ESD Report for S4.55

3-5 Help Street Chatswood, NSW 2067

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Contents

Revision History

Revision	Project	Description	Author	Checked By	Date
1.0	P079009	ESD Report for S4.55	Payal Aggarwal	Luke Williams	20th May 2026

1 Introduction

Aspire Sustainability Consulting has been engaged to prepare an Ecologically Sustainable Design (ESD) report to accompany the S4.55 application (SSD-76555711) regarding the proposed development located at 3-5 Help Street Chatswood, NSW 2067.

This report outlines the proposed sustainable design initiatives proposed for the development and demonstrates compliance with Secretary's Environmental Assessment Requirements (SEAR's) and other applicable regulatory frameworks described in the following subsections.

1.1. Sustainable Design Frameworks

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

- National Construction Code (NCC) 2022 Section J Compliance (via J1V3 Performance Solution);
- State Environmental Planning Policy (SEPP) 2022: Sustainable Buildings;
- Building Sustainability Index – Standards for residential development (BASIX) 2022;
- Planning Secretary's Environmental Assessment Requirements (SSD-76555711);
- NSW Environmental Planning and Assessment Regulation 2021; &
- Willoughby Development Control Plan (DCP) 2023.

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

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

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

1.1.2. Building Sustainability Index (BASIX)

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

1.1.3. NABERS Energy Office Base Building 5.5 Star Rating (≥1,000m^2 Office NLA)

NABERS is Australia's most adopted building performance rating, aiming to account for all GHG emissions within a building, allowing commercial spaces to be benchmarked against common parameters such as energy consumption, hours of use, equipment density, location etc.

As the development includes more than 1,000m^2 of commercial office Net Lettable Area (NLA), the project is subject to the NSW Large Commercial Development provisions under the Sustainable Buildings SEPP and is required to target NABERS Energy for Office Base Building 5.5 Star Rating for commercial office spaces within the site.

An Agreement to Rate will be executed by the developer prior to S4.55, committing to a 5.5 Star NABERS Energy Rating for Office Base Building in operation.

1.1.4. NABERS Water Office Base Building 3 Star Rating (≥1,000m² Office NLA)

NABERS Water ratings are awarded based on the amount of water used within a building. The rating assesses water consumption associated with all end uses across a building.

As the development includes more than 1,000m² of commercial office Net Lettable Area (NLA), the project is subject to the NSW Large Commercial Development provisions under the Sustainable Buildings SEPP and is required to target NABERS Water 3 Star Rating for Office Base Building within the site in line with the Sustainable Buildings SEPP.

An Agreement to Rate will be executed for S4.55, committing to a 3 Star NABERS Water Rating for Office Base Building in operation.

1.1.5. Green Star Buildings 4 Star Equivalency Rating

Green Star 'Buildings' rating tool aims to meet current and future demands for the built environment and sets benchmarks for sustainability to address the growing need for reduced carbon emissions. This rating is valid for all building classes and acts as a guide to deliver healthy, resilient and positive buildings.

The development at 3-5 Help Street Chatswood, NSW 2067 commits to achieving design alignment equivalent to a 4-star Green Star rating under the 'Buildings' tool, with aspirations to achieve a 5 Star target that will be explored during detailed design.

Achievement of the 4 Star equivalency rating appropriately satisfies the functional intent of Condition F10 and provides a measurable sustainability outcome that will be monitored throughout construction and verified at Project Completion, without the need to target a 5 Star As Built rating which has not been listed in the SEARs ESD commitments for SSDA.

Please refer to Appendix B which contains a scorecard listing out credits targeted to achieve a 4-star Green Star 'Buildings' Equivalency

1.1.6. State Environmental Planning Policy (SEPP): Sustainable Buildings 2022

The Sustainable Buildings SEPP operates alongside the National Construction Code to implement minimum sustainability performance requirements for development in NSW, supporting the State's net zero emissions targets. It provides a planning framework that mandates demonstrated energy efficiency and sustainability outcomes at the development application stage.

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

Table 1: Sustainable Buildings 2022 Requirements for Class 2

2.1 Standards for BASIX development and BASIX optional development	
Schedule 1 sets out the standards that apply to BASIX development referred to in paragraphs (a) and (b) of the definition of ***BASIX development*** in the *Environmental Planning and Assessment Regulation 2021*.	
2.2 Standards not affected by environmental planning instruments or development control plans	**Addressed in:**
1.a. A competing provision of an environmental planning instrument or development control plan, whenever made, is of no effect to the extent to which the provision aims to reduce consumption of mains-supplied potable water or greenhouse gas emissions related to the use of— i. a building, or ii. the land on which a building is located, or	
1.b. A competing provision of an environmental planning instrument or development control plan, whenever made, is of no effect to the extent to which the provision aims to improve the thermal performance of development,	Sections 4 & 5.5.
1.c. A competing provision of an environmental planning instrument or development control plan, whenever made, is of no effect to the extent to which the provision aims to quantify and report on the embodied emissions attributable to development.	Sections 4 & 5.2.
Schedule 1 Standards for erection of BASIX buildings and change of use to BASIX buildings	**Addressed in:**
2. Energy use	Section 4.
1. The standard is that the amount of greenhouse gas emissions resulting from the use of energy attributable to an occupant of the development over a year must be less than the baseline, by at least the percentage specified in Table 1 for the development.	
3. Water use	Section 4.
1. The standard is that the average daily amount of mains-supplied potable water use attributable to an occupant of the development over a year must be less than the baseline, by at least the percentage shown on the *Water Use Map* for the land on which the development will be carried out.	

Table 2: Sustainable Buildings 2022 Requirements for Non-Class 2

3.2 Development consent for non-residential development		**Addressed in:**
1.a.	The minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials.	Section 5.1.
1.b.	A reduction in peak demand for electricity, including through the use of energy efficient technology.	Section 5.5.
1.c.	A reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design.	Section 5.5.
1.d.	The generation and storage of renewable energy.	Section 5.5.
1.e.	The metering and monitoring of energy consumption.	Section 5.5.
1.f.	The minimisation of the consumption of potable water.	Section 5.6.
2.	Development consent must not be granted to non-residential development unless the consent authority is satisfied the embodied emissions attributable to the development have been quantified.	Section 5.2.
3.3 Other considerations for large commercial development		**Addressed in:**
1.d.	In deciding whether to grant development consent to large commercial development, the consent authority must consider whether the development minimises the use of on-site fossil fuels, as part of the goal of achieving net zero emissions in New South Wales by 2050.	Section 5.5.
1.e.	Development consent must not be granted to large commercial development unless the consent authority is satisfied. The development is capable of achieving the standards for energy and water use specified in Schedule 3.	Section 5.5.
1.f.	For the purposes of subsection (2), development is capable of achieving a standard specified in Schedule 3 if there is a NABERS commitment agreement in place to achieve the standard.	Section 5.5.
3.4 Other considerations for certain State significant development		**Addressed in:**
2.4.1	In deciding whether to grant development consent to development to which this section applies, the consent authority must consider whether the development will minimise the use of on-site fossil fuels, as part of the goal of achieving net zero emissions in New South Wales by 2050.	Section 5.5.
Schedule 3 Standards for energy and water use for large commercial development		**Addressed in:**
1.	**Energy use**	Section 5.5.
1.	The standard for energy use for development for the purposes of prescribed office premises is a 5.5-star NABERS energy rating.	
2.	**Water use**	Section 5.6.
1.	The standard for water uses for large commercial development is a 3-star NABERS water rating.	

1.1.7. SEAR's Controls & Objectives

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

Table 3: SEAR ESD Controls & Objectives

9. Ecologically Sustainable Development (ESD)	Addressed in:
• 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.	Section 1.1.8.
• Demonstrate how the development will meet or exceed the relevant industry recognised building sustainability and environmental performance standards.	Sections 5.2-5.8.
• Demonstrate how the development incorporates measures to minimise carbon emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of resources, water (including water sensitive urban design) and energy.	Sections 5.2, 5.5 & 5.6.

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

- The principles of ecologically sustainable development are the following:
  - the precautionary principle;
  - inter-generational equity;
  - conservation of biological diversity and ecological integrity; &
  - improved valuation, pricing and incentive mechanisms.
  - The precautionary principle is that if there are threats of serious or irreversible environmental damage lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- In applying the precautionary principle, public and private decisions should be guided by:
  - Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; &
  - An assessment of the risk-weighted consequences of various options.
- The principle of inter-generational equity is that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.
- The principle of the conservation of biological diversity and ecological integrity is that the conservation of biological diversity and ecological integrity should be a fundamental consideration.
- The principle of improved valuation, pricing and incentive mechanisms is that environmental factors should be included in the valuation of assets and services, such as—
  - Polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement;
  - The users of goods and services should pay prices based on the full life cycle of the costs of providing the goods and services, including the use of natural resources and assets and the ultimate disposal of waste; &
  - Established environmental goals should be pursued in the most cost-effective way by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

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

1.1.8.1 The precautionary principle:

By adopting energy efficiency initiatives, water conservation measures, enhanced indoor environmental quality, sustainable building practices, and resilient design specified in section 5 of this report, the development minimizes resource consumption, emissions, and waste while enhancing long-term durability and occupant health, ensuring no significant or lasting impact on the surrounding environment.

1.1.8.2 Inter-generational equity:

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

By adopting energy and water efficiency measures, sustainable materials, enhanced indoor environment quality and reduced ecological impact through strategies specified in sections 5.2, 5.5, 5.6, 5.7 & 5.8, the proposed development minimizes resource depletion and environmental degradation, thereby preserving natural resources and environmental quality for future generations.

1.1.8.3 Conservation of biological diversity and ecological integrity:

Green terraces and landscaping have been provided on Ground floor, Mezzanine, Levels 1, 2 and 6, contributing to an increase in the ecological value and environmental performance of the site. The proposed landscaping will assist in enhancing local biodiversity outcomes through the introduction of planted areas & canopy vegetation, while also improving the visual amenity and overall quality of development.

1.1.8.4 Improved valuation, pricing, and incentive mechanisms:

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

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

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

1.1.9. Willougby DCP 2023 Controls and Objectives

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

Table 4: DCP ESD Controls & Objectives

Part J: Building Sustainability	Addressed in:
• Improve the design to achieve sustainable and energy efficient buildings with low greenhouse gas emissions.	Section 5.5.
• Reduce waste and promote the adaptable reuse of existing buildings and encourage durable design and construction that is adaptable and low maintenance.	Section 5.1.
• Encourage the use of renewable energy and alternative water supply.	Section 5.5.
• Improve resident and employee comfort, health and wellbeing.	Section 5.7.
• Reduce natural resource consumption and source materials responsibly.	Section 5.2.
• Encourage sustainable water management.	Section 5.6.
• Consider climate adaptation and resilience.	Section 5.3.
• Promote sustainable transport management.	Section 5.4.

1.2. Aim of Report

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

2 Project Description

The proposed development is located within the Willoughby City Council Local Government Area and comprises a mixed-use development incorporating a single tower with 35 levels above 5 basement levels. The development will deliver a total of 143 residential apartments, together with activated retail tenancies at lower levels comprising a combined NLA of 362 m², and commercial office space with a total NLA of 2,013 m². The proposal also includes associated basement parking, servicing, and supporting infrastructure to facilitate the operation of the development.

