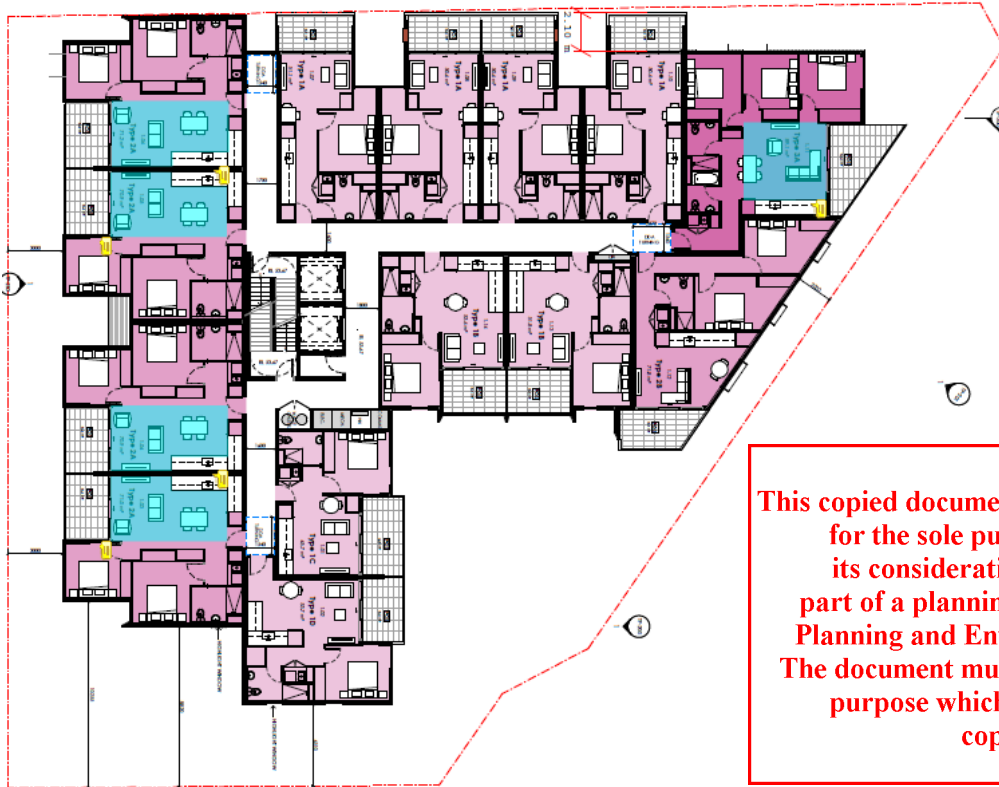


Figure 2: Mark-up of non-DTS rooms (light blue) on the Ground Floor

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Figure 3: Mark-up of non-DTS rooms (light blue) on 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> floors



Figure 4: Mark-up of non-DTS rooms (light blue) on 4<sup>th</sup> and 5<sup>th</sup> floors

BESS IEQ section requires sky angles, window sizes, orientation, window area and glass type to be input within the in-built calculator

## LIVING SPACES

Twenty-three living rooms from the ground floor to the fifth floor (shown in blue in the markup above) do not meet the room depth requirements and the building separation table. These 23 living rooms are assumed as non-DTS and have been input into the BESS calculator as follows:

### **Living Room- Apartment Type 1G (G03)**

The living room floor area has been assumed to be 18.15m<sup>2</sup>.

#### **Vertical Angle:**

The vertical angle for the living room of this apartment was calculated at 29.35 degrees, as there is an overhang above the window.

#### **Horizontal Angle:**

The horizontal angle for the living rooms has been assumed to be 98 degrees.

#### **Living room window size:**

The window sizes of the living room of G03 have been assumed to be 3.5m (width) x 2.7m (height) = 9.5 m<sup>2</sup>.

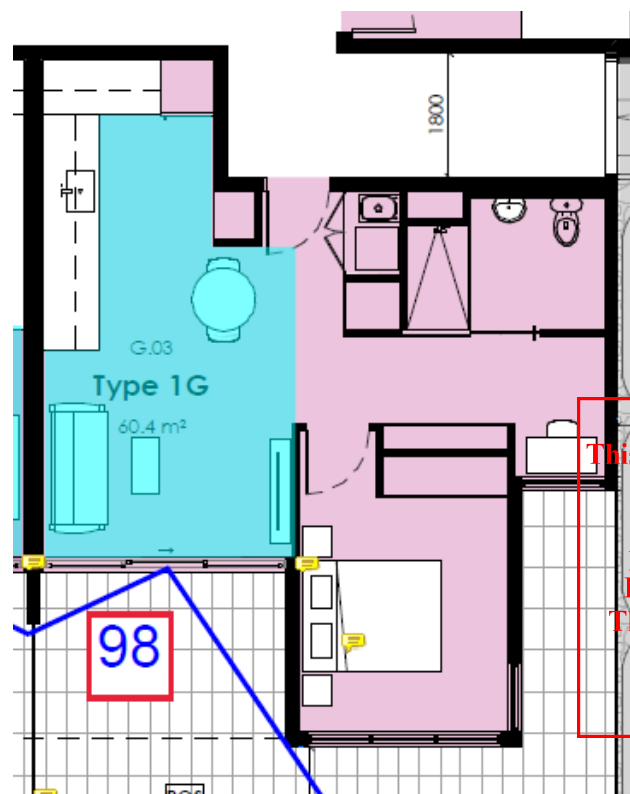


Figure 9. Horizontal Angle of the living room in G03.

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### Living Room- Apartment Type 2A (G04)

The living room floor area has been assumed to be 22.73m<sup>2</sup>.

#### Vertical Angle:

The vertical angle for the living room of this apartment was calculated at 29.35 degrees, as there is an overhang above the window.

#### Horizontal Angle:

The horizontal angle for the living rooms has been assumed to be 98 degrees.

#### Living room window size:

The window sizes of the living room of G04 have been assumed to be 3.5m (width) x 2.7m (height) = 9.5 m<sup>2</sup>.

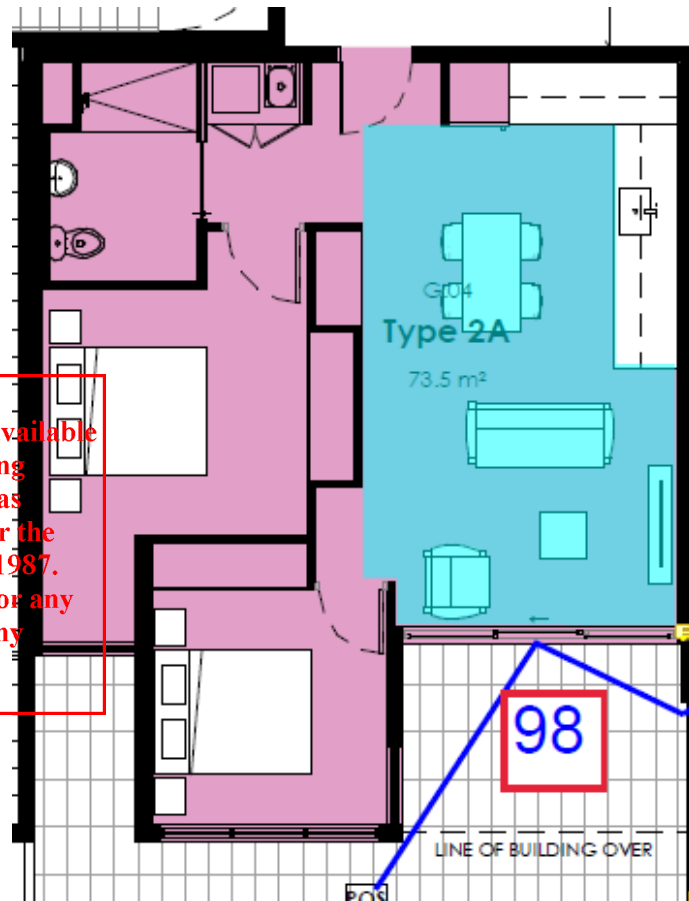


Figure 50. Horizontal Angle of the living room in G04.

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## Living Room- Apartment Type 1J (G06)

The living room floor area has been assumed to be 22.51m<sup>2</sup>.

### Vertical Angle:

The vertical angle for the living room of this apartment was calculated at 41.05 degrees, as there is an overhang above the window.

### Horizontal Angle:

The horizontal angle for the living rooms has been assumed to be 105 degrees.

