



## DESIGN DOCUMENT

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Front Cover: View from Broadway of the Development in Context.

## 1.0 INTRODUCTION

### 1.1 Executive Summary

The University of Technology Sydney (UTS) called for Detailed Proposals to Build/Own/Operate and Transfer student accommodation facilities from three prequalified Consortiums. These proposals were submitted for UTS consideration in June 2008 after a 4-month tender period.

The Living Education Consortium was nominated as preferred proponent in December 2008 after a number of months of post bid submission negotiation.

UTS offered two sites for the use of the consortiums. One site is the Peter Johnson Building in Harris Street Ultimo and the other the Blackfriars site in Buckland Street Chippendale.

This proposed development is a direct response to the critical need for Student Accommodation in the precinct. The current availability of beds is greatly insufficient. This project is part of an overall vision for the City Campus's regeneration.

The Peter Johnson Site was subject to a Development Approval (DA) by The Council of the City of Sydney in October 1991. This approval was for a seven level podium building and a commercial office tower of a further ten levels. The Podium was constructed and is used as the Building and Architecture Faculty for UTS. The Commercial office tower was not constructed and Living Education proposes to build over and extend the existing podium structure to create the student accommodation element.

The University of Technology Sydney intends to create accommodation for its students on the Peter Johnson site that is affordable and creates a suitable student residential life in a learning atmosphere within the city context, which enhances the student experience at UTS.

The philosophy in providing student accommodation for the University is that the accommodation will:

- Create a unique space for cross cultural communication
- Create a residential village community in a healthy and safe environment;
- Provide pastoral care for the Students;
- Create linkages between the City and the University, visually, physically & culturally; and
- Create Sustainable outcomes

UTS is seeking to achieve the following objectives as part of this project:

- Development of the UTS Preferred Development sites for student accommodation, related commercial developments, and/or other features that enhance the UTS Campus life and facilities
- Provision of Accommodation at an affordable rent to students
- Creation of a suitable student residential life and learning atmosphere in a city based context
- Student Accommodation which enhances student experiences at UTS as reflected in the University's Strategic Plan at: [www.planning.uts.edu.au/domains/studentexp/index.html](http://www.planning.uts.edu.au/domains/studentexp/index.html)
- Environmentally Sustainable Development and Management

## 1.2 Development Description and Summary

### Development Description

- Infill of remaining incomplete Podium space on UPN up to Level 7
- Incorporation of student accommodation entry and café/meeting space on the Ultimo Pedestrian Network (UPN)
- Addition of 13 levels of student accommodation above the new podium infill and the UPN portion of the existing building
- Incorporation of a new student podium top terrace on level 8
- Provision of a student roof top terrace on level 21

### Accommodation summary

Living Education undertook a market analysis to determine the student bed demand and appropriate mix of apartments that would suit the ever-growing student need for accommodation at UTS.

The new development will provide a total of 720 beds in the following percentage mix;

- 308 Studio apartments – 42.8%;
- 38 Accessible Studio apartments – 5.3%;
- 37 Two Bed Apartments (74 total beds) – 10.3% and;
- 50 Six Bed Apartments (300 total beds) – 41.7%.

(Refer to Area Schedule and FSR tables in Appendix for further detail)



Figure 1. View of the Existing Peter Johnson Building from Harris Street

## SITE ANALYSIS

## 2.0 SITE ANALYSIS

### 2.1 Campus Structure

The University Campus currently has a disparate nature. As part of the University's ongoing upgrade there is an opportunity to create a more structured identity by reinforcing existing and creating new urban markers within the campus as well as creating a high level of pedestrian connectivity between Campus Buildings. The current Campus comprises of the Broadway Precinct to the West and the Haymarket Precinct to the East. The UTS Concept Plan proposes major pedestrian linkages between the existing precincts, including the creation of a new "Alumni Green", which will be a civic space to improve pedestrian permeability.

The Peter Johnson Building currently is and will continue to be a major pedestrian route between the Ultimo and Haymarket Precincts and therefore is a critical Urban Marker in the University Structure. Figure 4 identifies the key Campus Structure, Pedestrian Routes and Key Gateways to the University.

### 2.2 Existing Development Consent

The Peter Johnson Building has an existing Development Consent for a 10-storey office tower above the existing podium. The approved height of the tower is 68.86m/ 65.89m from the lowest and highest ground levels on Harris Street respectively as defined by the Standard LEP Definition. This equates to an RL 80 AHD figure. Figures 2,3 and 4 illustrate the general bulk, scale and height of the existing approved DA.

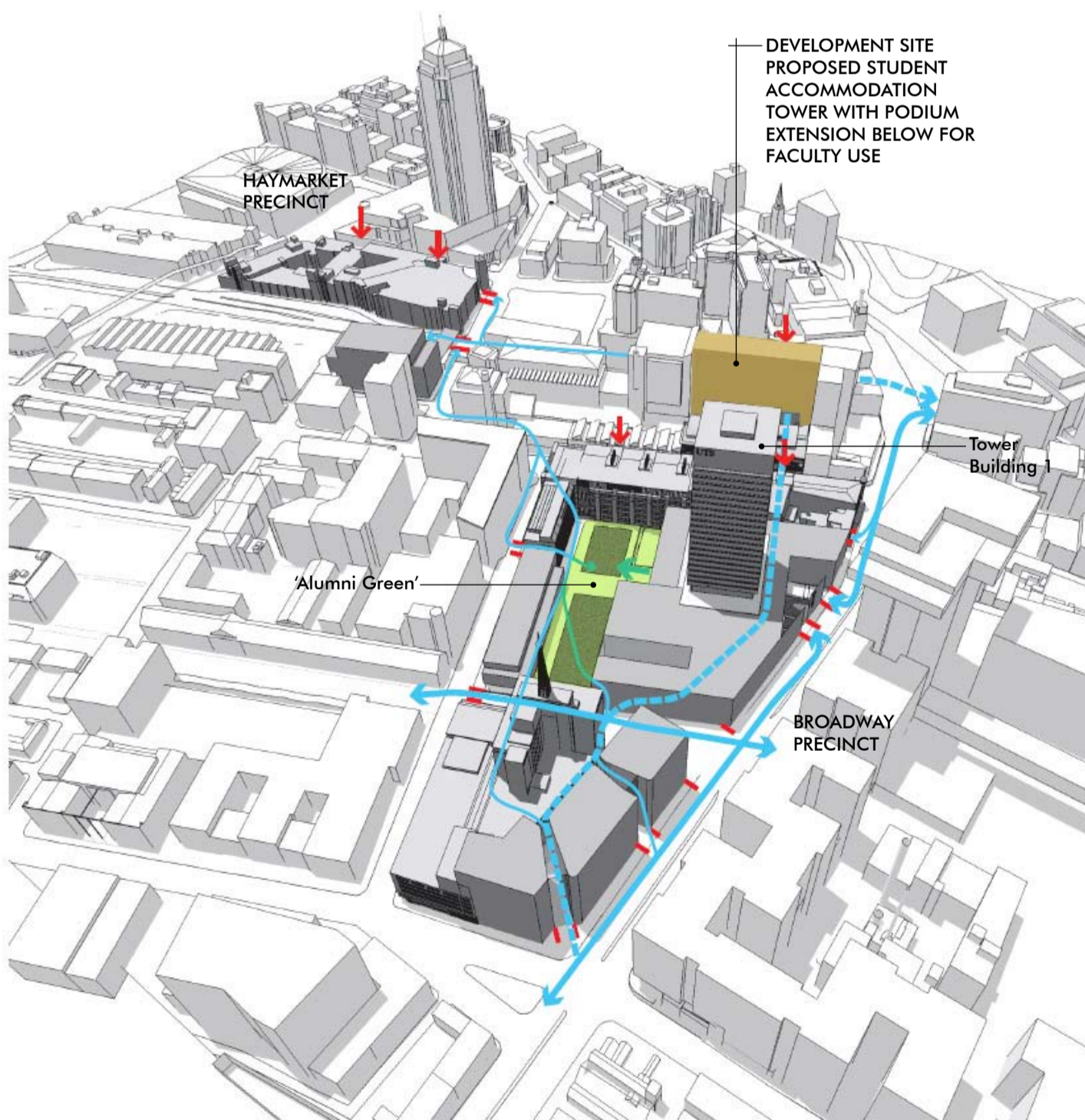


Figure 4. Peter Johnson Site in context of UTS City Campus showing proposed circultaion routes

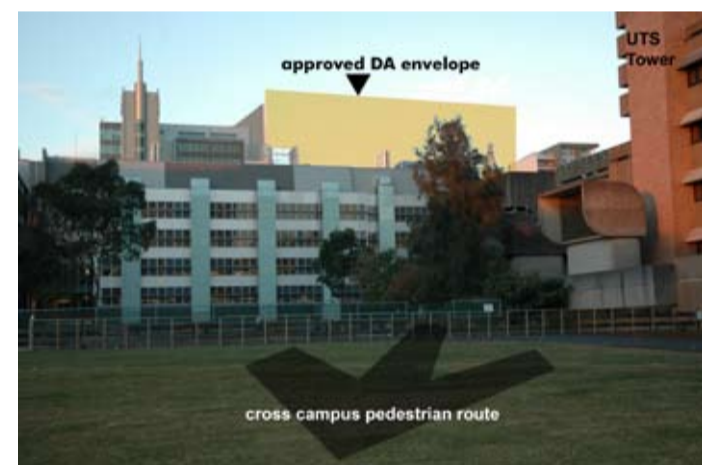




Figure 2. The west facade is highly visable from the proposed 'Alumni Green'



Figure 3. The West facade is visually prominent on Broadway

#### LEGEND

-  GATEWAYS TO THE CAMPUS
-  PROPOSED CIRCULATION ROUTES

2.3 Site Context

The proposed student accommodation building above the existing Peter Johnson Podium will form part of the UTS integrated City Campus. Located in the Ultimo/Pymont Village precinct, the site is bounded by Harris Street to the west, the Ultimo Pedestrian Network (UPN) to the east, the ABC building to the North and the Taragon residential tower to the south. The surrounding buildings include a mixture of education, residential, commercial and retail uses of varying heights and character.

The Proposed UTS Student Accommodation building would contribute to the City of Sydney’s desire to create an education cluster around the UTS campus and to expand the amount of accommodation available to students. Figure 5 shows the location of the proposed Student Accommodation building and the surrounding building uses.

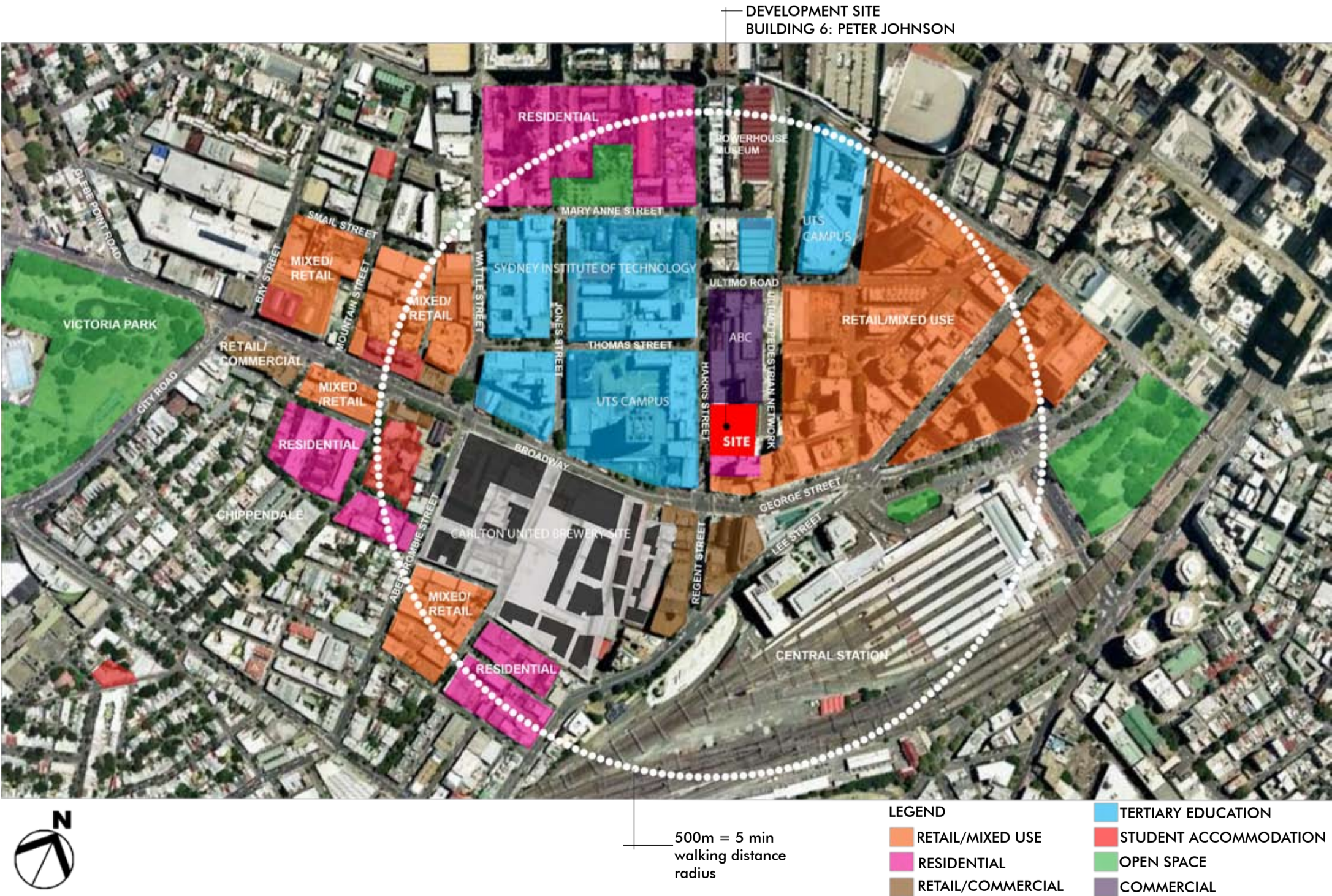


Figure 5. Site Context Diagram

## 2.4 Site Analysis

The podium of the Peter Johnson Building currently serves as a major pedestrian route for the University by providing access between the Broadway Campus west of Harris Street and the Haymarket Campus east of Harris Street. The Site analysis for the Tower looked at the:

- Key pedestrian routes through the podium
- Relationship to adjoining buildings
- Potential views to the CBD and Broadway
- Acoustic impacts of Harris Street
- Prevailing winds
- Solar impact and potential overshadowing
- Prominent viewing points to the site

The analysis highlighted the following:

### Constraints

- Busy nature of Harris Street and the acoustic implications to the proposed building
- Lack of clear entry to the podium from UPN and convoluted pedestrian links to Harris Street
- Urbanised nature of Site with lack of recreational open space
- Large facade facing west with adverse solar gain
- Existing windows of the Taragon neighbouring residential building.

### Opportunities

- Create a high profile building which reflects the character of student living, promotes the UTS brand and contributes positively to the Urban Context
- Reinforce pedestrian access and movement
- Address UPN frontage to provide new entry and enhance UPN
- Maximise views to Darling Harbour, city and across Broadway campus
- Provide high level of amenity for student residents
- Incorporate ESD principles such as cross ventilation, control of solar access and solar heat gain and rainwater harvesting

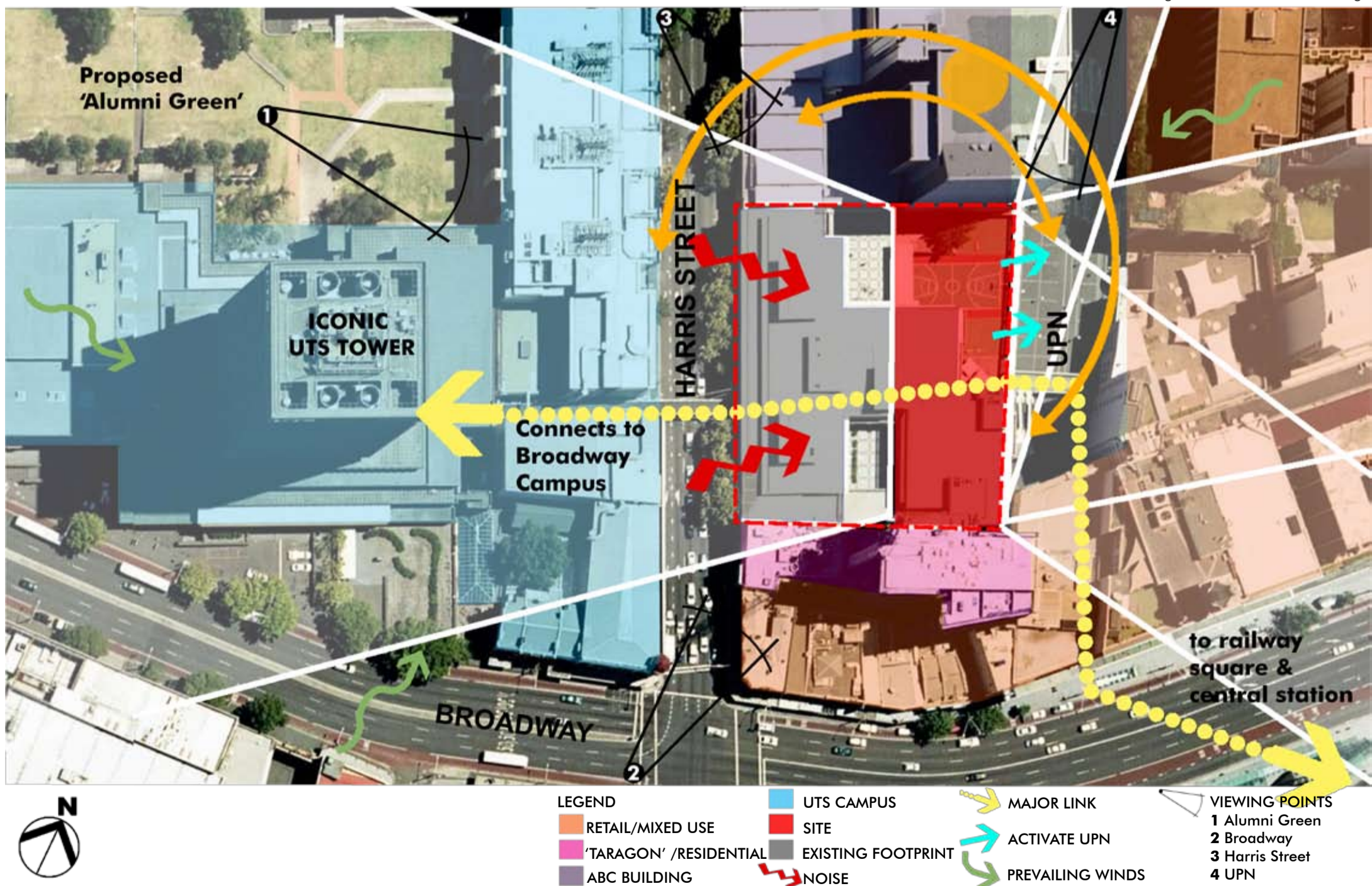


Figure 6. Site Analysis Diagram

## 3.0 COMPETITION PROCESS

### 3.1 Competitive Process

The University of Technology Sydney called for Detailed Proposals to Build/Own/Operate and Transfer student accommodation facilities from three prequalified Consortiums. These proposals were submitted for UTS consideration in June 2008 after a 4-month tender period.

During the tender competition process UTS and its advisers analysed the offers from each consortium. Each consortium was assessed against the following criteria:

- Design
- Construction
- Finance
- Operations

The Living Education Consortium as the preferred proponent entered into a Public-Private Partnership (PPP) arrangement with UTS within which there is an alignment of interests between the PPP successful proponent and the owner.

Living Education will be the owner and operator of the student accommodation for the next 35 years after which UTS will resume ownership of the building and its improvements. Living Education Consortium is therefore committed to a result that satisfies all stake holders and in particular the future UTS ownership and operation of the accommodation.

In developing the final design for the development as proposed, the design has gone through a refinement evolutionary process. That process has involved:

- Living Education internal design review
- UTS internal design review
- External Review by Graham Jahn

Whilst the project competition process was not undertaken in accordance with Sydney City Council competition guidelines Living Education believe the PPP development model and the design review process has resulted in design excellence. (Refer to JBA report for further explanation of the PPP process.)

### 3.2 Living Educations Design Criteria:

The Peter Johnson site has a number of opportunities and constraints that became apparent during the competition design process. Those criteria influenced the designs evolution and the following points will be explored in this section;

- Site Planning Context
- Existing Building Framework
- Massing, Built form and Materials
- Existing Operational constraints (minimising impacts upon the occupied faculty operations)

The following pages 12-15 illustrate the design process undertaken prior to Living Education Consortium being nominated as the preferred proponent by UTS.

## COMPETITION PROCESS

UTS STUDENT HOUSING: PETER JOHNSON BUILDING

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### 3.3 Site Planning Context

During the PPP Design Review process, the design team decided upon strategies in relation to the following areas:

#### Urban Principles

- Reinforce the 'through site link' through the buildings podium and the central location of the site within the Campus
- Aim to revitalise and activate the UPN and capitalise upon on the buildings proximity to the UPN
- Reinforce the Campus Nodes (key points in the Campus of entry/gathering or activity.)
- Investigate the impact of massing

#### Public/UTS Student Amenity

- Activation of UPN, with the provision of a café and a new public entry the faculty
- Provision of Access through the site for all

#### Residents Amenity

- Solar access min. 2hr to living rooms
- Maximise Views

#### Structure and Form

- Integrate building with existing structure of Peter Johnson building. The shape is defined by the existing structural constraints
- Reduce need to structurally upgrade existing building
- Extend and Complete the Podium form on the UPN

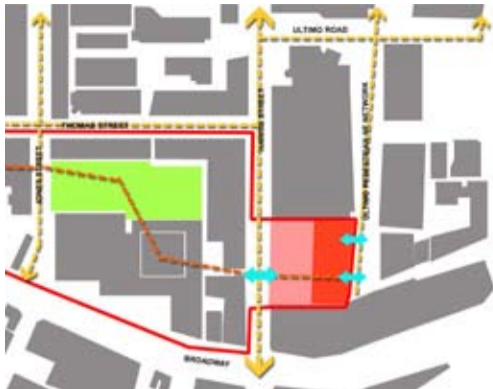
#### Feasibility

- Design is aimed at delivering an affordable outcome for students

#### Brief

- Provide optimal accommodation for the site
- Infill podium for expanded UTS educational space

#### URBAN PRINCIPLES



Reinforce the 'through site link' to connect campus

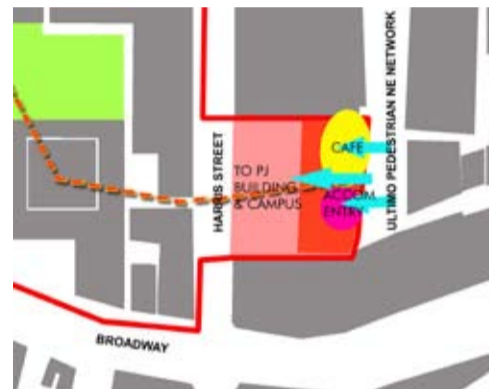


Reinforce the campus 'node'

#### PUBLIC / UTS STUDENT AMENITY



Activate the Ultimo Pedestrian Network

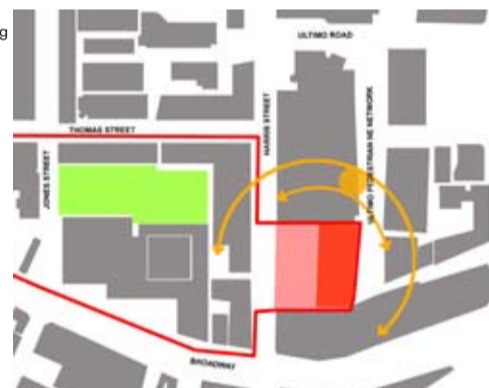


Provide clearly identifiable access for all parties (students to PJ Building and Campus beyond, residents to accommodation tower and all to cafe.)

#### RESIDENTS AMENITY



Maximise views

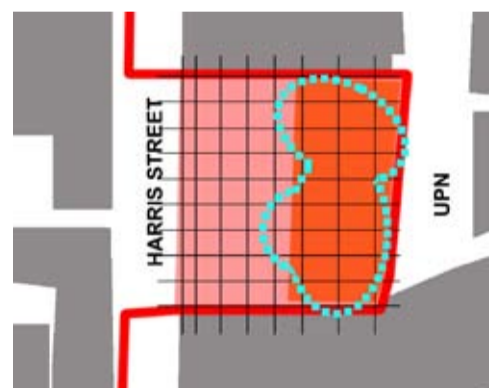


Solar access minimum 2hr to living rooms

#### STRUCTURE & FORM



Take advantage of existing grids to produce an efficient solution



Avoid irregular shapes which deviate from grid and create structural complexity and additional cost



Figure 7. Structural Constraints: Plan

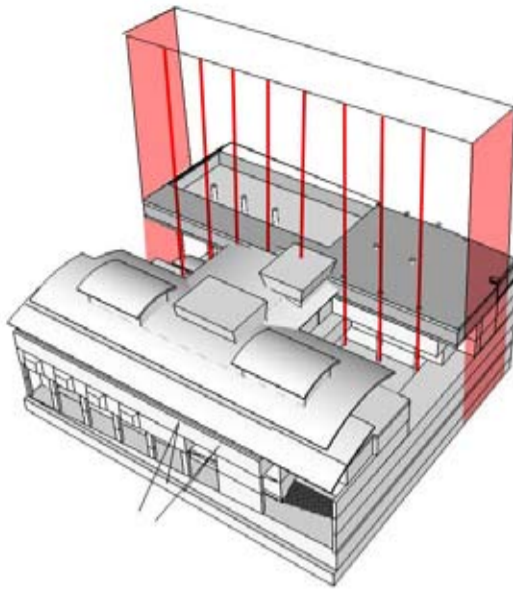


Figure 8. Structural Constraints: Axonometric



Figure 9. Courtyard Constraints: Plan

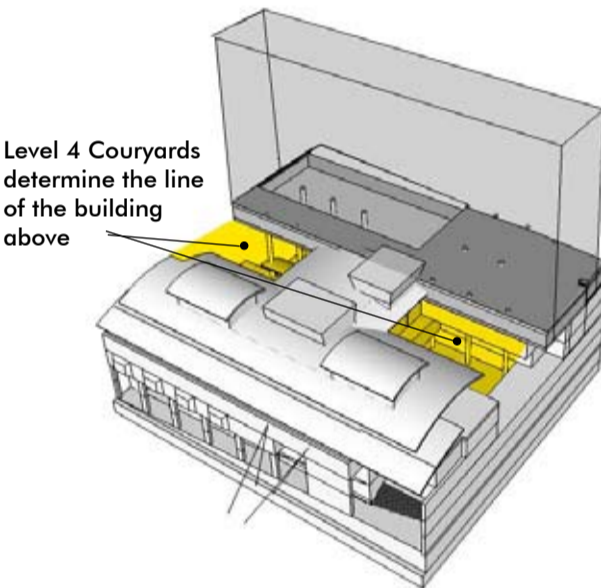


Figure 10. Courtyard Constraints: Axonometric

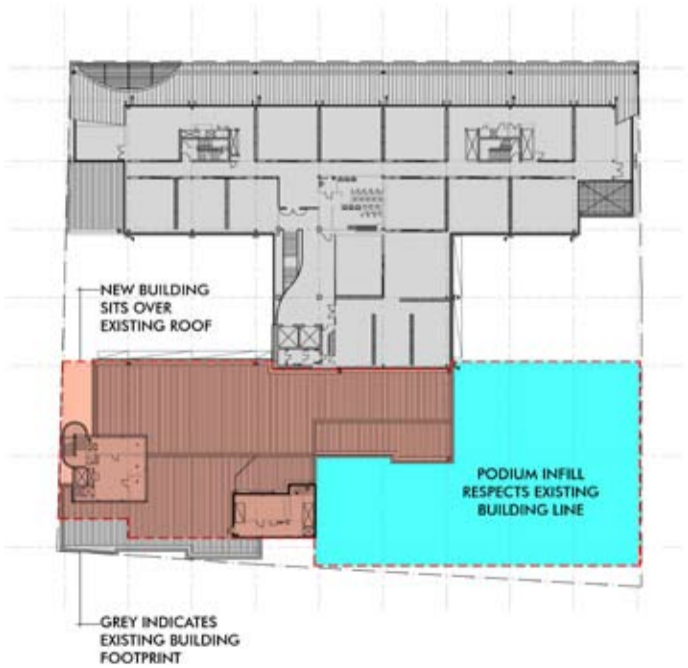


Figure 11. Facade Perimeter Conditions: Plan

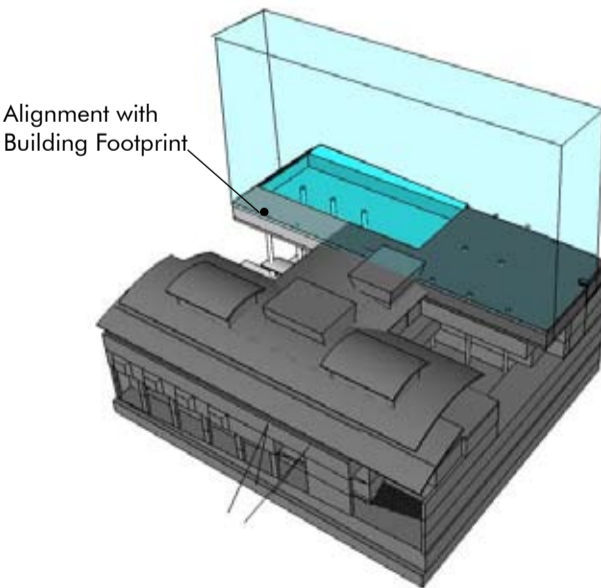


Figure 12. Facade Perimeter Conditions: Axonometric

### 3.4 Existing Building Framework

#### Structural Constraints

The existing approved DA intention was that a commercial tower would form part of the existing building, the original structure was designed to accommodate this tower.

