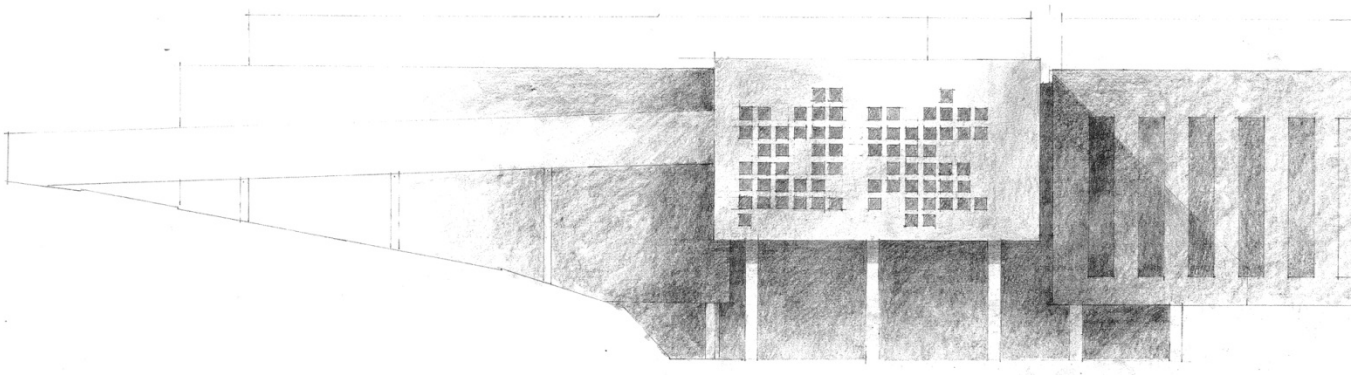
The southern elevation is also a direct response to the functions housed within. Here, the laboratories dictate vertical strip windows which allow for laboratory equipment to be placed against the walls while still allowing for natural daylight to enter the space.

The entry building is conceived as a floating metallic cube, connected to the road adjacent the hospital by a bridge or 'skywalk' through the native treetops. The Pod is deliberately precious, rather like a titanium jewel box that is intended to provide a memorable experience and sense of privilege for visitors. The skywalk or bridge link of perforated metal provides shelter whilst imitating the dappled light of walking through eucalypts. Likewise, the Pod contains panels of metal and glass which plays not only with both light and shade, but also scale, providing a more abstract quality of a precious box, rather than a building. Columns are pigmented concrete, to blend in with the tree trunks and to focus the viewer on the 'specialness' of the floating cube. The box is also a metaphor for the preciseness of medical research – it is intended to be a careful and thoughtfully considered composition that reflects the accuracy and seriousness of medical research.

Internally, the metaphorical relationship to medical research is continued. Just as the entry building reflects the meticulous nature of performing scientific experiments, the Interactive Spaces represent the more abstract 'art' of research. The more organic plan is fitting for the interactive spaces where discourse and discussion can initiate ideas and lead to future partnerships.



4.1 Area Analysis

All floor plans have been measured for Gross Floor Area (GFA) with the following areas to be reported:

> GFA 15,962 m²

The GFA stacking is as follows:

Floor Level	GFA (m2)
Level 1	3,274
Level 2	3,539
Level 3	4,011
Level 4	4,028
Level 5 - Roof	1,110
Total	**15,962**

5.1 Building Certification Overview

The project BCA Consultant is Davis Langdon. They have provided a Building Code of Australia Capability Statement which is included in the Appendix.

Compliance with the BCA will be achieved by a combination of compliance with the deemed-to-satisfy (DTS) provisions and the documentation of alternative solutions in accordance with Clause A0.5 of the BCA, prepared by Arup Fire Engineers to achieve compliance with the BCA.

In addition, all building works associated with this project will be fully assessed by design professionals to comply with the current and relevant Codes and Standards.

