

PRELIMINARY GREEN STAR SUSTAINABILITY REPORT

for

**Nihon University Australia Newcastle
Campus Project
9 Church St
Newcastle NSW 2300**

Project No:
MN10561

Client:
AZUSA SEKKEI Co Ltd

Architect:
AZUSA SEKKEI
Architects, Engineering & Consultant

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Report Details

Revision No.	Description:	Date:	Engineer:	Verified:
1	Preliminary Issue	18 September 2019	M Haratian	D white
2	Preliminary Issue	19 September 2019	M Haratian	D white

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1. EXECUTIVE SUMMARY

This ESD summary report has been produced by Marline Newcastle on behalf of the proponent Nihon University in support of the proposed redevelopment of the site at 9 Church St, Newcastle NSW 2300.

The proposed development precinct consists of several different space types within the buildings:

- Cafeteria (Class 6)
- Student accommodation(Class 3)
- Office spaces (Class 5)
- Educational spaces (Class 9b)
- Parking Area(Class 7)

The development will also incorporate the retention of the existing heritage courthouse building. The reuse of this building will assist in reducing the demolition waste from site.

The development aims to provide a high quality built environment with all aspects of environmental sustainability to be considered. This assessment has reviewed the path to achieving a 4 Star Green Star rating and identified in detail which point would most likely be achieved. This assessment is preliminary only and will be subject to change as the detailed design is developed. The client is not seeking to achieve a formal Green Star assessment with the GBCA as part of this development however will use the Greenstar process a guide to Sustainable design. All spaces and classes of building may incorporate different initiatives within the Green Star framework, whilst still aligning with the policy objectives.

2. Introduction

This report demonstrates how the proposed development achieves the green star awards points in Management, Indoor Environment Quality , Energy, Transport , Water , Materials , Land Use and Ecology, Emissions& Innovation.

This report also provides confirmation of how the proposed development achieves the performance measures . These performance measures are:

Greenstar: 4 star rating under a current version of Green Star - Education rating tool or equivalent. This report describes the full range of initiatives that are proposed, organised and with reference to the Green Star framework.

3. Referenced documentation

3.1 Architectural

Design drawings, including plans and elevations, provided by AZUSA SEKKEI as part of the State Significant Development Application submission.

3.2 Building Services

Provisions for mechanical, electrical, fire detection and protection, and hydraulic services based on correspondence with Marline Newcastle .

3.3 Other Consultants

Other consultants, including structural, civil.

3.4 Limitations

This report is based on documentation supplied to Marline Newcastle on 13 of June 2019. This documentation is subject to change during the design development stage and specific initiatives may be substituted or omitted whilst still achieving the targeted outcome of a 4 star Green Star rating under Design and As-Built or equivalent.

4. Sustainability Initiatives

4.1 Green Star

The Nihon University is targeting an in principal 4 star Green Star rating. The building will be rated against the Design and As-Built tool administered by the Green Building Council of Australia (GBCA). This is consistent with the performance measure referenced within the Newcastle Local Environmental Plan 2012.

Green Star is a holistic assessment scheme which assesses the sustainability features of a development within 9 different categories, including innovation.

Category	Available Points
Management	14
Indoor Environment Quality	17
Energy	22
Transport	10
Water	12
Materials	14
Land Use and Ecology	6
Emissions	5
Innovation	10
Total	110

There are 110 Credits available including 10 for innovation. A score of 45- 59 Credits is equal to 4 Stars (Best Practice), a score of 60-74 Credits is equal to 5 Stars (Australian Excellence) and a score of 75 or more credits is equal to 6 Stars (World Leadership).

4.2 Management

Many Green Star credits relate to the way in which the project is delivered and the client will have in place the necessary controls and procedures to achieve the outcomes targeted.

Sustainability Champion

Marline has been engaged as ESD consultant to provide design advice and facilitate the Green Star assessment for the proposed building.

