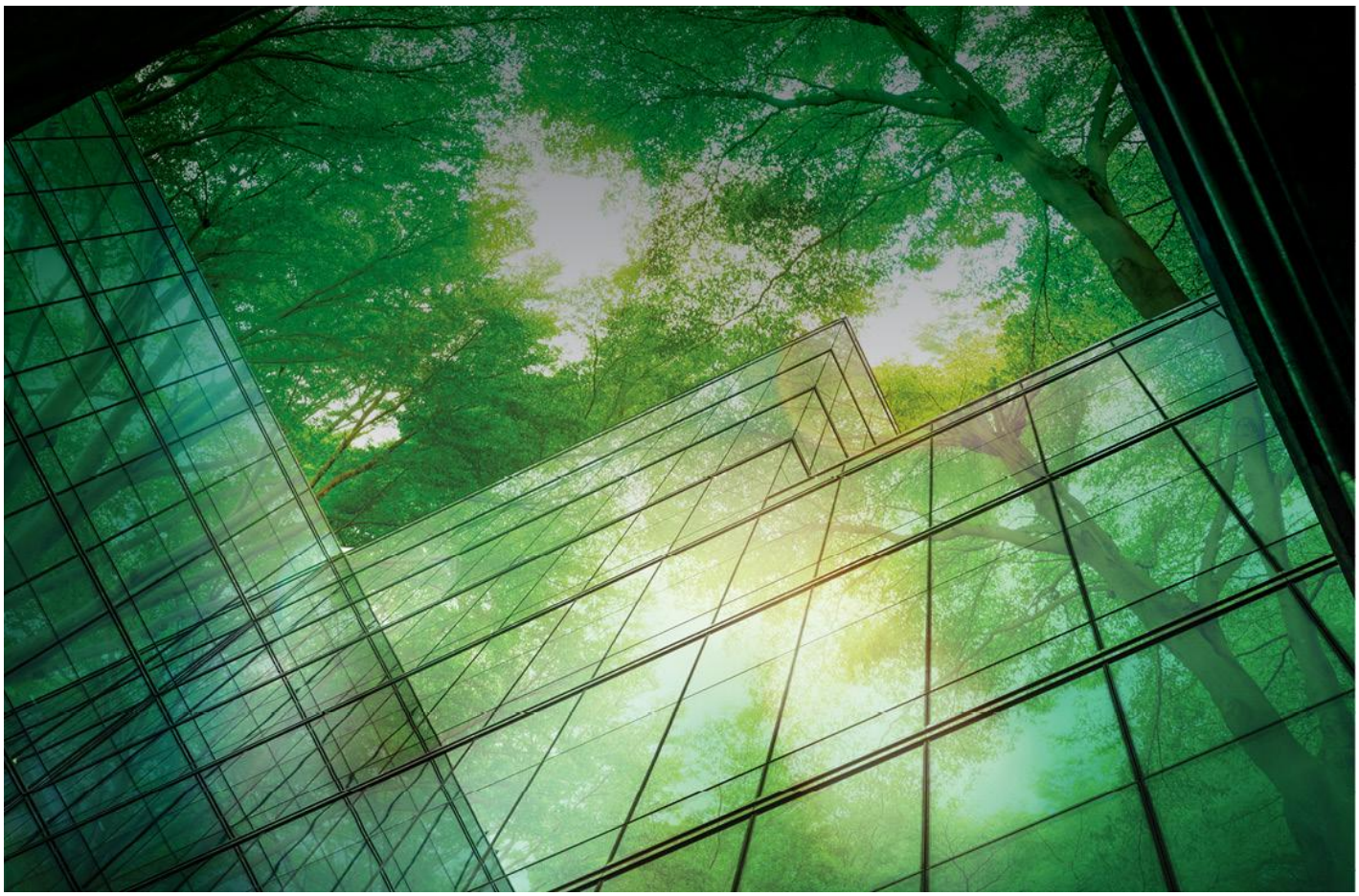
LEGPRO 45 PTY LTD ATF LEGPRO 45 TRUST

ESD REPORT

253-265 Pacific Highway, North Sydney



Project number: 250819
Revision: 1.0
Date: 2 July 2025

JENSEN HUGHES

jensenhughes.com/pacific

Quality management

Revision	Date	Revision description	
1.0	2 July 2025	Environmentally Sustainable Design (ESD) Report	
		Prepared	**Reviewed**
		Rayahn Raschke	Ruifong Ong