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Interior View of Link

6.1 Overview

A detailed investigation into the opportunities for integrating Environmentally Sustainable Design (ESD) in the proposed HMRI facility has being carried out. Towards this, ARUP have been engaged, as the ESD consultant. The ESD measures that ARUP have identified for final inclusion in their report are based on meeting Director-General's Environmental Assessment Requirements, Client objectives, and cost-to-benefit criteria.

6.2 ESD Goals

The strategic ESD goals for the project are to two-fold:

> Minimise resource consumption impacts directly related to the construction process and operation of the HMRI facility. Impact considered include emission of pollution, water consumption and the production of waste material

> Improving occupant health and well-being

6.3 ESD Measures

The benchmark that ARUP are working to are those set by the Director-General's Environmental Assessment Requirements. This include, measures related to:

> Energy Efficiency

> Water reuse and demand management

> Recycling and waste disposal

6.4 Sustainability Performance Rating Tools

Currently there is no tool for sustainability certification of Laboratory design in Australia. ARUP's report identifies a number of international sustainability assessment tools and extracts information from these that has relevance to this project.

7.1 External Materials and Finishes

The external materials and finishes were chosen for their aesthetics, environmental performance, constructability and durability. The bushland setting dictated a smooth façade approach to minimise crevices for insects and especially spiders webs to flourish.

The main wing facades of dark grey metal and glazing panels are deliberately dark in colour to help them recede into the landscape. The services spine is silver perforated aluminium and protruding flues are silver stainless steel to allow them to meld with the skyline to minimise the visual height of this element.

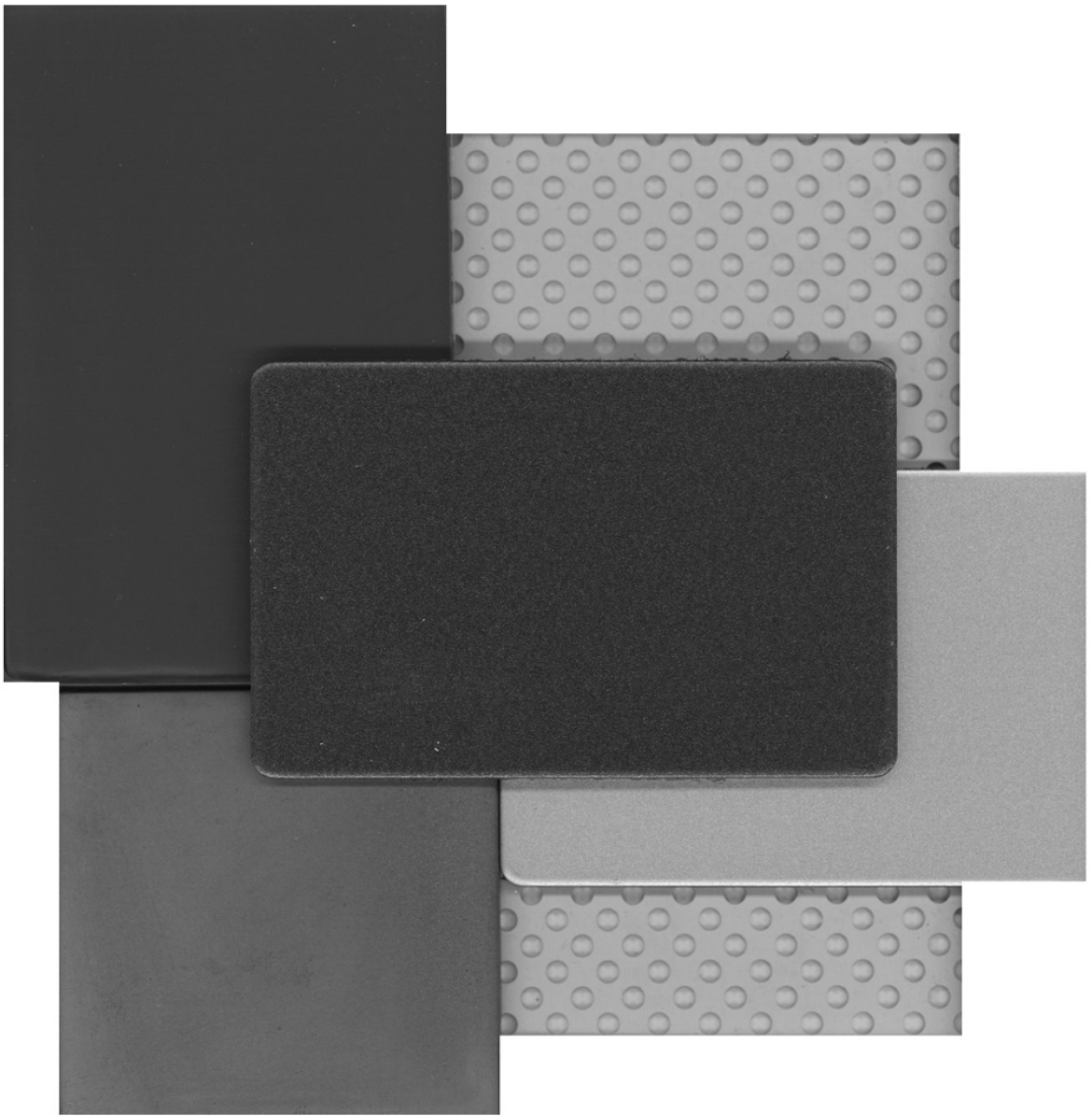
The entry pod building is made of silvery metallic and glass panels to provide a focus and entry point for the complex by contrasting with the darker wings beyond.

