Ecologically Sustainable Development SSDA Report

250538 ATCHISON STREET

Client:
Setia

Revision:
D

Date:
13/10/2025

REPORT INFORMATION

Project	Atchison Street
Title	Ecologically Sustainable Development SSDA Report
Client	Setia
Revision	D
Revision Date	13/10/2025
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REVISION SCHEDULE

Revision	Date	Issue Name	Author	Authorised
A	24/07/20225	Draft Issued for Comment	MM	MW
B	13/08/20225	Draft Issued for Comment	MM	MW
C	25/09/20225	Final Report	MM	MW
D	13/10/20225	Final Report	MM	MW

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1 Introduction and Site

1.1 Introduction and Relevant SEARs

This report has been prepared to support a State Significant Development Application (SSDA) SSD-87486461 for the site at 20-22 Atchison Street, St Leonards (the site).

The Minister for Planning, or their delegate, is the consent authority for the SSDA and this application is lodged with the NSW Department of Planning, Housing and Infrastructure (DPHI) for assessment.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 9 July 2025 (SSD-87486461). Specifically, this report has been prepared to respond to the following SEARs:

Secretary's Environmental Assessment Requirements	Refer Report Section
15. Ecologically sustainable development (ESD)	
• ***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.***	• Details of how the sustainability and environmental performance standards are considered in the proposed development can be found in **Section 2.1** (Section 193 EP&A 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.***	• Details of how the proposed development minimises greenhouse gas emissions and consumption of energy, water (including water sensitive urban design) and material resources can be found in **Section 2.2** (Sustainable Buildings SEPP (2022)).

1.2 Project Description

The application seeks development consent for an SSDA which will facilitate the redevelopment of the site for a shop top housing development using the recently introduced provisions under the Transit Oriented Development (TOD) reforms.

The project seeks consent for:

- Demolition of existing buildings on site and tree removal.
- Construction of a 40-storey shop top housing development comprising:
  - 4-storey mixed-use (commercial, residential and retail) podium with a retail tenancy at ground level (Atchison Street frontage).
  - 36 levels of residential apartments and residential amenities within the tower.
  - Landscaping and public amenities along the Mitchell Street eastern elevation at ground level.
  - Consolidated vehicular and loading access from Atchison Lane.

- 5 storey basement accommodating car, bicycle and motorcycle parking, storage, plant and end of trip facilities (EOTF) for the commercial component.

- Amalgamation of Lot 1 in DP740017 and Lot 120 DP564606.
- 10% of residential floor space to be used for affordable housing via monetary contribution.
- Storage areas, utilities and service provision.

Refer to Architectural Plans prepared by Cox Architecture appended to the Environmental Impact Statement.

1.3 The Site

The site occupies a strategic location in the St Leonards Crows Nest precinct and is in close proximity to the St Leonards railway station and Crows Nest Metro station and town centre.

The site is located at 20-22 Atchison Street, St Leonards. The site has a primary frontage to Atchison Street to the south, Mitchell Street to the east and Atchison Lane to the north. The site is located within the North Sydney Local Government Area (LGA) and is located approximately 4.5km north of the Sydney CBD.

The site comprises two allotments described as Lot 1 in DP740017 and Lot 120 DP564606 with a total area of 1374.4sqm. The site is located near the crest of a high ridgeline point, with Mitchell Street falling in elevation towards the north of the site and Atchison Street falls towards the east. The site location is outlined in Figure 1.

Figure 1: Aerial Map of Subject Site (Source: OpenStreet Map, 2023)

Existing development on the site includes:

- 22 Atchison Street is currently occupied by six storey commercial office building and 18-20 Atchison Street comprises a three-storey commercial building which is currently vacant. The buildings was constructed in the 1980s and has a primary frontage to Atchison Street and secondary vehicular access from Atchison Lane.
- 22 Atchison Street accommodates additional vehicular access from Mitchell Street.

The proposed development site is located in Climate Zone 5 - Warm Temperate, as per the BCA Climate zone map: Australian Building Codes Board (See ***Figure 3*** below).

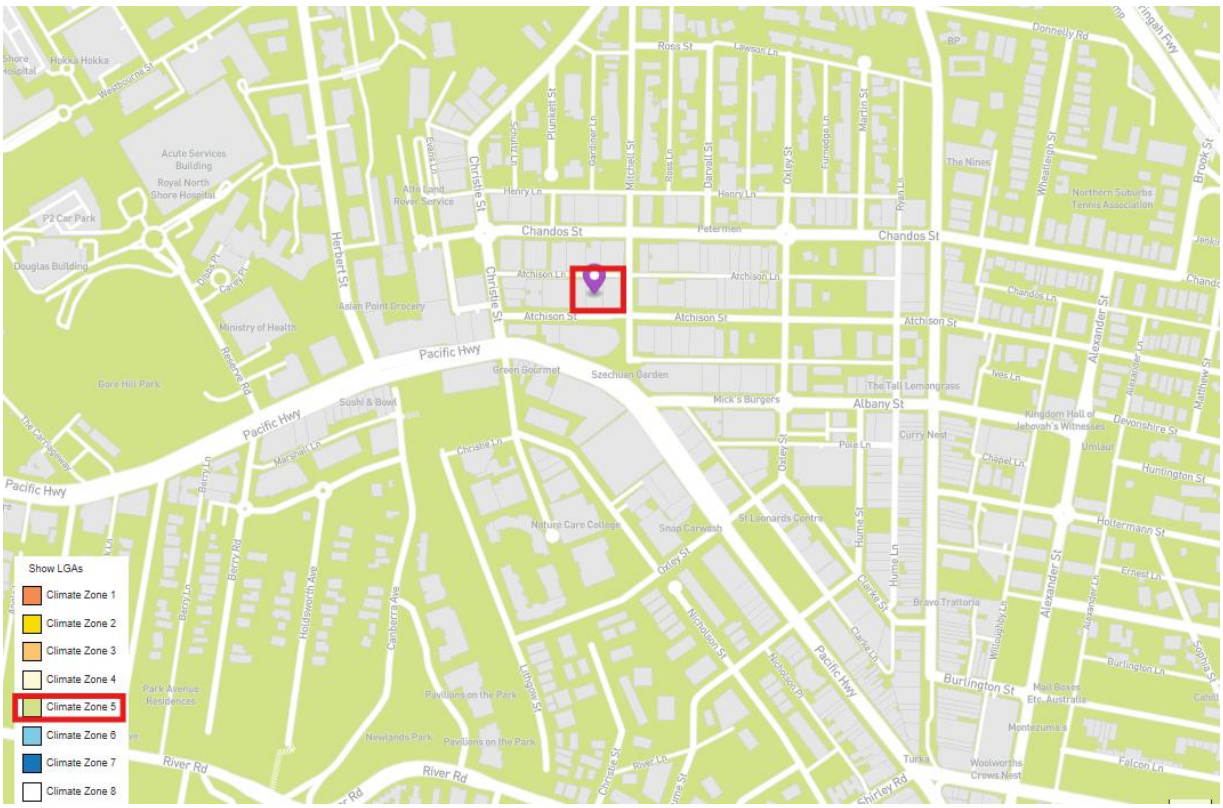

Figure 2: Site Climate zone Map as per NCC (Source: Climate zone map | ABCB)

1.4 Site Climate

The site is located in a humid subtropical climate, characterised by warm, humid summers and mild, damp winters. Based on BOM weather data for Macquarie Park (Willandra Village), which is the closest weather station to the site, the maximum annual temperatures average 22.8 °C and the minimum annual temperatures average 11.2 °C. The area receives an annual precipitation of approximately 1,157 mm, as shown in the ***Figure 5*** below (BOM 2025).

