Lyons Architecture

## University of Newcastle, Central Coast Campus Development

ESD State Significant Development Application Report

December 2022

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University of Newcastle, Central Coast Campus Development ESD State Significant Development Application Report

Lyons Architecture

WSP Level 3, 51-55 Bolton St Newcastle NSW 2300 PO Box 1162 Newcastle NSW 2300

Tel: +61 2 4929 8300 Fax: +61 2 4929 8382 wsp.com

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	Name	Date	Signature
Prepared by:	Alexandra Smith	02/12/2022	Riven
Reviewed by:	Sean Holmes	02/12/2022	Stohnes
Approved by:	Sean Holmes	02/12/2022	Holmes

WSP acknowledges that every project we work on takes place on First Peoples lands. We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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## **Executive Summary**

This report details how the project addresses Section 9 of the Secretary's Environmental Assessment Requirements (SEARS) issued 26 August 2022, required for State Significant Development Applications (SSDA) for the University of Newcastle Central Coast Campus Development. The approach and project response to the SEARs is summarised below.

Table ES.1 Summary of Approach to SEARS

SEARS Requirement	Report Section Reference					
Identify how ESD principles (as defined in Section 193 of the EP&A Regulation) are incorporated into the design and on-going operation of the development	Section 3.1					
Demonstrate how the development will meet or exceed the relevant industry recognised building sustainability and environmental performance standards	Section 3.2					
Demonstrate how the development minimises greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of energy, water (including water sensitive urban design) and material resources.	Section 3.3					

# 1 Project Background

The University of Newcastle (UoN) Central Coast Campus Development constitutes 3,840 m<sup>2</sup> of multi-disciplinary academic and innovation spaces, stretching across 5 storeys and located at 305 Mann Street, Gosford, NSW, 2250. The project aims, as stated by the University of Newcastle, to "establish a new health, innovation and education campus in the heart of Gosford, that will activate the Central Coast Education and Employment Precinct and catalyse on-going revitalisation of Gosford CBD."

WSP has been engaged to provide ecologically sustainable development (ESD) support and strategy for the University of Newcastle's Central Coast Campus Development.

The project is targeting mandatory and voluntary sustainability targets including:

- Compliance with National Construction Code. It is noted that use of Part J of NCC 2019 is permitted until October 2023, with NCC 2022 coming into effect from October 2023 onwards. Project compliance with Part J is proposed under NCC 2019.
- Green Building Council of Australia 6 Star Green Star rating. Corresponding to "World Leadership" under the Green Star Buildings tool v1 Rev B
- Alignment with the University of Newcastle Environmental Sustainability Plan 2018 2025

# 1.1 Secretary's Environmental Assessment Requirements (SEARS)

This report details how the project addresses Section 9 of the Secretary's Environmental Assessment Requirements (SEARS) issued 26 August 2022, required for State Significant Development Applications (SSDA) for the University of Newcastle Central Coast Campus Development. The approach and project response to the SEARs is summarised below in Table 1.1.

SEARS Requirement	Report Section Reference
Identify how ESD principles (as defined in Section 193 of the EP&A Regulation) are incorporated into the design and on-going operation of the development	Section 3.1
Demonstrate how the development will meet or exceed the relevant industry recognised building sustainability and environmental performance standards	Section 3.2
Demonstrate how the development minimises greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of energy, water (including water sensitive urban design) and material resources.	Section 3.3

Table 1.1 Summary of Approach to SEARS

## 1.2 Environmental Planning and Assessment (EP&A) Regulation Principles of Ecologically Sustainable Development

As part of addressing the SEARS, the project will be required to address Section 193 of the EP&A. Section 193 of the EP&A Regulation as at 2021 defines ecologically sustainable development (ESD) according to the following principles:

- 1 The principles of ecologically sustainable development are the following
  - a) the precautionary principle,
  - b) inter-generational equity,
  - c) conservation of biological diversity and ecological integrity,
  - *d) improved valuation, pricing, and incentive mechanisms.*
- 2 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.
- 3 In applying the precautionary principle, public and private decisions should be guided by
  - a) careful evaluation to avoid, wherever practicable, serious, or irreversible damage to the environment, and
  - b) an assessment of the risk-weighted consequences of various options.
- 4 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.
- 5 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.
- 6 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
  - *a)* polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance, or abatement, and
  - *b) 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, and*
  - c) 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.

