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The Planning Secretary  
Department of Planning, Industry &  
Environment  
320 Pitt Street  
Sydney, NSW 2000

Attention: Shiraz Ahmed  
Project: Loreto Normanhurst School  
Redevelopment Stage 1  
Re: Conditions of Consent C27 and F16

Dear Shiraz

**RE: LORETO COLLEGE NORMANHURST – SSD 8996 SCHEDULE 3 CONDITION C27  
CONDITIONS FOR ESD CERTIFICATION**

We seek approval to implement an alternative ESD certification process for the Loreto Normanhurst School Redevelopment Stage 1 to demonstrate the principles of Green Star are applied for the project without achieving a formal certification from the Green Building Council of Australia. This approach addresses conditions C27 and F16 of the SSD-8996 Conditions of Consent for the project, which are:

- Condition C27: Prior to the commencement of construction for the relevant construction stage, unless otherwise agreed by the Planning Secretary, the Applicant must demonstrate that ESD is being achieved by either:
  - a) registering for a minimum 5 star Green Star rating for the development with the Green Building Council Australia and submit evidence of registration to the Certifier; or
  - b) seeking approval from the Planning Secretary for an alternative certification process.
- Condition F16: Unless otherwise agreed by the Planning Secretary, within six months of commencement of operation, Green Star certification must be obtained demonstrating the development achieves a minimum 5 star Green Star Design & As Built rating. If required to be obtained, evidence of the certification must be provided to the Certifier and the Planning Secretary. If an alternative certification process has been agreed to by the Planning Secretary under condition C27, evidence of compliance of implementation must be provided to the Planning Secretary and Certifier.

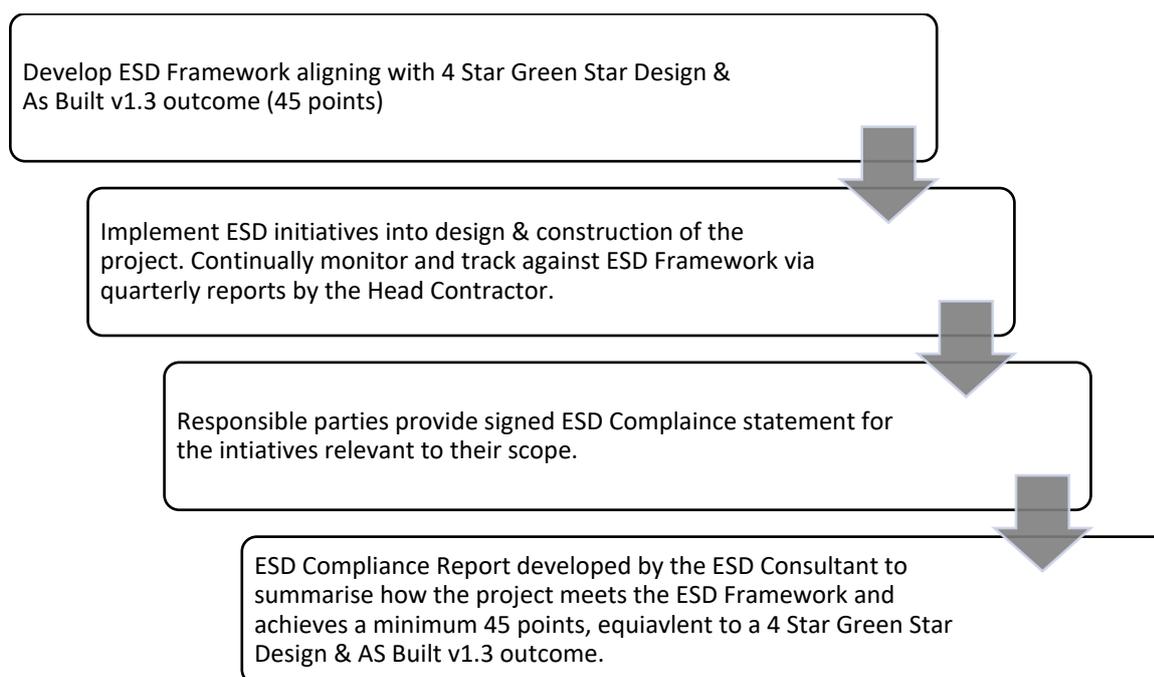
For the Loreto Normanhurst School Redevelopment Stage 1, approval is being sought to pursue an alternative certification process under option (b) of Condition C27.

