



Prosper 5-9 Cowan Road Rd St Ives Pty Limited

SSDA ESD Report

5-9 Cowan Rd, St Ives, NSW, 2075

Project No.	P02272
Revision	Rev03
Issued	1 st September 2025
Client	Prosper 5-9 Cowan Road St Ives Pty Limited

E-LAB Consulting

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DOCUMENT QA AND REVISIONS

ISSUE	DATE	COMMENTS	ENGINEER	REVIEWER
1	01/08/2025	Draft Issue	AS	CM
2	25/08/2025	Minor Update	AS	CM
3	01/09/2025	Final Issue	AS	CM

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1 EXECUTIVE SUMMARY

This ESD Report has been prepared by E-LAB to accompany a detailed State Significant Development Application (SSDA) for a residential development (including in-fill affordable housing) at 5-9 Cowan Road, St Ives within the Ku-ring-gai Local Government Area (LGA).

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-88948458) on 25 July 2025.

This report concludes that the proposed mixed-use development is suitable and warrants approval subject to the implementation of the measures discussed in Section 4

Following the implementation of the chosen ESD measures, the remaining impacts are considered appropriate.

2 INTRODUCTION

The SSD application seeks development consent for a proposed residential flat building, including in-fill affordable housing at 5-9 Cowan Road, St Ives (the site). The proposed works include demolition of existing structures, site preparation works, excavation and construction of the building and associated landscaping works.

Specifically, the SSDA seeks development consent for:

- Demolition of the existing row of 10 attached townhouses at the site
- Construction of a 9-storey residential flat building comprising:
 - 74 new dwellings (62 market residential units and 12 affordable housing units)
 - 3 basement levels for car parking
 - Communal open space at Ground Level and Level 7
- Landscaping
- Associated site works.

The proposal also incorporates 15% of the total gross floor area for affordable housing and seeks to utilise the incentive controls under Chapter 2, Part 2, Division 1, Section 16 of State Environmental Planning Policy (Housing) 2021 (Housing SEPP) to achieve 30% additional building height and 30% additional floor space ratio (FSR).

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 25 July 2025 and issued for the SSDA (SSD-88948458). Specifically, this report has been prepared to respond to the SEARs requirement issued below.

ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD) REQUIREMENTS	RESPONSE
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.	Refer to Section 4.1 for the project's response to the principles of the EPA regulation.
Where relevant, provide an assessment of the development against the standards for non-residential development set out in Chapter 3 of State Environmental Planning Policy (Sustainable Buildings) 2022.	N/A residential development only

2.1 SUBJECT SITE

The site is located at 5-9 Cowan Road, St Ives, within the Ku-ring-gai Local Government Area, and is legally described as SP30097. The site has an area of approximately 3,467.7sqm and is rectangular in shape.

The site currently contains a single row of ten, two-storey attached townhouses. The site is defined by large mature trees along the northern, eastern and western boundaries. Vehicular access to the site is provided at the southern boundary of the site from Cowan Road. The site is relatively flat.

The site adjoins St Ives Shopping Village to the north and east. Existing residential development (No. 3 Cowan Road) and St Ives Christ Church border the site to the south. To the west, two storey detached houses are located along Cowan Road.





Figure 1: Site Location (Source: Nearmap 2025).Maps

2.2 SURROUNDING CONTEXT

The site is located 800-metres east of Cowan Creek which is separated from the site by Pymble Golf Club. The site is also located within 105-metres of Emerald Fitness Centre, 245-metres from St Ives Village Green, and 210-metres from St Ives Playground. The building heights in the immediate locality are generally single to two-storeys, with increased heights of up to 5-storeys on Mona Vale Road, opposite St Ives Christ Church.

The site is accessible via bus services with stops located along Mona Vale Road which is a 4-minute walk to the south, and along Killeaton Street, which is a 9-minute walk to the north. The bus routes connect the site to Mona Vale, Gordon, and the Northern Suburbs.



