

Brookfield Multiplex for UNSW Biological Sciences Project

SSD Design Statement

11 February 2015

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Date of first issue: 11 August 2014

Checked: MS

Approved: GS

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Executive Summary

The Biological Sciences Project (BSP) is the third major renewal and expansion project within the Biomedical Precinct on the upper campus of the UNSW Kensington Campus in recent years.

This project addresses the long-term accommodations needs of two schools within the Faculty of Science - the Biological, Earth & Environmental Sciences (BEES) and Biotechnology and Biomolecular Sciences (BABS), along with functional needs of the wider Biomedical Precinct and Upper Campus.

The BSP will support UNSW's stated goal to be a leading, research intensive university. To achieve this, the University has set a number of objectives, which are to:

- provide a contemporary, research and teaching environment as part of the Biomedical Precinct;
- maximise the opportunity to encourage collaboration between researchers by maximising the floor plate size and functional adjacencies.
- create flexible and adaptable space for strategic recruitment, both short- and long-term taking into account trends in technology, research infrastructure, National and University priority areas;
- align with the UNSW B2B Blueprint to Beyond: Strategic Intent to enhance effectiveness and interdisciplinary team-working, by reinforcing research synergies between the research groups, Schools and Faculties;
- build space for collaborative teams with mixed wet and dry researchers;
- centralise lab services and delivery of shared services across the Biomedical Precinct, to improve efficiency, increase utilisation and reduce operational costs;
- make a positive contribution to the campus learning environment, with activated and visible zones at ground floor levels;
- provide clear way finding and connections between important pedestrian destinations, including extension of the campus covered walkway;
- decant as much as possible of the existing Biosciences building to facilitate its planned redevelopment and to maintain business continuity for key research groups; and,
- provide for new technologies and specialist research facilities, particularly those that may be difficult to accommodate within the physical limitations of existing Biomedical Precinct buildings.

The Site

The site is located within the Biomedical Precinct, and is bounded:

- to the north by Michael Birt Gardens and existing Wallace Wurth building;
- to the east by a public road, Botany Street;
- to the south by the existing Samuels Building and Gate 11; and
- to the west by the Biolink building and an internal pedestrian thoroughfare, Chancellery Walk.

Design Principles

The changing nature of scientific research has led to an evolution of building designs over the past 10 years. Narrow long research buildings previously catered to the individual or small scientific team working on their individual projects, able manage their own equipment and experiments in a contained space. Modern research practices demand a much more collaborative approach, relying on shared specialised equipment, resources and knowledge. This approach demands a different typology of building – far more connected both horizontally and vertically. Larger floor plates, with large uninterrupted contiguous zones provide the necessary environment for contemporary workplaces, as well as depth for the functional adjacencies required to meet modern laboratory codes.

Research Space

Typical floors of the proposed building (levels 2 and above) will be dedicated to biological sciences research, with a mix of academic workplace, open plan laboratory, laboratory support spaces, and general amenities (toilets, services access, and meeting spaces) on each floor.

These floors will interconnect with the existing buildings to the north and west, joining the researchers currently dispersed through the existing buildings.

Laboratory buildings are service intensive, so a large plant space will be required at the top of the buildings (new and existing D26) – weighted towards the west to minimize impact to and from the street.

Extension of the Campus

Levels Ground and 1 of the new building will contain a suite of new practical teaching laboratories that complement existing facilities provided in the Wallace Wurth Building to the north. The new building will connect to, and extend the student links on both these levels to complete the Biomedical precinct and provide a continuously connected student experience. As well as the teaching laboratories, the project includes informal spaces through an internal void to create a new 'home' for Biological students in the upper campus.

This core space is delivered as a continuation of the campus public realm through a new connection to Chancellery Walk to the west, through the refurbished D26 building to Michael Birt Garden to the north, and through to Botany Street on the east. New retail and student services will be included as part of this ground floor to create an active campus asset for both staff and students.

