

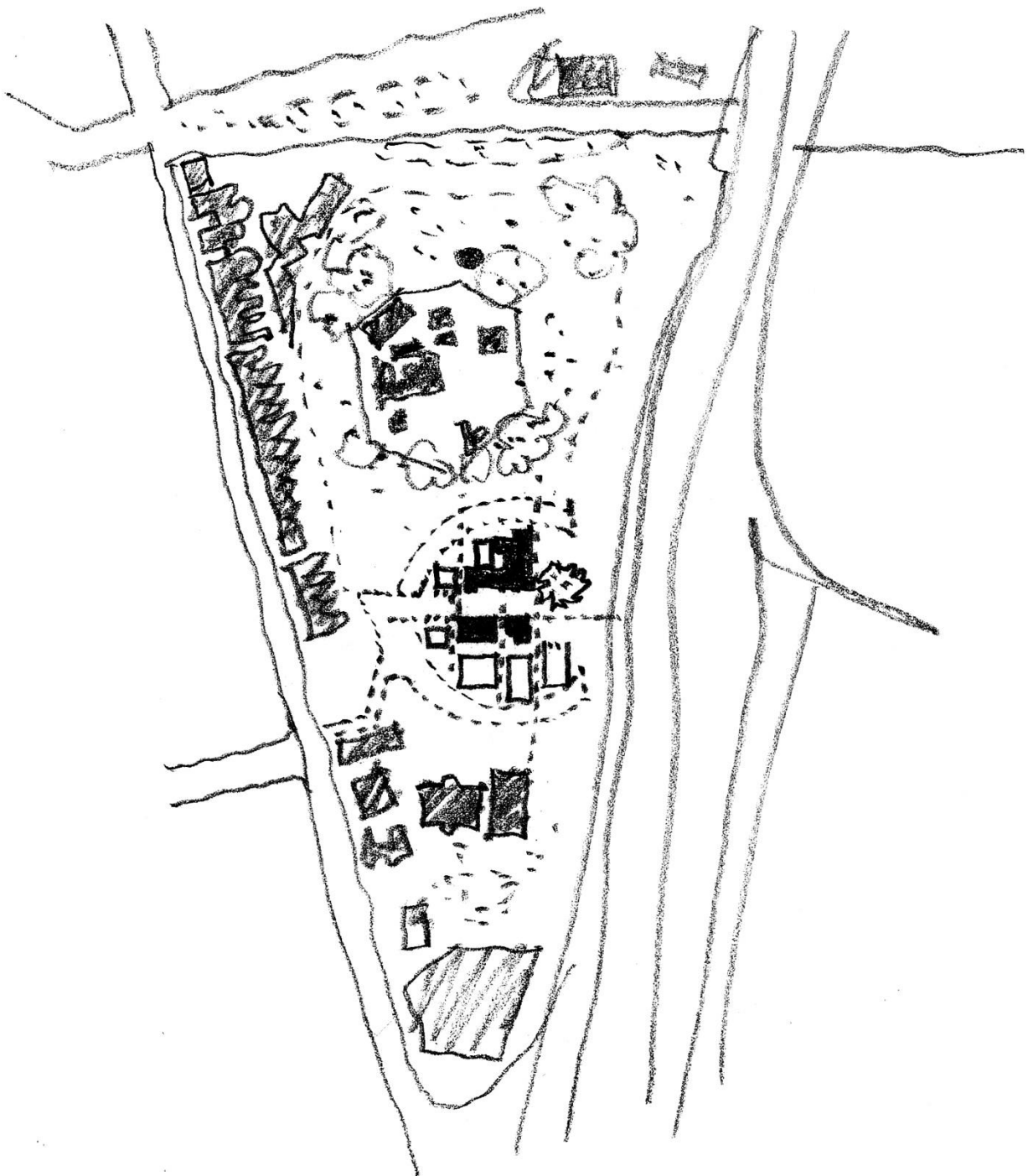
Fort Street Public School Structural Statement

SSD 10340

Prepared by Bonacci

For School Infrastructure NSW

13 December 2019



December 13, 2019
Project Reference: 11543

Kate Tudehope
Ethos Urban
173 Sussex St
Sydney NSW 2000

Fort Street Public School Structural Statement

Dear Kate,

Site

It is anticipated that there will be weathered sandstone bedrock encountered at depths varying from 0.4m to 3.5m.

Proposed Redevelopment

The proposed redevelopment consists of the demolition of an existing building and the construction of new buildings and alterations and additions to the existing buildings.

Structure

The structure for the extension and additions to the Classroom block would be of composite construction with steel beams and steel deck form- Kingfloor/Bondek or similar. The steel beams will be supported on the existing load bearing walls or new steel posts as required down to the existing footings or new pad footings.

The new structure replacing the building at south side of the site, would be a concrete framed building with post tensioned floors.

The single storey structures – Community Hall and Kitchen/Canteen building- will be steel framed structures with steel portal frames supporting the metal roof. The community hall superstructure would be supported off the suspended concrete slab.

The C.O.L.A areas would have CLT timber structure with Glulam beam and columns.

Lateral Stability

Lateral loads from wind, earthquake and robustness are resisted by a combination of new shear walls and concrete cores in Classroom Block and new concrete framed building at south. The single storey buildings would have steel bracing systems to resist the lateral loads.

Summary of Design Assumptions

The building will be designed in accordance with the following Australian standards:

- AS/NZS 1170.0/2002 – Part 0: Structural design actions
- AS/NZS 1170.1/2002 – Part 1: Permanent, imposed and other actions
- AS/NZS 1170.2/2011 – Part 2: Wind actions

- AS/NZS 1170.4/2007– Part 4: Earthquake loads
- AS3600 – 2018: Concrete structures
- AS4100 – 1998: Steel structures
- AS1720- 2010: Timber Structures
- AS3700 – 2018: Masonry Structures
- AS2159 – 1995: Piling
- AS/NZS4600 – 2001: Cold-formed steel structures
- AS/NZS3828 – Guidelines for the erection of building steelwork

Design Loading Criteria:

Location	Superimposed Dead Load	Live Load
Basement Storage, Library, Bulk Storage rooms, Stage, Kiln dry	0.5 kPa	5.0 kPa
Other Stores, canteen, technology, food, preparation areas, applied studies, computer areas, arts, plants	0.5 kPa	5.0 kPa
Classrooms	1.0 kPa	3.0 kPa
Gym & Community Facilities	2.0 kPa	5.0 kPa
Corridors, Lobbies, Stairs etc	1.5 kPa	4.0 kPa
Trafficable concrete roofs	2.5 kPa	5.0 kPa
Lift Lids	1.5 kPa	2.0 kPa (or Lifting Loads)
Rooftop plant loads	2.5 kPa	7.5 kPa (or Plant Loads)
Fire Stairs	0.5 kPa	4.0 kPa

Yours sincerely,

BONACCI GROUP PTY LTD

Sarah Worley
Structural Engineer

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BENG, CPENG, NER, MIEAUST