



**ESD Report for SSDA**  
**135 Badgerys Creek Road, Bradfield**  
**Creative Vision**

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### Revision History

Revision	Project	Description	Author	Checked By	Date
1.0	P220001	ESD Report for SSDA	Payal Aggarwal	Luke Williams	17 <sup>th</sup> October 2025

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## 1 Introduction

This Ecologically Sustainable Report (ESD) has been prepared on behalf of the Bradfield Corporation Pty Ltd (the Applicant) by Aspire Sustainability Consulting. It is submitted to the Department of Planning, Housing and Infrastructure (DPHI) in support of a State Significant Development Application (SSDA) on land at 135 Badgerys Creek Road, Bradfield (the site).

The following section in this report outlines the sustainable design initiatives proposed for the development, demonstrating a commitment to achieving the Secretary's Environmental Assessment Requirements (SEAR's) along with other regulatory frameworks.

### 1.1. Sustainable Design Frameworks

The development shall be designed in line with the following sustainable design frameworks, ensuring key ESD design principles are implemented across all aspects of design:

- National Construction Code (NCC) 2022 Section J Compliance (via J1V3 Performance Solution);
- State Environmental Planning Policy (SEPP) 2022: Sustainable Buildings;
- Section 193, NSW Environmental Planning and Assessment Regulations 2021;
- Building Sustainability Index – Standards for residential development (BASIX) 2022;
- Planning Secretary's Environmental Assessment Requirements (Residential and Mixed-use Development);
- NABERS Energy and Water for Office Base Building and Hotel;
- State Environmental Planning Policy (Precincts—Western Parkland City) 2021;
- Western Sydney Aerotropolis Precinct Plan (September 2024); &
- Western Sydney Aerotropolis Phase 2 Development Controls Plan.

#### 1.1.1. Site-Wide ESD Targets

The development proposes to achieve the following ESD targets:

- Section J compliance through the delivery of a J1V3 Performance Solution for all non-Class 2 spaces;
- 5.5 Star NABERS Energy for Office Base Building and 4 Star NABERS Energy for Hotels within the site;
- 3 Star NABERS Water for Office Base Building and Hotel;
- Net Zero Emissions by 2050 for Office Base Building and Hotel;
- Increased BASIX Energy per Western Sydney Aerotropolis Precinct Plan (2024); &
- Exceed State Environmental Policy, Sustainable Buildings (2022) BASIX Water Score.

#### 1.1.2. National Construction Code (NCC) 2022 Volume 1 Section J (Energy Efficiency)

Provisions within Section J of the NCC relate to energy efficiency and the reduction of Greenhouse Gas Emissions for Class 2 to 9 developments. Aspects of design required to be addressed in Section J include the façade, building envelope, lighting, HVAC, energy metering, building sealing and ventilation. All portions of the development will comply with NCC Section J.

The development will target Section J compliance through the delivery of a J1V3 Performance Solution that will be completed during early design development.

### **1.1.3. State Environmental Planning Policy (SEPP): Sustainable Buildings 2022**

The Sustainable Buildings SEPP is aligned with National Construction Code & NSW Net Zero Policy which will help in delivering buildings that are more energy efficient, produce less GHG emissions and inform future benchmarks.

### **1.1.4. Building Sustainability Index (BASIX)**

BASIX is the primary framework applied to Class 2 portions of developments in addition to their associated common areas. Minimum performance requirements regarding the building fabric, appliances (energy and water efficiency) and central building systems must be achieved.

#### **Energy Targets**

As per Western Sydney Aerotropolis Precinct Plan (2024), the development will target BASIX Energy Score of 60.

#### **Water Targets**

Western Sydney Aerotropolis Precinct Plan (2024) objectives list a water score of 60 to be achieved, reflecting a 50% improvement in building water consumption compared to the statewide target of 40.

A score of 54 (Building B) & 55 (Building C) has been achieved through adoption of the highly efficient WELS ratings associated with showers, taps, dishwashers and clothes washers. Adopting additional measures such as the connection of dwelling WC's & Laundries to the centralised Rainwater Tank did not allow the BASIX Water score to improve beyond 57 (Building B) & 58 (Building C). Due to the substantial capital costs associated with a small improvement to the BASIX water score, the project commits to exceeding a BASIX Water score of 50 for both Buildings B & C, demonstrating a commitment to improve water consumption by 25% compared to the statewide BASIX target.

### **1.1.5. NABERS Energy Office Base Building 5.5 Star & Hotel 4 Star Rating**

NABERS is Australia's most adopted building performance rating, aiming to account for all GHG emissions within a building, allowing commercial spaces to be benchmarked against common parameters such as energy consumption, hours of use, equipment density, location etc. The development 135 Badgerys Creek is targeting NABERS Energy for Office Base Building 5.5 Star Rating for commercial office spaces and Hotel 4 Star rating for hotel spaces within the site.

An Agreement to Rate has been executed by the developer prior to SSDA, committing to a 4 Star NABERS Energy Rating for Hotel (AR00109 & AR00110) and 5.5 Star NABERS Energy Rating for Office Base Building (AR00111) in operation.

### **1.1.6. NABERS Water 3 Star Rating (Office & Hotel Components)**

NABERS Water ratings are awarded based on the amount of water used within a building. The rating assesses water consumption associated with all end uses across a building. The development 135 Badgerys Creek is targeting NABERS Water 3 Star Rating for Office Base Building and Hotel for commercial office and hotel spaces within the site in line with the Sustainable Buildings SEPP.

An Agreement to Rate will be executed for SSDA, committing to a 3 Star NABERS Water Rating for Hotels (AR00109 & AR00110) and Office Base Building (AR00111) in operation.

The following table references sections within the report where compliance is demonstrated with applicable SEPP requirements.

**Table 1: State Environmental Planning Policy (SEPP): Sustainable Buildings 2022 Requirements**

2.2 Standards not affected by environmental planning instruments or development control plans	Addressed in:
1.a. A competing provision of an environmental planning instrument or development control plan, whenever made, is of no effect to the extent to which the provision aims to reduce consumption of mains-supplied potable water or greenhouse gas emissions related to the use of— <ul style="list-style-type: none"> <li>i. a building, or</li> <li>ii. the land on which a building is located, or</li> </ul>	Sections 4, 10 & 11.
1.b. A competing provision of an environmental planning instrument or development control plan, whenever made, is of no effect to the extent to which the provision aims to improve the thermal performance of development,	Sections 4 & 10.
1.c. A competing provision of an environmental planning instrument or development control plan, whenever made, is of no effect to the extent to which the provision aims to quantify and report on the embodied emissions attributable to development.	Section 4 & 7.
Schedule 1 Standards for erection of BASIX buildings and change of use to BASIX buildings	Addressed in:
<b>2. Energy use</b>	Section 4.
1. The standard is that the amount of greenhouse gas emissions resulting from the use of energy attributable to an occupant of the development over a year must be less than the baseline, by at least the percentage specified in Table 1 for the development.	
<b>3. Water use</b>	Section 4.
1. The standard is that the average daily amount of mains-supplied potable water use attributable to an occupant of the development over a year must be less than the baseline, by at least the percentage shown on the <i>Water Use Map</i> for the land on which the development will be carried out.	
<b>4. Application of Part</b>	Section 4.
1. The standard represents the maximum amount of energy that may be used to heat and cool a dwelling to a comfortable temperature, measured in megajoules per square meter of the conditioned floor area of the dwelling over a year.	