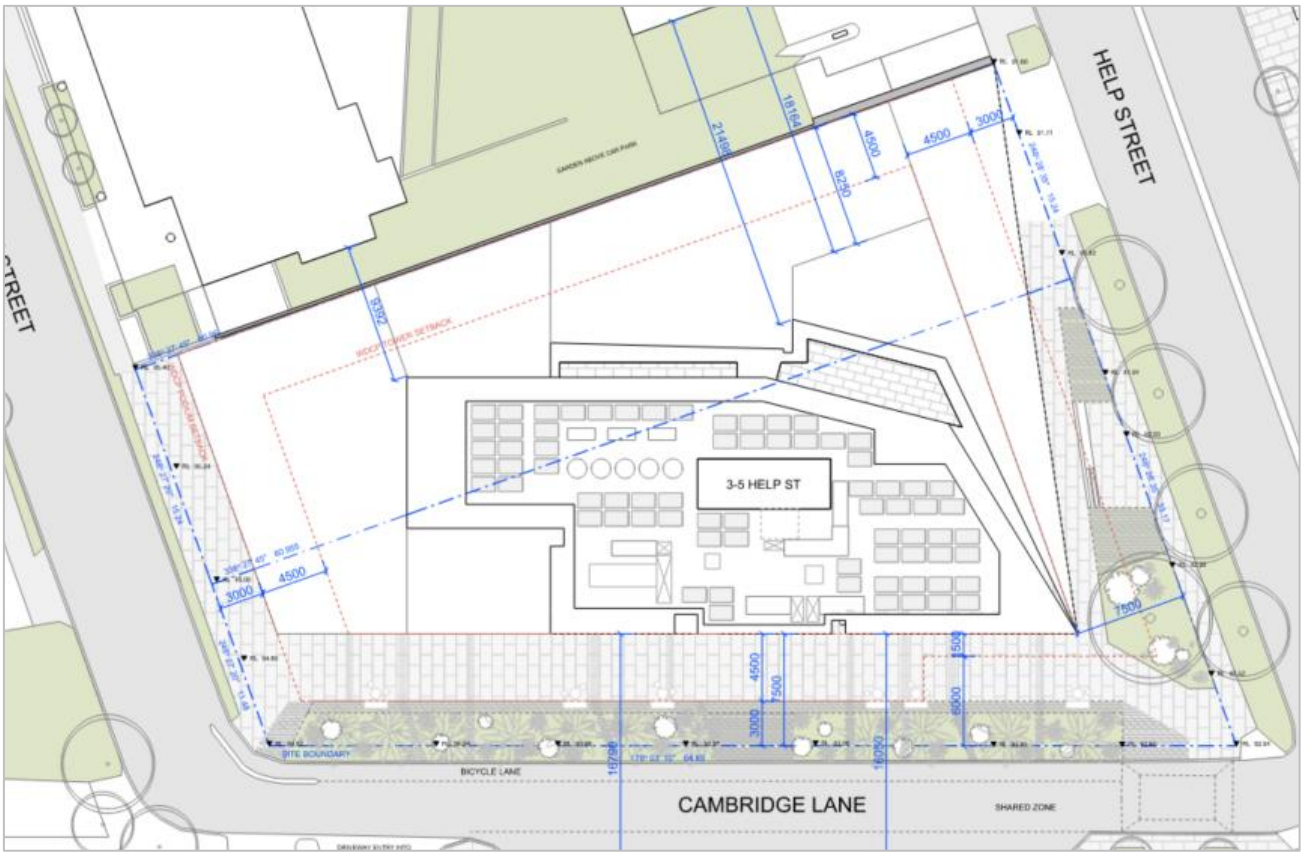


Figure 1: Site Layout

2.1. Information Sources

- National Construction Code (NCC) 2022 Section J Compliance (via J1V3 Performance Solution);
- State Environmental Planning Policy (SEPP) 2022: Sustainable Buildings;
- Building Sustainability Index – Standards for residential development (BASIX) 2022;
- Planning Secretary's Environmental Assessment Requirements (SSD-76555711);
- Willoughby Development Control Plan (DCP) 2023
- NSW Environmental Planning and Assessment Regulation 2021;
- Development Consent: 28.11.25;
- Operational Waste Management Plan 18.05.26;
- BASIX Assessment Report: 20.05.26; &
- Architectural drawings: 15.05.26.

3 National Construction Code (NCC) 2022 Section J Compliance

High-level recommendations are provided below relating to NCC Section J4 glazing, insulation and NCC Section J J9D4 & J9D5 Provisions.

3.1 Insulation

Compliance with NCC Section J 2022 J4 will likely involve the following:

- R2.0-R2.5 insulation batts (approximately 90mm) to external and internal walls between conditioned/non conditioned spaces;
    - Where lightweight walls are present in the thermal envelope, R0.2 thermal breaks are required to be installed between the outer construction layer (FC/Aluminium Cladding) and stud frame housing insulation;
- R1.00 insulation (approximately 25mm if rigid PIR insulation) between floors of conditioned spaces and unconditioned spaces below; &
- R3.30 insulation (approximately 60-70mm if rigid PIR insulation) to ceilings/roofs, with reflective backing facing airspace/ceiling void.

Insulation requirements will be finalised following completion of Section J report in design development.

3.2 Glazing

Glazing requirements will be finalised following completion of Section J report in design development.

3.3 NCC 2022 Section J9 Provisions

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

Table 5: J9D4 Requirements (EV Infrastructure)

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

Solar PV (J9D5)

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

4 BASIX (Class 2 Units & Common Areas)

BASIX certificate (1394390M_08) has been generated that contains water, energy, thermal performance and material requirements for all the buildings to consider and implement in detailed design.

Refer to document: 260520_P079009_BASIX_Report_1.0 for BASIX Thermal Requirements Summary Table. Scores achieved are outlined below.

Table 6: BASIX Scores

	Target	Score
Water	40	52
Energy	25	25
Thermal Performance	Pass	Pass

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

5 Ecologically Sustainable Design

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

5.1 Construction and Waste Management

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

Table 7: Design Initiatives to be Considered for Construction and Waste Management

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

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

5.2 Sustainable Materials

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

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

Table 8: Design Initiatives to be Considered for Sustainable Materials

Initiative	Design Response	Comments
Using responsibly sourced materials.	Selection of timber with FSC certification.	Architect to consider FSC timber where possible.
	Selection of steel from ISO 14001 certified manufacturer.	Project team to ensure requirements for ISO 14001 certified steel manufacturers are prioritised during procurement process.
	Selection of PVC products in line with Best Practice Certificate.	Project team to explore the potential to select Best Practice PVC products.
Reduced embodied emissions due to building materials.	Disclosure of embodied emissions in line with section 3.2 SEPP Development consent for non-residential development of SEPP Sustainable Building Policy.	Embodied emissions disclosure form will be submitted to accompany the S4.55.
	Use of recycled content in products where appropriate. For example, using concrete with fly ash.	The project team will ensure, where practical, that recycled and low embodied carbon materials are incorporated into the design in alignment with the intent of Green Star Credit 21 Upfront Carbon Emissions.
	Selection of major building elements that have Environmental Performance Declarations (EPD's) or third-party certificates.	Architect to consider specifying products with EPDs/third party certificates.

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

5.3 Climate Change Adaptation

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

Table 9: Design Initiatives to be Considered for Climate Change Adaptation

Initiative	Design Response	Comments
Reduce potable water use.	Rainwater tank to reduce potable water consumption of the development and reduce strain on central water infrastructure.	The Basement 1 plan within the Architectural Drawings Set and the BASIX Certificate confirm that provision has been made for a centrally located 5kL rainwater tank to assist in reducing mains potable water consumption.
Reduce heat island effect	Light colour schemes keep the external surfaces of the building cool, reduce impacts of the urban heat island effect & keep naturally ventilated spaces cool.	Architectural Materials Palette confirms the use of light colour external surfaces.
Increased MSSB capacity for effective HVAC systems in case of increased temperatures.	Increasing capacity of mechanical and electrical distribution boards to accommodate an increase in building electrical loads associated with a warming climate.	Mechanical Consultant to consider MSSB capacity that can accommodate increase to peak loads as a result of future climate warming.
Offering areas of respite during extreme weather events	Providing large green spaces with dense tree canopy trees to provide natural shading.	Green terraces and landscaping have been provided on Ground floor, Mezzanine, Levels 1, 2 and 6 as indicated on Architectural Drawing Set.
Resilient infrastructure in case of extreme weather conditions	Ensuring the development is constructed in accordance with recognised standards regarding wind tolerance and impacts from hail/strong winds.	Project team to ensure requirements for resilient infrastructure are considered in accordance with AS standards.
	Identify and mitigate potential climate related risks and improve long-term resilience and operational performance.	Project team to consider preparing a Climate Change Action Plan consistent with the intent of Green Star Credit 16 Climate Change Resilience.

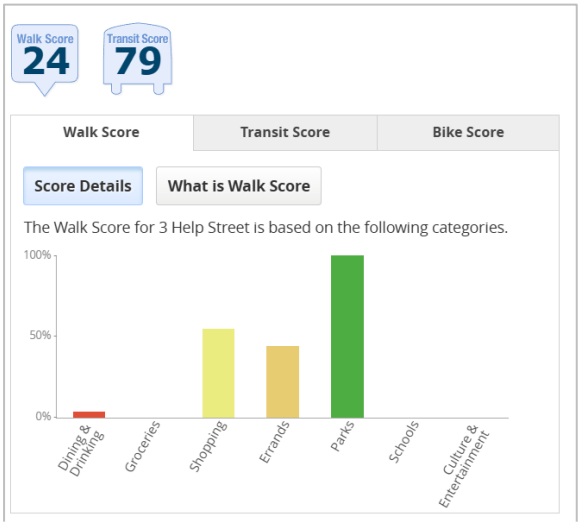
5.4 Transport

The development is located in a Chatswood and has a walk score of 24 and transit score of 79 meaning it is well connected with public transports. Refer to Figure 4 for detailed breakdown of walk score and amenities surrounding the project.

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

Table 10: Design Initiatives to be Considered for Sustainable Transport Facilities

Initiative	Design Response	Comments
Provision of EOT facilities.	Provision of showers & locker facilities for staff.	End of trip facilities have been provided on Mezzanine and Level 1 as indicated on Architectural Drawing Set.
Promoting sustainable transport initiatives.	Provision of EV vehicles parking	Electrical Consultant to ensure requirements for EV vehicle charging are adopted in line with Willoughby DCP &/or J9D4 NCC 2022.
	Provisions of bicycle parking facilities for staff and regular occupants.	Bicycle parking facilities have been provided on Basement 1 and Lower Ground floor as indicated on Architectural Drawings Set.
	Green Travel Plan	As per consent condition E28, a Green Travel Plan will be created prior to OC.



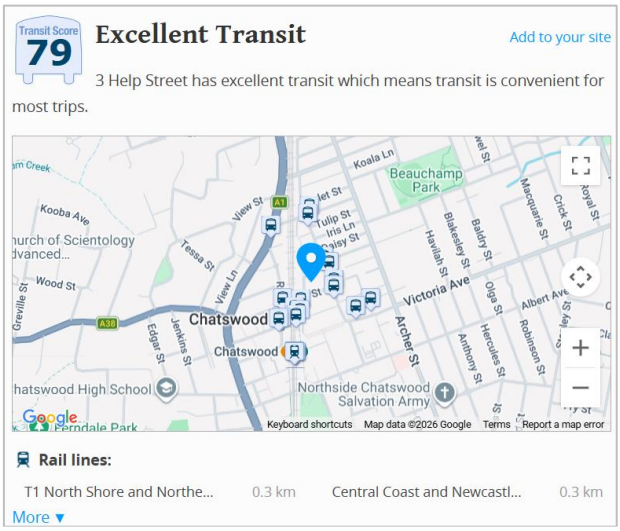


Figure 4: Walk and Transit Score of the development

5.5 Passive Design & Energy Efficiency

To reduce energy consumption through passive design and energy efficiency strategies, the following initiatives will be considered throughout design development:

Table 11: Design Initiatives to be Considered for Passive Design

Initiative	Design Response	Comments
Incorporating passive design techniques to reduce heating, ventilation and cooling requirements.	A light colour roof and façade lowers internal temperatures by minimising the heat being transferred through the building fabric.	Architectural Materials Palette confirms the use of light colour external surfaces.
	Horizontal shading on the northern facades and vertical shading to the eastern and western façade helps in reducing heat loads.	As illustrated in Figure 5, vertical and horizontal shading devices located throughout the tower facade helps to reduce excessive heat gains.
	Thermal mass utilised where possible, helping to smooth out daily temperature peaks and troughs.	Thermal mass in concrete will contribute to an improvement in annual energy consumption.
	Suitably performing glazing to facades, protecting from hot ambient air during summer whilst allowing heat to be kept inside during winter	Refer to Section 3 for glazing performance values suitable for development's location.