Figure 2: Broader Site Context (Base source: Nearmap).

3 SUSTAINABILITY FRAMEWORKS

The proposed development's sustainability outcomes are influenced by the following key frameworks:

- BASIX including energy, water and thermal comfort targets
- Ku-ring-gai Development Control Plan 2013

Notwithstanding, DCPs do not apply to SSD as per Section 2.10 of State Environmental Planning Policy (Planning Systems) 2021. The DCP has been utilised to guide the implementation of ESD principles throughout the development.

3.1 KU-RING-GAI DEVELOPMENT CONTROL PLAN (DCP) 2013

The Ku-ring-gai Development Control Plan 2013 outlines the building design and sustainability objectives all new residential developments in the Ku-ring-gai LGA must consider. Part 23 requires all developments to meet the following relevant objectives:

- 7B.1 Car parking provision - Refer to Section 4.7
- 7B.2 Bicycle Parking Provision - Refer to Section 4.7
- 23.3 Sustainability Of Building Materials - Refer to Section 4.4
- 23.4 Materials, Colours And Finishes - Refer to Section 4.4
- 23.5 Roof, Terraces and Podiums - Refer to Section 4.5
- 23.9 Construction and Demolition Disposal - Refer to Section 4.4

3.2 STATE ENVIRONMENTAL PLANNING POLICY (SUSTAINABLE BUILDINGS) 2022

NSW has whole-of-economy targets to reduce greenhouse gas emissions by 50 per cent by 2030 compared to 2005 levels, and net zero emissions by 2050. Achieving these targets will require all new and existing buildings in NSW to be operating at net zero well before 2050. Energy efficiency, conserving potable water and improving thermal performance are also high priorities.

The NSW Government has introduced the State Environmental Planning Policy (Sustainable Buildings) 2023 to ensure new and renovated buildings are sustainable and resilient for future climate and bring NSW towards net zero emissions. This policy covers all types of buildings from residential to key types of non-residential.

The requirements applicable to 5-9 Cowan Rd are summarised below in Table 1.

Table 1 Sustainable Buildings SEPP - Residential Development Requirements

COMPONENT	REQUIREMENT
Residential	BASIX Energy Target 60% BASIX Water Target 40% BASIX Thermal Comfort • Individual apartment NatHERS rating no less than 6 Stars • Average apartment NatHERS rating of at least 7 Stars

3.3 BASIX MATERIALS INDEX

Reporting of embodied emissions in residential buildings is required under the BASIX Materials Index however there are no targets set. The BASIX Materials Index is still in development however will be able to calculate the embodied emissions of construction materials used to build a home and compare it to a benchmark. This



benchmark will be calculated by estimating the volume of different materials used in the home's construction and applying an emissions factor for that material.

Whilst embodied emissions reporting is not currently required for 5-9 Cowan Rd, the following best practice initiatives are recommended to help reduce the embodied emissions of the development:

- Optimize systems for material efficiency
- Specify low carbon concrete
- Specify materials that naturally sequester carbon
- Specify materials manufactured with renewable energy
- Design for durability
- Get to know the supply chain for your specified project.
- Use salvaged and/or recycled materials

