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**Ewan House Refurbishment**  
**Knox Grammar School, Preparatory Campus**  
**1-13 Billyard Ave, Wahroonga NSW 2076**  
12<sup>th</sup> July 2024

**Response to Sustainable Buildings SEPP 2022; Clause 3.2 (1) (a-f)**

The proposed development consists of alterations and additions to an existing heritage listed building. The alterations and additions result in an improved environmental and sustainability outcome for the existing building through the retention of the existing structure and implementation of a range of sustainability measures as outlined in this response.

Section 23.2 of the Ku-ring-gai Development Control Plan (page 23-4) applying to Green Buildings states that the section does not apply to development that is required to comply with State Environmental Planning Policy (Sustainable Buildings) 2022.

As the development is required to comply with State Environmental Planning Policy (Sustainable Buildings) 2022 (involving alterations and additions exceeding \$10 million) Section 23.2 of the Ku-ring-gai Development Control Plan does not apply to the development and therefore a ESD Report and Green Star Report is not required for the development.

The following provides an assessment of the proposed development against Clause 3.2 of the Sustainable Buildings SEPP 2022 relating to non-residential buildings. The development has been designed to enable the following items from the Sustainable Buildings SEPP 2022 as follows:

***(1) In deciding whether to grant development consent to non-residential development, the consent authority must consider whether the development is designed to enable the following—***

***(a) the minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials,***

Architect's Response:

*The Ewan House refurbishment predominantly maintains and refurbishes (like for like) the existing building fabric – brick, tile, sandstone and timber.*

*Where possible, existing building fabric removed – brick and tile – is reincorporated into the finished proposition. Extents of building fabric nominated for removal have been confined to the absolute minimums required to deliver an optimal functional outcome.*

*The decision to maintain, restore and reuse the existing building fabric in lieu of broader replacement ensures that excavation, demolition and associated waste volume is kept to a minimum.*



**(b) a reduction in peak demand for electricity, including using energy efficient technology**

Architect's Response:

*The Ewan House refurbishment will see the replacement of older, less efficient lighting, air conditioning and appliance selections with more energy efficient modern replacement technology (Energy Efficient lighting and power design in compliance with NCC 2022 J7 via LEDs, timers, sensors and the like).*

*These initiatives should cumulatively result in an operationally more energy efficient building and consequentially to a reduction in peak demand for electricity.*

**(c) a reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design**

Architect's Response:

*The Ewan House refurbishment replaces the existing cellular arrangement of the interior spaces with combined spaces that maximise the access of daylight and fresh air (openable windows for natural ventilation when AC not in use) to the interior spaces helping to reduce the reliance upon artificial light and ventilation.*

*Where new glass is to be installed, the most efficient glazing is selected for glazed elements in new building fabric acknowledging the constraints of the existing heritage fabric. Clear glazing with high visible transmittance throughout building envelope is retained to maximize natural lighting*

*The building's existing tiled roof, sarking and insulation will be replaced high performing modern equivalents (thermal comfort/energy efficiency) further enhancing the performance of the building envelope positively contributing to a reduced reliance on supplementary active systems.*

**(d) the generation and storage of renewable energy**

Architect's Response:

*Knox Grammar Preparatory school campus has an existing solar power generating facility aligning with the KNOX ENVIRONMENTAL SUSTAINABILITY PLAN.*

*The high visibility and the historic nature of Ewan House's facades and the poor orientation of less visually sensitive roof locations preclude additional contribution to this initiative beyond that established on more suitable rooftops within the campus.*

**(e) the metering and monitoring of energy consumption**

Architect's Response:

*The refurbishment of Ewan House includes an active and reactive energy management and metering system, sunset switches and timers, occupancy sensors, automatically switched outlets, time and lighting control digital time switches and dimmer controls. Energy monitoring complies with NCC 2022 J9 where new switchboards have been provided.*

*All these items afford effective metering, monitoring and control over energy consumption.*



**(f) the minimisation of the consumption of potable water**

Architect's Response:

*Consumption of potable water within the refurbishment is minimised through the replacement of existing water consuming equipment with new /more efficient examples together with the replacement of existing (potentially leaking) water infrastructure with new (as applicable to the refurbishment scope).*

*The building has Rainwater harvesting (4,000kL tank) and re-use for toilet flushing and wash down water.*

**(2) Development consent must not be granted to non-residential development unless the consent authority is satisfied the embodied emissions attributable to the development have been quantified.**

Architect's Response:

An Embodied Emissions Materials Form was submitted with the application in accordance with Clause 3.2 (2) of the Sustainable Buildings SEPP 2022.

In summary the alterations and additions result in an improved environmental and sustainability outcome for the existing building through the retention of the existing structure and implementation of a range of sustainability measures as outlined in this response.

The development is consistent with the requirements of Clause 3.2 of the Sustainable Buildings SEPP 2022 and warrants favourable consideration.

Regards,



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