However market demand has changed leading to this development application for Student Accommodation as follows:

- UTS policy is to avoid putting academic, teaching spaces in high rise buildings
- UTS do not have a need for the commercial space in the existing approved DA.
- Leading to the use of the tower for student housing

The existing structure therefore required re-examination to accommodate the new tower form. Minimal impact upon and upgrades to the existing structure have financial and operational benefits.

The integrity of the existing structure was investigated and the ability to modify existing structures was discussed with UTS. A requirement of the bid was to ensure minimal disruption to the UTS faculty and teaching operations. This requirement plus the structural limitations imposed by the existing podium structure meant that the built foot print has been inherently dictated.

The existing building structure also dictated the number of levels that can be installed on top of the podium structure. We have optimised the amount of built form that can be carried by the existing structure and footings without significant structural upgrade works. Any upgrade works to the existing structure will disrupt UTS teaching areas and are not supported by UTS.

#### Form Constraints

Living Education have also been cognisant of the existing DA envelope that exists on the Peter Johnson site. Although not dictating our built form solution Living Education have attempted to ensure the built form is compatible within the context of its surrounds.

The existing courtyards prevent any built form overhang so as not to impede views to the sky, daylight amenity and not to disrupt operations below during construction due to safety concerns.

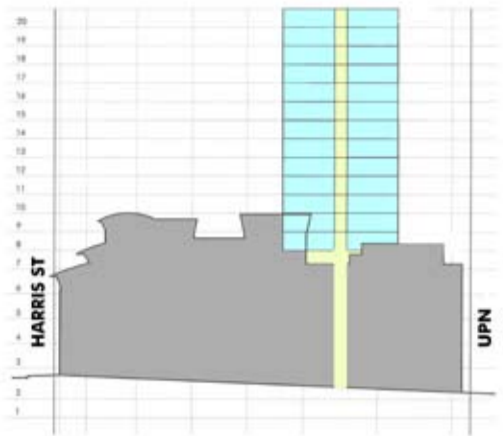
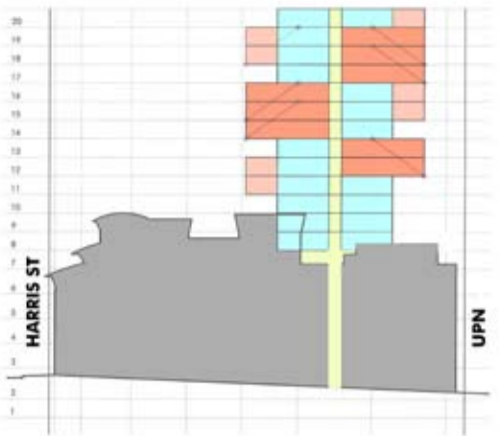
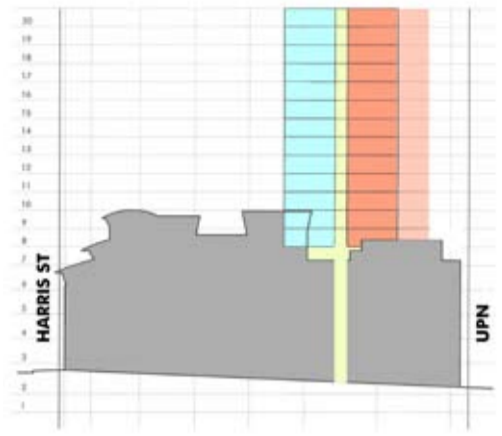
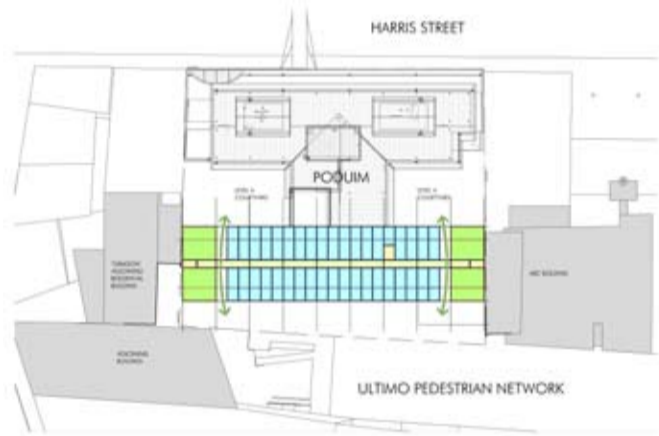
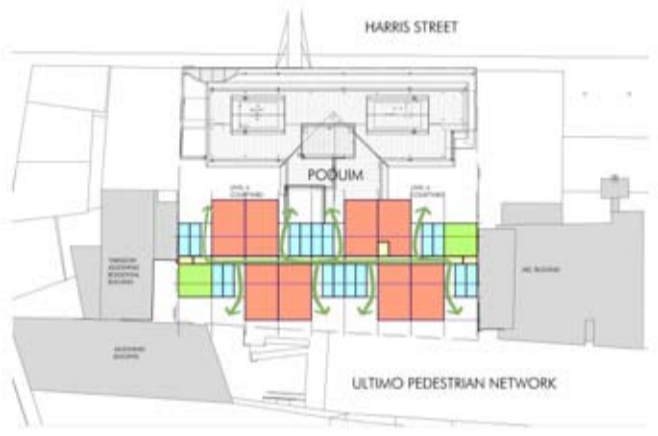
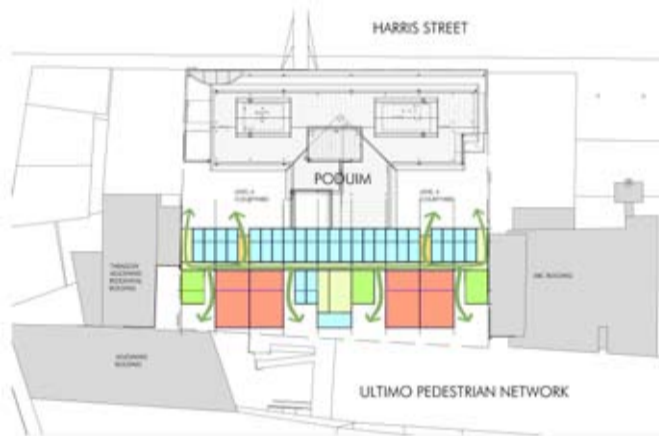
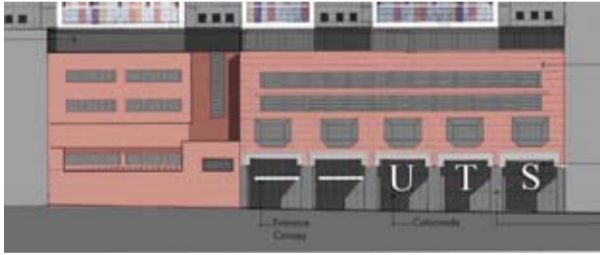
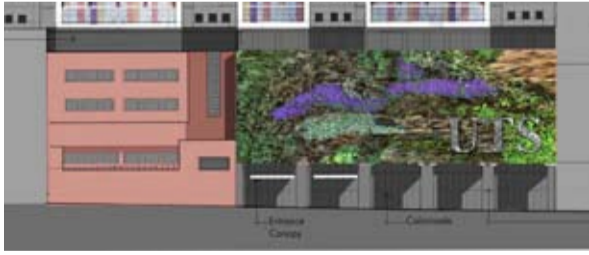
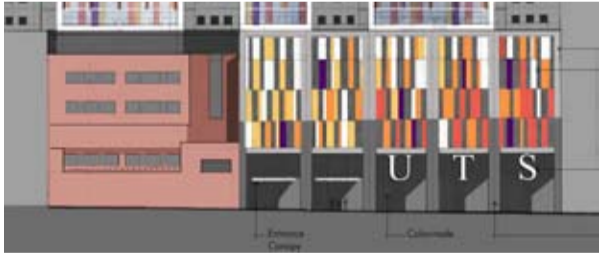


Existing podium facade locations and the adjoining building window and wall conditions influence the built form outcome.

The following illustrations on page 12 illustrate various built form options explored within the confines of the design of the existing podium building.

Table 1. Massing & Built Form Options explored during Competition phase

3.5 Massing & Built Form Options

Built Form Options were explored. This matrix represents those explorations;

Tower Massing			
			
<p><b>Option 1</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Simple structure and construction, therefore low cost</li><li>Minimal impact on existing</li><li>Best structural solution</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>Little variation in façade</li><li>Does not allow for variety of unit types</li></ul> <p>NOT RECOMMENDED</p>	<p><b>Option 2</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Maximum variation in façade</li><li>Wide variety of unit types</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>Many cantilevers are costly</li><li>Irregular form puts strain on existing structure</li><li>Structural upgrade would interfere with UTS faculty operations</li></ul> <p>NOT RECOMMENDED</p>	<p><b>Option 3</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Two distinct sides to built form therefore responding to different sides of site</li><li>Good variation in unit types</li><li>Minimal effect on structure</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>'Flat' western facade</li></ul> <p>RECOMMENDED DURING COMPETITION PROCESS</p>	
Tower Planning			
			
<p><b>Option 1</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Simple &amp; efficient layout</li><li>Visual transparency</li><li>Maximum commercial return</li><li>Maximum Efficiency</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>Lack of variation in the depth of the façade limits the variety in apartment types and thus limits the bed numbers</li><li>Regular façade</li><li>Overall offer to students is limited</li></ul> <p>NOT RECOMMENDED</p>	<p><b>Option 2</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Maximum variety in depth = maximum variety in apartment configuration</li><li>Articulated facades</li><li>Maximising building perimeter allows for high amenity and cross flow.</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>Too many gaps and cantilevers become inefficient and costly</li><li>Impacts on existing structure below are significant and effect ongoing UTS operation</li><li>Overhangs Courtyards below, create a safety issue</li></ul> <p>NOT RECOMMENDED</p>	<p><b>Option 3</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Flush to podium façade on western front limits the intrusion of the mass on the existing courtyards on level 4</li><li>Variation on the eastern elevation takes advantage of views and facilitates cross ventilation</li><li>Slots in Western façade aid ventilation</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>Reduction in commercial return</li></ul> <p>RECOMMENDED DURING COMPETITION PROCESS</p>	
UPN Podium Elevation Treatment			
			
<p><b>Option 1 – Façade to match existing</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Simple structure &amp; construction</li><li>Relates to character of existing facade</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>Mimics existing façade</li><li>Limits opportunities to create new address aesthetic</li></ul> <p>NOT RECOMMENDED</p>	<p><b>Option 2 – Green Wall</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Irreverent to context and existing building</li><li>Environmental benefits</li><li>Contributes to 'greening' UPN</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>Out of context with surrounding materials</li><li>High maintenance</li><li>Restricts light into classroom spaces</li></ul> <p>NOT RECOMMENDED</p>	<p><b>Option 3 – Modern façade</b></p> <p>Pro</p> <ul style="list-style-type: none"><li>Modern interpretation of context which ties old and new together</li><li>Visual intent to create a new identifiable address</li><li>Expresses the design of the tower above, 'grounding it'</li></ul> <p>Con</p> <ul style="list-style-type: none"><li>Not enough glazing for UTS functions considered in competition bid</li></ul> <p>RECOMMENDED DURING COMPETITION PROCESS</p>	
<div><div><div>UNIVERSITY OF TECHNOLOGY SYDNEY</div></div><div><div>Living EDUCATION</div></div><div>UTS STUDENT HOUSING: PETER JOHNSON BUILDING Architectural Design Document DA Issue, 07th April 2009 nettleontribe Page 12</div></div>			



1 TOWER ELEMENTS



2 LARGE FORMAT ELEMENTS



3 STRONG ROOF LINES



4 PRECAST WITH PUNCHED WINDOWS



5 PRECAST WITH PUNCHED WINDOWS



6 LARGE FORMAT GLAZED ELEMENTS

### 3.6 Contextual Façade Analysis

#### Harris Street Context

- Large elements in the urban streetscape predominate on the ABC building informing us that scaled elements of a similar nature are appropriate in response to the existing context.
- Pre-cast features heavily on the ABC building informing us that robust materials of that nature are appropriate in this context.
- Pre-cast punched, moulded and bay window articulation features on Harris Street inform us that similar treatment of the facade is appropriate

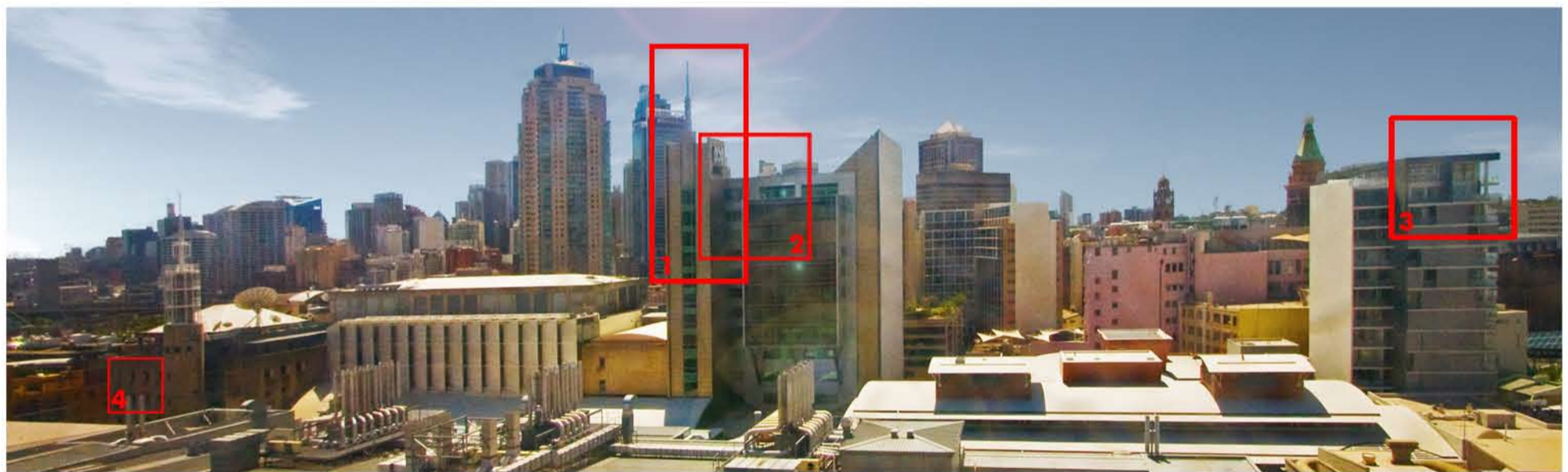


Figure 13. Photomontage of existing built forms on Harris Street

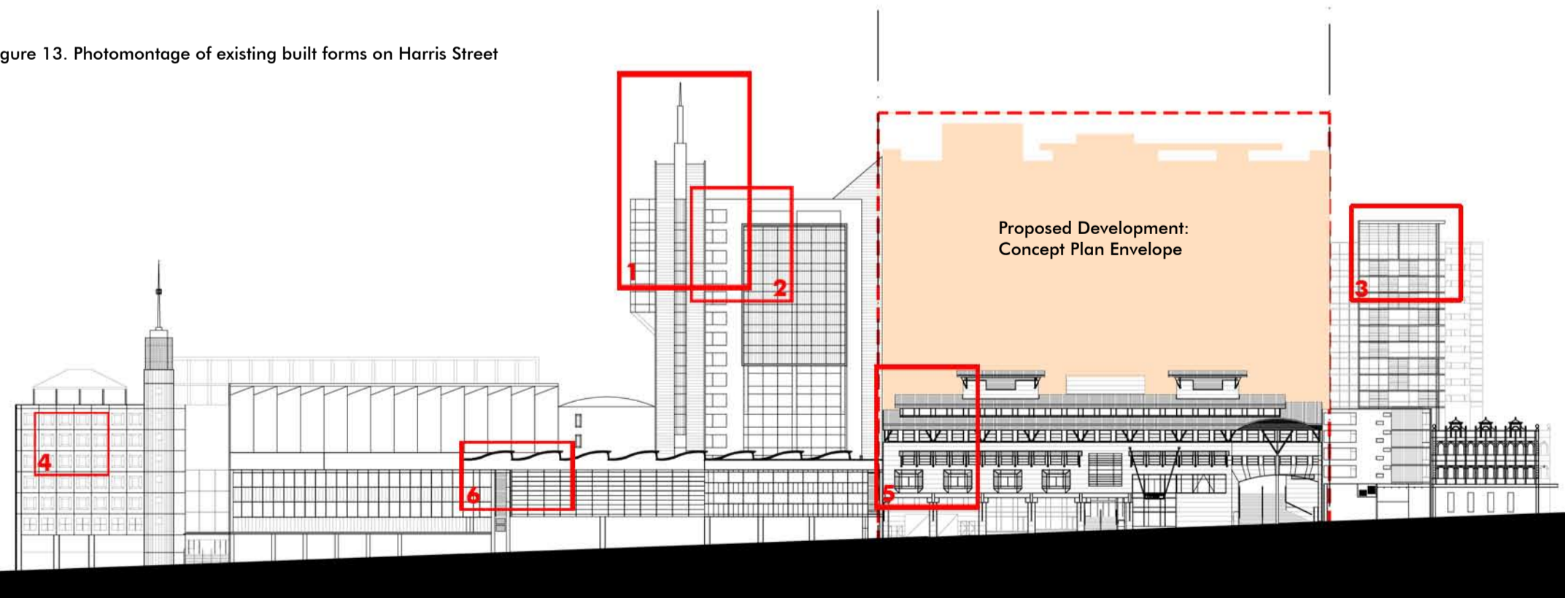


Figure 14. Harris Street Elevation



1 DOMINANT TOWER      2 LARGE AREAS OF GLAZING      3 LARGE FORMAT ELEMENTS



4 EXISTING PODIUM FACADE  
FEATURE PRECAST WITH PUNCHED  
WINDOWS      5 PRECAST WITH  
PUNCHED WINDOWS      6 VARYING SCALE OF  
COMPONENTS



Figure 15. Photomontage of existing built forms along the Ultimo Pedestrian Network

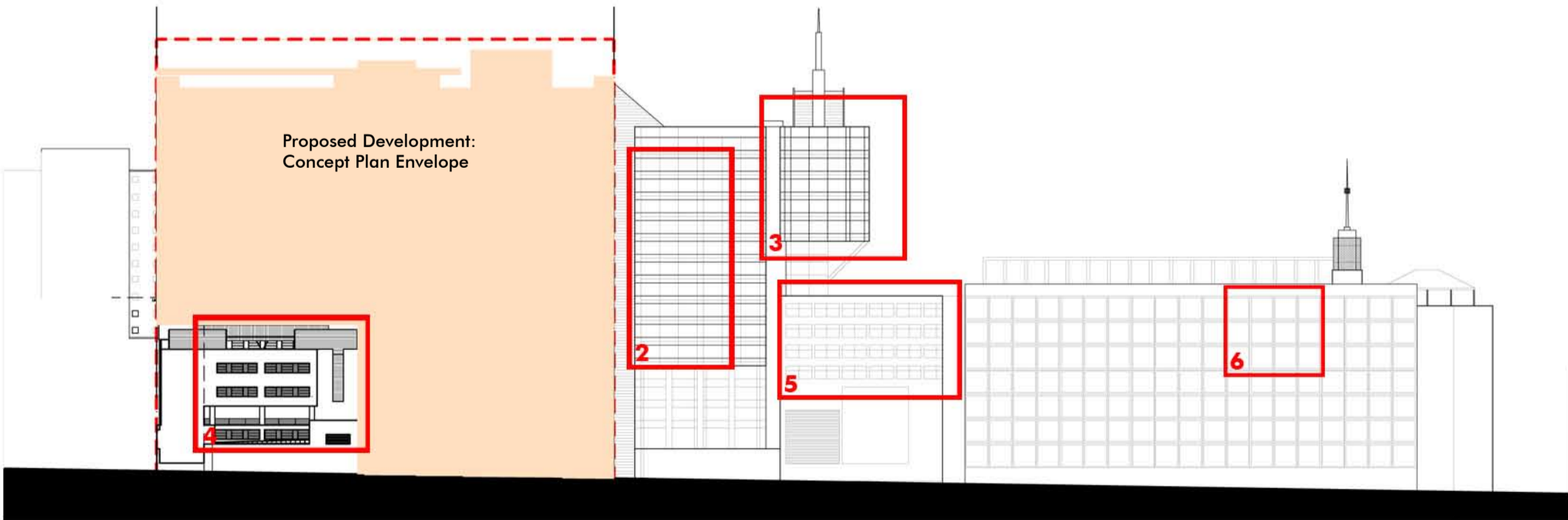


Figure 16. Ultimo Pedestrian Network Elevation

- UPN Context**
- Glazing features predominantly on the UPN streetscape facades informing us that glazing treatments on the east facade are appropriate in context.
  - Precast with limited window features predominated on the lower level facades of adjoining buildings indicating that simple articulation is appropriate in context.
- UTS Tower**
- The UTS tower predominates as a significant form that is the focus of the Campus. In that respect the new Peter Johnson building will need to be a significant robust form that is identified as part of the UTS Family of buildings in a city context.



Figure 17. Competition Winning Bid Design - Harris Street Elevation



Figure 18. Competition Winning Bid Design - Ultimo Pedestrian Network

## 4.0 DESIGN EVOLUTION

Living Education and UTS are aware of the need to ensure that the student accommodation elements within UTS are visually appealing and become important elements within the overall UTS Concept Plan.

Since being nominated as preferred proponent Living Education has undertaken design discussions with the UTS Design Process headed by Graham Jahn who sits on the UTS Physical Infrastructure Committee and is a well-respected architect in his own right.

The discussions with Graham have assisted the evolution of the design and have acted as a form of peer group review allowing the team to critique and challenge elements of the design.

Living Education is committed with UTS to continue to work with and respond to issues raised by the UTS Design Review process to ensure that the final design outcomes are well resolved.

## DESIGN EVOLUTION

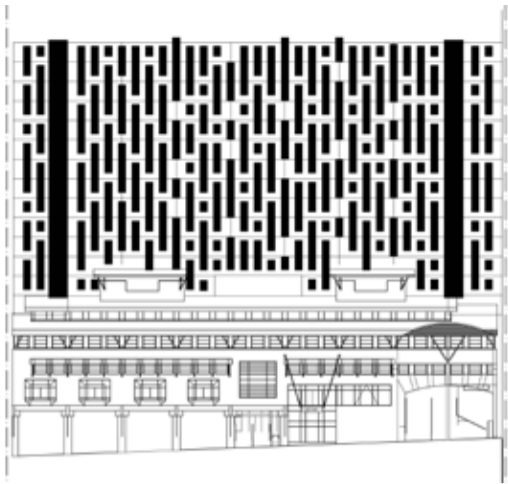
Table 2. Faccade Development - Western Facade on Harris Street

4.1 Facade Evolution Process

The bid winning design was the starting point for the design evolution process with UTS. Many solutions were investigated as to how the facade elements could be broken up to ensure a level of diversity and massing. These design alternatives were then discussed and reviewed with the structural engineer and other members of the design and construction team and with the UTS Design Review Process

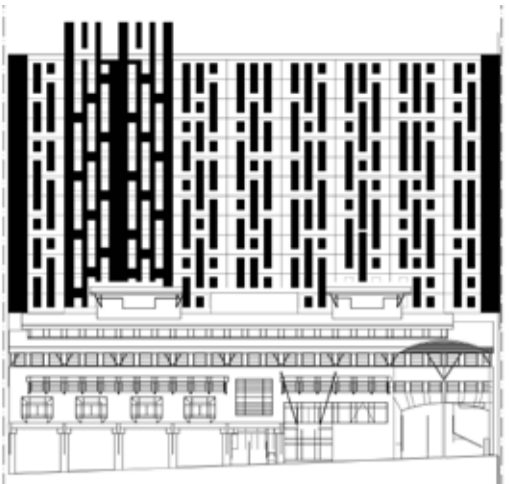
Harris Street Facade

The Peter Johnson building will remain in operation during construction, this has dictated the method of facade system that best ensures safety to the students and UTS staff. A load bearing precast system is to be installed along the Harris street facade of the new building. These precast units form a safe barrier between the new student accommodation building works and the student body that circulates within the podium below.