<b>3.2 Development consent for non-residential development</b>		<b>Addressed in:</b>
1.a.	The minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials.	Section 6.
1.b.	A reduction in peak demand for electricity, including through the use of energy efficient technology.	Section 10.
1.c.	A reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design.	Section 10.
1.d.	The generation and storage of renewable energy.	Section 10.
1.e.	The metering and monitoring of energy consumption.	Section 10.
1.f.	The minimisation of the consumption of potable water.	Section 11.
2.	Development consent must not be granted to non-residential development unless the consent authority is satisfied the embodied emissions attributable to the development have been quantified.	Section 7.
<b>3.3 Other considerations for large commercial development</b>		<b>Addressed in:</b>
1.d.	In deciding whether to grant development consent to large commercial development, the consent authority must consider whether the development minimises the use of on-site fossil fuels, as part of the goal of achieving net zero emissions in New South Wales by 2050.	Section 10.
1.e.	Development consent must not be granted to large commercial development unless the consent authority is satisfied. The development is capable of achieving the standards for energy and water use specified in Schedule 3.	Section 10.
1.f.	For the purposes of subsection (2), development is capable of achieving a standard specified in Schedule 3 if there is a NABERS commitment agreement in place to achieve the standard.	Section 10.
<b>3.4 Other considerations for certain State significant development</b>		<b>Addressed in:</b>
2.4.1	In deciding whether to grant development consent to development to which this section applies, the consent authority must consider whether the development will minimise the use of on-site fossil fuels, as part of the goal of achieving net zero emissions in New South Wales by 2050.	Section 10.
<b>Schedule 3 Standards for energy and water use for large commercial development</b>		<b>Addressed in:</b>
<b>1. Energy use</b>		Agreement to rate (AR00111) has been lodged.
1.	The standard for energy use for development for the purposes of prescribed office premises is a 5.5-star NABERS energy rating.	
2.	The standard for energy use for development for the purposes of prescribed hotel or motel accommodation is a 4 star NABERS energy rating.	Agreement to rate (AR00110 & AR00109) has been lodged.
<b>2. Water use</b>		Agreement to rate (AR00110, AR00109 & AR00111) has been lodged.
1.	The standard for water uses for large commercial development is a 3-star NABERS water rating.	

### 1.1.7. SEAR’s Controls & Objectives

The following table references sections within the report where compliance is demonstrated with applicable SEAR’s requirements.

**Table 2: SEAR ESD Controls & Objectives**

Planning Secretary’s Environmental Assessment Requirements (Residential and Mixed-use Development)	Addressed in:
O1. Identify how ESD principles (as defined in section 193 of the EP&A Regulation) are incorporated in the design and ongoing operation of the development.	Sections 6-13.
O2. Demonstrate how the development will meet or exceed the relevant industry recognised building sustainability and environmental performance standards.	Sections 6-13.
O3. Demonstrate how the development minimises greenhouse gas emissions (reflecting the Government’s goal of net zero emissions by 2050) and consumption of energy, water (including water sensitive urban design) and material resources.	Sections 7, 10 & 11.
O4. Address the requirements listed in SEARs advice Bradfield Development Authority dated 15 January 2025, by BDA	Section 1.1.9.

### 1.1.8. SEARs advice Bradfield Development Authority dated 15 January 2025, by BDA

The following table references sections within the report where compliance is demonstrated with applicable SEARs advice Bradfield Development Authority dated 15 January 2025, by BDA requirements.

**Table 4: SEARs advice Bradfield Development Authority dated 15 January 2025, by BDA**

SEARs advice Bradfield Development Authority dated 15 January 2025, by BDA	Addressed in:
O1. Building and public realm materiality to be heat sensitive – reduce the significant impact of urban heat in western Sydney and improve amenity.	Section 13.
O2. Open space, nature preservation and additional tree canopy to be maximised as both an amenity and cooling strategy.	Section 13.
O3. Perviousness to be maximised.	Section 13.
O4. Bio-solar or solar PV or other energy efficiency measures.	Section 10.
O5. Minimise greenhouse gas emissions.	Section 10.
O6. Maximise social benefits through procurement decisions.	Section 7.

### 1.1.9. Section 193 Principles of Ecologically Sustainable Development, NSW Environmental Planning and Assessment Regulation 2021

- The principles of ecologically sustainable development are the following:
  - the precautionary principle;
  - inter-generational equity;
  - conservation of biological diversity and ecological integrity; &
  - improved valuation, pricing and incentive mechanisms.
  - The precautionary principle is that if there are threats of serious or irreversible environmental damage lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- In applying the precautionary principle, public and private decisions should be guided by:
  - Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; &

- An assessment of the risk-weighted consequences of various options.
- The principle of inter-generational equity is that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.
- The principle of the conservation of biological diversity and ecological integrity is that the conservation of biological diversity and ecological integrity should be a fundamental consideration.
- The principle of improved valuation, pricing and incentive mechanisms is that environmental factors should be included in the valuation of assets and services, such as—
  - Polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement;
  - The users of goods and services should pay prices based on the full life cycle of the costs of providing the goods and services, including the use of natural resources and assets and the ultimate disposal of waste; &
  - Established environmental goals should be pursued in the most cost-effective way by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

Principles of Section 193 ecologically sustainable development, NSW environmental planning and assessment regulation 2021 have been addressed by the development through the following initiatives:

#### **1.1.9.1 The precautionary principle:**

By adopting energy efficiency initiatives, water conservation measures, enhanced indoor environmental quality, sustainable building practices and resilient design, the development will not have significant or lasting impact on the surrounding environment.

#### **1.1.9.2 Inter-generational equity:**

The development proposes to address inter-generational equity by incorporating measures of sustainable development to reduce environmental impact and promote health and wellbeing of occupants.

By adopting energy and water efficiency measures, sustainable materials, enhanced indoor environment quality and reduced ecological impact, the proposed development is participating in preserving the availability of natural resources for future generations.

#### **1.1.9.3 Conservation of biological diversity and ecological integrity:**

The site features a creek and vegetation along the southwest area that will be preserved thereby maintain the ecological value of the site. A biodiversity impact assessment per SEAR's condition No. 11 will help understand the impact of project on the local biodiversity Refer to Biodiversity Assessment (04/06/25)). Green roofs, retaining creek and green corridor will establish a connection with nature and increase ecological value of the site.

#### 1.1.9.4 Improved valuation, pricing, and incentive mechanisms:

The proposed development will consider various sustainability initiatives to be integrated into the valuation of assets and services.

