UTS NEW THOMAS STREET BUILDING

DESIGN REPORT
DECEMBER 2011

durbach
block
jaggers

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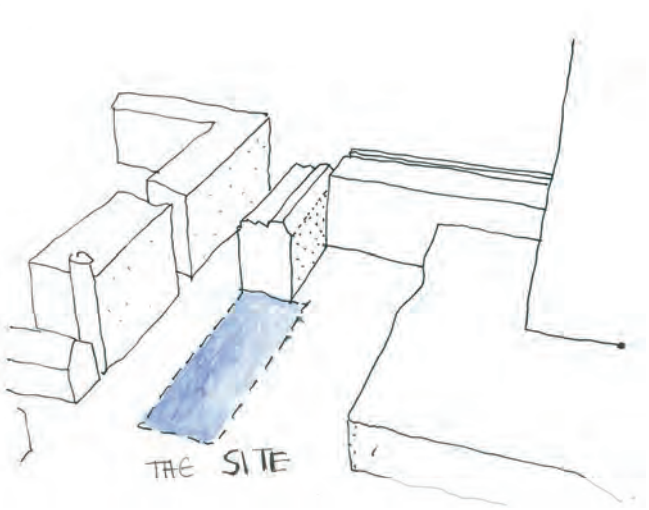
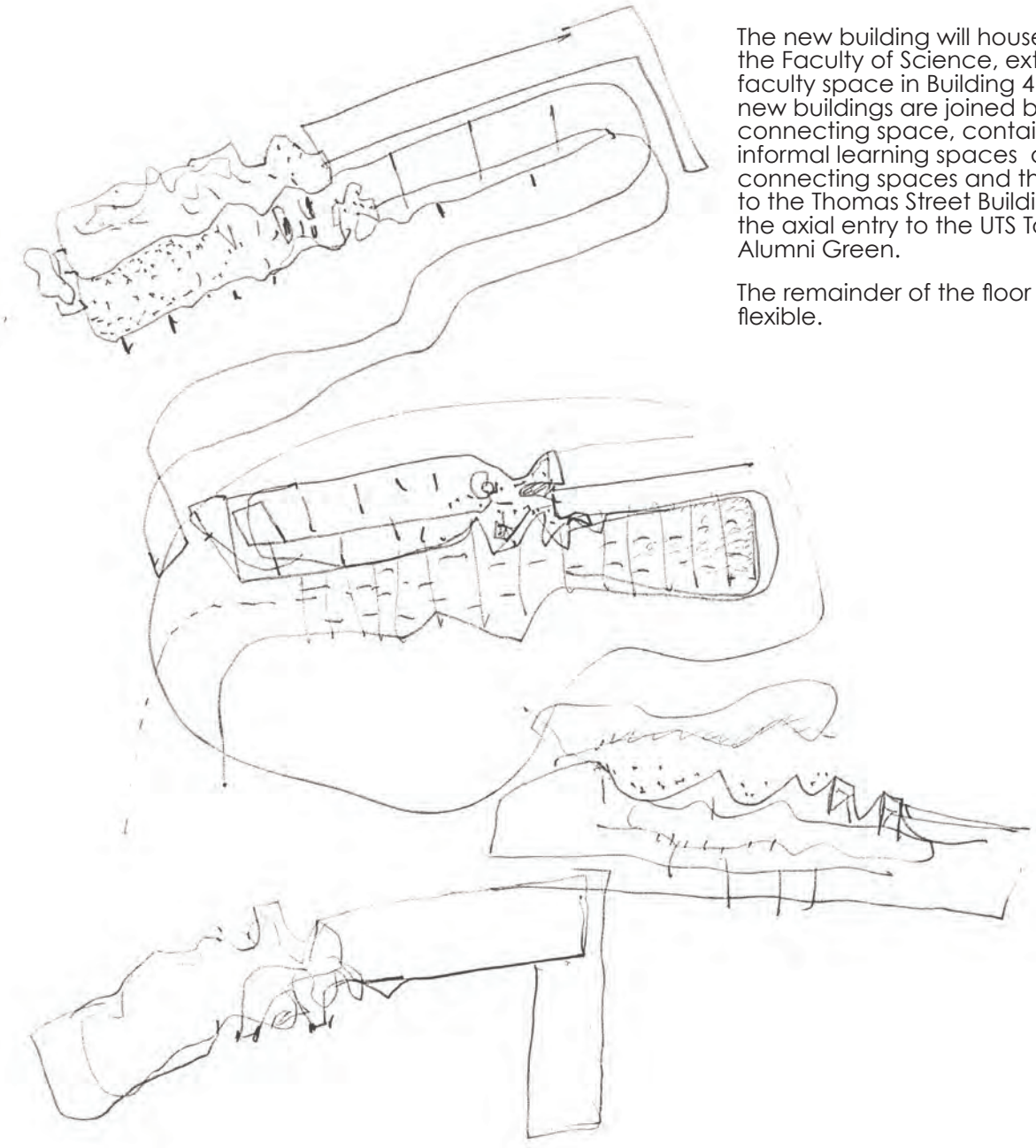
SUMMARY