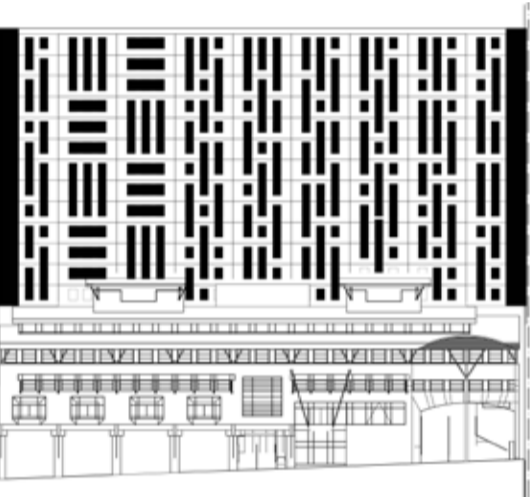
Option 1: Competition Bid Design

- Pro
- Original Concept pattern and tone dispersing into the sky
  - Digital facade concept relates to UTS technology
- Con
- Little variation in facade and scale relationship
  - Does not break up bulk of building
  - Addition of fins stuck on elements not integral to facade



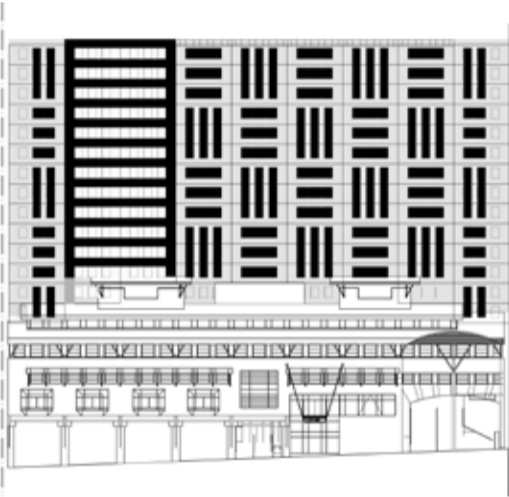
Option 2

- Pro
- Introduction of coloured vertical banding to break up mass
  - Removal of patterning on structural lines to break up scale
  - Stain moved to ends to provide visual separation from adjacent buildings
- Con
- Scale of facade is not broken horizontally
  - Graphic treatment on flat facade
  - Addition of fins stuck on elements not integral to facade



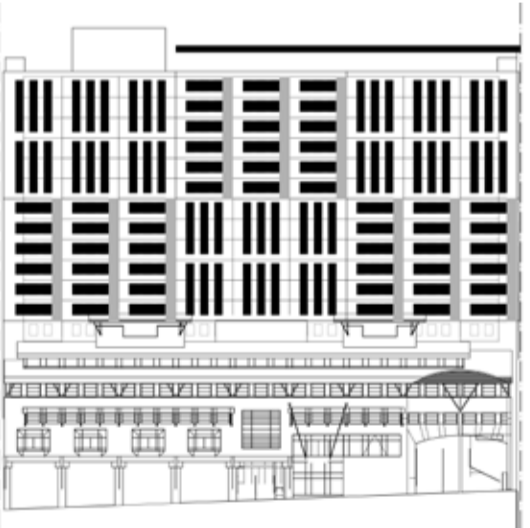
Option 3

- Pro
- Introduction of patterned vertical banding to break up mass
  - Mixture of patterning adds interest
- Con
- Change in pattern direction too subtle



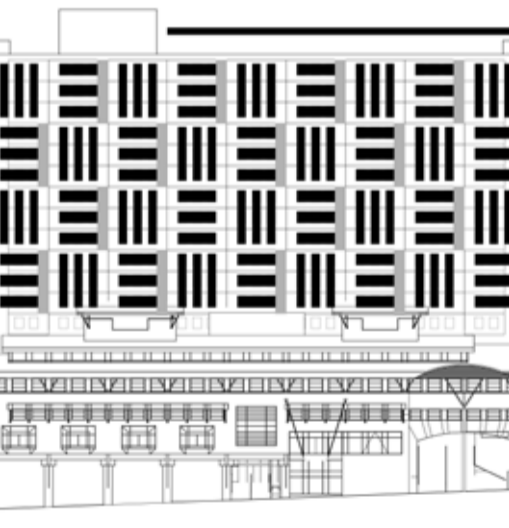
Option 4

- Pro
- Breaking up of scale horizontally and vertically
  - Legibility of pattern from a distance possible
  - Stain incorporated into feature strip
- Con
- Graphic treatment on flat facade with vertical band treatment
  - Not enough variation



Option 5

- Pro
- Larger scaled pattern to increase legibility at a distant macro level
  - Colour is removed to contrast with existing
  - Introduction of the Roof top terrace to increase amenity
- Con
- Patterning too simple lacks interest and strength
  - Introduction of the Roof top terrace increases cost and no revenue



Option 6

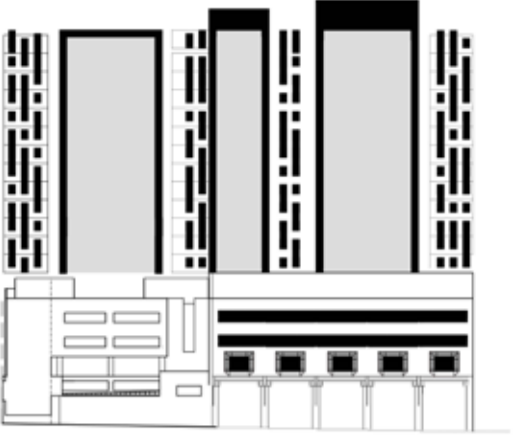
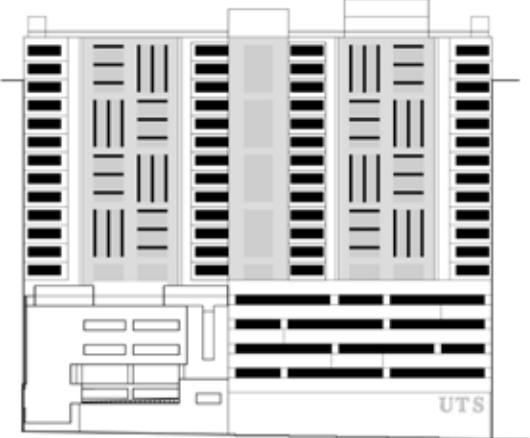
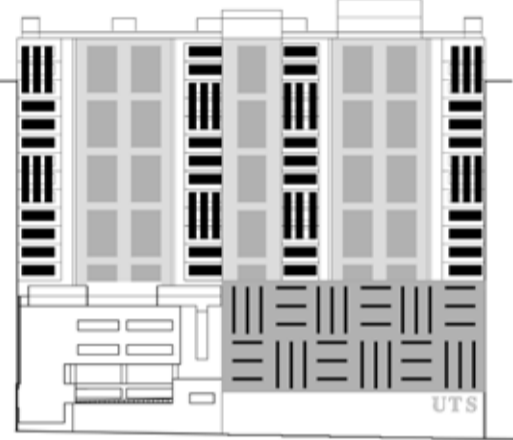
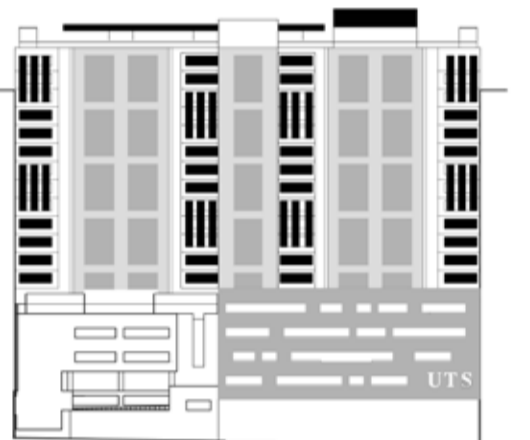
- Pro
- Façade treated as a 'whole' pattern to add to visual strength of building
  - Breaking up of scale horizontally and vertically
  - Introduction of moulded facade adds 3d and shadowing interest
  - Introduction of the Roof top terrace to increase amenity
  - Variation of pattern at macro level
  - Whole pattern at macro level
- Con
- Same pattern throughout has no relief
  - No tone – too monotone



Option 7: Preferred

- Pro
- Introduction of the Roof top terrace to increase amenity
  - Variation of pattern at macro level
  - Breaking up of scale horizontally and vertically into legible units from a distance
  - Introduction of moulded facade adds 3d and shadowing interest
  - Introduction of slot breaks up pattern and adds additional three dimensional relief to facade
  - Introduction of tone into slots considered to enliven facade
- Con
- Slots in the facade reduce the bed numbers

Table 3. Facade Development - Eastern Facade on Ultimo Pedestrian Network

	
<b>Option 1: Competition Bid Design</b>  Pro <ul style="list-style-type: none"><li>Glass facade to maximise views and relate to adjoining context</li><li>Digital pre-cast facade</li><li>Framed box elements</li><li>Horizontal treatment to designed to match existing podium treatments</li></ul> Con <ul style="list-style-type: none"><li>Framing weakens overall form of box elements</li><li>Scale of patterning legibility too small</li><li>Podium treatment does not make distinct address</li></ul>	<b>Option 2</b>  Pro <ul style="list-style-type: none"><li>Larger scaled patterning created by fin elements added to glazing</li><li>Simple pre-cast patterning to main building form</li><li>Horizontal treatment to podium windows to match adjoining podium window language</li></ul> Con <ul style="list-style-type: none"><li>fin elements not integral to façade and may hinder views out</li><li>Pattern on main building form too literal</li></ul>
	
<b>Option 3</b>  Pro <ul style="list-style-type: none"><li>Legible scaled patterning on main building relates to Harris Street Elevation</li><li>Legible scale patterning created on glass forms by the use of opaque and vision glass integral to façade</li><li>Distinct screen element on new UPN podium facade create strong identity of new building</li></ul> Con <ul style="list-style-type: none"><li>Podium screen obstructs visibility out of UTS teaching space behind.</li></ul>	<b>Option 4: Preferred</b>  Pro <ul style="list-style-type: none"><li>Legible scaled patterning on main building relates to Harris Street Elevation</li><li>Legible scale patterning created on glass forms by the use of opaque and vision glass integral to façade</li><li>Distinct screen element on new UPN podium facade create strong identity of new building</li><li>Incorporation of podium signage is integrated</li><li>Slots in screen facade logically located to address outlook from windows behind</li></ul> Con <ul style="list-style-type: none"><li></li></ul>

Ultimo Pedestrian Network Tower Facade

The UPN tower facade elements will predominantly be glass facades to maximise city views and light amenity from the east to internal living rooms. Additionally the incorporation of glass facades will significantly reduce structural loads thus minimising impacts on the existing podium structure below.




New Ultimo Pedestrian Network Infill Podium Facade

The UPN facade was initially conceived in the brief as an extension of the language of the existing podium facade. However the opportunity to create a new facade address on the UPN presented itself. It is proposed that a screen element be incorporated on the podium to achieve a distinctive contrasting new facade.

Rooftop

The rooftop proposed allows the building to be capped and adds articulation to the rooftop. Simple forms, elements and materials are complementary to the complexity of the facade and to the simple roof top articulation on the neighbouring Taragon residential apartments.

Table 4. Roof Form Development

		
<b>Option 1</b>  Pro <ul style="list-style-type: none"><li>Roof is a 'Playful folly,' an undulating roof to describe the active nature of roof</li></ul> Con <ul style="list-style-type: none"><li>Form does not relate to surrounding simple roof forms</li><li>Form does not relate to linear nature of façade design concept</li><li>Introduces cost but no revenue</li></ul>	<b>Option 2</b>  Pro <ul style="list-style-type: none"><li>Integrated roof and signage element read as one element</li><li>Simple horizontal roof element sympathetic to adjoining residential building to the south</li><li>Relates to linear nature of façade design</li></ul> Con <ul style="list-style-type: none"><li>Expression is too horizontal and does not allow for the legibility of the different roof elements</li><li>Introduces cost but no revenue</li></ul>	<b>Option 3: Preferred</b>  Pro <ul style="list-style-type: none"><li>Separation of the roof and signage form allows for a clear legibility of the roof elements</li><li>Simple horizontal roof element sympathetic to adjoining residential building to the south</li><li>Dark contrasting roof defines skyline</li><li>Introduction of colour on roof parts to be considered to enliven roof area</li></ul> Con <ul style="list-style-type: none"><li>Introduces cost but no revenue</li></ul>

## 5.0 DESIGN PROPOSAL

### 5.1 Design Statement

It is the intention of Living Education in collaboration with UTS to provide a proposal that demonstrates design excellence.

The proposal positively addresses the site context, locality, existing built form, pedestrian links and public domain in the context of the UTS Concept plan. The development of student accommodation, new teaching spaces and Café also supports the culture and community in the UTS campus.

The development will provide sustainable living environments in the private and public domain by the use of appropriate design innovation. Best practice ESD design principles are incorporated into the proposal. Design solutions such as the incorporation of roof top terraces and appropriate architectural aesthetics is intended to enhance the visual appearance within the public domain.

UTS believe that the provision of student housing is critical enhancing the standing and reputation of UTS.

Living Education believes that the design evolution undertaken to arrive at a proposal was extensive and rigorous. Living Education also believe that working with the UTS Design Process has further enhanced the physical outcome and design solution to produce an outcome of design excellence.

## DESIGN PROPOSAL

## 5.2 Urban Design and Built Form

The following diagrams explore the designs relationship to urban context. The differing character and orientation of the two street frontages at the Peter Johnson site suggests that there are two different sets of design principles necessary, these are illustrated in the diagrams.

### Harris Street Address- Design Principles:

#### Setbacks

- Setback from Harris Street to continue setback of ABC building and maintain visual view corridors facing south along Harris Street.

#### Height

- Height of main western facade is lower than neighbouring ABC building plant room and is in keeping with the general height of the surrounding context
- Proposed roof, signage and plant higher than ABC building plant room. Visual prominence and identity from the Alumni green is reinforced by rooftop and signage elements.
- Higher than neighbouring Taragon building to the south allowing the visual reading of the corner of the proposed building above the neighbouring Taragon building from Broadway.

#### Massing

- Single facade treatment is proposed.
- Patterning and three dimensional breaks are proposed to reduce visual scale and to complement neighbouring contextual elements
- Texture, modelling and colour is incorporated to add diversity in the facade treatment.
- Roof top plant elements are set back from the main facade reducing their visual mass.
- Proposed horizontal roof top elements are complementary to those of the neighbouring Taragon building horizontal roof top profiles.
- Visual contrast with existing podium is proposed by different colouring of main facade material.

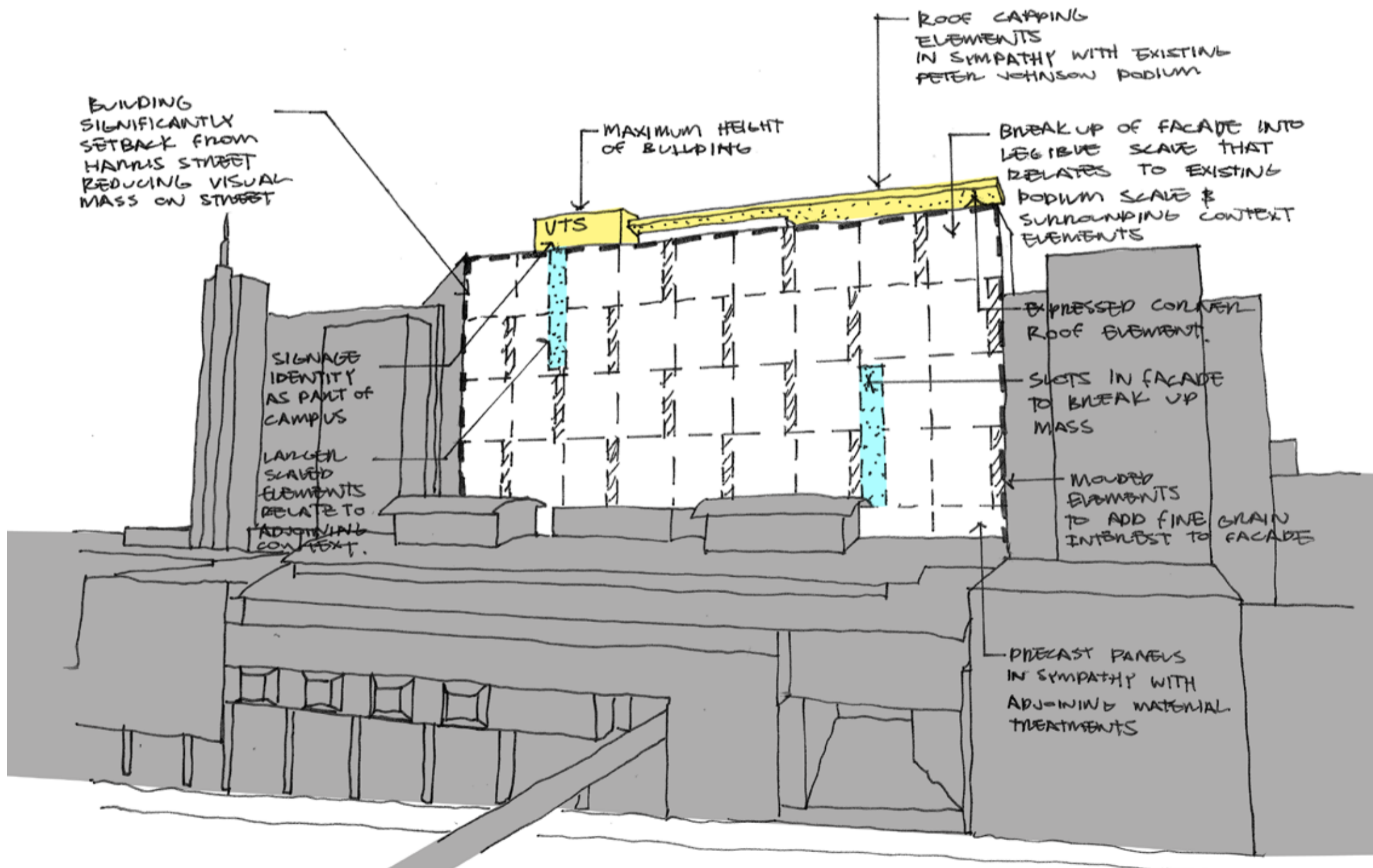


Figure 19. Harris Street Address Design Principles

#### Ultimo Pedestrian Network Address- Tower Design Principles:

##### Setbacks

- Tower is setback to the north neighbouring ABC building.
- Tower is setback to the south neighbouring Taragon building to respect existing adjoining window outlook and amenity

##### Height

- Height of main western facade is lower than ABC building plant room.
- Proposed plant is higher than ABC building plant room. Plant visual prominence on UPN is reduced by significant set back from main facade perimeter.
- Higher than neighbouring Taragon building to the south.

##### Massing

- Three-tower articulation facing the UPN reduces the overall mass of the building.
- Patterning and three dimensional slot breaks are proposed to reduce visual scale.
- Texture, different materials, modelling and colour are incorporated to add diversity in the facade treatment.
- The scale and material treatment of the proposed glass towers is in context with the scale and material treatment of neighbouring buildings.
- Massing is generated by SEPP 65 considerations to reduce overall building depth to allow cross ventilation and light amenity to the building.

#### Ultimo Pedestrian Network Address- Podium Design Principles:

##### Setbacks

- The podium screen at level 4 and above is aligned with the neighbouring ABC building recessed facade.
- The glass facade at level 2 and 3 is setback from the boundary and screen to create a defined entry space and undercover active zone on the UPN.

##### Height

- The height of the new podium extension is 7 stories and sits within the general height of the existing podium

##### Massing

- The main aim in the arrangement of spaces fronting the UPN to create visual and physical permeable spaces to encourage activation of the UPN.
- The mass of the proposed new podium extension is within the general mass of the existing podium the screen softens the massing to the UPN adding a visual layer.
- The scale of the screen is in character with neighbouring facade elements.
- The texture, material, colour, detailed articulation and slotted window treatment of the screen are proposed to add detail to the screen.
- UTS teaching spaces facing the UPN will have operable windows that will break up the mass of the facade and allow visual interaction and outlook through the screen to the UPN.

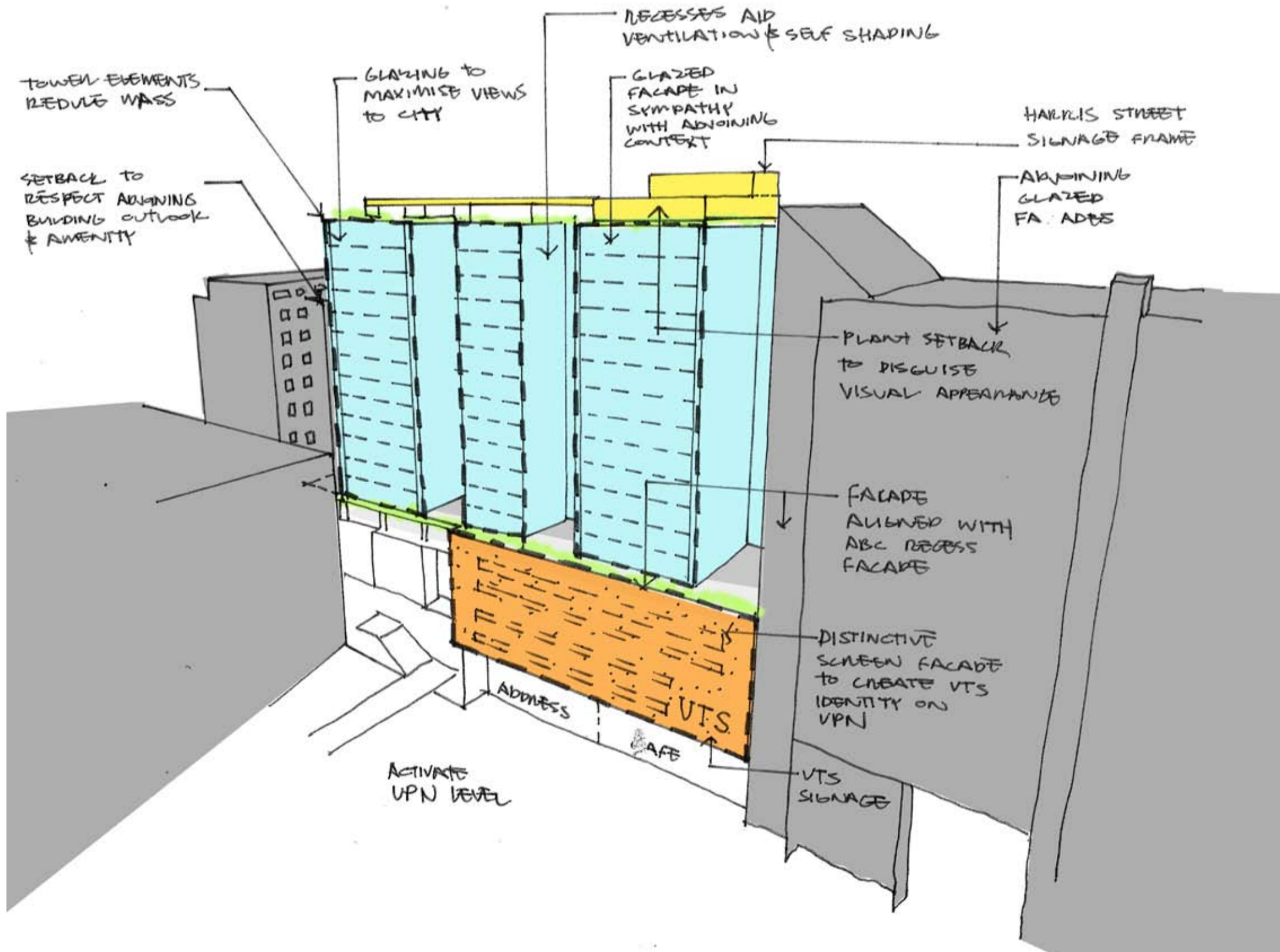


Figure 20. Ultimo Pedestrian Network Address Podium Facade Design Principles

### 5.3 Planning Context Appreciation and Height

The diagrams adjacent demonstrate that the proposed development will sit within the proposed UTS Concept Plan Envelope. The red lines represent the concept plan envelope for the tower and the blue line represents the maximum height of the existing development as per LEP 2005 and the Standard LEP. The height of the main proposed bulk of the building is at 20 storeys and is similar bulk to the ABC building thus allowing the ABC building to maintain its street prominence. At level 21 roof terrace function room, terrace, plant service areas and signage are proposed above the main bulk of the building.

#### UTS Concept Plan Foot Print

- The foot print of the proposed tower and podium envelop will sit within the UTS Concept Plan foot print envelope

#### UTS Concept Plan Heights

##### UTS Concept Plan Height Standard LEP

- The UTS Concept Plan seeks a height of 72.4m/68.89m respectively as measured from the lowest and highest ground levels from Harris Street under the Standard LEP (uppermost height). This equates to an effective height RL 84 AHD figure under the Standard LEP (uppermost height).

##### UTS Concept Plan SLEP 2005:

- The UTS Concept Plan seeks a height of 67.2m/64.49m respectively as measured from the lowest and highest ground levels from Harris Street under the Ultimo/ Pyrmont LEP (Last habitable Ceiling Level). This equates to an effective height RL 78.850 AHD figure under the SLEP 2005 (Last habitable Ceiling Level).

#### Proposed Development Heights

The proposed development height will sit within the UTS Concept Plan Heights.

##### Proposed Development Heights Standard LEP:

- The Proposed Development seeks a height of 69.86m/66.89m as measured from the lowest and highest ground levels from Harris Street under the Standard LEP (uppermost height). This equates to an effective height RL 81 AHD figure under the Standard LEP (uppermost height).

##### Proposed Development SLEP 2005:

- The Proposed Development seeks a height of 66.56m/63.59m as measured from the lowest and highest ground level from Harris Street under the Ultimo/ Pyrmont LEP (Last habitable Ceiling Level). This equates to an effective height RL 77.7 AHD figure under the SLEP 2005 (Last habitable Ceiling Level).

The building heights proposed as referred to in the JBA EAR document are:

67.79m measured under the SLEP 2005 and 71.09m measured under the Standard LEP.

Measurements are taken from the lowest point of the site RL 9.910 AHD.

#### Roof Top

##### Roof Top Signage:

- Roof top signage, to identify the UTS student accommodation within the UTS campus, will sit within the UTS concept plan envelope.
- The effective finished floor level of the Level 21 roof terrace is RL 75 AHD. Sitting on Level 21 Terrace level will occur plant, stair and lift overruns and terrace level internal and external covered function areas.
- It is intended that UTS roof top signage will be incorporated onto the face of the plant room wall as stipulated in the City of Sydney DCP. The effective top level of the signage shall be at RL 81 AHD.