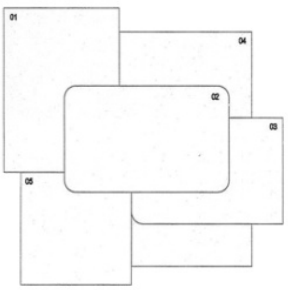
Refer to Architectural Drawings in Appendix for material coded elevations.

South Elevation

North Elevation

7.2 Sample Board

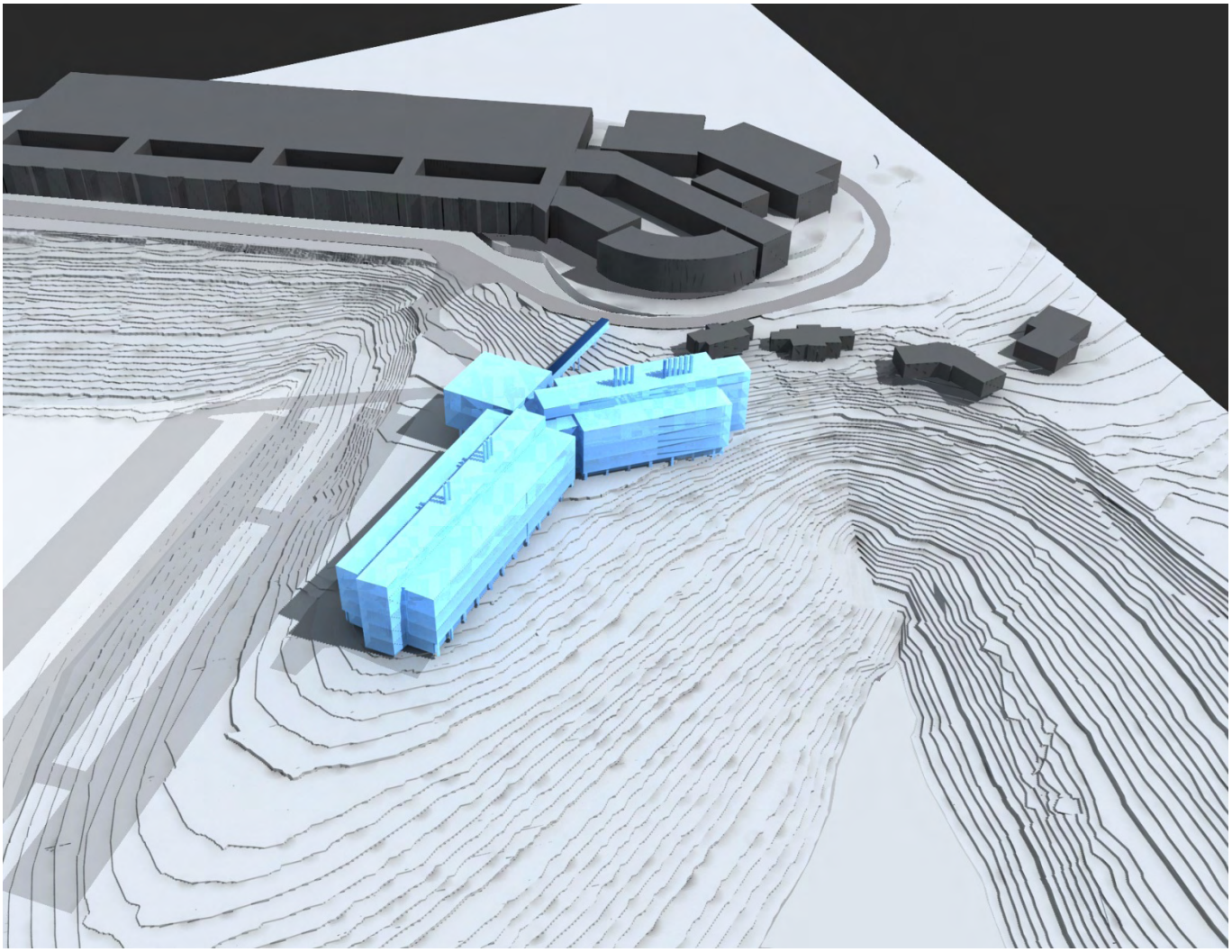




01. GLAZING
02. ALUMINIUM COMPOSITE PANEL EAST AND WEST WING
03. ALUMINIUM COMPOSITE PANEL POD
04. PERFORATED METAL CLADDING
05. CONCRETE

8.1 Relationship to Topography

Extensive 3-dimensional computer modelling was used to determine the appropriate siting for the building in relation to topography and neighbouring buildings including the Hospital. This image shows how the building has been placed over the already disturbed site of the 'Club-Med' Building as much as possible. The projection of the longer east wing follows the line of the ridge of the hill and the shorter west wing aligns with the contours and the line of existing track which connects back to the western carpark. The square pod building addresses Kookaburra Circuit and the Hospital by providing an entry statement for the complex.