**Alternative ESD Certification Methodology**

The proposed alternative ESD certification approach to meet the DPIE Conditions C27 and F16 will ensure ESD compliance is tracked and verified throughout the project, from design through to completion. The alternative ESD certification methodology proposed is as follows:

- A 5 Star ESD Framework that aligns with the current Green Star Design & As Built v1.3 tool is to be established, achieving a minimum of 60 points as required for a 5 Star outcome. The Framework will be continually developed with inputs from the project team.
- The relevant design and construction initiatives will be implemented by the Head Contractor and the design team. E-LAB Consulting, as the ESD Consultant, will provide advice to the design team of the required initiatives as required under the ESD Framework.
- Compliance against the ESD Framework will be continually monitored and tracked to ensure the required initiatives are implemented. This will be in the form of quarterly reports by the Head Contractor identifying the current compliance status for each initiative. The quarterly report will be submitted to the ESD Consultant for review.
- Evidence of compliance with the ESD Framework will be provided by the Head Contractor and its associated Subcontractors to E-LAB Consulting at completion of the project. This will be in the form of ESD compliance statements confirming that the design and/or construction elements for which they are responsible complies with the agreed requirements of the ESD Framework.
- Following review of the compliance documentation provided by the Head Contractor, E-LAB consulting will prepare an ESD Compliance Report confirming that the design and construction of the project has achieved the targets outlined within the ESD Framework. The report will include descriptions of the ESD initiatives, how they address the ESD Framework and make reference to supporting evidence.

This process is outlined in the diagram below:



### Proposed Documentation to DPIE

To satisfy the requirements of the Conditions of Consent, the project will provide the following documentation:

- In response to SSD-8996 Condition C27, prior to the issue of a construction certificate for Stage 2:
  - A letter from the ESD Consultant, E-LAB Consulting, confirming that the project will be designed and constructed to an ESD Framework that is equivalent to 4 Star Green Star Design & As Built v1.3 standard
  - The proposed pathway outlining the ESD initiatives to be targeted for the project
- In response to SSD-8996 Condition F16, within 6 months of commencement of operation:

- A certificate from the ESD Consultant, E-LAB Consulting, confirming the project has been designed and constructed to a an ESD Framework that is equivalent to a 5 Star Green Star Design & As Built v1.3 standard
- A report outlining the initiatives incorporated into the development and evidence provided to demonstrate compliance

### Preliminary ESD Framework

The table below provides an overview of the preliminary ESD Framework developed for the project. This has been developed with input from the design team and will be continually updated as the design progresses.

The project is currently targeting 50 points to allow for a 5 point buffer during construction. This aligns with best practice ESD design to ensure a minimum of 45 points is achieved at project completion.

For a full list of initiatives and commentary to each point, please refer to Appendix A.

NO.	CATEGORY	POINTS AVAILABLE	POINTS TARGETED
<b>Management</b>		<b>14</b>	<b>12</b>
1	Green Star Accredited Professional	1	1
2	Commissioning and Tuning	4	2
3	Adaptation and Resilience	2	2
4	Building Information	1	1
5	Commitment to Performance	2	2
6	Metering and Monitoring	1	1
7	Responsible Construction Practices	2	2
8	Operational Waste	1	1
<b>Indoor Environment Quality</b>		<b>17</b>	<b>11</b>
9	Indoor Air Quality	4	2
10	Acoustic Comfort	3	2
11	Lighting Comfort	3	1
12	Visual Comfort	3	3
13	Indoor Pollutants	2	2
14	Thermal Comfort	2	1
<b>Energy</b>		<b>22</b>	<b>6</b>
15	Greenhouse Gas Emission	20	4
16	Peak Electricity Demand Reduction	2	2
<b>Transport</b>		<b>10</b>	<b>8</b>
17	Sustainable Transport	10	8
<b>Water</b>		<b>12</b>	<b>5</b>
18	Potable Water	12	5
<b>Materials</b>		<b>12</b>	<b>10</b>
19	Life Cycle Impacts	5	3