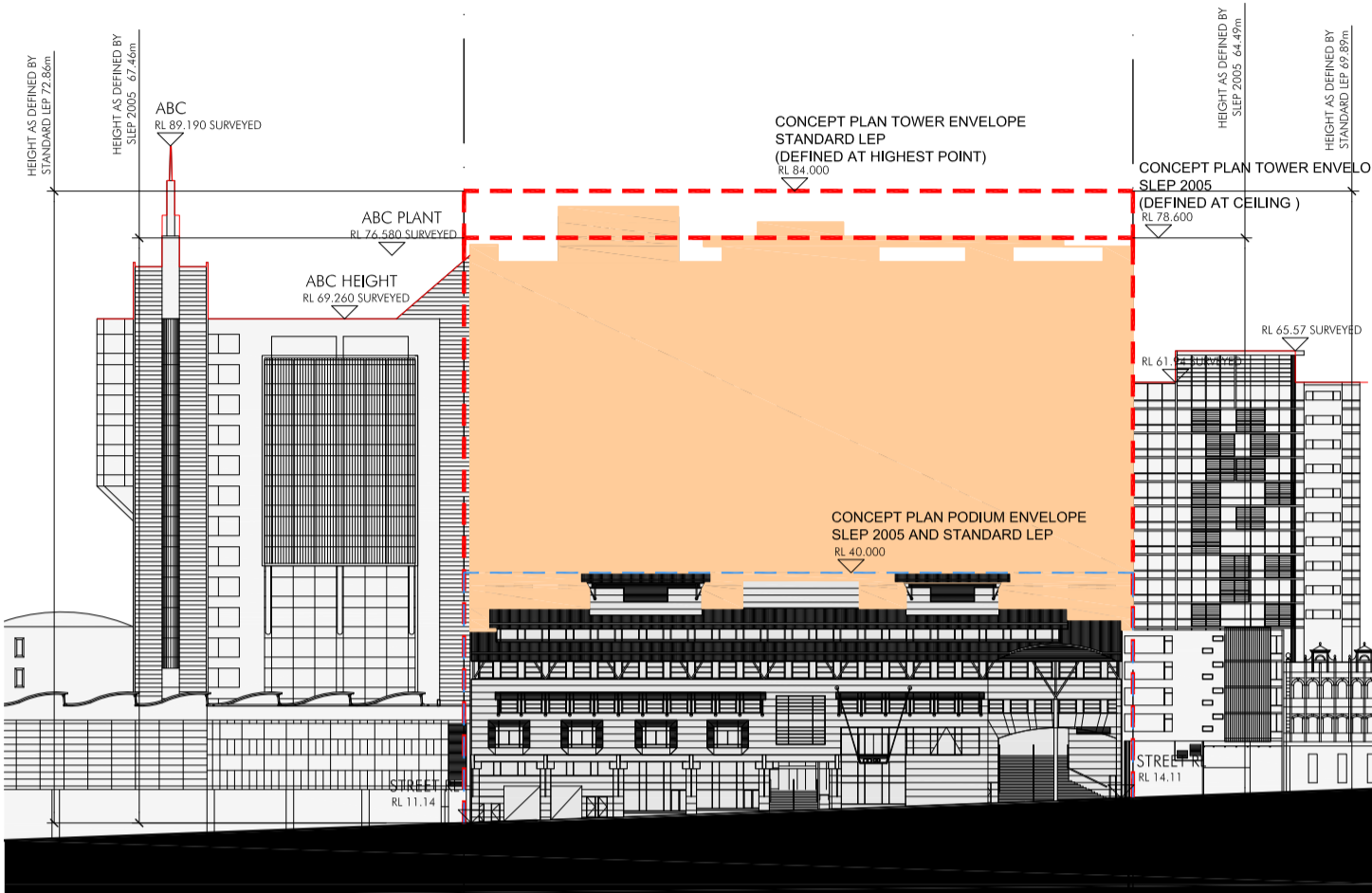


Figure 21. Building Envelope - Harris Street

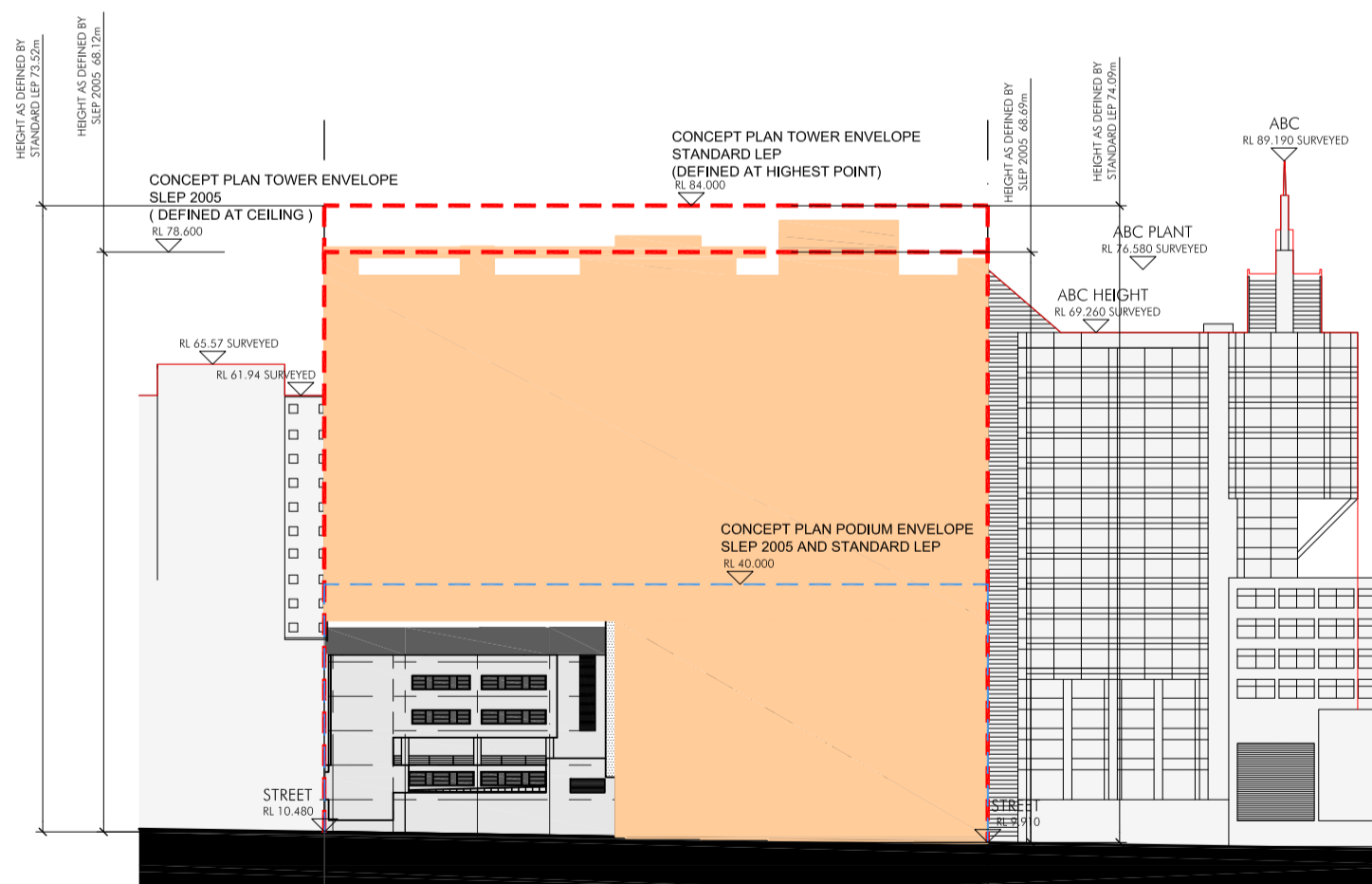


Figure 22. Building Envelope - UPN

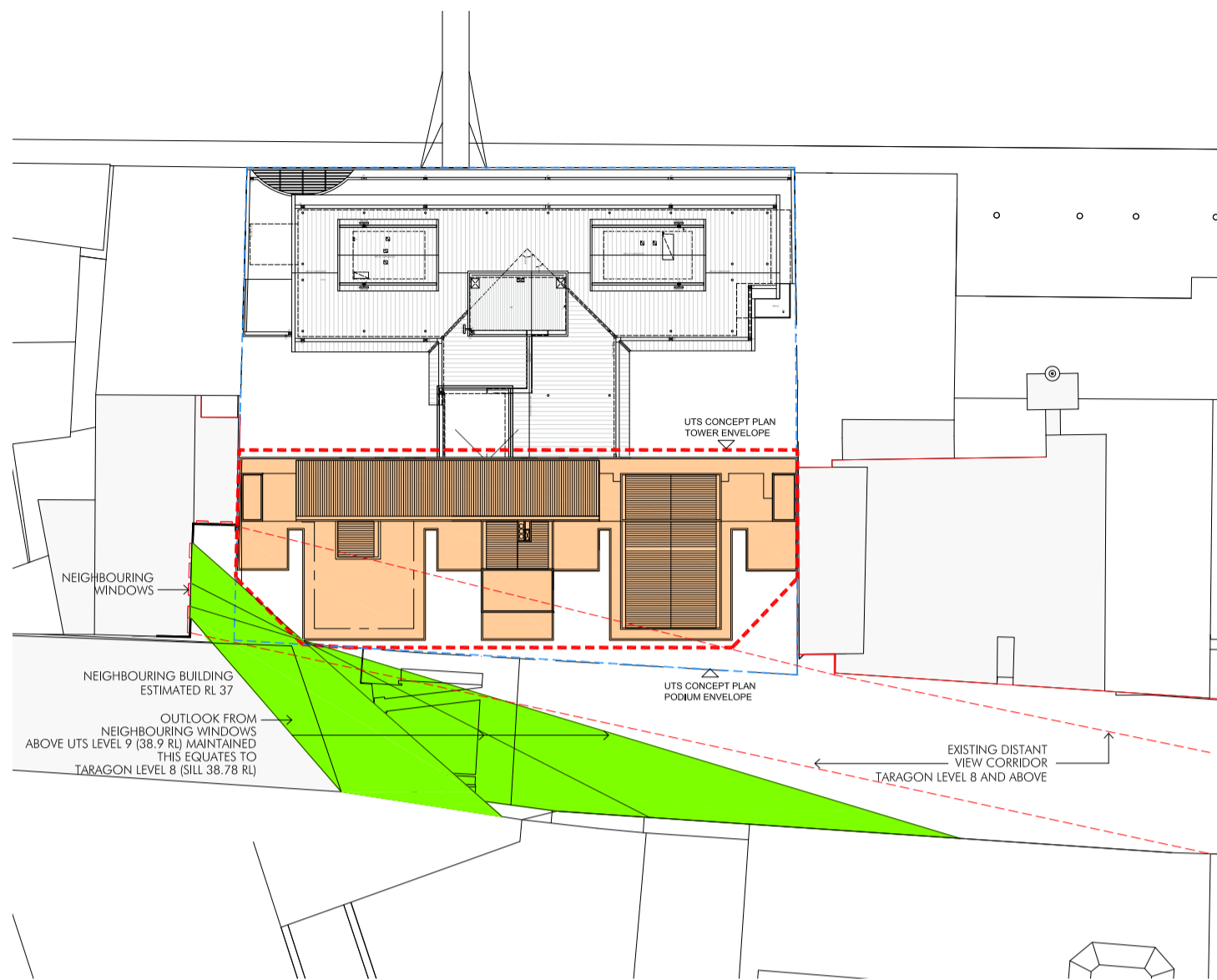


Figure 23. Neighbouring Taragon Building Outlook

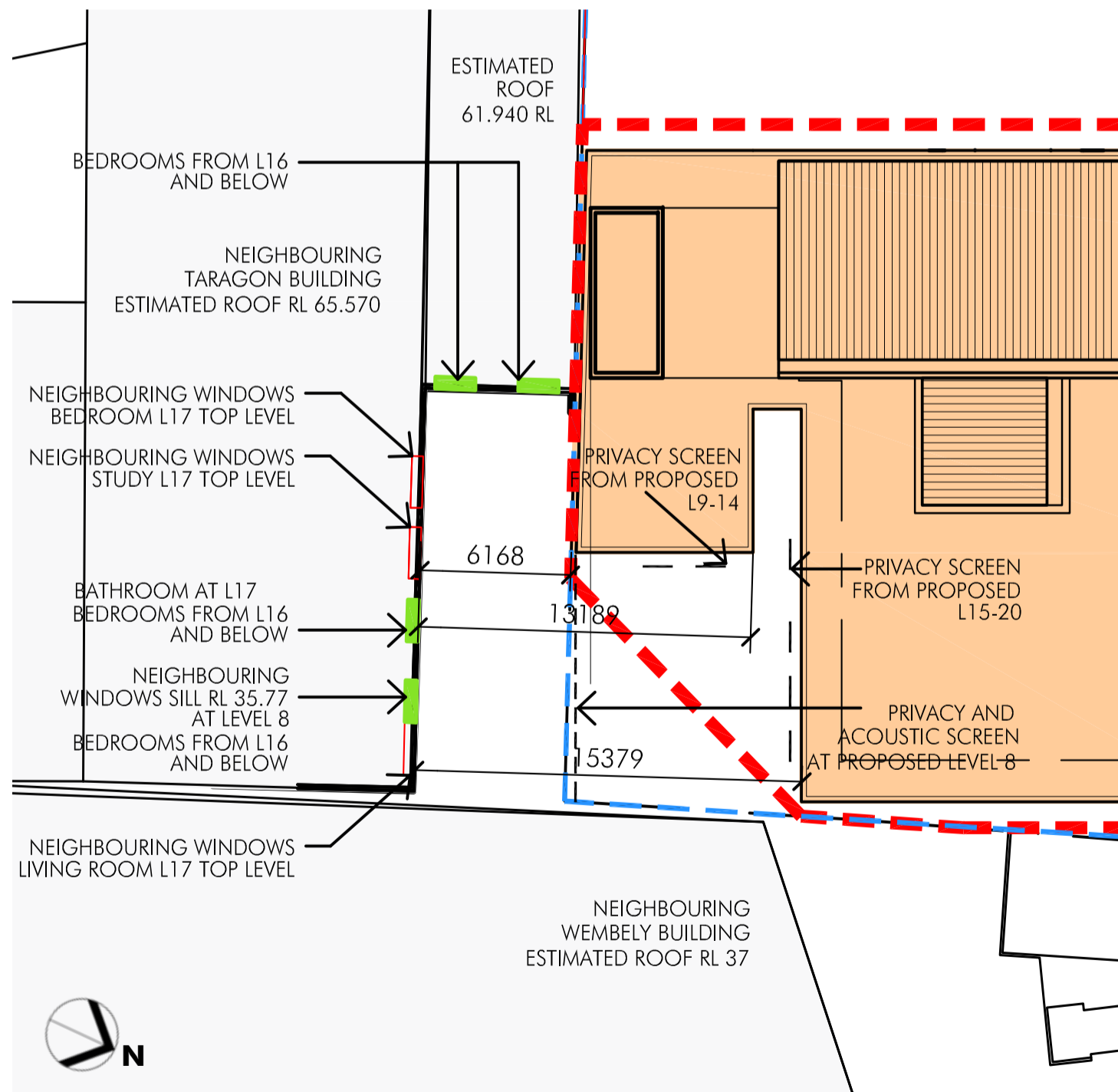


Figure 25. Neighbouring Taragon Building Examination

#### Neighbouring Taragon Building Outlook:

- Existing buildings from UTS Level 7 Roof (RL 35.1 AHD) and below currently restrict the outlook from the neighbouring Taragon bedroom windows. Taragon neighbouring windows outlook from sill Taragon level 7 (sill RL 35.78 AHD) and below are affected by existing built form.
- The existing Wembley building on the east boundary (Estimated RL 37 AHD) restricts outlook from Taragon windows Level 8 (sill RL 38.78 AHD) and below.
- Distant views from secondary windows from the Taragon building will be impacted by the proposed development, but some views to the UPN will be retained.
- Taragon bedroom and living room (level 17 only) window distant views looking north along the UPN, above proposed UTS Level 9 (RL 38.9 AHD), will be impacted by the proposed development.
- Taragon bedroom and living room (level 17 only) windows facing north adjacent views looking down to the UPN will be retained for windows above sill height RL 41.78 AHD. These windows effectively overlook the privacy screens on the Level 8 terrace of the proposed development (RL 35.9 AHD) and down to the UPN
- Taragon bedroom windows facing east with distant and near views along the UPN above sill level RL 35.78 AHD will be impacted by the proposed development. It should be noted that the bounding existing Wembley building with an estimated roof height of RL 37 AHD to the east of the Taragon already restricts views.
- Outlook achieved will be better than the existing approved DA envelope.

#### Neighbouring Taragon Building Privacy:

- Proposed windows within 12m of the neighbouring Taragon building windows will have permanent external privacy screens
- Windows facing the Taragon neighbouring windows that are 15m setback from the neighbouring building and 45m above the natural ground level will have permanent external privacy screens.
- The privately used residential managers terrace facing the Taragon will incorporate an acoustic and privacy barrier to the neighbouring windows.
- The bounding Wembley building on the south-east boundary has no windows and will not affect privacy.



Figure 24. Neighbouring Taragon Building Existing Outlook

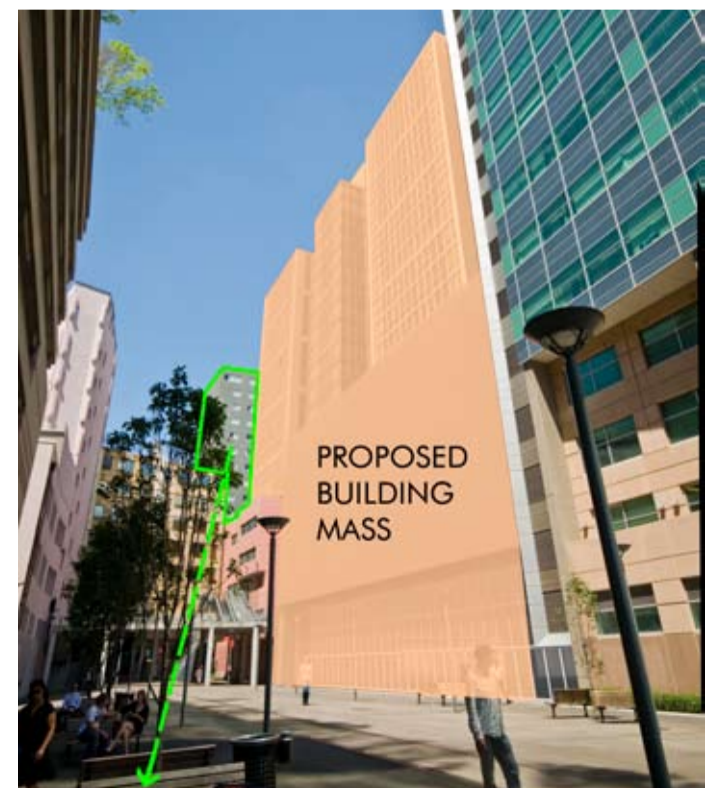
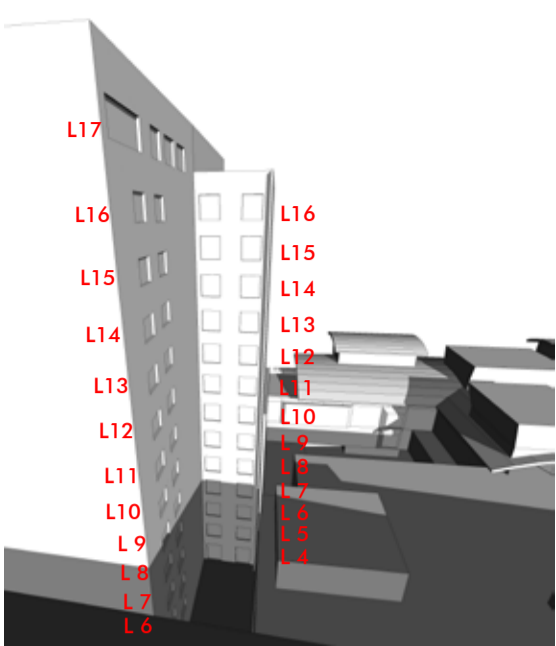
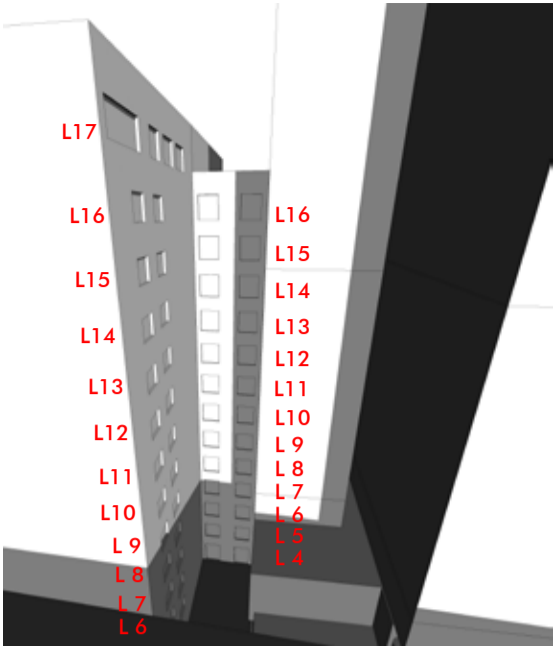


Figure 26. Neighbouring Taragon Outlook with proposed building mass



21st June 9 am - Existing Shadow Study



21st June 9 am - Shadow Study with Proposed Building

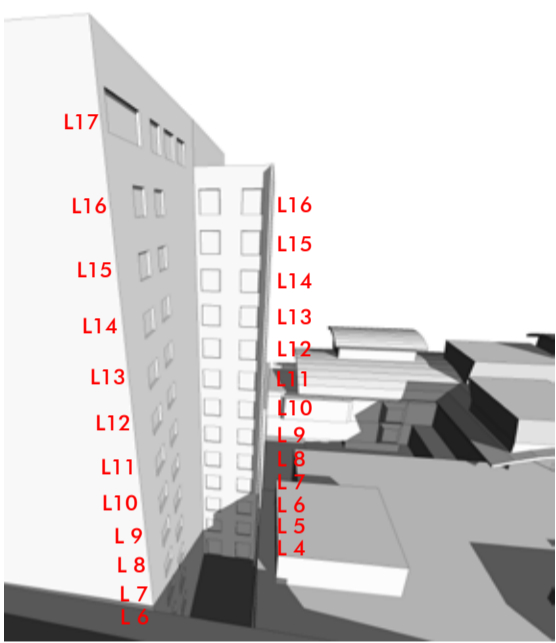
Table 5. Shadow Study of Adjoining Taragon Facade

**Neighbouring Taragon Building Light Amenity:**

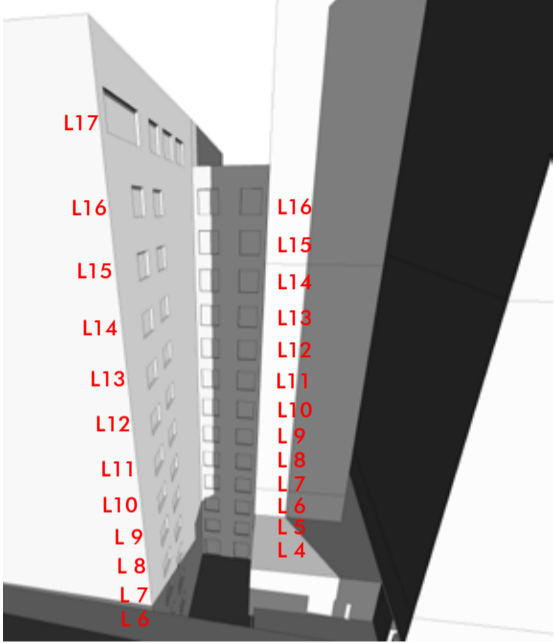
The proposed development will moderately increase the overall shadowing of the Taragon building as follows:

- Overshadow all rear bedroom windows of the adjoining residential Taragon building that face due east between 9am and 11am: and
- Overshadow all rear bedroom windows and living room (at level 17) of the adjoining residential Taragon building that face due north between the hours of 12pm and 3pm

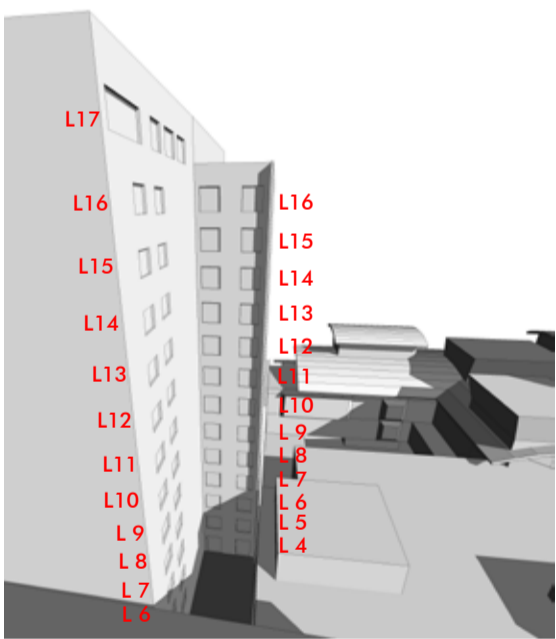
It should be noted that the existing Peter Johnson Building and existing Wembley building on the south-eastern boundary already over shadow many of the rear windows of the Taragon building. The windows affected by existing buildings are Taragon Levels 4, 5, 6, 7, 8 and 9. Refer to the following shadow diagrams for existing shadow conditions.



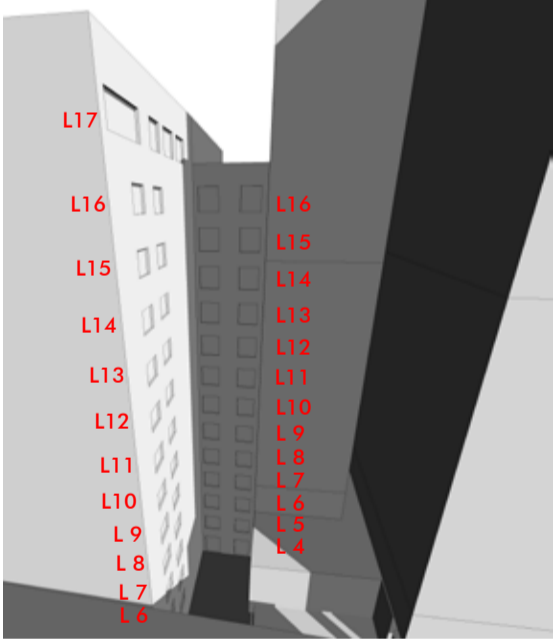
21st June 10 am - Existing Shadow Study



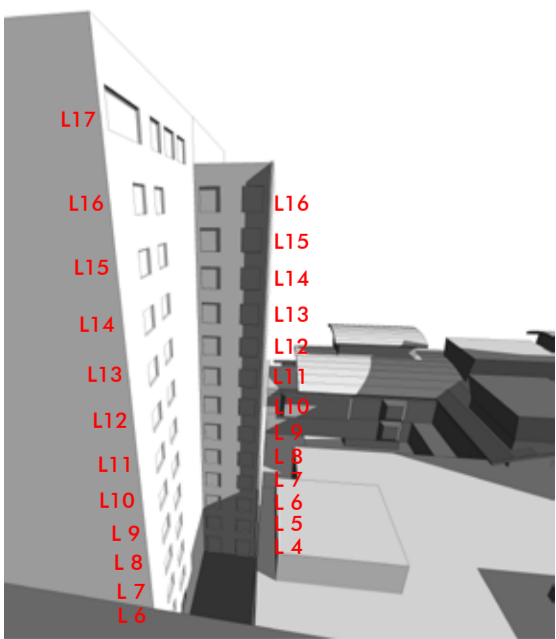
21st June 10 am - Shadow Study with Proposed Building



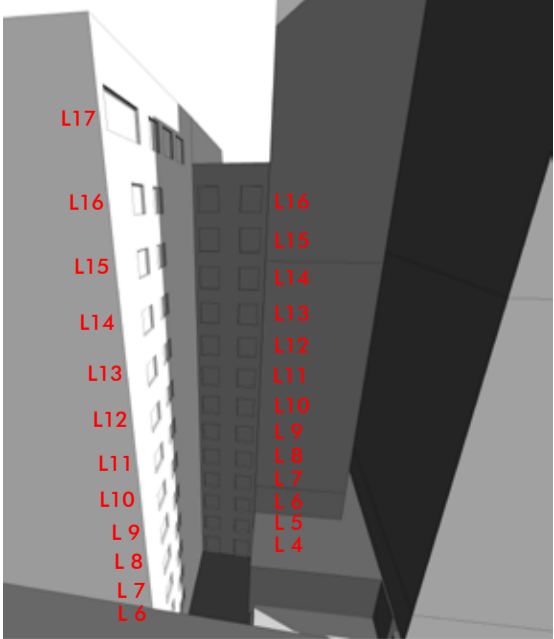
21st June 11 am - Existing Shadow Study



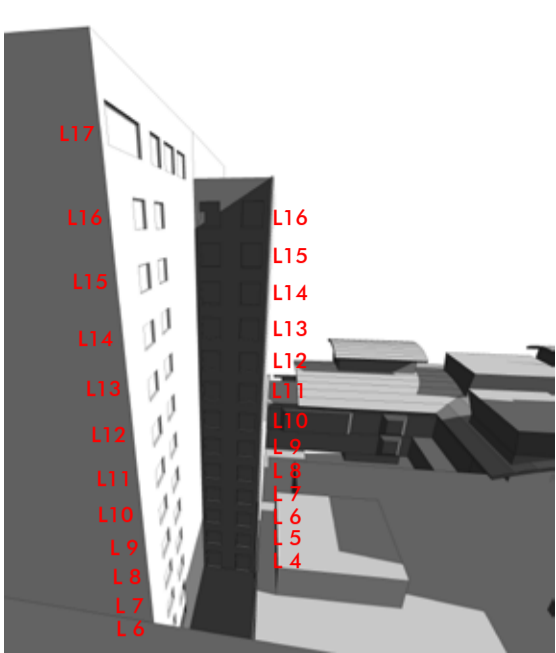
21st June 11 am - Shadow Study with Proposed Building