The new five-storey building at Thomas Street will complete the built edge of Alumni Green, the central green space of UTS campus. The new building follows the street alignment of Thomas Street, contributing active uses and entry points to its frontage and to the corner of Jones and Thomas Streets.

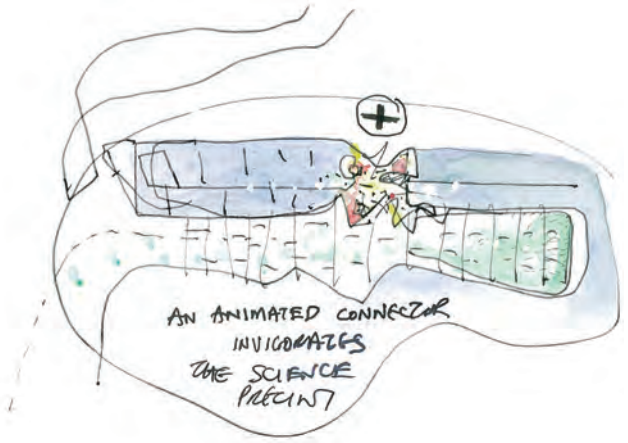
The site has height plane controls to ensure sunlight access to this space in winter.

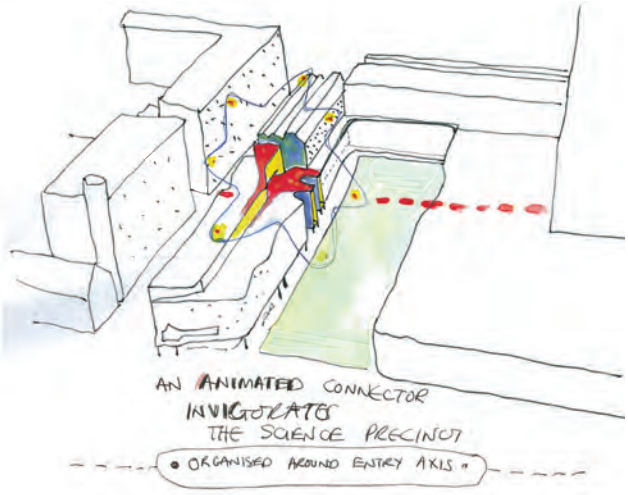
The building proposes a gently undulating and canting façade to Alumni Green, that both lines this space and maximises sunlight penetration. It is figured as a branching façade, based loosely on the image of a grove of trees.



The new building will house new facilities for the Faculty of Science, extending current faculty space in Building 4. The existing and new buildings are joined by an animated connecting space, containing meeting areas, informal learning spaces and circulation. These connecting spaces and the new street entry to the Thomas Street Building also align with the axial entry to the UTS Tower Podium, across Alumni Green.

The remainder of the floor plates are large and flexible.