Commissioning and Handover

The design consultants will provide documentation to the construction team that outlines the design intent and contractors will be required to ensure they commission systems in accordance with the appropriate CIBSE or ASHRAE standards. The contractors will be required, during the first 12 months post completion, to tune the base building systems that are sometimes left operating inefficiently. This will include systems such as the air conditioning system, common area lighting, hot water systems and car park ventilation. A services and maintainability review is to be undertaken at the design stage, with the design team and head contractor. The design team will produce a user guide that gives the tenants important information about how the building works and how to use the facilities most efficiently. In addition, a building operations and maintenance manual will be provided for building facilities management. During construction these guides will be updated in collaboration with the construction team. A metering and monitoring strategy (including a metering

diagram) will be developed by the design consultants, consistent with typical practice and a commissioning specification for meters will be nominated by the design consultants.

The following Green Star credits are applicable to the building commissioning and handover and are proposed for implementation:

- 2.1 Services and Maintainability Review
- 2.2 Building Commissioning
- 2.3 Building Systems Tuning
- 4.1 Building Operations and Maintenance Information
- 4.2 Building User Information
- 6.0 Metering
- 6.1 Monitoring Systems

Site Management and Construction Waste

The construction team will operate the site using a Site Environmental Management Plan which is accredited/recognised against industry best practice, such as the NSW Environmental Management System Guidelines and ISO 14001. The builders appointed for the demolition and construction works will commit to targeting at least 80% of construction and demolition waste to be diverted from landfill and aim for 90% in accordance with the Green Star requirements. Sufficient space and access for the segregation, storage and removal of general waste and recyclables will be provided as part of the construction and demolition process.

Operational Waste Management

An operational waste management plan has been developed by the project's waste consultant, outlining the targets for waste generated during operation and ensuring suitable consideration has been given to spatial requirements and access. Please refer to this document for further information. The following Green Star credits applicable to site management and construction waste are proposed for implementation:

- 7.0 Environmental Management Plan
- 7.1 Formalised Environmental Management System
- 8.0 Operational Waste Performance Pathway: Specialist Plan
- 22B Construction and Demolition Waste: Percentage Benchmark

4.3 Indoor Environmental Quality (IEQ)

The overall planning and design of the development has been developed to maximise IEQ outcomes. This is a process of balancing good environmental outcomes with the contradicting issues of energy and materials efficiency. Increased daylight, air movement and the use of environmentally friendly materials has been encouraged wherever possible.

Acoustic Comfort

The proposed development is considering acoustic design to enable occupants and students to work and study effectively respectively. This includes sufficient noise protection from air conditioning plant and noise transfer between areas. The requirements are being reviewed for incorporation into the project. The project will be designed in consultation with the acoustic consultants, and with consideration of noise from the lobby area, adjacent road and bus stops. The following Green Star credits are applicable to acoustic comfort and are being considered:

- 10.1 Internal Noise Levels
- 10.2 Reverberation

Lighting and Visual Comfort

Functional interior lighting will be provided throughout the building. The proposed lighting system will be designed to achieve the recommended illumination levels as stipulated in AS/NZS 1680. The designed power density of the lighting system will comply as a minimum with Section J6 of the NCC.

The following Green Star credits applicable to lighting quality and visual comfort are being considered:

- 11.0 Minimum Lighting Comfort
- 11.1 General Illuminance and Glare Reduction
- 12.2 Views

Indoor Pollutants

The project aims to optimise occupant health via the reduction of internal air pollutant levels, with the engineered wood products. Products are to have low volatile organic compounds and formaldehyde levels; The architect and contractor are to review the finishes of these products as the design progresses.

The following Green Star credits are applicable to indoor pollutants and are being considered:

- 13.2 Engineered Wood Products

4.4 Energy

The design of the Nihon University prioritises passive design and energy efficient solutions.

Green Star set minimum standards for energy consumption beyond the minimum requirements defined by the National Construction Code's Section J.

As there are up to 20 Green Star points available, it is anticipated that the proposed development will achieve several of these points to achieve the targeted 4 star Green Star rating overall for the building.

These self-imposed targets represent a significant improvement over the National Construction Code (NCC) and are driving the delivery of a highly energy efficient development.

To achieve these targets, a key feature of the proposed development is the high performance passive external façade which features optimised shading designs and building geometry to maximise daylight and views whilst minimising solar gains and glare.

As well as minimising heating and cooling demands, the proposed development will have energy efficient lighting, cooling, hot water systems and controls.

It is anticipated that these active and passive features in addition to the significant rooftop PV array will result in a significantly lower peak electrical energy demand for the precinct.