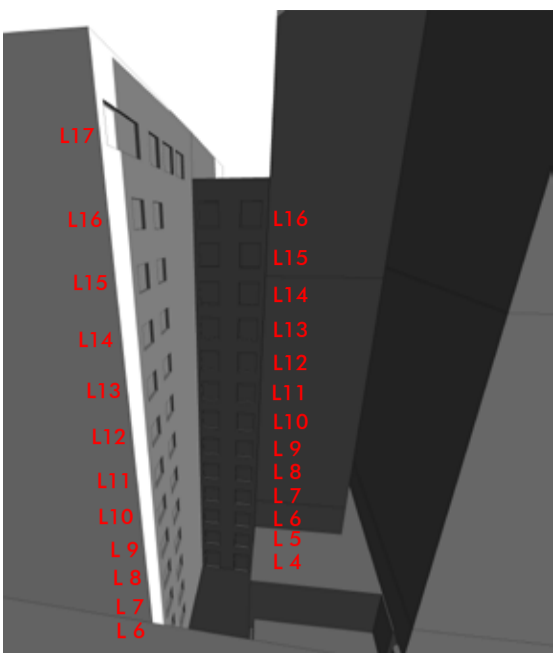
21st June 12 pm - Existing Shadow Study



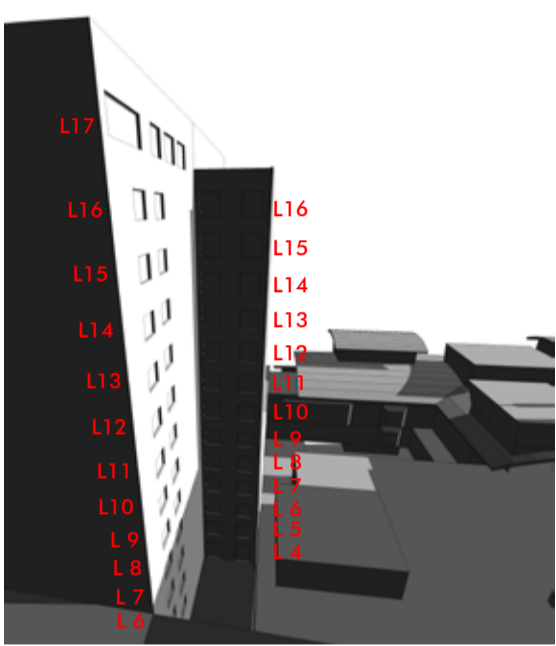
21st June 12 pm - Shadow Study with Proposed Building



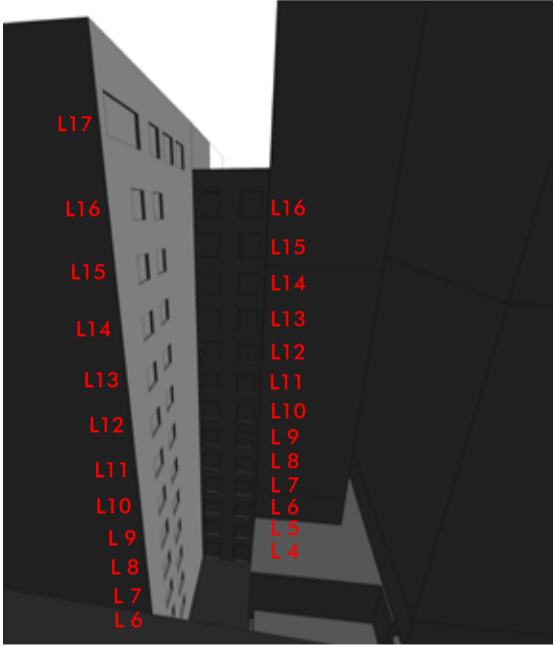
21st June 1 pm - Existing Shadow Study



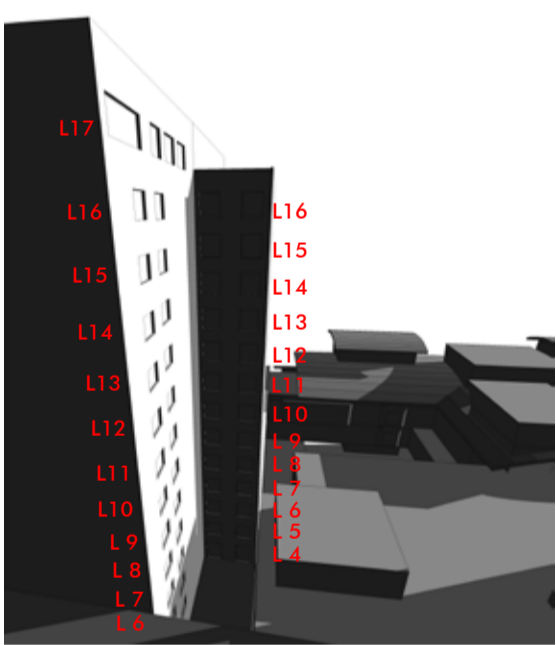
21st June 1 pm - Shadow Study with Proposed Building



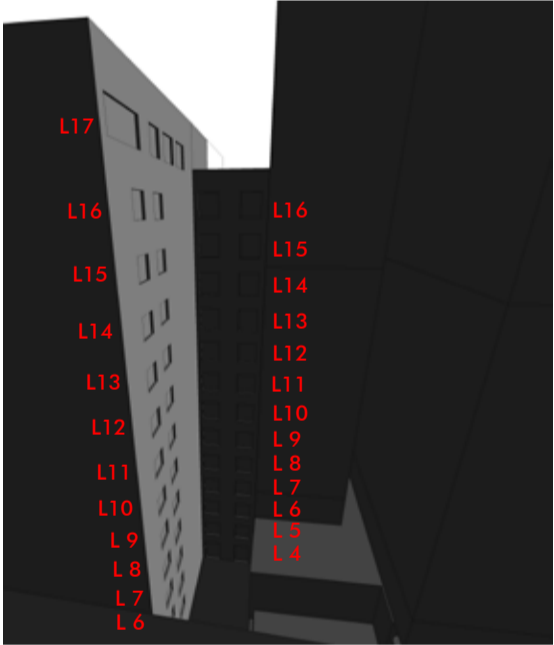
21st June 2 pm - Existing Shadow Study



21st June 2 pm - Shadow Study with Proposed Building



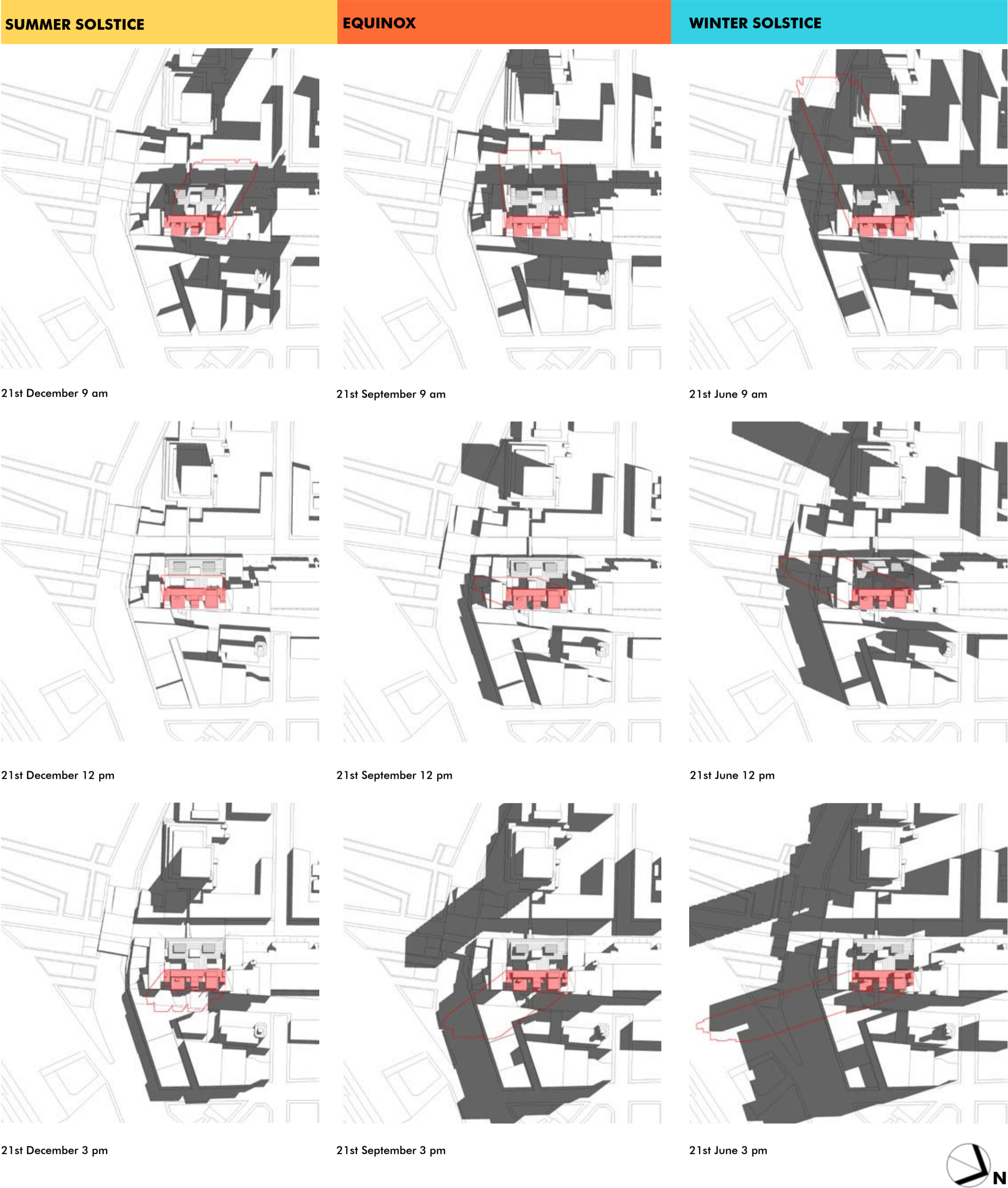
21st June 3 pm - Existing Shadow Study



21st June 3 pm - Shadow Study with Proposed Building

5.4      Amenity: Shadow diagrams

These diagrams illustrate that there is no significant shadow impact upon major public spaces with the introduction of the proposed tower.



## 5.5 Project Description

The proposal for Student Accommodation is to provide an accommodation tower located at Level 8 upwards located on the Eastern Side of the building with up to 720 beds.

The proposal envisages that the Ultimo Pedestrian Network, which already has a high level of pedestrian through traffic can be enlivened further with a Café and Student accommodation Services activity.

A new entry for the Student Accommodation will be established on the Ultimo Pedestrian Network. Above from level 3 to 7 is proposed extended educational spaces. This would contribute significantly to repositioning the Peter Johnson Building on the Ultimo Pedestrian Network as a major node in the Campus Structure.

The entry and reception for the Accommodation will be at level 2 via the Ultimo Pedestrian Network. This will provide a clear entry and secure separation of the residential population from the transient student population and therefore provide a high level of access control for the accommodation.

The first accommodation level is at Level 8. This level would also include the common areas such as the Common Room, Resource Centre, Laundry, Music Room, TV and Games Room and a barbeque terrace, which looks down upon the Ultimo Pedestrian Network and takes advantage of views to Darling Harbour. A further 13 levels of accommodation extends over the air space above. A roof terrace is proposed on level 21 with internal and external function spaces.

The diagram to the left shows the composition of the proposal.

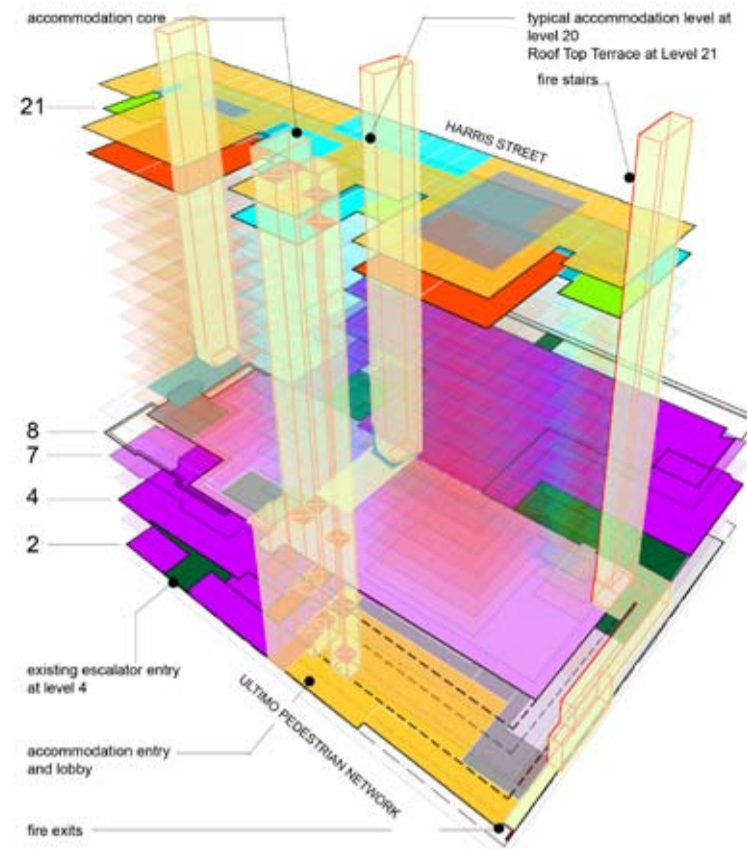


Figure 27. Building Use Axonometric Diagram

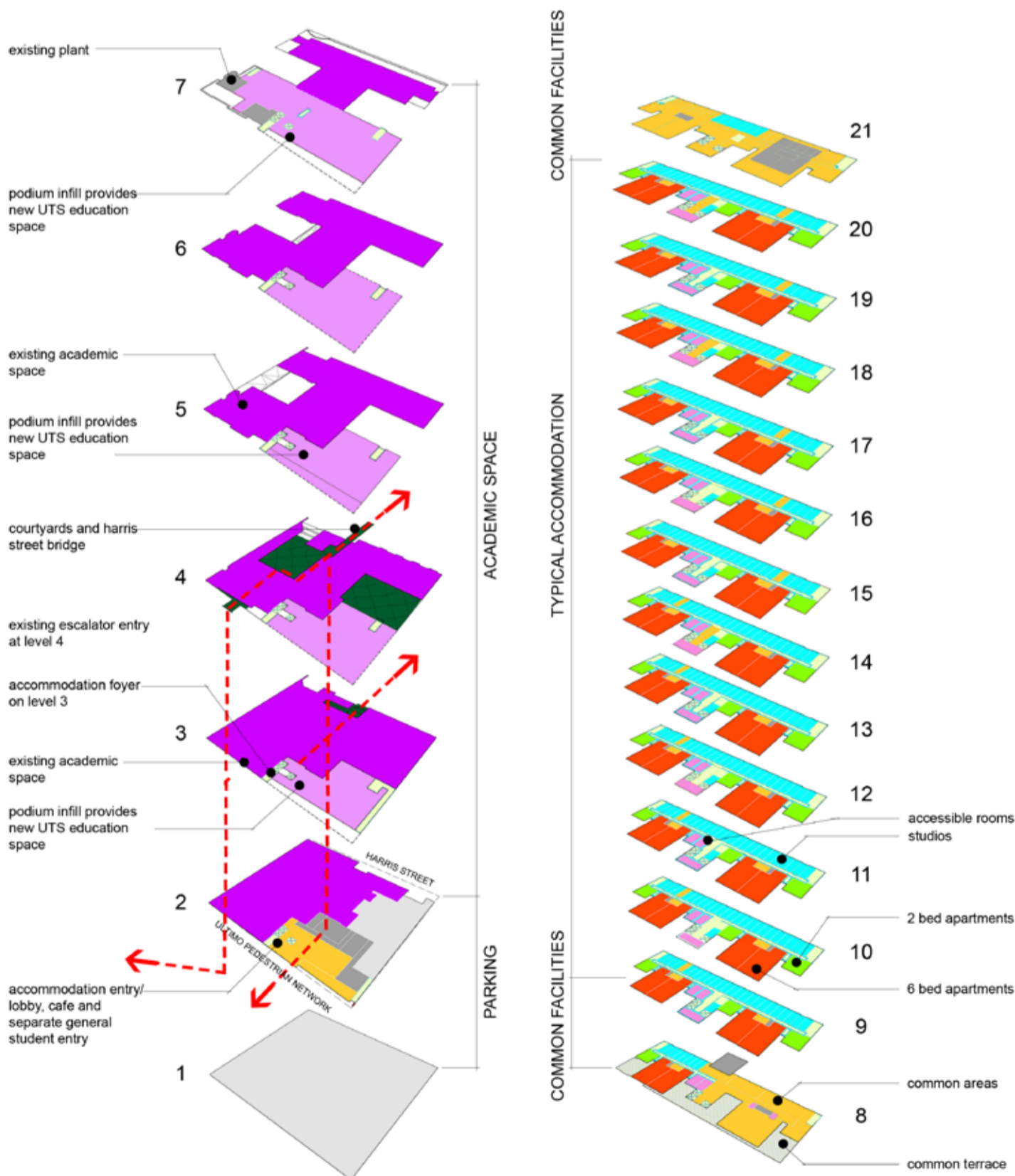


Figure 28. Building Use Exploded Floor Plan Diagram

## 5.6 Public Domain: Pedestrian Connectivity

### UPN Level 2 Lobby

This entry from the UPN creates an address not only for the new accommodation, but for the Peter Johnson Building at ground level on the UPN. It provides a 'Front Door' to the building and direct access to the Central Circulation Space of the Peter Johnson Building.

Site links from the UPN to Harris Street are reinforced by the creation of a public pedestrian link adjacent the Cafe at level 2 through to the Central Circulation Space of the Peter Johnson Building and up to level 3 at Harris Street and Level 4 to Harris Street Bridge. Café activity at level 2 UPN level will be an activity node to reinforce the UPN as a destination.

Secured access to the Student accommodation is monitored and controlled via the reception desk and secured swipe card doors.

Disabled access from the UPN is provided separately between the café and student lobby entry.

### Level 3 Lobby

Secured access to the Student Accommodation Lobby via Harris Street stairs to level 3 is provided.

Disabled access from Harris Street is already provided.

### Level 4

The established linkages from the Harris Street stairs and via the Level 4 Pedestrian Bridge, from the tower building, to the UPN escalators and railway pedestrian linkages are to be maintained.

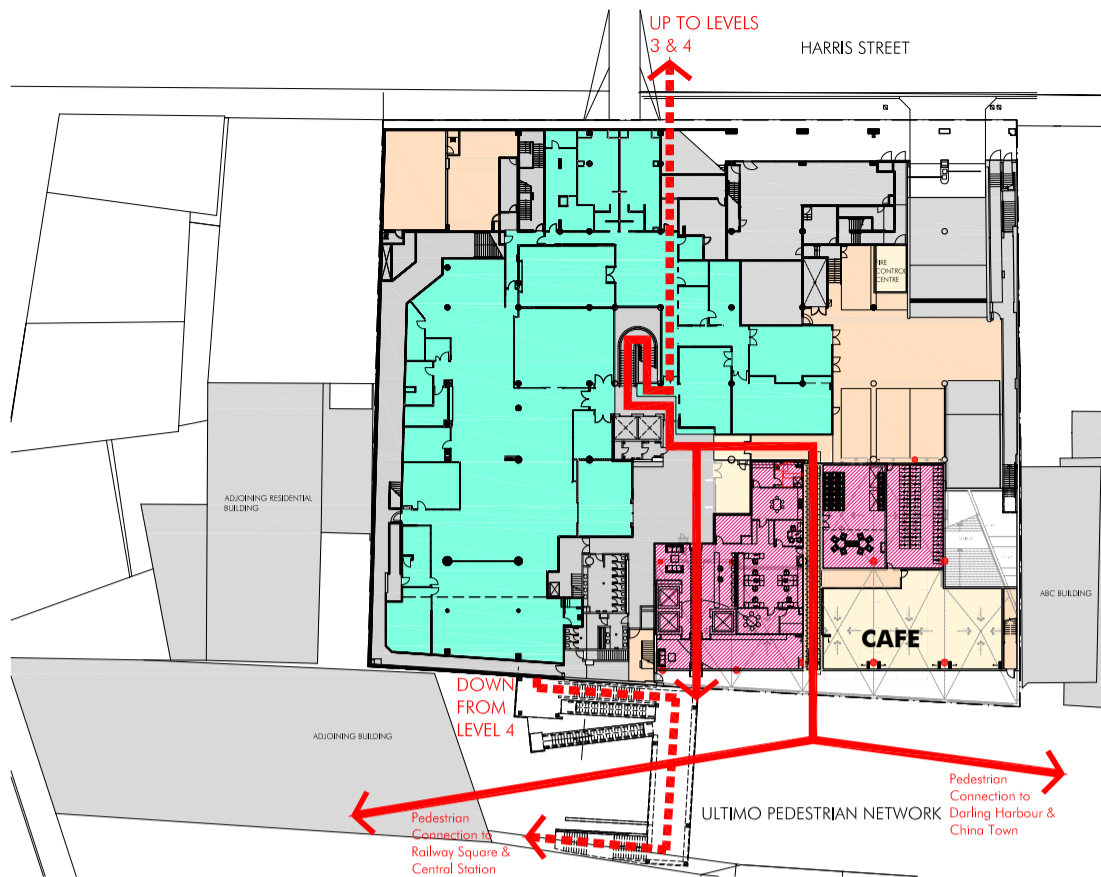


Figure 29. UPN Level 2 Lobby - Pedestrian Connectivity

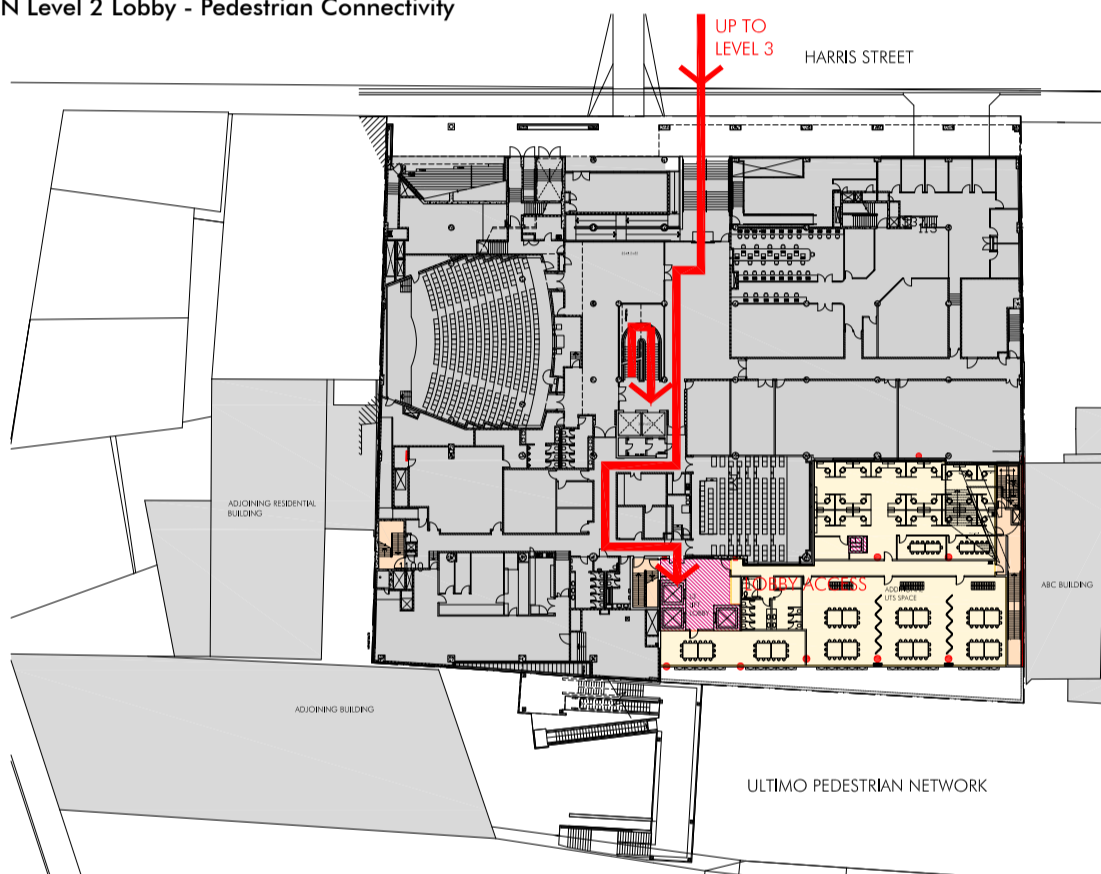


Figure 30. Level 3 Lobby - Pedestrian Connectivity

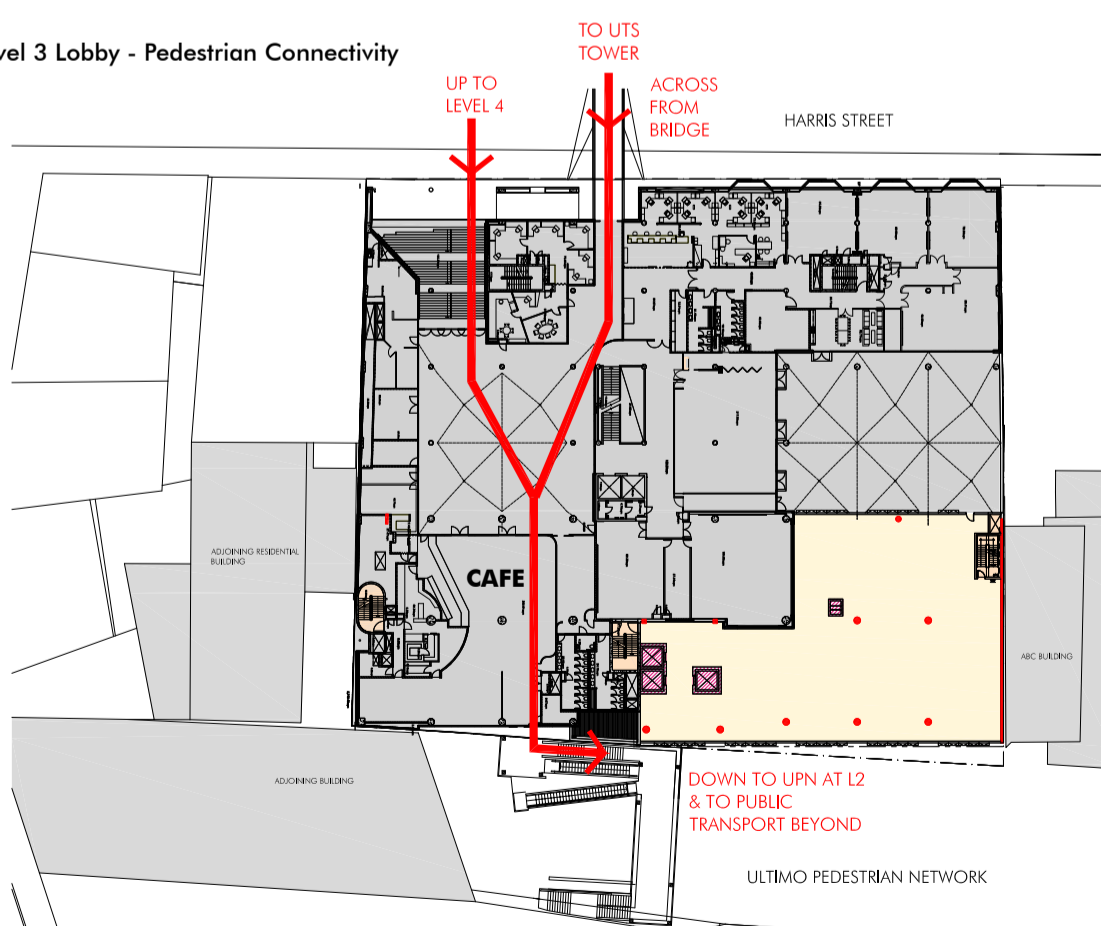


Figure 31. Level 4 - Pedestrian Connectivity

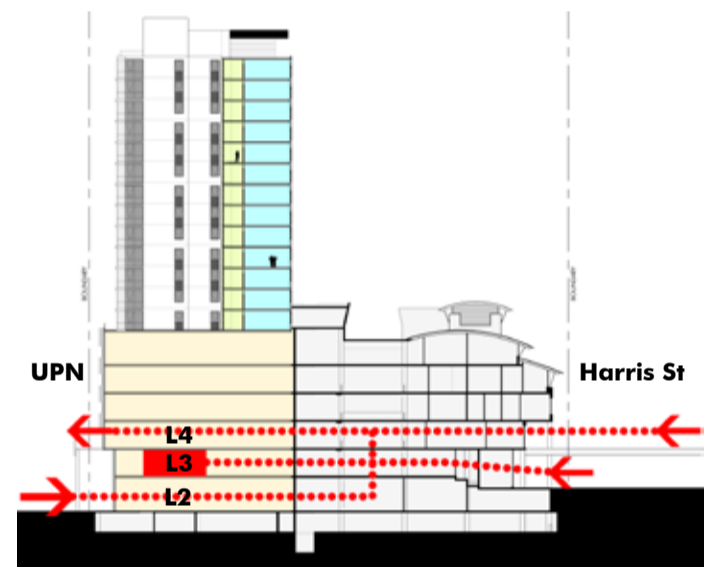


Figure 32. This section illustrates the connections through the site and between the different levels