- Head Contractor engaged throughout the entire project completion will implement and comply with an Environmental Management Plan and Environmental Management System aligned with the NSW Environmental Management Systems Guidelines or equivalent standards. This ensures that the team is responsible for environmental impacts caused due to project construction and introduce measures to promote sustainable strategies.
- The project team will consider using recycled and responsibly sourced materials where possible. A minimum of 90% construction and demolition waste will be diverted from landfills. Additionally, the developer/occupants will bear costs associated with operational energy, waste management, water consumption, refurbishment etc. This approach reflects that the developer/occupants pay for the entire life cycle of the project which includes construction, use, refurbishment and end of life.
- The project will consider ESD initiatives highlighted in this report as sustainability goals. This includes the below initiatives but not limited to:
  - Investing in efficient water systems to reduce potable water use and associated costs; &
  - Incorporating energy-efficient design features that lower long-term carbon emissions and operational cost.

Through these integrated mechanisms, the project aligns with the objectives of improved valuation, pricing, and incentive frameworks, supporting both environmental protection and economically efficient outcomes.

#### 1.1.10. State Environmental Planning Policy (Precincts-Western Parkland City) 2021

The following table references sections within the report where compliance is demonstrated with applicable State Environmental Planning Policy (Precincts—Western Parkland City) 2021 requirements.

**Table 5: State Environmental Planning Policy (Precincts—Western Parkland City) 2021 Controls**

6.22 Ecologically sustainable development		Addressed in:
O1.	Development on the land to which this Chapter applies is to be planned and carried out so that it supports the goal of ecologically sustainable development within the region declared under the Act and known as the Sydney Region.	Sections 5-13.

### 1.1.11. Western Sydney Aerotropolis Precinct Plan 2024

The following table references sections within the report where compliance is demonstrated with applicable Western Sydney Aerotropolis Precinct Plan requirements.

**Table 6: Western Sydney Aerotropolis Precinct Plan 2024 Controls**

4.7 Sustainability and Resilience	Addressed in:
SR01 Development is to support the transitioning to a net zero or net positive outcome over the medium to long term. This will be measured around performance regarding waste management, water management and carbon consumption benchmarks that are provided in the DCP or other relevant legislation	Sections 6, 10 & 11.
SR02 Development should seek to exceed the water and energy requirements of BASIX.	Sections 4, 10 & 11.
SR03 Green infrastructure is effectively used through the provision of water treatment and retention, urban cooling, ecosystem services and amenity and integrated into built, landscaped and natural environments.	Section 13.
SR04 Buildings, infrastructure and public domain elements maximise the recycling and reuse of materials.	Section 7.
SR05 Facilitate the design, construction and operation of environmentally sustainable buildings and precincts, including energy efficiency, renewable energy, efficient resource and energy use and reduced emissions and waste.	Sections 6, 10 & 11.
SR06 Effectively uses waste as a resource through its collection, transport and recycling in a manner that is safe, efficient, cost effective and does provide a positive impact on liveability and the environment.	Sections 6 & 7
SR07 Measures to mitigate urban heat island effects are integrated in the design of the built form and public domain, for example the use of light-coloured roofs.	Section 13.
SR08 Planning is to provide sustainable and resilient approaches to development and is to incorporate circular economic principles found in the NSW Circular Economy Policy Statement.	Section 8.

### 1.1.12. Western Sydney Aerotropolis Phase 2 Development Controls Plan

The following table references sections within the report where compliance is demonstrated with applicable Western Sydney Aerotropolis Phase 2 Development Controls Plan requirements.

**Table 7: Western Sydney Aerotropolis Phase 2 Development Controls Plan Controls**

2.12 Sustainability	Addressed in:
O1. Minimise energy consumption and achieve net zero energy emissions by 2030.	Section 10.

## 1.2. Aim of Report

The following sections outline design initiatives being considered that reduce the environmental impact of the design, construction, and operation of the development, highlighting alignment with applicable targets and planning controls.

## 2 Project Description

The site is located at 135 Badgerys Creek Road, Bradfield and is approximately 2.02ha in area. It is legally described as Lot 7 DP 243457 and is located approximately 250m to the future Bradfield Metro Station and 4km to the Western Sydney Airport. An aerial image of the site is provided in Figure 1.

The site shares a western frontage with Badgerys Creek Road. The eastern boundary of the site adjoins the State government-led Bradfield City Centre which is set to be a vibrant 24/7 global city, driving advancements in industry and will support 10,000 more homes and 20,000 new jobs in Western Sydney.

As defined by the Aerotropolis Precinct Plan, the site is located within the Aerotropolis Core Precinct which is envisioned as an attractive place for workers, residents and visitors. The Aerotropolis Core Precinct will leverage the positive economic impact of the adjacent Western Sydney Airport and Bradfield City Centre. It will attract business hubs, research and development, professional services and creative industries in addition to providing residential development within walking distance of the Bradfield Metro station and proximity to blue and green infrastructure.



Figure 1: Site Layout

## 2.1. Information Sources

- National Construction Code (NCC) 2022 Section J Compliance (via J1V3 Performance Solution);
- State Environmental Planning Policy (SEPP) 2022: Sustainable Buildings;
- Section 193, NSW Environmental Planning and Assessment Regulations 2021
- Building Sustainability Index – Standards for residential development (BASIX) 2022;
- Planning Secretary’s Environmental Assessment Requirements (Residential and Mixed-use Development);
- SEARs advice Bradfield Development Authority dated 15 January 2025, by BDA;
- NABERS Energy and Water for Base Building and Hotel;
- State Environmental Planning Policy (Precincts—Western Parkland City) 2021;
- Aerotropolis Precinct Plan (September 2024);
- Western Sydney Aerotropolis Phase 2 Development Controls Plan;
- Architectural Plans (01/10/25);
- State Design Review Panel Presentation (Dec 24);
- Biodiversity Assessment (04/06/25);
- Arboriculture Impact Assessment (28/03/25);
- Operational Waste Management Plan (31/03/25);
- A Country Centred Approach to Civic Biodiversity (2024); &
- Landscape Plan (19/05/25).

### 3 National Construction Code (NCC) 2022 Section J Compliance

High-level recommendations are provided below relating to glazing, insulation and NCC Section J J9D4 & J9D5 Provisions.

#### 3.1 Glazing & Insulation

An initial J1V3 report (250929\_P220001\_J1V3\_Report\_1.0) has been carried out that contains glazing and insulation requirements for the development to consider and implement in detailed design, insulation and glazing requirements are outlined below

**Table 4: Part J4D6 Building Fabric Performance Requirements**

Fabric Element	Required Total System R-Value	Notes
Roofs/Ceilings	$\geq R3.99$ (Abs $\leq 0.45$ )	Please see Section 5.1.1 of J1V3 report.
External Walls	Varies between $\geq R1.40$ to $\geq 1.48$ (Abs $\leq 0.60$ )	Please see Section 5.1.3 of J1V3 report.
Internal Walls	Varies between $\geq R1.49$ to $\geq R1.61$	Please see Section 5.1.3 of J1V3 report.
Floors to Unconditioned Space Below	$\geq R2.00$ to be achieved for the Class 3 floors that are exposed to unconditioned space below.	Please see Section 5.1.5 of J1V3 report.
Ceilings to Unconditioned Space Above	$\geq R3.20$	Please see Section 5.1.1 of J1V3 report.
Slab on Ground	No Insulation Required	Please see Section 5.1.5 of J1V3 report.