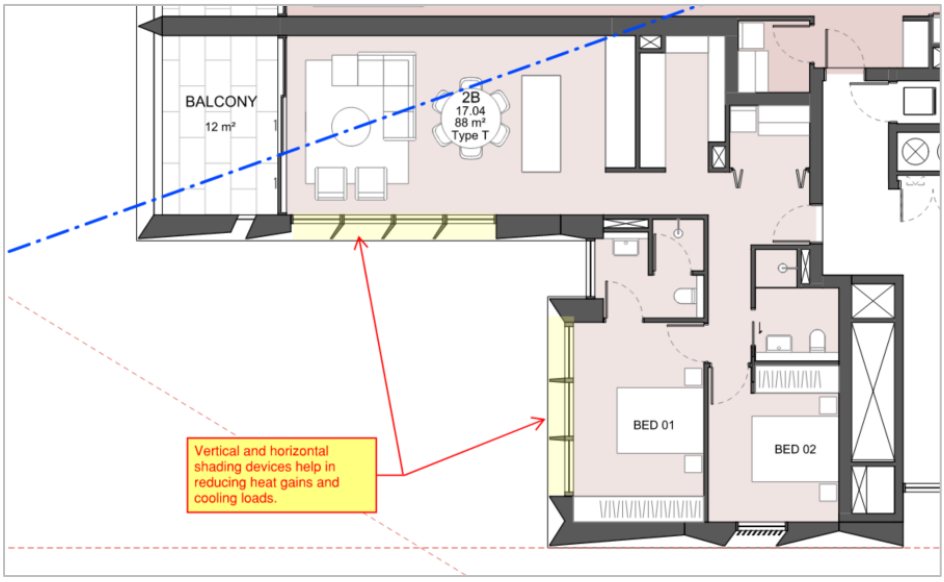


Figure 5: Shading Strategy

Table 12: Design Initiatives to be Considered for Energy Efficiency

Initiative	Design Response	Comments
Reduce energy consumption.	Adopting efficient HVAC systems.	Mechanical Consultant to specify HVAC systems with improved efficiency compared to MEPS.
	Metering in line with minimum performance standards to track and monitor energy consumption.	Electrical Consultant to provide energy meters in accordance with NCC 2022 Section J9D3.
	Exceeding minimum energy efficiency provisions within NCC 2022 Volume 1.	Please refer to Section 3 for NCC 2022 Section J provisions.
	Provision of energy efficient LED lighting throughout with appropriate motion & daylight controls.	Project team to ensure efficient LED lighting & suitable controls are adopted in design.
On-site renewable energy to reduce the load on central grid.	Solar PV systems installed throughout site to provide a portion of the sites power, whilst reducing peak power demands.	28 kW system is capable of being provided as shown on the roof plan.
Net Zero Provisions.	Procurement of offsets in line with section 3.3 Other considerations for large commercial development of SEPP Net Zero Provisions	A Net Zero Statement confirming offset procurement has been issued to accompany S4.55 Application.
Achieving energy efficiency.	Achieve 5.5 Star NABERS Energy as per Section 3.3 Other considerations for large commercial development of SEPP Sustainable Building Policy.	Agreement to Rate executed for S4.55, committing to a 5.5 Star NABERS Base Building Energy Rating for the Commercial Office NLA.

5.6 Water

Potable water demand will be reduced by incorporating the following water-saving initiatives into the design:

Table 13: Design Initiatives to be Considered to Reduce Water Consumption

Initiative	Design Response	Comments
Reduce potable water use.	Installing fixtures and fittings in line with best practice guidelines recommended by Green Star Buildings rating tool.	Interior Architect to select sanitary fixture in line with GBCA best practice WELS ratings.
	Rainwater tank to reduce potable water consumption of the development and reduce strain on central water infrastructure.	The Basement 1 plan within the Architectural Drawings Set and the BASIX Certificate confirm that provision has been made for a centrally located 5kL rainwater tank to assist in reducing mains potable water consumption.
	Use of air-cooled heat rejection HVAC systems	Air cooled HVAC system specified.
Reduced water consumption.	Inclusion of low water use plant species and use of drip irrigation for landscape irrigation.	128.01m^2 of 182.87m^2 total garden area has been designated for indigenous or low water use species with automatic drip irrigation system.
Achieving water efficiency.	Achieve 3 Star NABERS Water as per as per Section 3.3 Other considerations for large commercial development of SEPP Sustainable Building Policy.	Agreement to Rate executed for S4.55, committing to a 3 Star NABERS Water Rating for the Commercial Office NLA.

Table 14: Recommended Water Efficiency of Fixtures & Appliances

Fixture/Equipment Type	WELS Rating
Taps	5 stars
Urinals	5 stars
Toilet	4 stars
Showers	3 stars
Clothes Washing Machines	4 stars
Dishwashers	5 stars

Figure 6: WELS Water Rating Label

5.7 Enhanced Indoor Environment Quality

To improve occupant health and well-being withing the built environment, a series of measures will be considered throughout design development:

Table 15: Design Initiatives to be Considered to Enhance Indoor Environment Quality

Initiative	Design Response	Comments
Reduced exposure to toxins	Adopt low VOC carpets, paints, adhesives and sealants.	Interior Architect to select products with low VOC content.
	Select engineered wood with low formaldehyde content.	Interior Architect to select engineered wood with low formaldehyde content in design.
Elimination of indoor pollutants.	Printing/Photocopying equipment to be in line with minimum emissions standards.	Project team to consider specifying printing/photocopying equipment consistent with the intent of Green Star 10 Clean Air.
Elimination of indoor pollutants.	All pollutants from kitchen and enclosed carparks should be directed to outside.	Mechanical Consultant to ensure requirements for dedicated kitchen and carpark exhaust consistent with the intent of Green Star 10 Clean Air.
Eliminating the risk associated with legionella disease.	Adopting air cooled HVAC systems eliminated the risk associated with legionella disease when cooling towers are installed on site.	Air cooled HVAC system specified, eliminating risk of legionella.

5.8 Land Use & Ecology

The following measures will be implemented to reduce potential negative impacts resulting from urban development and enhance local ecology:

Table 16: Design Initiatives to be Considered to Improve Land Use and Ecology

Initiative	Design Response	Comments
Enhancing local levels of biodiversity.	Indigenous plants & trees allow for deep planting help improve ecological value of the site.	128.01m^2 of 182.87m^2 total garden area has been designated for indigenous or low water use species with automatic drip irrigation system.
Reduce the urban heat island effect.	Light colour schemes to external surfaces and areas of deep soil vegetation.	Material Palette from Architectural Drawing Set confirms the use of light colour external surfaces.
Elimination of stormwater pollutants.	Utilising stormwater and Water Sensitive Urban Design (WSUD) features in line with Willougby DCP 2023.	Project team to ensure measures to reduce stormwater pollutants are aligned with Willougby DCP 2023.
Reduced peak stormwater discharge post development.	Utilising stormwater and Water Sensitive Urban Design (WSUD) features in line with Willougby DCP 2023.	Project team to ensure requirements to reduce peak stormwater discharge post development are aligned with Willougby DCP 2023.
Minimising external light pollution	Outdoor lighting to be designed in accordance with a recognised standard	Project team to fulfill requirements for external lighting as per AS/NZS 4282:2019.

6 Conclusion

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

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

Appendix A: Useful Resources for Detailed Design Investigation

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

Appendix B: Scorecard

Green Star 'Buildings' Scorecard

Project:	**3-5 Help Street**		
Date:	**20/05/2026**	**Points Targeted**	**18**
Completed By:	**Aspire Sustainability Consulting**	**Potential Extra Credits**	**10**
		Targeted Rating	**4 Star**
Aspire SUSTAINABILITY CONSULTING / Green Building Council Australia	This self-assessed scorecard provides a preliminary and indicative evaluation of the project's sustainability performance, outlining the strategies and design measures proposed to achieve sustainable design excellence equivalent to a Green Star rating. This scorecard does not constitute a formal assessment, and is not intended to be used for certification by the Green Building Council of Australia		

Legend

Minimum Expectation	
Credits not targeted	
4 Star Targeted Credits in conjuction with minimum expectations	
Potential Extra Credits	

#	Credit	Level of Achievement	Points Available	Targeted/Not Targeted	Points Targeted	Credit Description	Credit Requirements	Responsibility
Responsible								
1	**Industry Development** The development facilitates industry transformation through partnership, collaboration, and data sharing.	**Credit Achievement**	1	**Targeted**	1	**1.1** The building owner or developer appoints a Green Star Accredited Professional.	1.1.1 GSAP to be engaged no more than one month after registration.	ESD
						1.2 The building owner or developer discloses the cost of sustainable building practices to the GBCA.	1.2.1 Project team to complete Green Star Financial Transparency disclosure template during final stages of project.	QS / HeadContractor
						1.3 The building owner or developer markets the building's sustainability achievements.	1.3.1 Information shall be provided from the project's marketing team answering the submission form questions regarding a Green Star Case Study. The case study seeks information on the sustainability initiatives that the building targeted to enable it being featured on the GBCA's website . 1.3.2 Project team must provide detail regarding how the building will communicate its sustainability achievements to its stakeholders. 1.3.3 Demonstrate the Green Star Certification achieved for the project is prominently displayed in a location that is visible to the public or visitors.	Building Owner
	Responsible Construction	**Minimum Expectation (Mandatory)**	-	**Mandatory**	-	**2.1** The builder or head contractor has an environmental management system in place to manage its environmental impacts on site.	2.1.1 Projects <$10m = builder/contractor to have a Environmental Management System in place, whilst projects >$10m = builder/contractor to be 14001 accredited.	Head Contractor
						2.2 The builder or head contractor has an environmental management plan (EMP) to cover the scope of construction activities.	2.2.1 EMP to be implemented (site-specific) from the start of construction including all works within the project scope.	

