GILLIESTON PUBLIC SCHOOL REDEVELOPMENT AND NEW PUBLIC PRESCHOOL

NET ZERO STATEMENT

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Gillieston Public School

Net Zero Statement

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Version Control

Issue	Revision No.	Description	Date Issued	Reviewed by:
B	00	Draft Issue for SC	18/09/2024	Shruti Thomas
B	01	Final	04/10/2024	Andrea Vargas
B	02	Final (SI Planning comments)	15/01/2024	Shruti Thomas

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Gillieston Public School redevelopment and new public preschool – Net Zero Certification

This Certificate has been prepared to address the NSW Sustainable Buildings State Environmental Planning Policies (SB SEPP) Section 3.4 and as defined under Section 35C of the Environmental Planning and Assessment Regulation 2021 (EP&A).

The Gillieston Public School redevelopment and new public preschool is designed with a strong focus on sustainability and environmental stewardship. The project is also committed to being a fossil fuel-free activity and is all electric activity. This commitment is reflected in the mechanical, electrical and hydraulics design.

The net zero initiatives included in this document have been included in the design; however, it remains the responsibility of the appointed Design and Construct contractor to ensure these initiatives are implemented during the construction phase.

As per the NSW SEPP requirements, this statement has been validated by an engineer's certification to confirm the project's fossil fuel free status.

Should you have any questions or require further documentation, please do not hesitate to contact me.

Sincerely,

Maha Momeni

National Sector Lead – Social Infrastructure

Registration number PE0002176 – Electrical Engineer

1 Background

1.1 Introduction

The NSW Sustainable Buildings State Environmental Planning Policies aims to simplify, measure and report the way buildings are planned and designed in NSW. Sustainable Buildings SEPP was introduced to measure the performance of new buildings in NSW and to ensure that new buildings are in alignment with the Net Zero commitments set by the state government. As per the requirements outlined in NSW Sustainable Buildings SEPP, such as educational buildings must produce a Net Zero Statement to show the activity does not use fossil fuels or can transition by 2035 in alignment with NSW government's net zero ambitions. Gillieston Public School redevelopment and new public preschool meets the above criteria and must prepare Net Zero Statement as part of Design Development.

Arcadis has been engaged to produce a Net Zero Statement to validate the project's Net Zero commitment and be capable of operating at net zero emissions by 2035.

1.2 Activity

The Gillieston Public School redevelopment and new public preschool have been identified by the NSW Department of Education (DoE) as requiring redevelopment. The Gillieston Public School redevelopment and new public preschool is driven by service need including increase in expected student enrolments and the and removing demountable structure and replacement with permanent teaching spaces.

The Gillieston Public School redevelopment and new public preschool and new public preschool comprises the following activity:

- Demolition and removal of existing temporary structures.
- Site preparation activity, including demolition, earthworks, tree removal.
- Construction of new:
    - 32 permanent general learning spaces and 3 support teaching spaces
    - Administration and staff hubs
    - Hall, canteen and library
    - Out of school hours care
    - Public preschool (standalone building for 60 places)
    - Covered Outdoor Learning Areas (COLAs)
    - Outdoor play areas, including games courts and yarning circle
    - New at-grade car parking
    - Extension of the existing drop-off / pick-up area and new bus bay
    - Realignment of the existing fencing
    - Associated stormwater infrastructure upgrades
    - Associated landscaping
    - Associated pedestrian and road upgrade activity

1.3 Significance of Environmental Impacts

Based on the identification of potential impacts and an assessment of the nature and extent of the impacts of the proposed activity, it is determined that all potential impacts can be appropriately mitigated to ensure that there is minimal impact on the locality, community and/or the environment.

1.4 Site Description

The Site is identified as 100 Ryans Road and 19 Northview Street, Gillieston Heights, legally described as Lot 51 DP 1162489 and Lot 2 DP1308605. The Site is located within the Maitland Local Government Area (LGA) and is zoned RU2 Rural Landscape and R1 General Residential zone under the provisions of the Maitland Local Environmental Plan 2011 (MLEP2011).

