

Level 4  
108 Wickham Street  
Fortitude Valley QLD 4006  
Australia  
**t** +61 7 3023 6000  
**d** +61 7 3023 6212

richard.vincent@arup.com  
www.arup.com

17 September 2021

To whom it may concern,

## **845 Pacific Highway Chatswood – Sustainability Statement**

Arup have been providing sustainability advice to HYG in relation to the 845 Pacific Highway redevelopment. Arup have worked with the design team to include a number of design features aligned with achieving an Environmentally Sustainable Design for the project. It is the intent of the project to target a 5 Star Green Star Design and As-Built rating under the Green Building Council of Australia's rating tool, in order to satisfy the requirements of the Willoughby Development Control Plan (WDGP) Part C.3 Building Sustainability.

It is noted that the following environmental criteria are targeted for this project as part of PCA 3rd Edition (2019) Grade A compliance:

- 5.5 Star NABERS Energy (without green power)
- 5 Star Green Star D&AB v1.3
- Green Star D&AB v1.3 Operational Waste Credit
- Green Star D&AB v1.3 minimum 3 water points
- Green Star D&AB v1.3 Min 60% of Indoor Environmental Quality Points, including credits for thermal comfort
- Green Star D&AB v1.3 Adaptation and Resilience credit

It is our opinion that if advice by a qualified Environmentally Sustainable Design (ESD) consultant is directly followed in collaboration with the design team then it would be possible for the development to achieve its target 5-star Green Star rating using the Design and As-built tool, and that the energy targets can be achieved in accordance with the 'Deemed to Satisfy' or 'Performance Solution' provisions under Section J of the 2019 National Construction Code (NCC).

A preliminary Green Star D&AB v1.3 pathway has been devised for the reference scheme. The pathway targets a total of 67 points, which will achieve a 5-star rating with 7 buffer points.

Credit		Aim	Sub-credits	Points available	Target
Management					
1.0	Green Star Professional	To recognise projects that engage a Green Star Accredited Professional to support the Green Star certification process.	Accredited Professional	1	1
2.0	Commissioning and Tuning	To encourage and recognise commissioning, handover and tuning initiatives that ensure all building services operate to their full potential and as designed.	Environmental Performance Targets	-	Yes
2.1			Services and Maintainability Review	1	1
2.2			Building Commissioning	1	1
2.3			Building Systems Tuning	1	1
2.4			Independent Commissioning Agent	1	1
3.1	Adaptation and Resilience	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.	Implementation of a Climate Adaptation Plan	2	2
4.1	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.	Building Information	1	1
5.1	Commitment to Performance	To recognise practices that encourage building owners, building occupants and facilities management teams to set targets and monitor environmental performance in a collaborative way.	Environmental Building Performance	1	1
5.2			End of Life Waste Performance	1	0
6	Metering and Monitoring	To recognise the implementation of effective energy and water metering and monitoring systems.	Metering	-	Yes
6.1			Monitoring Systems	1	1
7.0	Responsible Construction	To reward responsible construction practices that manage environmental impacts, enhance staff health and wellbeing, and improve sustainability knowledge on site.	Environmental Management Plan	-	Yes
7.1			Environmental Management System	1	1
7.2			High Quality Staff Support	1	1
8A	Operational Waste	To recognise projects that implement waste management plans that facilitate the re-use, upcycling, or conversion of waste into energy, and stewardship of items to reduce the quantity of outgoing waste.	Performance Pathway	1	1
Indoor Environment Quality					
9.1	Indoor Air Quality	To recognise projects that provide high indoor air quality to occupants	Ventilation System Attributes	1	1
9.2			Provision of Outdoor Air	2	1
9.3			Exhaust or Elimination of Pollutants	1	1
10.1	Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic conditions for occupants.	Internal Noise Levels	1	1
10.2			Reverberation	1	1
10.3			Acoustic Separation	1	1
11	Lighting Comfort	To encourage and recognise well-lit spaces that provide a high degree of comfort to users.	Minimum Lighting Comfort	-	Yes
11.1			General Illuminance and Glare Reduction	1	1
11.2A			Surface Illuminance	1	0
11.3	Visual Comfort	To recognise the delivery of well-lit spaces that provide high levels of visual comfort to building occupants.	Localised Lighting Control	1	0
12			Glare Reduction	-	Yes
12.1			Daylight	2	2
12.2			Views	1	1
13.1	Indoor Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	Paints, Adhesives, Sealants and Carpets	1	1
13.2			Engineered Wood Products	1	1
14.1	Thermal Comfort	To recognise projects that achieve high levels of thermal comfort.	Thermal Comfort	1	1
14.2			Advanced Thermal Comfort	1	0
Energy					
15	Greenhouse Gas Emissions	To encourage reduction of greenhouse gas (GHG) emissions associated through energy efficiency measures, and to drive uptake of renewable energy.	Conditional Requirement: Reference Building Pathway	-	Yes
15E.1			Comparison to a Reference Building Pathway	20	7
16B	Peak Electricity Demand	To encourage the reduction of peak demand load on the electricity network infrastructure.	Modelled Performance Pathway: Reference Building	2	1