# 2 Relevant Frameworks

## 2.1 The University of Newcastle Environmental Sustainability Plan 2019 - 2025

The University of Newcastle Environmental Sustainability Plan (ESP) 2019-2025 details the University of Newcastle's "commitment to equity, sustainability and creation of a better future". The ESP provides a strategy for the University to deliver on environmental and social responsibilities and initiate positive action, including through alignment with the United Nations Sustainable Development Goals and other international frameworks.

The primary commitments made by the University made through the ESP 2019-2025 are detailed below in Table 2 Table 2 University of Newcastle's ESP 2019-2025 Commitments

Sustainability Focal Area	Commitment
Energy and Carbon	Deliver 100% renewable electricity across our Newcastle and Central Coast campuses from 1 <sup>st</sup> January 2020 Achieve carbon neutrality by 2025
Water	Achieve a 15% reduction in mains water usage per square meter across Gross Floor Area by 2025
Waste and Recycling	Achieve a 70% recycling rate for general solid waste generated across the University by 2021
Biodiversity and Landscaping	Implement a university-wide Biodiversity Management Plan by end 2020
Environmentally Sustainable Design	All new buildings will achieve a minimum six-star Green Star 'Design & As Built' by 2025
Transport	No net increase in car space provisions across UON (on a 2018 baseline). Complete an inventory of all emissions from staff air travel and fleet vehicles and offset emissions by 2025
Engagement	Increase staff and student awareness of university environmental sustainability issues via the Your Voice survey (on a 2016 baseline), and the Student Feedback on the University (SFUN) annual survey (on a 2018 baseline).
Education	All students graduating from the University of Newcastle will have exposure to environmental sustainability principles through their degree by 2025.

Research	Lead partnerships with local, regional, and global industries to deliver environmental sustainability research innovation projects with a focus on energy efficiency and renewable energy.
Governance	Develop and implement a university-wide Environmental Sustainability Charter that includes the United Nations Sustainability Development Goals to embed environmental sustainability across the University by end 2019.
Compliance and Reporting	Report publicly on the University's environmental sustainability impacts via the University Annual Report.

## 2.2 National Construction Code, Part J Energy Efficiency

The National Construction Code Section J Energy Efficiency is the minimum mandatory energy efficiency requirement for all buildings in Australia. The code allows for the performance requirements to be met through either compliance with the "Deemed to Satisfy" solution or a "Performance Solution" as per Figure 2.1. It is noted that use of Part J of NCC 2019 is permitted until October 2023, with the transition period of part J of NCC 2022 coming into effect from October 2023 onwards.

Figure 2.1 Figure A0.2 from NCC



The project is located within Climate Zone 5 - Mild temperate, and as such will require a balanced design to address both heating and cooling requirements of the development.

The project is proposing to meet the NCC requirement through a performance solution.

### 2.3 Green Star Rating Scheme

Green Star is an industry tool for benchmarking sustainability performance in the built environment. It is administered by the Green Building Council of Australia, formed in 2002, and are a non-government, member-based organisation whose purposes is to rate, educate and advocate for a more sustainable built environment.

University of Newcastle's Central Coast Campus project will target a 6 Star rating under the Green Building Council of Australia's Green Star Buildings tool v1 Rev B. This target demonstrates World Leadership in sustainability, is the highest possible rating available under the tool and is an ambitious target.



Figure 2.2 Green Star Rating Scale

The Green Star strategy covers the following sustainability areas:

- Responsible construction and management
- Healthy and comfortable buildings
- Resilience
- Low upfront carbon emissions
- Energy efficiency
- Powered by renewable energy
- Low potable water consumption
- Placemaking and contribution to liveability of surrounding urban context
- Inclusive building design and construction practices
- Biodiversity enhancement and protection
- Waterway protection

The project will also achieve the "Climate Positive Pathway" within the tool, which is depicted below in 2.3.



#### **Standard building**

Typical greenhouse gas (GHG) emissions due to energy use and construction.

#### Fossil fuel free

Eliminate natural gas for space heating, domestic hot water and cooking.