A comprehensive metering strategy will be provided to allow building management to view and manage their real-time consumption of electricity and water. Base building energy, water and gas consumption will be sub-metered by end-use and consumption monitored to ensure the buildings are operating as efficiently as designed.

The following Green Star credits are applicable to energy consumption and are being considered:

- 15E Greenhouse Gas Emissions: Performance Pathway
- 16B Peak Electricity Demand Reduction: Performance Pathway

4.5 Transport

The Nihon University benefits from an ideal location close to Newcastle's CBD and amongst a varied selection of community and food outlets.

Its proximity to the bus stop on **Church& Bolton** street provides a direct connection to Newcastle Station and the CBD.

The development is situated in a highly walkable area and also in close proximity to the tram network.

Buildings is targeting the Performance Pathway of the Green Star Sustainable Transport credit, to reduce the impacts from transport as compared to a reference building.

The project aims to do so by enabling access to sustainable transport infrastructure (thereby decreasing greenhouse gas emissions) and encouraging the use of active modes of transport (promoting health and fitness).

Note: - A Green Travel Plan is currently being prepared by a Traffic Consultant describing the Green Travel Initiatives and recommendations to be improved post occupation.

Car Parking + Bike Parking

Given the central location of the development and anticipated tenants, the development is only proposing to include 20 car parking spaces which is substantially less than any planning requirements and will therefore result in lower transport emissions associated with the student residence and commercial building.

A significant provision of bike parking provided for the building including 22 bike parks in the basement.

Please refer to the transport plan for further information. The following Green Star credit is applicable to transport and is being considered:

- 17B.1 Access by Public Transport
- Reduced Car Parking Provision
- Low Emission Vehicle Infrastructure
- Active Transport Facilities
- Walkable Neighbourhoods

4.6 Water

The Nihon University will be targeting exemplar water efficiency for the commercial and student accommodation buildings through a range of measures.

The buildings will also comply with the Green Star Performance Pathway, seeking a significant reduction in potable water consumption compared to a standard practice reference building through the following measures:

- Water efficient fixtures and fittings including showers, taps, toilets and urinals using the Water Efficiency Labelling Standard (WELS) ratings in accordance with the Green Star requirements.
- A rainwater harvesting system collecting water from the various roof tops.
- All non-potable water demands (toilets, urinals, irrigation) will have reused water (rainwater,) available to them.

The following Green Star credit is applicable to water consumption and is being considered:

- 18A.1 Potable Water: Performance Pathway
- 18B.1 Sanitary Fixture Efficiency
- 18B.2 Rainwater Reuse
- 18B.3 Heat Rejection
- 18B.4 Landscape Irrigation

4.7 Land Use and Ecology

The site benefits from its position as a brownfield area (the existing site comprises several multi-storey concrete buildings), and redeveloping the site is therefore reusing land rather than developing on greenfield land. Hence the site meets the Green Star conditional requirements that it has not been of prime agricultural value, contained old growth forest and has not been a wetland.

Ecological Value

Biodiversity assessment has been completed by EMM consulting and there is no threatened species or habitat impact by this development.

The extent of the improvement in ecological value of the site is being investigated compared to the existing site condition an improvement being considered on the basis of the Green Star Ecological Value calculator. The following Green Star credits are applicable to ecological value and are being considered:

- 23.1 Ecological Value

Sustainable Sites

A site contamination assessment is to be undertaken and best practice remediation measures will be considered if contamination is found.

The following Green Star credits are applicable to sustainable sites and are being considered:

- 24.1 Reuse of Land
- 24.2 Contamination and Hazardous Materials

4.8 Emissions

Emissions from the development will be minimised as far as practical with consideration of the Green Star criteria and best practice standards.

Stormwater

Reduced peak event discharge post-development has been targeted, and the stormwater discharged from the site is to meet best practice performance objectives as specified in the Stormwater and Water Efficiency for Development.

A preliminary analysis has been undertaken using the Stormwater Modelling software (MUSIC) in accordance with Hunter Water MUSIC modelling guidelines.

The results show that with the design as it stands, the stormwater design proposed aligns with the objectives of the City of Newcastle Local Environmental Plan 2012. As the design develops and more information becomes available, the stormwater design will be adjusted to ensure the compliance with the Planning Scheme is maintained.