2	**Responsible Construction** The builder's construction practices reduce impacts and promote opportunities for improved environmental and social outcomes.					**2.3** The builder diverts at least 80% of construction and demolition waste from landfill.	2.3.1 A Disclosure Statement is required from waste contractors and processing facilities outlining how the company and their reporting aligns with the Green Star Construction and Demolition Waste Reporting Criteria.	
						2.4 The head contractor provides training on the sustainability targets of the building.	2.4.1 The head contractor shall provide training to 95% of all contractors and subcontractors present on site for at least three days relating to information on the sustainable building certification sought, including: - the sustainability attributes of the building and their benefits; - the value of certification; - the role site worker(s) play in delivering a sustainable building .	
		Credit Achievement	**1**	**Targeted**	**1**	**2.5** 90% of construction and demolition waste is diverted from landfill, and waste contractors and facilities comply with the Green Star Construction and Demolition Waste Reporting Criteria.	2.5.1 Waste contractor(s) and processing facilities shall hold a current Green Star Compliance Verification Summary prepared by a Suitably Qualified Waste Auditor.	Head Contractor
3	**Verification and Handover** The building has been optimised and handed over to deliver a high level of performance in operation.	**Minimum Expectation (Mandatory)**	-	**Mandatory**	-	**3.1** The building is set up for optimum ongoing management due to its appropriate metering and monitoring systems.	3.1.1 Metering and monitoring system to be compliant with Green Star credit criteria. 3.1.2 Meters must provide continual information (up to 1-hour interval readings). 3.1.3 Meters shall be commissioned and validated per the most current 'Validating Non-Utility Meters for NABERS Ratings' protocol. 3.1.4 All meters including utility meters and sub-meters to have accuracy declarations and/or certificates. 3.1.5 Sub-meters (non-utility) require either NMI Certificates for accuracy or a from the European Measuring Instruments Directive - 2004/22/CE test certificate. 3.1.6 Where the building's Gross Floor Area (excluding car parking areas) is smaller than 1000m2, unless specialist equipment with an annual power consumption of 100kwh/annum, is present in the building, a single meter for energy and a single meter for water will comply with this minimum requirement. If accessible to the building manager, the utility meter is acceptable provided it meets accuracy and data collection requirements above.	Services
							3.1.7 The monitoring system must accurately and clearly present the metered data and include reports on consumption trends for the automatic monitoring system. 3.1.8 The monitoring strategy must be developed in accordance with a recognised Standard, such as CIBSE TM39 Building Energy Metering. 3.1.9 The monitoring strategy must include a metering schedule and identify the location and types of meters. 3.1.10 The monitoring system must raise an alarm when the energy or water use increases beyond certain parameters and automatically issue an instant alert to the facilities manager. The process to assess, correct and validate alerts or faults must be detailed and contained in an accessible location. The project team must demonstrate the reporting and alarm functionality has been designed, installed, commissioned, and tested at practical completion to be awarded this credit. System capability for future implementation is not sufficient.	Services
						3.2 The building has set environmental performance targets, designed and tested for airtightness, been commissioned, and will be tuned.	3.2.1 Prior to construction: - Set environmental performance targets; - Perform a services and maintainability review; & - Design for airtightness. 3.2.2 During construction and practical completion: - Commission the building; - Engage building tuning service provider; & - Test for airtightness. 3.2.3 After practical completion: - Quarterly building tuning over first 12 months of operations.	Services / Building Owner / Head Contractor / ICA
						3.3 The project team create and deliver operations and maintenance information to the facilities management team at the time of handover. Information is available to building users on how to best use the building.	3.3.1 Head Contractor to provide building owner all operations and maintenance information for all nominated building systems. 3.3.2 Head Contractor to provide building owner a building logbook in accordance with credit criteria before practical completion. 3.3.3 Head Contractor to provide building owner a Building User Information (Building Users Guide).	Head Contractor / Building Owner / ICA
	Independent Commissioning Agent	**Credit Achievement**	**1**	**TBC**	**1**	**3.4** An independent level of verification is provided to the design, planning, commissioning and tuning activities through the involvement of an independent commissioning agent.	3.4.2 An ICA shall be appointed to advise, monitor, and verify the commissioning and tuning of all nominated building systems throughout the design, tender, construction, commissioning, and tuning phases. Commissioning activities must be overseen by a qualified independent commissioning professional(s).	Head Contractor / Building Owner / ICA

4	**Responsible Resource Management** Operational waste and resources can be separated and recovered in a safe and efficient manner.	**Minimum Expectation (Mandatory)**	-	**Mandatory**	-	**4.1** The building is designed for the collection of separate waste and resource streams.	4.1.2 Collection of Waste Streams Bins or storage containers must be provided to building occupants to enable them to separate their waste. All bins must be labelled, easy to access and evenly distributed throughout the building. They must also allow for separating the following as a minimum: - General waste going to landfill; - Recycling streams to be collected by the building's waste collection service, including: - paper and cardboard; - glass; & - plastic . - One additional waste stream identified by the project team. This may include collecting any of the following waste types: organics, e-waste, batteries etc.	Waste Consultant
						4.2 The building provides a dedicated and adequately sized waste and resource storage area.	4.2.1 Dedicated waste area(s) are required to cater for all waste streams & shall be sized for at least one collection cycle. Waste generation rates must be based on figures outlined within third-party best practice guidelines.	Waste Consultant
						4.3 The building ensures safe and efficient access to waste and resource storage areas for both occupants and waste and resource collection contractors.	4.3.1 The storage area(s) must have efficient and safe access by collection vehicles. This includes driveway access to the building, appropriate height clearances, any onsite roads and loading docks, and the storage areas themselves providing safe and easy access for bins to be emptied into collection vehicles.	Waste Consultant
						4.4 Signoff by Waste Specialist and/or Contractor	4.4.1 A waste specialist and/or contractor must sign-off on the designs to confirm they are adequately sized and located for the safe and convenient storage and collection of the waste streams identified.	Waste Consultant
5	**Responsible Procurement** The procurement process for key products, materials, and services for the building's design and construction follows best practice environmental and social principles.	**Credit Achievement**	**1**	**Not Targeted**	-	**5.1** The building's design and construction procurement processes follow ISO 20400 Sustainable Procurement – Guidance by undertaking a risk and opportunities assessment.	5.1.1 Prior to appointment of the Head Contractor, the project team must undertake a risk and opportunities assessment of 10 or more key items in the project's supply chain (as selected by the project team) to identify environmental, social and human health risks, and opportunities following ISO 20400 Sustainable Procurement – Guidance. The assessment must be completed by the design team with input from the building owner. At least one of each of the following three areas must be represented in the 10 items: - Building Services; - Plant & Equipment; & - Materials.	Building Owner / Architect / ESD
						5.2 A responsible procurement plan is developed to mitigate risks and implement opportunities identified in the assessment.	5.2.1 A Responsible Procurement Plan that addresses the 10 or more identified items.	Building Owner / Architect / ESD
6	**Responsible Structure** The building's structure is comprised of responsibly manufactured products.	**Credit Achievement**	**3**	**Not Targeted**	-	**6.1** ≥50% of all structural components (by cost) meet a Responsible Products Value of at least 10.	6.1.1 Responsible Products Value calculator to be completed. Please see: https://new.gbca.org.au/green-star/rating-system/responsible-products-framework/ regarding structural product compliance.	Structural Engineer
	≥80% structural products meet RPV10	**Exceptional Performance**	**2**	**Not Targeted**	-	**6.2** ≥80% of all products in the structure (by cost) meet a Responsible Products Value of at least 10. **6.3** ≥10% of all products in the structure (by cost) meet a Responsible Products Value of at least 15.		
7	**Responsible Envelope** The building's envelope is comprised of responsibly manufactured products.	**Credit Achievement**	**2**	**Not Targeted**	-	**7.1** ≥30% of all building envelope components (by cost) meet a Responsible Products Value of at least 10.	Refer to comments contained within 6.1.1.	Architect / Head Contractor
	≥60% envelope products meet RPV10	**Exceptional Performance**	**2**	**Not Targeted**	-	**7.3** ≥60% of all products in building envelope (by cost) meet a Responsible Products Value of at least 10. **7.4** ≥10% of all products in building envelope (by cost) meet a Responsible Products Value of at least 15.		
8	**Responsible Systems** The building's mechanical, hydraulic, transportation and electrical systems are comprised of responsibly manufactured products.	**Credit Achievement**	**1**	**Not Targeted**	-	**8.1** ≥20% of all active building systems (by cost) meet a Responsible Products Value of at least 6.	Refer to comments contained within 6.1.1.	Services / Head Contractor
	≥35% building systems meet RPV6	**Exceptional Performance**	**2**	**Not Targeted**	-	**8.3** ≥35% of all active building systems (by cost) meet a Responsible Products Value of at least 6 **8.4** ≥5% of all active building systems (by cost) meet a Responsible Products Value of at least 11		
							At least 40% of all internal building finishes (by cost) must meet a Responsible Products Value of at least 7. Internal finishes include flooring, plasterboard, paints, ceilings, partitions, doors, internal windows or similar. Joinery used as part of a wall finish may be counted, e.g., wall panelling or fixed shelving/cupboards that make up a partition. Sealants and adhesives used for finishes are also included. Loose furniture is not included. Good practice products (RPV ≥ 7): • The schemes are accepted:	Architect / Head Contractor

9	**Responsible Finishes** The building's internal finishes are comprised of responsibly manufactured products.	**Credit Achievement**	**1**	**Not Targeted**	**-**	**9.1** ≥40% of all internal building finishes (by cost) meet a Responsible Products Value of at least 7.	– Climate Active Carbon Neutral for Products & Services – Cradle to Cradle Certified Version 4.0 --> Bronze --> Silver --> Gold --> Platinum – Declare 2.0 Red List Free – ECNZ Building Insulants (EC 25-17) – ECNZ Furniture, Fittings & Floorings (EC 32-17) – ECNZ Paints (EC 07-18) – ECNZ Pre-painted and resin-coated steel products (EC 57-16) – FSC Certification – GECA Adhesives, Fillers and Sealants (AFS v4.0ii-2014) – GECA Building Insulation Materials (BIMv2.0i-2018) – GECA Carpets (C v3.0-2021) GECA Floor Coverings (FC v3.0-2021) – GECA Cement, Concrete & Concrete Products (CCPv1.0ii-2017) – GECA Furniture and Fittings (FF v3.1i-2017) – GECA Furniture, Fittings, Foam and Mattresses (FFFM v3.1i-2017) – GECA Hard Surfacing (HSv2.0i-2019) – GECA Paints and Coatings (PC v2.3i-2012) – GECA Panel Boards (PB v3.0-2021) – GECA Recycled Products (RPv1.0ii-2015) – GECA Sustainable Products and Services (SPSv2.0i-2020) – GreenRate Level A – HealthRATE Platinum – HealthRATE Gold – HealthRATE Silver – Responsible Wood • Declare 2.0 Red List Free • The following combinations are accepted: – Declare 2.0 Red List Approved + Any of the above listed standards – Declare 2.0 - Red List Free + Any of the above listed standards	Architect, Head Contractor
		Exceptional Performance	**0**	**Not Targeted**	**-**	**9.2** ≥60% of all internal building finishes (by cost) meet a Responsible Products Value of at least 7. 9.3 ≥10% of all internal building finishes (by cost) meet a Responsible Products Value of at least 12.	At least 60% of all internal building finishes (by cost) must meet a Responsible Products Value of at least 7. Best practice products (RPV ≥ 12) • Reused products or building components • The following combinations are accepted: – Climate Active Carbon Neutral for Products & Services + Product Specific or Industry Wide EPD – Cradle to Cradle Certified Version 4.0 --> Bronze --> Silver --> Gold --> Platinum – FSC Certification + Climate Active Carbon Neutral for Products & Services – FSC Certification + Product Specific EPD or – Industry Wide EPD – GECA (any of the above mentioned standards in this credit) + Climate Active Carbon Neutral for Products & Services – GECA (any of the above mentioned standards in this credit) + Product Specific EPD or Industry Wide EPD – GreenRate Level A + Climate Active Carbon Neutral for Products & Services – GreenRate Level A + Product Specific EPD or Industry Wide EPD – HealthRATE Platinum + Product Specific or Industry Wide EPD – HealthRATE Gold + Product Specific or Industry Wide EPD – HealthRate Silver + Product Specific or Industry Wide EPD – HealthRATE Platinum + Climate Active Carbon Neutral for Products & Services – HealthRATE Gold + CLimate Active Carbon Neutral Certification for Products and Services – HealthRATE Silver + Climate Active Carbon Neutral Certification for Products and Services – Responsible Wood – Vinyl Council of Australia Best Practice PVC + Climate Active Carbon Neutral for Products & Services	Architect / Head Contractor
Total			**17**		**3**		