**Table 5: Part J4D6 Glazing Total System Performance Requirements**

Location	Orientation	Total System U-Value	Total System SHGC	Notes
Hotels / Co-working / L1 Tavern	All	$\leq 3.00$	$\leq 0.21$	Please see Section 5.1.4 of J1V3 report.
Medical / Commercial / Gym / Childcare	All	$\leq 3.00$	$\leq 0.21$	Please see Section 5.1.4 of J1V3 report.
Restaurant / GF Tavern / Retail / Communal	All	$\leq 5.00$	$\leq 0.30$	Please see Section 5.1.4 of J1V3 report.

### 3.2 NCC 2022 Section J9 Provisions

Additional provisions relating to EV infrastructure & PV that will need to be considered are outlined below:

**Table 8: J9D4 Requirements (EV Infrastructure)**

Building Class	Infrastructure Requirements	% of Car Parking Spaces	Future Charging Requirements
Class 2 (Residential)	Sized to support future installation of 7kW (32A) Type 2 chargers	100%	Capable of delivering a minimum 12kWh from 11pm to 7am daily
Class 5 (Office)	Sized to support future installation of 7kW (32A) Type 2 chargers	10%	Capable of delivering a minimum 12kWh from 9am to 5pm daily
Class 6 (Retail)	Sized to support future installation of 7kW (32A) Type 2 chargers	10%	Capable of delivering a minimum 12kWh from 9am to 5pm daily
Class 9 (Childcare)	Sized to support future installation of 7kW (32A) Type 2 chargers	20%	Capable of delivering a minimum 12kWh from 9am to 5pm daily

#### Solar PV (J9D5)

J9D5 requires electrical infrastructure and free roof area for future installation of PV to 20% of the roof area or an equivalent generation capacity elsewhere on-site.

## 4 BASIX (Class 2 Units & Common Areas)

BASIX certificate (1816019M & 1816022M) has been generated to accompany the SSDA containing water, energy, thermal performance and material requirements for all the buildings to consider and implement in detailed design.

As per Western Sydney Aerotropolis Precinct Plan (2024) and State Environmental Policy, Sustainable Buildings (2022), increased BASIX Energy and Water targets apply to the development. Refer to table 9 for BASIX Energy and Water targets.

Refer to Appendix B for BASIX Thermal Requirements Summary Table. Scores achieved are outlined below.

**Table 9: BASIX Targets & Results**

	Target	Stage 2 (Building B) Score	Stage 3 (Building C) Score
Water	50 (25% improvement on State Environmental Policy, Sustainable Buildings (2022))	54	55
Energy	60 (Western Sydney Aerotropolis Precinct Plan (2024))	60	60
Thermal Performance	Pass	Pass	Pass
Materials	N/A	N/A	N/A

The following Sections provide an overview of the sustainable design features considered for implementation across the site.

## 5 Ecologically Sustainable Design

The following Sections contain sustainable design initiatives proposed and currently being explored by the design team in line with the ecologically sustainable design categories outlined below:



## 6 Construction and Waste Management

To ensure sustainable construction practices throughout construction and building operation, the following initiatives will be considered:

**Table 10: Design Initiatives to be Considered for Construction and Waste Management**

Initiative	Design Response	Comments
Divert waste from landfill.	Waste Contractor to divert >90% of construction waste by weight from landfill.	Head Contractor to include waste diversion requirements in Waste Contractor scope.
Responsible management systems.	Implementing an Environmental Management System in line with ISO 14001.	Head Contractor to ensure effective implementation of EMS throughout construction.
Reduce impacts caused due to construction activities.	Construction Environmental Management Plan (CEMP) to set environmental performance targets.	Head Contractor to ensure effective implementation of CEMP throughout construction.
Operational waste management and segregation.	OWMP to be created including provisions of waste segregation for glass, plastic, cardboard and organic waste.	Refer to Operational Waste Management Plan (31/03/25) for waste segregation requirements.



Figure 2: Various waste streams to be considered as part of waste segregation strategy.

## 7 Sustainable Materials

The environmental footprint of the development can be reduced through the procurement of sustainable products. This can include products produced with lower than typical energy consumption during manufacture, made with reused content, or not transported large distances to its point of use.

During the detailed design phase, the sustainable materials strategy for the development will explore the following items:

**Table 11: Design Initiatives to be Considered for Sustainable Materials**

Initiative	Design Response	Comments
Using responsibly sourced materials.	Selection of timber with FSC certification.	As per the State Design Review Panel Presentation (Dec 24), sustainable timber will be sourced with FSC certification.
	Selection of steel from ISO 14001 certified manufacturer.	As per the State Design Review Panel Presentation (Dec 24), steel with recycled content will be sourced.
	Local procurement of building materials.	As per the State Design Review Panel Presentation (Dec 24), materials will be locally procured.
	Selection of PVC products in line with Best Practice Certificate.	Project team to explore the potential to select Best Practice PVC products.
Reduced embodied emissions due to building materials.	Disclosure of embodied emissions in line with section 3.2 SEPP Development consent for non-residential development of SEPP Sustainable Building Policy.	NABERS Embodied Emissions Materials Form will be submitted to accompany the SSDA.
	Use of recycled content in products where appropriate. For example, using concrete with fly ash.	As per the State Design Review Panel Presentation (Dec 24), the project team will ensure requirements for recycled products are included in design where practical.
	Selection of major building elements that have Environmental Performance Declarations (EPD's) or third-party certificates.	Architect to consider specifying products with EPDs/third party certificates.
Use of Low GWP refrigerants.	Use of air conditioning systems with refrigerants that have a low Global Warming Potential will be explored.	Mechanical Consultant to review the potential of specifying low GWP refrigerants in HVAC systems.



Figure 3: Examples of third-party environmental product declarations that can be explored during design development.