Servicing

As the site slopes down to the south, the Lower Ground floor interfaces with the University's Gate 11, and creates an access for loading into the Biological Sciences Precinct stores. The main access to the stores is created between the proposed building and the existing Samuel's building to the south – shielding the surrounds from loading activity, and minimising the pedestrian conflicts in this area.



SEAR's Addressed in this report

This architectural design report provides an overview of the design for the building and public realm delivered as part of the Biological Sciences Renewal Project.

As well as an over view of the project, the report addresses Section 2 and 3 of the SEAR's as outlined on this page.

2. Built Form and Urban Design

- Address the height, bulk, scale and setbacks of the proposed development within the context of the locality, surrounding development, topography and streetscape.

Refer to the following report sections:

05: Campus planning objectives
06: Quality of the Campus
07: Site Constraints and Opportunities
10: Building Organisation

- Demonstrate design quality, with specific consideration of the overall site layout, connectivity, open space and edges, interface with the public domain, gateways, facades, rooftop, massing, setbacks, building articulation, materials, colours and signage.

Refer to the following report sections:

07: Site Constraints and Opportunities
11: Facade design principles - New building
12: Facade design principles - D26 North
13: Campus Connector and public realm
14: Precinct Integration at research levels
15: Servicing and Back-of-house
16: Design Statement: Materials

- Detail how services, including but not limited to waste management, loading zones, mechanical plant are integrated into the design of the development.

Refer to the following report sections:

08: Built form and massing principles
10: Building organisation
15: Servicing and Back-of-house

3. Environmental Amenity

- Provide an assessment of any overshadowing impacts, privacy, view loss and wind impacts.

Refer to the following report sections:

08: Built form and massing principles
09: Overshadowing

- A high level of environmental amenity must be demonstrated, including to the public domain.

Refer to the following report sections:

06: Quality of the Campus
07: Site Constraints and Opportunities
13: Campus Connector and public realm
14: Precinct Integration at research levels

LEP height on Botany Street

In addition, the proposed building intrudes into the LEP height restriction of 24m above street level, within 30 metres of the boundary on Botany Street.

This has been done to preserve the effectiveness of the proposed research space which requires continuity of laboratory areas internally and into the existing precinct levels, as well as to match existing heights on Botany Street providing both consistency of street wall on the northern part, stepping down towards the south, thereby creating a transition of height for any future development to the south.

The rationale for the proposed scheme and comparison to a LEP compliant mass is described in section:

08: Built form and massing principles.



Illustration looking from Botany Street, Gate 11

UNSW is a teaching and research institution of international, national and state significance. It is ranked 46th worldwide in the World University Rankings (2010) and is a member of the Group of Eight (Go8), a coalition of Australia's leading universities.

Introduction: Background

Amongst others, UNSW has Faculties of Medicine, Science and Engineering and is a key driver of economic growth. It is renowned for the quality of its graduates and its commitment to new and creative approaches to education and research. Notably, it is also the largest employer within the Randwick LGA.

The Project is proposed to address long-term accommodation needs of the School of Biological, Earth and Environmental Sciences (BEES) and the School of Biotechnology and Biomolecular Sciences (BABS) within the Faculty of Science (FoS), as well as functional needs of the wider Biomedical Precinct located as part of the UNSW "upper" Kensington Campus. The Project will align with the University's strategic intent as set out in the B2B Blueprint to Beyond.

The FoS at UNSW is one of Australia's largest faculties in terms of staff, operating budget and international student numbers. In 2012, the Faculty had approximately 920 academic and professional staff and total student enrolments of approximately 5,860 Equivalent Full Time Student Load (EFTSL).

FoS consists of nine Schools:

- Aviation;
- BEES, including the Climate Change Research Centre (CCRC) and the Institute of Environmental Studies (IES);
- BABS;
- Chemistry;
- Materials Science and Engineering;
- Mathematics & Statistics;
- Optometry & Vision Sciences;
- Physics; and
- Psychology.