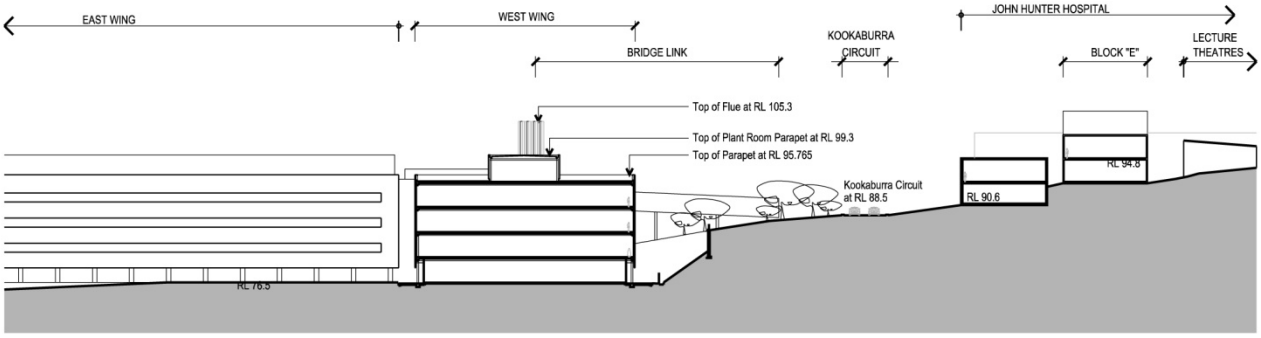


8.2 Relationship to John Hunter Hospital

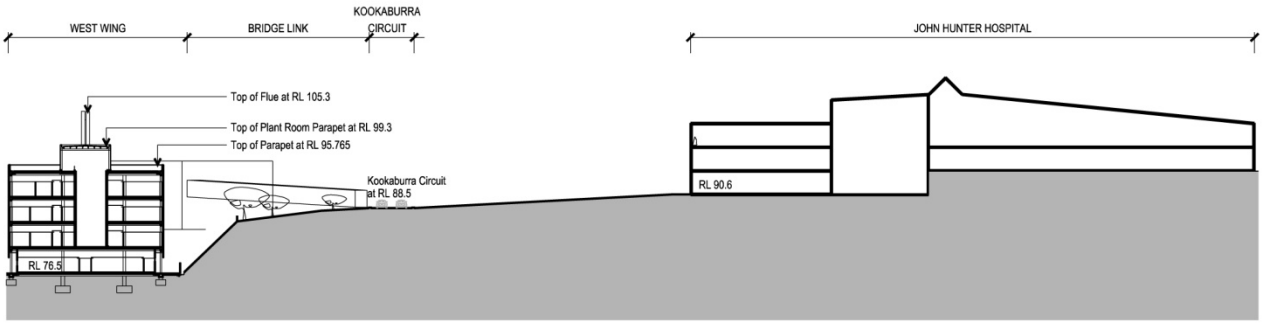
The following drawings show how the new HMRI building relates to the John Hunter Hospital.

Due to the relative steep slope of the site, the building sits considerably lower than the hospital. Kookaburra Circuit's relative level of 88.5 aligns with the top (Level 4) of the complex at RL 90.0, allowing for a gently sloping walkway to connect the road and hospital to the entry and reception of the new complex.

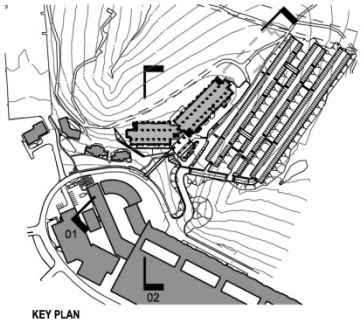
8.2 Relationship to Existing Kookaburra Cottages



SITE SECTION 01



SITE SECTION 02



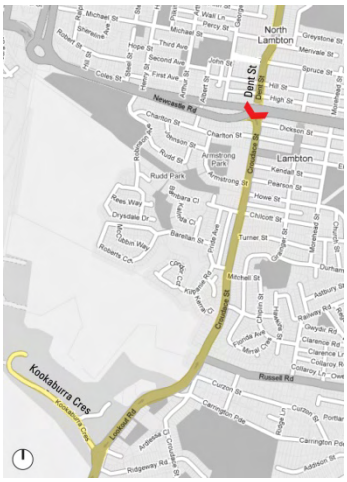
KEY PLAN

The possibility of relocating some or all of the existing Kookaburra and Yallarwah cottages has been explored by the design team. Due to the difficulty in finding a suitable alternative location and the relatively significant additional cost of relocation, is has been decided to retain the cottages in their current location.

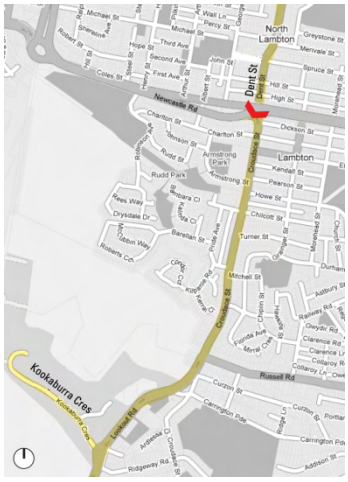
The new entry and service road has been kept distant from the cottages to reduce traffic impacts. The retaining wall between the proposed facility and the closest cottage will be fenced for safety and landscaped to create a desirable outlook for the cottages.