Jensen Hughes Pty Limited
ABN 29 077 183 192

Table of contents

Executive summary

Jensen Hughes Pty Limited (Jensen Hughes) has been engaged by Legpro Pty Ltd to provide an Ecologically Sustainable Design (ESD) Report that outlines both regulatory and benchmarking design initiatives for the proposed residential project at 253-265 Pacific Highway, North Sydney.

This report outlines how the project responds to the sustainability requirements of the following planning policies:

- SEPP (Sustainable Buildings) 2022
- NSW BASIX (Building Sustainability Index)
- North Sydney Development Control Plan (DCP) 2013
- Planning Secretary's Environmental Assessment Requirements (SEARs)

Alignment with ESD principles is demonstrated through strategies that address energy efficiency, carbon performance, water conservation, stormwater management, sustainable materials, indoor environmental quality, and climate resilience.

The project team is committed to implementing best-practice sustainability initiatives across all phases of development, ensuring the project contributes positively to NSW's net zero ambitions and supports the creation of a resilient, low-impact industrial facility.

1.0 Introduction

1.1 Project Description

This Ecologically Sustainable Development (ESD) Report has been prepared by Jensen Hughes on behalf of Legpro Property Pty Ltd to support the State Significant Development Application (SSDA) for the proposed residential project located at 253 –265 Pacific Highway, North Sydney.

The report demonstrates the intended compliance pathways with local, state, and national sustainability requirements including the North Sydney DCP, Sustainable Buildings SEPP, BASIX, and NCC 2022 Section J.

The building has been classified as shown in Table 1, and the location of the project is set within the climate zones as shown in Table 2.

Table 1: Building Classifications

Class	Level	Description
2	L01 – L13	Residential Floors
5/6	GF – L01	Commercial/Retail Tenancies
7a	Basement	Carparks

Table 2: Climate Zones

Location	Climate Zone and Description
North Sydney	5 - Warm temperate

1.2 Planning and Policy Context

This report outlines how the proposed development intends to respond to the relevant sustainability requirements and objectives outlined in the below mandatory statutory planning instruments, technical standards and benchmarks:

1.2.1 State Environmental Planning Policies (SEPPs)

- **SEPP (Sustainable Buildings) 2022:** Mandates improved environmental performance for residential developments, including compliance with updated BASIX targets (thermal comfort, energy, and water), water conservation, electrification readiness, and minimisation of greenhouse gas emissions across the lifecycle.
- **SEPP (Housing) 2021:** Provides provisions and incentives for affordable housing. This development includes dwellings to be managed by a CHP and retained as affordable housing under the SEPP, ensuring compliance with relevant delivery, management, and design standards.

1.2.2 Local Development Controls

- **North Sydney Development Control Plan (DCP) 2013:** Specifies local performance-based controls for residential developments including solar access, cross-ventilation, deep soil planting, water efficiency, sustainable design, and climate resilience.

1.2.3 Project-Specific SSDA Requirements

- **Secretary's Environmental Assessment Requirements (SEARs) – Item 9:** Requires a demonstration of how the project incorporates ESD principles in design, construction and operation.

1.2.4 Technical Standards and Benchmarks

- **National Construction Code (NCC) 2022 – Section J:** Energy efficiency provisions applicable to Class 5 and 7b buildings.
- **BASIX (2023 version):** Mandatory compliance for residential dwellings, including enhanced energy and water performance targets. Project targets exceed minimum compliance with a 7-star NatHERS average.
- **Green Star Buildings:** Voluntary tools to benchmark and demonstrate best-practice performance.
- **NABERS:** Provides a star rating and benchmark for total energy and water consumption

1.3 DESIGN DOCUMENTATION

This report has been prepared based on the following Design Plans and Specifications:

- DA Architectural Drawings| Project #: 14344 | Date: 27.06.25

1.4 REPORT SCOPE

The purpose of this report is to assess the proposed design against the relevant environmentally sustainable design strategies to ensure the design is environmentally, culturally, socially, and economically sustainable, with resilience built in to anticipate future challenges. This report addresses:

- Sustainability drivers stipulated from relevant regulatory and project requirements.
- Project's design responses corresponding to the sustainability drivers.
- Further frameworks and guidelines to demonstrate design excellence

1.5 LIMITATIONS

This report aims to provide high-level ESD design guidance to the project in accordance with State Design Review Panel (SDRP) objectives. It is intended that the options nominated in this report are subject to be discussed, assessed and workshop into the detailed design of the development. Section J compliance must refer to separate, designated assessment reports. Sections B, C, D, E, F, G, H and I of the NCC.

2.0 EPA&A and SEARs Sustainability Requirements

Under the Environmental Planning and Assessment Act 1979 (EP&A Act), State Significant Developments (SSDs) are required to demonstrate how the project addresses the principles of Environmentally Sustainable Design (ESD). These principles are outlines below:

- **The precautionary principle:** Anticipating and avoiding environmental harm where there is scientific uncertainty.
- **Inter-generational equity**: Ensuring the health, diversity, and productivity of the environment for future generations.
- **Conservation of biological diversity and ecological integrity**: Minimising impacts on biodiversity, water bodies, soil, and ecosystems.
- **Improved valuation of environmental resources:** Considering environmental costs and benefits in project decision-making.

The Secretary's Environmental Assessment Requirements (SEARs), issued for this project, reinforce obligations under Item 9 – Ecologically Sustainable Development. The SEARs require the Environmental Impact Statement (EIS) and supporting documents (including this ESD report) to:

- Explain how sustainability principles are embedded in the design, construction and operation of the development.
- Demonstrate a commitment to minimising greenhouse gas emissions, water use, and resource consumption.
- Consider climate change adaptation and long-term environmental resilience.
- Outline measures to monitor and achieve environmental performance outcomes.

These provisions set the foundation for integrating sustainability initiatives into the project lifecycle, ensuring the development meets both statutory obligations and broader environmental objectives. Detail on how the project intends to respond to these principles is set out in 5.0 Sustainable Design Strategies.

3.0 SEPP and DCP Requirements

This section outlines the ESD and sustainability requirements from the two applicable State Environmental Planning Policies (SEPPs) and Development Control Plans (DCP):

3.1 SEPP (Sustainable Buildings) 2022 Requirements

The Sustainable Buildings SEPP 2022 establishes mandatory sustainability outcomes for residential and non-residential developments. The following requirements apply to the proposed development:

- **Operational Greenhouse Gas Emissions:** Development must meet improved BASIX standards including reduce energy-related greenhouse gas emissions, comply with updated NatHERS energy modelling and minimization of GHG emissions through passive design and efficient systems.
- **Renewable Energy and Electrification:** Incorporate on-site renewable energy (e.g. rooftop PV) and future-proofing for battery storage and EV charging. Avoid the use of fossil fuels by prioritizing electrification of building systems.
- **Water Efficiency:** Water-efficient fittings (minimum WELS 4-star) are specified, alongside rainwater harvesting for non-potable uses (toilets, irrigation). A BASIX water score of ≥40 has been targeted.
- **Construction Waste and Circular Economy:** Develop a Construction Waste Management Plan, use materials with recycled content and provide for on-site waste separation and recycling.

To achieve compliance with the NSW Sustainable Buildings SEPP, the following documentation should be included in the DA application to satisfy ESD requirements:

- General Sustainability Statement (covered in this report).
- Section J Compliance Pathway.
- BASIX Certificate and thermal modelling outputs
- NABERS Embodied Emissions Material form (for non-residential space)

3.2 SEPP (Housing) Requirements

As the development includes dwellings managed by a registered Community Housing Provider (CHP), it is eligible to access affordable housing incentives under the SEPP (Housing) 2021. Relevant sustainability-related requirements include:

- **Design Quality**: Affordable units must be externally indistinguishable from private units and constructed to equivalent environmental and amenity standards.
- **Retention Period and Management:** A minimum of 10% of dwellings will be retained as affordable housing for at least 10 years under a VPA or consent condition and managed by a registered CHP.
- **Environmental Performance:** Affordable housing components must comply with the same BASIX, NCC, and DCP standards as private dwellings to ensure equity in sustainability outcomes.