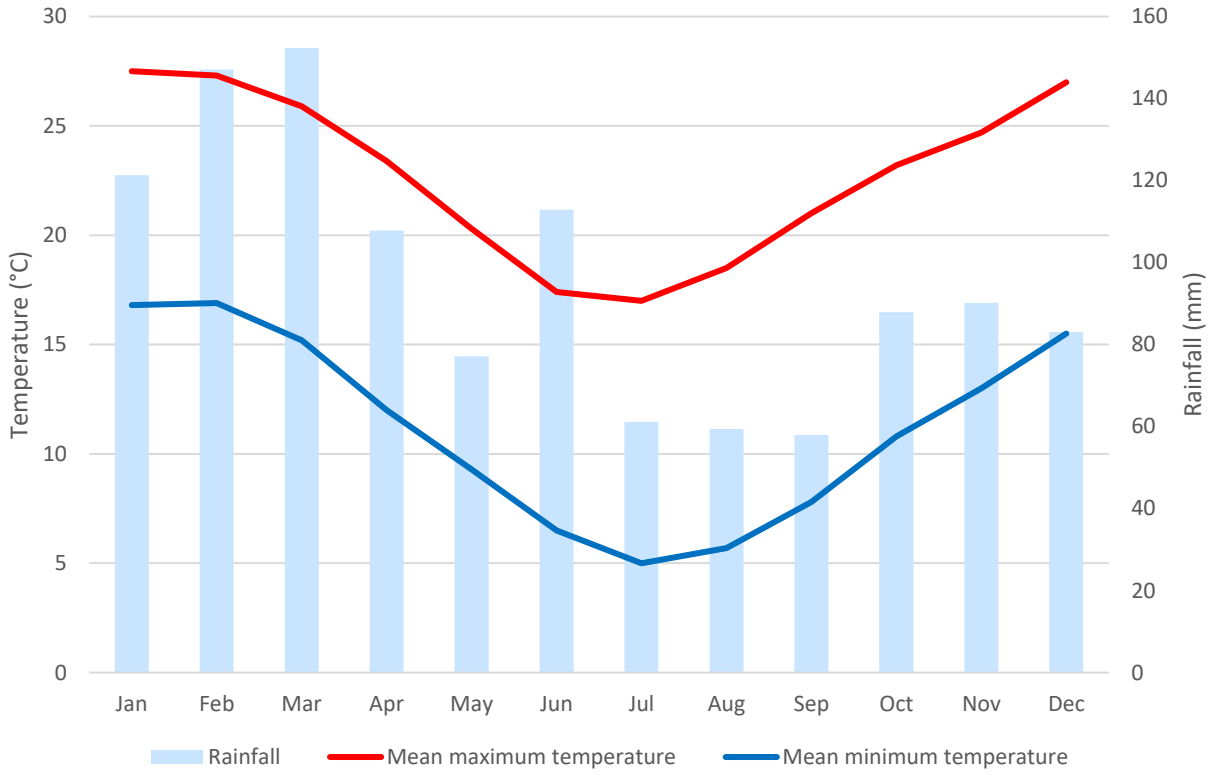

Figure 3: Macquarie Park (Willandra Village) Climate Data (Source: climate statistics for Australian locations (bom.gov.au))

2 SSDA Assessment Requirements

2.1 Section 193 EP&A Regulation

Ecologically sustainable development (ESD) principles (as defined in Clause 193 of the Environmental Planning and Assessment Regulation 2021) will be incorporated into the design, construction and ongoing operation of the proposed development. The ESD principles defined are to be aligned with Section 193 – Environmental Planning & Assessment Regulation and include the following:

- The precautionary principle
- Inter-generational equity
- Conservation of biological diversity and ecological integrity
- Improved valuation, pricing and incentive mechanisms

2.1.1 The Precautionary Principle

***The precautionary principle**, namely, 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 the application of the precautionary principle, public and private decisions should be guided by:*

i) Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and
ii) An assessment of the risk-weighted consequences of various options.

PROJECT RESPONSE

The project responds to the precautionary principle by integrating sustainability strategies that aim to avoid serious or irreversible environmental harm, even in the absence of full scientific certainty. A careful evaluation of potential impacts has informed the design, construction, and operation of the development to ensure that environmental degradation is avoided wherever practicable.

The development is located on a previously disturbed urban site, which reduces the risk of ecological disruption. To further minimise impacts, the design incorporates measures to reduce the urban heat island effect and support biodiversity, including increased canopy cover, native landscaping, and light-coloured roof and paving materials.

During construction, the appointed contractor will implement an Environmental Management System (EMS) aligned with the NSW Environmental Management System Guidelines. This includes construction-phase waste reduction strategies, with a commitment to divert a minimum of 80% of construction and demolition waste from landfill, and a target of 90%. Material selection will prioritise durability, recyclability, and reduced embodied carbon, including the use of products with verified Environmental Product Declarations (EPDs), where available.

The operational phase of the development has also been carefully considered to avoid long-term environmental impact. All apartments will achieve a minimum NatHERS rating of 6 stars, with an overall

average of at least 7 stars, contributing to reduced heating and cooling demand. The building will be fully electric, eliminating reliance on fossil fuels.

In addition, the office component is targeting a 5.5-Star NABERS Energy rating and a 3-Star NABERS Water rating. These targets will be supported through detailed energy and water modelling, which will be undertaken during the design phase to ensure building systems are appropriately sized and selected to perform efficiently in operation.

2.1.2 Inter-generational Equity

***Inter-generational equity**, namely, that the present generation should ensure that the health, diversity, and productivity of the environment are maintained or enhanced for the benefit of future generations*

PROJECT RESPONSE

The development aligns with the principle of inter-generational equity by ensuring that the environmental, social, and economic conditions established today do not compromise the ability of future generations to meet their own needs. The proposal incorporates long-term strategies to minimise resource consumption, reduce emissions, and enhance the health and resilience of the site and surrounding community.

The development reduces pressure on the environment through energy and water efficiency measures, waste minimisation during construction and operation, and the selection of low-impact building materials. Passive design strategies, including solar access optimisation, natural ventilation, and external shading, reduce reliance on mechanical systems and contribute to the building's long-term operational efficiency. The project will also improve the site's ecological value by increasing canopy cover and incorporating native landscaping, contributing to local biodiversity and urban cooling benefits.

Importantly, the development supports long-term social sustainability by providing a mix of housing types, including a 10% contribution of residential floor space allocated to affordable housing. This commitment helps address housing supply and affordability pressures, contributing to broader equity outcomes across generations. The project is also designed for inclusion and diversity, creating spaces that are accessible, functional, and connected to public transport and local services.

Economically, the development generates employment opportunities through office and retail tenancies and ongoing building operations. These benefits extend beyond the immediate construction phase, supporting the long-term vitality of the precinct.

The building is being designed to exceed the minimum requirements of Section J of the National Construction Code and to align with the expectations of the Sustainable Buildings SEPP.

Through these integrated environmental, social, and economic measures, the proposal demonstrates a commitment to preserving the health, diversity, and productivity of the environment for the benefit of both current and future generations.

2.1.3 Conservation of Biological Diversity and Ecological Integrity

***Conservation of biological diversity and ecological integrity**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration*

PROJECT RESPONSE

The development gives clear consideration to the conservation of biodiversity and ecological integrity, even within its highly urbanised setting. The proposal includes new street tree planting, podium-level landscaping, and trailing vegetation along the podium edges, all of which contribute to improving the site's ecological value post-development.

These green interventions incorporate native, drought-tolerant species and are supported by appropriate soil depth to promote long-term plant health and habitat creation. Together, they increase canopy cover, provide microhabitats for local fauna, and support broader urban greening objectives.

By integrating vegetation across multiple levels and using materials that mitigate heat gain, the project supports ecological resilience and enhances the environmental quality of the surrounding area.

2.1.4 Improved Valuation, Pricing and Incentive Mechanisms

***Improved valuation, pricing and incentive mechanisms**, namely, that environmental factors should be included in the valuation of assets and services, such as:*

> *(i) **polluter pays**, that is, those who generate pollution and waste should bear the cost of containment, avoidance, or abatement,*
>
> *(ii) **the users of goods and services should pay** prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
>
> *(iii) **environmental goals**, having been established, 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.*

PROJECT RESPONSE

Environmental factors have been embedded into the valuation of the project's assets and services through a range of sustainability initiatives that reflect both environmental and economic responsibility. During construction, the contractor will implement an Environmental Management System (EMS) aligned with NSW guidelines. This ensures that waste generation and pollution are actively monitored and managed, with the costs of landfill disposal borne by those responsible. The separation of waste streams and prioritisation of recycling during both construction and operation further supports this approach by creating a financial incentive to reduce landfill waste.

In line with the principle of life cycle accountability, the project has adopted a long-term view of environmental and financial performance. High energy and water efficiency outcomes are being targeted to reduce utility costs over time, increase asset value, and enhance market appeal for residents and commercial tenants alike. The development exceeds minimum NCC requirements and mandates specific sustainability outcomes through contractual obligations with the design and delivery teams.

The project also takes advantage of performance-based incentive mechanisms. The NABERS rating system will be used to guide, monitor, and improve the energy and water performance of the non-residential

components, helping to create a feedback loop between performance and value. By integrating environmental goals with long-term cost efficiency and accountability, the project demonstrates an approach that incentivises sustainable outcomes across the full lifecycle of the development.

2.2 Sustainable Buildings SEPP (2022)

The Sustainable Buildings SEPP encourages the design and delivery of more sustainable buildings across NSW. It sets sustainability standards for residential and non-residential development and starts the process of measuring and reporting on the embodied emissions of construction materials. The **Sustainable Buildings SEPP (2022)** establishes mandatory sustainability standards for both residential and non-residential development. The development is subject to the provisions of:

Chapter 2 – Residential Development

Chapter 2 of the SEPP requires residential components of development to comply with the BASIX (Building Sustainability Index) standards. The proposed residential apartments have been designed to achieve BASIX compliance, including minimum energy and water reduction targets and thermal comfort performance. These commitments are detailed in the project's BASIX Certificates, which are addressed in **Section 2.4** (Residential ESD Compliance Targets) **Section 4.1** (Energy Efficiency) and **Section 4.2** (Water Efficiency) of this report.

In addition, under clause 2.1(5) of the SEPP, development consent must not be granted to development to which the standards in Schedule 1 or 2 apply unless the embodied emissions attributable to the development have been quantified. For the residential component, this requirement has been addressed through the preparation of the **Embodied Emissions Materials Form** (Appendix B), which quantifies the embodied carbon associated with major construction materials.