The Project was conceived in response to a Feasibility Study and FoS Accommodation Renewal Strategy. The Feasibility Study focused on the long term future of the UNSW Biosciences building and ancillary structures, along with the accommodation needs of future occupants including:

- BEES;
- BABS;
- shared research facilities including Mark Wainwright Analytical Centre (MWAC); and
- Biomedical Precinct functions run by the FoS, School of Medical Science (SoMS) and Facilities Management (UNSW FM), which serve occupants of the Biosciences, Wallace Wurth, Lowy Cancer Research Centre and, to a lesser extent, the Samuels, Australian Graduate School of Management (AGSM) and Mathews buildings.

The FOS Accommodation Renewal Strategy focused on:

- how the aging Biosciences Building and surrounds can be renewed in a way that allows BEES and BABS to build on their research and teaching strengths;
- how the Project can also benefit the efficient provision of Biomedical Precinct functions; and
- how the renewal of the existing structures can be achieved with minimal disruption to research and with continuity for teaching activities.

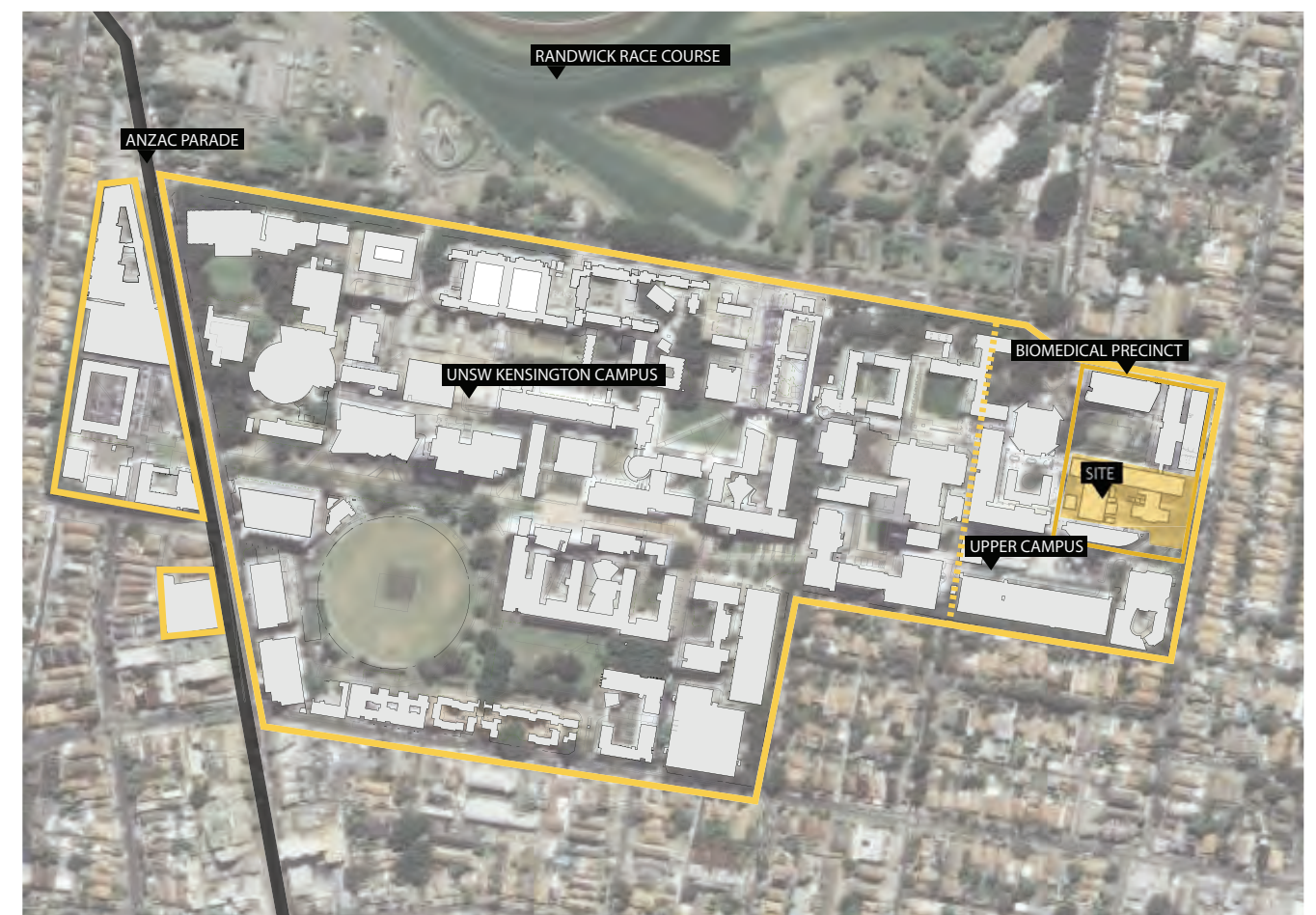
The outcomes of the study identified the need for large scale, highly serviced space with maximised capacity to relocate existing wet research functions and selected teaching spaces. This space would preserve the continuity of research and allow for the capacity to decant and refurbishment of the