#### **Highly efficient**

Significantly reduce all building energy consumption through demand reduction, energy efficiency and effective controls.

## Powered by renewables

Provide all electricity from 100% renewable sources – on-site and/or off-site.

## Built with lower upfront carbon

Significantly reduce embodied carbon through design, construction activities and material/product selection.

#### **Offset with nature**

After reducing all GHG emissions as much as possible procure credible nature based offsets.

Figure 2.3 Climate Positive Pathway (Courtesy of GBCA)

# 3 Project Response

## 3.1 Response to ESD Principles

- The Precautionary Principle: The project does not pose any serious threat to the environment, nor any irreversible damage to the environment. Construction of the project does not involve any land clearing and the site does not contain old growth forest, prime agricultural land, wetlands, or aspects considered to be 'Matters of National Environmental Significance". Additionally, the project will provide biodiversity enhancement through significant areas of landscaping containing a high proportion of indigenous plant species, improved nature connectivity and land restoration activities. Waterway pollution will be minimised through stormwater management techniques and 90% of construction and demolition waste will be diverted from landfill.
- Inter-generational Equity: The project will deliver on inter-generational equity by not consuming more resources than are required to sufficiently operate the building. Energy consumption will be minimised as far as practicable through a net zero design and delivery of 100% renewable electricity to the site, in line with the University of Newcastle's Environmental Sustainability Plan 2019-2025. Additionally, the project will be designed to achieve a 30% improvement on the National Construction Code 2019 energy efficiency requirements. Inter-generational equity will be pursued further through the achievement of climate resilience, operational resilience, healthy internal environment for occupants, indigenous design and inclusion, contribution to the surrounding urban context and responsible construction facilitated by the projects 6 Star Green Star Buildings rating.
- Conservation of Biological Diversity and Ecological Integrity: As part of the project's 6 Star Green Star pathway, credits are targeted that specifically aim to enhance biological diversity and maintain ecological integrity. The Central Coast Campus will provide landscaping equivalent to 30% of the site area and will include at least 80% indigenous plant species, as well as 1 significant nesting tree or equivalent habitat per 250m<sup>2</sup>. Provision of such landscaping will contribute to nature connectivity between the site and surrounding area.
- Improved Valuation, Pricing, and Incentive Mechanisms. The project is designed to minimise pollution and waste through responsible construction practices that divert construction and demolition waste from landfill, responsible management of operational waste and stormwater pollution and run-off is minimised. Major components of the project design have been driven by whole-of-life cycle cost decisions including structural design and building services design.

## 3.2 Meeting or Exceeding Relevant Industry Standards

Compliance with the National Construction Code for the University of Newcastle's Central Coast Campus will be achieved through the following:

- Section J, part J1.5 total system R-value, total system U-value and SHGC requirements for wall-glazing constructions and display windows, inclusive of thermal bridging effects
- Section J, part J5.4, part J5.7, part J 5.10 and part J5.12 requirements for fan systems, pump systems, refrigerant chillers, and heat rejection equipment.
- Section J, part J6.2 requirements for artificial lighting systems

As part of the UoN Central Coast Campus Green Star strategy, the project will achieve a 30% reduction in energy use in addition to compliance with the NCC Section J.

By targeting 6 Stars through Green Star Buildings, equivalent to World Leadership, the project will exceed sustainability performance for projects of a similar type, size, and location. 6 Stars is the most ambitious target available under the Green Star Rating scheme.

The full Green Star Buildings pathway for the University of Newcastle Central Coast Campus can be found in Appendix A. This summary presents the current approach to achieving a 6 Star Green Star rating. It is acknowledged that strategies change during design development and construction, and as such, the final pathway to achieving the 6 Star rating may differ from the current strategy, however the Project team are committed to achieving a 6 Star Green Star Rating.

### 3.2.1 Approach to 6 Star Rating

The 6 Star Green Star pathway includes initiatives targeted under the following categories in Table 3.1.

