UNSW - SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING

DEVELOPMENT APPLICATION REPORT
BUILDINGS J17+J18

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CLIENT

The University of New South Wales

UNSW THE UNIVERSITY OF NEW SOUTH WALES

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PROJECT NUMBER

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1.0 EXECUTIVE SUMMARY

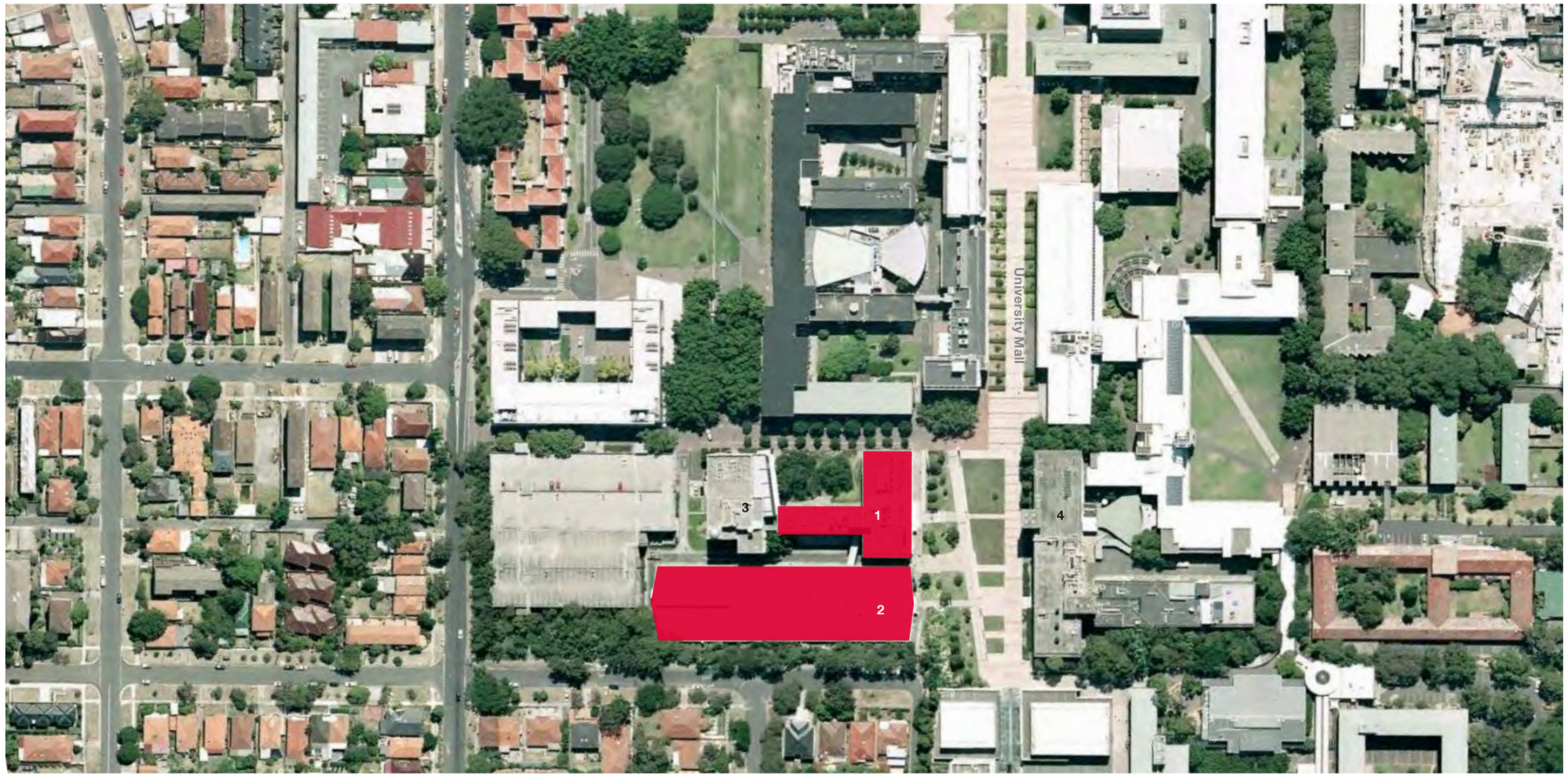
This Design Report has been prepared by Bates Smart Pty Ltd for the University of New South Wales. It forms part of the Development Application for the refurbishment and addition to Building J17 and refurbishment and alterations to Building J18 (the Willis Annexe). These buildings house the School of Mechanical and Manufacturing Engineering.