Chapter 3 – Non-Residential Development

Chapter 3 of the SEPP outlines sustainability requirements for non-residential components of development, which are applicable to the ground floor retail and podium-level commercial spaces of this proposal. The relevant standards under Part 3 of the SEPP are addressed below:

(a) **The minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials**
A Construction and Demolition Waste Management Plan will be implemented to support resource recovery. The design also prioritises materials with recycled content and durable construction.
→ Refer to **Section 4.4** – Waste and Resource Management and **Section 4.5** – Material Selection

(b) **A reduction in peak demand for electricity, including through the use of energy efficient technology**
Efficient HVAC systems, LED lighting, zoned mechanical controls, and thermal performance enhancements will help reduce peak electrical loads.
→ Refer to **Section 4.1** – Energy Efficiency

(c) **A reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design**
The building layout incorporates natural daylight access, external shading, and façade articulation to enhance thermal performance and reduce demand for active systems.
→ Refer to **Section 4.1** – Energy Efficiency and **Section 4.3** – Indoor Environmental Quality (IEQ)

(d) **The generation and storage of renewable energy**
The development is being designed with renewable energy readiness (solar PV pre-wiring and rooftop structural allowances), allowing future installation of solar systems.
→ Refer to **Section 4.1** – Energy Efficiency

(e) **The metering and monitoring of energy consumption**
Sub-metering will be provided to enable building managers and tenants to monitor and optimise energy use across different systems (e.g. lighting, HVAC, lifts).
→ Refer to **Section 4.1** – Energy Efficiency

(f) **The minimisation of the consumption of potable water**
Potable water use will be minimised through the selection of WELS-rated fittings, rainwater harvesting, and efficient landscaping.
→ Refer to **Section 4.2** – Water Efficiency

Under clause 3.2(2) of the SEPP, development consent must not be granted to non-residential development unless the embodied emissions attributable to the development have been quantified. For the non-residential component of this project, the **Embodied Emissions Materials Form** (Appendix B) provides this quantification, ensuring compliance with SEPP requirements and enabling the consent authority to confirm this obligation has been met.

Supporting Documentation under the SEPP

In addition to design measures, the SEPP requires two key documents to be submitted:

- **Net Zero Statement** outlining how the development will move toward net zero operational emissions by 2050
  → Refer to: **Appendix A – Net Zero Statement**

- **Embodied Emissions Materials Form** detailing the life-cycle impacts of selected building materials
  → Refer to: **Appendix B – NABERS Embodied Emissions Material Form**

2.3 NCC – Section J – Energy Efficiency

All parts of the development will meet the Section J requirements of the National Construction Code (NCC) Volume 1, 2022. Section J of the NCC outlines performance requirements to ensure that the building facilitates the efficient use of energy. During the detailed design stage, the architectural design will be assessed to develop thermal requirements for all the aspects of the building envelopes, such as glazing performance, façade & roof colouring, shading, and insulation.

2.4 Residential ESD Compliance Targets

In addition to the aforementioned targets under SEARs, the residential towers are required to comply with NSW legislated Building Sustainability Index (BASIX) requirements. As part of that process, all Single Occupancy Units (SOUs) are required to achieve satisfactory thermal comfort targets using NatHERS software. Common areas not covered by the BASIX certificate are assumed to have similar fabric requirements to the SOUs. Common areas may also be subject to other, non-fabric NCC Section J 2022 requirements for equipment such as AC units, pumps, fans and lights.

In accordance with these requirements the Project will demonstrate a score of at least 40% for Water and 63% for Energy and meet thermal comfort heating and cooling caps that equate to approximately 6 Stars as a minimum for each SOU and 7 Stars on average across all SOUs.

2.5 NABERS Rating System

The National Australian Built Environment Rating System (NABERS) is a performance-based rating tool that measures the environmental impact of buildings in operation. NABERS ratings are based on actual metered performance over a 12-month period and are benchmarked against similar building types across Australia. Ratings range from 1 to 6 Stars, with 6 Stars representing market-leading performance.

Figure 4: NABERS stars scale

NABERS encourages continual improvement through measurement, monitoring, and management of operational energy and water consumption. This process supports building owners and managers in identifying inefficiencies, optimising systems, and achieving long-term sustainability outcomes.

Under the Sustainable Buildings SEPP (2022), all new commercial office buildings over 1,000 m² in net lettable area are required to achieve the following within 24 months of the first Occupation Certificate (OC):

- **Minimum 5.5 Star NABERS Energy (Base Building) rating**, and
- **Minimum 3 Star NABERS Water rating**,

The proposed development will be designed to meet or exceed these targets. The commercial podium levels (office space) will incorporate:

- Energy-efficient HVAC systems and lighting
- Sub-metering and controls for key end-uses
- Water-efficient fixtures and systems
- Building services compatible with NABERS monitoring and verification processes

To support this, energy and water modelling will be undertaken during detailed design to guide system selections and confirm the feasibility of achieving the targeted NABERS ratings.

3 North Sydney Council - Planning

The proposed development responds to the environmental sustainability objectives of the North Sydney Development Control Plan 2013 – Part B Section 2: Commercial and Mixed Use Development, particularly provisions relating to:

- Energy efficiency and passive solar design (Clauses 2.6.1–2.6.2)
- Thermal mass, insulation and natural ventilation (Clauses 2.6.3–2.6.4)
- Water conservation (Clause 2.6.5)
- Waste management and minimisation and building materials (Clauses 2.6.6–2.6.8)
- Stormwater management (Clause 2.6.7)
- Hotwater systems (Clauses 2.6.10)
- Green roofs (Clause 2.6.11)

While the North Sydney DCP 2013 does not apply to State Significant Development Applications (SSDAs) under the Environmental Planning and Assessment Act 1979 and is therefore not a statutory requirement for this proposal, its provisions have been reviewed and considered as local guidance to inform the environmental performance of the development.

These sustainability outcomes are addressed in detail in **Chapter 4** – Sustainable Design Principles of this report.

4 Sustainable Design Principles

The following section outlines the sustainable design principles incorporated into the development. These principles address key environmental performance areas including energy and water efficiency, indoor environmental quality, waste management, material selection, and biodiversity enhancements. The design approach reflects the requirements of relevant SEARs, the Sustainable Buildings SEPP (2022), the National Construction Code (NCC) Section J, and the North Sydney Development Control Plan (DCP).

4.1 Energy Efficiency

The development targets high energy performance through an integrated approach combining passive design, efficient systems, and renewable energy readiness. Key strategies include:

- All apartments achieve a minimum NatHERS rating of 6 stars, with an average of at least 7 stars, reducing heating and cooling demand.
- Non-residential components (office and retail) will feature efficient building fabric in line with Section J of the NCC to reduce heating and cooling demand.
- The building will be 100% electric, removing reliance on gas and aligning with future grid decarbonisation.
- A 65 kW solar PV system will be installed across roof area to reduce grid energy use and offset operational carbon.

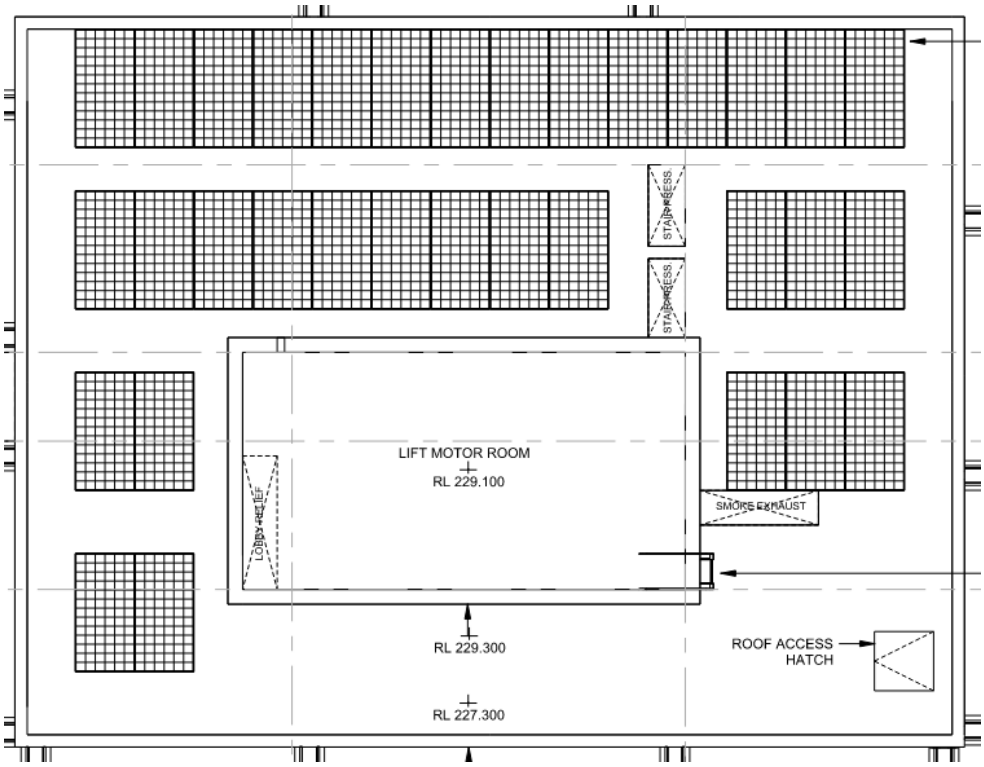

Figure 5: Roof plan showing future rooftop solar panels.