Category	Credit	Achievement level	Points
Responsible	Industry development	СА	1
	Responsible construction	СА	1
	Verification & Handover	СА	1
	Responsible Resource Management	ME	N/A
Responsible	Responsible Procurement	СА	1
	Responsible Structure	СА	3
	Responsible Envelope	СА	2
	Responsible Systems	СА	1
	Responsible Finishes	СА	1
Healthy	Clean Air	СА	2
	Light Quality	EP	2
	Acoustic Comfort	СА	2
	Exposure to toxins	СА	2
	Amenity and comfort	СА	2
	Connection to nature	EP	2
Resilience	Climate change resilience CA		1
	Operations resilience	СА	2
	Community Resilience	СА	1
	Heat Resilience	СА	1
	Grid Resilience	СА	3
Positive	Upfront carbon emissions	EP	6
	Energy use	EP	6
	Energy Source	EP	6
	Other carbon sources	СА	2
	Water use	СА	3
	Life Cycle Impacts	СА	2
Places	Movement and Place	СА	3

Table 3.1Approach to 6 Star Rating - Credit Categories

Category	Credit	Achievement level	Points				
	Enjoyable places	СА	2				
	Contribution to place	СА	2				
	Culture, Heritage and Identity	СА	1				
People	Inclusive Construction Practices	СА	2				
	Indigenous Inclusion	СА	2				
	Procurement and Workforce Inclusion	СА	2				
	Design for inclusion	СА	2				
Nature	Impacts to nature	СА	2				
	Biodiversity enhancement	СА	2				
	Nature connectivity	СА	2				
	Nature Stewardship	СА	2				
	Waterway protection	СА	2				
Total	81 Points						
6 Star Green St	70 points						

\*ME = Minimum Expectation

\* CA = Credit Achievement

\*EP = Exceptional Performance

### 3.3 Energy, Water and Materials Consumption

Through the University of Newcastle's Environmental Sustainability Plan 2019-2025, the Central Coast Campus will be designed and constructed to achieve the following:

- Low upfront embodied carbon through timber structure and low impact concrete
- Fossil fuel free operations through all electric operations, onsite renewable energy and offsite renewable energy
- High level of energy efficiency
- Residual carbon footprint offset with nature for a carbon neutral outcome

Additionally, as part of the project's Green Star Buildings pathway targets the following initiatives:

- A 30% reduction in energy use in addition to compliance with the NCC
- A 45% reduction in potable water consumption
- Emit 20% less upfront carbon emissions compared to a reference project and offset remaining carbon emissions
- Achieve a 30% reduction in life cycle impacts compared to a standard practice project
- Procurement of responsible finishes, systems, façade components and structural materials including products with EPDs, Climate Active certification, ISO 14001 certification and products with third party certification

# 4 Conclusion

In summary, the UoN Central Coast Campus project addresses Section 9 of the Secretary's Environmental Assessment Requirements (SEARS) as outlined in the above SSDA Report. The project is targeted the highest possible industry benchmarks in relation to sustainability, corresponding to world leadership outcomes. The relevant sections are noted below in Table 2.

Table 2 Summary of Approach to SEARS

SEARS Requirement	Report Section Reference					
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Demonstrate how the development will meet or exceed the relevant industry recognised building sustainability and environmental performance standards	Section 3.2					
Demonstrate how the development minimises greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of energy, water (including water sensitive urban design) and material resources.	Section 3.3					