### Living room window size:

The window sizes of the living room of G06 have been assumed to be 3.3m (width) x 2.7m (height) = 8.91 m<sup>2</sup>.

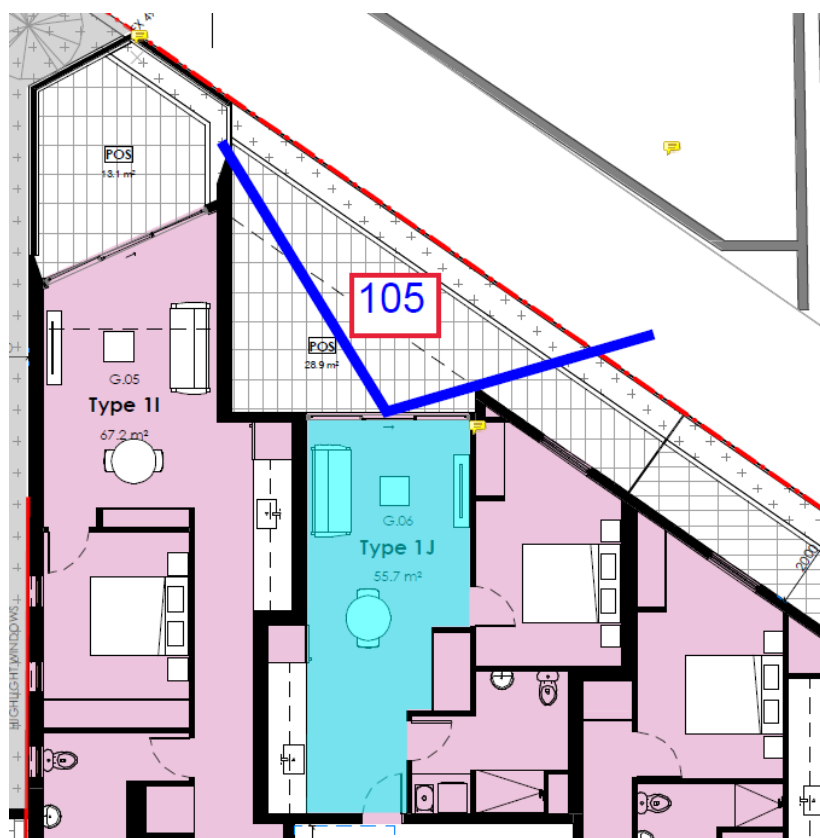


Figure 11. Horizontal Angle of the living room in G06.

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**Living Room- Apartment Type 2A  
(1.03, 1.04, 1.05, 1.06, 2.03, 2.04, 2.05, 2.06, 3.03, 3.04, 3.05 and 3.06)**

All the living room floor areas have been assumed to be 20.63m<sup>2</sup>.

**Vertical Angle:**

The vertical angle was calculated as 29.35 degrees as there is an overhang above the window.

**Horizontal Angle:**

The horizontal angle for the living rooms has been assumed to be 72 degrees.

**Living room window size:**

The window sizes of the living rooms of Type 2A apartments have been assumed to be 3.5m (width) x 2.7m (height) = 9.45 m<sup>2</sup>.

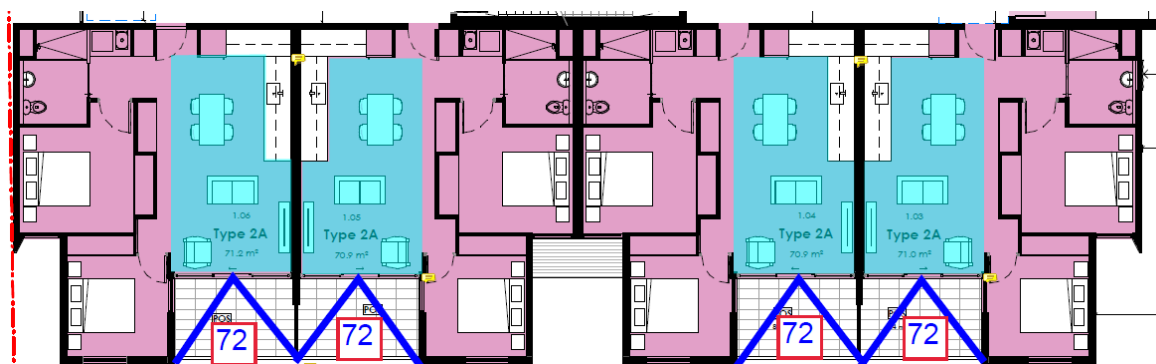


Figure 62. Horizontal Angle of living room Type 2A apartments.

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### Living Room- Apartment Type 2C (4.02, 4.03, 4.04, 4.05, 5.02, 5.03, 5.04 and 5.05)

All the living room floor areas have been assumed to be 20.63m<sup>2</sup>.

#### Vertical Angle:

The vertical angle was calculated as 32.12 degrees as there is an overhang above the window.

#### Horizontal Angle:

The horizontal angle for the living rooms has been assumed to be 72 degrees.

#### Living room window size:

The window sizes of the living rooms of Type 2C apartments have been assumed to be 3.5m (width) x 2.7m (height) = 9.45 m<sup>2</sup>.

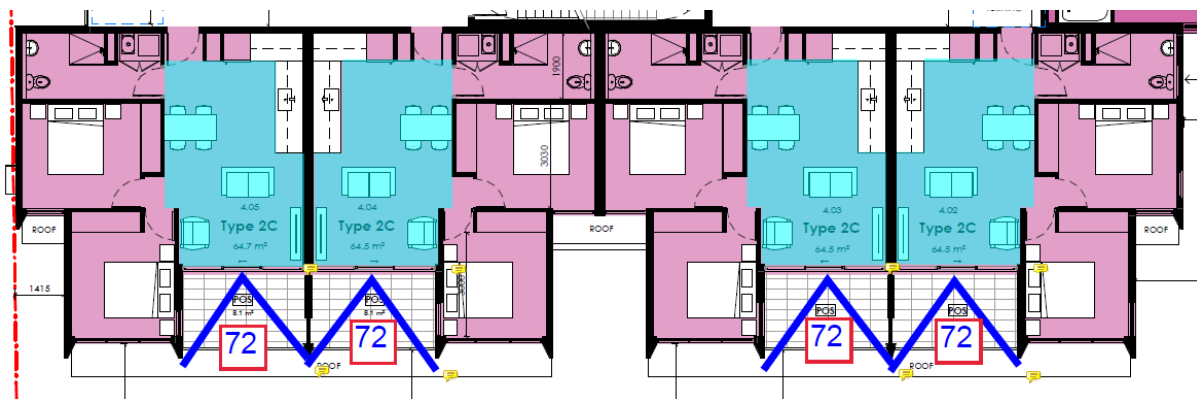


Figure 13. Horizontal Angle of living room Type 2C apartments.

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### Living Room- Apartment Type 3A (1.11, 2.11, 3.11, 4.11 and 5.11)

All the living room floor areas have been assumed to be 19.38m<sup>2</sup>.

#### Vertical Angle:

The vertical angle was calculated as 41.05 degrees as there is an overhang above the window.

#### Horizontal Angle:

The horizontal angle for the living rooms has been assumed to be 122 degrees.

#### Living room window size:

The window sizes of the living rooms of Type 2C apartments have been assumed to be 3.7m (width) x 2.7m (height) = 9.9 m<sup>2</sup>.