Credit	Aim	Sub-credits	Points available	Target
--------	-----	-------------	------------------	--------

Transport					
17A	Sustainable Transport	To reward projects that implement design and operational measures that reduce the carbon emissions arising from occupant travel to and from the project, when compared to a reference building. This also promotes the health and fitness of commuters, and the increased liveability of the location.	Prescriptive Pathway	10	5.5
Water					
18A	Potable Water	To encourage building design that minimises potable water consumption in operations.	Potable Water - Performance Pathway	12	4.0
Materials					
19A.1	Life Cycle Assessment	To reward the reduction of the environmental impacts of building materials and methods for the project over its entire life cycle.	Comparative Life Cycle Assessment	6	4
19A.2			Additional Life Cycle Impact Reporting	3	2
20.1	Responsible Materials	To reward projects that include building materials that are responsibly sourced or have a sustainable supply chain.	Structural and Reinforcing Steel	1	1
20.2			Timber Products	1	1
20.3			Permanent Formwork, Pipes, Flooring, Blinds and Cables	1	1
21.1	Sustainable Products	To encourage sustainability and transparency in product specification.	Product Transparency and Sustainability	3	2
22	Construction Waste	To reward projects that reduce construction waste going to landfill by reusing or recycling building materials.	Reporting Accuracy	-	Yes
22B			Percentage Benchmark	1	1
Land Use and Ecology					
23	Ecological Value	To reward projects that improve the ecological value of their site.	Endangered, Threatened or Vulnerable Species	-	Yes
23.1			Ecological Value	3	0
24	Sustainable Sites	To reward projects that choose to develop sites that have limited ecological value, that reuse previously developed land, and that remediate contaminated land.	Conditional Requirement	-	Yes
24.1			Reuse of Land	1	1
24.2B			Contamination and Hazardous Materials	1	1
25	Heat Island Effect	To encourage and recognise projects that reduce the contribution of the project site to the 'heat island effect'.	Heat Island Effect Reduction	1	1
Emissions					
26.1	Stormwater	To reward projects that minimise peak storm water outflows from the site and reduce pollutants entering the public stormwater infrastructure or other water bodies.	Stormwater Peak Discharge	1	1
26.2			Stormwater Pollution Targets	1	1
27	Light Pollution	To reward projects that minimise light pollution.	Light Pollution to Neighbouring Bodies	-	Yes
27.1			Light Pollution to Night Sky	1	1
28	Microbial Control	To implement systems to minimise the impacts associated with harmful microbes in building cooling systems.	Legionella Impacts from Cooling Systems	1	0
29	Refrigerant Impacts	To encourage practices that minimise the environmental impacts of refrigeration and air conditioning equipment.	Refrigerants Impacts	1	0
Innovation					
30A1	Innovative Technology	To recognise and encourage pioneering initiatives in sustainable design, process or advocacy.	On-site Renewable Energy	2	1
30C3	Improving GS Benchmarks		Ultra-low VOC paints	1	1
30D1	Innovation Challenges		Financial transparency	1	1
30D6			Occupant Engagement	1	1
30E3			Global Sustainability	Green cleaning (from Green Star Performance)	1
Total				110	67

Yours sincerely,



Richard Vincent  
Associate Principal