- Energy-efficient systems include LED lighting, zoned HVAC controls, high-performance glazing, light-coloured roofing to reduce heat gain, and façade articulation to reduce thermal bridging.
- Peak demand is reduced through passive design, thermal insulation, high-performance glazing, and external shading.
- Sub-metering will be installed for major energy end-uses to common areas (e.g. HVAC, lighting, lifts) to support performance optimisation and monitoring. This will be able to be easily tracked using a remote monitoring system, enabling performance optimisation over time.
- Commercial areas are designed to achieve a minimum 5.5-Star NABERS Energy rating through system efficiency and operational control.

Energy modelling for non-residential component will be undertaken during detailed design stages confirming compliance with Section J of the NCC.

4.2 Water Efficiency

Water conservation is achieved through a combination of efficient fixtures, rainwater capture, and landscaping design:

- The development uses high WELS-rated fittings.
    - 4 Star WELS rated toilets
    - 6 Star WELS rated taps
    - 4 Star WELS rated showers

Figure 6: WELS Rating label

- Rainwater harvesting is incorporated to supply irrigation and non-potable uses, reducing demand on mains water. A 10 kL rainwater tank located in Basement 1 will supply water for common area toilet flushing, car wash bay and landscape irrigation.
- Landscaping incorporates drought-tolerant native species, selected to minimise irrigation requirements.
- Strategic water metering of common areas and non-residential spaces will be implemented, with sub-metering of major systems (fixtures, irrigation, mechanical systems) connected to a remote monitoring system to enable monitoring, optimisation, and leak detection.

These measures collectively contribute to achieving BASIX water targets and support a minimum 3 Star NABERS Water rating for the commercial component.

4.3 Indoor Environmental Quality (IEQ)

The design prioritises occupant health, comfort, and wellbeing through:

- Maximised access to natural daylight, cross-ventilation, and external views, particularly in residential units and common areas.
- Low-VOC finishes and non-toxic materials specified to maintain healthy indoor air quality.
- External shading and high-performance glazing reduce glare and solar heat gain.
- Acoustic treatments mitigate noise intrusion from surrounding transport corridors.
- Dedicated end-of-trip facilities promote active transport and improve the indoor experience for commercial building users.

Figure 7: IEQ Principals

IEQ principles are embedded in the base design and specification of interior materials and mechanical systems.

4.4 Waste and Resource Management

Sustainable waste management is embedded in both construction and operation:

- A Construction and Demolition Waste Management Plan will be implemented with a target of 80% waste diversion from landfill.

Figure 8: Construction & demolition waste recycling facility

- Durable, reusable, and recyclable materials are prioritised in construction.
- Bin chutes are provided on each residential level to streamline waste separation and disposal, improving resident amenity and encouraging correct waste management.
- Centralised waste storage areas enable recycling and green waste collection.
- Occupant waste reduction will be supported through signage and educational initiatives.

4.5 Material Selection

Materials have been selected with consideration for environmental impact and lifecycle performance. As illustrated in the graphics below, the majority of embodied carbon is typically associated with the substructure and superstructure. As such, the focus should be on selecting lower-impact concrete and steel, such as mixes with supplementary cementitious materials and steel with a high recycled content.

Figure 9: Typical breakdown of construction upfront carbon in a new office building (Source GBCA)

- Preference is given to locally sourced and durable products with verified Environmental Product Declarations (EPDs).
- Use of recycled content where performance standards allow, and avoidance of materials with high embodied carbon or hazardous chemicals.
- Design for disassembly and future adaptability is encouraged wherever feasible to extend building life and reduce long-term resource use.

This approach supports broader sustainability goals related to embodied emissions and resource efficiency. Refer to Appendix B – NABERS Embodied Emissions Material Form for further detail.

4.6 Biodiversity and Landscaping

Although located within a highly urbanised precinct, the development contributes positively to local biodiversity and ecological integrity through:

- Four existing trees were removed along Atchison Lane (refer to Arborist Report), but will be replaced with four tall canopy trees planted along Mitchell Street to restore and enhance the streetscape and canopy cover.
- Landscaping includes native, low-maintenance plant species selected for drought tolerance and habitat value.

Figure 10: Drought resistant landscaping (Image for reference purposes only)

- Street level and podium level planting improve microclimate conditions and contribute to urban heat island mitigation.
- Soil profiles and planting strategies are designed to ensure long-term plant viability and performance.

These measures improve site ecology, contribute to canopy cover targets, and enhance microclimate resilience.

4.7 Sustainable Transport

4.7.1 Bicycle Parking

To support active and sustainable transport options, bicycle parking facilities will be provided on every basement level of the development — with residential bicycle parking located on B2 to B4, and commercial bicycle parking on B1.

End-of-trip facilities will also be included within the commercial component and will comprise:

- Secure bicycle parking, sized in accordance with staff numbers and anticipated demand
- Showers, lockers, and change room amenities to accommodate active commuters
- Maps and signage promoting local walking and cycling routes, particularly those connecting to the nearby St Leonards and Crows Nest public transport hubs

These provisions are intended to reduce reliance on private vehicles, support healthier lifestyle choices, and contribute to lower transport-related emissions.

4.7.2 Electric Vehicle (EV) Charging

The development is future-ready to support the transition to electric vehicles. Dedicated EV distribution boards will be provided on each carpark level, along with the necessary infrastructure to enable future installation of EV chargers by residents, subject to individual requirements.

Figure 11: EV Chargers

This approach ensures the development can accommodate increasing EV uptake over time, supporting broader emissions reduction goals and aligning with future transport trends.

5 Conclusion

This report outlines how the proposed development at 20–22 Atchison Street, St Leonards addresses key sustainability requirements under the SEARs, the Sustainable Buildings SEPP (2022), and relevant planning controls. The project integrates ESD principles to reduce emissions, conserve resources, and support climate resilience.

The development will be fully electric and future-ready, with infrastructure to support renewable energy and electric vehicles. It complies with BASIX, targets an average 7-star NatHERS rating, and aims to achieve 5.5-Star NABERS Energy and 3-Star NABERS Water ratings for the commercial office. Material selection will consider low embodied carbon products, particularly concrete and steel.

Water and energy efficiency measures are supported by efficient fixtures, rainwater reuse, and submetering. Landscaping will enhance urban biodiversity and reduce heat island impacts. Active transport is encouraged through bicycle parking and end-of-trip facilities.

Overall, the development demonstrates a clear commitment to sustainable outcomes, aligning with planning policy goals and contributing to a more resilient and low-impact urban environment.

Appendix A - Net Zero Statement

NET ZERO STATEMENT – ATCHISON STREET

Subject	Net Zero Statement
Project	250538 – Atchison Street
Author	Micha Middlebrook
Date	25/09/2025

Site Description

The application seeks development consent for an SSDA which will facilitate the redevelopment of the site for a shop top housing development using the recently introduced provisions under the Transit Oriented Development (TOD) reforms.

The project seeks consent for:

- Demolition of existing buildings on site and tree removal.
- Construction of a 40-storey shop top housing development comprising:
    - 4-storey mixed-use (commercial, residential and retail) podium with a retail tenancy at ground level (Atchison Street frontage).
    - 36 levels of residential apartments and residential amenities within the tower.
    - Landscaping and public amenities along the Mitchell Street eastern elevation at ground level.
    - Consolidated vehicular and loading access from Atchison Lane.
    - 5 storey basement accommodating car, bicycle and motorcycle parking, storage, plant and end of trip facilities (EOTF) for the commercial component.
- Amalgamation of Lot 1 in DP740017 and Lot 120 DP564606.
- 10% of residential floor space to be used for affordable housing via monetary contribution.
- Storage areas, utilities and service provision.

Refer to Architectural Plans prepared by Cox Architecture appended to the Environmental Impact Statement.

Scope of this Statement (Non-Residential Only)

In accordance with the Sustainable Buildings SEPP (2022), Chapter 3, a Net Zero Statement is required for non-residential development. This statement therefore applies only to the commercial components (Retail and Office podium). Residential sustainability measures are addressed separately via BASIX/NatHERS and lie outside this statement.

Net Zero Statement

This statement outlines the strategies to achieve Net Zero operational emissions for the proposed development at 20–22 Atchison Street, St Leonards, in accordance with Section 35C of the Environmental Planning and Assessment (EP&A) Regulation. The development demonstrates a clear pathway to becoming fossil fuel-free and achieving operational Net Zero emissions.