3.3 North Sydney Development Control Plan (DCP) 2013 - Part B, Section 2: Commercial and Mixed-Use Development Requirements

This report will address how the proposed development satisfies the following sustainability related DCP objectives and requirements:

General Sustainability Objectives (Section 2.1.1)

All mixed-use developments must:

- Reduce energy and water consumption
- Incorporate innovative sustainable design
- Minimise stormwater runoff and improve quality
- Soften urban areas with greenery and water
- Support walkability and access to public transport
- Provide acceptable levels of residential amenity

Efficient Use of Resources (Section 2.6)

- Efficient Use of Resources Commitment Table – required for developments less than 2000m^2 non-residential GFA

Energy Efficiency Objectives (2.6.1)

- O1 – to ensure that developments minimise their use of non-renewable energy resources
- O2 – To ensure that buildings are designed such that the air conditioning plan meets performance requirements, while minimizing energy usage.
- O3 – To encourage the use of energy efficient buildings

Passive Solar Design (2.6.2)

- O1 – To ensure that site layout and building orientation allows for maximum solar access and are adapted to local climatic conditions and prevailing site characteristics.

Thermal Mass and Insulation (2.6.3)

- O1 – To achieve a more even, year0round average temperature, making the building more comfortable for occupants and resulting in less demand for artificial heating or cooling.

Natural Ventilation (2.6.4)

- O1 – To ensure that dwellings are designed to provide habitable rooms with direct access to fresh air and to assist in promoting thermal comfort for occupants.
- O2 – To reduce energy consumption by minimise the use of mechanical ventilation
- O2 – To ensure that workers are provided with direct access to fresh air and to assist in promoting thermal comfort for occupants

Water Conservation (2.6.5)

- O1 – To minimise the use of potable water
- O2 – To encourage the reuse of greywater, rainwater and stormwater

Waste Management and Minimisation (2.6.6)

- O1 – To minimise material usage and waste during building construction and demolition

- O2 – To minimise the level of waste during operation reduce new building material usage and minimise volume of demolition materials

Stormwater Management (2.6.7)

- O1 – To mimic pre-development or natural drainage systems through the incorporation of WSUD on-site
- O2 – To protect watersheds by minimizing stormwater discharge and maximizing stormwater quality.
- O3 – To minimise off-site localized flooding or stormwater inundation

Building Materials (2.6.8)

- O1 - To encourage the use of materials which have a low environmental impact during their life cycle
- O2 - To encourage the use of toxin free material to minimise the health impact of materials used indoors
- O3 - To maximise the energy efficiency of buildings.

Green Roofs (2.6.11)

- O1 - To provide accessible roof space providing increased amenity for the occupants and visitors of the building
- O2 - To improve the aesthetics and amenity of the urban environment
- O3 - To provide space to accomocate renewable energy production
- O4 - To improve stormwater management by controlling bot the quality and flow of stormwater
- O5 - To increase biodiversity by the use of plant material, and in particular to promote food production where appropriate
- O6 - To protect the building structure by increasing its thermal protection which also help to reduce internal heating and cooling requirements

Further detail on how the proposed development follows and upholds the above objectives listed in the DCP is provided in **Section 5: Sustainable Design Strategy**.

4.0 NCC 2022 Volume One Section J Provisions

The primary objective of Section J provisions is designed to reduce greenhouse gas emissions through improved performance of building fabric elements and operational services systems in the following categories. Deemed-to-Satisfy (DTS) compliance is mandated for project's minimum provision, but it is recommended to exceed the baseline requirement where reasonable, refer to project specific Section J and J1V3 (if applicable) compliance requirement in addressing the following provisions:

- J4 Building Fabric
- J5 Building Sealing
- J6 Air-conditioning & ventilation systems
- J7 Artificial lighting & power
- J8 Heated water supply
- J9 Facilities for energy monitoring and on-site distributed energy resources

5.0 Sustainable Design Strategies

To satisfy the sustainability requirements outlined in the previous sections and minimise the project's environmental impact, the following preliminary ESD strategies will guide the design, construction, and operational phases of the development.