existing Biosciences building. The recommendation of the study forms the basis of this Project. The Project encompasses the consolidation and renewal of accommodation for:

- research and teaching functions for BEES and BABS;
- specialist research functions accessible to all groups in the Biomedical Precinct; and
- service and lab management functions provided to the Biomedical Precinct by FoS, SoMS and UNSW FM.



UNSW Kensington Campus in context



Location of the site within the campus

Introduction: Scope of the Project

The project comprises of two stages:

- Stage 1 - approximately 21,730 m² (including plant and risers) of new building housing laboratories, workplace, teaching and student space, as well as precinct support and stores, an atrium at the eastern end between D26 and new building, and an extended campus realm and landscape works; and
- Stage 2 - new facades to the existing D26 building, new enclosed plantroom at roof level, and an atrium at the western end linking the new building, D26 and the Biolink building.

With the recent changes to Gate 11, the new building takes advantage of an extended frontage to Botany Street to help define the edge of the Biomedical Precinct and form a defined street edge.

The ground floor and level 1 of the building expands the amount of teaching laboratories and informal student spaces provided in the recently completed Wallace Wurth Building, and opens these out to a new Botany Street frontage to provide activation to this edge.

Vehicle services zones existing on the site will be given a covered area under the new building, providing better functionality for the precinct, and better amenity for the surrounding neighbours.

Upper floors of the building are predominantly laboratories and supporting workplace. The overall height of the building is consistent with the surrounding Wallace Wurth Building and D26 buildings. Generally, plant zones at the top of the building are setback from the street edge similar to the Wallace Wurth Building.