Healthy

10	**Clean Air** Pollutants entering the building are minimised, and a high level of outdoor air is provided to ensure levels of indoor pollutants are maintained at acceptable levels. **Residential Class 2 or 3 buildings**	**Minimum Expectation (Mandatory)**	**-**	**Mandatory**	**-**	**10.1** Levels of indoor pollutants are maintained at acceptable levels.	10.1.1 Class 2 and Class 3 building ventilation systems must be designed to comply with the separation distances as outlined in the GS guideline. The table below is based on the Australian Standards 1668.2:2012 (table 3.4) and applied in the same way. 10.1.2 All new and existing ductwork that serves the building must be cleaned prior to occupation in accordance with a recognised Standard.	Mechanical
						10.2 A high level of outdoor air is provided.	10.2.2 Mechanical ventilation providing outdoor air as per AS1668.2:2012 for the default occupancy OR Building is naturally ventilated as per AS1668.4:2012.	Mechanical
						10.3 Pollutants entering the building are minimised.	10.3.1 Pollutants from printing and photocopying equipment, cooking processes and equipment are limited from the regularly occupied areas by either: - Removing the source of pollutants - Exhausting the pollutants directly to the outside.	Mechanical

	Residential Class 2 or 3 buildings	Credit Achievement	2	Not Targeted	-	**10.4** The building's ventilation systems allow for easy maintenance.	10.4.1 Requires adequate access to both sides of all moisture and debris-catching components for maintenance within the air distribution system. 10.4.2 Exemptions may apply - refer Guidelines	Mechanical
						10.5 A high level of outdoor air is provided.	10.5.2 Mechanical ventilation providing 50% improvement of outdoor air over AS1668.2:2012 for the default occupancy OR Building is naturally ventilated as per AS1668.4:2012 plus ventilators that are independent of any mechanical extract fans (15,000mm2 per bedroom and living space, minimum total ventilator area of 40,000mm2 per dwelling).	Mechanical
11	**Light Quality** The building provides good daylight and its lighting is of high quality.	Minimum Expectation (Mandatory)	-	Mandatory	-	**11.1** Lighting within the building meets minimum comfort requirements.	• All LED lighting installed across the whole project has no observable effect as per the standard IEEE 1789-2015 - IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers • Light sources must have a minimum Colour Rendering Index (CRI) 85 or higher, in all internal and external applications • Light sources must meet best practice illuminance levels for each task within each space type with a maintained illuminance that meets the levels recommended in AS/NZS 1680.1:2006 series applicable to the project type and including maintenance • The maintained Illuminance values must achieve a uniformity of no less than that specified in Table 3.2 of AS/NZS 1680.1:2006, with a maintenance factor method as defined in AS/NZS 1680.4 • All light sources must have a MacAdam Ellipse or a Standard Deviation Colour Matching (SDCM) of 3 or lower.	Electrical
	11.2 Prescriptive Method					**11.2** Glare from light sources must be limited within the regularly occupied areas.	11.2.1 Light sources fitted with baffles, louvers, translucent diffusers, ceiling design, or other means to avoid glare. OR The Unified Glare Rating (UGR), estimated from data sheets, not to exceed values listed in Table 8.2 of AS/NZS 1680.1:2006.	Electrical
						11.3 The building provides adequate levels of daylight.	11.3.1 Daylight access to exceed the typical relevant federal, state, or local regulations. 5 minimum requirements: - Maximise number of occupants in or near daylit areas - Regularly occupied areas to be in reasonable proximity to glazed façades, windows, or skylights - Glare from daylight to be controlled or mitigated - Maximise daylight to spaces that prioritise learning, healing, and living - Occupants to have unrestricted access to daylit indoor public common spaces	Architect / ESD
	11.4 Artificial Lighting	Credit Achievement	2	Not Targeted	-	**11.4** The building provides best practice artificial lighting.	11.4.1 The artificial lighting solution must address the following: • Horizontal illuminance levels ≥ levels in AS/NZS 1680 for at least 90% of the GFA • At least one wall in the field of view of a regularly occupied area is to be illuminated to create demonstrable contrast and visual interest. The total area of illuminated wall must represent at least 20% of the area of walls in the field of view • For all regularly occupied workplaces, ensure that 50% of the horizontal task illuminance reaches the average eye height for 90% of primary spaces using vertical illuminance calculation grid.	Electrical
	11.4 Access to Daylight - Residential	Exceptional Performance	2	Not Targeted	-	**11.4** The building provides best practice access to daylight.	11.4.3 ≥60% of living and bedroom area of each unit must receive 160 lux due to daylight during 80% of the nominated hours (kitchens excluded). Each bedroom and living area to achieve ≥20%.	Electrical
							11.4.4 Glare from sunlight through all viewing façades and skylights must be reduced through a combination of blinds, screens, fixed devices, or other means.	Architect
12	**Acoustic Comfort** The building provides acoustic comfort for building occupants.	Minimum Expectation (Mandatory)	-	Mandatory	-	**12.1** An Acoustic Comfort Strategy is prepared to describe how the building and acoustic design aims to deliver acoustic comfort to the building occupants.	12.1.1 An Acoustic Comfort Strategy must be prepared by a qualified acoustic consultant, describing how the building design will deliver acoustic comfort to the building occupants.	Acoustic Consultant
	Residential (Class 2, 3 & 9a)	Credit Achievement	2	Not Targeted	-	2 of 3 initiatives required	• Maximum Internal Noise Levels • Acoustic Separation • Impact Noise Transfer	Acoustic Consultant
13	**Exposure to Toxins** The building's occupants are not directly exposed to toxins in the spaces they spend time in.	Minimum Expectation (Mandatory)	-	Mandatory	-	**13.1** The building's paints adhesives, sealants, and carpets are low in TVOC or non-toxic. **13.2** The building's engineered wood products are low in TVOC or non-toxic. **13.3** Occupants are not exposed to banned or highly toxic materials in the building.	13.1.1 Refer to the Guidelines for maximum VOC levels. 13.2.1 Refer to the Guidelines for maximum Formaldehyde levels. 13.3.1 A comprehensive hazardous materials survey must be carried out on any existing buildings or structures on the project site, in accordance with the relevant Environmental and Work Health and Safety (WHS) legislation. Where the survey identified asbestos, lead, or PCBs in any existing buildings or structures, the materials must be stabilised or removed and disposed of in accordance with best practice guidelines.	Architect / Services / Head Contractor / Building Owner

		Credit Achievement	2	**Targeted**	2	**13.4** On-site tests verify the building has low Volatile Organic Compounds (VOC) and formaldehyde levels.	13.4.1 Testing must take place after practical completion and prior to occupants moving into the building. 13.4.2 At least three samples are to be taken per floor. For multi-storey buildings refer to the Guidelines for No of floors to be tested. 13.4.3 TVOC concentration ≤0.27 ppm, Formaldehyde concentration ≤0.02 ppm	Head Contractor
14	**Amenity and Comfort** The building provides internal amenities that improve occupant experience of using the building.	**Credit Achievement**	2	**Not Targeted**	-	**14.1** The building has dedicated amenity rooms to act as a parent room, relaxation room, or an exercise room.	14.1.1 The building includes one or several rooms designed to promote either inclusivity, mindfulness or exercise for staff or occupants (Parent room, Relaxation, meditation, or prayer room, Exercise room). 14.1.2 The size of the room is calculated at a ratio of 1m² per every 10 staff or occupants; The room must be no smaller than $10m^2$ 14.1.3 In addition, the room(s) must meet the following: - Credit Achievement for the Light Quality credit - Credit Achievement for the Acoustic Comfort credit - The 'Equal access to the building' criterion of the Design for Inclusion credit.	Architect
15	**Connection to Nature** The building fosters connection to nature for building occupants. **Plants & Nature-inspired Design**	**Credit Achievement**	1	**Not Targeted**	-	**15.1** The building provides views.	15.1.1 At least 60% of regularly occupied areas must have a clear line of sight to a high quality internal or external view. All floor areas within 8m from a compliant view meet this credit criterion.	Architect
						15.2 The building includes indoor plants and incorporates nature-inspired design.	15.2.1 Indoor plants must be provided in regularly occupied areas, pland soil area ≥500cm² for every 15m² of regularly occupied spaces. A maintenance plan is required, covering: • A 2-year contract • A schedule of plants • Service intervals • Policy regarding the maintenance of soil moisture, pH, nutrients, and pests, diseased plant replacemen, cutting back of old growth or exchange if needed. • Cleaning requirements and commitments	Architect
Total			**13**					
Resilient								
16	**Climate Change Resilience** The building has been built to respond to the direct and indirect impacts of climate change.	**Minimum Expectation (Mandatory)**	-	**Mandatory**	-	**16.1** The project team completes the climate change pre-screening checklist. The project team communicates the building's exposure to climate change risks to the applicant.	Checklist to include, but not limited to: - Direct damage or failure of project components - Accelerated deterioration of project components or reduced design life - Reduced operating capacity - Climate hazard impacts to surrounding areas (e.g., impacting access and egress) - Impacts to the health and wellbeing of building occupants and other relevant stakeholders - Indirect risks from impacts to other interdependent systems and services (e.g., transport networks, power, water, telecommunications)	Building Owner / Services / ESD
		Credit Achievement	1	**TBC**	1	**16.2** The project team develops a project-specific climate change risk and adaptation assessment for the building. **16.3** Extreme and high risks are addressed.	16.2.1 A suitably qualified professional must undertake a climate change risk and adaptation assessment and author a report. 16.2.2 Treatment options to be provided for risks identified as 'extreme' or 'high'. 16.3.1 All risks rated as 'Extreme' must be addressed through specific design responses 16.3.2 All risks rated as 'High' must be addressed through design or future operational responses 16.3.3 Regardless of risk rating, at least two risks identified in the assessment must be addressed by specific design responses.	ESD
17	**Operations Resilience** The building can respond to acute shocks and chronic stresses that can affect its operations over time.	**Credit Achievement**	2	**Not Targeted**	-	**17.1** The project team undertakes a comprehensive review of the acute shocks and chronic stresses likely to influence future building operations.	17.1.1 A suitably qualified professional must author an operations resilience assessment that addresses at minimum: Shocks - Failure of critical infrastructure (power, water and digital) - Health pandemic - Water security - Geological hazards (landslides, earthquakes, tsunamis) - Direct attack (cyber and physical) - Stresses - Ageing infrastructure - Rising cyber dependency - Increasing energy costs - Lack of transport accessibility and availability	ESD / Risk Management Consultant
						17.2 The building's design and future operational plan addresses any high or extreme system-level interdependency risks.	17.2.1 All risks rated as 'Extreme' must be addressed through specific design responses 17.2.2 All risks rated as 'High' must be addressed through design or future operational responses 17.2.3 Regardless of risk rating, at least two risks identified in the assessment must be addressed by specific design responses	

							17.3.1 The building's design must account for: - The design purpose of the building, and the potential for the building to be occupied in the case of a blackout. - The needs of occupants in a blackout (e.g. community refuge or similar). - The servicing needs of that building to ensure the occupants are safe during the blackout. - The appropriate duration that the building can maintain its design purpose during the blackout. - How the building can remain safely habitable after a blackout (specifically fire systems, ventilation, temperature, water pumping and vertical transportation). - How the building will be able to operate in island mode (loss of internet for the BMS ans/or if powered on-site).	
18	**Community Resilience** The building contributes to improving the resilience of the community.	**Credit Achievement**	1	**Not Targeted**	-	**18.1** A suitably qualified professional must author a community resilience plan in accordance with the Guidelines.	18.1.1 The project team undertakes a needs analysis of the community, identifies shocks and stresses that impact the building's ability to service the community, and develops responses to manage these. 18.1.2 The two most significant impacts identified are to be dealt with specifically through the building's design 18.1.3 At least one community capacity building activity to be undertaken prior to or during construction.	ESD / Community Engagement Consultant
19	**Heat Resilience** The building reduces its impact on heat island effect.	**Credit Achievement**	1	**TBC**	1	**19.1** At least 75% of the whole site area comprises of one or a combination of strategies that reduce the heat island effect.	19.1.1 Strategies may include: - Vegetation and/or Green roofs; - Roofing materials, including shading structures, having the following: - For roof pitched <15°– a three-year SRI of minimum 64; OR - For roof pitched >15°– a three-year SRI of minimum 34. - Unshaded hard-scaping elements with a three-year SRI of minimum 34 or an initial SRI of minimum 39; - Hardscaping elements shaded by overhanging vegetation; - Water bodies and/or water courses; - An area shaded by permanent structures at noon during summer solstice.	ESD / Architect
20	**Grid Resilience** The building contributes to the functioning of the grid as it transitions to a higher level of renewable energy capacity. **Active Generation and Storage Systems**	**Credit Achievement**	3	**Not Targeted**	-	The project must comply with at least one of the criteria: • Active Generation and Storage Systems • Demand Response • Passive Design Solutions 20.1 The building provides active generation and storage systems.	20.1.1 Building annual peak electricity demand can be reduced by 10% for at least a one-hour period.	Electrical / Mechanical
Total			**8**					