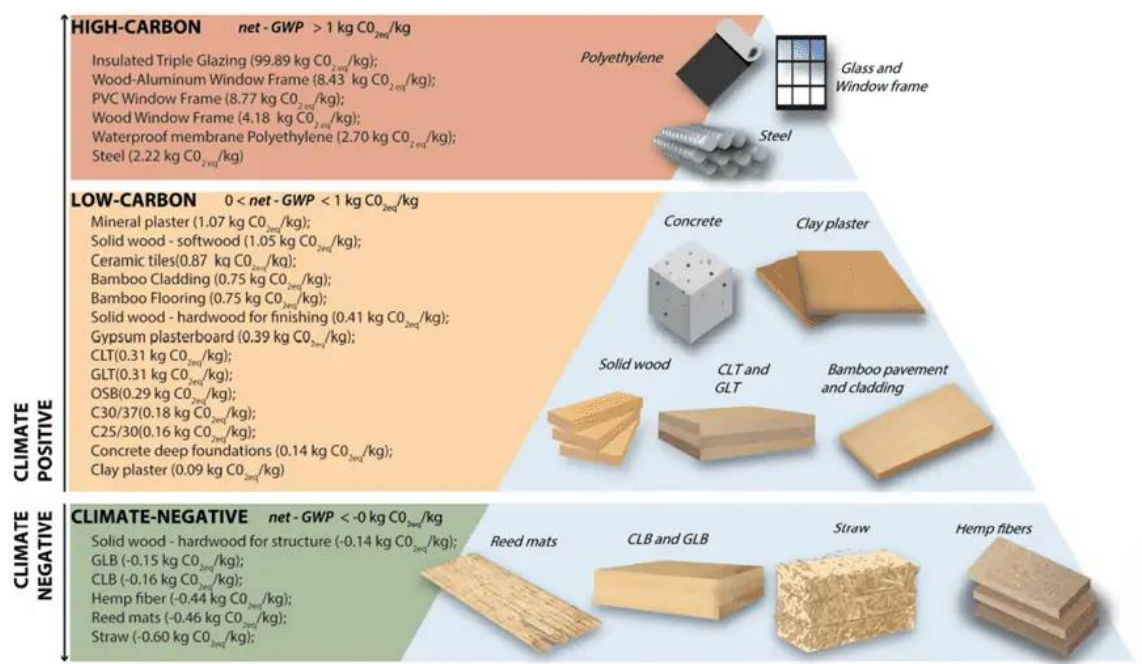


Figure 3 Material classification according to the net-GWP value (Source: Environ. Sci. Techno. 2022, 56, 5213-5223)

3.4 PERFORMANCE STANDARDS FOR NET ZERO READY ENERGY BUILDINGS

In alignment with best practice, the development's commitment to sustainability, the project proposes to be ready for net zero carbon emissions.

This includes the following strategies:

- Reducing energy loads and usage
- Explore opportunities for the on-site generation of renewable energy where possible to non-trafficable roof area
- Explore opportunities for electrification including cooking



4 PROJECT DESIGN RESPONSE

4.1 EPA PRINCIPLES

The proposed development will follow the golden standard in sustainability principals throughout the development. This includes the design, construction, and operational elements of the project. The key overarching principals are aligned with the definition of Ecologically Sustainable Development as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2021. These include:

The Precautionary Principle:

Philosophy: Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Project Response: The project is committed to incorporating elements to minimise impacts on the environment, as outlined below in this section of this report. A commitment to improvement on minimum benchmarks demonstrates the development's commitment to sustainability.

The Principle of Inter-generational Equity:

Philosophy: The present generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations.

Project Response: The project is committed to incorporating careful selections into the project design. The design team will address key elements such as energy, potable water, and material consumption to do what is within the project's control to allow each following generation to have an opportunity for ecological equality.

The Principle of the conservation of biological diversity and ecological integrity:

Philosophy: Conservation of biological diversity and ecological integrity should be a fundamental consideration

Project Response: The project is committed to planting native vegetation and using integrated landscaping to enhance the overall ecological and biodiversity of the site. Rainwater and stormwater will be carefully managed and controlled to minimise impacts on surroundings.

Principles relating to improved valuation, pricing, and incentive mechanisms:

Philosophy: Environmental factors should be included in the valuation of assets and services. The users of goods and services should pay prices based on the full life cycle costs of providing goods and service.

Project Response: The project will target a construction waste diversion target of 90%, as well as developed specific project waste management strategies. These combine to ensure the project pays for the waste and damage it creates.

The Principle of Waste Minimisation:

Philosophy: All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.

Project Response: The project will target a construction waste diversion target of 90%, as well as developed specific project waste management strategies. Construction materials are chosen to be low impact in their manufacture, including best practice PVC and FSC/PeFC timber throughout where possible. This impacts waste both created by the site, as well as upstream and downstream waste categories.