5.1 Passive design Strategies

Passive building design has a direct influence on the thermal comfort and visual quality of the indoor environment. Effective passive design strategy can minimise the energy demands for internal heating, ventilating, air-conditioning, and artificial lighting throughout the year, thus providing savings in operational energy and reductions in greenhouse gas emissions.

Feature	Design Strategy	Objective / Impact
Daylighting and Visual Comfort	+ High levels of daylight are to be provided for the occupied areas with viewing facades and skylights, whilst managing the glare reduction for the nominated area through a combination of blinds, screens, fixed devices, or other means + The nominated areas are to have a clear line of sight to an external view + Maximise daylight harvesting with optimisation of the building orientation and avoid overshadowing of adjoining properties	Delivery of well-lit spaces that provide high levels of visual comfort to building occupants and reduce lighting energy consumption by maximising the use of natural daylight
Passive Solar Design	+ Use of shading to maximise the sun received during winter months, whilst minimising the penetration of the summer sun	Avoid and reduce the need for additional heating and cooling
Glazing and Shading	+ Glazing U-value and SHGC to comply with or exceed BASIX requirements based on the thermal performance modelling protocol.	Reduce energy required for heating, cooling and lighting needs
Roof, Wall and Floor	+ Insulation added to these elements to be at or greater than the level required to be compliant via the NatHERS thermal modelling provisions.	Reduce energy required for heating and cooling
Natural ventilation and Indoor Air Quality	+ Use of operable windows and sliding doors to allow natural and cross ventilation + The entry of outdoor pollutants is to be mitigated through building ventilation systems designed according to ASHRAE Standard 62.1 + Mechanical ventilation system is to be designed for ease of maintenance and cleaning	Provide high indoor air quality to occupants

5.2 Services System Efficiency (Active Design)

Services systems account for the main operational energy consumption during the lifetime of the building. Using highly efficient mechanical, lighting, electrical and hydraulic service systems can significantly minimise energy consumption and reduce the local grid supply pressure.

Feature	Design Strategy	Objective/ Impact
Lighting System	+ Provision of high output LED light fitting to all lighting systems, with design target to meet or improve on DTS maximum power density provision. + Provision of efficient lighting controls to relevant areas: - Motion sensor with manual off/ auto-off - Lighting control zone no larger than 100 m^2, with stage down the lighting load via dimming levels - Daylight sensor controls to perimeter zone - Motion sensor and timer for back of house lighting	Avoid energy wastage when spaces are unoccupied and reduce energy required during operation
HVAC Systems	The HVAC system will be installed for all conditioned areas. Consideration of HVAC system selection should be given to high cooling COP and heat recovery system to improve performance, other considerations may include: + Use indirect evaporative dewpoint cooler on the outside air supply to reduce cooling load + Addition of shut-off dampers to adjust outside air supply in the period of low/ non-occupancy + Motor must be high efficiency defined as per AS1359 + Capable to be fully integrated with the BMS where available + Zone grouping and control for areas with similar demands and cooling loads	Reduce operational energy required for heating, cooling and ventilation needs
Insulation Needs	Provision of insulation to the service pipes including: + Air-conditioning ductwork and pipework + Heated hot water pipework	Reduce unwanted heat loss and avoid reheat energy demand
Appliances	+ Provision of electrical appliances at the highest practical efficiency under the federal government's energy rating scheme at the time of the development	Reduce operational energy usage
Hot Water	+ Provision of solar water heating for hot water. Should this be not feasible for the project, heat pump or condensing boiler type to be used instead	Reduce operational energy usage
Renewable Energy	+ Future provision of solar photovoltaic panels to offset grid power to be assessed	Reduce operational energy usage
Building Monitoring	Provision of a central monitoring system with designated sub-metering to record, analyse and review energy and water consumption for each specified service, which can be used to optimise ongoing operations and identify leaks: + HVAC	Provide fault detection and optimisation opportunities to avoid waste energy and reduce operational demand.