Positive

	Upfront Carbon Emissions The building's upfront carbon emissions from materials and products have been reduced and offset.	**Minimum Expectation (Mandatory)**	-	**Mandatory**	-	**21.1** Building's upfront carbon emissions reduction ≥10%, excl. demolition.	To demonstrate compliance, project teams can either: - Model the proposed and reference buildings following the methodology of the Life Cycle Impacts credit for modules A1 to A5; - Complete the Upfront Carbon Emissions calculator. The GBCA's Upfront Carbon Emissions calculator uses Modules A1 to A3 to calculate compliance. Projects must document a reduction in upfront carbon according to the materials and products in the scope. Module D is excluded. Materials with a GWPT of less than zero (bio-based materials) are treated as having a GWPT of zero. See Guidance for more information.	ESD / Structural / Head Contractor

21 Upfront Carbon Emissions calculator	**Credit Achievement**	**3**	**Targeted**	**3**	**21.2** Building's upfront carbon emissions reduction ≥20%. **21.3** Demolition works are offset. Note: Mandatory for 5/6-star Ratings OR Climate Positive Pathway	Above criteria applies, however with increased embodied emission reduction targets.	ESD / Structural / Head Contractor
	Exceptional Performance	**3**	**Not Targeted**	**-**	**21.4** Building's upfront carbon emissions reduction ≥40%, excl. demolition	Above criteria applies, however with increased embodied emission reduction targets.	ESD / Structural / Head Contractor
22 **Energy Use** The building has low energy consumption.	**Minimum Expectation (Mandatory)**	**-**	**Mandatory**	**-**	**22.1** The building's energy use is at least 10% less than a reference building. **22.2** 5.5 Stars NABERS Offices **22.3** NatHERS Avg 6.5 Star and 5 Star for each SOU	Please refer to Submission Guidelines for detailed pathway descriptions.	ESD / Services
	Credit Achievement	**3**	**TBC**	**3**	**22.1** The building's energy use is at least 20% less than a reference building. **22.2** 5.5 Stars NABERS Offices plus 25% modelling margin **22.3** NatHERS Avg 7 Star and 5.5 Star for each SOU, 20% improvement on BASIX	Please refer to Submission Guidelines for detailed pathway descriptions.	ESD / Services
	Exceptional Performance	**3**	**Not Targeted**	**-**	**22.1** The building's energy use is at least 30% less than a reference building. **22.2** 6 Stars NABERS Offices **22.3** NatHERS Avg 8 Star and 6 Star for each SOU, 30% improvement on BASIX	Please refer to Submission Guidelines for detailed pathway descriptions.	ESD / Services

23	**Energy Source** The building's energy comes from renewables.	**Minimum Expectation (Mandatory)**	-	**Mandatory**	-	**23.1** The building provides a Zero Carbon Action Plan.	23.1.1 The project team must develop a Zero Carbon Action Plan for the building in accordance with the Guidelines. The plan must be signed off by the building owner or developer and included in any operational documents for the building. 23.1.2 The outcomes of the Zero Carbon Action Plan must be integrated with other Green Star credits targeted during certification. For example, any performance targets or activities relating the Zero Carbon Action Plan should be outlined in the Verification and Handover credit.	ESD / Services
		Credit Achievement	**3**	**Targeted**	**3**	**23.2** 100% of the building's electricity comes from renewable electricity.	23.2.1 All electricity under the control of the building owner or operator must be accounted for and sourced from renewables. 23.2.2 Electricity use for tenant loads is excluded from this credit. 23.2.3 Both on-site and off-site renewables are acceptable. 23.2.4 If off-site renewables are used, the building owner must sign a renewable energy contract. The shortest contract length is: - Five years; - Where the building is owned and managed by an entity that has signed to the Global Commitment for Net Zero Carbon Buildings managed by WorldGBC, the shortest contract length is three years; - Other commitments may be acceptable through a Technical Question. Part of a corporate power purchasing agreement for a building portfolio can form the contract.	Building Owner
		Exceptional Performance	**3**	**Not Targeted**	-	**23.3** 100% of the building's energy comes from renewables. Mandatory for 5/6-star Ratings OR Climate Positive Pathway	23.3.1 All energy under the control of the building owner/operator and all non-electricity energy provided for uses that are not under the building owner's control must be sourced from renewables. 23.3.2 Fossil fuels cannot be used on site for any domestic hot water, space heating or cooking under any circumstances regardless of base build or tenant use. Fossil fuels for industrial processes are excluded from the assessment. 23.3.3 Any fossil fuels used for emergency power or laboratory equipment must be less than 1% of the total building energy consumption and be offset for the first five years of operation. 23.3.4 Both on-site and off-site renewables are acceptable. 23.3.5 For off-site renewables, the building owner must sign a renewable energy contract. The shortest contract length is: - Five years - Where the building is owned and managed by an entity that has signed to the Global Commitment for Net Zero Carbon Buildings managed by WorldGBC, the shortest contract length is three years. Other commitments may be acceptable through a Technical Question. The contract can be part of a corporate power purchasing agreement for a building portfolio.	Building Owner
24	**Other Carbon Emissions** The building's emissions from refrigerants, upfront carbon, and remaining carbon sources are eliminated or offset.	**Credit Achievement**	**2**	**Not Targeted**	-	**24.2** The building owner offsets emissions from refrigerants. Note: Mandatory for 5 and 6-star certification OR Climate Positive Pathway	24.2.1 100% of carbon emissions from refrigerants must be offset. 24.2.2 Carbon emissions are calculated by multiplying the initial refrigerant charge by its Global Warming Potential (GWP) for each type of refrigerant present in the building and adding the emissions together. 24.2.3 Includes all refrigerants from building systems or domestic appliances provided by the building.	Building Owner / Mechanical
	Offset Refrigerant Emissions							Building Owner / Mechanical
		Exceptional Performance	**0**	**Not Targeted**	-	**24.3** Compliance with the Credit Achievement must be achieved. **24.4** All other emissions not captured in the Positive category are eliminated or offset. Note: Mandatory for 6-star certification	24.4.1 The project Team must calculate and offset: - Emissions from the building's electricity use (as determined in the Energy Use credit) multiplied by the grid emissions factor - Emissions from the building's energy use as determined in the Energy Use credit - The Climate Change impact category for modules A1 – A5 - Any other carbon emissions over 1% of the total carbon emissions profile for the building (significant emissions).	Building Owner
	Water Use The building has low water use. **Efficient Fixtures**	**Minimum Expectation (Mandatory)**	-	**Mandatory**	-	**25.1** The building installs efficient water fixtures.	25.1.1 Fixtures and appliances to achieve the following WELS ratings: - Taps: 5-star WELS; - Urinals: 5-star WELS; - Toilets: 4-star WELS; - Showers: 3-star WELS; - Washing Machines: 4-star WELS; - Dishwashers: 5-star WELS.	Architect / Hydraulic

25	**Credit Achievement**	**3**	**Targeted**	**3**	**25.2** The building uses 45% (40% for Class 2 and Class 3 buildings) less potable water compared to a reference building. **25.3** The building has infrastructure for recycled water connection.	25.3.1 The GBCA's Water Use calculator to be used for calculation of water efficiency compared to a reference building. Water reuse systems are included in the calculator. 25.4.1 The building must have infrastructure for recycled water in a district or location where local council or water authorities (or similar) have planned for installation of recycled water infrastructure.	ESD / Civil / Hydraulic
26 **Life Cycle Impacts** The building has lower environmental impacts from resource use over its lifespan than a typical building.	**Credit Achievement**	**2**	**TBC**	**2**	**26.1** The project demonstrates a 30% reduction in life cycle impacts when compared to standard practice following the methodology outlined in the Guidelines.	26.1.1 The reduction in life cycle impacts must be demonstrated through a whole-of-building, whole-of-life (cradle to grave) comparative Life Cycle Assessment (LCA), as defined by EN 15978. 26.1.2 All EN 15978 modules (A to D) must be included in the assessment. 26.1.3 The results of the LCA must be entered into the GBCA's Life Cycle Assessment calculator, which will apply normalisation and weightings to the results to determine compliance with the credit. 26.1.4 Results are to be reported in the functional unit of per square metre of Gross Floor Area (GFA). 26.1.5 The reduction must be reported against the impact categories as per the table in the Guidelines, page 172.	ESD / Structural / Architect / Head Contractor
Total		**28**					

Places

27 **Movement and Place** The building's design and location encourage occupants and visitors to use active, low carbon, and public transport options instead of private vehicles.	**Minimum Expectation (Mandatory)**	**-**	**Mandatory**	**-**	**27.1** The building includes showers and changing facilities for building occupants.	27.1.1 No of showers: - 0-49 occupants - 1 unisex shower - 50-99 occupants - 2 showers - 100-200 occupants - 4 showers - 200+ occupants - additional 1 per 200 occupants above 200 27.1.2 One locker must be provided for every eight regular building occupants or staff. The lockers must be secure and located in the changing rooms, not tenancies.	Architect
					27.2 The facilities are accessible, inclusive, and located in a safe and protected space.	27.2.1 Upon accessing, pedestrians and cyclists must be protected from the elements and other vehicles. 27.2.2 Access must be safe, with consideration given to avoiding steep gradients, surface grip levels, and visibility around tight corners. 27.2.3 Access to the facilities must be well lit between entryway to bike parking, all amenities and lift lobbies and main access points to the building. 27.2.4 All regular building occupants or staff must have easy access to lockers, showers, and building entry. 27.2.5 Occupants must be able to find the facilities thanks to clear signage throughout the building and access points.	Architect
	Credit Achievement	**3**	**Targeted**	**3**	**27.1** The building's access prioritises cycling and includes bicycle parking facilities.	27.1.1 The building's access must: - prioritise walking and cycling options - be well lit and weather protected - separated from vehicles - separated from the primary vehicle entrance 27.1.2 Bicycle parking facilities must - have signposted access to the changing rooms amenities - ensure the cycling equipment is safely secured. 27.1.3 No of bicycle parking spaces as per Sustainable Transport Plan. 27.1.4 Access points in a residential building must connect to the relevant bicycle storage facilities. If these are at a unit level, the project team must show how the access won't be blocked by strata at a later date.	Architect
					27.2 A Sustainable Transport Plan has been prepared and implemented.	27.2.1 A Sustainable Transport Plan must be prepared by a suitable qualified Transport Planner of Engineer and include at minimum: - A definition of the typical mode share of the development location and development type - A target mode share for the development that prioritises active and public transport modes, and recommendations on how to achieve them - Outline of how other modes of transport (carpooling, electric vehicles, and drop-off points) will be encouraged over private vehicle use - Identification of future projects which may change or influence mode share (such as planned, or under construction infrastructure) and the year of completion for the new infrastructure - Roles and responsibilities for implementing, monitoring, and auditing the Sustainable Transport Plan in the building's operational phase - Outline how spatial and electrical barriers to the roll out of future EV charge provisions have been considered and addressed.	Transport Consultant