Existing attributes of the subject site are noted as follows:

- The subject site exhibits an area of approximately 23,385m² and is located in the suburb of Gillieston Heights;
- The subject site has a frontage to Ryans Road to the east, Gillieston Road to the north, and Northview Street to the south;
- In its existing state, the subject site comprises the existing Gillieston Public School. Existing school buildings are primarily located in the west portion of the subject site with a large area of open space situated in the eastern portion. There are limited permanent structures located on the subject site with thirteen (13) existing demountable classrooms currently occupying the subject site. Permanent buildings consist of the Main Administration Building, Original Brick Cottage, Library and GLS building located in the centre of the subject site; and
- Carparking is provided from Gillieston Road for staff. Pedestrian access is available via this main entrance from Gillieston Road and via a separate pedestrian-only access gates on Northview Street and Ryans Road.

The existing site context is shown in Figure 1 and Figure 2 below.

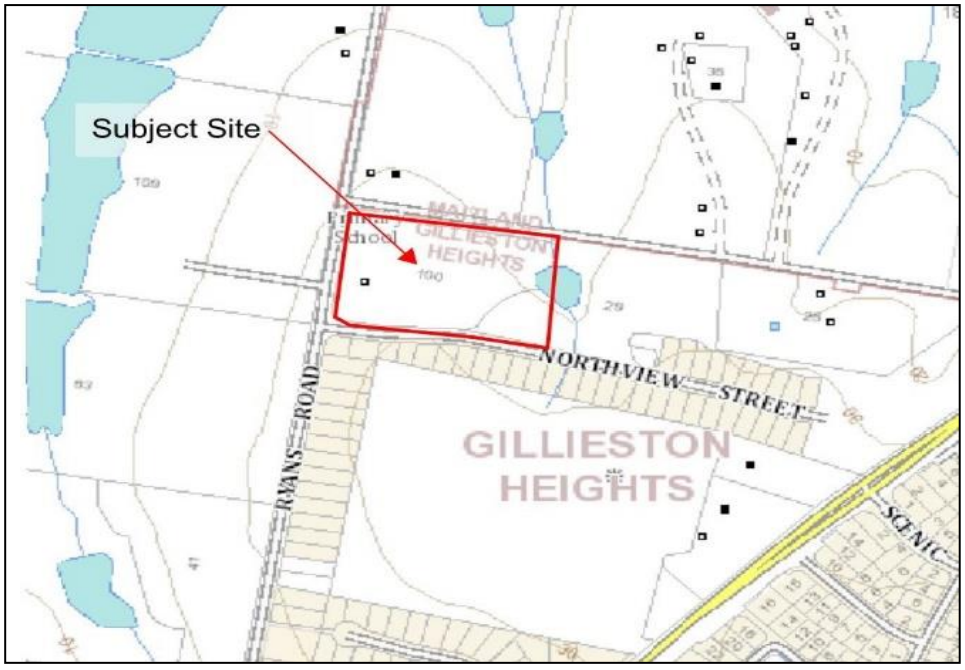

Figure 1 – Cadastral Map (Source: NSW Spatial Viewer, 2024)