Fossil Fuel-Free Development:

The building will be fully electric, eliminating reliance on gas and aligning with the decarbonisation trajectory of the NSW electricity grid. Infrastructure will be provided to enable the building to operate as Net Zero in operational energy, subject to the discretion of the building operator post-construction. To achieve Net Zero, the operator would need to procure 100% renewable electricity to offset all building energy use.

Key strategies include:

Electrification of Building Services:

- Centralised heat pump system for domestic hot water, delivering high efficiency and low emissions.
- Water-cooled VRF with heat pump capability for efficient space conditioning (cooling and heating), with integrated heat recovery between zones.
- Tenancy kitchens equipped with induction cooktops, removing the need for gas.

Passive Design Integration:

The design incorporates passive measures to reduce energy consumption, including:

- High-performance glazing and insulation to reduce heating and cooling loads.
- Maximised natural daylight and ventilation to reduce reliance on artificial lighting.
- Floorplates configured for daylight penetration, while minimising glare.
- Airtightness strategies across façades and penetrations to limit unwanted infiltration.

Renewable Energy and Technical Features:

1. **Solar PV Installation**
   - Solar panels are designed to be installed on the rooftop to offset grid electricity.
2. **Battery Storage Readiness**
   - Electrical infrastructure will allow for future integration of battery storage systems to enhance resilience and support peak demand management.
3. **Energy Efficiency Measures**
   - LED lighting with occupancy/daylight controls in shared and commercial areas.
   - Zoned HVAC controls and sub-metering of major end uses (HVAC, lighting, lifts, central plant).
   - Remote monitoring/analytics capability to support continuous commissioning and optimisation.
4. **Ventilation Efficiency**
   - Outside air systems will incorporate energy recovery ventilation (ERV) units to reclaim heating and cooling energy from exhaust air, significantly reducing ventilation loads.
   - Economy cycles will also be applied where conditions are favourable, further reducing the need for mechanical cooling.
5. **Operational Performance Targets**
   - Target ≥ 5.5 Star NABERS Energy (Base Building) for office.
   - Reverse NABERS calculator has been applied to the design, confirming that maximum allowable energy consumption and emissions limits for the office component can be achieved.

6. **Backup Power Transition**
   - Provision for temporary diesel generator connection during outages as an interim resilience measure.
   - Future ready for battery-based backup (~2035) to reduce reliance on diesel as technology and market conditions evolve.
7. **Offsets for Residual Emissions**
   - In the future, any emissions that cannot be eliminated through operational measures are intended to be offset through verified carbon offset programs, supporting the achievement and maintenance of Net Zero operations. These residual emissions are expected to include refrigerant leakage, diesel consumed for backup power during outages, and any fossil fuel-based electricity procurement.
   - Future mechanical equipment replacements will prioritise low global warming potential (GWP) refrigerants, further reducing residual emissions associated with refrigerant charges and leakage. Additionally, the diesel generator is expected to be replaced with battery storage, minimising reliance on fossil fuels and enhancing long-term sustainability performance.

Annual Energy Consumption & Emissions

Whole-building energy consumption calculations are not yet available, as the project has not reached the level of design required for comprehensive modelling. The office component (approximately 1,500 m²) will demonstrate compliance with the Sustainable Buildings SEPP by adhering to maximum allowable energy use intensity and emissions benchmarks, as confirmed by the NABERS reverse calculator.

Results

Benchmarking factor at 5.5 stars NABERS Energy:	NaN
Maximum Benchmarking Emissions at 5.5 Stars NABERS Energy:	71,569.9 $kgCO^2$-e/year
Benchmarking Emissions Intensity at 5.5 Stars NABERS Energy:	44.398 $kgCO^2$-e/m^2.year
Energy Intensity at 5.5 Stars NABERS Energy:	228 MJ/m^2.year
Reporting Emissions for this office – Scope 1, 2 and 3:	71,569 $kgCO^2$-e/year
Reporting Emissions for this office – Scope 1 and 2:	67,479 $kgCO^2$-e/year

Maximum Allowable Energy Consumption:

Target Max Electricity:	102,242 kWh per annum
Target Max Gas:	0 MJ per annum
Target Max Diesel:	0 L per annum

Figure 1: NABERS reverse calculator results

The retail component (approximately 105 m²) is small relative to the office floor area. Where the office and retail areas share HVAC and central services, the retail GFA has been included in the office energy calculations to provide a whole-podium estimate.

As the design progresses, detailed energy modelling and optimisation will be undertaken to refine system selections, minimise operational demand, and ensure the building can achieve and maintain Net Zero emissions in operation.

Signed: 

Name: Micha Middlebrook

Title: Senior ESD Consultant

Company: LCI Consultants

Appendix B - NABERS Embodied Emissions Material Form

Step 1: About the building

Fill out blue cells

Building location and site data	Value	Unit	Note	Comment
Building address	20-22 Atchson St ,St Leonards			
Postcode	2065		Required	Postcode of building
Town/city	CROWS NEST + 8 other localities		Town/city/suburb/region automated from postcode (may not give exact town name)	Town/city/suburb/region of the building site.
Distance to nearest major city/town	6	km	Enter for rural/regional locations only	Declare the shortest route by road to your site from the centre of your nearest major city (>100,000 people). The route must be traversable by a semitrailer truck.
Project stage	Development Application		Required	Stage of development
New build or major renovation?	New build		Required	
Brownfield or greenfield site?	Brownfield		Required	

Floor area by NCC building classification	Gross (GFA)	Net (NLA/NSA/UFA)	Unit	Note	
Please enter all floor areas relevant to your building. Leave areas blank if not applicable. Please enter Gross Floor Area (GFA) for all building classifications. Please also enter the corresponding net area (Net Lettable Area, Net Sellable Area or Usable Floor Area) where it is commonly used for that building classification.					
Class 1a: Detached residential buildings			m²	Required for Class 1a: Detached residential houses, townhouses	Gross Floor Area (GFA), as defined by the AIQS Australian Cost Management Manual
Class 1b: Boarding houses and hostels			m²	Required for Class 1b: Boarding house, guest house, hostel	Net area (Net Lettable Area, Net Sellable Area, Usable Floor Area), as defined by the PCA's Method of Measurement
Class 2: Multi-unit residential buildings			m²	Required for Class 2: Multi-unit residential, including apartment buildings	
Class 3: Other residential buildings			m²	Required for Class 3: Other residential buildings	
Class 4: Residential inside non-residential			m²	Required for Class 4: Residential building inside a non-residential building, e.g., caretaker residence	
Class 5: Office buildings	1,892		m²	Required for Class 5: Office building	
Class 6: Retail buildings	107		m²	Required for Class 6: Retail building, e.g., shop, restaurant, café	
Class 7a: Carparks	7,404		m²	Required for Class 7a: Carparks	
Class 7b: Warehouse-type buildings			m²	Required for Class 7b: Warehouses, wholesalers and storage facilities	
Class 8: Industrial buildings			m²	Required for Class 8: Industrial buildings, e.g., factories and workshops	
Class 9a: Healthcare buildings			m²	Required for Class 9a: Healthcare, e.g., hospitals, clinics, day surgeries	
Class 9b: Civic buildings			m²	Required for Class 9b: Civic buildings, e.g., theatres, civic centres, train stations	
Class 9c: Aged care and personal care buildings			m²	Required for Class 9c: Aged care and personal care	
Class 10a: Non-habitable buildings			m²	Required for Class 10a: Non-habitable buildings including sheds, carports and private garages	
Class 10b: Miscellaneous structures			m²	Required for Class 10b: Miscellaneous structures, including fences, masts, antennas, retaining walls and swimming pools	
Class 10c: Bushfire shelters			m²	Required for Class 10c: Bushfire shelters not attached to a Class 1a building	
Total	9,403	0	m²	Required: Sum of m² inputs must be more than 0.	

Project information	Value	Unit	Note	
Total cost of project	163,506,962	AUD excl. GST	Required	Include labour, materials, transport, plant, equipment and professional fees. Exclude GST, land, finance, escalation and other costs.
Building design life	50	years	Required	If uncertain, enter 50 years
Estimated envelope life		years	Optional	
Estimated replacement cycle for mechanical services		years	Optional	
Estimated replacement cycle for vertical transportation		years	Optional	

Dimensions of the building and the site	Value	Unit	Note	
Site area	1,375	m²	Required	Total area of site to external boundary.
Shared services or infrastructure	No		Required	Indicate if there are shared services that the building utilises, or shared foundations, basement or podium
Building footprint area	1,049	m²	Required	Total floor area of the ground floor measured to the outside edge of the floorplate.
Typical floor area (if different to building footprint area)	576	m²	Only needed if different to row above	
Typical floor perimeter	106	m	Required	
Area of external carpark (not included in GFA)	0	m^2	Required. Enter 0 if not applicable.	
Area of external hardstand (not included in GFA)	0	m^2	Required. Enter 0 if not applicable.	
Area of other hard landscaping (not included in GFA)	0	m^2	Required. Enter 0 if not applicable.	Include all other impervious areas. For example, patios, paths and driveways (not already included in carparks and hardstands above).
Number of floors/storeys above ground, including ground floor	41	no.	Required	
Number of floors/storeys below ground	6	no.	Required. Enter 0 if not applicable.	
Number of floors/storeys of car parking	5	no.	Required. Enter 0 if not applicable.	
Total height above ground	138	m	Required	Measured from the average finished grade to the highest point of the building, excluding protrusions (lighting rods, masts, chimneys, etc.)