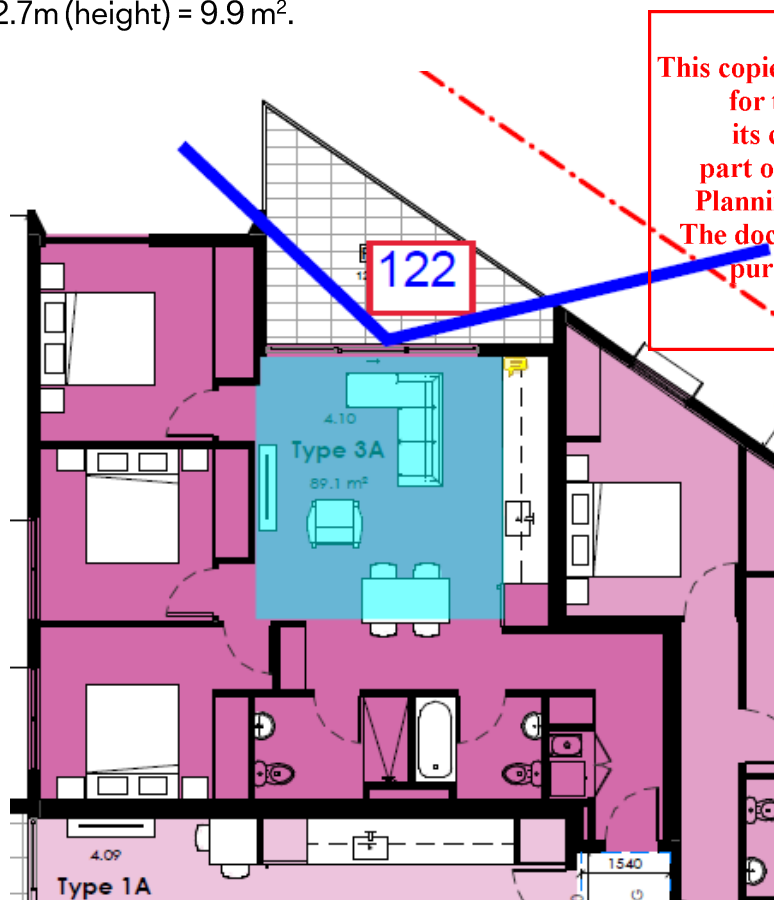


Figure 14. Horizontal Angle of living room Type 3A apartments.

The other 59 living rooms within the development comply with DTS requirements. Additionally, all bedrooms meet DTS requirements and have been input into BESS accordingly.

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## APPENDIX F – DAYLIGHT ACCESS – GREEN STAR CALCULATION

The Green Building Council of Australia (GBCA) has created a daylight access calculation method within the Green Star benchmarking tool. This tool is widely recognised by Councils and Industry.

The Green Star Daylight Hand Calculation method is used to determine if there are risks associated with the current design, particularly with respect to meeting the desired daylight factors referenced in the Sustainable Management Plan in the Planning Process (SDAPP) Indoor Environment Quality guidelines.

**According to the SDAPP guidelines, best practice is achieved where 2% daylight factor is achieved across 30% of the floor area of the nominated area.**

The calculation method is based on one simple formula to calculate a zone of compliance within a nominated room. The compliant zone is the area of the room achieving 2% daylight factor and can be calculated as follows:

$$\text{Zone of Compliance} = 2 \times h \times w$$

*w* is the width of the glazing serving the room

*h* is the height of the window head above the desktop/table level

Windows serving the nominated area are required to have a minimum 40% VLT to use the formula.

The percentage of compliant area within the nominated area can then be easily calculated with the following formula:

$$\text{Percentage of compliant area} = \frac{\text{Zone of Compliance}}{\text{Nominated Area}} \times 100$$

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## Site Description

The proposed office is located on the ground floor of the proposed apartment development. The nominated areas for the Hand Calculation are only comprised of the office space, which will be regularly occupied.

The desktop/table level has been estimated to be 700mm.

See below for the mark-up of the compliant zone (orange) within each nominated area (light blue).

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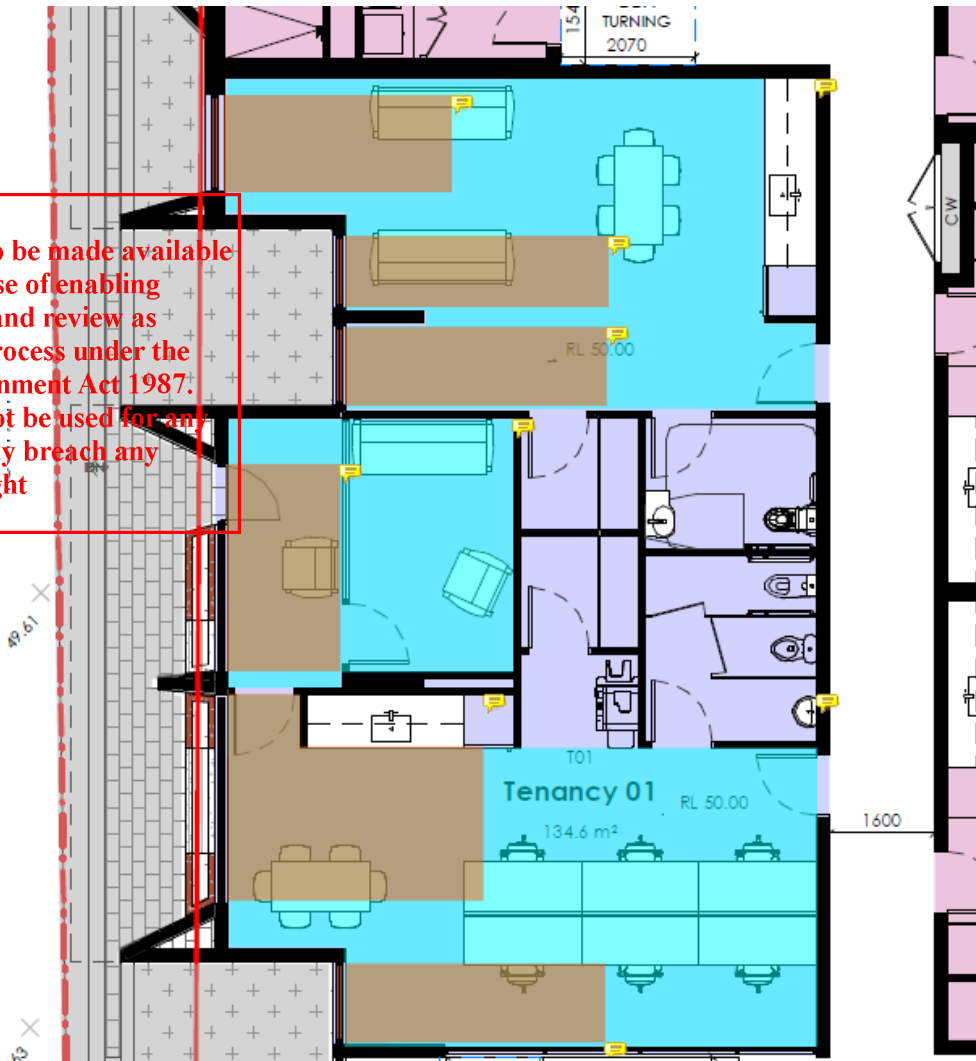


Figure 15: Compliance zone for office on ground floor

	Nominated Areas (m <sup>2</sup> )	Compliant Areas (m <sup>2</sup> )	Compliant Areas (%)
Office - Area 1	39.18	14.81	
Office - Area 2	17.1	5.43	
Office - Area 3	36.44	14.11	
<b>TOTAL</b>	<b>92.72</b>	<b>34.35</b>	<b>37%</b>

The green star hand calculation for the proposed office shows that the development will achieve and exceed the SDAPP best practice requirement, with each office achieving over 37% of floor area at a 2% daylight factor.



# APPENDIX G – SOLAR PV PROVIDER INFORMATION



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### About Us

Here at Solar Battery Group, we pride ourselves on being Australia’s largest residential solar battery installer, and solar photovoltaic (PV) panel specialists.

We strive to provide all our customers with the latest technology in solar products and ensure a truly personalised installation experience, whether you’re new to solar or expanding an existing system.

We know that solar and batteries aren’t a one-size-fits-all solution, that’s why we take the time to better understand how your household uses energy, and develop a solar solution that will best suit your needs.

Backed by over 30 years’ industry experience, our team of dedicated staff are here to help you on your journey towards energy independence.

Take charge.

### Why Choose Solar Battery Group?

- Committed to high quality product, service and professionalism.
- We are a New Energy Tech Approved Seller
- We only use Clean Energy Council accredited installers and approved products
- Tailored Packages to suit every household’s needs
- 100% Australian Owned and Operated
- Service-Driven Company
- Over 30 years’ industry experience
- Best Price Guarantee

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## How Does PV Solar Work?

Australia has an average from 2,200 to 3,200 high sunlight hours per year. With most capital cities seeing 7 or more sunlight hours a day, more and more Australian's are harnessing it. We have an amazing climate to maximise the benefits of PV solar. Able to generate power on even an overcast day we don't need to worry about seasonal changes to get the most out of our solar.

