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Dear Sir/Madam

Campbelltown Hospital Redevelopment Stage 2 Ecologically Sustainable Development Statement for EIS

This Ecologically Sustainable Development (ESD) statement has been developed by Arup in response to the SEARs issued for the Campbelltown Hospital Redevelopment Stage 2, SSD 9241.

In particular, this statement refers to the General Requirement No. 6 which notes:

6. Ecologically Sustainable Development (ESD)

- Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design and ongoing operation phases of the development.
- Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice.
- Include a description of the measures that would be implemented to minimise the consumption of resources, water (including water sensitive urban design) and energy.

ESD Principles and Industry Best Practice

Clause 7(4) – Schedule 2 – Environmental Planning & Assessment Regulation (2000)

The principles of ecological sustainable development noted in the above regulation are as follows:

- (a) the “precautionary principle” – ensuring lack of scientific certainty around potential environmental threats should not be used as a reason for postponing measures to prevent environmental degradation;

- (b) “intergenerational equity” – ensuring that the health, diversity and productivity of the environment are maintained & enhanced for the benefit of future generations;
- (c) “conservation of biological diversity & ecological integrity” – should be a fundamental consideration; and
- (d) “improved valuation, pricing and incentive mechanism” – ensuring environmental factors are included within the valuation of assets and services.

The project will address these requirements through the following frameworks developed and implemented by NSW Health Infrastructure (HI) across all their projects. The key elements of proposed framework are documented in the HI document: *Engineering Services Guidelines*, Doc. No. GL2016_020, dated 26 August 2016.

As part of these guidelines, the development is required to address a number of sustainability requirements. Some of these are detailed in the Implementation section of this letter which highlights specific measures undertaken to address the SEARs. One of the key elements in addressing the SEARs is the rating of the development against industry best practice, the response to this is detailed below.

Section 2.5.8 Sustainability and Energy Targets

Green Star – new facilities to target 4 star, Green Star equivalency rating as part of the design. A 4 star rating is noted by the Green Building Council of Australia as being Australian Best Practice.

Green Star is a voluntary rating system developed by the GBCA and nominates achievement of initiatives across a range of sustainability metrics. This will be used through the design development process to address the ESD Principles. A short description of tool proposed for the project follows below.

(The) Green Star Design & As Built tool aims to:

- Assist clients and project teams to achieve and rate their sustainability goals for their project.
- Encourage a new approach to design and construction buildings by rewarding sustainability best practice and excellence.
- Provide consistent and clear advice in an easy to use manner.

Green Star Design & As Built assess the sustainability attributes of a building through nine categories:

- Management;
- Indoor Environment Quality;
- Energy;
- Transport;
- Water;
- Materials;
- Land Use and Ecology;
- Emissions; and
- Innovation.

Implementation

To ensure the implementation of the ESD Principles in the project, HI provide guidance as part of their Engineering Services Guidelines to assist the design team in achieving the industry best practice requirements. These are a baseline set of initiatives for investigation, the design team is free to also look outside of these to achieve the requirements.

Section 2.5.8 Sustainability and Energy Targets

Energy – all new standalone buildings are to target at minimum a 10% improvement over the National Construction Code Section J requirements for energy efficiency through JV3 modelling.

Section 2.5.6 Sustainability, Lifecycle and Waste Management

HI notes that proposed designs should consider:

- Passive design strategies such as day lighting,
- Demand management,
- Gravity systems,
- Energy and water efficiency and conservation techniques,
- Use of non-toxic and environmentally sound materials and finishes, and
- Consider life-cycle sustainability and maintenance implications.

Section 2.5.9 Water

HI notes that water efficiency of high importance in their developments and thus require investigation into the following:

- Potential for the use of gravity systems,
- Water recycling options,
- Metering and monitoring systems to detect excessive water usage or leakage,
- Fire test water re-use in non-potable systems or fire test systems that minimise water use,
- Rainwater harvesting to reduce potable water consumption based on cost benefit analysis,
- Installation of high-efficiency fixtures, and
- Efficient irrigation systems and use of appropriate species for planting.

Section 2.5.10 Materials

HI notes that proposed designs should consider:

- Use of locally sourced materials
- Selection of low embodied energy materials
- Specification of products and materials that are either reused or contain high-recycled content

At minimum, HI requires that the following items are incorporated into the materials selection process:

- Consideration of structure steel products composed of recycled content
- Reduce the amount of cement by replacing it with recycled concrete
- Minimisation of PVC products
- Preference to reused timber, legally sourced timber and timber sourced from forests where conservation values are not degraded

- Improve daylight access whilst reducing solar heat gains by incorporating glazing shading and roof/wall insulation
- Make effective use of mean radiant heat and
- Design material sizes and common packaging quantities to avoid off-cut wastage and unnecessary consumption.

Commitment

New South Wales Health Infrastructure are committed to integrating sustainability into their developments. Their Engineering Services Guidelines highlight numerous measures and specific metrics which relate to the ESD Principles as noted in as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000.

The design team have reviewed these as part of the current design development, and will continue to reference them through the finalisation of design.

Yours faithfully



Alexander Hespe
Senior Engineer

cc

Mairead Hogan (Arup)