Structural material choices	Value	Unit	Note	
Foundation type	Spot/pad footing		Required	
Frame type (dominant)	Hybrid: Steel, reinforced concrete		Required	
Suspended floor type (typical)	Reinforced concrete		Only needed for multi-storey buildings	
Describe low carbon materials specified in your building (e.g. green concrete, low carbon bricks)	N/A		Required	
Describe recycled content specified in your building (e.g. recycled steel)	N/A		Required	

Step 2: Quantity of materials

Complete all blue cells that are applicable to the building. Leave items that aren't applicable blank.

Fill out blue cells

Material category	Sub-category 1	Sub-category 2	Sub-category 3	Value	Unit of measure	Comment	AIQS ACMM Code	ICMS3 (Level 3 Codes Construction)
Structure								
The structural parts of the building that are below ground (substructure) and above ground (superstructure). This includes fill below the substructure, foundations, basement levels, suspended floors, wall structure, roof structure, stairs, lift shafts and balconies. It excludes external areas such as hardstands, carparks, patios, etc.								
Coverage of structural material spend	-	-	-		%	Required. Coverage of spend for structural elements entered below. Minimum requirement = 80%. Exclude head contractor preliminaries and margins.		
Concrete in-situ	≤10 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete in-situ	>10 MPa to ≤20 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete in-situ	>20 MPa to ≤32 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete in-situ	>32 MPa to ≤40 MPa	-	-	3,483	m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete in-situ	>40 MPa to ≤50 MPa	-	-	1,312	m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete in-situ	>50 MPa to ≤60 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete in-situ	>60 MPa to ≤80 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete in-situ	>80 MPa to ≤100 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete in-situ	>100 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11	02 or 03
Concrete pre-cast panel	-	-	-		m³	Please enter reinforcing steel in relevant line items below. If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.	01_SB or 02-11	02 or 03
Concrete block	Hollow core	-	-	400.0	m³	Enter as cubic metres, calculated as (area in m²) * (thickness in mm / 1000). Please include all block fill concrete and all reinforcing steel in relevant line items above/below.	01_SB	02 or 03
Concrete block/brick	Solid	-	-		m³	Enter as cubic metres, calculated as (area in m²) * (thickness in mm / 1000)	01_SB	02 or 03
Concrete block/brick	Solid AAC	-	-		m³	Solid Aerated Autoclaved Concrete (AAC) block. Enter as cubic metres, calculated as (area in m²) * (thickness in mm / 1000).	01_SB	02 or 03
Mortar	-	-	-		kg		01_SB	02 or 03
Reinforcing steel	Bar & mesh	-	-	443,235	kg	**Include all reinforcing steel bar/mesh in the building's structure in this row.** Usually this is calculated as kg/m³ per concrete element and then summed. Example: 10 m³ of 40 MPa concrete @ 100 kg/m³ + 5 m³ of 50 MPa concrete @ 150 kg/m³ = 1,750 kg reinforcing steel.	01_SB or 02-11	02 or 03
Reinforcing steel	Fibre & strand	-	-		kg	**Include all steel fibre reinforcing and steel strand in the building's structure in this row.**	01_SB or 02-11	02 or 03
Structural steel	Hot rolled structural	-	-		t	Examples include universal beams, universal columns and welded beams	01_SB	02 or 03
Structural steel	Cold formed structural	-	-		t	Examples include C purlins, Z purlins and all light gauge steel framing	01_SB	02 or 03
Structural steel	Other welded structural	-	-		t		01_SB	02 or 03
Structural steel	Plate	-	-		t	Include any allowance for connections here	01_SB	02 or 03
Structural steel	Sheet	-	-		t		01_SB	02 or 03
Stainless steel	-	-	-		t	Primarily for engineered timber structure connections	02_11	02 or 03
Reinforced concrete piles	Concrete	-	-		m³	Please enter reinforcing steel in the line below. If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.	01_SB	02 or 03
Reinforced concrete piles	Steel reinforcing				kg	If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.	01_SB	02 or 03
Steel piles	-	-	-		t	Where concrete and reinforcing steel are also used, enter these in the rows above.	01_SB	02 or 03
Timber poles/piles	-	-	-		m³	Where concrete and reinforcing steel are also used, enter these in the rows above.	01_SB	02 or 03
Timber (solid)	Sawn softwood	-	-		m³		02_11	02 or 03
Timber (solid)	Sawn hardwood	-	-		m³		02_11	02 or 03
Timber (engineered)	CLT	-	-		m³		02_11	02 or 03
Timber (engineered)	Glulam	-	-		m³		02_11	02 or 03
Timber (engineered)	LVL	-	-		m³		02_11	02 or 03
Timber (engineered)	OSB	-	-		m³	Enter as cubic metres, calculated as (area of wall in m²) * (thickness in mm / 1000)	02_11	02 or 03
Brick	Heat cured	-	-		m³	Enter as cubic metres, calculated as (area of wall in m²) * (thickness in mm / 1000)	02_11	02 or 03
Structural Insulated Panel (SIP)	Steel outer	-	-		m²		01_SB	02 or 03
Structural Insulated Panel (SIP)	Aluminium outer	-	-		m²		01_SB	02 or 03
Structural Insulated Panel (SIP)	Engineered timber outer	-	-		m²		01_SB	02 or 03
Fill	-	-	-		t	Include purchased material only. Exclude site-won material.	01_SB	01
Sand & gravel	-	-	-		t	Include purchased material only. Exclude site-won material and sand/gravel in concrete.	01_SB	01
Waterproofing membrane	Bituminous	-	-		m²		01_SB	01 or 02 or 03
Waterproofing membrane	Polyethylene	-	-	830	m²		01_SB	01 or 02 or 03
Other structural (Describe and add unit >>)		-	-			Please enter a description for any structural material that does not fit a predefined classification		
Other structural (Describe and add unit >>)		-	-			Please enter a description for any structural material that does not fit a predefined classification		
Other structural (Describe and add unit >>)		-	-			Please enter a description for any structural material that does not fit a predefined classification		
Envelope								
The skin of the building that separates the internal building from the external environment. This includes the roof cladding, wall cladding, windows, doors and internal/external shading. It also includes insulation and the internal wall lining of envelope walls.								