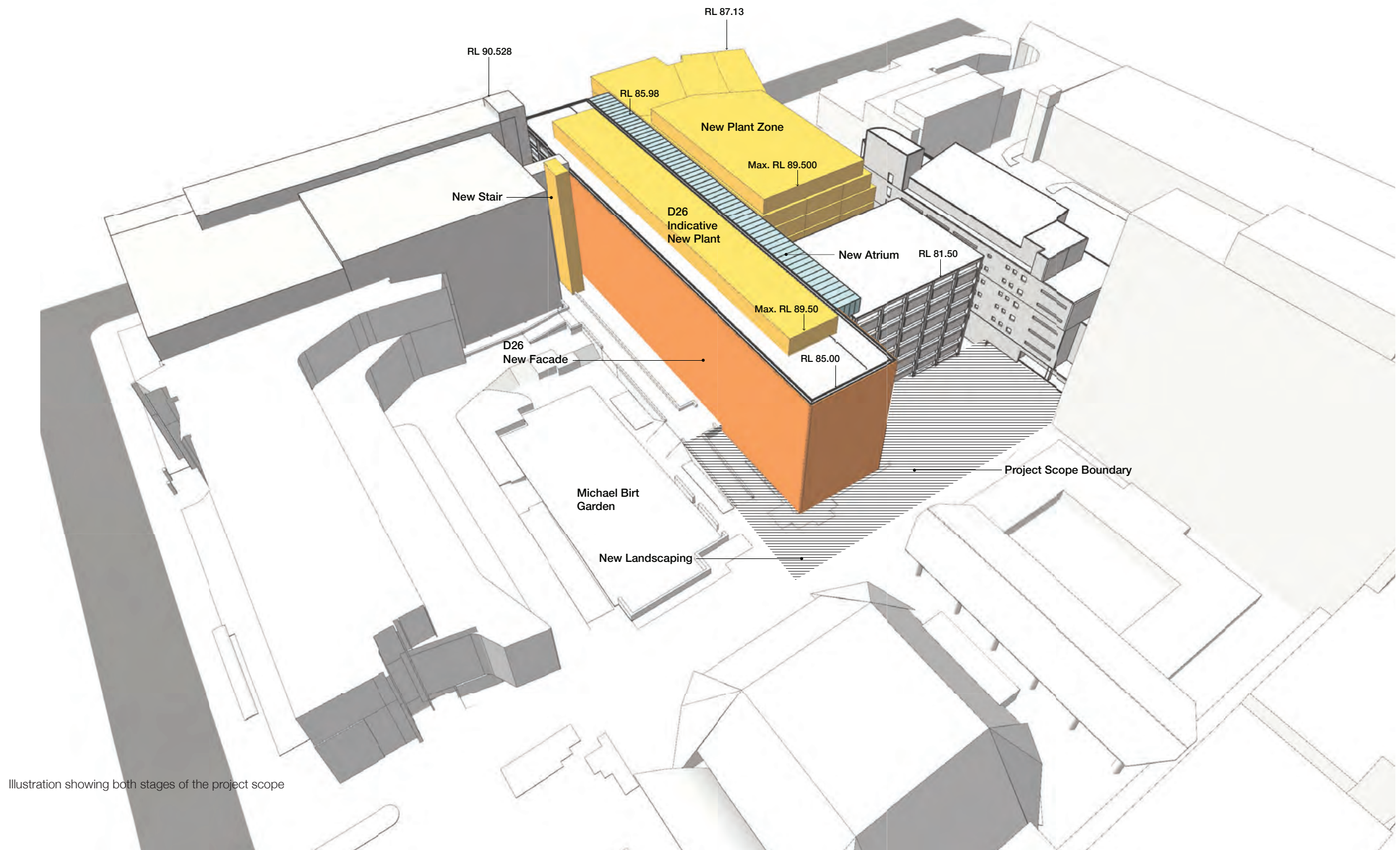


Illustration showing both stages of the project scope

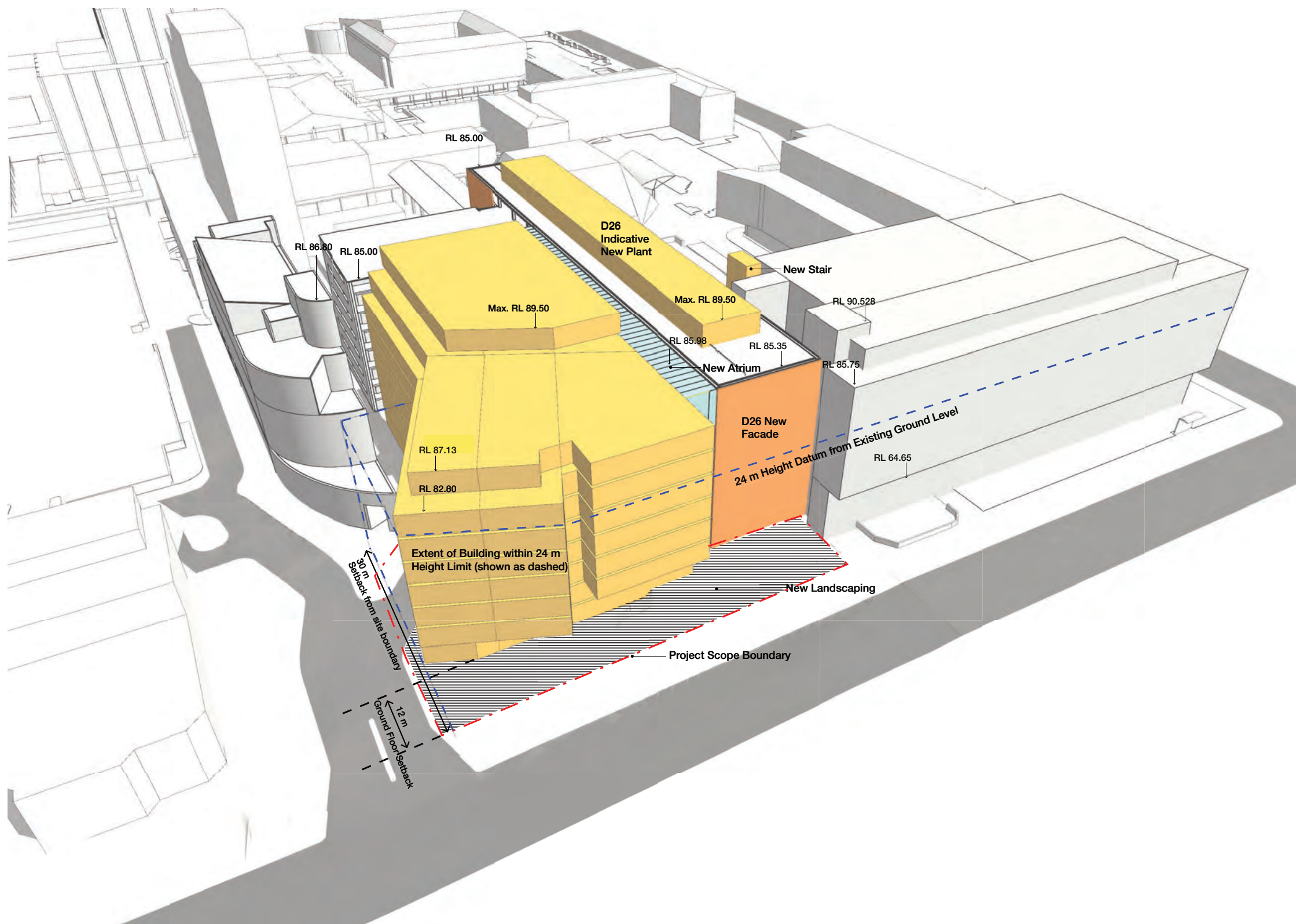


Illustration showing both stages of the project scope

The facade to D26 will be reclad to improve performance and quality. Primarily this will involve the northern elevation, the east and west short elevations, and portions of the south.

A portion of the southern facade will be removed to form a connecting atrium space with the new building.

Additionally, a portion of the western ground floor facade of the D26 Biolink building will be upgraded as part of forming a connection from Chancellery Walk into the new building.

The ground floor of the existing D26 will be refurbished to accommodate new links to the Stage 1 building, retail across the northern frontage addressing the Michael Birt Garden, as well as some additional student support spaces.

A new stair will be inserted between Wallace Wurth and D26

Internal renovations to other floors D26 do not form part of the scope of works.