## 8 Climate Change Adaptation

To ensure the long-term durability of the site and its ability to adapt to a changing climate, the following measures will be considered:

**Table 12: Design Initiatives to be Considered for Climate Change Adaptation**

Initiative	Design Response	Comments
Reduce potable water use.	Rainwater tank to reduce potable water consumption of the development and reduce strain on central water infrastructure.	Water from RWT will be reused for common landscape irrigation and car wash bay (Refer to Appendix B for BASIX requirements).
Reduce heat island effect	Light colour schemes keep the external surfaces of the building cool, reduce impacts of the urban heat island effect & keep naturally ventilated spaces cool.	As per the State Design Review Panel Presentation (Dec 24), light-coloured roofs, green roofs and green walls will be considered.
Increased MSSB capacity for effective HVAC systems in case of increased temperatures.	Increasing capacity of mechanical and electrical distribution boards to accommodate an increase in building electrical loads associated with a warming climate.	Mechanical Consultant to consider increasing MSSB capacity by 20% to accommodate increase in peak loads as a result of future climate warming.
Offering areas of respite during extreme weather events	Providing large green spaces with dense tree canopy trees to provide natural shading.	A creek with vegetation along the southwest area will be retained. Refer State Design Review Panel Presentation (Dec 24).
Resilient infrastructure in case of extreme weather conditions	Ensuring the development is constructed in accordance with recognised standards regarding wind tolerance and impacts from hail/strong winds.	Project team to ensure requirements for resilient infrastructure are considered in accordance with AS standards.

## 9 Transport

The development is located within Aerotropolis Core Precinct at the western fringe of Bradfield City Centre which will be connected to the wider Western Sydney region through the future metro line.

During the detailed design phase, the following initiatives will be explored:

**Table 13: Design Initiatives to be Considered for Sustainable Transport Facilities**

Initiative	Design Response	Comments
Provision of EOT facilities.	Provision of showers & locker facilities for staff.	Architectural plans shows EOT facilities for staff use, helping to reduce emissions associated with private and public transportation modes that consume fossil fuels.
Promoting sustainable transport initiatives.	Provision of EV vehicles parking	Electrical Consultant to ensure requirements for EV vehicle charging are adopted in line with Western Sydney Aerotropolis Phase 2 Development Controls Plan & J9D4 NCC 2022.

## 10 Passive Design & Energy Efficiency

The proposed development will consider the following initiatives throughout design development:

**Table 14: Design Initiatives to be Considered for Passive Design**

Initiative	Design Response	Comments
Incorporating passive design techniques to reduce heating, ventilation and cooling requirements.	A light colour roof and façade lower internal temperatures by minimising the heat being transferred through the building fabric.	As per the State Design Review Panel Presentation (Dec 24), light-coloured roofs, green roofs and green walls will be considered.
	Sufficient daylight access due to voids in the buildings and limited shade from future development such as sports field.	Refer to Figure 4 confirming voids and adjacent open spaces which provides sufficient daylight access.
	Thermal mass utilised where possible, helping to smooth out daily temperature peaks and troughs.	Thermal mass in concrete will contribute to an improvement in annual energy consumption.
	Suitably performing glazing to facades, protecting from hot ambient air during summer whilst allowing heat to be kept inside during winter	Refer to Section 3 and 4 for glazing performance values suitable for development's location.



Figure 4: Voids within buildings

**Table 15: Design Initiatives to be Considered for Energy Efficiency**

Initiative	Design Response	Comments
Reduce energy consumption.	Adopting efficient HVAC systems.	Mechanical Consultant to specify HVAC systems with improved efficiency compared to MEPS & BASIX minimum requirements.
	Metering in line with minimum performance standards to track and monitor energy consumption.	Electrical Consultant to provide energy meters in accordance with NCC 2022 Section J9D3.
	Exceeding minimum energy efficiency provisions within NCC 2022 Volume 1.	Please refer to Section 3 for NCC 2022 Section J provisions.
	Provision of energy efficient LED lighting throughout with appropriate motion & daylight controls.	Project team to ensure efficient LED lighting & suitable controls are adopted in design.
On-site renewable energy to reduce the load on central grid.	Solar PV systems installed throughout site to provide a portion of the sites power, whilst reducing peak power demands.	Refer to Appendix B for the proposed solar PV layout, demonstrating the integration of renewable energy to help reduce the buildings grid electricity consumption.
Net Zero Provisions.	Procurement of offsets in line with section 3.3 Other considerations for large commercial development of SEPP Net Zero Provisions	A Net Zero Statement confirming offset procurement has been issued to accompany SSDA Application.
Achieving energy efficiency.	All electric development.	As per the State Design Review Panel Presentation (Dec 24), the entire development will be all electric.
	Achieve 5.5 Star NABERS Energy as per Section 3.3 Other considerations for large commercial development of SEPP Sustainable Building Policy.	Agreement to Rate has been executed for SSDA, for Hotel Stage 1 & 2 (AE00109 & AR00110) and offices (AR00111).
	Achieve 4 Star NABERS Energy as per Section 3.3 Other considerations for hotel or motel development of SEPP Sustainable Building Policy.	

	Achieve increased BASIX Energy score (60 points) as per Western Sydney Aerotropolis Precinct Plan (2024).	Refer to section 4 for achieved BASIX energy score.
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## 11 Water

The development will reduce water consumption by incorporating the following water saving measures into design:

**Table 16: Design Initiatives to be Considered to Reduce Water Consumption**

Initiative	Design Response	Comments
Reduce potable water use.	Installing fixtures and fittings in line with best practice guidelines recommended by Green Star Buildings rating tool.	Architect to select sanitary fixture in line with GBCA best practice WELS ratings.
	Rainwater tank to reduce potable water consumption of the development and reduce strain on central water infrastructure.	Water from RWT will be reused for common landscape irrigation and car wash bay (Refer to Appendix B for BASIX requirements).
	Water dispersed from the sprinkler system to be enclosed in a closed loop system.	Appendix B confirms that fire system text water will be captured for re-use.
Reduced water consumption.	Inclusion of low water use plant species and use of drip irrigation for landscape irrigation.	Native plant species and efficient irrigation measures have been specified in design. Refer to the State Design Review Panel Presentation (Dec 24).
Achieving water efficiency.	Achieve 3 Star NABERS Water as per as per Section 3.3 Other considerations for large commercial development of SEPP Sustainable Building Policy.	Agreement to Rate has been executed for SSDA, committing to a 3 Star NABERS Water Rating for Hotels (Agreement to rate (AR00110 & AR00109) has been lodged. and Base Building (Offices) (AR00111) in operation. NABERS water report to be provided at CC Submission.

**Table 17: Recommended Water Efficiency of Fixtures & Appliances**

Fixture/Equipment Type	WELS Rating
Taps	6 stars
Toilet	5 stars
Showers	4 stars
Clothes Washing Machines	5 stars
Dishwashers	6 stars



Figure 5: WELS Water Rating Label

## 12 Enhanced Indoor Environment Quality

The development will explore the following initiatives to improve occupant health and well-being withing the built environment:

**Table 18: Design Initiatives to be Considered to Enhance Indoor Environment Quality**

Initiative	Design Response	Comments
Reduced exposure to toxins	Adopt low VOC carpets, paints, adhesives and sealants.	Architect to select products with low VOC content.
	Select engineered wood with low formaldehyde content.	Architect to select engineered wood with low formaldehyde content in design.
Elimination of indoor pollutants.	Printing/Photocopying equipment to be in line with minimum emissions standards.	Building owner to consider all printing/photocopying equipment to meet Green Star emissions standards.
	Airtight buildings to prevent bushfire smoke from entering the buildings.	As per the State Design Review Panel Presentation (Dec 24), the design will include airtight buildings.
	All pollutants from kitchen and enclosed carparks should be directed to outside.	Mechanical Consultant to ensure requirements for dedicated kitchen and carpark exhaust are as per AS1668 standard.
Eliminating the risk associated with legionella disease.	Adopting air cooled HVAC systems eliminated the risk associated with legionella disease when cooling towers are installed on site.	Air cooled HVAC system specified, eliminating risk of legionella.