# Appendix A

UoN Central Coast Campus Green Star Buildings Pathway



Project Name	UoN CCC
Date	2022.10.14
Updated By	SNH

Category

RESPONSIBLE

#### Green Star Buildings Pathway

2022.10.14		ME	Minimum Expectation - co	linimum Expectation - compulsory to enable certification					ar					_					
SNH		СА	Credit Achievement - beyo	Credit Achievement - beyond and in addition to ME				5 Sta	ar		C	jre	en	st	ar				
		EP	Exceptional Performance -	beyond and in addition to CA			70+ points =	6 Sta	ar										
			•				81	Lyons 70,	P ADP	onsulting ADP	Norting C	n Fire Linhardt hro	<sup>,Q</sup> <sub>401thro</sub> Q			MCGregor RA	COX <sup>all</sup> UNIT	,16 SECA	Solution
Credit	Number	Level	Pathway	Criteria	Available Points	Not targeted	Points Target	Architect Mechanical	Electrical	Hydraulic	Façade	Structural Gvil	Waste	Environmental Ecologist	Community / Social	Landscape & mrgation Acoustic	QS	Traffic	Vertical
Industry development	1	СА	Green Star Accredited Professional, Financial Transparency, Marketing Excellence	Engage a Green Star Accredited Professional contractually engaged as part of the core project team for the duration of the project and disclosue project cost and marketting information to the GBCA.	1		y			T				Τ		Т	Π	Т	Τ
Responsible construction	2	ME	Environmental processes and minimum diversion	EMS, EMP, Divert 80% from landfill and provide sustainability training			y												
Responsible construction	2	CA	Improved Construction and demolition waste	Diverting at least 90% of its construction and demolition waste from landfill. Compliance with Waste Reporting Criteria.	1		y												
Verification & Handover	3	ME	Monitoring, management, commissioning, airtightness and maintenance information	The building is set up for optimum ongoing management due to its appropriate metering and monitoring systems. The building has set environmental performance targets, designed and tested for airtightness, been commissioned, and will be tuned. The project team create and deliver operations and maintenance information to the facilities management team at the time of handover. Information is available to buildine users on how to best use the buildine.			y	x x	x	x	x x					x	د	×	x
Verification & Handover	3	CA	Soft landings framework OR Independent Commissioning Agent	An independent level of verification is provided to the commissioning and tuning activities through the involvement of an independent commissioning agent, and through a soft landings approach that involves the future facilities management team. Soft landings required for larger projects.	1		y										1	×	
Responsible Resource Managament	4	ME	Operational Waste	The project team must demonstrate the building is designed to allow effective management of operational waste by: Separating waste streams; Providing a dedicated and adequately sized waste storage area; and Ensuring easy and safe access to waste storage areas for both occupants and wastecollection contractors.			y	x					x						
Responsible Procurement	5	СА	Procurement plan/strategy	Procurement process must follow ISO 20400 Guidelines and the project must demonstrate active efforts to address at least one identified risk and opportunity in its supply chain	1		У										x		
Responsible structure	6	CA	Procurement of products	50% of all structural components by cost must meet the relevant sustainability attributes score of at least 10.	3		y	x				x					x		
		EP	Procurement of products	10% of all products in the structure by cost each have a score of at least 15 or 80% of all products in the structure by cost have an average score of at least 10	2	у	option	x				x							
Responsible envelope	7	CA	Procurement of products	30% of all components in the building envelope by cost must meet the relevant sustainability attributes score of 10.	2		y	x			×	x							
Responsible envelope	,	EP	Procurement of products	10% of all products in the envelope by cost each have a score of at least 15 or 60% of all products in the envelope by cost have an average score of at least 10	2	у	option	×			×	x							
Responsible systems	2	CA	Procurement of products	20% of all mechanical, hydraulic, transportation, and electrical systems by cost meet score of 6.	1		у	×	x	x									x
	8	EP	Procurement of products	5% of all products in the systems by cost each have a score of at least 11 or 35% of all systems by cost have an average score of at least 6	1	Y	option	×	x	x									x
		СА	Procurement of products	40% of all internal building finishes by area must meet the relevant sustainability	1		y	x									x		

10% of all internal building finishes by area each have a score of at least 12 or 60% of all p internal building finishes by area have an average score of at least 7

Outdoor air is provided at a rate 50% greater than the minimum required by AS 1668.2:2012, or CO2 concentrations are maintained below 800ppm option