Context: Campus planning objectives

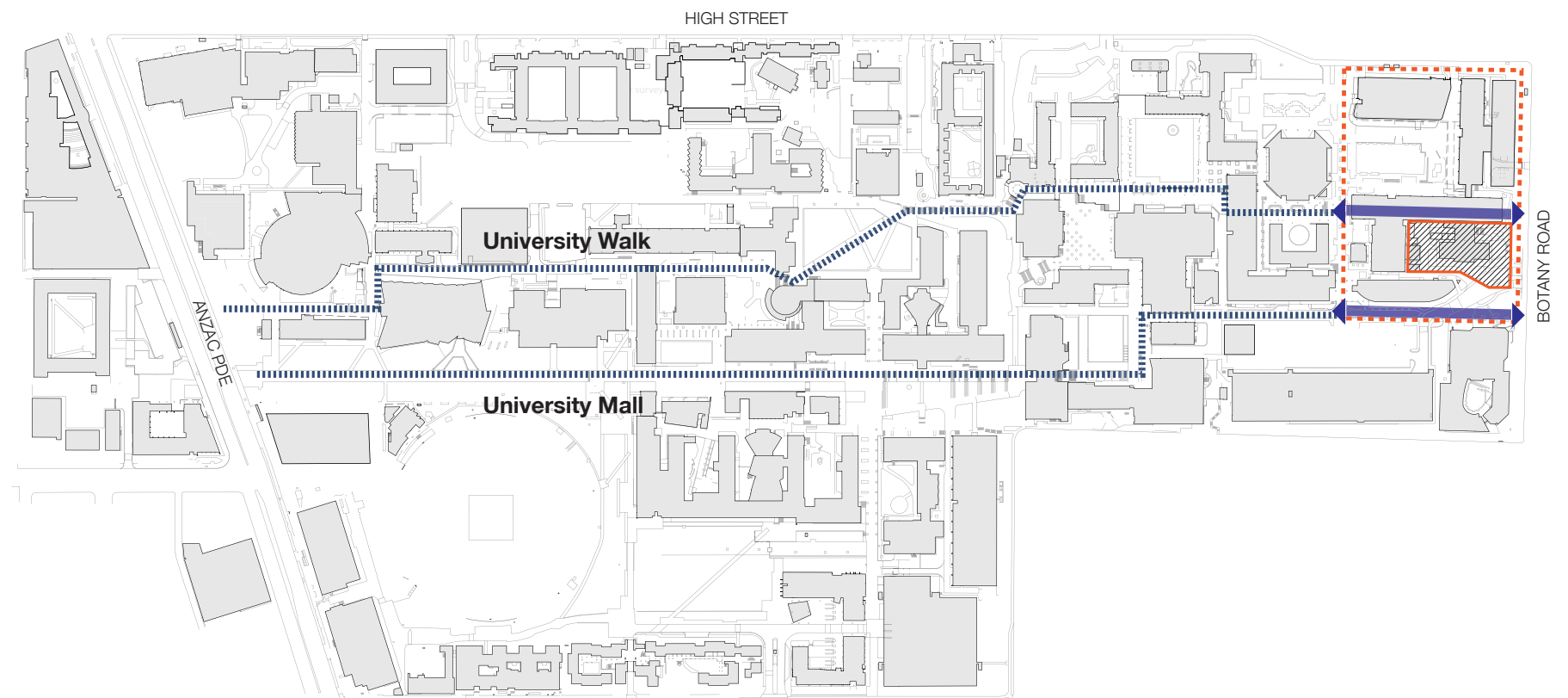
The UNSW Campus Vision in the UNSW Planning and Design Guide sets the context for the urban design objectives of the project. The Vision states “Through its built form and landscape the Kensington Campus will be a welcoming, collaborative and vibrant place that provides a memorable and positive experience for students, staff and the wider community.”

As part of delivering a quality campus experience and enhancing urban amenity, the Planning and Design Guide outlines a number of key strategies that the project resolves through consideration of the campus and surrounding context.

