

ENQUIRIES: NICHOLAS JOHNSON
PROJECT NO: 28807-SYD-SU

21 September 2017

NSW Health Infrastructure
C/- TSA Management

RE: ECOLOGICAL SUSTAINABLE DESIGN STATEMENT – GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT

This Ecologically Sustainable Development (ESD) statement has been prepared for the Goulburn Hospital and Health Services Redevelopment, located at 130 Goldsmith Street, Goulburn NSW. The statement is intended to provide an overview of the proposed project's environmentally sustainable development response in response to Secretary's Environmental Assessment Requirements and support the project Environmental Impact Statement (EIS).

Specifically, this statement responds to Key Issue no.6 – Ecological Sustainable Development (ESD) and seeks to:

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

Information contained within this statement has been prepared in accordance with:

- NSW Health Infrastructure Engineering Service Guidelines, August 2016;
- Green Star - Holistic Environmental Certification scheme, Green Building Council of Australia; and
- Recognised best practice principles of Ecological Sustainable Design including relevant legislation, standards & industry tools.

The following information provides a detailed response to the above Key Issues as identified within the Secretary's Environmental Assessment Requirements, application number SSD 8667.

To us, it's more than just work

Level 6, Building B, 207 Pacific Highway, St Leonards NSW 2065
Phone +61 2 8484 7000 Fax +61 2 8484 7100 Email sydney@wge.com.au www.wge.com.au
Wood & Grieve Engineers Limited ACN 137 999 609 trading as Wood & Grieve Engineers ABN 97 137 999 609
Albany • Brisbane • Busselton • Melbourne • Perth • Sydney

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

The above nominated Clause identifies the *Principles* of ecological sustainable development 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.

Goulburn Hospital & Health Services Redevelopment response;

NSW Health Infrastructure (NSWHI) has taken a fundamentally responsible approach to ensuring the principles of ESD are incorporated into all of its new and refurbishment projects regardless of project value or size. The position of NSWHI is documented within the Engineering Service Guidelines (2016) and includes several reference clauses aimed at ensuring effective & environmentally responsive ESD initiatives are incorporated into each project.

Specifically, the following clauses are relevant as identified within the NSW HI Guidelines:

Principle 2.5.8 (Targets) – Sustainability & Energy

- Green Star – All new facilities target a Green Star Health Care 4 Star equivalency rating – noting Green Star 4 Star is considered ‘Australian Best Practice’
- Energy Targets – All new standalone buildings will have a mandatory required of delivering a 10% improvement on national construction code (NCC) Section J.
- Further improvement - HI is committed to delivering projects which deliver the best value energy performance and will commit funding to implement initiatives and schemes which are economically responsible and deliver proven and significant energy improvements.

Principle 2.5.9 (Targets) – Potable Water

Design for hospital water quality and quantity ensure that the documented project design considers:

- Water recycling options for suitable non-potable uses;
- Initiatives which seek to minimise potable water consumption – flow restrictors, WELS ratings etc.
- Metering on monitoring systems for operational efficiency;
- Rainwater harvesting;
- Fire system test water reuse; and
- Efficient irrigation systems – such as sub-surface drip irrigation.

Principle 2.5.10 (Targets) – Materials

NSWHI is committed to ensuring material selection and material resources are used efficiently through projects via consideration of:

- Low embodied energy products;
- Preference for locally sources materials;
- Material selection which contain either reused or contain high recycled content;
- Give preference to materials manufactured using renewable energy sources; and
- Design to minimise unnecessary material usage.

Green Star – Holistic Environmental Assessment Tool (Australian Best Practice)

In response to the SEARs Key Issue in demonstrating the project is assessed against a suitably accredited rating scheme equivalent to industry best practice, the Goulburn Hospital & Health Services Redevelopment project will be assessed against the industry recognised Green Star scheme.

Green Star, developed by the Green Building Council of Australia (GBCA), is widely recognised by the Australian development industry as representative of ‘environmental best practice’ in property design & construction. A holistic environmental rating tool, Green Star aims to improve environmental performance of buildings, communities and tenancies across nine assessment categories. These include:

- Building Management
- Indoor Environmental Quality
- Energy
- Transport
- Potable Water
- Materials
- Land use & ecology
- Emissions; and
- Innovation

4 Star Green Star equivalent, as nominated within the NSWHI Engineering Services Guidelines is considered consistent with Australian Best Practice in design & construction for a hospital facility.

The design integration of Green Star will ensure the project meets industry best practice standard via the inclusion of ESD initiatives such as:

- Comprehensive building commissioning & building systems tuning;
- Dedicated commitments to environmental building performance targets;
- Metering & monitoring systems for improved operational energy & water efficiency;
- Formalised environmental management practices during construction;
- Improved operational waste management practices;
- Improved indoor air quality;
- Improved Acoustic, lighting & visual comfort;
- Reduced indoor pollutants such as volatile organic compounds & formaldehyde emissions;
- Improved thermal comfort for occupants;
- Reduced greenhouse gas emissions via energy efficiency initiatives – LED lighting, automated controls, variable speed fans, economy cycle on air-conditioning, high efficiency MEPS rated equipment, optimised HVAC zoning, energy metering & BMS controls;
- Potable water savings – via high WELS rated FFE, rainwater reuse, sub-surface drip irrigation, fire system test water re-use;
- Responsible building materials – best practice PVC products, steel sourced from sustainable supply chains;
- Recycling & diversion from landfill of construction & demolition waste;
- Maintained ecological value of the project site;
- Redevelopment of previously developed urban project site will have minimised impact on the local ecology & ecosystem;
- Effective stormwater management to ensure post-development water quality & control does not exceed pre-development levels;
- Control of light pollution beyond the site boundary;
- Effective design & operation strategies to protect against legionella risk;
- Reduce environmental impacts from HVAC refrigerants; and
- ESD Innovations.

Description of measures implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.

In addition to the information nominated within the above sections, the project will ensure suitable measures which achieve positive environmental outcomes are incorporated into the project design. This will be achieved via a combined approach to both the NSWHI Engineering Service Guidelines and the design intent of Green Star.

Specifically, the implementation of design initiatives to minimise the consumption of resources will be addressed by complying with NSWHI Principle 2.5.10 – materials (refer comments above) & the design standards nominated within Green Star – materials - credits 19 – 22.

The consumption of water will be minimised by complying with NSWHI Principle 2.5.9 – water (refer comments above) & the design standards nominated within Green Star – water - credits 18.

For further information on the impacts of water sensitive urban design, refer Civil engineer's stormwater management report.

The consumption of energy will be minimised by complying with NSWHI Principle 2.5.8 – Sustainability & Energy (refer comments above) & the design standards nominated within Green Star – Management, Indoor Env. Quality & Energy - categories.

We trust the information detailed above provides sufficient response to the SEARs Key Issue – No.6 and confirms the project's commitment to ESD & ensuring the overall environmental impact of the project is minimised.

Nicholas Johnson
Principal, Sustainability Section Manager
for Wood & Grieve Engineers Ltd.