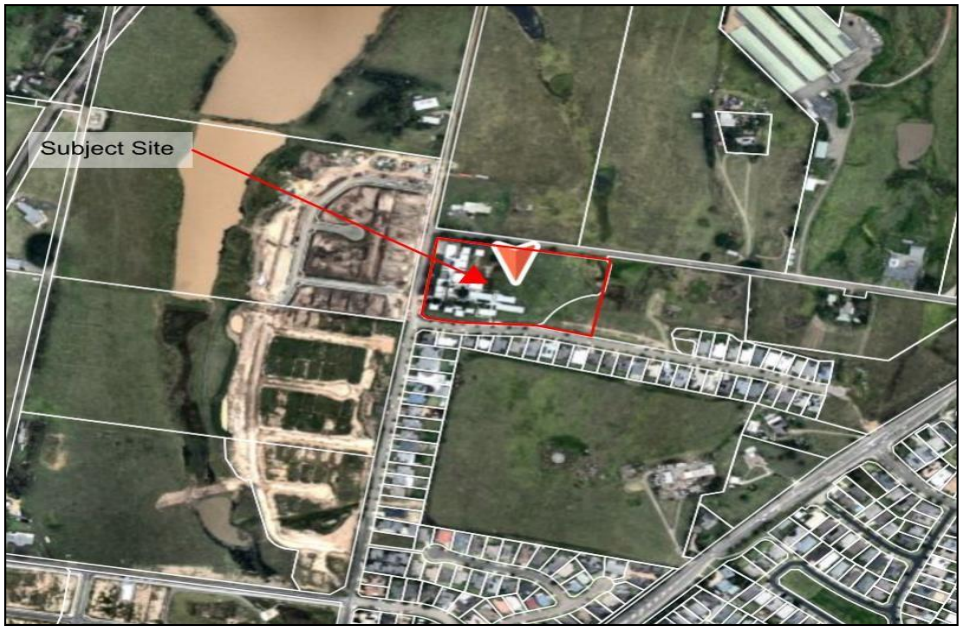

Figure 2 – Site Aerial Map (Source: Near Map, 2024)

2 Fossil Fuel Free activity

The activity has been designed to be all electric and will not be connected to a gas supply for it's operations. Renewable energy sources such as solar panels are incorporated to meet the project's energy demands.

The project includes VRF air conditioning systems for all learning spaces including library, community halls and ventilation systems for all stores, amnesties and kitchen. For hot water needs, the project utilizes electric instantaneous hot water systems. Refer to the GPS Schematic Design Report – Mechanical and Electrical for more information.

3 Energy Reduction Initiatives

Energy reduction initiatives were identified aligning with the preliminary Green Star scorecard, relevant EFSG guidelines and SINSW's overarching sustainability goals. These initiatives were initially developed during the Concept Design phase and have been updated and reviewed during the Schematic Design phase. As the project progresses into Detailed Design, these initiatives will be further refined and updated to ensure they continue to meet the project's evolving sustainability targets.

3.1 Passive design features

- Optimising Building Insulation: Install high-performance insulation to improve energy efficiency and reduce heating and cooling demands.
- Improved Glazing: Upgrade to low-e, double-glazed systems to enhance thermal efficiency and minimise energy consumption for heating and cooling.
- Adequate shading: Perforated shading has been provided for learning spaces which will reduce the energy load on the building.
- Ventilation: Implement natural and artificial ventilation strategies to maintain air quality while optimizing energy use.
- Material Selection for Heat Reduction: Light-coloured and reflective materials were chosen to reduce heat absorption

3.2 Technical design features

- Water-Efficient Fixtures: Install fixtures and appliances with high WELS ratings to minimize water consumption and support overall resource efficiency.
- Energy efficient lighting fixtures: The lighting fixtures are highly efficient LED (Light Emitting Diode) technology
- Monitoring Systems: Energy monitoring systems and intelligent controls for HVAC and lighting to optimise energy usage and reduce overall energy consumption.

4 Renewable Energy Generation

A solar PV array rated at 70kWpeak will be installed at Gillieston Public School on the roof of the Building C. The PV panels will be north facing and tilted on a 20° angle.

5 Estimated Energy Consumption and Greenhouse Gas emissions

Energy and thermal modelling is currently being undertaken to understand the energy consumption and associated greenhouse gas emissions. However, the results of the energy and thermal modelling are not available at the time of writing. This statement can be revised once the results of the energy modelling is finalised.

- **Scope 1** annual operating emissions will be zero as the activity will be fossil fuel free.
- **Scope 2** annual operating emissions will be minimal with sufficient on-site renewables.
- **Scope 3** emissions will be evaluated at Detailed Design.