Feature	Design Strategy	Objective/ Impact
	+ Lighting + Equipment and appliances + Hot water + Ancillary plants	

5.3 Sustainable Construction

Sustainable construction aims to address the consumption of resources within a building construction context, by encouraging the selection of lower-impact materials. This section will also aim to achieve absolute reductions in the amount of waste generated or the recycling of as much of the waste generated as possible, which will help lower the embodied carbon of the building.

Feature	Design Strategy	Objective/ Impact
Responsible Construction Practices	+ Environmental impacts are managed during construction by implementing a best practice EMP that covers environmental impacts arising from construction works, as outlined within the NSW Environmental System Guidelines	Ensure responsible construction practices that manages and minimises the environmental impacts, enhance staff health and well-being and improve sustainability knowledge on site
Construction and Demolition Waste	+ Waste contractors and waste processing facilities servicing the project demonstrated compliance with a recognised Construction and Demolition Waste Reporting Criteria, and the total amount of waste sent to landfill is less when compared against a typical building	Reduce construction waste going to landfill by reusing or recycling building materials
Indoor Pollutants	+ Internally applied paints, adhesives, sealants and carpets to meet stipulated 'Total VOC Limits' as per Green Star Design Buildings v1 requirements. + Engineered wood products to meet stipulated formaldehyde limits as per Green Star Buildings v1 requirements or where possible not used in the building	Safeguard occupant health through the reduction in internal air pollutant levels
Responsible Building Materials	+ Structural and Reinforcing Steel is supplied by a steel fabricator accredited to the Environmental Sustainability Charter of the Australian Steel Institute (ASI) + Timber used is certified by a forest certification scheme + Permanent formwork, pipes, flooring, blinds and cables do not contain PVC and have a recognised product declaration + Reducing the use of Portland cement content with supplementary cementitious materials (SCMs) + Ensure as much water as possible used within the concrete mix is captured or reclaimed	Include building materials that are responsibly sourced or have a sustainable supply chain to reduce carbon footprint of the project

Feature	Design Strategy	Objective/ Impact
	+ Using alternative aggregates such as crushed slag aggregate, or incorporating manufactured sand or other alternative materials	

5.4 Water Efficiency

The development should adopt the principles of integrated water cycle management, including minimising total water usage and minimising wastewater requiring treatment. The reduction of potable water on-site can be achieved through the following below strategies.

Feature	Design Strategy	Objective/ Impact
Fittings and Fixtures	+ Highest practical efficiency WELS rating fittings and fixtures where practical as defined by BASIX requirements	Reduce potable water consumption
Appliances and Equipment	Highest practical efficiency appliances & equipment, WELS 4 star or higher where practical + Laundry – washer and dryer + Kitchen – dishwasher	Reduce potable water consumption
Rainwater Harvesting Tank	Rainwater harvesting system can be used to collect rainwater from the roofs of the building and reduce potable water demand for the following uses (where practical): + Garden taps and landscape irrigation systems + Fire sprinkler test system (closed loop)	Offset potable water consumption with the use of rainwater
Stormwater Management	+ A separate Stormwater Management Report is to be issued for the development and incorporate all feasible measures relating to stormwater management, flood risk, water conservation water quality and groundwater protection.	Minimise impacts on the natural water cycle and the environment, and Council's existing drainage network.

5.5 Urban Heat Mitigation and Biodiversity

The development should incorporate strategies to reduce localised urban heat island (UHI) effects and enhance biodiversity outcomes through appropriate landscaping, materials selection, and ecological integration. These measures support occupant thermal comfort, reduce energy demand, and promote ecological resilience on-site.

Feature	Design Strategy	Objective / Impact
Tree Canopy Coverage	+ Provision of deep soil zones and tree planting along site boundaries, common areas, and roof terraces using native species.	Reduce localised urban heat and improve shade and comfort for residents and pedestrians.
Green Roof and Terrace Planting	+ Integration of native and adaptive vegetation into rooftop communal areas and terraces using irrigated planter beds and green infrastructure.	Improve insulation, increase evapotranspiration, and enhance biodiversity.