The above principles are addressed by 5 key themes, being **Sea, Land, Water, Air and People**. These 5 key themes are centred around reducing harm as far as practicable across the practice of buildings and infrastructure, both in their construction and operation.



4.2 ENERGY

The only path to a low carbon economy and achieving a “2°C world”, where the average global temperature is kept to less than 2°C above pre-industrial levels, is through comprehensive and complete consideration of how the development consumes resources, including energy, water, and material efficiency.

The energy efficiency strategy generally follows the energy efficiency pyramid of design in Figure 4. In the first instance demand for greenhouse gases should be reduced. Consideration should be to remove the need for energy to be consumed where possible. Beyond this, energy can be more efficient, through efficient lighting, mechanical systems, and appropriate services.

Once the system has reduced all available energy-consuming elements and made the remaining systems as efficient as possible, renewable energy sources will be considered. PV will be installed at a rate that maximises the coverage of the non-trafficable roof area. Only after all the above steps have been completed should offsets be used to close the gap and achieve neutrality.

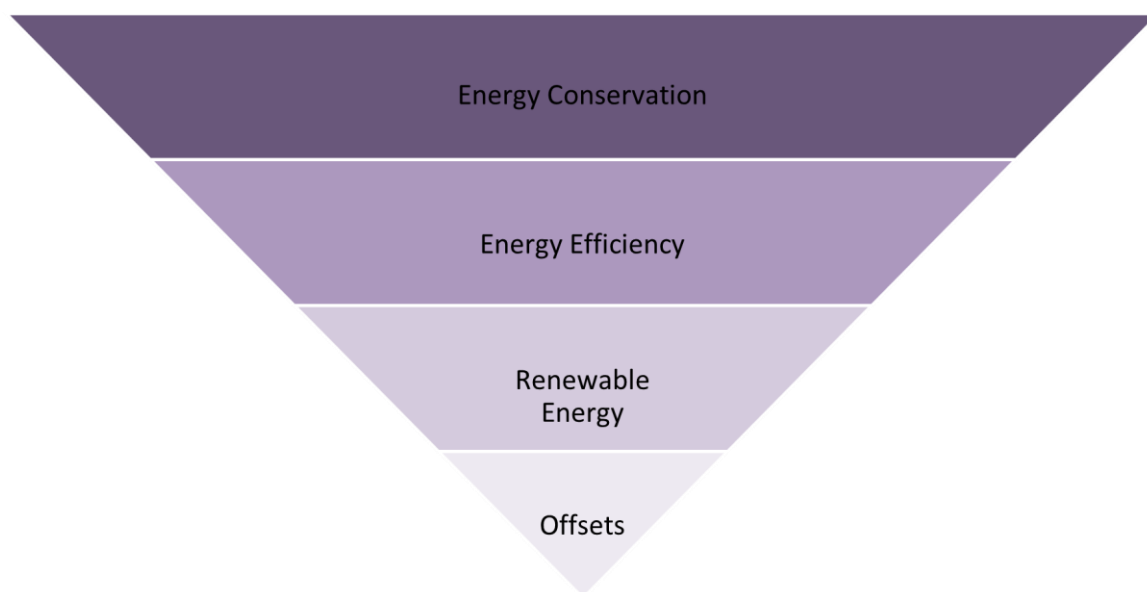
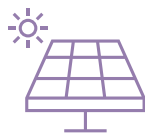


Figure 4. Energy efficiency pyramid: pathway to carbon neutrality.

To achieve the above, the following initiatives are proposed:



Renewable Energy – The roof area provides an excellent opportunity for installation of a solar photovoltaic system. PV should be installed at a rate that maximises the coverage of the non-trafficable roof area. This system size will be explored during design development.