Why not take advantage of such a powerful and environmental resource? Going solar is the obvious choice in an ever increasing energy world, and the savings to your household and the environment are impossible to ignore. **Give yourself a break from the increasing energy bills, and go solar today with a PV Solar Solution.**

Capture the rays with a PV solar system to suit your home. Available in a number of different package sizes, you can choose an investment that works with your energy consumption patterns as well as your budget.



1. Solar panels convert sunlight into DC electricity.
2. Inverter convert DC into AC electricity.
3. Use the AC electricity to power appliances.
4. Supply the grid with surplus energy for utility credits.

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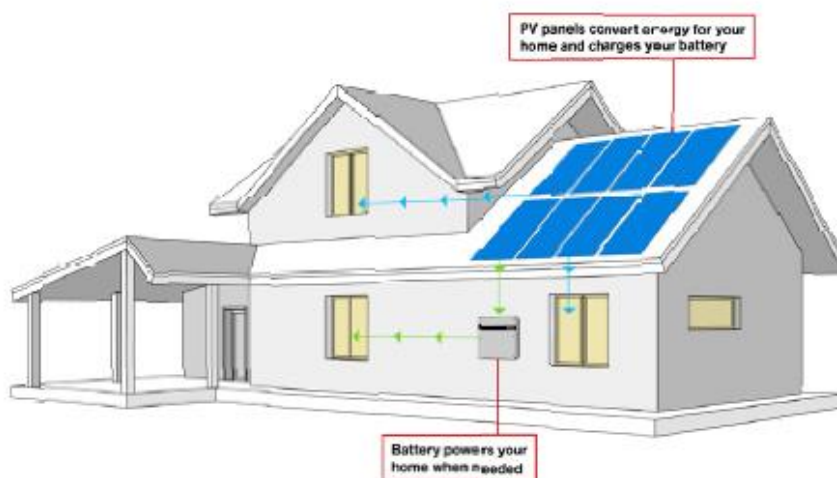
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## How Does a Solar Battery Work?

Most Australian households are not home, or use very little power during the day. Energy usage is much higher during the morning and evening. This is why solar battery storage is getting everyone's attention!

Solar batteries simply store unused electricity generated by your solar system during the day, for your own use later. Extending the capabilities of your system to have it working harder for you. When the solar system is no longer producing power your house starts to run from the stored battery power, instead of relying on the grid. Doing more with your own solar before paying your electricity provider. What doesn't sound great about that?

Solar Battery Group has a solution to suit your individual household needs, offering a large range of solar battery sizes and leading brands. With the analysis of a few key figures on your energy bill and our specialist knowledge, we can help you **take charge of your energy bills today!**



The Solar battery stores your excess electricity for use within your home. Ultimately you can use your own electricity that is produced by your Solar PV panels to power your home into the night, rather than purchasing expensive energy from the grid.

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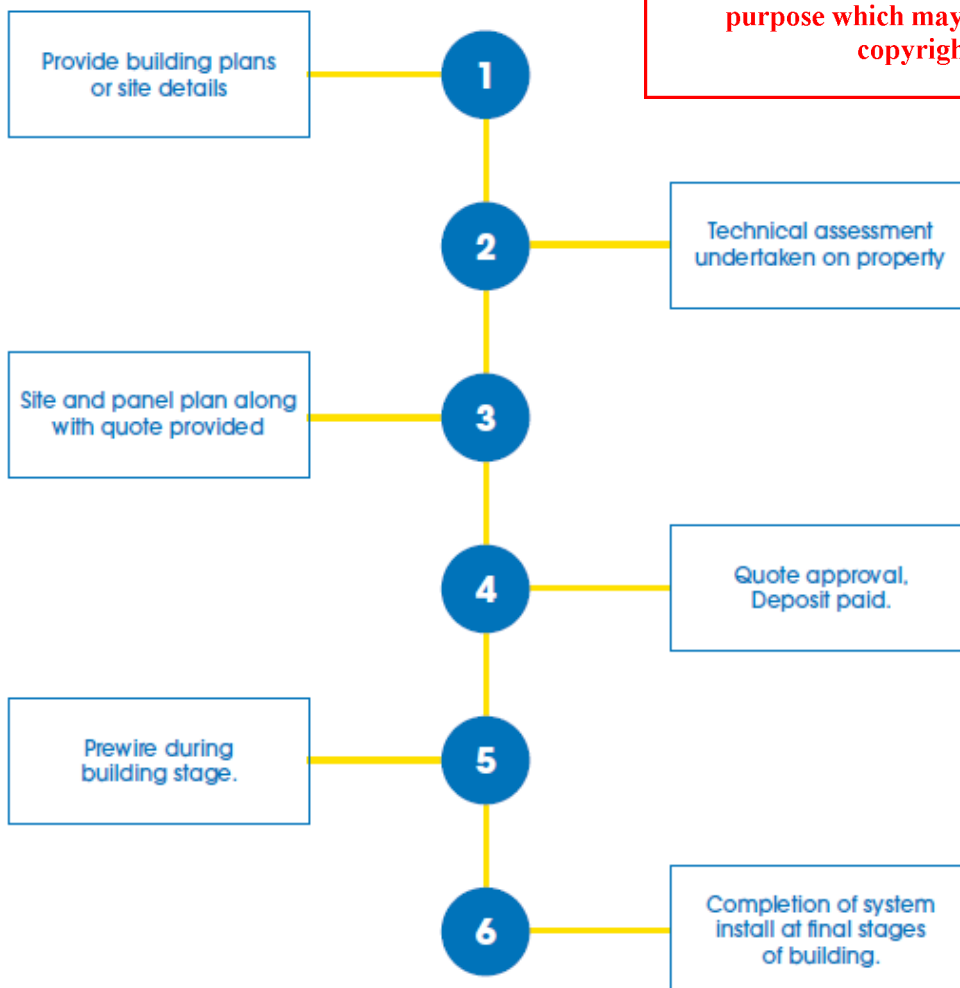
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### Action Plan



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### Our products

#### Batteries



AlphaESS SMILE G3



Eveready Energy Vault



Hive Energy Vault



Tesla Powerwall



Growatt ALP LV



Ambrion Raybox HS2

#### PV Panels



Risen RSM108-9-415N



Risen RSM40-B-390M

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#### Inverters



Fronius



Growatt



Goodwe



SAJ





## APPENDIX H – BESS ASSESSMENT

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# BESS Report

Built Environment Sustainability Scorecard

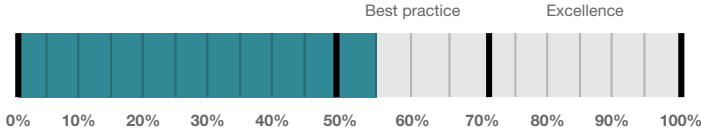
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This BESS report outlines the sustainable design commitments of the proposed development at 1 Kintore St Springvale Victoria 3171. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Greater Dandenong City Council.

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

### Your BESS Score



# 57%

### Project details

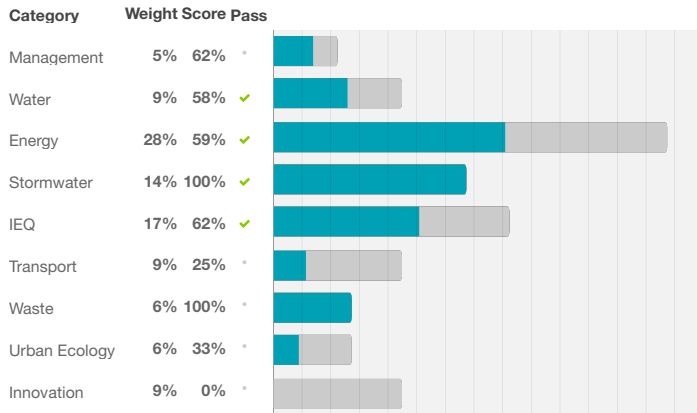
**Address** 1 Kintore St Springvale Victoria 3171  
**Project no** D4FF673B-R3  
**BESS Version** BESS-8

**Site type** Mixed use development  
**Account** jair@fraterconsultingservices.com.au  
**Application no.**  
**Site area** 1,757.00 m<sup>2</sup>  
**Building floor area** 5,443.40 m<sup>2</sup>  
**Date** 08 November 2024  
**Software version** 2.0.1-B.570

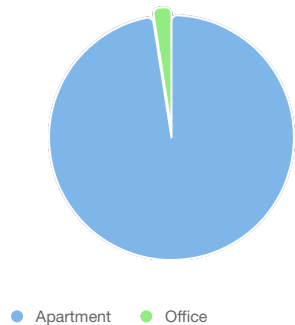
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### Performance by category