Feature	Design Strategy	Objective / Impact
Cool Roof and Paving Materials	+ Use of high Solar Reflectance Index (SRI) materials for roof membranes, podium paving, and footpaths.	Reduce heat absorption and improve microclimatic conditions.
Biodiversity-Friendly Landscaping	+ Landscape design prioritises native, drought-tolerant plant species and habitat features (e.g., logs, insect hotels, bird-attracting flora).	Support urban habitat connectivity and enhance site biodiversity value.
Stormwater-Integrated Planting Zones	+ Vegetated bio-retention zones or rain gardens integrated into WSUD strategy to support flora, filter stormwater and reduce heat load.	Multifunctional cooling, stormwater treatment, and biodiversity enhancement.
Landscape Maintenance Plan	+ A landscape management strategy will be prepared to ensure the long-term viability of planting and green infrastructure.	Support ecosystem health and thermal comfort across the lifecycle of the building.

5.6 Climate Change Resilience

Climate change resilience is an important objective to address in the design of the project. The project team can consider a Climate Change Adaptation and Resilience Plan (CCAP) to assess the future climate hazards and risks to the site and local community.

5.6.1 Future Climate Projections (NARCLiM Data – Sydney Region)

The following climate change projections have been identified from the NARCliM projected data for the region of Sydney:

Increased Temperatures & Urban Heat:

+ Mean annual temperature increase of 0.7°C by 2030 and up to 2.1°C by 2070.
+ Days above 35°C are projected to increase by 4 days/year by 2030 and 11 days/year by 2070.

Increased Rainfall & Humidity:

+ Minor change in total annual rainfall by 2030 (+4%), increasing to +6.5% by 2070.
+ Rainfall patterns become more erratic with higher intensity events, particularly in summer and autumn.

5.6.2 Recommended Climate Adaptation Strategies

To address these risks, the following design and operational strategies will be considered:

+ **Risk Identification and Planning:** Undertake a climate risk assessment based on IPCC scenario modelling (e.g., SSP2.6 and SSP4.5). Evaluate acute climate shocks (e.g. heatwaves, blackouts) and chronic stresses (e.g. temperature rise, water scarcity).
+ **Operational Resilience:** Ensure the building is capable of maintaining basic survivability and critical functions during a power outage. Use future climate files for HVAC system sizing to accommodate higher ambient temperatures and humidity.

- **Passive and Adaptive Design:** Maximise passive design features to reduce energy demand and support indoor comfort in extreme weather.
- **Water-Sensitive Design:** Apply WSUD principles to manage increased rainfall and runoff through the strategies outlined previously.
- **Urban Heat Island Mitigation:** Ensure that at least 75% of the site incorporates green cover (trees, landscaping) and high solar reflectance materials (light coloured roofs/shading).
- **Energy Resilience:** On-site solar generation and battery storage to reduce reliance on energy grid. Consider demand response strategies to reduce grid stress during peak periods.

These strategies will ensure that the project is responsive to future climate conditions and aligned with best-practice resilience planning principles.

6.0 Certifications and Sustainability Benchmarks

Sustainability and design rating tools assist the project team in achieving ESG outcomes by the implementation of a framework that is accepted by the Australian and international industry to promote sustainable and social design practices and policies. We have identified the Green Star Buildings V1.C ratings tool to have the most applicable and meaningful impact on the project.

6.1 Green Star Buildings

While a Green Star rating is not a mandatory requirement under the applicable planning instruments, it is recognised as a leading sustainability framework. The Green Star Buildings tool aligns closely with the objectives of these policies and may be used to guide best-practice outcomes and demonstrate voluntary commitments to sustainability and climate resilience.

The key minimum expectations and climate positive pathway requirements are listed below.