The rainwater that is collected from the building roofs is proposed to be used for toilet flushing and irrigation. The rainwater would be appropriately treated and distributed to where it is needed.

The maintenance of the recycled water system would be carried out as part of the general maintenance contract for a development of this size with a clear and thorough maintenance strategy developed.

In addition, the water efficient fittings specified, and the greywater system will likely also contribute to a reduction in sewer flows. The magnitude of this reduction is currently being investigated.

The following Green Star credits are applicable to stormwater and are being considered:

- 26.1 Reduced Peak Discharge
- 26.2 Reduced Pollution Targets

Light Pollution

The design of the external lighting system will consider light spill upwards into the sky or obtrusively beyond the property boundary. It is noted that this could be a nuisance to adjacent properties, particularly residential neighbours.

The following Green Star credits are applicable to light pollution and are being considered:

- 27.0 Light Pollution to Neighbouring Bodies
- 27.1 Light Pollution to Night Sky

4.9 Innovation

The proposed development is seeking to achieve recognition from the GBCA for innovative design practices and exceeding Green Star benchmarks for credits.

Up to 3 points are targeted for the Innovation category for Green Star.

5. SUMMARY

The Nihon University sustainable design philosophy will follow closely with the Greenstar process. Whilst the client does not intend to formally rate the building the design will incorporate aspects of the Greenstar program that would be equivalent to achieving the targeted 4 star Green Star Design and As-Built rating .

Please refer to the attached Green Star scorecard & requirements for the assessment of the points considered achievable based on the current documentation.