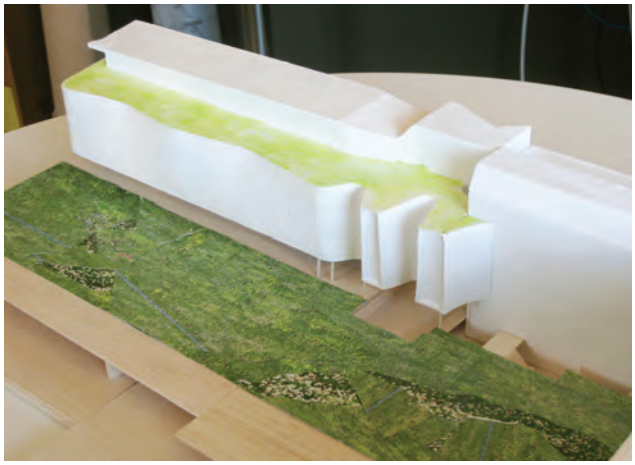
The new building at Thomas Street is an addition to an existing Faculty of Science Building (Building 4).

Eventually, the buildings will be used as one, with key facilities being shared. The new building will provide new circulation and invigorate a current dead end in Building 4 on Thomas Street.

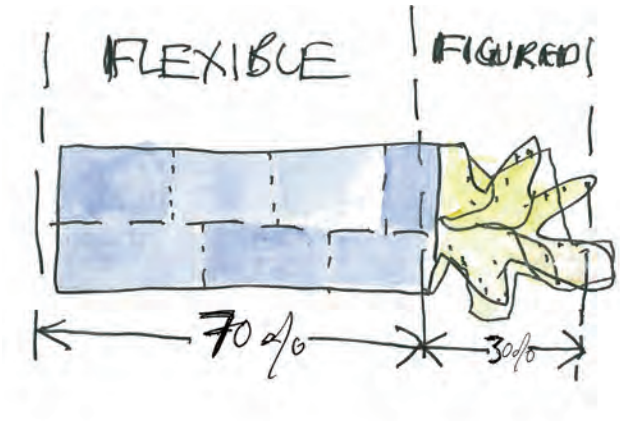
At the junction of the existing faculty building, a series of meeting rooms and informal learning spaces gather around the new circulation area.

These animated spaces join the circulation spines of the two buildings, combining two buildings into one faculty.

The ground floor of the new Thomas Street building has an arcade along the Jones Street width and the length of the building adjacent to Alumni Green. This provides external, pedestrian, covered circulation from the new Campus entry on Thomas Street to Jones Street.



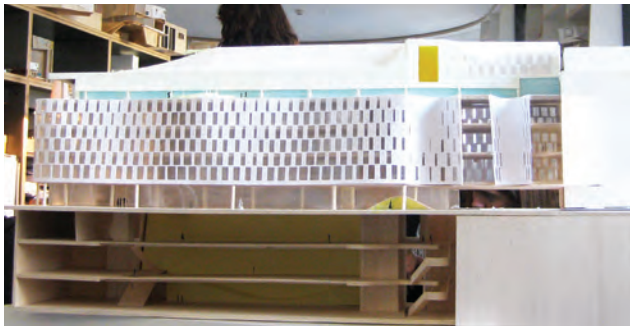
The new campus entry on Thomas Street links to Alumni Green on axis with the UTS Tower Building and to the lobby and circulation core of the new building.



The figured spaces adjacent to the circulation make particular rooms with freestanding edges for views and light.

The remainder of the floor plate is flexible for laboratories and offices.

The first Basement floor aligns to campus Basement Level 1. This is the main loading level of the campus, linking to the UTS Tower building, serviced by the new vehicular ramp currently under construction. Basement Levels 2 and 3 align with the basement floor levels in the proposed Library Retrieval System Building, currently being documented for construction.



All above ground floors align with existing Building 4 floor levels.