Efficient Lighting Systems – High efficiency LED lighting throughout, including in common areas with efficiency controls to meet the requirements of BASIX. Controls include motion sensors, time clocks and zoned switching which will help reduce consumption of energy. Lighting power density to be at least 10% below Section J.



Controls, Energy Metering and Monitoring – Energy meters and monitoring systems will be provided to comply with NCC 2022 Section J Part J8 requirements. Preference for natural ventilation and comfort through adaptive cooling and shading.



Facade – Façade systems and shading systems reduce load on the HVAC system with selection of insulation and glazing through new BASIX requirements. Aiming for high Star NatHERS average with consideration of window to wall ratio.



Hot Water – Hot water to come from renewables such as an instantaneous electric system to apartments, powered by on-site solar PV or off site renewables through a PPA agreement



Appliances & Equipment – Apartment appliances and equipment selected with high energy rating to ensure reduced consumption which will be in line with BASIX energy targets requirements. Additionally, the site that should be fully electric with no gas combustion for ovens and cooktops allowing for operational net zero.

4.3 WATER CONSUMPTION & WSUD

To achieve responsible water consumption and water sensitive urban design, best practice water-saving initiatives will need to be implemented throughout the project. The following initiatives will be explored to achieve the potable water targets:

Sanitary Fixtures and Appliances– By implementing low-flow water fixtures, the consumption will be significantly reduced. All sanitary fixtures are to be provided with the minimum WELS ratings identified below:

Taps – 5 Star WELS

Toilets – 4 Star WELS

Showers – 4 Star WELS

Dishwashers – 5 Star WELS

Washing machines – 4 Star WELS



Landscape Irrigation – Efficient irrigation systems will be considered, including underground surface drip systems, moisture sensors, and the use of native plants in the landscaping plan. Native plants have evolved to thrive in the Australian environment and are typically more resilient than their exotic counterparts. They typically require less water and are more likely to survive the predicted increase in extreme drought conditions due to climate change. Native vegetation also stores a significant amount of carbon, helping to mitigate climate change. 5-9 Cowan Rd will incorporate primarily native species that support cooler microclimates.



Rainwater Reuse and WSUD – the development will consider opportunities to utilize alternative water sources for end uses such as landscape irrigation, washdown and even toilet flushing through rainwater tanks that are integrated into the on-site detention system (OSD).



4.4 MATERIALS

In line with the principals of sustainability outlined in the EPA, the project will have a significant focus on materiality. The scope of consideration includes the following action items within the project response:

- **Construction Waste** – At least 90% of construction and demolition waste is diverted from landfill.



- **Low VOC and Low Formaldehyde Materials** – paints, adhesives, sealants, floor coverings, carpets and engineered wood will be selected appropriately to provide a healthier and low-impact environment. Such efforts provide a cleaner and better environment for all.
- **Best-Practice PVC** – cables, pipes, flooring, and blinds will be selected and specified to be Best Practice PVC. This ensures upstream performance will be met and has significant benefit for the overall environment during the construction process.
- **FSC/PeFC Timber throughout** – Where possible, timber, including virgin and engineered timber through construction and fit out elements under the builder’s control will be specified as FSC/PeFC. This ensures the timber provided to site is of the highest standard and sourced from sustainable sources.
- **Waste Management Plan** – Development of an ongoing Waste Management Plan so waste can be sorted, separated, and recycled. This will assist ongoing diversion from landfill for the development. Inclusion of sufficient bins and appropriate separation systems to ensure waste is minimised and effective recycling.

4.5 COMFORT AND QUALITY

To ensure the best quality for residents, the development will commit to the following key initiatives:

- **Visual Comfort** – Maximising high-quality light into living and sleeping spaces, with views to the sky and nature where possible
- **Biophilic design** - Generous open communal spaces, terraces and balconies with planter boxes, as well as vegetated site perimeters to enhance the beauty of the site.
- **Acoustic Excellence** – Designing the building layout to be protected from noise from external sources. Delicate material selection, acoustic attenuation, and designing the shape of the building and openings accordingly achieves the performance.
- **Thermal Comfort** – Appropriate overhangs, cross ventilation and high levels of insulation in the roof and facades to support thermal comfort
- **Lighting Comfort** – Use of high colour rendering index (CRI > 80) LED lighting throughout the entire development. Low-glare lighting with baffles or louvres to limit UGR.
- **Generous Natural Planting** – Greenery through natural planting throughout the development assists in a connection to nature for users and passers-by. It also has a cooling effect, reducing the Urban Heat Island burden on the project.