Coverage of envelope material spend	-	-	-		%	Required. Coverage of spend for the envelope items you have entered below. Minimum requirement = 80%. Exclude head contractor preliminaries and margins.		
Roof cladding	Profiled steel	-	-		m²	Enter as m² of roof area. Exclude allowances for overlap in the roofing sheets. This row includes all metal-coated and pre-painted steel sheets where steel is the base metal. Examples include: galvanised steel, zinc-aluminium (zincalume) coated steel and zinc-aluminium-magnesium (ZAM) coated steel, whether painted or unpainted.	05_RF	03 or 04
Roof cladding	Profiled aluminium	-	-		m²	Enter as m² of roof area. Exclude allowances for overlap in the roofing sheets. This row also includes pre-painted aluminium sheets.	05_RF	03 or 04
Roof cladding	Profiled zinc	-	-		m²	Enter as m² of roof area. Exclude allowances for overlap in the roofing sheets. This row also includes pre-painted zinc sheets.	05_RF	03 or 04
Roof cladding	Membrane	-	-		m²	Enter as m² of roof area. Exclude allowances for overlap in the membrane sheets.	05_RF	03 or 04
Roof cladding	Tiles (traditional clay)	-	-		m²	Enter as m² of roof area. Exclude allowances for overlap between the tiles.	05_RF	03 or 04
Roof cladding	Tiles (concrete)	-	-		m²	Enter as m² of roof area. Exclude allowances for overlap between the tiles.	05_RF	03 or 04
Roof cladding	Other (Please describe >>)		-		m²	Please enter a description for any roofing that does not fit a predefined classification	05_RF	03 or 04
Wall cladding	Bricks (heat cured)	-	-		m²	Enter as m² of wall area. Heat-cured bricks use a kiln or furnace to raise the brick temperature above ambient temperature during curing process.	06_EW	03 or 04
Wall cladding	Bricks (air dried)	-	-		m²	Enter as m² of wall area. Air-dried bricks are cured using ambient temperature.	06_EW	03 or 04
Wall cladding	Bricks (under fired)	-	-		m²	Enter as m² of wall area.	06_EW	03 or 04
Wall cladding	Bricks (concrete)	-	-		m²	Enter as m² of wall area	06_EW	03 or 04
Wall cladding	Mortar and render	-	-		kg		06_EW	03 or 04
Wall cladding	Profiled steel	-	-		m²	Enter as m² of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row includes all metal-coated and pre-painted steel sheets where steel is the base metal. Examples include: galvanised steel, zinc-aluminium (zincalume) coated steel and zinc-aluminium-magnesium (ZAM) coated steel, whether painted or unpainted.	06_EW	03 or 04
Wall cladding	Profiled aluminium	-	-		m²	Enter as m² of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row also includes pre-painted aluminium sheets.	06_EW	03 or 04
Wall cladding	Profiled zinc	-	-		m²	Enter as m² of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row also includes pre-painted zinc sheets.	06_EW	03 or 04
Wall cladding	GRC cladding	-	-		m²	Enter as m² of wall area. GRC = Glass Reinforced Concrete.	06_EW	03 or 04
Wall cladding	Timber weatherboards	-	-		m²	Enter as m² of wall area. Exclude allowances for overlap between weatherboards, offcuts, etc.	06_EW	03 or 04
Wall cladding	Fibre cement board	-	-		m²	Enter as m² of wall area. Exclude allowances for offcuts, etc.	06_EW	03 or 04
Wall cladding	Terracotta	-	-		m²	Enter as m² of wall area. Exclude allowances for offcuts, etc.	06_EW	03 or 04
Wall cladding	Brick tiles / veneers	-	-		m²	Enter as m² of wall area. Exclude allowances for offcuts, etc.	06_EW	03 or 04
Wall cladding	Plasterboard	-	-		m²	Enter as m² of wall area. Exclude allowances for offcuts, etc. Include both external wall linings and internal wall linings for envelope walls.	12_WF or 06_EW	03 or 04
Wall cladding	Plywood	-	-		m²	Enter as m² of wall area. Exclude allowances for offcuts, etc. Include both external wall linings and internal wall linings for envelope walls.	12_WF or 06_EW	03 or 04
Wall cladding	Other (Please describe >>)	Stone cladding	-	441	m²	Please enter a description for any wall cladding that does not fit a predefined classification	06_EW or 12_WF	03 or 04
Windows & doors	Aluminium frame	Single glazed	-		m²	Include all single glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Aluminium frame	Double glazed	-	9	m²	Include all double glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Aluminium frame	Triple glazed	-		m²	Include all triple glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Timber frame	Single glazed	-		m²	Include all single glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Timber frame	Double glazed	-		m²	Include all double glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Timber frame	Triple glazed	-		m²	Include all triple glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	uPVC frame	Single glazed	-		m²	Include all single glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	uPVC frame	Double glazed	-		m²	Include all double glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	uPVC frame	Triple glazed	-		m²	Include all triple glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Frameless	Single glazed			m²	Include all single glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Frameless	Double glazed			m²	Include all double glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Frameless	Triple glazed			m²	Include all triple glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED	03 or 04
Windows & doors	Other (Please describe >>)		-		m²	Please enter a description for any windows or doors that do not fit a predefined classification	07_WW or 08_ED	03 or 04
Curtain wall	Single skin façade	Glazed panel	Single glazed	532	m²	Please declare all single-skin façade area in this section. All double-skin façade area should be entered in the next section. Include all single glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Curtain wall	Single skin façade	Glazed panel	Double glazed	480	m²	Include all double glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Curtain wall	Single skin façade	Glazed panel	Triple glazed		m²	Include all triple glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Curtain wall	Single skin façade	Opaque panel	Aluminium cladding		m²		06_EW	03 or 04
Curtain wall	Single skin façade	Opaque panel	GRC cladding		m²	GRC = Glass-fibre Reinforced Concrete	06_EW	03 or 04
Curtain wall	Single skin façade	Opaque panel	Insulated shadow box		m²		06_EW	03 or 04
Curtain wall	Single skin façade	Opaque panel	Brick cladding		m²		06_EW	03 or 04
Curtain wall	Single skin façade	Opaque panel	Stone cladding		m²		06_EW	03 or 04
Curtain wall	Double skin façade	Glazed panel	Single glazed		m²	Please declare all double-skin façade area in this section. Please declare as the area of the curtain wall and do not enter the inner and outer skins twice. Include all single glazing, including standard, toughened, laminated and low-E.	06_EW	03 or 04
Curtain wall	Double skin façade	Glazed panel	Double glazed		m²	The type of glazing refers to the building's envelope wall, not including the outer skin	06_EW	03 or 04
Curtain wall	Double skin façade	Glazed panel	Triple glazed		m²	The type of glazing refers to the building's envelope wall, not including the outer skin	06_EW	03 or 04
Curtain wall	Double skin façade	Opaque panel	Aluminium cladding		m²		06_EW	03 or 04
Curtain wall	Double skin façade	Opaque panel	GRC cladding		m²	GRC = Glass-fibre Reinforced Concrete	06_EW	03 or 04

Curtain wall	Double skin façade	Opaque panel	Insulated shadow box		m²		06_EW	03 or 04
Curtain wall	Double skin façade	Opaque panel	Brick cladding		m²		06_EW	03 or 04
Curtain wall	Double skin façade	Opaque panel	Stone cladding		m²		06_EW	03 or 04
Curtain wall	Other (Please describe >>)		-		m²	Please enter a description for any curtain wall that does not fit a predefined classification	06_EW	03 or 04
Stick-framed wall system	Aluminium frame	Glazed section	Single glazed		m²	Include all single glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Stick-framed wall system	Aluminium frame	Glazed section	Double glazed		m²	Include all double glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Stick-framed wall system	Aluminium frame	Glazed section	Triple glazed		m²	Include all triple glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Stick-framed wall system	Aluminium frame	Opaque section	Aluminium cladding		m²		06_EW	03 or 04
Stick-framed wall system	Aluminium frame	Opaque section	GRC cladding		m²	GRC = Glass-fibre Reinforced Concrete	06_EW	03 or 04
Stick-framed wall system	Aluminium frame	Opaque section	Insulated shadow box		m²		06_EW	03 or 04
Stick-framed wall system	Aluminium frame	Opaque section	Brick cladding		m²		06_EW	03 or 04
Stick-framed wall system	Aluminium frame	Opaque section	Stone cladding		m²		06_EW	03 or 04
Stick-framed wall system	Steel frame	Glazed section	Single glazed		m²	Include all single glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Stick-framed wall system	Steel frame	Glazed section	Double glazed		m²	Include all double glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Stick-framed wall system	Steel frame	Glazed section	Triple glazed		m²	Include all triple glazing, including standard, toughened, laminated and low-E	06_EW	03 or 04
Stick-framed wall system	Steel frame	Opaque section	Aluminium cladding		m²		06_EW	03 or 04
Stick-framed wall system	Steel frame	Opaque section	GRC cladding		m²	GRC = Glass-fibre Reinforced Concrete	06_EW	03 or 04
Stick-framed wall system	Steel frame	Opaque section	Insulated shadow box		m²		06_EW	03 or 04
Stick-framed wall system	Steel frame	Opaque section	Brick cladding		m²		06_EW	03 or 04
Stick-framed wall system	Steel frame	Opaque section	Stone cladding		m²		06_EW	03 or 04
Stick-framed wall system	Other (Please describe >>)		-		m²	Please enter a description for any wall system that does not fit a predefined classification	06_EW	03 or 04
Wall louvre system	Aluminium	-	-		m²		06_EW	03 or 04
External shading system	Aluminium frame	Aluminium cladding	-		m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000)	06_EW	03 or 04
External shading system	Aluminium frame	GRC cladding	-		m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000). GRC = Glass-fibre Reinforced Concrete.	06_EW	03 or 04
External shading system	Aluminium frame	Terracotta cladding	-		m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000)	06_EW	03 or 04
External shading system	Aluminium frame	Stone cladding	-		m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000)	06_EW	03 or 04
External shading system	Aluminium frame	Pre-cast concrete	-		m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000)	06_EW	03 or 04
External shading system	Aluminium frame	Timber	-		m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000)	06_EW	03 or 04
External shading system	Aluminium frame	Glass (opague)	-	44	m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000)	06_EW	03 or 04
External shading system	Aluminium frame	Steel	-		m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000)	06_EW	03 or 04
External shading system	Other (Please describe >>)		-		m²	Please enter as m² of shaded area = linear metres * (width in mm / 1000)	06_EW	03 or 04
Roller doors	Steel profile	-	-	30	m²	Please note unit is square metres, not quantity	08_ED	03 or 04
Roller doors	Hardwood over steel	-	-		m²	Please note unit is square metres, not quantity	08_ED	03 or 04
Roller doors	Softwood over steel	-	-		m²	Please note unit is square metres, not quantity	08_ED	03 or 04
Revolving doors	Glass/aluminium/steel	-	-		no.		08_ED	03 or 04
Fire-rated doors	Engineered timber	-	-	19	no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	08_ED	03 or 04
Fire-rated doors	Steel	-	-		no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	08_ED	03 or 04
Fire-rated doors	Aluminium/glass	-	-		no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	08_ED	03 or 04
Insulation	Glass wool / fibreglass	-	-		m²	Please include both wall and ceiling insulation	05_RF or 06_EW	03 or 04
Insulation	Stone wool	-	-		m²	Please include both wall and ceiling insulation	05_RF or 06_EW	03 or 04
Insulation	Polyester	-	-		m²	Please include both wall and ceiling insulation	05_RF or 06_EW	03 or 04
Insulation	Expanded polystyrene	-	-	796.0	m²	Please include both wall and ceiling insulation	05_RF or 06_EW	03 or 04
Insulation	Other (Please describe >>)		-		m²	Please include both wall and ceiling insulation	05_RF or 06_EW	03 or 04
Other (Please describe and add unit >>)		-	-			Please enter a description for any envelope material that does not fit a predefined classification		
Other (Please describe and add unit >>)		-	-			Please enter a description for any envelope material that does not fit a predefined classification		
Other (Please describe and add unit >>)		-	-			Please enter a description for any envelope material that does not fit a predefined classification		

Permanent internal walls and doors

Walls and doors within the building that are either structural or designed to be permanent.