Figure 33. The pedestrian bridge over Harris Street arrives at Level 4 of the Peter Johnson Building



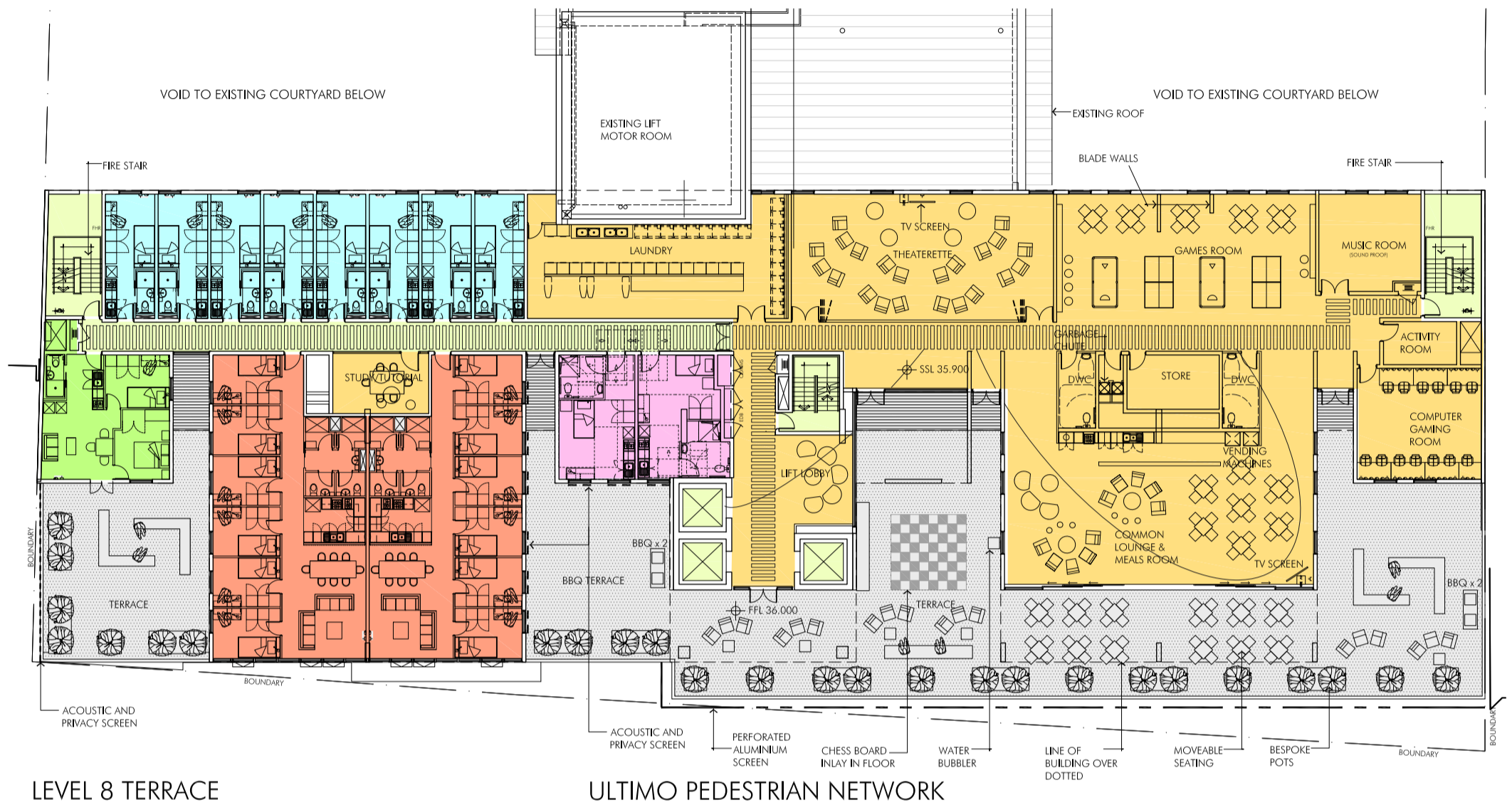
Figure 34. The approach to the Student Accommodation Entry will activate the UPN

## 5.7 Common Area Amenity

### Level 8 Podium Roof Terrace

Two Terrace areas are proposed on level 8 facing the UPN thus providing a visual and active interface with the UPN.

- Variety of activity and communal amenities for students is provided.
- Visual and active interaction with UPN at high level is achieved
- Internal enclosed and external terrace areas are provided
- Orientation to morning sun and UNP near and distant views.



### LEGEND

Studio Apartment	Accessible Apartment
2 Bedroom Apartment	Common Space
6 Bed Apartment	Circulation



Figure 35. Example of Student Accommodation, 'ANU 21', in Canberra, designed by nettletontribe, Common room



Figure 36. Theatrette

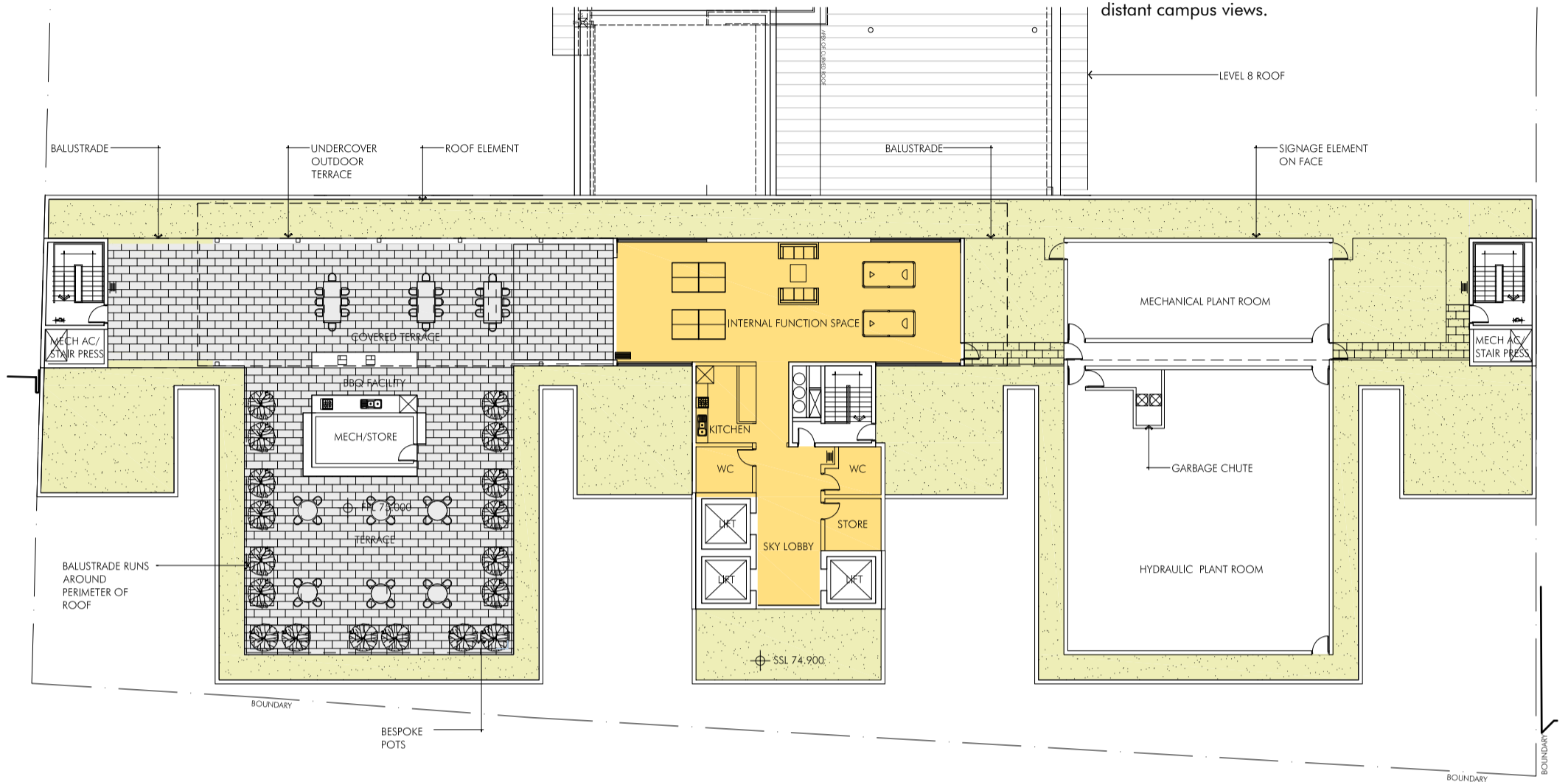


Figure 37. Games Room

### Level 21 Tower Roof Terrace

A roof terrace is proposed on the rooftop thus providing the opportunity to provide an active roof function area and opportunities for roof top articulation.

- Flexible internal function and games space is provided with kitchen facilities.
- BBQ undercover and open roof terrace is provided.
- The possibility for larger functions is achievable by the amalgamation of internal and external spaces.
- Orientation to morning and afternoon sun and near and distant campus views.



## ROOF TERRACE

### Landscape

The proposed design solution aims to create the ambience of a rooftop garden on the podium and rooftop terraces of the Peter Johnson Building. The presence of 'green' will lend relief to the urban context of the spaces and promote social activity.

Strategically located clusters of individual oversized planters/pots will create a very graphic and urban solution. Each planter is filled out with tall, bold, textural and colourful plants to provide substantial impact from each planting installation.

## ULTIMO PEDESTRIAN NETWORK

Large, bespoke, pots of planting are an alternative to built-in planters. They offer a concentration of maintenance, but with maximum effect. They also provide a certain amount of flexibility in arrangement. Pots are too big and heavy to be moved by individuals, but can be moved by maintenance staff to accommodate changes to functionality of space, as required. Pots could be built on castors for mobility and then locked into position. Bespoke pots will share the same mould, creating a common language between each of the three separate terraces. The use of a bespoke solution allows the use of lightweight materials, essential on podium landscapes.

The clustering of large planters around the terrace allows planting to be pulled back from the edge, and therefore the views. Views are maximized and smaller, more intimate spaces, are created within the larger terrace.

Species that are more tolerant to wind and pollution, and are relatively low-maintenance and water use, will be used.

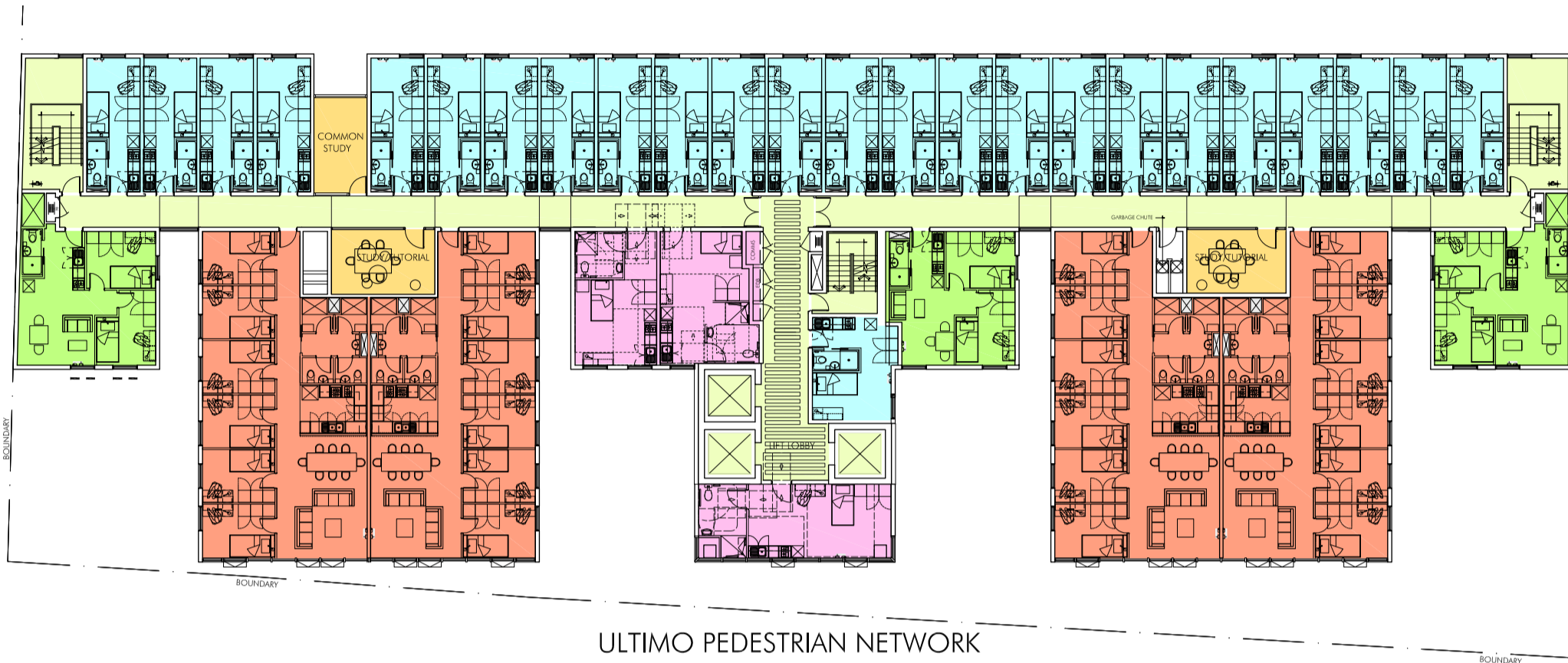
The layout arrangement of the bespoke pots is shown in the plan above and the images below.



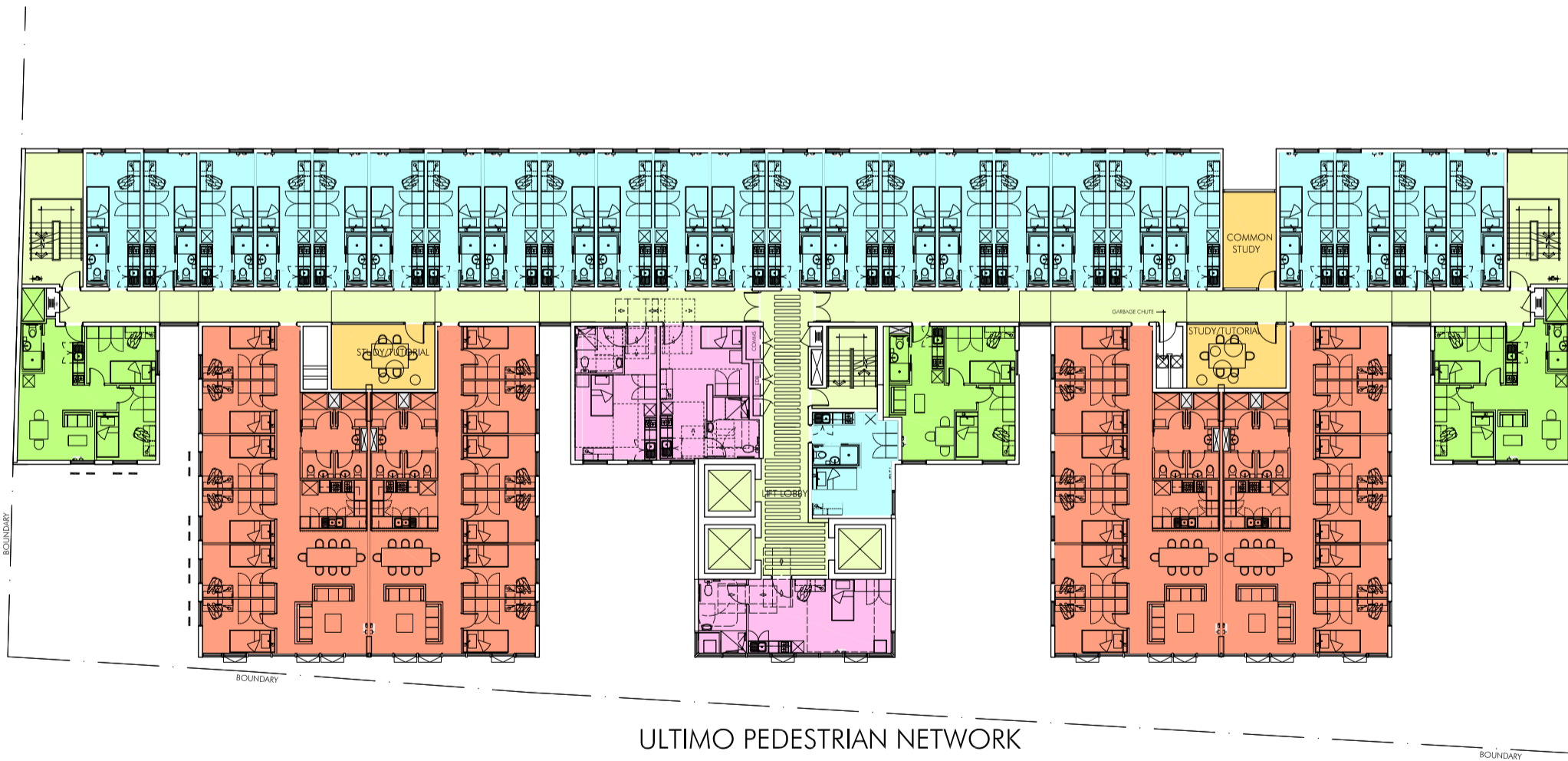
Figure 38. Examples of the concept for the Roof Terraces at Levels 8 and 21.

5.8 Accommodation Floor Plans

The proposal is planned to utilise the Peter Johnson Building’s existing structure to achieve the highest amenity and the highest utilisation yield on the site. The perimeter of the building is located to respect structural limitations and minimise structural impacts on the existing podium below. The proposal achieves this by using an exoskeleton structure and modularised apartment plans. This level of modularisation allows for ease of modification in the future as there would be less internal structural components.



TYPICAL FLOOR PLAN - LEVELS 9-14



TYPICAL FLOOR PLAN - LEVELS 15-20

LEGEND

 Studio Apartment	 Accessible Apartment
 2 Bedroom Apartment	 Common Space
 6 Bed Apartment	 Circulation

## 5.9 Accommodation Modules

The floor plans show the proposal's detailed room layouts.

All apartments will include:

- A kitchenette for self catering;
- Bathroom/Ensuite;
- Visitable for disabled persons (with assistance).

All bedrooms/studio will include in addition:

- 'Visitable' by a disabled person in a wheelchair
- A study desk
- A wardrobe/storage unit.

Accessible Studios will include in addition:

- Circulation space complying with AS 1428 Part 2.

6 Bed Apartments will include in addition:

- Separated toilet/bathroom facilities to allow con-current usage during peak periods.



Figure 39. Examples of Unilodge Studio Accommodation

## 5.10 Flexibility of Accommodation Modules

The Accommodation Modules have been designed to enable maximum flexibility.



Figure 40. 'ANU 21' designed by nettletontribe. Multi-Bed Living/Kitchen Area



Figure 41. Studio Apartment

The Proposal considers the intent of the Plan as follows:

**Context:**

- The existing urban fabric has a disparate character. The immediate context for the new building is the adjacent ABC building to the north and the residential building to the south. The Proposal is consistent to both neighbours with similar bulk, form, scale and texture.
- The precinct is part of the UTS campus and is defined by the City of Sydney as an education precinct. The proposed student accommodation use is highly compatible to that of the campus and education precinct and will contribute to the quality and identity of the area.

**Scale:**

- The height of the main proposed bulk of the building is at 20 storeys and is similar bulk to the ABC building thus allowing the ABC building to maintain its street prominence. At level 21 roof terrace function room, terrace, plant service areas and signage occurs above the main bulk of the building.
- The setback at Harris Street allows the view corridor along Harris street to be maintained to the residential building.
- The height of the proposed building exceeds the current LEP but is comparable with the adjoining ABC building.

**Built Form:**

- The tower built form facing Harris street is set back and built along its full frontage and approximately continues the built form of the ABC building set back from Harris Street. Thus the continuity of the neighbouring major built form is maintained.
- The built form articulation of slots on the East of the tower allows for internal amenity and outlook and the opportunity for natural light and ventilation.
- The three-tower articulation on the UPN address reduces the mass of the building.
- The building is set back in accordance with the chamfered cornered plan envelope of the UTS concept plan to respect the view and amenity of the windows located on the neighbouring residential building to the south.
- Building depth is within the maximum of 18m. Building depths for the proposal will be within 16m to 17m measures across the main portions of the building.
- Visual identity of the ABC tower is maintained by allowing clear view corridors to the ABC signage.
- The visual corridor facing south along Harris Street is maintained to the neighbouring southern residential building by the significant setback of the building from Harris Street.

**Density:**

- The density of the Proposal is appropriate for the site and context, being an area of predominantly high density high rise buildings. The residents of the proposal would also be students of the University and will not increase the density of the precinct’s overall and transient population but will increase the resident population with 24/7 activation inline with the Living City concept.
- The Proposal will reduce demand on urban infrastructure by negating the need for students to commute.
- The Proposal provides a mixture of studios, 2 bed and 6 bed accommodation that provide choice on the type of collegiate living available to students.
- Living Education undertook a market analysis to determine the student bed demand and appropriate mix of accommodation that would suit the ever-growing student need for accommodation at UTS.

**Resource, Energy and Water Efficiency:**

- The Proposal is oriented with North East and South West facing windows.
- The Proposal will use water efficient water fittings with the highest rating available for its type.
- The Proposal will be naturally ventilated to reduce energy demand.
- The Proposal will use structural pre-cast facades to reduce the need for perimeter columns and the overall mass/ material usage of the building.

- Rainwater harvesting will be incorporated.
- The modularised accommodation layout allows for future adaptive reuse or modification of apartments to meet different market needs.
- Existing podium facades are retained as much as possible and used in the new building fabric and layout, intervention and demolition to the existing podium is kept to a minimum
- A recycling garbage chute is provided for every typical floor.

**Landscape:**

- No landscaping or deep soil zones are provided due to the City urban context although generous common rooms and out door terraces on Level 8 and Roof top at Level 21 are provided for the resident students to promote communal and social cohesion in the development.
- Bespoke planting containers on the roof top terraces are proposed that will contain low maintenance and low water usage plants. The use of bespoke containers will allow for flexibility in arrangement and maximise views from terraces.

**Amenity:**

- The Proposal provides a mixture of studios, 2 bed and 6 bed accommodation and a percentage of accessible studio accommodation.
- The building planning has been designed to have generous building separation from neighbours and to provide adequate solar access to communal terraces.
- Proposed windows within 12m of the neighbouring Taragon building windows will have permanent external privacy screens
- Windows facing the Taragon neighbouring windows that are 15m setback from the neighbouring building and 45m above the natural ground level will have permanent external privacy screens.
- The privately used residential managers terrace facing the Taragon will incorporate an acoustic and privacy barrier to the neighbouring windows.

**Disabled Access**

- Lift access is provided to all common and residential levels.
- All common areas are accessible whilst all accommodation types are visitable.

**Apartment layout**

- Accommodation is designed with efficient and functional layouts to provide amenity to bedrooms and living spaces to all accommodation.
- Whilst the accommodation do not meet minimum size requirements of SEPP 65, the accommodation are designed to be highly functional to meet the needs of the student residents. Common areas including common rooms with kitchens, common laundries, tv and games lounges are provided to offset the reduced accommodation sizes.
- All common areas are accessible whilst all accommodation are visitable.
- 2.7m ceilings are provided to the living areas; 2.4m ceilings are provided to wet areas and kitchens.
- 100% cross-ventilated accommodation and studios will be provided. This is achieved via the incorporation of operable ventilation grills above the bedroom doors (in multi units) and above the entry accommodation doors to the corridors. Ventilation windows in the corridors and common areas adjoining the corridors will be incorporated to achieve the cross ventilation flows as will chimney ventilation stacks in the north and south extremity stairs.
- Good light and cross ventilation are provided to the central spine corridor and to common areas on typical floors.

**Solar Access**

- The building is of a slim design with 16-17m deep floor plates resulting in good light access to all accommodation.
- 52% of beds are in multi-solar aspect (multi-bed) accommodation: 48% are in single solar aspect (studio) apartment. All single aspect accommodation are less than 8m deep which provides good solar access.
- All back of kitchens are less than 8m from a window.

**5.11 SEPP 65 Appreciation**

- Living rooms for 70% of all accommodation receive 2 hours of sunlight between 9am and 3pm at mid winter.
- Studios (SW facing) receives sun light during mid-winter in the afternoon from 3pm to 5pm.
- Multi-share (NE facing) accommodation receives sun light during mid-winter in the morning from 8am to 11am.

**Storage**

- Each bedroom has its own storage at 0.7m2 per bed. In addition, multi-bed apartment have additional storage provided in the living areas.
- Common storage areas are provided on level 8 and 21.
- Bicycle storage is provided at level 2 for 70 bikes.

**Balconies**

- Balconies are not provided due to pastoral care requirements and insurance issues arising.
- In lieu of balconies a large communal terrace is provided at level 8 and Level 21 for common use. Common area spaces are also provided on all typical floors that have operable windows and ventilation grilles.

**Acoustic and Visual Privacy**

- Lifts will be acoustically isolated from the accommodation.
- Facing windows will be provided with blinds that allow users to control their own privacy levels. The blinds will be translucent allowing diffuse light into the accommodation. It is envisaged that daytime occupancy will be reduced whilst nighttime occupancy will be increased. In that scenario closed blinds at nighttime is a likely scenario and hence privacy will be maintained.
- Living rooms all have outlook and do not face each other.

**Safety and Security**

- The UPN will be visually improved as will safety by the incorporation of a café at ground level and appropriate lighting at nighttime.
- Student accommodation reception will be instated at the UPN. It will be manned and have visual connection with the UPN increasing visual security to the UPN. CCTV surveillance will also be provided. Safe and secure access points at the UPN will be provided.

**Social Dimensions and Housing Affordability**

Living Education undertook a market analysis to determine the student bed demand and appropriate mix of accommodation that would suit the ever-growing student need for accommodation at UTS. It is envisaged that by the provision of 720 beds the proposal will meet the local community and UTS campus needs to provide affordable student housing.

A mix of student housing has been provided to cater for different student needs.

- 308 Studios – 42.8%;
- 38 Accessible Studios – 5.3%;
- 37 Two Beds (74 total beds) – 10.3% and;
- 50 Six Beds (300 total beds) – 41.7%.

Additionally new accommodation common areas, common area terraces, new teaching spaces, café and student accommodation services will be provided to support the social and amenity need of the increased population needs.

**Aesthetics**

- The execution and quality of materials selected are in character with neighbouring context and an improvement on the UPN address.
- The use of pattern, texture, form and colour are incorporated into the facade of the building to provide a design reflective of quality student accommodation and provides a distinctive identity for the building.