NO.	CATEGORY	POINTS AVAILABLE	POINTS TARGETED
20	Responsible Building Materials	3	3
21	Sustainable Products	3	3
22	Construction and Demolition Waste	1	1
<b>Land Use &amp; Ecology</b>		<b>6</b>	<b>3</b>
23	Ecological Value	3	0
24	Sustainable Sites	2	2
25	Heat Island Effect	1	1
<b>Emissions</b>		<b>5</b>	<b>4</b>
26	Stormwater	1	1
27	Light Pollution	1	1
28	Microbial Control	1	1
28	Refrigerants Impacts	1	0
<b>Innovation</b>		<b>10</b>	<b>3</b>
30A	Innovative Technology or Process	10	
30B	Market Transformation		
30C	Improving on Green Star Benchmarks		3
30D	Innovation Challenge		2
30E	Global Sustainability		1

### Benefits of an Alternative Certification Process

The school is intending to incorporate a high level of sustainability in the design and construction of the Loreto Normanhurst School Redevelopment Stage 1, however does not require a formal Green Star certification for marketing or branding purposes. Green Star certification is typically attractive for developers and commercial investors for investor confidence and to attract tenants and higher rental yields. The school does not require this and therefore the alternative ESD certification approach provides an appropriate assurance of sustainability compliance while allowing the project cost budget to be spent on implementing actual ESD initiatives and improving the educational facilities for the students.

### Comparison to a Formal Green Star Rating

The key differences between a formal Green Star rating and the alternative ESD certification approach are as follows:

- The alternative approach will provide flexibility to adapt the initiatives to be specific to schools and recognise sustainability initiatives outside the scope of the generic Green Star tool. The ESD consultant will use their professional judgement where any alternative initiatives are implemented. This will be justified in detail in the ESD Compliance Report.
- Design consultants and contractors will provide signed certification letters confirming that the design and/or construction elements for which they are responsible complies with the agreed requirements of the ESD Framework. This avoids the requirement for a voluminous formal Green Star certification and places responsibility on the individuals implementing the initiatives. This signed certification letter process is the

same as that used to confirm that the project has been designed and constructed in accordance with Australian Standards and the Building Code of Australia.

- The evidence is not reviewed by a third party assessor or reviewer.
- No public claims of Green Star performance will be made, in line with the Green Building Council of Australia's trademark and copyright requirements.

### ESD Consultant Involvement

E-LAB Consulting, as the ESD Consultant for the project, will be involved throughout the project. Their involvement will involve:

- Development of the ESD Framework to align with a 4 Star Green Star Design & As Built outcome of 45 points
- Collaboration with the design consultants, Head Contractor and Subcontractors to ensure the ESD initiatives are implemented as required by the ESD Framework for the project
- Review of documentation and ESD Compliance Statements to confirm the ESD initiatives have been implemented as required by the ESD Framework for the project
- Development of an ESD Compliance Report confirming that the design and construction of the project has achieved the targets outlined within the ESD Framework. The report will include descriptions of the ESD initiatives, how they address the ESD Framework and make reference to supporting evidence.

E-LAB have demonstrated capability in the implementation and assessment of Green Star projects. The E-LAB team will consist of Guljit Bates and Alexander Kobler, who between them have completed over 20 Green Star Certifications and 5 Green Star equivalency validations. Their curricular vita is attached in Appendix B for your reference

### Sustainability Initiatives

The table below presents some of the initiatives that have been integrated into the design of the project to improve the projects overall sustainability:

AREA	INITIATIVE
Energy	<ul style="list-style-type: none"> <li>▪ Careful consideration of window to wall ratios, insulation and orientation to meet stringent NCC 2019 Section J requirements</li> <li>▪ LED lighting with occupancy sensors and timer controls to minimise electricity use</li> <li>▪ Energy efficient mechanical equipment selections</li> <li>▪ All electric design of services to future-proof the building to be net-zero energy ready</li> <li>▪ Use of high efficiency appliances and equipment</li> </ul>
Water	<ul style="list-style-type: none"> <li>▪ Efficient fixtures and fittings including taps, WCs and showers</li> <li>▪ Rainwater collection and reuse for irrigation</li> <li>▪ On-site stormwater detention, landscaping and stormwater quality devices to reduce surface water run-off and ensure cleanliness of water leaving site</li> </ul>
Materials & Waste	<ul style="list-style-type: none"> <li>▪ Use of best practice PVC</li> <li>▪ Steel sourced from Responsible Steel Maker</li> <li>▪ Maximise use of products with sustainability and transparency certifications</li> <li>▪ Design of spaces to be flexible and reconfigurable to minimise the need for future Fitout works</li> <li>▪ Use of durable finishes to minimise damage and reduce replacement frequency</li> <li>▪ Reduction of waste to landfill during construction</li> <li>▪ Design for maximising operational waste recycling</li> </ul>
Landscape & Amenity	<ul style="list-style-type: none"> <li>▪ Use of indigenous landscaping to encourage native fauna and biodiversity</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Provision of appropriate play spaces protected from the environment as part of the overall campus strategy</li> <li>▪ Use of natural elements to promote mental wellbeing &amp; concentration</li> <li>▪ Light coloured surfaces to be used to minimise heat island impacts</li> <li>▪ External lighting will be designed to minimise impacts on the night sky</li> </ul>
Health and Wellbeing	<ul style="list-style-type: none"> <li>▪ Design of glazing &amp; shading to minimise glare while allowing high levels of daylight and views</li> <li>▪ Lighting with minimum CRI 80 and designed to minimise glare</li> <li>▪ Acoustic design to maximise comfort and usability of spaces</li> <li>▪ Natural ventilation to maximise connection to nature and provide air flow</li> <li>▪ Paints, adhesives and sealants to be low VOCs to minimise impacts on health</li> <li>▪ Engineered wood to be low formaldehyde to minimise off-gassing</li> </ul>