1

0

9

EP

ME

Procurement of products

Responsible finishes

low risk
medium risk
high risk

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Clean air

Category

#### Green Star Buildings Pathway



																		1
	Light quality	11	64	Daylight	For non-residential buildings, at least 40% of the principle averaged across the building must receive high levels of daylight with no less than 20% on any floor or tenancy (whichever is smaller).		У	x										
			CA	Artificial lighting	The artificial lighting solution must address the quality of light in the space, provide highlights and contrast, and seek to avoid excessive lighting or overly uniform solutions.		У		x									
			EP	Daylight and artificial lighting	Achieves both Credit achievements criteria for credit 11.	2	у	x	x									ĺ
HEALT			ME	Acoustic Comfort	An Acoustic Comfort Strategy is prepared to describe how the building and acoustic design aims to deliver acoustic comfort to the building occupants.		У	x x								x		
	Acoustic Comfort	12	СА	Acoustic Performance	The project achieves best practice performance for Internal noise levels; Acoustic separation; Impact noise transfer through floors; and Reverberation control	2	у	x x								x		
	Exposure to toxins	13	ME	Low VOC Products	The building's paints adhesives, sealants, carpets, and engineered wood products are low or non-toxic. Occupants are not exposed to banned or highly toxic materials in the building.		у	x x	x	x	x							
			CA	VOC level testing	Onsite test meeting following limits: TVOC = 0.27ppm; Formaldehyde = 0.02ppm. 6 test locations, 3 per floor	2	у											
	Amenity and comfort	14	СА	Amenities	Provide a quiet room and a parents room (with support for lactation activities) for occupants at rate of $1m^2$ for every 10 people with individual rooms no smaller than $10m^2$	2	У	x										
	Connection to nature	15	CA	Views, plants, nature design	At least 60% of the nominated area has a clear line of sight to a high quality internal or external view. In primary occupied spaces at a rate of one or more plants, in pots with a soil surface area totaling at least 500cm 2, every 15m2 of the nominated area. the building's design incorporates at least five biophilic design strategies, 5% of the buildings floor area or site area (whichever is greater) is utilised for connection to the strategies of the	1	¥	x							x			
			EP	Allocation to nature	All three principles are met for Credit Achievement - Views, Nature insipred design/plants & interaction with nature	1	У	x							x			ĺ
	eller te deserve llerer		ME	Climate Change Pre-screening	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.		У											
	Climate change resilience	10	СА	Comprehensive climate assessment	Comprehensive project-specific climate change risk and adaptation assessment must be developed for the project. High and extreme risks designed out.	1	у	×				x	x					
U	Operations resilience	17	CA	Broad resilience assessment	The building's design and future operational plan addresses any high or extreme system-level interdependency risks. The building's design maintains a level of survivability and design purpose in a blackout.	2	y							x				
RESILIEN	Community Resilience	18	CA	Community needs assessment	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.	1	У								x			
	Heat Resilience	19	CA	Heat Resilience	At least 75% of the whole site area comprises of one or a combination of strategies that reduce the heat island effect.	1	у	x							x			
	Grid Resilience	20	CA	Peak energy demand	The building is designed to reduced maximium demand by 10% with infrastructure to deliver an appropriate demand response strategy by • Provides active generation and/or storage systems and the ; or • Automated load shedding strategies	3	у	x	x									
			ME		Emits 10% less upfront carbon emissions compared to a standard building		у	×			x	x						
	Upfront carbon emissions	21	CA	Improvement over reference	Emits 20% less upfront carbon emissions compared to a standard building	3	у	x			x	x						
			EP		Emits 20% less upfront carbon emissions compared to a standard building and remaining upfront carbon emissions are offset.	3	у	x			x	x						

low risk	
medium risk	
high risk	

green**star** 

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Project Name	UoN CCC
Date	2022.10.14
Updated By	SNH

Category

#### **Green Star Buildings Pathway**



Liaces	Enjoyable places	28	CA	Provision of communal spaces	The building delivers memorable, beautiful, vibrant communal or public places where people want to gather and participate in the community. The spaces are inclusive, safe, flexible and enjoyable. 0.25 m2/ occupant or 2.5% of GFA, whichever is greater shall be dedicated for this purpose.	2	у	x		
	Contribution to place	29	CA	Contribution to place	The building's design contributes to the liveability of the wider urban context and enhances the public realm demonstrated by an urban context analysis or independent design review.	2		x		
	Culture, Heritage and Identity	30	CA	Culture, Heritage and Identity	The building's design reflects and celebrates local demographics and identities, the history of the place, and any hidden or minority entities. This celebration was arrived through meaningful engagement with community groups early in the design process.	1	У	x		
	Inclusive Construction Practices	31	ME	On-site Facilities, Policies, and Training	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		У			
	Inclusive Construction Practices	31	CA	High quality staff support	Promote positive mental and physical health outcomes of the site activities and culture of site workers, through programs and solutions on site that address at least 5 areas	1	y			
	Indigenous Inclusion	32	CA	Indigenous Inclusion	The building's design and construction celebrates Aboriginal and Torres Strait Islander people, culture and heritage by undertaking one or both of the following: Playing an active role in the organisational Reconciliation Action Plan; and Incorporating design elements using the Indigenous Design and Planning principle	2	у	x		