Table 7. SEPP 65 Design Checklist

SEPP 65 DESIGN CHECKLIST

UTS Peter Johnson Building

Assessment against SEPP 65 “ Residential Flat Design Code”

No.	SEPP 65 Design Quality Principles	Design Proposal Principles	SEPP 65 Compliance description	compliance		Comments
				Yes	No	
1	<b>CONTEXT</b> <i>Good design responds and contributes to its context. Context can be defined as the key natural and built features of an area. Responding to context involves identifying the desirable elements of a location’s character or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies. New buildings will thereby contribute to the quality and identity of the area.</i>	<ul style="list-style-type: none"><li>• Slab (block) accommodation building type</li><li>• Relates to adjacent built forms</li><li>• Addresses dual street frontages of site</li><li>• Clear building identity</li><li>• Contribute to character of education precinct</li></ul>	<ul style="list-style-type: none"><li>• Appropriate building type for infill site with existing podium</li><li>• General scale similar to adjacent buildings</li><li>• Building responds to both site frontages at street and tower levels</li><li>• Architectural form and design establish building identity within its context</li><li>• Set within the university precinct and designed inline with the future vision of the UTS Concept Plan</li></ul>	Y  Y Y  Y		
2	<b>SCALE</b> <i>Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings. Establishing an appropriate scale requires a considered response to the scale of existing development. In precincts undergoing a transition, proposed bulk and height needs to achieve the scale identified for the desired future character of the area.</i>	<ul style="list-style-type: none"><li>• Similar bulk and height to adjacent buildings</li><li>• Podium and tower configuration reduces visual bulk of building</li><li>• Tower setback from podium to reduce visual bulk</li><li>• Scale in line with future character of UTS Concept Plan</li></ul>	<ul style="list-style-type: none"><li>• similar in scale to adjacent high rise buildings</li></ul>	Y		<ul style="list-style-type: none"><li>• 20 storeys</li></ul>
3	<b>BUILT FORM</b> <i>Good design achieves and an appropriate built form for a site and the building’s purpose, in terms of building alignments, proportions, building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provided internal amenity and outlook.</i>	<ul style="list-style-type: none"><li>• Built form suitable for intended building use</li><li>• Building within the prescribed UTS Concept Plan building envelope</li><li>• Building setback and articulated massing</li><li>• Complying building depth</li><li>• Internal outlook and vistas are maintained</li><li>• Adequate building separation</li></ul>	<ul style="list-style-type: none"><li>• Unit modules arranged both sides of central corridor</li><li>• Designed within the establish building envelope of the UTS concept plan</li><li>• Massing and facades articulated to break down scale and create building identity, while improving internal amenities</li><li>• Building depth &lt;18m</li><li>• Massing articulation allows units access to district views and improve natural lighting and ventilation</li><li>• 24m between habitable spaces between separate buildings</li></ul>	Y Y  Y Y	N	<ul style="list-style-type: none"><li>• subject to Central Sydney DCP 1996 interpretation</li></ul>
4	<b>DENSITY</b> <i>Good design has a density appropriate for a site and its context, in terms of floor space yields (or number of units or residents). Appropriate densities are sustainable and consistent with the existing density in an area or, in precincts undergoing a transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.</i>	<ul style="list-style-type: none"><li>• Appropriate high density for locality</li><li>• Density responds to brief and market demand</li><li>• Utilises existing infrastructure and transport</li></ul>	<ul style="list-style-type: none"><li>• Response to high density developments in the surrounding context. Efficient use of a valuable city centre location</li><li>• Increase student population as a response to university requirements and projected market demands of students.</li><li>• High density develop in a central location to take advantage of good existing infrastructure and transport</li></ul>	Y  Y		
5	<b>RESOURCE, ENERGY &amp; WATER EFFICIENCY</b> <i>Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction. Sustainability is integral to the design process. Aspects include demolition of existing structures, recycling of materials, selection of appropriate and sustainable materials, adaptability and reuse of buildings, layouts and built form, passive solar design principles, efficient appliances and mechanical services, soil zones for vegetation and reuse of water.</i>	<ul style="list-style-type: none"><li>• solar orientation</li><li>• High density and student population</li><li>• Water efficiency</li><li>• Efficient / flexible planning</li><li>• Efficient use of materials</li><li>• Energy efficient design</li></ul>	<ul style="list-style-type: none"><li>• Orientate building 30d east &amp; 20d west of north</li><li>• High density within well services areas is a sustainable land use</li><li>• The building will incorporate water efficient fittings and rainwater harvesting</li><li>• Modular unit design allows future flexibility and potential future adaptive reused to meet future demands</li><li>• Structural precast system used as structure and envelope to reduce trades and material use. Demolition of existing podium is kept to a minimum</li><li>• Natural light and ventilation is achieved in all units and common spaces to reduce energy use</li></ul>	Y  Y Y Y  Y	N	<ul style="list-style-type: none"><li>• Infill site and within prescribed building envelope</li></ul>

NOTE:  
SEPP 65 was developed for permanent residential buildings to ensure qualities such as natural light, ESD, ventilation, open areas, room size etc are part of good design practice. Whilst the design attempts to meet all SEPP 65 criteria it should be noted that student housing is not intended to be permanent accommodation and that student housing caters to affordable student budgets. In this respect not all SEPP 65 criteria might be met given that student housing is not directly comparable to permanent residential development dwellings.

## 5.12 Environmental Statement

The proposal incorporates passive environmental sustainable design and would be comparable to a 5 green star rating under the pilot multi-residential tool.

100% cross-ventilated accommodation and studios will be provided. This is achieved via the incorporation of operable ventilation grilles above the bedroom doors (in multi units) and above the entry apartment doors to the corridors. Ventilation windows in the corridors and common areas adjoining the corridors will be incorporated to achieve the cross ventilation flows as will chimney ventilation stacks in the north and south extremity stairs.

Accommodation operable windows and dual aspect ventilation will allow for effective natural ventilation, restoring thermal comfort to the occupants and omitting the need for air conditioning. Controllable ceiling fans are provided for additional air movement. An acoustically dampened ventilation grill will be incorporated into the window system to allow for controllable ventilation without compromising sound comfort levels inside where required.

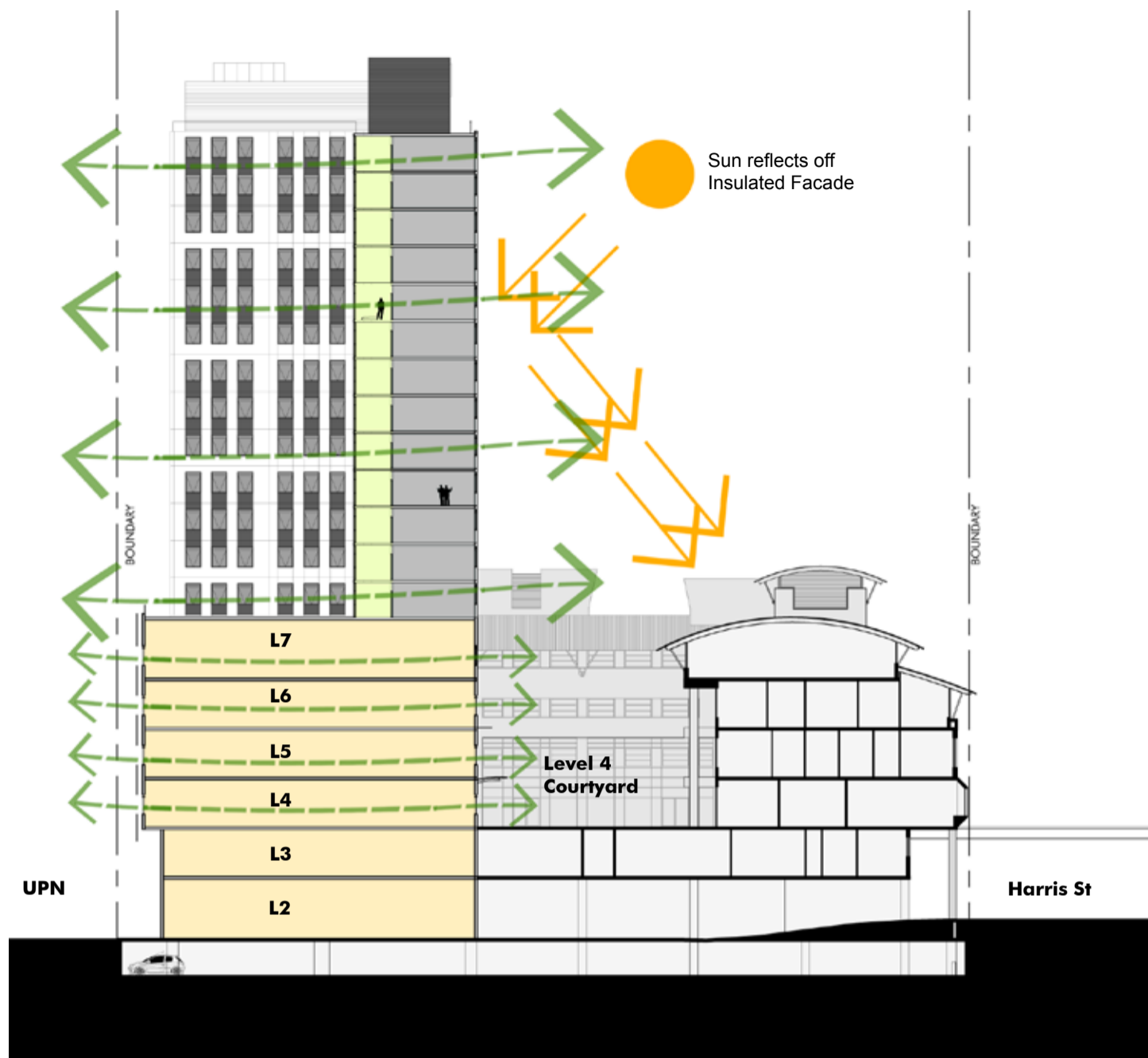


Figure 42. East-West ESD Section

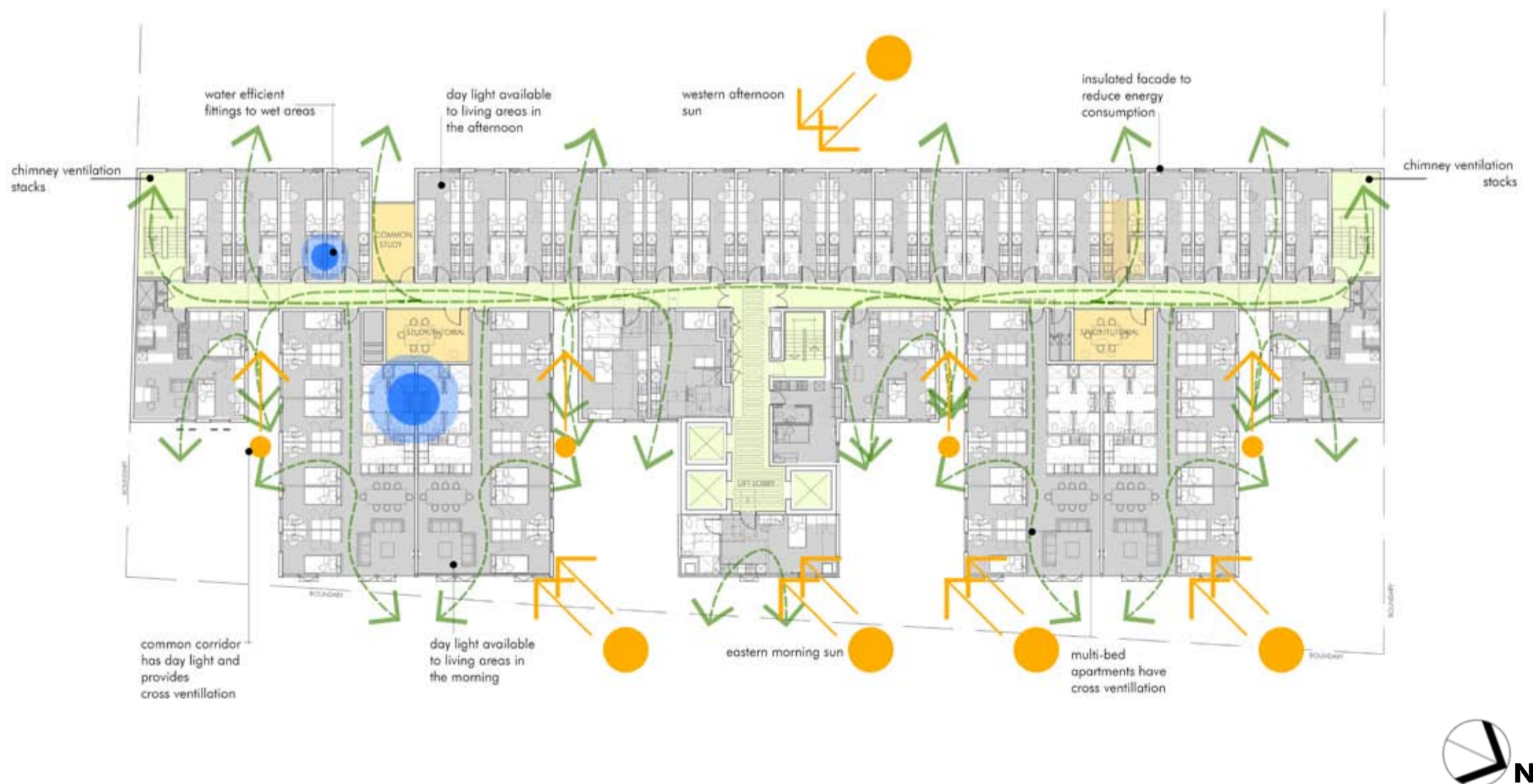
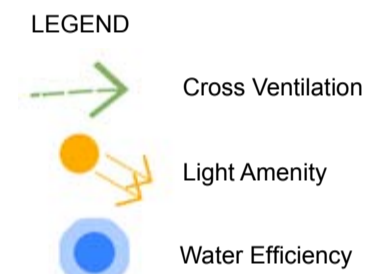


Figure 43. ESD Plan

#### Environmental Sustainability Measures:

The proposed development will be designed to achieve sustainability outcomes comparable to a 5 star Green Star multi-residential building using the Green Star Multi-Unit Pilot Tool.

Sustainability features include:

- The Builder will implement an environmental management plan what would minimise the environmental impact arising from the construction. Construction waste will be minimised, and up to 80% of this waste will be recycled.
- Buildings are sited to maximise solar access, minimise shadow impact on neighbours, and orientated to minimise exposure to adverse orientations to reduce heat gain in buildings.
- Accommodation and common circulation areas are naturally ventilated to minimise energy consumption. Air-conditioning will be restricted to communal areas only. All apartments and bedrooms will have occupant controlled operable windows. Insulated facades and low-emissivity glass will be used to reduce heat gain.
- Paints, carpets and adhesives with low volatile organic compounds and materials with low formaldehyde content will be used to improve indoor environmental quality.
- Communal facilities including computer, TV and games lounges and external recreational areas will be provided to eliminate doubling up of such areas within private dwellings.
- Windows will be designed to provide good daylight to internal spaces. Electric lighting will be designed to avoid excessive illumination.
- Energy and water efficient appliances, fittings and fixtures. Major plant items that consume substantial energy will be separately monitored such that they can be maintained to perform at optimum levels.
- Rainwater harvesting collection on roof top terraces and low water usage landscaping will be incorporated.
- Car parking will be minimised. Walking, public transport and cycling will be encouraged. Car ownership amongst students will be actively discouraged.
- Building structure will be designed such that concrete and steel will have recycled content. The building will be designed to maximise efficient and minimise use of materials.
- Accommodation will be fully fitted out such that waste arising out of the transient nature of student accommodation, such as disused furniture will be minimised.
- Ozone depleting refrigerants will not be used in the air-conditioning. Insulation used will not contain ozone-depleting substances in its composition or manufacture.

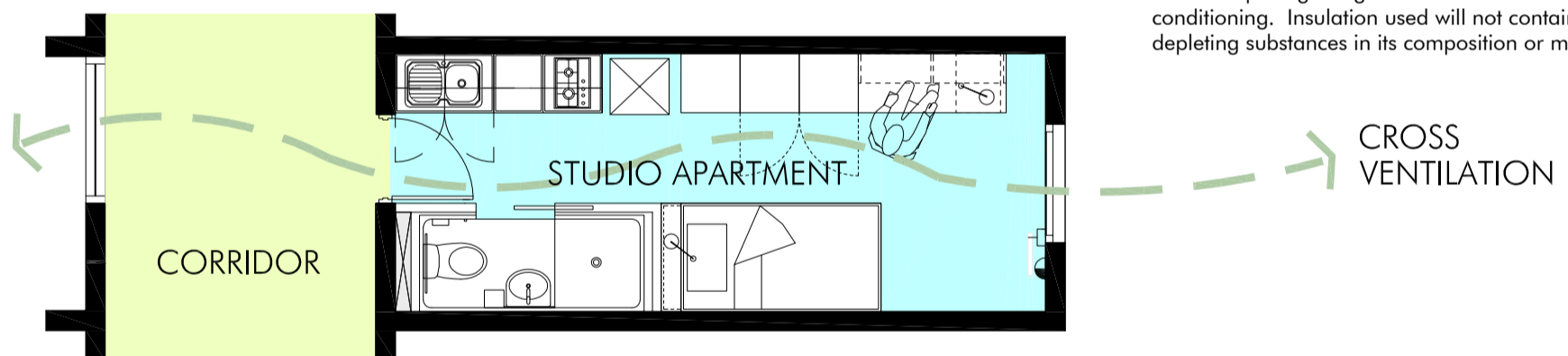


Figure 44. Studio Apartment Plan

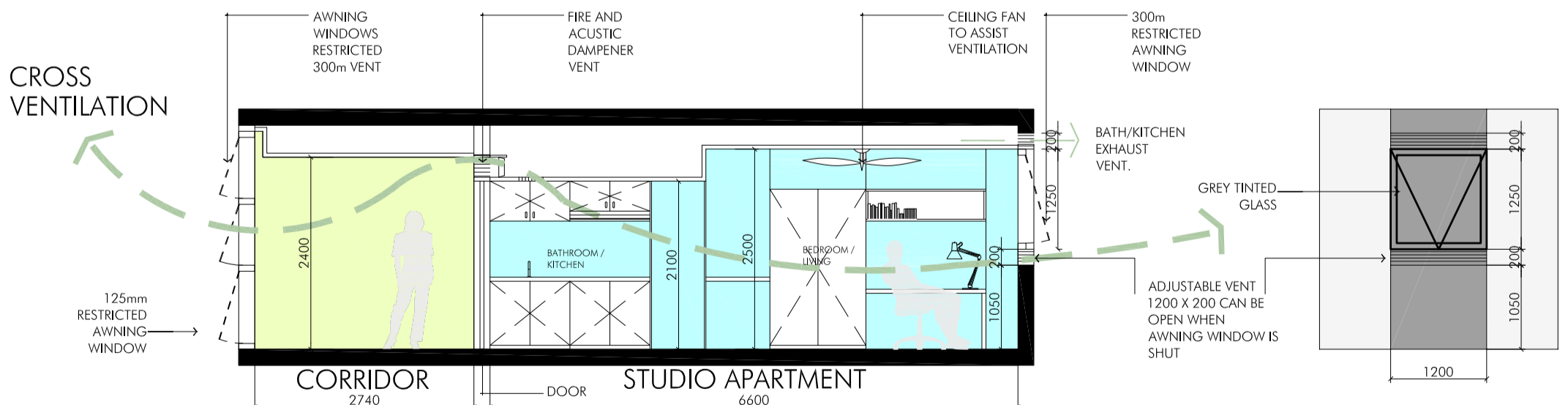


Figure 45. Studio Apartment Section

Figure 46. Detailed Elevation of Window

## 6.0 FACADE & MATERIALS

### 6.1 Facade Design Statement

A thorough facade design process took place as part of Living Education's peer group review with UTS headed by Graham Jahn. The review process has allowed us to critique and challenge elements of our design solution to formulate a facade design aesthetic that meets design excellence.

The intention of the final design solution of the facade is to use patterning to create a level of diversity and character that responds to scale, context, materials, colour and visual appearance and legibility from near and distant views. In doing so we provide a distinctive identity for the building.

## FACADE & MATERIALS

## 6.2 Facade Material Rational and Precedents

- Use of articulated pre-cast panels is appropriate to create a robust architectural character reflective of student accommodation typologies and allows the ability to form a three-dimensional articulated façade.
- Pre-cast elements also provide technically high quality insulating and acoustic barriers thus allowing us to address ESD and environmental constraints particularly on the western facade facing Harris Street.
- Pre-cast allows for an integral facade and structural design solution thus reducing the overall building mass and impacts to the existing podium structure.
- The use colour is intended to enliven the character of the building and act as a signifier of common student activity zones.



Figure 47. Precedents Facade Treatment

### 6.3 Proposed Facade Modules and Materials

#### Harris Street Facade

The plan layout of the building stacks the accommodation vertically in a grid of 2.8m wide x 3 high modules.

8.4m wide structural pre-cast modules are proposed that span over the 8.4 structural grids into which 1.2m wide windows are inserted for each bedroom condition. The pre-cast will be insulated behind.

Three pre-cast modules form either a vertical or horizontal pattern treatment by the incorporation of a recessed zone where the windows are located. The recessed zones are stained dark to disguise the grey glass window, black frames and integrated black exhaust and ventilation grills.

The three modules pattern allows the legibility of the facade to become apparent from distant views and breaks up the scale of the facade. The dark recesses will contrast against the white stained pre-cast panels. Vertical articulated elements will be applied adjacent to the horizontal patterned areas to add texture and shadow play to the facade.

Alternating Common areas are located in plan on the western facade. Punched 2m deep slots express these common areas and help break up the overall pattern treatment with a different larger scale. The slots allow for three-dimensional articulation to the facade.

Within these slots it is proposed to incorporate colour on the outside pre-cast walls and internal common room walls. At nighttime these areas will glow with colour expressing the internal functions inside.

#### Plant, Roof and Signage

The UTS roof signage clad in white metal is proposed sitting in front of the plant room. The plant room in the signage location will be clad in black louvers. This will provide a clear contrast to the signage and skyline.

The horizontal roof element will have a black fascia to contrast against the skyline.

The soffit of the roof will be coloured to highlight the roof terrace functions. At night this area will glow with colour.

The minor plant areas will be set back to disguise their visual prominence against the skyline.



Figure 48. Harris Street Elevation

black powdercoated metal louvres white backlit UTS signage



Figure 49. 3D detail of Harris Street Facade

yellow soffit to roof



Figure 50. 3D detail of Harris Street Facade

dark stained precast, 20mm recess

yellow stained precast panel

white stained precast

articulated applied element

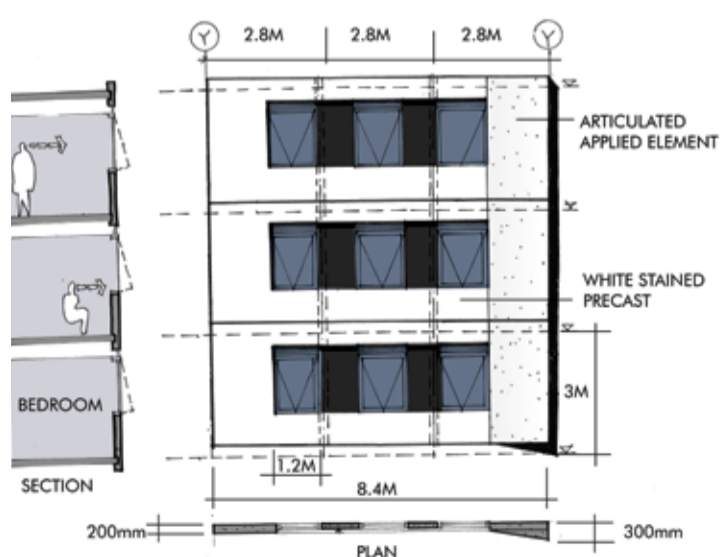


Figure 51. Precast Pattern 1 - Horizontal with articulated applied element

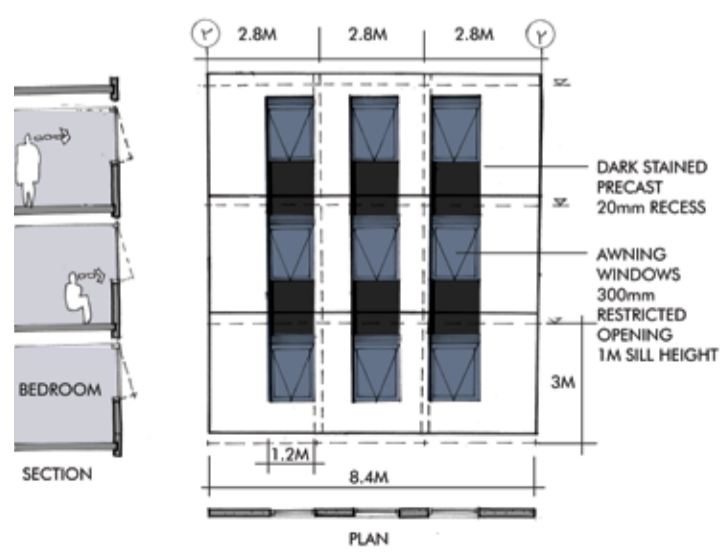


Figure 52. Precast Pattern 2 - Vertical

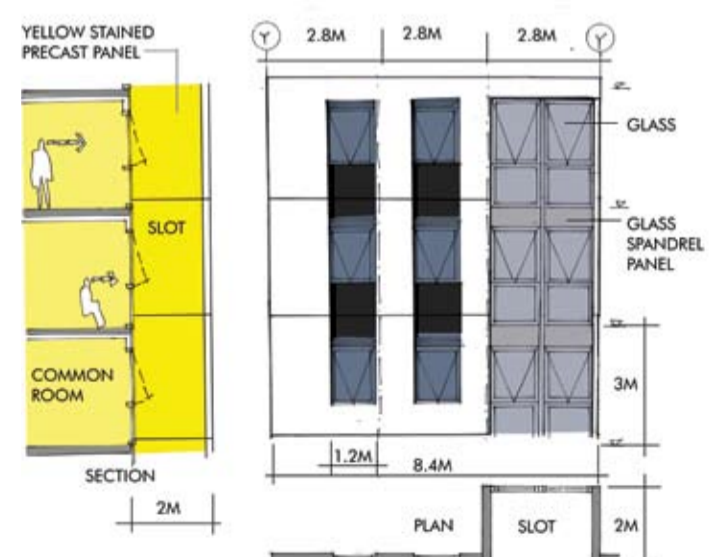


Figure 53. Precast Pattern 3 - Recessed Glazed Common Room

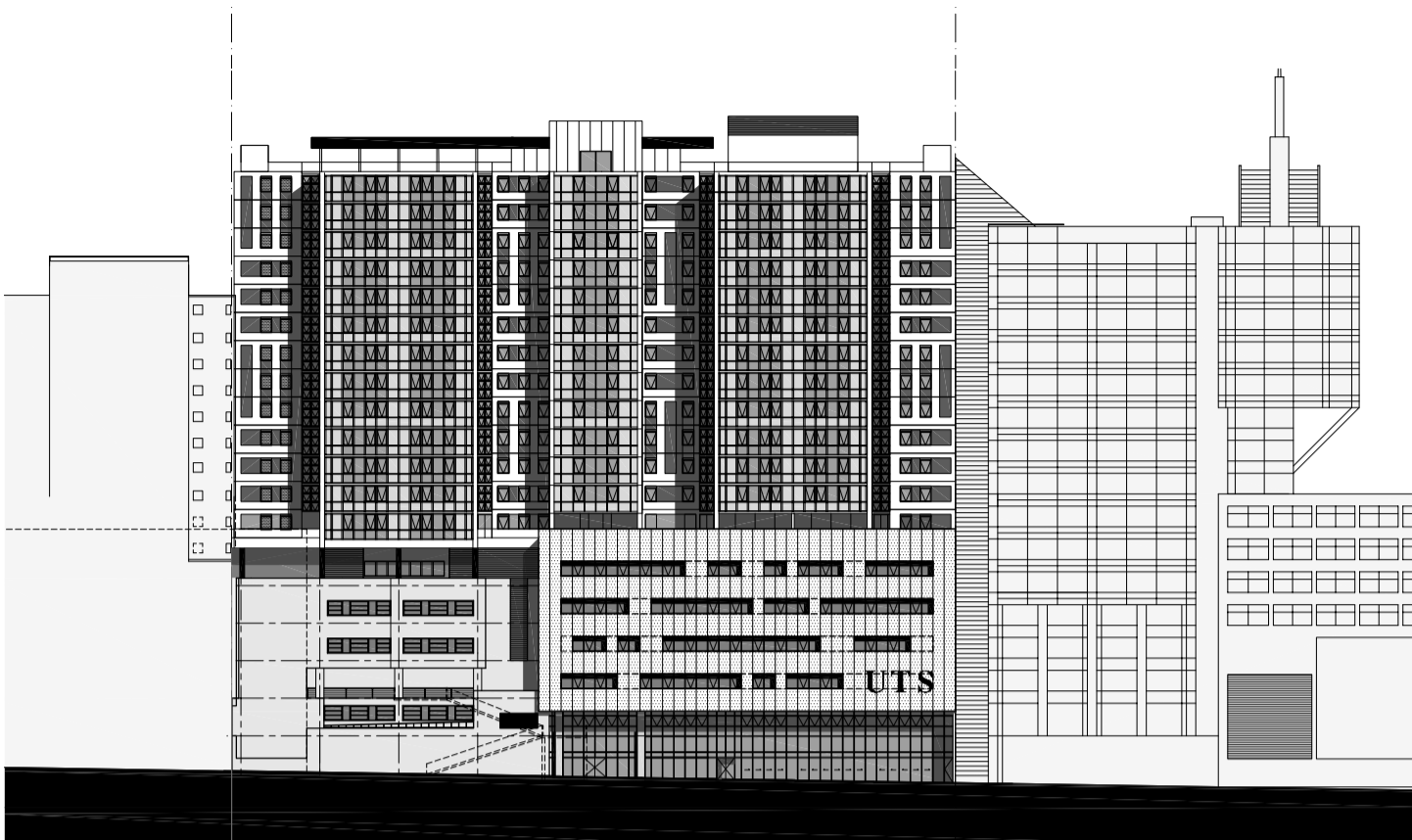


Figure 54. Ultimo Pedestrian Network Elevation

#### UPN Tower Facades

The pre-cast elements set into the recessed areas are composed in a similar manner as the Harris street facade, however vertical moulded elements are omitted within these mostly shaded areas.