### Conclusion

We believe the alternative ESD certification approach outlined above provides an appropriate level of rigor and quality assurance for planning compliance purposes. The approach allows the project to provide a high level of sustainability and allows for recognition of initiatives beyond those recognised by a formal certification scheme.

Should you require further clarification around the alternative certification process, please feel free to contact myself.

Yours Sincerely,



**Luke Gladwish**

Director

Carmichael Tomkins Property Group

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88 Phillip Street

Sydney NSW 2000

## **Appendix A – Preliminary ESD Framework**

# ESD Framework

<b>Project:</b>	Loreto Normanhurst Boarding House
<b>Targeted Rating:</b>	5 Star - Australian Excellence

Core Points Available	Total Score Targeted
100	65

NA	CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	POINTS TARGETED
<b>Management</b>					14	
	<b>Green Star Accredited Professional</b>	To recognise the appointment and active involvement of a Green Star Accredited Professional in order to ensure that the rating tool is applied effectively and as intended.	1.1	Accredited Professional	1	1
	<b>Commissioning and Tuning</b>	To encourage and recognise commissioning, handover and tuning initiatives that ensure all building services operate to their full potential.	2.0	Environmental Performance Targets	-	Complies
			2.1	Services and Maintainability Review	1	1
			2.2	Building Commissioning	1	
			2.3	Building Systems Tuning	1	1
			2.4	Independent Commissioning Agent	1	
	<b>Adaptation and Resilience</b>	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.	3.1	Implementation of a Climate Adaptation Plan	2	2
	<b>Building Information</b>	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.	4.1	Building Information	1	1
	<b>Commitment to Performance</b>	To recognise practices that encourage building owners, building occupants and facilities management teams to set targets and monitor environmental performance in a collaborative way.	5.1	Environmental Building Performance	1	1
			5.2	End of Life Waste Performance	1	1
	<b>Metering and Monitoring</b>	To recognise the implementation of effective energy and water metering and monitoring systems.	6.0	Metering	-	Complies
			6.1	Monitoring Systems	1	1
	<b>Responsible Construction Practices</b>	To reward projects that use best practice formal environmental management procedures during construction.	7.0	Environmental Management Plan	-	Complies
			7.1	Environmental Management System	1	1
			7.2	High Quality Staff Support	1	1

RESPONSIBILITY	COMMENTS
CTPG/LORETO	E-LAB engaged from Design Development through to Construction Completion.
ESD	Project specific Design Intent Report is to be developed summarising building design & targets.
HEAD CONTRACTOR	Services and maintainability review led by Head Contractor. Contractor to review all services documentation and provide feedback to sub-contractors
	Requires air permeability testing to be carried out to at least 10% of building area and not exceed 15m2/h/m2 at 25Pa. Not targeted.
Loreto	Loreto to commit to 12 month Building Tuning Period/
	Requires appointment of ICA, typically not required for buildings of this size/complexity
ESD	Climate Adaptation Plan to identify risks. All high and extreme risks identified and design to mitigate.
SERVICES HEAD CONTRACTOR	All subcontractors to provide O&M information and provided to facilities management. Building Log Book to be developed in line with CIBSE TM31. Building Users Guide to be developed & provided to building users.
LORETO	Loreto to commit to setting, measuring and reporting on energy & potable water through internal commitment.
LORETO	Loreto to commit to extending the life of interior finishes to 10 years (barring minor wear and tear)
ELECTRICAL MECHANICAL HYDRAULIC	Metering for distinct uses and any items that exceed 5%/100kW of total energy use and 10% of water use. Meters to be commissioned to NABERS validation protocols and produce alerts if inaccuracies are found
BMS	Monitoring strategy to be developed and BMS to be able to read all meters, record data, produce alerts
HEAD CONTRACTOR	Head Contractor to develop best practice Environmental Management Plan for the project.
HEAD CONTRACTOR	Head Contractor to be ISO14001 certified
HEAD CONTRACTOR	Head Contractor to provide mental and physical support to staff, provide training on core concepts of sustainability