6. APPENDIX A - PRELIMINARY GREENSTAR SCORECARD

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GREEN STAR SCORECARD & REQUIREMENTS INDICATIVE - FOR PLANNING PURPOSES ONLY				PROJECT: Newcastle Courthouse Redevelopment - Nihon University										GREEN STAR TARGET: 4 STAR (MINIMUM SCORES REQUIRED: 45)																						
Document revision: 3				Date: 29.Aug.2019				ADDRESS: 9 Church St Newcastle NSW 2300										SCORES TARGETED: 46 (4 STAR WITH 1 BUFFER POINTS)																		
Note: The project team shall comply with the minimum Green Star requirements. Details below are provided as a guide only, where required the project team shall refer to the Green Star Design and As-built submission guidelines v1.2 for further details.																																				
CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	POINTS TARGETED	Compliance Requirements	Design Submission Documentation	Responsible Party											As Built Submission Documentation	Responsible Party																
								Building owner	Builder	Architect	Structural Consultant	Mechanical Consultant	Electrical Consultant	Hydraulics/Fire Consultant	Mechanical Contractor	BMS/ Control Contractor	Hydraulics / Fire Contractor	ESD Consultant		Landscape Architect	Ecologist	Acoustic Consultant	Civil	Quantity Surveyor	Building owner	Builder	Architect	Structural Consultant	Mechanical Consultant	Electrical Consultant	Hydraulics/Fire Consultant	Mechanical Contractor	BMS/ Control Contractor	Hydraulics / Fire Contractor	ESD Consultant	Landscape Architect
		2.4	Independent Commissioning Agent: 1 additional point is available for utilisation of an Independent Commissioning Agent (ICA) to advise, monitor, and verify the commissioning and tuning of the nominated building systems throughout the design, tender, construction, commissioning and tuning phases	1	TBC	This point can only be awarded if at least one of the credit requirements for 2.1, 2.2 or 2.3 has been achieved. One This point is awarded where an Independent Commissioning Agent (ICA) has been appointed to advise, monitor, and verify the commissioning and tuning of the nominated building systems throughout the design, tender, construction, commissioning and tuning phases. When this point is claimed, the specified commissioning requirements must be overseen by a qualified independent commissioning professional (separate from the design team) who is engaged directly by the client/building owner and reports directly to the owner (or the owner's representative). An Independent Commissioning Agent (ICA) fulfils the roles of this criterion. A facilities manager employed by the client qualified in the commissioning of these systems also fulfils the roles of this criterion.	• CV of the Independent Commissioning Agent detailing the qualifications and experience relevant to the project.	x											N/A	x																
Adaptation and Resilience	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.	3	Implementation of a Climate Adaptation Plan; 2 points are available where: • A project-specific Climate Adaptation Plan has been developed in accordance with a recognised standard; and • Solutions have been included into the building design and construction that specifically address the risk assessment component of the plan.	2	0	A suitably qualified professional is required to develop a project-specific Climate Adaptation Plan (3.0.1 to 3.0.5). For the purposes of this credit, a suitably qualified professional is defined as someone with a formal tertiary Environmental Science, Environmental Engineering, Planning or similar qualification; or may alternatively include persons with previous experience developing Climate Adaptation Plans, familiarity with the recognised Standards and demonstrated ability to assess climate change scenarios.	Project teams must submit the following documentation: • Submission Template for Section 3.0.1 - 3.0.5 • Evidence to support claims made in the Submission Template • CV of the professional that developed the Climate Adaptation Plan.	x																												
						3.0.1Climate Adaptation Plan The Climate Adaptation Plan must contain as a minimum the following information: • Summary of the projects characteristics (site, location, climatic characteristics); • Assessment of climate change scenarios and impacts on the project using at least two time scales (e.g. 2030, 2040, 2050 or 2070), relevant to the projects anticipated lifespan. This must include a summary of potential direct and indirect climate change impacts (environmental, social and economic) on the project; • Identification of the potential risks (likelihood and consequence) for the project and the potential risks to people. This risk assessment is to be based on a recognised standard (see 3.0.4); • A list of actions and responsibilities for all 'high' and 'extreme' risks identified; and • Details of stakeholder consultation that was undertaken during plan preparation and how the issues raised have been incorporated.																														
						3.0.2Developing Climate Change Scenarios Prior to undertaking the 'Initial Assessment', the Australian Greenhouse Office (AGO) Guide calls for climate change scenarios to be developed and reviewed (Section 4.2). The scenarios used by the project team must be sourced from the Intergovernmental Panel on Climate Change (IPCC) endorsed Global Circulation Models (GCMs) and may include: • CSIRO projections; • State or Federal climate projections; or • Projections determined by a more detailed climate model. The project must justify the selection of the climate scenario and emissions scenario used.																														
						3.0.3 Recognised Standards For the purposes of this credit, the recognised standards are listed below: • AS 5334-2013 Climate Change Adaptation for Settlements and Infrastructure; or The following two standards when combined: • ISO 31000-2009 – Risk Management – Principles and Guidance; and • The AGO's Climate Change Risks and Impacts: A Guide for Government and Business. Should project teams wish to demonstrate compliance using an equivalent alternate standard or framework, a Technical Query may be submitted to the GBCA to confirm equivalency.	• Climate Adaptation Plan (or relevant extracts) demonstrating compliance with 3.0.1 to 3.0.4 • Drawings and specifications demonstrating design responses to the Climate Adaptation Plan.	x	x	x	x	x	x																							