low risk	
medium risk	
high risk	

x x x x v v

Project Name	UoN CCC
Date	2022.10.14
Updated By	SNH

#### Green Star Buildings Pathway

	2022.10.14		ME	Minimum Expectation - co	mpulsory to enable certification			15+ points =	4 Sta	r		arc				I			
d By	SNH		CA	Credit Achievement - beyo	nd and in addition to ME			35+ points =	5 Sta	r r		JIE	e	151	ur				
			EP	Exceptional Performance -	beyond and in addition to CA			70+ points = 81	rivons	CONSULTING	butting uting	e fire the the the the the the the the the th	,00 Horthrop			N <sup>CGTEBC</sup>	APT BMG	in <sup>e</sup> st	LA S
ategory	Credit	Number	Level	Pathway	Criteria	Available Points	Not targeted	Points Target	Architect Mechanical	Electrical Hydraulic	Fire	Structural	Waste	Environmental Ecologist	Community / Social	Landscape & Irrigation Acoustic	ď	ICA	Mort ical
PEOPLE	Procurement and Workforce Inclusion	33	CA	Procurement of goods and services	The project team must develop and implement a social procurement strategy or plan (this can be part of an overall project procurement plan/strategy) that directs at least 2% of the building's total contract value to generate employment opportunities for disadvantaged and under-represented groups	2									x		x		
			EP	Procurement of goods and services	The project team must develop and implement a social procurement strategy or plan (this can be part of an overall project procurement plan/strategy) that directs at least 4% of the building's total contract value to generate employment opportunities for disadvantaged and under-represented groups	1	у										x		
	Design for inclusion	34	CA	Designing for inclusion	show an increase in design for diversity considerations beyond legislative requirements in terms of equal access, diverse wayfinding and inclusive spaces; training also required	2		y	x										
			EP	Community engagement	project team must consult with distinct community types to develop a needs analysis that will influence the project.	1	у	option	x						x				
			ME	Impacts to nature	The building was not built on, or significantly impacted, a site with a high ecological value. Light pollution minimised. Management of the sites wetland ecosystems.			у						x					
	Impacts to nature	35	CA	Ecological report	Ecological impacts, consider community and local stakeholder expectations, and address impacts to nature from light, noise, water, vegetation and any other relevant issues. Where the area has been deemed an area of high biodiversity value by an assessment undertaken by an ecologist, the project must retain at least 50% of this area contiguously.	2								×	7 6				
URE	Biodiversity enhancement	36	CA EP	Landscape selection and provision	External landscape at a ratio of either 15% of the site area or at a ratio of 1:500 of GFA, whichever is larger. Greater than 60% of plants must be indigenous, and include 1 significant tree per 500m2 landscape. A Biodiversity Management Plan must be developed. External landscape at a ratio of either 30% of the site area or at a ratio of 1:300 of GFA, whichever is larger. Greater than 80% of plants must be	2	v	Ŷ	x					, ,	2	x			
NAT	Nature connectivity	37	СА	Species Connectivity	indigenous. Tree ber 250m2 site. Provide either landscaping or infrastructure to promote movement. Each conservation area must be at least 185m2. Connect to green/blue grid strategy where relevant for the site.	2		у	x					, x	:	x			
	Nature Stewardship	38	CA	Nature Stewardship	Restore offsite biodiversity equivalent to the total GFA of the development, or site area, whichever is greater. Offsite area must be same ecological value.	2			x										
	Waterway protection	39	CA	Waterway protection	Demonstrate an annual average flow reduction (ML/yr) of 40% compared to pre-development levels and meets specified polution targets.	2		у					x						
	.,,	-	EP	Waterway protection	Demonstrate an annual average flow reduction (ML/yr) of 80% compared to pre-development levels and meets specified polution targets.	2	у						x						
ADERSHIP	Market Transformation	40	CA	Market Transformation	The project demonstrates: How a building solution or process is considered leading in their targeted sector, nationally or globally; or That the technology or process is not commonly used within Australia's building industry; or globally, depending on the context of the innovation claimed.		у	option											
	Leadership Challenges	14	СА	Leadership Challenges	Meet the requirements of the leadership challenges identified by the GBCA		У												

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