### Project composition



## Buildings

Name	Height	Footprint	% of total footprint
Apartments/Office	7	5,444 m <sup>2</sup>	100%

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## Dwellings & Non Res Spaces

### Dwellings

Name	Quantity	Area	Building	% of total area
<b>Apartment</b>				
1.08/09/10-2.08/09/10-3.08/09/10	9	50.6 m <sup>2</sup>	Apartments/Office	8%
4.02/03/04-5.01/03/04	6	64.5 m <sup>2</sup>	Apartments/Office	7%
1.04/05-2.04/05-3.04/05	6	70.9 m <sup>2</sup>	Apartments/Office	7%
4.07/08/09-5.07/08/09	6	50.3 m <sup>2</sup>	Apartments/Office	5%
1.11-2.11-3.11	3	89.1 m <sup>2</sup>	Apartments/Office	4%
4.10-5.10	2	89.1 m <sup>2</sup>	Apartments/Office	3%
4.01-5.01	2	87.9 m <sup>2</sup>	Apartments/Office	3%
1.12-2.12-3.12	3	71.8 m <sup>2</sup>	Apartments/Office	3%
1.06-2.06-3.06	3	71.2 m <sup>2</sup>	Apartments/Office	3%
1.03-2.03-3.03	3	71.0 m <sup>2</sup>	Apartments/Office	3%
4.11-5.11	2	71.8 m <sup>2</sup>	Apartments/Office	2%
4.05-5.05	2	64.7 m <sup>2</sup>	Apartments/Office	2%
1.14-2.14-3.14	3	53.6 m <sup>2</sup>	Apartments/Office	2%
1.13-2.13-3.13	3	51.8 m <sup>2</sup>	Apartments/Office	2%
1.07-2.07-3.07	3	51.1 m <sup>2</sup>	Apartments/Office	2%
1.02-2.02-3.02	3	53.7 m <sup>2</sup>	Apartments/Office	2%
1.01.2.01-3.01	3	45.7 m <sup>2</sup>	Apartments/Office	2%
6.08	1	54.7 m <sup>2</sup>	Apartments/Office	1%
6.07	1	79.2 m <sup>2</sup>	Apartments/Office	1%
6.04-05	2	48.2 m <sup>2</sup>	Apartments/Office	1%
6.03	1	57.3 m <sup>2</sup>	Apartments/Office	1%
6.02	1	74.9 m <sup>2</sup>	Apartments/Office	1%
6.01	1	88.1 m <sup>2</sup>	Apartments/Office	1%
4.13-5.13	2	53.6 m <sup>2</sup>	Apartments/Office	1%
4.12-5.12	2	51.8 m <sup>2</sup>	Apartments/Office	1%
4.06-5.06	2	50.7 m <sup>2</sup>	Apartments/Office	1%
G07	1	56.8 m <sup>2</sup>	Apartments/Office	1%
G06	1	55.7 m <sup>2</sup>	Apartments/Office	1%
G05	1	67.2 m <sup>2</sup>	Apartments/Office	1%
G04	1	73.5 m <sup>2</sup>	Apartments/Office	1%
G03	1	60.4 m <sup>2</sup>	Apartments/Office	1%
6.10	1	53.6 m <sup>2</sup>	Apartments/Office	< 1%
6.09	1	52.1 m <sup>2</sup>	Apartments/Office	< 1%
6.06	1	48.3 m <sup>2</sup>	Apartments/Office	< 1%
G09	1	53.6 m <sup>2</sup>	Apartments/Office	< 1%
G08	1	52.0 m <sup>2</sup>	Apartments/Office	< 1%
G02	1	53.5 m <sup>2</sup>	Apartments/Office	< 1%

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G01	1	45.7 m <sup>2</sup>	Apartments/Office	< 1%
<b>Total</b>	<b>87</b>	<b>5,308 m<sup>2</sup></b>	<b>97%</b>	

**Non-Res Spaces**

Name	Quantity	Area	Building	% of total area
<b>Office</b>				
Tenancy 1	1	135 m <sup>2</sup>	Apartments/Office	2%
<b>Total</b>	<b>1</b>	<b>134 m<sup>2</sup></b>	<b>2%</b>	

# ADVERTISED PLAN

**Supporting information**

**Floorplans & elevation notes**

Credit	Requirement	Response	Status
Management 3.1	Annotation: Individual utility meters to be provided to all individual dwellings		-
Management 3.3	Annotation: Sub-meters to be provided to all major common area services (list each)		-
Water 3.1	Annotation: Water efficient garden details		-
Energy 3.1	Carpark with natural ventilation or CO monitoring system		-
Energy 4.2	Location and size of solar photovoltaic system		-
Stormwater 1.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)		-
IEQ 1.1	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.		-
IEQ 1.2	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.		-
IEQ 1.5	Floor plans with compliant bedrooms marked		-
Transport 2.1	Location of electric vehicle charging infrastructure		-
Waste 2.1	Location of food and garden waste facilities		-
Waste 2.2	Location of recycling facilities		-
Urban Ecology 1.1	Location and size of communal spaces		-
Urban Ecology 2.1	Location and size of vegetated areas		-



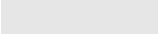




**Supporting evidence**

Credit	Requirement	Response	Status
Energy 1.1	Energy Report showing calculations of reference case and proposed buildings		-
Energy 3.1	Details of either the fully natural carpark ventilation or CO monitoring system proposed		-
Energy 3.6	Average lighting power density and lighting type(s) to be used		-
Energy 3.7	Average lighting power density and lighting type(s) to be used		-
Energy 4.2	Specifications of the solar photovoltaic system(s)		-
Stormwater 1.1	STORM report or MUSIC model		-
IEQ 1.1	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
IEQ 1.2	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
IEQ 1.4	A short report detailing assumptions used and results achieved.		-
IEQ 1.5	A list of compliant bedrooms		-






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## Credit summary

### Management Overall contribution 4.5%

		<b>62%</b>
1.1 Pre-Application Meeting		100%
2.2 Thermal Performance Modelling - Multi-Dwelling Residential		0%
2.3 Thermal Performance Modelling - Non-Residential		0%
3.1 Metering - Residential		100%
3.2 Metering - Non-Residential		N/A  Scoped Out
		One tenant
3.3 Metering - Common Areas		2%
4.1 Building Users Guide		100%

### Water Overall contribution 9.0%

		<b>Minimum required 50%</b>	<b>58%</b>	 <b>Pass</b>
1.1 Potable Water Use Reduction		41%		
3.1 Water Efficient Landscaping		100%		
4.1 Building Systems Water Use Reduction		100%		

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**Energy Overall contribution 27.5%**

		Minimum required 50%	59%	✓ Pass
1.1 Thermal Performance Rating - Non-Residential			37%	
1.2 Thermal Performance Rating - Residential			0%	✓ Achieved
2.1 Greenhouse Gas Emissions			1%	
2.2 Peak Demand			100%	
2.6 Electrification			100%	
2.7 Energy consumption			100%	
3.1 Carpark Ventilation			100%	
3.2 Hot Water			100%	
3.4 Clothes Drying			0%	
3.6 Internal Lighting - Apartments			100%	
3.7 Internal Lighting - Non-Residential			100%	
4.1 Combined Heat and Power (cogeneration / trigeneration)			N/A	Scoped Out
4.2 Renewable Energy Systems - Solar			0%	
4.4 Renewable Energy Systems - Other			N/A	Scoped Out

No other (non-solar PV) renewable energy is in use.