### 13 Land Use & Ecology

The development aims to reduce potential negative impacts resulting from urban development and enhance local ecology by implementing the following:

**Table 19: Design Initiatives to be Considered to Improve Land Use and Ecology**

Initiative	Design Response	Comments
Enhancing local levels of biodiversity.	Inclusion of native plant species.	Native plant species and efficient irrigation measures have been specified in design. Refer to the State Design Review Panel Presentation (Dec 24).
	Assess the ecological value of the site.	A biodiversity development assessment report has been created per SEAR condition 11. Refer to Biodiversity Assessment document (04/06/25).
	Retain vegetation along the southwest area.	Refer Arboriculture Impact Assessment document (28/03/25), for a list of retained trees.
	Reactivating existing creek.	Colonial concrete piping/channels will be removed to enhance local biodiversity. Refer to the State Design Review Panel Presentation (Dec 24).
	Introducing green corridor to enhance biodiversity and ecological connectivity while providing cleaner air and recreational spaces.	Green walls and corridor will provide shelter to birds and animals and improve ecological value of the site. Refer A Country Centred Approach to Civic Biodiversity document (2024) and figure 6 for green corridor.
Reduce the urban heat island effect.	Large, landscaped areas to be provided to help in reducing heat island effect.	Refer to figure 6 for green corridor confirming large landscaped areas which provided natural shading and reduces heat island effect.
Reduction of stormwater pollutants.	Utilising stormwater and Water Sensitive Urban Design (WSUD) features in line with Section 6.5 of Liverpool DCP 2008.	Project team to ensure requirements to reduce peak stormwater discharge post development are aligned with Section 6.5 of Liverpool DCP 2008.
Reduced peak stormwater discharge post development.	Utilising stormwater and Water Sensitive Urban Design (WSUD) features in line with Section 6.5 of Liverpool DCP 2008.	Project team to ensure measures to reduce stormwater pollutants are aligned with Section 6.5 of Liverpool DCP 2008.
Minimising external light pollution	Outdoor lighting to be designed in accordance with a recognised standard	Project team to fulfill requirements for external lighting as per AS/NZS 4282:2019.

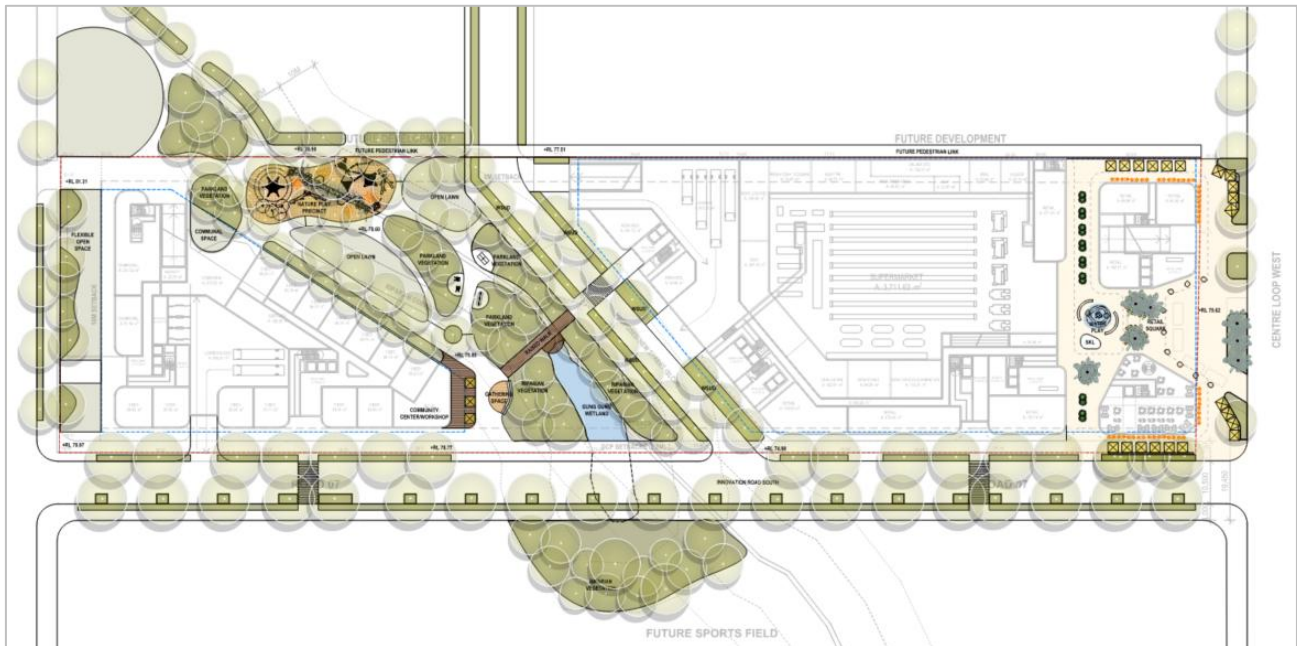


Figure 6: Landscaping and green corridor

## 14 Conclusion

This report presents a comprehensive sustainability strategy tailored to the development, occupants, local community and biodiversity. By addressing key sustainable measures discussed in Section 5 of the report, the development will be able to achieve ESD targets and objectives set by the SEPP Policy, SEARs and local councils as outlined in Section 1.1 of the report.

Throughout design development, detailed investigations will be carried out based on feasibility for achieving the sustainability measures to further refine the ESD strategy for the development, providing an exceptional example of sustainable design to the Bradfield community and beyond.