Operational Waste	B. Prescriptive Pathway	8B	Prescriptive Pathway: Facilities	1	1
<b>Total</b>				<b>14</b>	<b>12</b>

WASTE CONSULTANT ARCHITECT	Waste Management Strategy developed at DA by Foresight Environmental. Architectural Design to incorporate recommendations.
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Indoor Environment Quality				17			
<input type="checkbox"/>	Indoor Air Quality	To recognise projects that provide high air quality to occupants.	9.1	Ventilation System Attributes	1	1	
<input type="checkbox"/>			9.2	Provision of Outdoor Air	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2	
<input type="checkbox"/>			9.3	Exhaust or Elimination of Pollutants	<input type="checkbox"/> <input type="checkbox"/>	1	1
<input type="checkbox"/>	Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic conditions for occupants.	10.1	Internal Noise Levels	1	1	
<input type="checkbox"/>			10.2	Reverberation	1	1	
<input type="checkbox"/>			10.3	Acoustic Separation	1		
<input type="checkbox"/>	Lighting Comfort	To encourage and recognise well-lit spaces that provide a high degree of comfort to users.	11.0	Minimum Lighting Comfort	-	Complies	
<input type="checkbox"/>			11.1 General Illuminance and Glare Reduction	11.1.1	General Illuminance	<input checked="" type="checkbox"/> <input type="checkbox"/>	1
<input type="checkbox"/>				11.1.2	Glare Reduction	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/>			11.2	Surface Illuminance	<input type="checkbox"/> <input type="checkbox"/>	1	
<input type="checkbox"/>			11.3	Localised Lighting Control	1		
<input type="checkbox"/>	Visual Comfort	To recognise the delivery of well-lit spaces that provide high levels of visual comfort to building occupants.	12.0	Glare Reduction	<input checked="" type="checkbox"/> <input type="checkbox"/>	Complies	
<input type="checkbox"/>			12.1	Daylight	<input checked="" type="checkbox"/> <input type="checkbox"/>	2	2
<input type="checkbox"/>			12.2	Views	1	1	
<input type="checkbox"/>	Indoor Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	13.1 Paints, Adhesives, Sealants and Carpets	13.1.1	Paints, Adhesives and Sealants	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	1
<input type="checkbox"/>				13.1.2	Carpets	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/>	Thermal Comfort	To encourage and recognise projects that achieve high levels of thermal comfort.	13.2	Engineered Wood Products	<input checked="" type="checkbox"/> <input type="checkbox"/>	1	1
<input type="checkbox"/>			14.1	Thermal Comfort	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	1	1
<input type="checkbox"/>			14.2	Advanced Thermal Comfort	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	1	
<b>Total</b>				<b>17</b>	<b>11</b>		