The above combine to ensure the development is responsible, efficient, beautiful, and in the best interest of not just the developers, but occupants, community, and society as a whole.

4.6 URBAN HEAT ISLAND MITIGATION

5-9 Cowan Rd experiences increased ambient air temperatures due to the urban heat island effect, resulting in much hotter temperatures than Sydney’s baseline. Urban heat island (UHI) effect occurs when hard surfaces in the public realm such as asphalt, concrete and paving absorb heat from the atmosphere causing air temperatures at the ground plane to increase above average. UHI is most harmful on extreme heat days, causing temperatures to soar above 35 °C.

5-9 Cowan Rd experiences temperatures 3-6 degrees above average due to UHI , as defined by the NSW government for Urban Heat Island Effect (https://geo.seed.nsw.gov.au/Public_Viewier).



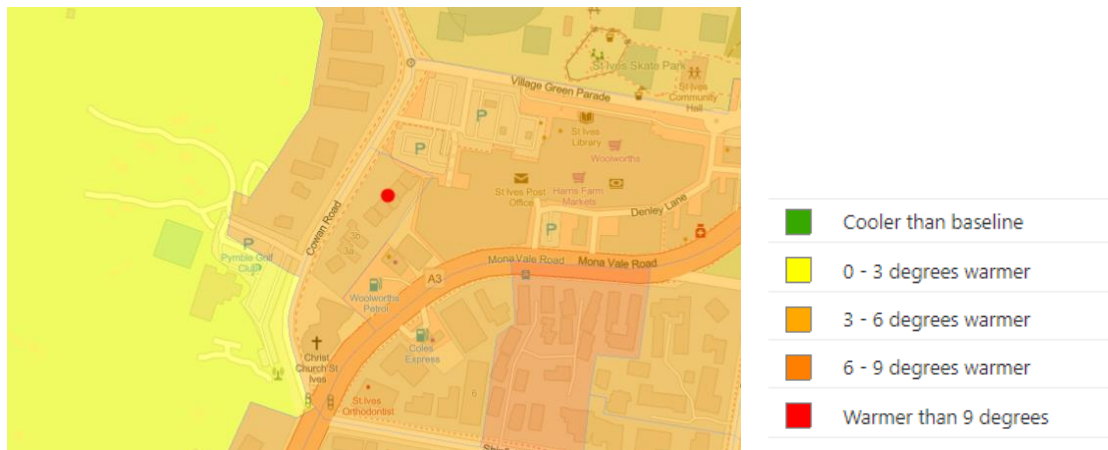


Figure 5. Urban heat island effect at the site. (Source: SEED Database)

To minimise the urban heat island effect and provide a more comfortable environment for occupants, the development has incorporated the following initiatives:

- 1306m² of landscaped area
- Extensive tree canopy cover on the ground level
- Light coloured roof and pavement for trafficable areas