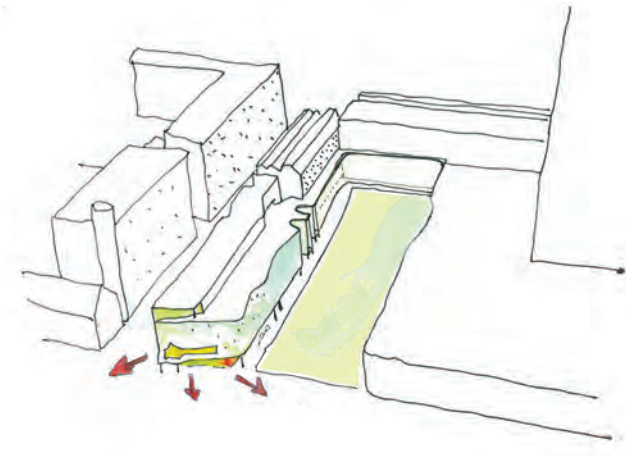
The two Science Faculty buildings are separated at the ground plane by the void over the new vehicular ramp. At all other levels above ground, the two buildings are joined through connected internal circulation systems. The lifts in the new building will provide additional vertical circulation and amenity to Building 4. Generally this primary core connects to a secondary core at the western end of the building through a central corridor, lit by voids.

At the ground floor on Thomas Street, the new campus entry leads to the lift lobby. Entry to the lecture hall and its lobby is at the western end of the building, at the corner of Jones and Thomas Streets. General teaching space opens directly onto the arcade adjacent to Alumni Green.

Three full floor plates at Levels 1-3 house laboratories and faculty offices. The fourth floor is used for offices and steps back, a maximum of 9.45 metres from the furthest external face on Alumni Green, to comply with the envelope control. This set back allows for a substantial landscaped roof garden, directly accessible from the offices on this floor. The fifth floor is utilised mostly for plant and equipment. The goods lift connects to this floor and the topmost floor of Building 4. A meeting room with facilities is also located on this floor.

Basement floors are predominantly used for laboratory spaces and plant, with the large voids over circulation spaces providing natural light. In these floors the circulation runs along the southern boundary of the site, connecting the primary core to a set of open stairs in a large void space. A linear void on the northern boundary allows for light to penetrate to two of the lower floors. A lift connects the lecture hall in the uppermost Basement to the ground floor to provide after hours access.

A GATEWAY TO ALUMNI GREEN



A mini conference space,with lobby and auditorium space below, forms the public face of the faculty on the corner of Jones and Thomas Streets and a portal to Alumni Green.

This space and its adjacent covered outdoor area is can be used for events, contributing to street activation at night during the day and after hours.

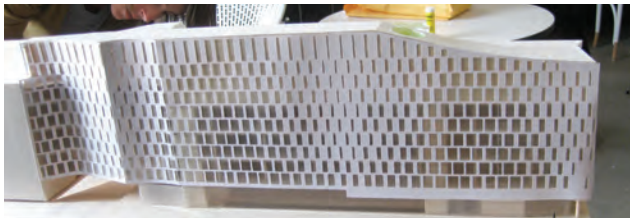
A GROVE OF TREES ON THE GREEN

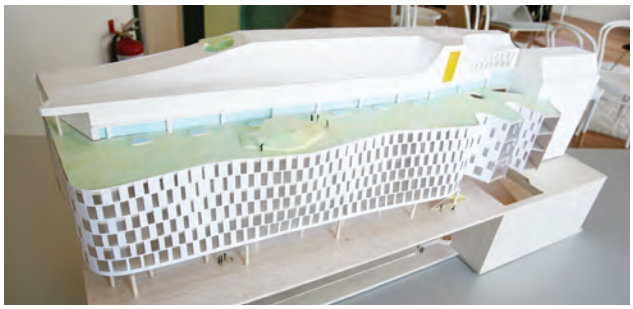
The image of the Science faculty onto the Green is a grove of trees, gently moulded and shaped, its underside a friendly shadow over a colonnade.