						3.0.4Risk Assessment The project team is required to undertake the 'Initial Assessment' outlined in Sections 4-6 of the AGO Guide. The ISO 31000 Standard must be used for further guidance in undertaking the risk analysis process prescribed in Sections 5.1-5.6 of the AGO Guide. The consequence/success criteria in the AGO Guide have been refined to be more applicable at the development scale and are provided in the Guidance section of this credit. Alternatively, organisations may use internal corporate success/criteria tables. Alternatively, the project team may follow the approach within AS 5334-2013 for buildings. The analysis must include a discussion of all climate change elements described and follow the risk analysis and mitigation sections of the standard. The assessment of climate change impacts must address a minimum of two time scales (e.g. 2030, 2040, 2050 or 2070) relevant to the anticipated building lifespan for the primary effects of temperature, precipitation and sea-level rise. The plan must then consider the secondary effects of relative humidity, drought/flood, wind, cyclones and bushfire as a minimum.																														
			The requirements of this credit are project-specific and based on the complexity of the systems designed and installed within the building. The information provided to the building's facilities management team and users should focus on the nominated systems, as defined by the project team. One (1) point is awarded where the project team can demonstrate that: 1.Comprehensive operations and maintenance (O&M) information is available to the facilities management team. Compliance may be demonstrated with one document that includes operations and maintenance information (in accordance with 4.0.1) and the building log book information (in accordance with 4.0.2), or a number of separate documents that contain the same information. 2.Current building user information is available to all relevant stakeholders, in accordance with 4.0.3 and 4.0.4. For additional detail on the content of building user information, please see the Guidance section				Project teams must submit the following documentation: • Submission Template, for items 4.0.1 - 4.0.4 • Evidence to support claims made in the Submission Template (refer below)	x	x												x	x														
Building Information	To recognise the development and provision of building information that facilitates understanding of a building's systems, operation and maintenance requirements, and environmental targets to enable the optimised performance.	4	Building Information. 1 point is available where: • Comprehensive operations and maintenance information is developed and made available to the facilities management team; and • Relevant and current building user information is developed and made available to all relevant stakeholders.	1	1	4.0.1Operations and Maintenance Information The project team must confirm that operations and maintenance information is provided for all nominated building systems and that the following criteria are achieved: • Appropriate content for all nominated building systems is readily available; • The appropriate user group has access to the information they require to deliver best practice environmental outcomes; and • Guidance on keeping information up-to-date is provided to the facilities management team in these documents	• Owner's project requirements document, or an equivalent document, defining the nominated building systems.	x	x																											
						4.0.2Building Log Book The project team must develop a building log book to present to the building owner before practical completion of the project. For more information on the building log book, please see the Guidance section. The building log book must: • Be developed in line with GBSE TM31: Building Log Book Toolkit; • Cover all nominated building systems; and • Include links or references to all relevant operations and maintenance information.	Building log book in accordance with 4.0.2.																													
						4.0.3Format of Building User Information Building user information is a source of up-to-date, relevant information for the building user. The information must address the intended use of all nominated systems within the building. The amount and details of building user information must be relevant to the project's audience. Where example, If the premises are owner-occupied, the information provided to users must be geared towards general staff that occupy the space. If the space is leased from a landlord, the information provided must also be geared towards the person responsible for the management of the tenanted space; this may be a tenant representative or an office manager. Building user information must be able to be updated and edited by the facilities management team, or other appropriate stakeholder group, to ensure it remains current and relevant to users throughout the life of the building. While there are no specific requirements for the content that must be presented, the Guidance section outlines the typical information that should be presented to different user groups	N/A																													
						4.0.4Delivery of Building User Information All building user information must be available to the building owner and facilities management team at the time of practical completion. It is acknowledged that ongoing tuning may require updates to building user information and its content may extend beyond practical completion. The method of delivery of the information provided may differ based on the target audience. However, due to the live nature of building user information it must be provided in a digital format and made available through any combination of digital signage or interactive information kiosks in high traffic public areas (e.g. building foyer, lift lobby or lift displays), induction or training material, website or intranet, or applications for mobile devices. It must be made clear at the time of submission for certification how this information has been presented to the relevant audience or user group. It is the project team's responsibility to clearly identify the relevant user groups and deliver building user information tailored to their needs.	N/A																													
									• Building user information and (if required) supporting user documents or other supporting information demonstrating that building user information initiatives have been installed, are accessible to all users, and whose format and content complies with 4.0.3. This information may be presented through a combination of screenshots, printouts, or links to online information accessible to GBCA Certified Assessors.	x	x																									
			• Confirmation from the fitout owner that the building user information has been provided to the relevant parties and, if appropriate, is installed and is operational, in accordance with 4.0.4.	x	x																															