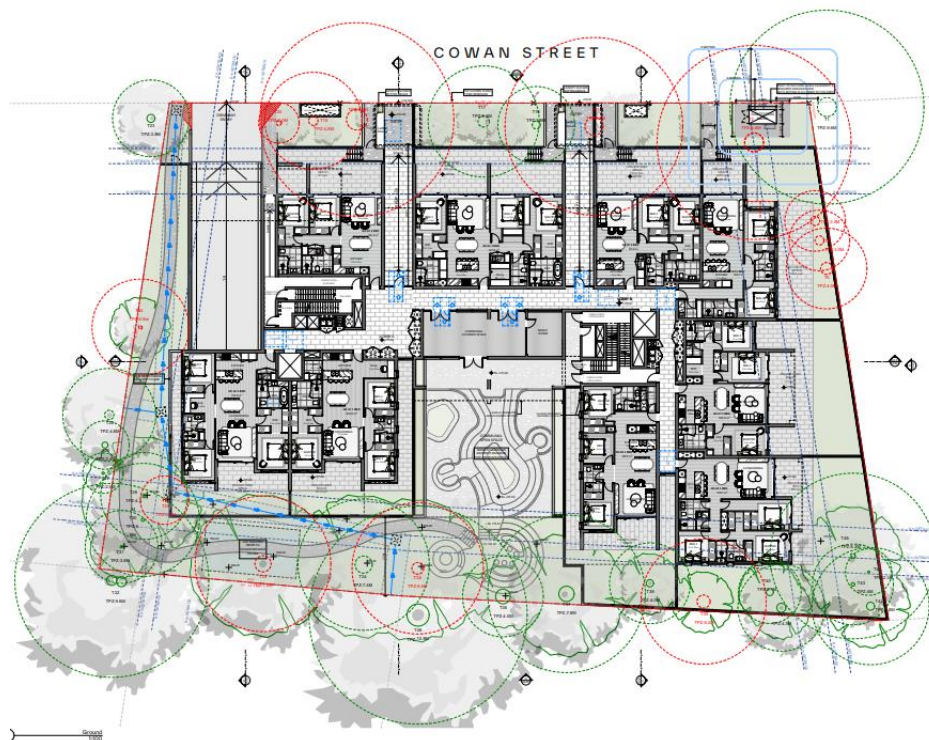


Figure 6: Ground floor Plan, Source: PBD Architect

4.7 SUSTAINABLE TRANSPORT

The development will provide easy access to bus stops, including stop 2075112 at The St Ives Community Hall on Memorial Avenue a short walk away. Route 582 will run services from the Community Hall to Gordon Station and back. This service provides easy access to Sydney Grammar School, St Ives Preparatory School, St Ives Primary School, St Ives High School, Hassell Park shops and other key locations. Further details on bus services from 5-9 Cowan Road can be found at: <https://transportnsw.info/documents/timetables/37-582-St-Ives-Shopping-Centre-to-Gordon-20250721>

The development will seek to minimise emissions from private vehicles, including the provision of EV ready parking bays to support the future instalment of EV charging points in accordance with the DCP requirements and NCC 2022. For Class 2 residential developments, this means at a minimum, electrical distribution boards are sized to ensure:

- Each circuit can support an electric vehicle charger able to deliver a minimum of 12 kWh from 11:00 pm to 7:00 am daily
- Sized to support the future installation of a 7 kW (32 A) type 2 electric vehicle charger in 100% of the car parking spaces

Individual storage rooms will also be provided for each resident to safely store a bicycle.

The development is located within close proximity to amenities such as:

- Grocery stores including Woolworths and Coles
- Abundant dining and café options
- Banking services
- Newsagents and post office
- Medical centres and chemists
- Local parks and green spaces

The proximity to essential amenities will significantly reduce resident reliance on private vehicles.

5 CONCLUSION

This report provides an outline of the Ecologically Sustainable Design initiatives and commitments for 5-9 Cowan Rd. These strategies include:

- Compliance with BASIX energy, water and thermal comfort targets
 - 60% Energy
 - 40% Water
 - Individual apartment NatHERS rating no less than 6 Stars
 - Average apartment NatHERS rating of at least 7 Stars, with the development on track to achieve an average of 7.6 stars
- Following a range of sustainability initiatives across the site spanning energy efficiency, thermal performance, indoor environment quality, waste management, and comfort

The strategies and initiatives presented in this report demonstrate a strong commitment to sustainability which meet and exceed expectations for the development. Further opportunities for optimisation of the building's performance will be developed during subsequent stages of the project.