MECHANICAL	Ventilation systems to be designed to ASHRAE 62.1, have adequate access to both sides of heating & cooling coils, humidifiers & filters. Ductwork to be covered on site to prevent dust buildup.
	Not targeted. Building to be provided with 50% greater OA than AS1668.2.
MECHANICAL LORETO	Kitchens to be ventilated in accordance with AS 1668.2:2012. Carpark to be exhausted directly to outside. Printers to be certified to Blue Angel Standard.
ACOUSTIC ARCHITECT	Internal noise levels no more than 5dBA above lower figure in AS/NZ 2107:2016. Testing required at completion.
ACOUSTIC ARCHITECT	Reverberation times below maximum in AS/NZ 2107:2016. Testing required at completion.
	Requires Rw 45 between enclosed spaces. May not be achievable - TBC with Acoustic Consultant.
ELECTRICAL	Flicker free lighting & CRI >80% and 12-bit or greater resolution.
ELECTRICAL	Best practice lighting levels in line with AS/NZS 1680.2 to be achieved
ELECTRICAL	All luminaires to have diffusers or meet UGR values of AS 1680.1
	Requires bi-directional lighting, reflective ceilings. Not targeted.
	Requires lighting control for individual occupants including dimming.
ARCHITECT	Blinds, screens, shading to be provided to control glare.
ESD	60% of spaces to receive high levels of daylight. Daylight modelling to be completed.
ESD	60% of area have access to high quality external/internal views.
ARCHITECT, MECHANICAL, ELECTRICAL, HYDRAULIC, FIRE	Paints, adhesives, sealants to comply with VOC limits. Requirements to be included in all specifications.
ARCHITECT	Carpets to comply with VOC limits. Requirements to be included in Architectural specification.
ARCHITECT	Engineered wood to comply with formaldehyde limits. Requirements to be included in Architectural specification.
MECHANICAL	High degree of thermal comfort to be provided (-1<PMV<+1). Required for NCC 2019 compliance.
	Very high degree of thermal comfort to be provided (-0.5<PMV<+0.5). TBC with mechanical

Energy		22			
Greenhouse Gas Emissions	E. Reference Building Pathway	15E.0	Conditional Requirement: Reference Building Pathway	-	Complies
		15E.1	GHG Emissions Reduction: Building Fabric	4	
		15E.2	GHG Emissions Reduction	16	4
		15E.3	Off-Site Renewables	8	
		15E.4	District Services	7	
		15E.5 Additional Prescriptive Measures	15E.5.1 Transition Plan	1	
			15E.5.2 Fuel Switching	2	
15E.5.3 On-Site Storage	1				
Peak Electricity Demand Reduction	B. Performance Pathway	16B	Modelled Performance Pathway: Reference Building	2	2
<b>Total</b>				<b>22</b>	<b>6</b>

SERVICES ESD	Improvement of 10% against NCC 2019 reference building.
SERVICES ESD	2 points awarded for complying with 15E.2. Additional 2 points for further 10% improvement from services efficiencies and PV contribution (PV size TBC)
SERVICES ESD	Requires no gas use on site for heating or cooking. This will impact the kitchen.
SERVICES ESD	Peak demand reduction through services efficiencies & PV

Transport		10			
Sustainable Transport	A. Performance Pathway	17A	Performance Pathway	10	8
<b>Total</b>				<b>10</b>	<b>8</b>

TRANSPORT ARCHITECT	Green Travel Plan developed at DA. Mode share targets to be input into GBCA sustainable transport calculator
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Water		12			
Potable Water	A. Performance Pathway	18A	Potable Water - Performance Pathway	12	5
<b>Total</b>				<b>12</b>	<b>5</b>

ARCHITECT HYDRAULICS	6 Star taps, 6 star urinals, 4 star WCs, <6L/min showers, rainwater for toilet flushing TBC.
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Materials				14				
Life Cycle Impacts	B. Prescriptive Pathway - Life Cycle Impacts	19B.1 Concrete	19B.1.1 Portland Cement Reduction	<input type="checkbox"/>	2	1		
			19B.1.2 Water Reduction		0.5	0.5		
			19B.1.3 Aggregates Reduction		0.5	0.5		
		19B.2 Steel	A. Reduced Mass of Steel Framing	<input type="checkbox"/>	1	1		
			19B.3 Building Reuse		2			
19B.4 Structural Timber		2						
Responsible Building Materials	To reward projects that include materials that are responsibly sourced or have a sustainable supply chain.	20.1	Structural and Reinforcing Steel		-	Complies		
					1	1		
				20.2	Timber	<input type="checkbox"/>	1	1
				20.3	Permanent Formwork, Pipes, Flooring, Blinds and Cables	<input type="checkbox"/>	1	1
Sustainable Products	To encourage sustainability and transparency in product specification.	21.1	Product Transparency and Sustainability	<input type="checkbox"/>	3	3		
				<input checked="" type="checkbox"/>				
Construction and Demolition Waste	B. Percentage Benchmark	22.0	Reporting Accuracy		-	Complies		
				22B	Percentage Benchmark		1	1
<b>Total</b>					<b>12</b>	<b>10</b>		