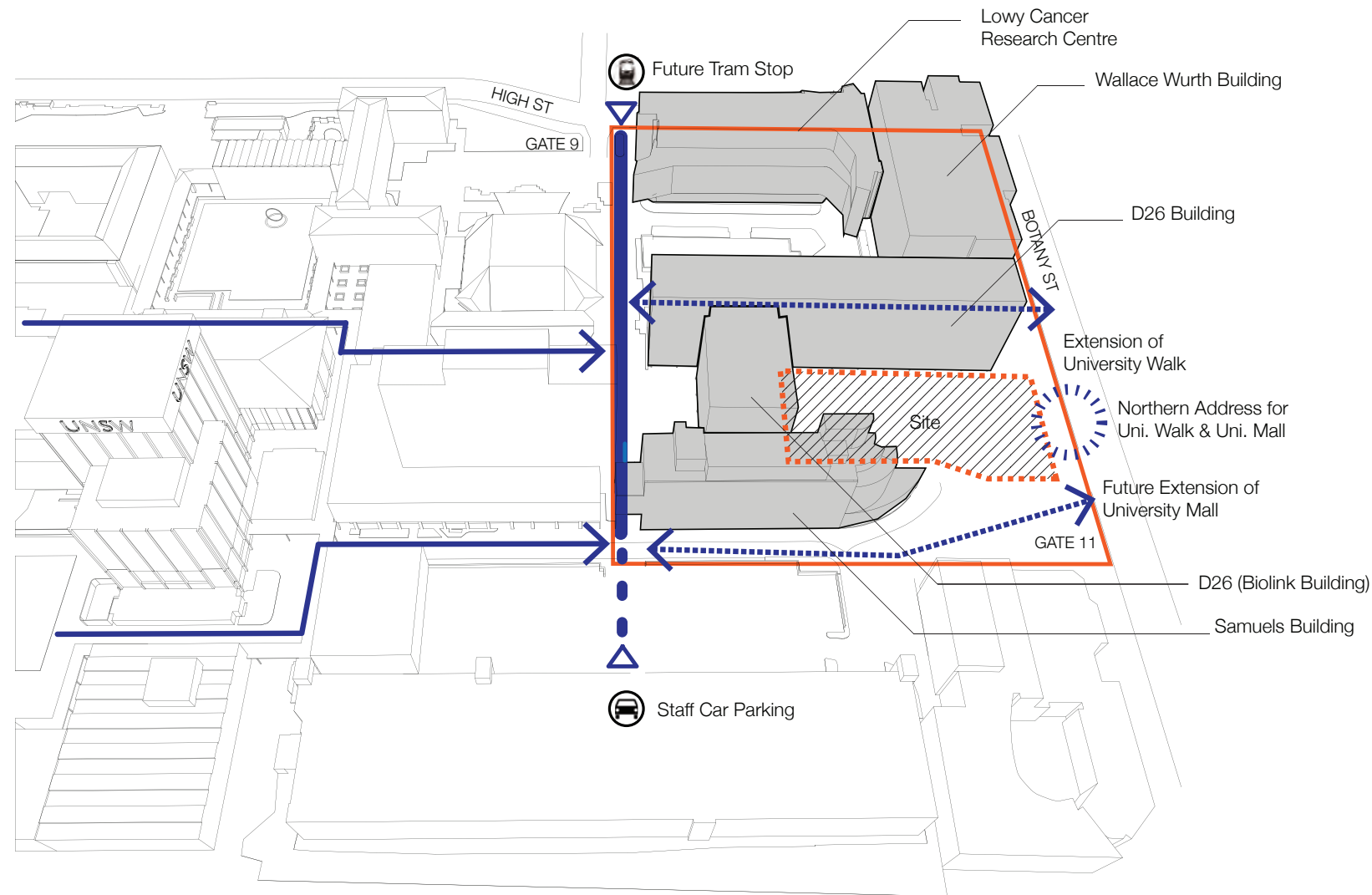
Importantly, the project scope sits across the two main urban structures that provide the UNSW campus with its distinct legibility - the University Mall, and University Walk.

Both these elements run east-west through the campus, connecting the upper and the lower campus. University Mall provides the clarity to the campus as a major pedestrian connector and ceremonial route. University Walk aims to connect the campus with an interrupted covered walk for shade and shelter from east to west.

Although both these elements are quite well defined on the lower campus, the urban strategies have not been fully implemented on the upper campus. This project provides the first chance to realise these both on the Botany Street address and through the Biomedical Precinct.



Site Plan indicating Major Pedestrian Routes



Site Plan illustrating Pedestrian & Vehicle Entry Points & Connections

Currently, Gate 11 - the proposed Botany Street extension of the University Mall - is a currently significant vehicle entry to the campus.

The design of the new building will recognise the future significance of this entry as part of the longer-term campus planning strategy, while also managing the provision of pedestrian and public realm amenity in the precinct.

With both the University Walk and University Mall extending along the north and south of the project site, the building design will also create the opportunity for an address onto Botany Street that responds to the scale and character of both the pedestrian covered campus experience, and the ceremonial experience appropriate to Gate 11.