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**Stormwater Overall contribution 13.5%**

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

**IEQ Overall contribution 16.5%**

		Minimum required 50%	62%	✓ Pass
1.1 Daylight Access - Living Areas			100%	
1.2 Daylight Access - Bedrooms			100%	
1.3 Winter Sunlight			0%	
1.4 Daylight Access - Non-Residential			37%	✓ Achieved
1.5 Daylight Access - Minimal Internal Bedrooms			100%	
2.1 Effective Natural Ventilation			0%	
2.3 Ventilation - Non-Residential			33%	✓ Achieved
3.4 Thermal comfort - Shading - Non-Residential			0%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential			0%	
4.1 Air Quality - Non-Residential			100%	

**Transport Overall contribution 9.0%**

		<b>25%</b>
1.1 Bicycle Parking - Residential		0%
1.2 Bicycle Parking - Residential Visitor		0%
1.3 Bicycle Parking - Convenience Residential		0% <input type="checkbox"/> Disabled
		Credit 1.1 must be achieved first.
1.4 Bicycle Parking - Non-Residential		0%
1.5 Bicycle Parking - Non-Residential Visitor		0%
1.6 End of Trip Facilities - Non-Residential		0% <input type="checkbox"/> Disabled
		Credit 1.4 must be complete first.
2.1 Electric Vehicle Infrastructure		100%
2.2 Car Share Scheme		N/A <input type="checkbox"/> Scoped Out
		N/A
2.3 Motorbikes / Mopeds		0%

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**Waste Overall contribution 5.5%**

		<b>100%</b>
1.1 - Construction Waste - Building Re-Use		N/A <input type="checkbox"/> Scoped Out
		The site is vacant
2.1 - Operational Waste - Food & Garden Waste		100%
2.2 - Operational Waste - Convenience of Recycling		100%

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**Urban Ecology Overall contribution 5.5%**


		<b>33%</b>
1.1 Communal Spaces		97%
2.1 Vegetation		50%
2.2 Green Roofs		0%
2.3 Green Walls and Facades		0%
2.4 Private Open Space - Balcony / Courtyard Ecology		0%
3.1 Food Production - Residential		0%
3.2 Food Production - Non-Residential		0%

**Innovation Overall contribution 9.0%**

		<b>0%</b>
1.1 Innovation		0%

## Credit breakdown

### Management Overall contribution 3%

<b>1.1 Pre-Application Meeting</b>	100%
Score Contribution	This credit contributes 37.6% 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	Yes
<b>2.2 Thermal Performance Modelling - Multi-Dwelling Residential</b>	0%
Score Contribution	This credit contributes 24.5% towards the category score.
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?
Question	Criteria Achieved ?
Apartment	No
<b>2.3 Thermal Performance Modelling - Non-Residential</b>	0%
Score Contribution	This credit contributes 0.6% towards the category score.
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2022 Section J4D8?
Question	Criteria Achieved ?
Office	No
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2022 Section J (Energy Efficiency) or HERS or Green Star?
Question	Criteria Achieved ?
Office	No
<b>3.1 Metering - Residential</b>	100%
Score Contribution	This credit contributes 12.2% towards the category score.
Criteria	Have utility meters been provided for all individual dwellings?
Question	Criteria Achieved ?
Apartment	Yes
<b>3.2 Metering - Non-Residential</b>	N/A  Scoped Out
This credit was scoped out	One tenant
<b>3.3 Metering - Common Areas</b>	2%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Have all major common area services been separately submetered?
Question	Criteria Achieved ?
Apartment	No
Office	Yes

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<b>4.1 Building Users Guide</b>	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

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**Water** Overall contribution 5% Minimum required 50%

**Water Approach**

What approach do you want to use for 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?: Yes

**Fixtures, fittings & connections profile**

**Showerhead:**

G01 4 Star WELS (>= 6.0 but <= 7.5)

G02

G03

G04

G05

G06

G07

G08

G09

1.01.2.01-3.01

1.02-2.02-3.02

1.03-2.03-3.03

1.04/05-2.04/05-3.04/05

1.06-2.06-3.06

1.07-2.07-3.07

1.08/09/10-2.08/09/10-3.08/09/10

1.11-2.11-3.11

1.12-2.12-3.12

1.13-2.13-3.13

1.14-2.14-3.14

4.01-5.01

4.02/03/04-5.01/03/04

4.05-5.05

4.06-5.06

4.07/08/09-5.07/08/09

4.10-5.10

4.11-5.11

4.12-5.12

4.13-5.13

6.01

6.02

6.03

6.04-05

6.06

6.07

6.08

6.09

6.10

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Tenancy 1

Scope out

**Bath:**

- G01
- G02
- G03
- G04
- G05
- G06
- G07
- G08
- G09
- 1.01-2.01-3.01
- 1.02-2.02-3.02
- 1.03-2.03-3.03
- 1.04/05-2.04/05-3.04/05
- 1.06-2.06-3.06
- 1.07-2.07-3.07
- 1.08/09/10-2.08/09/10-3.08/09/10
- 1.11-2.11-3.11
- 1.12-2.12-3.12
- 1.13-2.13-3.13
- 1.14-2.14-3.14
- 4.01-5.01
- 4.02/03/04-5.01/03/04
- 4.05-5.05
- 4.06-5.06
- 4.07/08/09-5.07/08/09
- 4.10-5.10
- 4.11-5.11
- 4.12-5.12
- 4.13-5.13
- 6.01
- 6.02
- 6.03
- 6.04-05
- 6.06
- 6.07
- 6.08
- 6.09
- 6.10

Medium Sized Contemporary Bath

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Tenancy 1	Scope out
<b>Kitchen Taps:</b> All	>= 5 Star WELS rating
<b>Bathroom Taps:</b> All	>= 5 Star WELS rating
<b>Dishwashers:</b> All	>= 5 Star WELS rating
<b>WC:</b> All	>= 4 Star WELS rating
<b>Urinals:</b> All	Scope out
<b>Washing Machine Water Efficiency:</b> All	Occupant to Install
<b>Which non-potable water source is the dwelling/space connected to?:</b> All	RWT
<b>Non-potable water source connected to Toilets:</b> All	Yes

Non-potable water source connected to Laundry (washing machine): All		No
Non-potable water source connected to Hot Water System: All		No
<b>Rainwater tank profile</b>		
What is the total roof area connected to the rainwater tank?: RWT	1,176 m <sup>2</sup>	
Tank Size: RWT	24,000 Litres	
Irrigation area connected to tank: RWT	-	
Is connected irrigation area a water efficient garden?: RWT	-	
Other external water demand connected to tank?: RWT	-	
<b>1.1 Potable Water Use Reduction</b>		41%
Score Contribution	This credit contributes 71.4% 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	10037 kL	
Output	Proposed (excluding rainwater and recycled water use)	
Project	8268 kL	
Output	Proposed (including rainwater and recycled water use)	
Project	7430 kL	
Output	% Reduction in Potable Water Consumption	
Project	25 %	
Output	% of connected demand met by rainwater	
Project	90 %	
Output	How often does the tank overflow?	
Project	Never / Rarely	
Output	Opportunity for additional rainwater connection	
Project	3772 kL	
<b>3.1 Water Efficient Landscaping</b>		100%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Will water efficient landscaping be installed?	
Question	Criteria Achieved ?	
Project	Yes	
<b>4.1 Building Systems Water Use Reduction</b>		100%
Score Contribution	This credit contributes 14.3% 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	Yes	

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**Energy** Overall contribution 16% Minimum required 50%

Use the BESS Deem to Satisfy (DtS) method for Non-residential spaces?:	Yes
Do all exposed floors and ceilings (forming part of the envelope) demonstrate meeting the required NCC2022 insulation levels (total R-value upwards and downwards)?:	Yes
Does all wall and glazing demonstrate meeting the required NCC2022 facade calculator (or better than the total allowance)?:	Yes
Are heating and cooling systems within one Star of the most efficient equivalent capacity unit available, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) not less than 85% of the CoP & EER of the most efficient equivalent capacity unit available?:	Yes
Are water heating systems within one star of the best available, or 85% or better than the most efficient equivalent capacity unit?:	Yes
<b>Dwellings Energy Approach</b>	
What approach do you want to use for Dwellings?:	Use the built in calculation tools
Are you installing any solar photovoltaic (PV) system(s)?:	Yes
Are you installing any other renewable energy system(s)?:	No
Energy Supply:	All-electric
<b>Dwelling Energy Profiles</b>	
Building: All	Apartments/Office

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**Below the floor is:**

G01	Ground or Carpark
G02	
G03	
G04	
G05	
G06	
G07	
G08	
G09	

1.01.2.01-3.01	Another Occupancy
1.02-2.02-3.02	
1.03-2.03-3.03	
1.04/05-2.04/05-3.04/05	
1.06-2.06-3.06	
1.07-2.07-3.07	
1.08/09/10-2.08/09/10-3.08/09/10	
1.11-2.11-3.11	
1.12-2.12-3.12	
1.13-2.13-3.13	
1.14-2.14-3.14	
4.01-5.01	
4.02/03/04-5.01/03/04	
4.05-5.05	
4.06-5.06	
4.07/08/09-5.07/08/09	
4.10-5.10	
4.11-5.11	
4.12-5.12	
4.13-5.13	
6.01	
6.02	
6.03	
6.04-05	
6.06	
6.07	
6.08	
6.09	
6.10	