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[illegible]

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[illegible]

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[illegible]

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GREEN STAR SCORECARD & REQUIREMENTS
INDICATIVE - FOR PLANNING PURPOSES ONLY

Document revision: 3Date: 29.Aug.2019

PROJECT: Newcastle Courthouse Redevelopment - Nihon University

ADDRESS: 9 Church St Newcastle NSW 2300

GREEN STAR TARGET: 4 STAR (MINIMUM SCORES REQUIRED: 45)

SCORES TARGETED: 46 (4 STAR WITH 1 BUFFER POINTS)

Note: The project team shall comply with the minimum Green Star requirements. Details below are provided as a guide only, where required the project team shall refer to the Green Star Design and As-built submission guidelines v1.2 for further details.

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	POINTS TARGETED	Compliance Requirements	Design Submission Documentation	Responsible Party														As Built Submission Documentation	Responsible Party																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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		13.2	Engineered Wood Products: 1 point is available where at least 95% of all engineered wood products meet stipulated formaldehyde limits or no new engineered wood products are used in the building.	1	0	13.2ENGINEERED WOOD PRODUCTS One (1) point is awarded where project teams demonstrate that either no new engineered wood products are used in the building, or at least 95% (by area) of all engineered wood products meet the formaldehyde emission limits specified in Table 13.2. There are two methods for demonstrating that an engineered wood product complies: A.Product certification in accordance with 13.2A OR B.Laboratory testing in accordance with 13.2B. A combination of methods can be used to demonstrate compliance. Engineered wood products include particleboard, plywood, Medium Density Fibreboard (MDF), Laminated Veneer Lumber (LVL), High-Pressure Laminate (HPL), Compact Laminate and decorative overlaid wood panels. Timber veneers are excluded. Where only part of a product is composed of an engineered wood product, the limits apply only to that portion of the product, not the entire item. The following applications of engineered wood products are excluded from this credit: •Formwork; •Car park applications; and •Non-engineered wood products such as milled timber. 13.2A Product Certification The product is certified under a recognised Product Certification Scheme. The current list of recognised schemes is shown on the GBCA website http://new.gbca.org.au/product-certification-schemes/ . The certificate must be current at the time of project registration or submission and list the relevant product name and model. R2.13.02 13.2B Laboratory Testing All engineered wood products used in the building must meet the relevant limits specified in Table 13.2B (refer technical manual) as per the specified test protocol, or have product specific evidence that it contains no formaldehyde.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

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GREEN STAR SCORECARD & REQUIREMENTS
INDICATIVE - FOR PLANNING PURPOSES ONLY
Document revision: 3
Date: 29.Aug.2019

PROJECT: Newcastle Courthouse Redevelopment - Nihon University
ADDRESS: 9 Church St Newcastle NSW 2300

GREEN STAR TARGET: 4 STAR (MINIMUM SCORES REQUIRED: 45)
SCORES TARGETED: 46 (4 STAR WITH 1 BUFFER POINTS)

marline

Note: The project team shall comply with the minimum Green Star requirements. Details below are provided as a guide only, where required the project team shall refer to the Green Star Design and AS-built submission guidelines v1.2 for further details.

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	POINTS TARGETED	Compliance Requirements	Design Submission Documentation	Responsible Party														As Built Submission Documentation	Responsible Party																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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		24.1	Reuse of Land	1	1	1 point is available where 75% of the site was previously developed land at the date of site purchase or, for previously owned land, at the project's Green Star registration date. One (1) point is awarded where either of the following conditions is met: A. 75% of the site was 'previously developed land' at the date of site purchase; or B. The project is a building extension, and 75% of the extension (including landscaping) falls within an area of the site that was 'previously developed land' at the project's Green Star registration date. Previously Developed Land Previously developed land includes land that is, or was, occupied by a permanent structure, associated curtilage, road, car park or other hardstand including working areas of mines, landfills, brick pits, quarries or other industrial, commercial, institutional and residential activity and associated curtilage. This definition excludes: • Previously developed land that has undergone ecological restoration or land that is scheduled to be restored through development control procedures; • Land that was previously developed but where the developed areas have been reclaimed by the surrounding landscape via natural process and the passing of time, to the extent that it can reasonably be considered as covering more than 50% of the site and an integral part of the natural surroundings; • Land that was used for agricultural purposes at the time the site was purchased; and • Land in built up areas that has not been developed previously, even though these areas may contain certain urban features such as paths pavilions and other buildings.	24.1 Reuse of Land • Aerial Photographs showing the areas that were previously developed land at the time of purchase or Green Star Registration.	x	x																			x	x																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

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GREEN STAR SCORECARD & REQUIREMENTS INDICATIVE - FOR PLANNING PURPOSES ONLY						PROJECT: Newcastle Courthouse Redevelopment - Nihon University		GREEN STAR TARGET: 4 STAR (MINIMUM SCORES REQUIRED: 45)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Document revision: 3		Date: 29.Aug.2019		ADDRESS: 9 Church St Newcastle NSW 2300		SCORES TARGETED: 46 (4 STAR WITH 1 BUFFER POINTS)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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