STRUCTURAL	Use of concrete with 30% portland cement reduction, reused water, 40% crushed slag aggregate/25% manufactured sands
STRUCTURAL	Post tensioning of concrete slabs
STRUCTURAL HEAD CONTRACTOR	Steel sourced from responsible steel maker
STRUCTURAL HEAD CONTRACTOR	Steel sourced from responsible steel fabricator and at least 60% produced using energy reducing processes.
ARCHITECT	Requires use of 95% by cost FSC/PEFC certified timber (joinery, flooring, finishes)
SERVICES ARCHITECT	Formwork, pipes, blinds, flooring, cables to meet best practice guidelines for PVC or do not contain PVC.
ARCHITECT HEAD CONTRACTOR	Selection of sustainable products. Steel & paints with EPDs, certified plasterboard, carpets, flooring, furniture.
HEAD CONTRACTOR	Waste contractors and facilities to hold compliance verification summaries
HEAD CONTRACTOR	90% of construction waste to be diverted from landfill.

Land Use & Ecology				6		
Ecological Value	To reward projects that improve the ecological value of their site.	23.0	Endangered, Threatened or Vulnerable Species		-	Complies
		23.1	Ecological Value		3	
Sustainable Sites	To reward projects that choose to develop sites that have limited ecological value, re-use previously developed land and remediate contaminate land.	24.0	Conditional Requirement		-	Complies
		24.1	Reuse of Land		1	1
		24.2	Contamination and Hazardous Materials	<input checked="" type="checkbox"/>	1	1
Heat Island Effect	To encourage and recognise projects that reduce the contribution of the project site to the heat island effect.	25.1	Heat Island Effect Reduction		1	1
<b>Total</b>					<b>6</b>	<b>3</b>

	No endangered species on site
	Improvement of ecological value of site with landscaping.
	Pre-existing site
ESD	Greater than 75% of site was previously developed.
CTPG/LORETO	Comprehensive hazardous materials survey to be carried out. Any asbestos, lead or PCBs identified to be stabilised or removed in accordance with best practice guidelines.
ARCHITECT	Requires use of light coloured roof to minimise heat island impacts

Emissions				5	
Stormwater	To reward projects that minimise peak stormwater flows and reduce pollutants entering public sewer infrastructure.	26.1	Stormwater Peak Discharge	1	1
		26.2	Stormwater Pollution Targets	1	1
Light Pollution	To reward projects that minimise light pollution.	27.0	Light Pollution to Neighbouring Bodies	-	Complies
		27.1	Light Pollution to Night Sky	1	1
Microbial Control	To recognise projects that implement systems to minimise the impacts associated with harmful microbes in building systems.	28	Legionella Impacts from Cooling Systems	1	1
Refrigerant Impacts	To encourage operational practices that minimise the environmental impacts of refrigeration equipment.	29.1	Refrigerants Impacts	1	
<b>Total</b>				<b>5</b>	<b>4</b>

CIVIL/STORMWATER	Post development stormwater discharge does not exceed pre development discharge.
CIVIL/STORMWATER	Stormwater pollution reduction targets to be in line with Column B as per TTW DA Civil Report. One Innovation point
ELECTRICAL	External lighting design to comply with AS 4282:1997.
ELECTRICAL	No uplighting, ULOR of all external luminaires to be <5% OR design to limit direct illuminance to 0.5 lux to site boundary and 0.1 lux to 4.5m beyond the site into the night sky
MECHANICAL	Waterless heat rejection system.
	Reduced environmental impact of refrigerants

Innovation				10	
Innovative Technology or Process	The project meets the aims of an existing credit using a technology or process that is considered innovative in Australia or the world.	30A	Innovative Technology or Process	10	
Market Transformation	The project has undertaken a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development in Australia or in the world.	30B	Market Transformation		
Improving on Green Star Benchmarks	The project has achieved full points in a Green Star credit and demonstrates a substantial improvement on the benchmark required to achieve full points.	30C	Improving on Green Star Benchmarks		3
Innovation Challenge	Where the project addresses a sustainability issue not included within any of the Credits in the existing Green Star rating tools.	30D	Innovation Challenge		2
Global Sustainability	Project teams may adopt an approved credit from a Global Green Building Rating tool that addresses a sustainability issue that is currently outside the scope of this Green Star rating tools.	30E	Global Sustainability		1
<b>Total</b>				<b>10</b>	<b>6</b>