9.1 View Analysis

The photograph from Dent Street shows how the proposed development is screened by native bushland from the greater Newcastle area. The main impact of the development is within the John Hunter Hospital precinct.



View of existing John Hunter Hospital from peak of Dent Street, North Lambton, looking south.

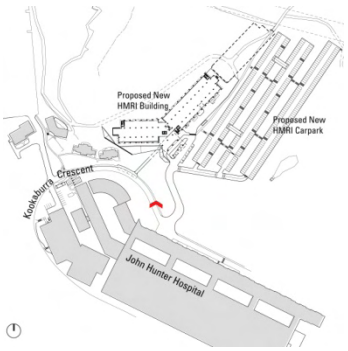


Closer view of existing John Hunter Hospital from the peak of Dent Street, North Lambton, looking south.

9.2 Photomontages

This image from adjacent the Engineer Department of the John Hunter Hospital shows how the native bushland has been retained adjacent the bridge link. This provides screening to the hospital as well as a pleasant outlook upon entering the proposed HMRI complex.

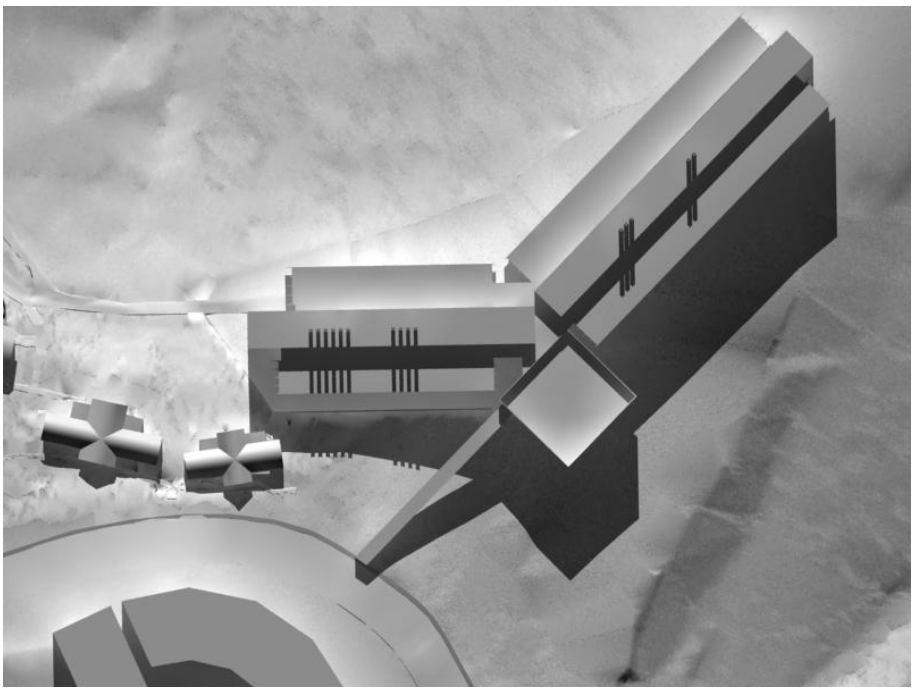
Refer to Architectural Drawings in the Appendix for photomontages.



10.1 Shadow Diagrams

Due to the topography there are no shadow impacts on the John Hunter Hospital caused by the new development. The eastern most Kookaburra cottage has minimal shadow impacts except for in mid-winter morning but is clear in the afternoon.

Refer to Appendix for Architectural Drawings including complete shadow diagrams.



Shadow Diagram 12 Midday 21 June 2009