Coverage of material spend on permanent internal walls and doors					%	Enter the % coverage of spend for the items you have entered below. There is no minimum requirement: enter what you know. This should include all structural walls. Exclude head contractor preliminaries and margins.		
Interior wall (permanent)	Steel (light framing)	-	-	8	t		09_NW	03 or 04
Interior wall (permanent)	Timber framing	-	-		m³		09_NW	03 or 04
Interior wall (permanent)	AAC panel (reinforced)	-	-		m²	Panels of autoclaved aerated concrete (AAC) with reinforcing steel. E.g., Hebel.	09_NW or 12_WF	03 or 04
Interior wall (permanent)	Concrete-filled steel panel	-	-		m²	Panels made from a steel sheet outer with an aerated concrete core. E.g., Speedpanel.	09_NW or 12_WF	03 or 04
Interior wall (permanent)	Plasterboard	-	-	2,553	m²	Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.	09_NW or 12_WF	03 or 04
Interior wall (permanent)	Plywood	-	-		m²	Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.	09_NW or 12_WF	03 or 04
Interior wall (permanent)	Fibre cement sheet	-	-		m²	Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.	09_NW or 12_WF	03 or 04
Interior wall (permanent)	Insulation	-	-	892.0	m²		09_NW or 12_WF	03 or 04
Interior wall (permanent)	Glass	-	-		m²		09_NW or 12_WF	03 or 04
Interior wall (permanent)	Other (Please describe >>)	Speedpanel	-	406	m²	Please enter a description for any internal wall that does not fit a predefined classification	09_NW or 12_WF	03 or 04
Internal door (permanent)	Aluminium/glass	-	-		no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND	03 or 04

Internal door (permanent)	Timber/glass	-	-		no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND	03 or 04
Internal door (permanent)	Timber solid lightweight	-	-	48	no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND	03 or 04
Internal door (permanent)	Fire resistant	-	-	53	no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND	03 or 04
Internal door (permanent)	Steel	-	-		no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND	03 or 04
Internal door (permanent)	Other (Please describe >>)		-		no.	Please enter a description for any internal door that does not fit a predefined classification	11_ND	03 or 04
Other (Please describe and add unit >>)		-	-			Please enter a description for any material that does not fit a predefined classification		
Other (Please describe and add unit >>)		-	-			Please enter a description for any material that does not fit a predefined classification		
Other (Please describe and add unit >>)		-	-			Please enter a description for any material that does not fit a predefined classification		

Services

					Unit of measure			
Building services included within the main building contract. If the building components that are the subject of the development application or the construction certificate are base building only, then only enter these items. If you cannot split services by type, please enter them all in the "Other services" category at the bottom. Enter all values as material costs in dollars.								
Mechanical services	-	-	-	1,042,554	AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	28_SS	05
Vertical transportation	-	-	-	95,790	AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	28_SS	05
Electrical services	-	-	-	860,461	AUD excl. GST	Electrical services including the main power supply, backup generators, security and communications. Excluding solar installations. Where possible, enter material costs excluding labour, plant, equipment, margins and taxes.	26_LP	05
Solar photovoltaic installations	-	-	-		AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	26_LP_LPGP	05
Plumbing/hydraulic services	-	-	-	494,407	AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	18_PD and 19_WS	05 or 06
Fire services				399,250	AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	25_FPSS04 or 39 XWAW_03 or 41_XF	05
Other services (Please describe)		-	-		AUD excl. GST	Please group all other services here, meaning that coverage will always be 100% for services. Enter only the material costs (excluding labour, plant, equipment, margins and taxes).	29_SS or multiple	

External works

The materials associated with hard landscaping and outbuildings on the site but outside the building envelope. This includes hardstands, carparks, driveways, covered walkways, decks, patios, awnings, fences, gates, etc. Soft landscaping should be excluded.								
Coverage of spend on external works	-	-	-		%	Required. Coverage of spend for external works (excluding soft landscaping) entered below. Minimum requirement = 80%. Exclude head contractor preliminaries and margins.		
Asphalt	-	-	-		t		33_XR	07
Concrete in-situ	≤10 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL	07
Concrete in-situ	>10 MPa to ≤20 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL	07
Concrete in-situ	>20 MPa to ≤32 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL	07
Concrete in-situ	>32 MPa to ≤40 MPa	-	-	23.0	m³	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL	07
Concrete in-situ	>40 MPa to ≤50 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL	07
Concrete in-situ	>50 MPa	-	-		m³	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL	07
Pavers, bricks and blocks	Concrete	-	-	592	m²		33_XR	07
Pavers, bricks and blocks	Clay	-	-		m²		33_XR	07
Reinforcing steel	Bar & mesh	-	-	3,447	kg	**Include all reinforcing steel bar/mesh in the external works in this row.** Usually this is calculated as kg/m³ per concrete element and then summed. Example: 10 m³ of 40 MPa concrete @ 100 kg/m³ + 5 m³ of 50 MPa concrete @ 150 kg/m³ = 1,750 kg reinforcing steel.	33_XR or 34_XN or 35_XB or 36_XL	07
Reinforcing steel	Fibre & strand	-	-		kg	**Include all steel fibre reinforcing and steel strand in the external works in this row.**	33_XR or 34_XN or 35_XB or 36_XL	07
Structural steel	-	-	-		t		02_11	07
Structural aluminium	-	-	-		t	Includes structures, louvre systems, etc.	35_XB	07
External roof/wall cladding	Polycarbonate	-	-		m²	Enter as profiled polycarbonate sheet that would ordered, including allowance for overlap	35_XB	07
External roof/wall cladding	PVC	-	-		m²	Enter as profiled PVC sheet that would ordered, including allowance for overlap	35_XB	07
External roof/wall cladding	Bitumen sheet	-	-		m²	Enter as bituminous sheet that would ordered, including allowance for overlap	35_XB	07
External roof/wall cladding	Steel profile	-	-		m²	Enter as profiled steel sheet that would ordered, including allowance for overlap	35_XB	07
Fill	-	-	-		t	Include purchased material only. Exclude site-won material.	33_XR or 34_XN or 35_XB or 36_XL	07
Sand & gravel	-	-	-		t	Include purchased material only. Exclude site-won material and sand/gravel in concrete.	33_XR or 34_XN or 35_XB or 36_XL	07
Timber (solid)	Sawn softwood	-	-		m³		33_XR or 34_XN or 35_XB or 36_XL	07
Timber (solid)	Sawn hardwood	-	-		m³		33_XR or 34_XN or 35_XB or 36_XL	07
Timber (engineered)	CLT	-	-		m³		33_XR or 34_XN or 35_XB or 36_XL	07
Timber (engineered)	Glulam	-	-		m³		33_XR or 34_XN or 35_XB or 36_XL	07
Timber (engineered)	LVL	-	-		m³		33_XR or 34_XN or 35_XB or 36_XL	07
Timber (engineered)	OSB	-	-		m³		33_XR or 34_XN or 35_XB or 36_XL	07
Fabric (awning/sunshade)					m²		35_XB or 36_XL	07
Other (Please describe and add unit >>)	Concrete blocks	-	-	26.0	m³	Please enter a description for any external works that does not fit a predefined classification		
Other (Please describe and add unit >>)		-	-			Please enter a description for any external works that does not fit a predefined classification		
Other (Please describe and add unit >>)		-	-			Please enter a description for any external works that does not fit a predefined classification		

Step 3: Certifier details

Fill out blue cells

The material quantities must be determined through an itemised list of building materials (such as a bill of quantities) and certified by a quantity surveyor, designer, engineer or NABERS Assessor.

Person that completed this form	Value	Note
Name	Timothy Ting	Required
Company	WT Partnership	Required
ABN		
Profession	Quantity Surveyor	Required
Qualification or registration	Bachelor of Construction Project Management	Required

Person that certified the details in this form	Value	Note
Name	Simon Hensley	Required
Company	WT Partnership	Required
ABN		
Profession	National Director	Required
Qualification or registration	MAIQS CQS 40690	Required

Confirmation of certification	Value	Note
Are 80% of material costs captured for the building's structure, envelope and external works?	Yes	Required
If no - why not?		

Additional comments from data provider

Additional comments of certifier

Attach this Excel spreadsheet to your development application or construction certificate application.

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