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**Above the ceiling is:**

- G01
- G02
- G03
- G04
- G05
- G06
- G07
- G08
- G09
- 1.01-2.01-3.01
- 1.02-2.02-3.02
- 1.03-2.03-3.03
- 1.04/05-2.04/05-3.04/05
- 1.06-2.06-3.06
- 1.07-2.07-3.07
- 1.08/09/10-2.08/09/10-3.08/09/10
- 1.11-2.11-3.11
- 1.12-2.12-3.12
- 1.13-2.13-3.13
- 1.14-2.14-3.14
- 4.01-5.01
- 4.02/03/04-5.01/03/04
- 4.05-5.05
- 4.06-5.06
- 4.07/08/09-5.07/08/09
- 4.10-5.10
- 4.11-5.11
- 4.12-5.12
- 4.13-5.13

Another Occupancy

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- 6.01
- 6.02
- 6.03
- 6.04-05
- 6.06
- 6.07
- 6.08
- 6.09
- 6.10

Outside

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**Exposed sides:**

G01	2
G07	
G08	
G09	
1.01-2.01-3.01	
1.08/09/10-2.08/09/10-3.08/09/10	
1.12-2.12-3.12	
1.13-2.13-3.13	
1.14-2.14-3.14	
4.06-5.06	
4.07/08/09-5.07/08/09	
4.11-5.11	
4.12-5.12	
4.13-5.13	
6.02	
6.03	
6.04-05	
6.06	
6.08	

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G02	4
G04	
1.02-2.02-3.02	
1.06-2.06-3.06	
4.05-5.05	
6.07	

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G03	3
G05	
1.03-2.03-3.03	
1.04/05-2.04/05-3.04/05	
1.07-2.07-3.07	
1.11-2.11-3.11	
4.01-5.01	
4.02/03/04-5.01/03/04	
4.10-5.10	
6.01	
6.09	
6.10	

G06	1
-----	---

NatHERS Annual Energy Loads - Heat: All	71.0 MJ/sqm
NatHERS Annual Energy Loads - Cool: All	20.0 MJ/sqm
NatHERS star rating: All	7.0
Type of Heating System: All	Reverse cycle space
Heating System Efficiency: All	3 Stars (2019 MEPS)
Type of Cooling System: All	Refrigerative space
Cooling System Efficiency: All	3 Stars (2019 MEPS)
Type of Hot Water System: All	Electric Heat Pump Band 1
Is the hot water system shared by multiple dwellings?: All	Yes
Clothes Line: All	No drying facilities
Clothes Dryer: All	Occupant to install



**Solar Photovoltaic system profile**

**System Size (lesser of inverter and panel capacity):**

SPV1	10.0 kW peak
SPV2	2.0 kW peak

**Orientation (which way is the system facing)?:**

SPV1	North
SPV2	North

**Inclination (angle from horizontal):**

SPV1	10.0 Angle (degrees)
SPV2	10.0 Angle (degrees)

**Which Building Class does this apply to?:**

SPV1	Apartment
SPV2	Office

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**1.1 Thermal Performance Rating - Non-Residential** 37%

Score Contribution	This credit contributes 1.1% towards the category score.
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC2022 Section J)?

**1.2 Thermal Performance Rating - Residential** 0% ✔ Achieved

Score Contribution	This credit contributes 17.1% towards the category score.
Criteria	What is the average NatHERS rating?
Output	Average NATHERS Rating (Weighted)
Apartment	7.0 Stars

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**2.1 Greenhouse Gas Emissions** 1%

Score Contribution	This credit contributes 17.4% 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)
Apartment	141,144 kg CO2
Output	Proposed Building with Proposed Services (Actual Building)
Apartment	150,413 kg CO2
Output	% Reduction in GHG Emissions
Apartment	-7 %

**2.2 Peak Demand** 100%

Score Contribution	This credit contributes 0.1% towards the category score.
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?

**2.6 Electrification** 100%

Score Contribution	This credit contributes 17.5% towards the category score.
Criteria	Is the development all-electric?
Question	Criteria Achieved?
Project	Yes

<b>2.7 Energy consumption</b>		100%
Score Contribution	This credit contributes 23.3% towards the category score.	
Criteria	What is the % reduction in annual energy consumption against the benchmark?	
Output	Reference Building with Reference Services (BCA only)	
Apartment	1,272,203 MJ	
Output	Proposed Building with Proposed Services (Actual Building)	
Apartment	637,045 MJ	
Output	% Reduction in total energy	
Apartment	49 %	
<b>3.1 Carpark Ventilation</b>		100%
Score Contribution	This credit contributes 5.8% 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	Yes	
<b>3.2 Hot Water</b>		100%
Score Contribution	This credit contributes 0.1% towards the category score.	
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?	
<b>3.4 Clothes Drying</b>		0%
Score Contribution	This credit contributes 5.7% towards the category score.	
Criteria	What is the % reduction in annual energy consumption (gas and electricity) from a combination of clothes lines and efficient driers against the benchmark?	
Output	Reference	
Apartment	29,885 kWh	
Output	Proposed	
Apartment	29,885 kWh	
Output	Improvement	
Apartment	0 %	
<b>3.6 Internal Lighting - Apartments</b>		100%
Score Contribution	This credit contributes 5.7% towards the category score.	
Criteria	Is the maximum illumination power density (W/m2) in at least 90% of the relevant building class at least 20% lower than required by clause J7D3(1)(a) and Table J6.2a of the NCC 2022 Vol 1 (Class 2-9)?	
Question	Criteria Achieved ?	
Apartment	Yes	

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<b>3.7 Internal Lighting - Non-Residential</b>		100%
Score Contribution	This credit contributes 0.3% towards the category score.	
Criteria	Does the maximum illumination power density (W/m2) in at least 90% of the area of the relevant building class meet the requirements in Table J7D3a of the NCC 2022 Vol 1?	
Question	Criteria Achieved ?	
Office	Yes	
<b>4.1 Combined Heat and Power (cogeneration / trigeneration)</b>		N/A <span style="color: orange;">✦</span> Scoped Out
This credit was scoped out	No cogeneration or trigeneration system in use.	
<b>4.2 Renewable Energy Systems - Solar</b>		100%
Score Contribution	This credit contributes 5.8% towards the category score.	
Criteria	What % of the estimated energy consumption of the building class it supplies does the solar power system provide?	
Output	Solar Power - Energy Generation per year	
Apartment	12,118 kWh	
Office	2,424 kWh	
Output	% of Building's Energy	
Apartment	6 %	
Office	58 %	
<b>4.4 Renewable Energy Systems - Other</b>		N/A <span style="color: orange;">✦</span> Scoped Out
This credit was scoped out	No other (non-solar PV) renewable energy is in use.	

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**Stormwater** Overall contribution 14% Minimum required 100%

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

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**IEQ** Overall contribution 10% Minimum required 50%

<b>Use the BESS Deemed to Satisfy (DtS) method for daylight to Dwellings?:</b>		No
<b>What approach do you want to use for daylight to Dwellings?:</b>		Use the built in calculation tools
<b>Room Designation:</b>		
G03		Living
G04		
G06		
Type 2A		
Type 2C		
Type 3A		
Compliant living		
Compliant Bedrooms		Bedroom
<b>Quantity:</b>		
G03		1
G04		
G06		
Type 2A		12
Type 2C		8
Type 3A		5
Compliant living		59
Compliant Bedrooms		132
<b>Auto-Pass:</b>		
G03		No
G04		
G06		
Type 2A		
Type 2C		
Type 3A		
Compliant living		Yes
Compliant Bedrooms		
<b>Room Floor Area:</b>		
G03	18.1	m <sup>2</sup>
G04	22.7	m <sup>2</sup>
G06	22.5	m <sup>2</sup>
Type 2A	20.8	m <sup>2</sup>
Type 2C	20.6	m <sup>2</sup>
Type 3A	19.4	m <sup>2</sup>
Compliant living	-	
Compliant Bedrooms		