Floor to floor glazing is proposed on the tower elements facing the UPN. This is composed of 1.2m glazing modules.

Fixed grey vision glass, awning windows and insulated backed opaque glass is incorporated into a 3 level story pattern that breaks the scale of the facade.

#### UPN Tower Podium Facades

A stained black pre-cast and glazed awning window facade incorporating a perforated aluminium screen in front is proposed on the UPN extension.

The proposed perforated aluminium screen will be composed of 1.2m wide modules concealed fixed to a metal frame that sits 450mm away from the pre-cast facade.

Areas of the screen will be cut out to allow outlook from the full band horizontal glazed windows behind.

At UPN ground level colour will be incorporated into the walls, soffit and exposed entry columns to enliven the UPN space.

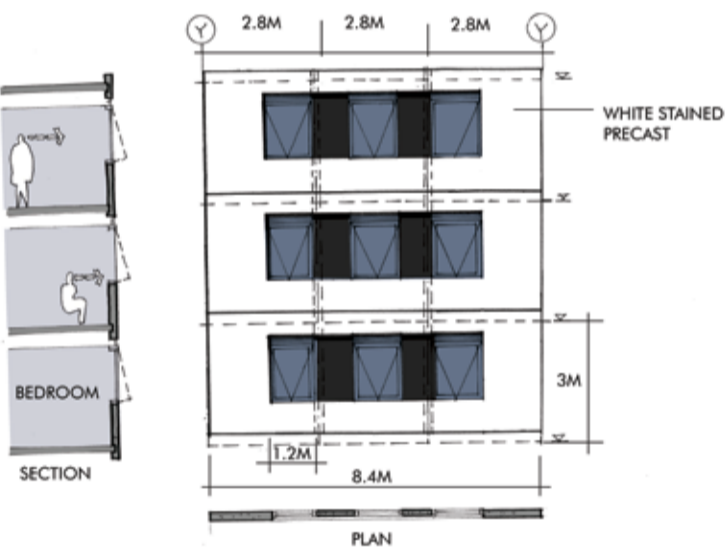


Figure 55. Precast Pattern 1 - Horizontal - no mould

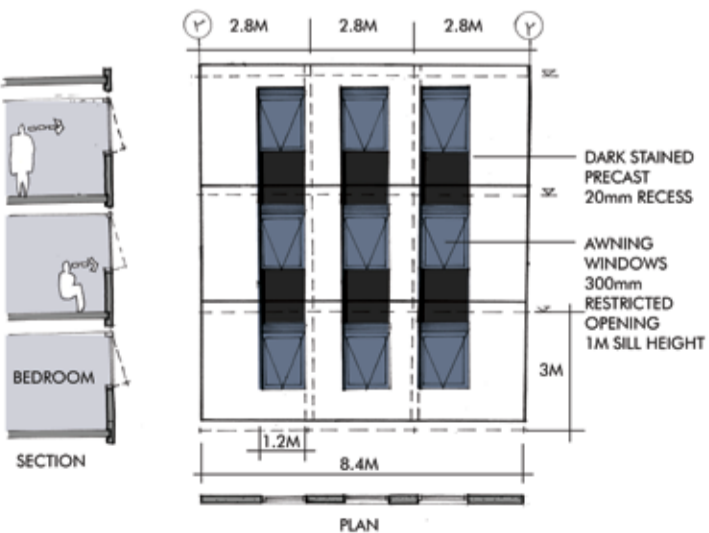


Figure 56. Precast Pattern 2 - Vertical

white stained precast panels  
coloured back opaque glass  
grey glass awning windows

glazed awning windows behind  
perforated aluminium screen  
UTS logo incorporated into perforated screen

painted black precast behind  
yellow soffit  
yellow clad wall  
bi-fold glazed doors to cafe

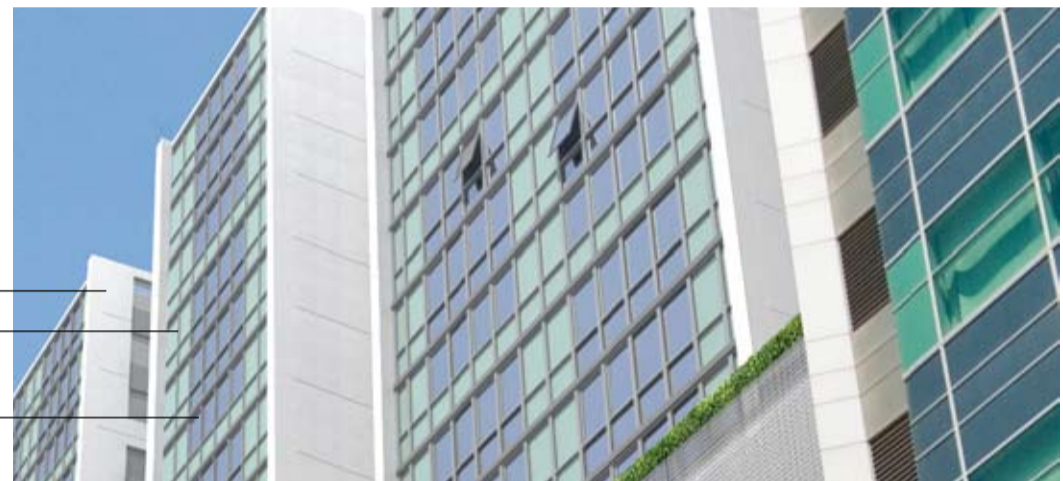
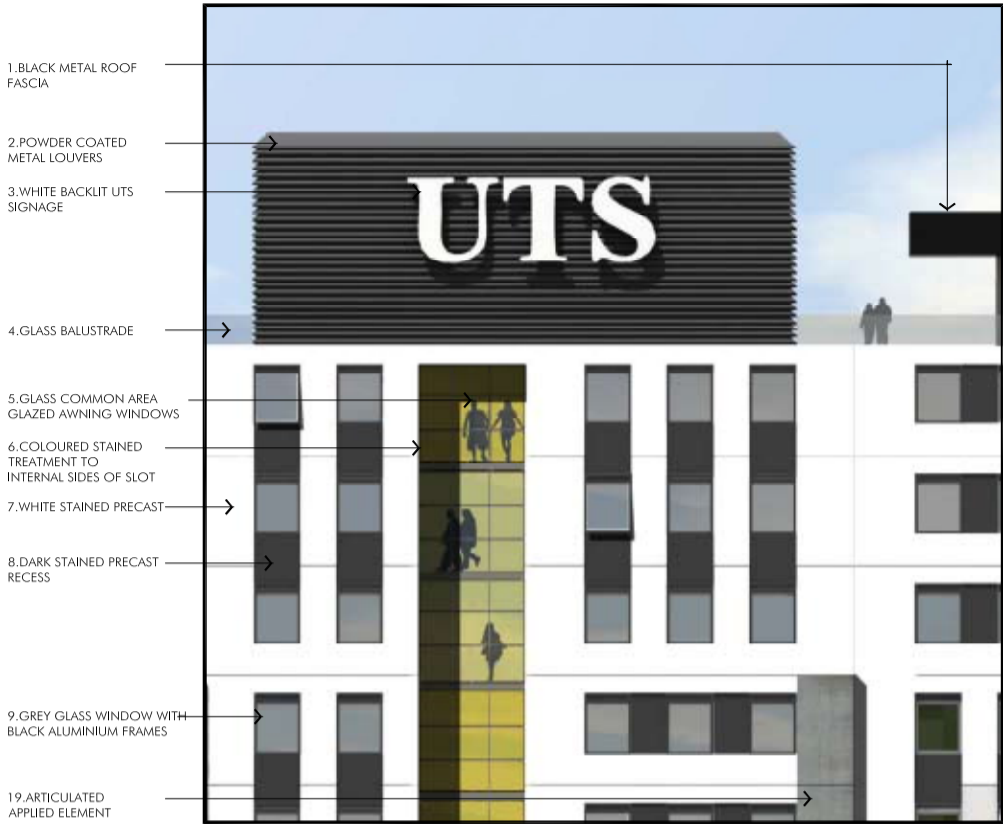


Figure 57. Perforated Aluminium Podium Facade on UPN - 3d Montage Detail

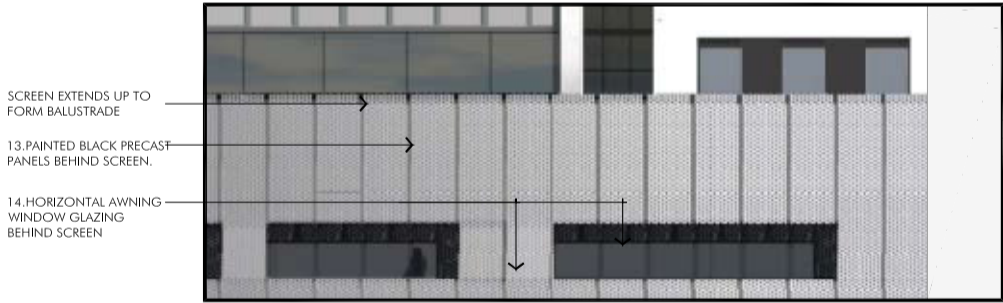
6.4 Materials Board



HARRIS STREET: WEST PART ELEVATION



UPN: EAST PART ELEVATION



UPN: EAST LOWER PART ELEVATION



Figure 58. Final Design - Harris Street Elevation

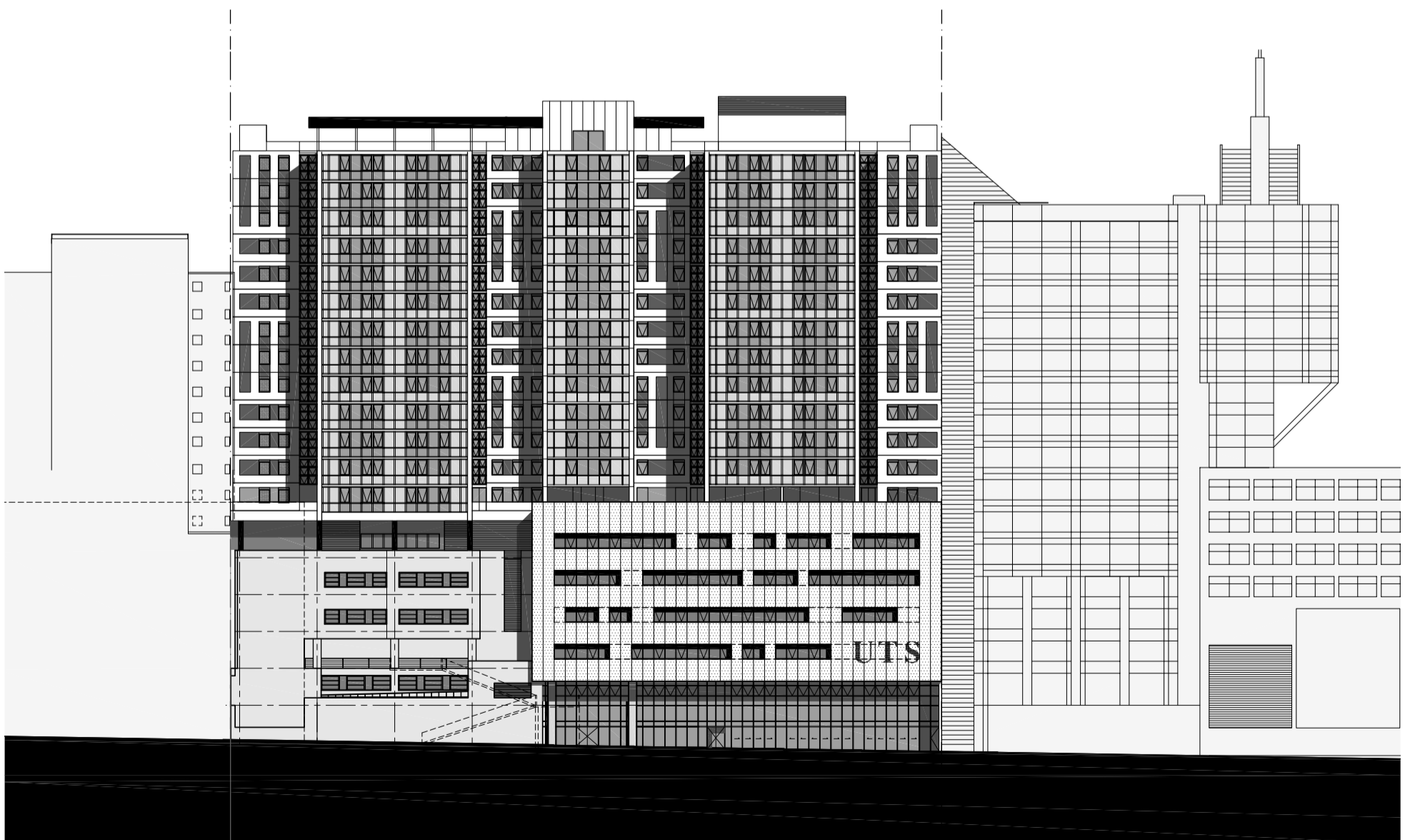


Figure 59. Final Design - Ultimo Pedestrian Network Elevation

## 6.6 Streetscape: Street Context Elevations

The facade is articulated to complement the scale and detail of articulation of adjacent buildings from near and distant views.

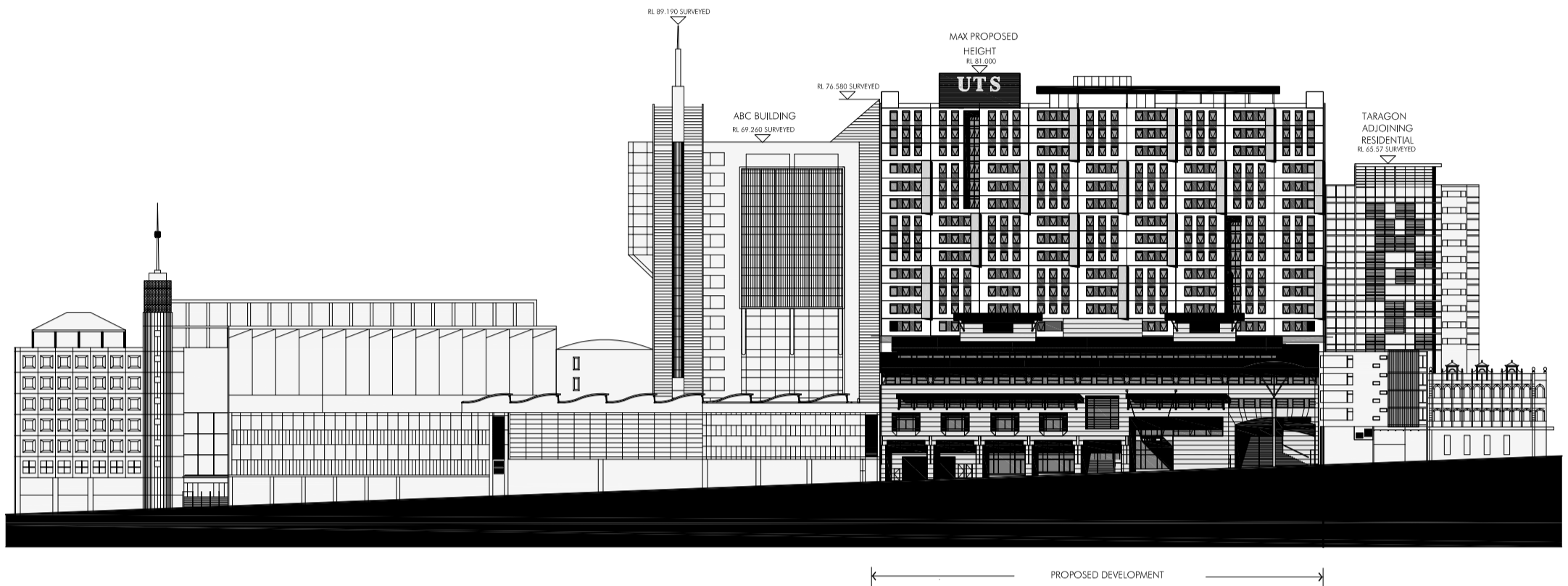


Figure 60. West Facade - Harris Street Elevation

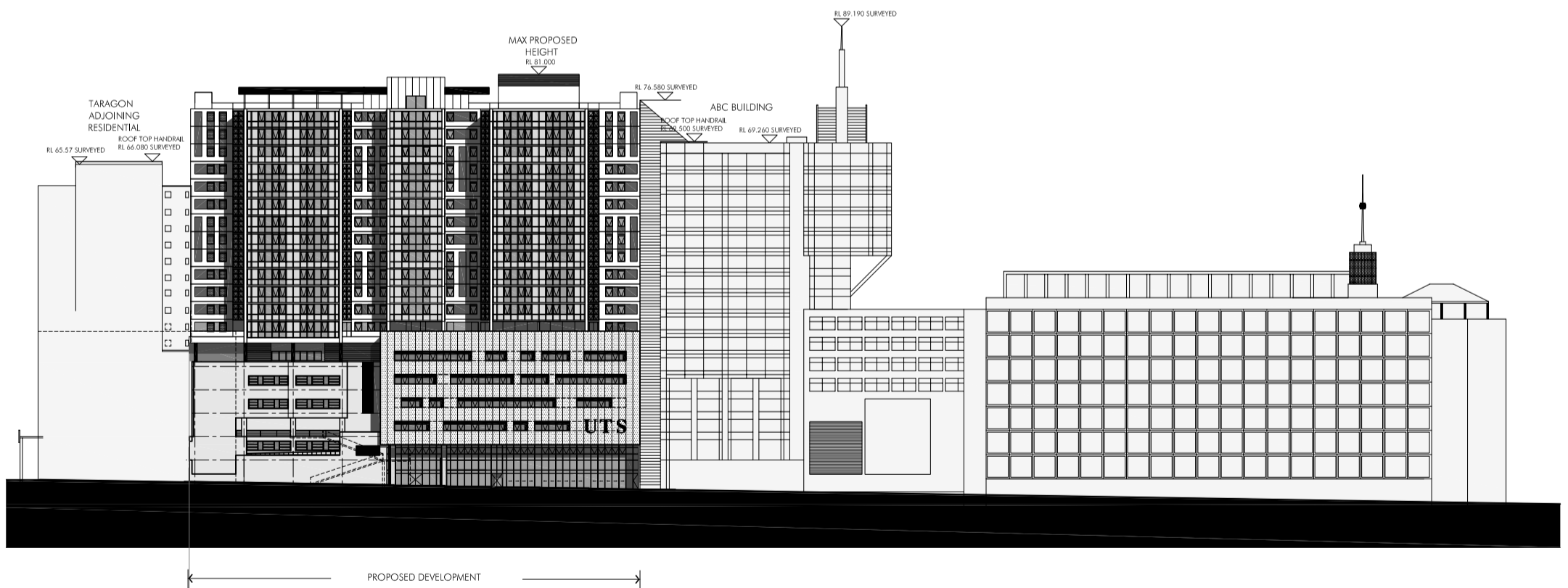


Figure 61. East Facade - Ultimo Pedestrian Network (UPN) Elevation

## 7.0 PHOTOMONTAGES

### View of the building from the 'Alumni Green'

The proposal is clearly visible from the UTS Campus and the 'Alumni Green'



Figure 62. Existing view from the 'Alumni Green'



Figure 63. View from the 'Alumni Green' with Proposed Building

## View of the building from Broadway

The building mass does not dominate the neighbouring Taragon building or Broadway and allows the existing corner expression to remain intact.



Figure 64. Existing view from Broadway



Figure 65. View from Broadway with Proposed Building

## View of the building from Harris Street

View corridors along Harris Street are maintained



Figure 66. Existing view from Harris Street



Figure 67. View from Harris Street with Proposed Building

## View of the Accommodation Entry at the Ultimo Pedestrian Network

The Ultimo Pedestrian Network is improved by the incorporation of an active Cafe, new pedestrian links at Level 2, improved facade treatments and signage and the visual security offered by the interaction of new proposed uses.



Figure 68. Existing view from UPN



Figure 69. View from the UPN with Proposed Building

## APPENDIX

8.0 APPENDIX

8.1 Area Schedule & FSR

Proposed Development Heights

Standard LEP

- The Proposed Development seeks a height of 71.07 as measured from the lowest ground level under the Standard LEP (uppermost height). This equates to an max height 81 RL AHD figure.

LEP 2005

- The Proposed Development seeks a height of 67.79m as measured from the lowest ground level from Harris Street under the LEP 2005 (Last habitable Ceiling Level). This equates to a 77.7 RL AHD figure.

Table 8. GFA Table: Standard LEP Template

GFA TABLE : DEFINED BY STANDARD LEP TEMPLATE DEFINITION								23th March 2009		
PETER JOHNSON								Existing Building GFA (m <sup>2</sup> )	Proposed Building GFA (m <sup>2</sup> )	Total GFA (m <sup>2</sup> )
No. of Apartments		Studio	Dis. Studio	2 Bed	6 Bed	TOTAL APTS	TOTAL BEDS			
Roof Terrace (21)									176.5	176.5
20		25	3	3	4	35	58		1,398.5	1,398.5
19		25	3	3	4	35	58		1,398.5	1,398.5
18		25	3	3	4	35	58		1,398.5	1,398.5
17		25	3	3	4	35	58		1,398.5	1,398.5
16		25	3	3	4	35	58		1,398.5	1,398.5
15		25	3	3	4	35	58		1,398.5	1,398.5
14		25	3	3	4	35	58		1,398.5	1,398.5
13		25	3	3	4	35	58		1,398.5	1,398.5
12		25	3	3	4	35	58		1,398.5	1,398.5
11		25	3	3	4	35	58		1,398.5	1,398.5
10		25	3	3	4	35	58		1,398.5	1,398.5
9		25	3	3	4	35	58		1,398.5	1,398.5
8		8	2	1	2	13	24		1,250.0	1,250.0
7						0	0	1,337.0	1,538.7	2,875.7
6						0	0	2,616.2	848.8	3,465.0
5						0	0	2,607.8	862.7	3,470.5
4						0	0	2,334.0	862.7	3,196.7
3						0	0	3,231.9	728.0	3,959.9
2						0	0	2,987.7	683.2	3,670.9
1						0	0	0.0	0	0
Total Apartments		308	38	37	50	433		15,114.6	23,732.6	38,847.2
Total Beds		308	38	74	300		720			
Mix Achieved		42.8%	5.3%	10.3%	41.7%		100%			
								NOTE: GFA was measured in accordance Standard LEP Template		

LEGEND		
	Student Accomodation	18,208.5 m <sup>2</sup> GFA (Standard LEP Template)
	Additional UTS Teaching Space	4,840.9 m <sup>2</sup> GFA (Standard LEP Template)

Level 2 AREAS		
Level 2 Accommodation Operational Services		469.5m <sup>2</sup> GFA (Standard LEP Template)
Level 2 Café Space		213.7m <sup>2</sup> GFA (Standard LEP Template)

The Calculated FSR Based on the total GFA Figure is:

Site Area	5102 m <sup>2</sup>
FSR (based on Standard LEP GFA definition)	7.6:1

NOTE: Areas are approximate only and subject to future design development

Table 9. GFA Table: SLEP 2005

GFA TABLE : CURRENT DESIGN MEASUREMENTS DEFINED BY SLEP 2005 DEFINITION

23th March 2009

PETER JOHNSON								Existing Building	Proposed Building	Total GFA (m <sup>2</sup> )
No. of Apartments		Studio	Dis. Studio	2 Bed	6 Bed	TOTAL APTS	TOTAL BEDS	GFA (m <sup>2</sup> )	GFA (m <sup>2</sup> )	
Roof Terrace (21)									239.8	239.8
20		25	3	3	4	35	58		1,467.2	1,467.2
19		25	3	3	4	35	58		1,467.2	1,467.2
18		25	3	3	4	35	58		1,467.2	1,467.2
17		25	3	3	4	35	58		1,467.2	1,467.2
16		25	3	3	4	35	58		1,467.2	1,467.2
15		25	3	3	4	35	58		1,467.2	1,467.2
14		25	3	3	4	35	58		1,467.2	1,467.2
13		25	3	3	4	35	58		1,467.2	1,467.2
12		25	3	3	4	35	58		1,467.2	1,467.2
11		25	3	3	4	35	58		1,467.2	1,467.2
10		25	3	3	4	35	58		1,467.2	1,467.2
9		25	3	3	4	35	58		1,467.2	1,467.2
8		8	2	1	2	13	24		1350.5	1350.5
7						0	0	1,384.7	1,638.0	3,022.7
6						0	0	2,718.4	896.8	3,615.2
5						0	0	2,710.0	896.7	3,606.7
4						0	0	2,436.3	896.7	3,333.0
3						0	0	3,379.4	802.1	4,181.5
2						0	0	3,243.2	805.7	4,048.9
1						0	0	0.0	0.0	0.0
Total Apartments		308	38	37	50	433		15,872.0	25,132.7	41,004.7
Total Beds		308	38	74	300		720	NOTE: GFA measured in accordance with Ultimo - Pyrmont LEP 2005		
Mix Achieved		42.8%	5.3%	10.3%	41.7%		100%			

LEGEND		
	Student Accomodation	19,196.7 m <sup>2</sup> GFA (SLEP 2005)
	Additional UTS Teaching Space	5,130.3 m <sup>2</sup> GFA (SLEP 2005)

Level 2 AREAS		
Level 2 Accommodation Operational Services		592.0m <sup>2</sup> GFA (SLEP 2005)
Level 2 Café Space		213.7m <sup>2</sup> GFA (SLEP 2005)

The Calculated FSR Based on the total GFA Figure is:

Site Area	5102 m <sup>2</sup>
FSR (based on SLEP 2005 GFA definition)	8:1

NOTE: Areas are approximate only and subject to future design development