						27.3 The building has EV charging capabilities.	27.3.1 As a minimum the building must provide: - Ready to charge EV charging points to at least 5% of all car parking spaces. - Connections for car sharing parking spaces, regardless of whether the vehicles are electric at the time of practical completion (in addition to the 5% provided) - Electrical infrastructure and a load management plan prepared to allow for future installation of additional EV charging to 20% of all car parking spaces (total 25%). The mix of EV chargers assumed (e.g., 7kW v 22 kW) must be stated. - A dedicated, safe, unobstructed route from the electrical supply point which allows for the future provision of all necessary electrical cabling without the need for substantial builders work in connection to the electrical cabling installation.	Electrical
						27.4 Transport options that reduce the need for private fossil fuel powered vehicles are prioritised.	27.4.1 The building design and location must reduce emissions from transport, encourage public transport use, and reduce vehicle kilometres travelled compared to a reference building. The Green Star Movement and Place calculator is to be used to confirm the following targets: - Emission reduction: 40% - Active mode encouragement: 90% - Vehicle Kilometres Travelled (VKT) reduction: 20%	Transport Consultant
						27.5 The building's design and location encourage walking.	27.5.1 The building's design and location must encourage walking to and from a number of amenities: - Roads within the site boundary must prioritise pedestrians over vehicles (max speed 10km/h, pedestrian right-of-way) - Occupants to have access to amenities - determined by the Movement and Place calculator.	Transport Consultant
28	**Enjoyable Places** The building provides places that are enjoyable and inclusive. **Class 4 - 9 buildings, >1000sqm**	**Credit Achievement**	**2**	**Not Targeted**	**-**	**28.1** The building delivers memorable, beautiful, vibrant communal or public places where people want to gather and participate in the community.	28.1.1 The communal or public space must: - Accommodate community-based activities - Have capacity and flexibility to operate in multiple modes of usage - Demonstrate relevance of the space for local people (demographics, social profile, current needs) - Demonstrate the space has been designed for enjoyment (refer guidance below) - Be available to the community to use for free. It must be clearly demonstrated that the spaces are publicly accessible	Architect / Building Owner
						Communal space of 0.25 sqm/occupant or 2.5% of GFA, whichever is greater		
						28.2 The spaces are inclusive, safe, flexible, and enjoyable.	28.2.1 An activation strategy must be provided to ensure placemaking continues after practical completion and the wider community can contribute to the place activation. Refer Guidelines for details. 28.2.2 The strategy must be included as part of the building's handover to ensure implementation in operation.	Architect / Building Owner
29	**Contribution to Place** The building's design makes a positive contribution to the quality of the public environment. **Building Design**	**Credit Achievement**	**2**	**Not Targeted**	**-**	**29.1** The building's design contributes to the livability of the wider urban context and enhances the public realm.	29.1.1 Urban context report required detailing public realm interface design that outlines the urban context of the development and the design responses. The report must include: • Urban context analysis: – Assessment and analysis of the local setting and wider urban context. This must include physical, social, cultural, and economic factors – Outline any planned changes to the local area (for example if located in a growth zone) and the project's design response to those changes. This may include Local or State Government's vision for the area – Identify any local challenges which the building can help to address • Design responses: – Demonstration of the design responses to the urban context analysis – Demonstration that the public space is contributing positively to the proposed urban context	Architect / Building Owner / Urban Planner
30	**Culture, Heritage and Identity** The building reflects local culture, heritage, and identity. **Community Led Design Response**	**Credit Achievement**	**1**	**Not Targeted**	**-**	**30.1** The building's design reflects and celebrates local demographics and identities, the history of the place, and any hidden or minority entities.	30.2.1 To achieve meaningful engagement, it is recommended that engagement activities commence as early as possible (i.e., before Development Application) so that the community is involved from the beginning of the project. Engaging the community after most of the decisions are made means their input is unlikely to be reflected it is more difficult to obtain the community's buy-in. Guidance tools such as the International Association for Public Participation (IAP2), can be used to influence community engagement activities. 30.2.2 A Culture, Heritage, and Identity Report is required, outlining key findings of the local analysis and how community engagement activities influenced the design.	Architect / Heritage Consultant
Total			**8**					

People

31	**Inclusive Construction Practices** The builder's construction practices promote diversity and reduces physical and mental health impacts.	**Minimum Expectation (Mandatory)**	-	**Mandatory**	-	**31.1** During the building's construction, the head contractor provides gender inclusive facilities and protective equipment. The head contractor also installs policies on-site to increase awareness and reduces instances of discrimination, racism, and bullying.	The following is required or to be implemented 31.1.1 Separate gender inclusive bathroom facilities and changing amenities with a high degree of privacy 31.1.2 Diverse gender-specific fit-for-purpose personal protective equipment (PPE) for diverse body sizes and types 31.1.3 Policies to address issues of discrimination, racism, and bullying on-site 31.1.4 On-site redress procedures for any relevant breaches and corrective measures to be put in place should any incident be identified 31.1.5 Empower a diverse lead team to manage these policies on-site 31.1.6 Provide relevant training to 95% of all contractors and subcontractors present on site for at least three days, including: – Information on drug and alcohol awareness and mental health – Information on policies implemented on discrimination, racism, bullying on site, and safe ways to report poor behaviour	Architect / Head Contractor
		Credit Achievement	**1**	**Not Targeted**	-	**31.2** Needs Analysis	31.2.1 A needs analysis of potential site workers and sub-contractors is required at tender (or similar early stage) to determine appropriate actions. 31.2.2 The policies and programs should be relevant to all construction workers on site for the full duration of construction.	Head Contractor
						31.3 Physical and Mental Health Programs	31.3.1 Head contractor to introduce programs and solutions that address at least five of the following: - Suicide prevention - Healthy eating and active living - Reduce harmful alcohol and tobacco consumption and avoid drug use - Increased social cohesion, community, and cultural participation - Understanding depression - Preventing violence and injury - Decreased psychological stress - Finding fulfilment at work or mindful meditation - Other issues identified in the Needs Analysis 31.3.2 The programs shall cover 80% of the workforce that have attended the site for more than three days from commencement on site to practical completion. 31.3.3 The programs or solutions can be implemented directly by the head contractor or through partnerships with mental and physical health organisations.	Head Contractor
						31.4 Evaluating the Program's Effectiveness	31.4.1 The project must provide an evaluation report to the Building Owner and sub-contractors with the following information: - Information on the programs or initiatives that were delivered, including information on dates, attendance, and available languages - A review on whether the programs delivered the intended outcomes including recommendations for improving future delivery of these programs.	Head Contractor
32	**Indigenous Inclusion** The building celebrates Aboriginal and Torres Strait Islander people, culture, and heritage. **Reconciliation Action Plan**	**Credit Achievement**	**2**	**Not Targeted**	-	**32.1** The project team plays an active role in the organisational Reconciliation Action Plan.	32.1.1 A key member of the Project Team is to be a part of the organisational RAP Working Group 32.1.2 At least 90% of the RAP targets to have been met on the project 32.1.3 All implemented actions related to the RAP are to be publicly reported on the project's website 32.1.4 Any design element are to be informed by consultation undertaken with the local Aboriginal and Torres Strait Islander community or through nominated representatives. 32.1.5 Where an organisational RAP has already been developed and endorsed, the project is required to adapt this to the project under certification. The project must provide an outcomes document detailing specific engagement, implementation and actions that have positively influenced the outcomes of the project.	Head Contractor / Building Owner / Reconciliation Consultant
		Credit Achievement	**2**	**Not Targeted**	-	**33.1** The project must implement a social procurement plan.	33.1.1 Social Procurement Strategy or Plan required that directs at least 2% of the building's total contract value to generate employment opportunities for disadvantaged and under-represented groups, including targets and annual reporting requirements in the strategy. 33.1.2 Plan to include: - A description of the project's social procurement and workforce objectives, needs, and targets - A demographic study of the local region to inform identification of target workforce groups and their skills - Descriptions of the roles and responsibilities in the implementation and monitoring of social procurement and workforce targets and contracts - Data collection and reporting templates / tools, including how data from head contractors will be collected - Monitoring and reporting requirements - Reporting requirements for the project director 30.1.3 Projects to report the following at practical completion: - Dollar spent and as a proportion of building contract value - Supplier(s) engaged - Where workforce targets are in place, the number of jobs created per target group expressed as Full Time Equivalent - Jobs supported	Head Contractor / Building Owner

33	**Procurement and Workforce Inclusion** The building's construction facilitates workforce participation and economic development of disadvantaged and under-represented groups.					**33.2** At least 2% of the building's total contract value has been directed to generate employment opportunities for disadvantaged and under-represented groups.	33.2.1 Generation of employment opportunities for disadvantaged and under-represented groups can be achieved either: - Directly, through workforce targets - Indirectly, through social procurement 33.2.2 A combination of these strategies can be used to achieve the credit, as long as the total dollar spend on the above activities is ≥2% value of the building's total contract value. 33.2.3 The building's design and construction can contribute to generating employment opportunities for disadvantaged and under-represented groups through the procurement of goods, services, and construction by any of the following means: - Aboriginal and/or Torres Strait Islander businesses - Social enterprises - Disability enterprises 33.2.4 Enterprise providers must be indendently certified by third party organisations such as Supply Nation, Social Traders, BuyAbility and government chamber of commerce.	Head Contractor / Building Owner
		Exceptional Performance	**0**	**Not Targeted**	**-**	**33.3** The project implements a social procurement plan.	33.3.1 The project team must develop and implement a social procurement strategy or plan that directs ≥4% of the building's total contract value to generate employment opportunities for disadvantaged and under-represented groups. See Credit Achievement requirements for further information.	Head Contractor / Building Owner
						33.4 At least 4% of the building's total contract value has been directed to generate employment opportunities for disadvantaged and under-represented groups.	33.4.1 Generation of employment opportunities for disadvantaged and under-represented groups can be achieved either: • Directly, through workforce targets • Indirectly, through social procurement A combination of these strategies can be used to achieve the credit, as long as the total dollar spend on the above activities is equal to or greater than the required 4% value of the building's total contract value. See Credit Achievement requirements for further information.	
34	**Design for Inclusion** The building is welcoming to a diverse population and is welcoming to their needs.	**Credit Achievement**	**2**	**Not Targeted**	-	**34.1** The building is designed and constructed to be inclusive to a diverse range of people with different needs.	34.1.1 To be compliant, the building's design and construction must be able to be navigated and enjoyed by stakeholders of diverse ages, genders, and physical and mental abilities. This applies to common spaces, bathroom facilities, and amenities provided within the building. This must include: • Equal access to the building: Provide equitable, appealing, safe, and secure access in a manner that does not segregate or stigmatise users through all principal entrance points and main thoroughfares inside and outside the building. • Diverse wayfinding: Introduce visual, physical, olfactory, and auditory solutions to help individuals navigate the site in a safe and enjoyable manner. • Inclusive spaces: Introduce internal and external spaces for a diverse range of users, including parents, family restrooms, emergency rooms, quiet rooms, and social interaction rooms. These rooms must be accessible to all users.	Architect / Head Contractor / Access Consultant
		Exceptional Performance	**0**	**Not Targeted**	**-**	**34.2** Engagement with target groups has informed the inclusive design.	34.2.1 A Needs Analysis is conducted, meeting the following requirements: - The project team must consult with distinct community types to develop a needs analysis that will influence the project during the design phase - Consultation must be undertaken early in the design process and include a balanced cross-section of representation of the target group - Consultation must be considerate and relevant to the project - The consultation process must generate a report that is then used to influence the design of the project 34.2.2 As a result of the needs analysis, the building must show how it aligns with best practice guidelines, such as the Design for Dignity Guidelines: Principles for Beyond Compliance Accessibility in Urban Regeneration.	Building Owner
Total			**7**					