The addition to Building J17, in place of the existing south wing, is intended to both increase the quantum and improve the quality of teaching and academic facilities available to the UNSW and Faculty of Engineering. The addition aligns at roof level with the existing roof level of the north wing of Building J17, while an enclosed plant room rises above, stepping back on the eastern facade to remove building mass from the edge of Willis Lane below.

With the exception of Level 05 in the north wing, a refurbishment and upgrade of Building J17 is proposed. This will re-configure academic and staff areas to provide access to daylight and natural ventilation, and to promote collaboration and knowledge sharing between academic staff, students and across programmes. A student common is incorporated on all levels accessed by students, promoting continuous learning within the facility

The existing ground level is re-configured with the introduction of transparent glazing to promote interaction with the adjacent public spaces and pedestrian routes, and to visually reconnect International Square

The Willis Annexe is proposed to be significantly refurbished to provide for large, open plan laboratories promoting collaboration between lab groups and showcasing the School's research, while Willis Lane is to be pedestrianised, forming the link between the School's two buildings



Site location: UNSW Kensington Campus
1/ Building J17 (School of Mechanical and Manufacturing Engineering)
2/ Building J18 (School of MME) - Willis Annexe
3/ Building K17 (School of Computer Science Engineering)
4/ Building G17 (School of Electrical Engineering)

Development Summary

Existing Building Area J17 (GFA)	5912m2
Proposed Building Area J17 (GFA)	7842m2
Existing Building Area J18 (GFA)	5949m2
Proposed Building Area J18 (GFA)	5684m2

2.0
VISION

3.1 CONTEXT: ARCHITECTURAL HERITAGE

DEVELOPMENT SUMMARY

The School of Mechanical Engineering buildings (J17 & J18) where designed by Spencer Hanson & Partners as the first home of mechanical Engineering on the UNSW Campus. Completed in 1963 they formed part of the developing campus as it grew out from its original core to the east. They were designed concurrently with Electrical Engineering to frame the eastern extension of the central 'mall' that was developing on the campus. The buildings were a state of the art Mechanical Engineering School, with custom designed student desks, a focus on natural light to drawing offices, and separation of laboratories for noise and vibration.

These buildings closely relate to the work of a group of North American architects known as the New Formalists. These architects, who include Minoru Yamasaki and Edward Durrell Stone, were modernists who were exploring decorative and expressive elements in their designs in combination with modernist rigour. This can be seen in the tapered columns and crenellated expression of the ground floor and roof.

The breeze blocks, in particular, used on the northern entries facing the mall where a direct imitation of a block developed by Edward Durrell Stone for his own townhouse façade in New York.

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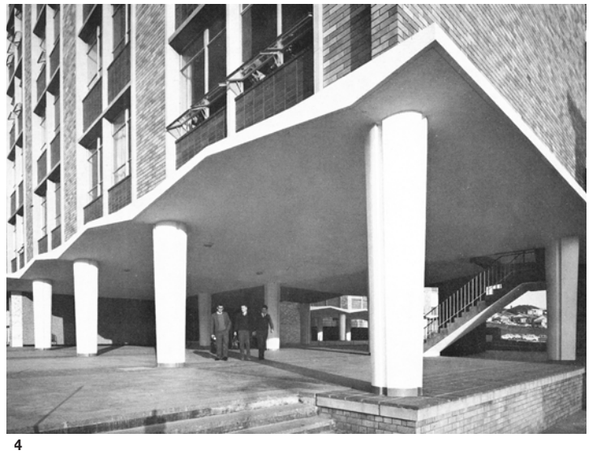

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1/ Facade of Edward Durrell Stone's townhouse in NY
2/ Minoru Yamasaki building detail
3/ Historical Site Plan
4/ Projecting concrete 'cornice' detail at Building J17 northern entrance

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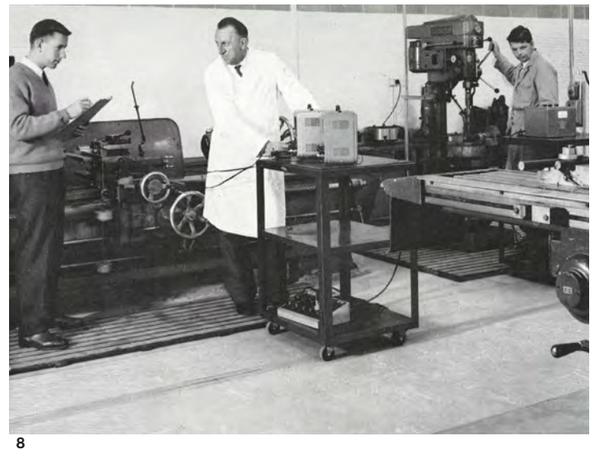