ARCHITECT HEAD CONTRACTOR	Ultra Low VOC paints Stormwater Sustainable Products
HEAD CONTRACTOR	Financial Transparency High performance site offices
ARCHITECT	Quality of Amenities

TOTALS	AVAILABLE	TARGETED
CORE POINTS	100	59.0
CATEGORY PERCENTAGE SCORE		59.0
INNOVATION POINTS	10	6.0
TOTAL SCORE TARGETED		65.0

## **Appendix B – E-LAB Curricular Vita**



## ALEX KOBLER

Director, Sustainability

CPEng, NER, RPEQ, GSAP, WELLAP, WiredAP

*Alex leads E-LAB's project teams to achieve high-performance, low impact and sustainable outcomes.*

With over a decade's local experience in leading sustainable engineering design, Alex has a track record of delivering outcomes that exceed client expectations.

Alex provides high quality, considered service on each project. His technical knowledge spans building services through to sustainable design and construction, resulting in a holistic approach to design solutions.

Alex has been the lead engineer on many of Sydney's most recognisable sustainability developments, delivering major projects across commercial, residential, education, hospitality and civic buildings.



### Project Highlights:

- 4 Parramatta Square
- 9-25 Commonwealth St, Surry Hills
- Built Pty Ltd HQ, Sydney
- 151 Clarence St, Sydney
- Brewery Yard, Chippendale
- 15 Bowden St, Alexandria
- Omnia, Potts Point
- Merchants House, The Rocks
- Sydney Fish Markets, Glebe
- 41 McLaren St, North Sydney
- Sandstones Precinct, Circular Quay
- 161 Pitt St, Sydney
- Merchants House, The Rocks
- 10-14 Cooper St, Surry Hills
- Aquatic & Leisure Centre Parramatta
- Sydney Olympic Park HS
- Liverpool Civic Place, Liverpool
- Hotel Indigo, Auckland
- 151 Macquarie St, Sydney
- 105 Phillip Street, Sydney
- The Sandstone Precinct, Circular Quay
- 135 King St, Sydney
- Darling Square North West
- Holiday Inn Express, Parramatta
- 183 Clarence St, Sydney
- 52 Phillip St, Sydney
- Lismore Base Hospital
- 50 Macquarie St, Parramatta
- One Sydney Harbour, Barangaroo
- Nepean Mental Health Facility
- 84 Anson St, Orange
- 9-25 Commonwealth St, Surry Hills



## GULJIT BATES

Associate, Sustainability

BEng, MIEAust, GSAP, DMN TPA

*Guljit understands each project's unique drivers and challenges to integrate sustainability measures that complement the overall project outcome.*

With over nine years' experience as a Sustainability professional in Sydney, Guljit has serviced and delivered major projects across all building sectors including commercial, residential and retail.

Armed with strong technical skills in Green Star, NABERS, Section J and computer modelling, Guljit delivers workable, bespoke solutions to deliver healthy, efficient and liveable spaces.

Guljit is an accredited Thermal Performance Assessor and a Green Star Accredited Professional with a Bachelor of Engineering in Renewable Energy from the University of New South Wales.



### Project Highlights:

- 4 Parramatta Square, Parramatta
- City Tattersalls Club
- One Circular Quay, Sydney
- OLOC Toongabbie
- Liverpool Civic Place, Liverpool
- 10-14 Cooper St, Surry Hills
- 105 Phillip Street, Parramatta
- NSW Fitout, 6 Parramatta Square
- Campbelltown Hospital Stage 2
- 41 Terry Road, Rouse Hill
- NSW Fitout, 4 Parramatta Square
- 11-13 Buller St, Bellevue Hill
- 137-153 Crown Street, Darlinghurst
- Park Sydney, Erskineville
- 707 Elizabeth St, Waterloo
- 235 Pyrmont Street, Pyrmont
- Nbh Lot 104 Lachlans Line
- Tallawong Apartments
- 12a Parkes St, Harris Park
- HomeCo Ballarat Redevelopment
- North Sydney Marist School
- 505 George Street, Sydney
- Taronga Institute (TISL)
- One Sydney Harbour, Barangaroo
- Taronga Institute of Science & Learning
- Bunnings Leppington
- Nihon University Newcastle
- Waterloo Metro Quarter
- PolAir Facility, Bankstown Airport
- 135 McEvoy St, Alexandria
- The Canopy Lane Cove