Nature

35	**Impacts to Nature** Ecological value is conserved and protected.	**Minimum Expectation (Mandatory)**	**-**	**Mandatory**	**-**	**35.1** The building was not built on, or significantly impacted, a site with a high ecological value.	35.1.1 Land clearing can not occur on: - Old-growth forest - Prime agricultural land - Any wetland listed as being of 'High National Importance' - Aspects considered 'Matters of National Environmental Significance' listed under the Environmental Protection and Biodiversity Conservation Act (1999) 35.1.2 If site is within 100m or contains the above then the following protection measures are required: - Both the Waterway Protection Credit Achievement and the Credit Achievement for this credit (Impacts to Nature) is met - The light pollution impacts are managed - Wetland Protection Measures to be in place where required.	Building Owner / Landscape Architect / Ecologist
						35.2 The building's light pollution has been minimised.	35.2.1 All outdoor lighting on the project complies with AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting. 35.2.2 External luminaires mot to exceed a ULOR of 5%. OR 35.2.3 Maximum initial point illuminance value to be ≤: - 0.5 Lux to the site boundary - 0.1 Lux to 4.5 metres beyond the site into the night sky	Services
						35.3 There is ongoing monitoring, reporting, and management of the site's wetland ecosystem.	35.3.1 A site-specific Wetland Management Plan must be prepared by a qualified Ecologist or other qualified professional and include requirements for ongoing quarterly monitoring, annual reporting, and management of the wetland ecosystem for a minimum of five years. 35.3.2 The plan must be exhibited to the public on the applicant's website or the local council's offices or library for a minimum of 24 months.	Building Owner / Landscape Architect / Ecologist

		Credit Achievement	**2**	**Not Targeted**	**-**	**36.1** The building's design and construction conserves existing natural soil, hydrological flows, and vegetation elements.	36.1.1 A Context report is required, demonstrating understanding of the site's historical and current ecological context by documenting the site's current ecological values by type and biomass. This includes terrestrial and aquatic ecological values, geologic features, and soils (including interaction with living things). 36.1.2 When determining biodiversity value, the report must reference local, regional, state, and national priorities and strategies. 36.1.3 The project should use this investigation as a foundation to appropriately identify if there is potential for any future ecological value to be incorporated on site. 36.1.4 Ecological values to be protected, including: - The proportion of existing vegetated area being retained and the biodiversity value of this area, including identifying species names. - Identifying local and regional threats and mitigation requirements. - Listing active management strategies to be employed to protect the integrity of ecological values throughout the project planning, construction, and occupancy. - Documenting the community engagement process, and outline risks and opportunities to enhance the site. - Detailing consultation outcomes with local stakeholders including Aboriginal or Torres Strait Islander groups and environmental groups.	Building Owner / Landscape Architect / Ecologist
						36.2 If deemed necessary by an Ecologist, at least 50% of existing site with high biodiversity value is retained.	36.2.1 If deemed of high biodiversity value, the project must retain at least 50% of this area contiguously. 36.2.2 Project team to provide a narrative as to how the following impacts to nature and the community have been mitigated: - Light and noise pollution (this is met if required for the Minimum Expectation) - Habitat disturbance and connectivity (deemed met if Biodiversity Enhancement and Nature Connectivity credits are achieved) - On-site and downstream water quality (Deemed met if Waterway Protection credit is achieved) - Migratory paths of insects, birds, or other species - Two local issues appropriate to the project site (e.g., pest management and groundwater) 36.2.3 Consideration to be given to these impacts during demolition, siteworks, construction, or future occupation. 36.2.4 Where no existing biodiversity is identified, the project team is not required to provide a narrative to describe how the listed impacts to nature and the community have been mitigated, but instead how the project will add biodiversity value to the site.	Building Owner / Landscape Architect / Ecologist
36	**Biodiversity Enhancement** The building's landscape enhances the biodiversity of the site.	**Credit Achievement**	**2**	**Targeted**	**2**	**36.1** The building's site includes an appropriate landscape area.	36.1.1 At a minimum, external landscape in the building, whether horizontal or vertical must be provided at a ratio of either 15% of the site area or at a ratio of 1:500 of the GFA, whichever is larger. Vertical or horizontal landscapes are acceptable.	Building Owner / Landscape Architect / Ecologist
						36.2 The landscaping includes a diversity of species and prioritises the use of climate-resilient and indigenous plants.	36.2.1 Landscape must be shown to be diverse and include multiple species/genus/etc. The landscaping must not exceed the following percentages per type: -10% of plants from one species; - 20% of plants from one genus; -30% of plants from one family. Alternastively an ecologist can assess and verify that the choice of landscaping and biodiversity is diverse and resilient to climate change impacts, thereby increasing the longevity of the landscape. 36.2.2 ≥60% of plants must be indigenous and the site must include at least one significant (nesting) tree or equivalent habitat provision per 500m² of landscaped area. 36.2.3 No invasive species are allowed, as per the Australian Weeds Strategy 2017 to 2027.	Building Owner / Landscape Architect / Ecologist
						36.3 The project team develops a site-specific Biodiversity Management Plan and provides it to the building owner or building owner representative.	36.3.1 A suitably qualified professional must prepare a Biodiversity Management Plan in accordance with the Guidelines. 36.3.2 The Plan must be included as part of the project's handover.	Building Owner / Landscape Architect / Ecologist
		Exceptional Performance	**2**	**Not Targeted**	**-**	**36.4** A greater area of landscaping is provided.	36.4.1 As a minimum, external landscape in the building, whether horizontal or vertical must be provided at a ratio of either 30% of the site area or at a ratio of 1:300 of GFA, whichever is larger. Vertical or horizontal landscapes are acceptable.	Building Owner / Landscape Architect / Ecologist
						36.5 The landscaping includes critically endangered and/or endangered plant species native to the bioregion.	36.5.1 Landscape must be shown to be diverse and include multiple species/genus/etc. 36.5.2 An ecologist must review, assess, and verify how the choice of landscaping and biodiversity is diverse and resilient to climate change impacts, thereby increasing the longevity of the landscape. 36.5.3 Greater than 80% of plants must be indigenous and the site must include at least one significant (nesting) tree or equivalent habitat provision per 250m² of landscaped area. 36.5.4 No invasive species are allowed, as per the Australian Weeds Strategy 2017 to 2027. 36.5.5 The site must preserve, restore and/or support vulnerable ecosystem through planting critically endangered and/or endangered plant species which are native to the bioregion.	Building Owner / Landscape Architect / Ecologist
37	**Nature Connectivity** Wildlife movement is facilitated within and adjacent to the site.	**Credit Achievement**	**2**	**Not Targeted**	**-**	**37.1** The site must be built to encourage species connectivity through the site, and to adjacent sites. If the project sits within a blue or green grid strategy it must contribute to the goals of the strategy.	37.1.1 The site may include any of the following strategies: - Landscaping: Where connectivity is being achieved through landscaping, this must be contiguous with existing, restored, and new habitats. As a minimum requirement for habitat connectedness, the conservation area must make up at least 25% of the total external area within the building's site boundary. To be eligible, this must be at least 182m² . - Infrastructure: Design features such as a canopy bridge, wildlife tunnels, green roofs, amphibian tunnels and green infrastructure are used to connect nature on site to adjacent natural areas, which are either existing, restored, or new. 37.1.2 For both pathways, the project is to provide a narrative on how the pathway would support the targeted wildlife species. 37.1.3 If the project sits within a blue or green grid strategy, the project team must demonstrate how its design and landscaping contribute to the goals of the strategy.	Building Owner / Landscape Architect / Ecologist

38	**Nature Stewardship** Biodiversity is restored beyond the building site.	**Credit Achievement**	**2**	**Not Targeted**	**-**	**38.1** Areas of restoration or protection are provided.	38.1.1 The area of restoration must be equivalent to the total GFA of the development or site area, whichever is greater.	Building Owner / Landscape Architect / Ecologist
						38.2 Restoration or protection activities are beyond the development's boundary.	38.2.1 Land for restoration must be in Australia and restored to equivalent ecological value of the site before any development occurred. The location of the land designated for the offsite restoration must not be in the development boundary. 38.2.2 A qualified Ecologist must confirm that the ecological value is equivalent. 38.2.3 There are situations where land restoration may occur in a site where the building is located, but not within the development boundary (e.g., a university campus). Project teams are encouraged to contact GBCA to determine whether this site complies. 38.2.4 Project teams must ensure that the land being claimed for restoration and protection activities is not being double counted for multiple buildings or other activities.	Building Owner / Landscape Architect / Ecologist
						38.3 The building owner, as part of the project's development, undertakes activities that protects or restores biodiversity at scale.	38.3.1 Achieving the credit can be done by either: - The project owner protecting or restoring an area offsite themselves. A Restoration or Protection Management Plan (Plan) must be prepared by an experienced ecologist. - The project owner supports an organisation that restores an area on their behalf. A narrative detailing the restoration activities must be provided. The partnership must be funded for at least five years. The restoration activities must be verified by an independent third party. 38.3.2 The project team must show how the action is additional. That is, the action goes beyond any legislated requirements and how it is resulting in an outcome that wouldn't have happened otherwise.	Building Owner / Landscape Architect / Ecologist
						38.4 These actions occur beyond legislated requirements.	38.4.1 Where the project is required to purchase biodiversity offsets, invest in land restoration, restore land, or similar, as part of an EPBC action, development approval, or other legislated requirements, these actions cannot be used to demonstrate compliance with this credit.	Building Owner / Landscape Architect / Ecologist
39	**Waterway Protection** Local waterways are protected, and the impacts of flooding and drought are reduced.	**Credit Achievement**	**2**	**TBC**	**2**	**39.1** The project demonstrates a reduction in average annual stormwater discharge (ML/yr) of 40% across the whole site.	39.1.1 The project must demonstrate a reduction in average annual stormwater discharge (ML/yr) of 40% across the whole site. 39.1.2 The project team must provide a plan documenting how appropriate evaluation, monitoring, and maintenance of stormwater control measures (and associated reporting of their condition) will be undertaken to enhance their design stormwater treatment function.	Civil
						39.2 Specified pollution reduction targets are met.	39.2.1 All stormwater discharged from site meets specified pollution reduction targets listed below: - Total Suspended Solids (TSS) ≥85% - Gross Pollutants ≥90% - Total Nitrogen (TN) ≥45% - Total Phosphorus (TP) ≥65% 39.2.2 Risk of chemical pollutants and other toxicants entering the stormwater system to be minimised through: - Bunding for Chemical storage, loading, refuelling or work areas - Treatment devices to remove ≥98% of hydrocarbons for uncovered areas ≥200m² where vehicles are likely to transit and/or park (excl/. EV parking areas)	Civil
		Exceptional Performance	**2**	**Not Targeted**	**-**	**39.3** The project demonstrates a reduction in average annual stormwater discharge (ML/yr) of 80% across the whole site.	39.3.1 The project must demonstrate a reduction in average annual stormwater discharge (ML/yr) of 80% across the whole site. See Credit Achievement requirements for further information.	Civil
						39.4 Specified pollution reduction targets are met.	39.4.1 All stormwater discharged from site meets specified pollution reduction targets listed below: - Total Suspended Solids (TSS) ≥90% - Gross Pollutants ≥95% - Total Nitrogen (TN) ≥60% - Total Phosphorus (TP) ≥70% - Risk of chemical pollutants and other toxicants as per Credit Achievement above.	Civil
Total			**14**					