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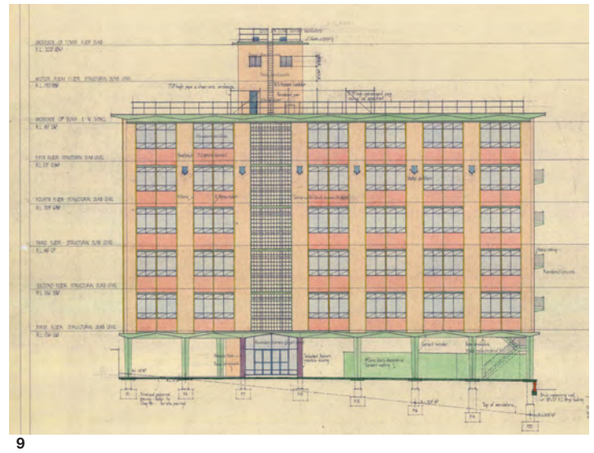

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5/ Building J17
6/ View towards International Square, J17 on Left, J18 on right)
7/ Historical photo of Engineering Class Room spaces
8/ Historical photo of Engineering Manufacturing workshop space
9/ Original Architectural drawing of J17 North elevation

3.2 CONTEXT: CURRENT BUILDINGS

CURRENT BUILDINGS

The School of Mechanical Engineering currently occupies the same buildings (J17 & J18) that were completed in 1963. These buildings have had minimal alteration since completion. A notable exception is the infilling of the ground floor which was originally raised to create a visible connection through to the courtyard. The buildings, in addition to being tired and in need of refurbishment and new services, also fail to meet the pedagogical requirements of contemporary teaching and academic office and research spaces.

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1/ Willis Annexe
2/ View of NW corner of J17
3/ View of J17 western facade (from John Lions Courtyard)
4/ View of J17 northern facade
5/ Willis Lane view (J17 on Left, J18 on right)
6/ Willis Lane view of southern end

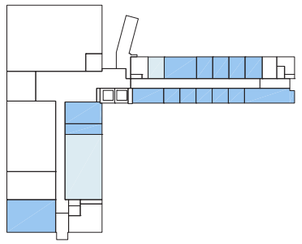
3.3 BUILDING ANALYSIS

BUILDING J17 - STAFF/HDR'S

With the exception of Level 1 where the Head of School's office is in the north wing of J17, the academic offices are located in the narrow south wing arranged along a double sided corridor. HDR's are scattered throughout the building and not directly associated with the academic offices.

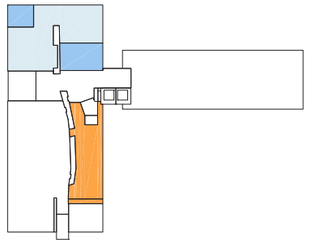
Social breakout spaces are limited to the ground floor café and level 5 staff area.

LEVEL 2



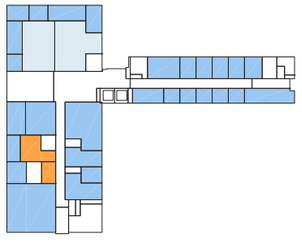
Academic: 10
Research 12
HDR: 17

LEVEL 5



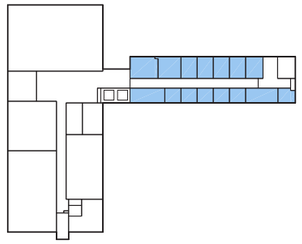
Academic: 1
HDR: 15

LEVEL 1



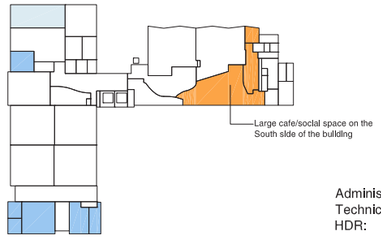
Academic: 17
Research: 8
Administration: 8
HDR: 27

LEVEL 4



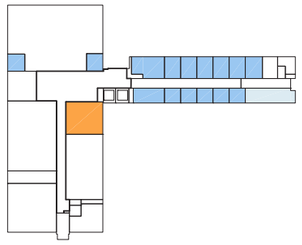
Academic: 5
Research: 10
Administration: 2

GROUND



Administration: 4
Technical Support: 3
HDR: 10

LEVEL 3



Academic: 11
Administration 4
HDR: 4

Office
Postgraduate
Breakout

1

2

1/ Image of J17 postgraduate (HDR) spaces