Table 3 Minimum Expectations and Climate Positive Pathway requirements for ratings

* Black = minimum expectations for all ratings. ***Orange = Climate Positive Pathway requirements for 5 stars*

Credit	Minimum Expectations and Climate Positive Pathway Requirements
Responsible Construction	The building is designed for the collection of separate waste and resource streams.* The building provides a dedicated and adequately sized waste and resource storage area. The building ensures safe and efficient access to waste and resource storage areas for both occupants and waste and resource collection contractors.
Verification and Handover	The building is set up for optimum ongoing management due to its appropriate metering and monitoring systems. The building has set environmental performance targets, designed and tested for airtightness, been commissioned and well tuned. The project team create and deliver operations and maintenance information to the facilities management team at the time of handover. Information is available to building users on how to best use the building.
Responsible Resource Management	The building is designed for the collection of separate waste and resource streams. The building provides a dedicated and adequately sized waste and resource storage area. The building ensures safe and efficient access to waste and resources storage areas for both occupants and waste and resource collection contractors.
Clean Air	Levels of indoor pollutants are maintained at acceptable levels. A high level of outdoor air is provided. Pollutants entering the building are minimised.
Light Quality	Lighting within the building meets minimum comfort requirements. Good lighting levels suitable for the typical tasks in each space are available.

Credit	Minimum Expectations and Climate Positive Pathway Requirements
	The building provides adequate levels of daylight .
Acoustic Comfort	An Acoustic Comfort Strategy is prepared to describe how the building and acoustic design aims to deliver acoustic comfort to the building occupants.
Climate Change Resilience	The project team completes the climate change pre-screening checklist. The project team communicated the building's exposure to climate change risks to the applicant.
Upfront Carbon Emissions	The building's upfront carbon emissions are at least 10% less than those of a reference building. The building's upfront carbon emissions are at least 20% less than a reference building.**
Energy Use	The building's energy use it at least 10% less than a reference building. The building's energy use is at least 20% less than a reference building.
Energy Source	The building provides a Zero Carbon Action Plan. 100% of the buildings electricity and energy comes from renewable sources.
Other Carbon Emissions	Building owner eliminates or offsets emissions from refrigerants.
Water Use	The building installs efficient water fixtures (minimum WELS rating requirements).
Movement and Place	The building includes showers and changing facilities for building occupants. The facilities are accessible, inclusive, and located in a safe and protected space.
Inclusive Construction Practices	During the building's construction, the head contractor provides gender inclusive facilities and protective equipment. The head contractor also installs policies on-site to increase awareness and reduces instances of discrimination, racism and bullying.
Impact to Nature	The building was not built on, or significantly impacted, a site with a high ecological value. The building's light pollution has been minimised. There is ongoing monitoring, reporting, and management of the site's wetland ecosystem.

6.2 NABERS Energy/Water for Apartments

National Australian Built Environment Rating System (NABERS) also offers a credible framework to measure and improve the environmental performance of the building on a rating scale from one to six stars. For this development NABERS can be used to:

- Benchmark energy and water use performance for the office and warehouse spaces by assessing consumption and comparing to industry averages.
- Guide best-practice performance targets through a NABERS Star Rating Commitment Agreement. Here the design team must demonstrate how the project will achieve the targeted NABERS Star rating via a strict modelling protocol.
- Track and verify the building's operational performance over time, providing transparency to occupants, occupants and stakeholders.
- Provide guidance on improving lighting, HVAC and operational processes that contribute to lower energy use through the data driven assessment of energy use.
- Enhance marketability and asset value by demonstrating verified sustainability performance.
- Align with broader corporate ESD objectives and facilitates compliance with voluntary and mandatory carbon disclosure and climate risk reporting frameworks such as GRESB and Scope 1 and 2 reporting requirements.

By aligning with NABERS benchmarks the development can achieve long term performance assurance and support continuous environmental improvement.

7.0 Conclusion

This report outlines how the proposed development at 253-265 Pacific Highway North Sydney can meet or exceed the relevant sustainability requirements under state and local planning instruments.

The project will be designed to align with the principles of Environmentally Sustainable Design through the strategies described. This includes the integration of both passive and active sustainability measures, including high-efficiency building services, all-electric systems, on-site solar PV infrastructure, and water efficient systems. Climate adaptation and resilience strategies should also be considered throughout the design to mitigate future climate related shocks and stressors.

The development is intended to serve as a resilient, low-impact residential development that intends to contributes positively to the community and NSW's sustainability goals.