The 'tree-branching' façade is fine grained and varied, with opening windows and active uses onto the Green, wherever possible.

A planted roof garden at Level 4, visible from both the office spaces, Alumni Green and the primary circulation spaces of UTS Tower Building, contributes to the new softened landscape centre of UTS.

FACADE

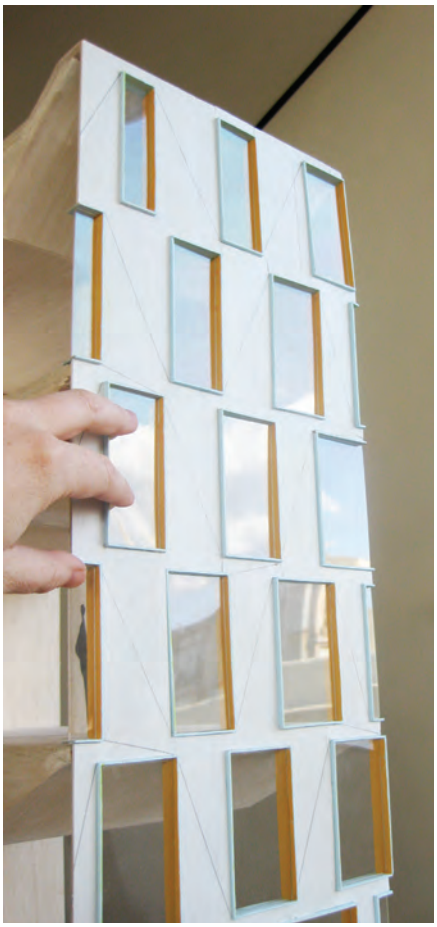




The facade is a lightweight framed system that is supported off the building's concrete frame. The facade is penetrated by window frames, and components are canted both horizontally and vertically creating a gentle undulating quality. These curved and canted faces absorb the required setbacks to ensure sun access to Alumni Green, and smooth the alignment to Building 4. The variegated quality of the façade is reiterated though the billowing placement of solids and voids, branching across the façade. Different window types achieve the variation.

The vertical façade on Thomas Street follows the gradual concertina system of solids and voids opening and closing. Gentle surface curves mark the new Thomas Street entry and a smooth street transition to Building 4.

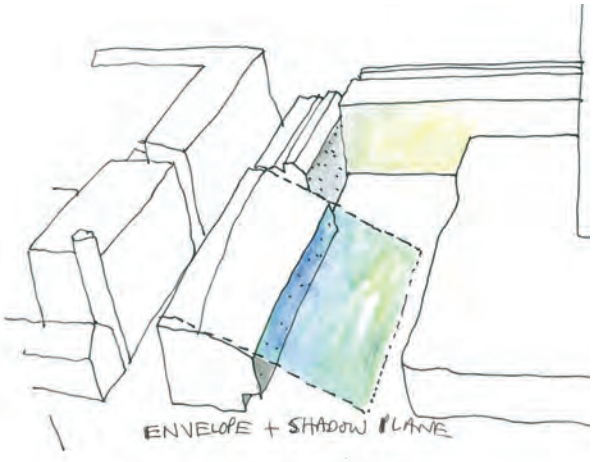
FACADE DETAIL



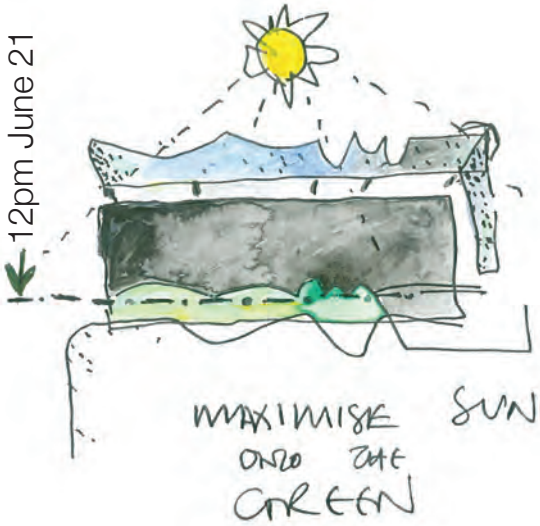
Typically the windows are positioned in a 350mm deep frame. The depth of this frame takes up the dimension of the varying vertical and horizontal facade undulation.