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<b>Vertical Angle:</b>	
G03 G04 Type 2A	29.4 Angle (degrees)
G06 Type 3A	41.0 Angle (degrees)
Type 2C	32.1 Angle (degrees)
Compliant living Compliant Bedrooms	-
<b>Horizontal Angle:</b>	
G03 G04	98.0 Angle (degrees)
G06	105 Angle (degrees)
Type 2A Type 2C	72.0 Angle (degrees)
Type 3A	122 Angle (degrees)
Compliant living Compliant Bedrooms	-
<b>Window Area:</b>	
G03 G04 Type 2A Type 2C	9.4 m <sup>2</sup>
G06	8.9 m <sup>2</sup>
Type 3A	10.0 m <sup>2</sup>
Compliant living Compliant Bedrooms	-
<b>Window Orientation:</b>	
G03 G04 Type 2A Type 2C	South
G06 Type 3A	North
Compliant living Compliant Bedrooms	-
<b>Glass Type:</b>	
G03 G04 G06 Type 2A Type 2C Type 3A	Clear Double (VLT 0.71)
Compliant living Compliant Bedrooms	-
<b>Daylight Criteria Achieved?:</b> All	Yes

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<b>1.1 Daylight Access - Living Areas</b>		100%
Score Contribution	This credit contributes 26.2% towards the category score.	
Criteria	What % of living areas achieve a daylight factor greater than 1%	
Output	Calculated percentage	
Apartment	100 %	
<b>1.2 Daylight Access - Bedrooms</b>		100%
Score Contribution	This credit contributes 26.2% towards the category score.	
Criteria	What % of bedrooms achieve a daylight factor greater than 0.5%	
Output	Calculated percentage	
Apartment	100 %	
<b>1.3 Winter Sunlight</b>		0%
Score Contribution	This credit contributes 8.7% towards the category score.	
Criteria	Do 70% of dwellings receive at least 3 hours of direct sunlight in all Living areas between 9am and 3pm in mid-winter?	
Question	Criteria Achieved ?	
Apartment	No	
<b>1.4 Daylight Access - Non-Residential</b>		37% <span style="color: green;">✔</span> Achieved
Score Contribution	This credit contributes 1.3% towards the category score.	
Criteria	What % of the nominated floor area has at least 2% daylight factor?	
Question	Percentage Achieved?	
Office	37 %	
<b>1.5 Daylight Access - Minimal Internal Bedrooms</b>		100%
Score Contribution	This credit contributes 8.7% towards the category score.	
Criteria	Do at least 90% of dwellings have an external window in all bedrooms?	
Question	Criteria Achieved ?	
Apartment	Yes	
<b>2.1 Effective Natural Ventilation</b>		0%
Score Contribution	This credit contributes 26.2% towards the category score.	
Criteria	What % of dwellings are effectively naturally ventilated?	
Question	Percentage Achieved?	
Apartment	51 %	
<b>2.3 Ventilation - Non-Residential</b>		0%
Score Contribution	This credit contributes 1.3% towards the category score.	
Criteria	What % of the regular use areas are effectively naturally ventilated?	
Question	Percentage Achieved?	
Office	-	

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Criteria	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668.2:2012?
Question	Percentage Achieved?
Office	50 %
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?
Question	Value
Office	-
<b>3.4 Thermal comfort - Shading - Non-Residential</b>	0%
Score Contribution	This credit contributes 0.7% towards the category score.
Criteria	What percentage of east, north and west glazing to regular use areas is effectively shaded?
Question	Percentage Achieved?
Office	-
<b>3.5 Thermal Comfort - Ceiling Fans - Non-Residential</b>	0%
Score Contribution	This credit contributes 0.2% towards the category score.
Criteria	What percentage of regular use areas in tenancies have ceiling fans?
Question	Percentage Achieved?
Office	-
<b>4.1 Air Quality - Non-Residential</b>	100%
Score Contribution	This credit contributes 0.2% towards the category score.
Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Criteria	Does all carpet meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes

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**Transport** Overall contribution 2%

<b>1.1 Bicycle Parking - Residential</b>		0%
Score Contribution	This credit contributes 24.5% towards the category score.	
Criteria	How many secure and undercover bicycle spaces are there for residents?	
Question	Bicycle Spaces Provided ?	
Apartment	42	
Output	Min Bicycle Spaces Required	
Apartment	87	
<b>1.2 Bicycle Parking - Residential Visitor</b>		0%
Score Contribution	This credit contributes 24.5% towards the category score.	
Criteria	How many secure bicycle spaces are there for visitors?	
Question	Visitor Bicycle Spaces Provided ?	
Apartment	0	
<b>1.3 Bicycle Parking - Convenience Residential</b>		0% <input type="checkbox"/> Disabled
This credit is disabled	Credit 1.1 must be achieved first.	
<b>1.4 Bicycle Parking - Non-Residential</b>		0%
Score Contribution	This credit contributes 0.6% towards the category score.	
Criteria	Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 where there is no planning scheme requirement)?	
Question	Criteria Achieved ?	
Office	No	
Question	Bicycle Spaces Provided ?	
Office	-	
<b>1.5 Bicycle Parking - Non-Residential Visitor</b>		0%
Score Contribution	This credit contributes 0.3% towards the category score.	
Criteria	Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 where there is no planning scheme requirement)?	
Question	Criteria Achieved ?	
Office	No	
Question	Bicycle Spaces Provided ?	
Office	-	
<b>1.6 End of Trip Facilities - Non-Residential</b>		0%
This credit is disabled	Credit 1.4 must be complete first.	
<b>2.1 Electric Vehicle Infrastructure</b>		100%
Score Contribution	This credit contributes 25. % towards the category score.	
Criteria	Are facilities provided for the charging of electric vehicles?	
Question	Criteria Achieved ?	
Project	Yes	

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<b>2.2 Car Share Scheme</b>		N/A	✦ Scoped Out
This credit was scoped out	N/A		
<b>2.3 Motorbikes / Mopeds</b>		0%	
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	No		

**Waste** Overall contribution 6%

<b>1.1 - Construction Waste - Building Re-Use</b>		N/A	✦ Scoped Out
This credit was scoped out	The site is vacant		
<b>2.1 - Operational Waste - Food &amp; Garden Waste</b>		100%	
Score Contribution	This credit contributes 50% towards the category score.		
Criteria	Are facilities provided for on-site management of food and garden waste?		
Question	Criteria Achieved ?		
Project	Yes		
<b>2.2 - Operational Waste - Convenience of Recycling</b>		100%	
Score Contribution	This credit contributes 50% towards the category score.		
Criteria	Are the recycling facilities at least as convenient for occupants as facilities for general waste?		
Question	Criteria Achieved ?		
Project	Yes		

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**Urban Ecology** Overall contribution 2%

<b>1.1 Communal Spaces</b>		97%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Is there at least the following amount of common space measured in square meters : * 1m <sup>2</sup> for each of the first 50 occupants * Additional 0.5m <sup>2</sup> for each occupant between 51 and 250 * Additional 0.25m <sup>2</sup> for each occupant above 251?	
Question	Common space provided	
Apartment	386 m <sup>2</sup>	
Office	-	
Output	Minimum Common Space Required	
Apartment	96 m <sup>2</sup>	
Office	10 m <sup>2</sup>	
<b>2.1 Vegetation</b>		50%
Score Contribution	This credit contributes 44.6% 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	14 %	
<b>2.2 Green Roofs</b>		0%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Does the development incorporate a green roof?	
Question	Criteria Achieved ?	
Project	No	
<b>2.3 Green Walls and Facades</b>		0%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Does the development incorporate a green wall or green façade?	
Question	Criteria Achieved ?	
Project	No	
<b>2.4 Private Open Space - Balcony / Courtyard Ecology</b>		0%
Score Contribution	This credit contributes 10.9% towards the category score.	
Criteria	Is there a tap and floor waste on every balcony and courtyard (including any roof terraces)?	
Question	Criteria Achieved ?	
Apartment	No	

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<b>3.1 Food Production - Residential</b>		0%
Score Contribution	This credit contributes 10.9% towards the category score.	
Criteria	What area of space per resident is dedicated to food production?	
Question	Food Production Area	
Apartment	-	
Output	Min Food Production Area	
Apartment	36 m <sup>2</sup>	
<b>3.2 Food Production - Non-Residential</b>		0%
Score Contribution	This credit contributes 0.3% towards the category score.	
Criteria	What area of space per occupant is dedicated to food production?	
Question	Food Production Area	
Office	-	
Output	Min Food Production Area	
Office	3 m <sup>2</sup>	

**Innovation** Overall contribution 0%

<b>1.1 Innovation</b>		0%
Score Contribution	This credit contributes 100% towards the category score.	
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?	

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