## Appendix A: Useful Resources for Detailed Design Investigation

1. **Australian Carbon Credit Unit Scheme:** Incentivizes individuals and businesses to undertake projects that lower emissions or capture and store carbon by purchasing offsets.  
[Australian Carbon Credit Unit Scheme | Clean Energy Regulator](#)
2. **Best Practice PVC:** Guidelines developed to minimize the environmental and health impacts associated with the manufacture and end-of-life management of PVC products used in buildings.  
[Responsible Products Framework | Green Building Council of Australia](#)
3. **Environmental Product Declarations (EPD):** Standardized documents providing transparent and comparable information about the life-cycle environmental impact of products.  
[EPD Search | EPD Australasia](#)
4. **Forest Stewardship Council (FSC):** A global non-profit organization that sets standards for responsible forest management, ensuring that products come from responsibly managed forests.  
[Home | Forest Stewardship Council](#)
5. **Global GreenTag:** A third-party, green product rating and certification system underpinned by scientific and life cycle assessment processes.  
[Global GreenTag. The world's best eco products. Certified.](#)
6. **Good Environmental Choice Australia (GECA):** An independent, not-for-profit ecolabel certification for products and services that meet rigorous environmental, human health, and ethical impact criteria.  
[Sustainability & Environmental Certification Program - GECA](#)
7. **Green Star:** Developed by the Green Building Council of Australia (GBCA), Green Star is an environmental rating system that evaluates the sustainability performance of buildings and communities.  
[Home - Green Building Council of Australia](#)
8. **Large-scale Generation Certificates:** LGCs are tradable certificates issued to eligible large-scale renewable energy power stations, reflecting the amount of renewable energy generated or offset by the facility.  
[Large-scale generation certificates | Clean Energy Regulator](#)
9. **National Australian Built Environment Rating System (NABERS):** A national initiative that measures and compares the environmental performance of Australian buildings, covering energy efficiency, water usage, waste management, and indoor air quality.  
[Home | NABERS](#)
10. **Small-scale Technology Certificates (STCs):** Part of Australia's Small-scale Renewable Energy Scheme, STCs are tradable certificates that represent the environmental benefits of renewable energy systems, such as solar panels and solar water heaters.  
[Small-scale Renewable Energy Scheme | Clean Energy Regulator](#)
11. **Your Home:** It is an independent resource for designing, constructing, or renovating homes with a focus on energy efficiency, comfort, affordability, and future adaptability.  
[| YourHome](#)
12. **Water Efficiency Labelling and Standards (WELS) Scheme:** An Australian government initiative that labels products for water efficiency, helping consumers make informed choices and encouraging manufacturers to produce water-efficient products.  
[Water Rating | Australian Government](#)
13. **World Steel Association:** An international trade body representing steel producers, national and regional steel industry associations, and steel research institutes.  
[Home - worldsteel.org](#)

## Appendix B: BASIX Thermal Requirements Summary Table

Project:	135 Badgerys Creek Rd, Bradfield - Stage 2 (Building B)
Tool:	BASIX
Document:	BASIX Summary Table
Author:	Suparoj Namsakulcharoendee
Revision:	2
Date:	07.10.25
Checked:	Luke Williams



**Aspire Sustainability Consulting BASIX Specifications**

P220001 | 135 Badgerys Creek Rd, Bradfield

	Target	Stage 2 (Building B) Project Score	Compliance
Water	40	54	Pass
Energy	58	60	Pass
Thermal Comfort	Pass		Pass
Material	N/A		N/A

**Minimum Glazing Performance Requirements: Typical Glazing for All Levels**

Performance (Total System)	Description	Comment	Location
≤U5.40   SHGC0.48±5%	Single Glazed Low-E Light Tint / Clear	Awning Glazing	All Units unless specified otherwise
≤U5.70   SHGC0.48±5%	Single Glazed Low-E Light Tint / Clear	Hinged Doors Glazing	
≤U4.80   SHGC0.54±5%	Single Glazed Low-E Light Tint / Clear	Fixed, Sliding Door Glazing	

**Uplift Glazing Performance Requirements**

Performance (Total System)	Description	Comment	Location
≤U4.10   SHGC0.27±5%	Double Glazed Low-E Light Tint / Clear	Awning Glazing	Refer to Markups
≤U4.10   SHGC0.28±5%	Double Glazed Low-E Light Tint / Clear	Hinged Doors Glazing	
≤U3.20   SHGC0.30±5%	Double Glazed Low-E Light Tint / Clear	Fixed Glazing	
≤U3.20   SHGC0.30±5%	Double Glazed Low-E Light Tint / Clear	Sliding Door Glazing	

**Minimum Insulation Performance Requirements:**

Construction Element	Additional Insulation	Location
Concrete Roof Exposed to Outside Above Light Colour Roof	Waterproof membrane	All Units
	≥R4.00 with reflective backing facing cavity/ceiling void ≥20mm	Refer to Markups
	≥R3.50 with reflective backing facing cavity/ceiling void ≥20mm	Refer to Markups
	≥R2.50 with reflective backing facing cavity/ceiling void ≥20mm	Refer to Markups
External Walls Metal Cladding - Medium Colour (as shown on elevations)	≥R2.50	All Units unless specified otherwise
Floor Slab Suspended Slab over Unconditioned spaces and Exposed Air	≥R2.50 in direct contact with Slab Soffit	Refer to Markups
	≥R2.00 in direct contact with Slab Soffit	Refer to Markups
	≥R1.00 in direct contact with Slab Soffit	Refer to Markups
Internal Walls	No Insulation	All units

Intertenancy Walls & Walls to Corridor	≥R1.1	All units
Walls to Lifts & Fire Stairs	≥R0.7	All units
Floor Coverings	Tile to Wet Rooms   Carpet and Underlay to Bedrooms & Study   Timber to All Other Areas	All units
Ceilings	Plasterboard Ceiling	All units
Ceiling Penetrations	No RCPs provided with current assessment. Following assumptions have been made per BASIX default values: - 1 x LED Downlight allocated per 5m <sup>2</sup> - 1 x Exhaust Fan per wet area and kitchen	All units
Ceiling Fans	1 x 1200mm ceiling fan required to Kitchen & Living	33 units require ceiling fans <i>Refer to Markups</i>
	No Ceiling Fan required	All remaining units

**Other Modelling Assumptions**

All modelled downlights are assumed to be Sealed LEDs, with insulation clearance of 150mm to either side of fixture | All glazing where there is fall risk to have window restrictors installed.

**Summary of Requirements: Common Areas**

<u>Category</u>	<u>Item</u>	<u>Comment</u>
Water	Fixtures	3 star common showers (>7.5 but ≤9 L/min)   4 star common toilets   4 star common taps
	Appliances	No common laundry facility
	Landscape - Common	0m <sup>2</sup> Common area lawn   2,646.97m <sup>2</sup> Common area garden including 1,893.08m <sup>2</sup> Area of indigenous or low water use species
	RW Tank	80kL RW tank   Served by 2,077m <sup>2</sup> roof area (75% of available roof area), 0m <sup>2</sup> impervious area, 0m <sup>2</sup> garden/lawn area and 0m <sup>2</sup> planter box area   Serving 1,280m <sup>2</sup> common landscape and 1 car wash bay   Toilet connection: not specified   Laundry connection: not specified
	Fire Sprinkler System	Re-use of fire system test water is required
	Pool	96kL with no shading
Energy	Lighting Type	LED required throughout
	Lighting Control	<i>Please refer to BASIX Report for detailed requirements</i>
	Ventilation	
	Lifts	
	Hot Water	Central Hot Water: Electric Heat Pump - Air Sourced   R0.6 Piping insulation internal and external to building   3.0 < COP ≤ 3.5
	Spa	No Spa
	Pool	Electric Heat Pump   Timer Pump Control
	Solar PV	50kW PV required
	Other	BMS   No indoor or outdoor drying line   No common laundry   No common clothes dryer