The façade material is a lightweight infill element and a number of material options are being considered including GRC, shotcrete and a site applied render system.

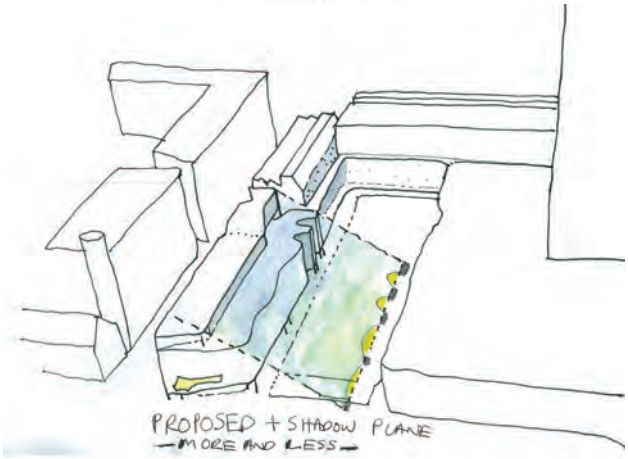
The solids in the façade will emulate an off-white concrete finish, with fine dark steel frames lining the openings. The reveal linings to the windows on the Alumni Green Façade will be painted in greens, light yellow, blues and oranges. These will appear as fine planes of colour rather than solid surfaces and reflect gently coloured light into the interiors of the building, cooling or warming the light depending on the orientation.

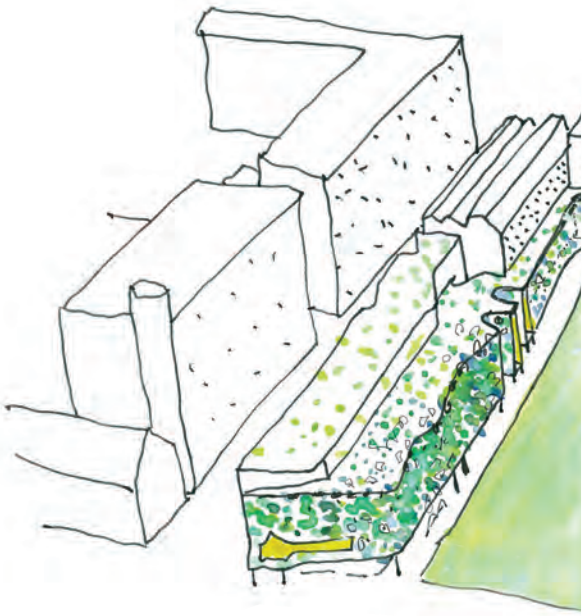


The site has height plane controls to ensure sunlight access to Alumni Green in winter. To achieve this, the building steps back at Level 4.



The scalloping of the southern façade onto Alumni Green maximises sunlight penetration to this space, with the parapet edge scooping sky views into the Green.





A 5 star Green Star Education rating is targeted for the Thomas Street Building.

As a Science building is a highly serviced building, requiring sealed facades and conditioned air, mixed mode strategies are employed in the office spaces, with natural ventilation drawn through the facades and exhausted through ventilation stacks to the roof. This system is automated through a building management system.

Basement spaces, where natural ventilation is not available, are dedicated to labs and are fully air conditioned.

All above ground spaces are naturally lit, supplemented by metered and sensor controlled artificial lighting. Basement circulation spaces have some natural lighting from above, ensuring some sense of the outside even at the lowest floors. These laboratory spaces will be allocated to uses that require artificial lighting.

The roof garden on Level 4 has been designed and engineered to allow for deep planting to a minimum depth of 600mm, mounded as required for deeper planting.