**Summary of Requirements: Residential Dwellings**

<u>Category</u>	<u>Item</u>	<u>Comment</u>
Water	Fixtures	4 star showers (>4.5 but ≤6 L/min)   5 star toilets   6 star taps kitchen taps   6 star taps bathroom taps   No HW recirculation on demand
	Appliances	6 star dishwasher   5 star clothes washer
Energy	Exhaust Fans	Kitchen, Laundry & bathroom fans individually ducted to façade or roof   manual on/off
	HVAC	Individual System Living & Bedroom: 1-phase airconditioning-ducted   EER 3.5-4.0
	Lighting	Sealed LED lighting throughout
	Hot Water	Central Hot Water: Electric Heat Pump - Air Sourced
	Appliances	Electric cooktop & electric oven   4 star dishwasher specified   2 star dryer specified
	Other	No Indoor clothes drying line provided   No Outdoor Private clothes drying line provided

Project:	135 Badgerys Creek Rd, Bradfield - Stage 3 (Building C)
Tool:	BASIX
Document:	BASIX Summary Table
Author:	Suparoj Namsakulcharoendee
Revision:	2
Date:	07.10.25
Checked:	Luke Williams



**Aspire Sustainability Consulting BASIX Specifications**

P220001 | 135 Badgerys Creek Rd, Bradfield

**Stage 3 (Building C)**

	Target	Project Score	Compliance
Water	40	55	Pass
Energy	58	60	Pass
Thermal Comfort	Pass		Pass
Material	N/A		N/A

**Minimum Glazing Performance Requirements: Typical Glazing for All Levels**

Performance (Total System)	Description	Comment	Location
≤U5.40   SHGC0.48±5%	Single Glazed Low-E Light Tint / Clear	Awning Glazing	All Units unless specified otherwise
≤U5.70   SHGC0.48±5%	Single Glazed Low-E Light Tint / Clear	Hinged Doors Glazing	
≤U4.80   SHGC0.54±5%	Single Glazed Low-E Light Tint / Clear	Fixed, Sliding Door Glazing	

**Uplift Glazing Performance Requirements**

Performance (Total System)	Description	Comment	Location
≤U4.10   SHGC0.27±5%	Double Glazed Low-E Light Tint / Clear	Awning Glazing	Refer to Markups
≤U4.10   SHGC0.28±5%	Double Glazed Low-E Light Tint / Clear	Hinged Doors Glazing	
≤U3.20   SHGC0.30±5%	Double Glazed Low-E Light Tint / Clear	Fixed Glazing	
≤U3.20   SHGC0.30±5%	Double Glazed Low-E Light Tint / Clear	Sliding Door Glazing	

**Minimum Insulation Performance Requirements:**

Construction Element	Additional Insulation	Location
Concrete Roof Exposed to Outside Above Light Colour Roof	Waterproof membrane	All Units
	≥R4.00 with reflective backing facing cavity/ceiling void ≥20mm	Refer to Markups
	≥R3.50 with reflective backing facing cavity/ceiling void ≥20mm	Refer to Markups
	≥R2.50 with reflective backing facing cavity/ceiling void ≥20mm	Refer to Markups
External Walls Metal Cladding - Medium Colour (as shown on elevations)	≥R2.50	All Units unless specified otherwise
Floor Slab Suspended Slab over Unconditioned spaces and Exposed Air	≥R2.50 in direct contact with Slab Soffit	Refer to Markups
	≥R2.00 in direct contact with Slab Soffit	Refer to Markups
	≥R1.50 in direct contact with Slab Soffit	Refer to Markups
	≥R1.00 in direct contact with Slab Soffit	Refer to Markups
Internal Walls	No Insulation	All units

Intertenancy Walls & Walls to Corridor	≥R1.1	All units
Walls to Lifts & Fire Stairs	≥R0.7	All units
Floor Coverings	Tile to Wet Rooms   Carpet and Underlay to Bedrooms & Study   Timber to All Other Areas	All units
Ceilings	Plasterboard Ceiling	All units
Ceiling Penetrations	No RCPs provided with current assessment. Following assumptions have been made per BASIX default values: - 1 x LED Downlight allocated per 5m <sup>2</sup> - 1 x Exhaust Fan per wet area and kitchen	All units
Ceiling Fans	1 x 1200mm ceiling fan required to Kitchen & Living	39 units require ceiling fans <i>Refer to Markups</i>
	No Ceiling Fan required	All remaining units

**Other Modelling Assumptions**

All modelled downlights are assumed to be Sealed LEDs, with insulation clearance of 150mm to either side of fixture | All glazing where there is fall risk to have window restrictors installed.

**Summary of Requirements: Common Areas**

<u>Category</u>	<u>Item</u>	<u>Comment</u>
Water	Fixtures	3 star common showers (>7.5 but ≤9 L/min)   4 star common toilets   4 star common taps
	Appliances	No common laundry facility
	Landscape - Common	0m <sup>2</sup> Common area lawn   4,352.64m <sup>2</sup> Common area garden including 2,982.45m <sup>2</sup> Area of indigenous or low water use species
	RW Tank	60kL RW tank   Served by 1,916m <sup>2</sup> roof area (75% of available roof area), 0m <sup>2</sup> impervious area, 0m <sup>2</sup> garden/lawn area and 0m <sup>2</sup> planter box area   Serving 1,202m <sup>2</sup> common landscape and 1 car wash bay   Toilet connection: not specified   Laundry connection: not specified
	Fire Sprinkler System	Re-use of fire system test water is required
	Pool	36kL with no shading
Energy	Lighting Type	LED required throughout
	Lighting Control	<i>Please refer to BASIX Report for detailed requirements</i>
	Ventilation	
	Lifts	
	Hot Water	Central Hot Water: Electric Heat Pump - Air Sourced   R0.6 Piping insulation internal and external to building   3.0 < COP ≤ 3.5
	Spa	No Spa
	Pool	Electric Heat Pump   Timer Pump Control
	Solar PV	50kW PV required
	Other	BMS   No indoor or outdoor drying line   No common laundry   No common clothes dryer

**Summary of Requirements: Residential Dwellings**

<u>Category</u>	<u>Item</u>	<u>Comment</u>
Water	Fixtures	4 star showers (>4.5 but ≤6 L/min)   5 star toilets   6 star taps kitchen taps   6 star taps bathroom taps   No HW recirculation on demand
	Appliances	6 star dishwasher   5 star clothes washer
Energy	Exhaust Fans	Kitchen, Laundry & bathroom fans individually ducted to façade or roof   manual on/off
	HVAC	Individual System Living & Bedroom: 1-phase airconditioning-ducted   EER 3.5-4.0
	Lighting	Sealed LED lighting throughout
	Hot Water	Central Hot Water: Electric Heat Pump - Air Sourced
	Appliances	Electric cooktop & electric oven   4 star dishwasher specified   2 star dryer specified
	Other	No Indoor clothes drying line provided   No Outdoor Private clothes drying line provided