

SCEGGS Darlinghurst

Masterplan 2040

State Significant
Development Application
(SSD 893)

Architectural Design Report:
Response to Submissions

Prepared for



SCEGGS Darlinghurst

Rev A
August 2019
Project No. 16 0441

Tanner Kibble Denton Architects Pty Ltd
ABN 77 001 209 392

NSW Nominated Architects
Robert Denton Registration No 5782
Alex Kibble Registration No 6015

Level 1, 19 Foster Street, Surry Hills NSW 2010 Australia
T +61 2 9281 4399
F +61 2 9281 4337
www.tkda.com.au



Contents

A	Introduction	1	D	Multi Purpose Building	69
1	Introduction	2	1	Design Proposal	70
2	SCEGGS Educational Values	3	2	Key Built Form Issues Raised	70
3	The Need for the Development of the SCEGGS Campus 2	3	3	Proposed Design Changes	70
4	Summary of Submission Comments	5	4	Visual Analysis	72
			5	Height Limit	76
B	Wilkinson House	6	6	Bourke Street Streetscape	78
1	Wilkinson House and Learning Needs	7	7	Overshadowing	81
2	Existing Wilkinson House Issues	8	8	Privacy and Overlooking	83
3	Existing Wilkinson House Conclusion	11	9	Multi Purpose Building Conclusion	84
4	Wilkinson House Redevelopment	12			
5	Wilkinson House Options Analysis	12	E	Conclusion	85
5.1	Wilkinson House Options Analysis Criteria	13	1	Conclusion	86
5.2	BCA and Access	14			
5.3	Thermal Performance	16			
5.4	Daylight	17			
5.5	Views, Privacy and Acoustics	18			
5.6	Ventilation	19			
5.7	Floor to Ceiling Heights	20			
5.8	Functionality	21			
5.9	Buildability and Loss of Area	23			
5.10	Education	26			
6	Contemporary Educational Building Design	27			
7	SCEGGS Learning Requirements	30			
8	Streetscape and Context	36			
9	Design Excellence	38			
9.1	Materials and Finishes	38			
9.2	Wilkinson House Design Aesthetic	38			
9.3	Facade Composition	39			
9.4	Facade Design and Detail	40			
10	Proposed Design Change	44			
11	ESD and Energy Efficiency	45			
11.1	Ecological Sustainable Development	45			
11.2	Energy Efficiency	45			
11.3	Environmental Design	45			
11.4	Natural Light	47			
12	The Public Domain	48			
13	Wilkinson House Conclusion	52			
C	Administration Building	53			
1	Design Proposal	54			
2	Removal of Ad Hoc Additions	55			
3	New Administration Building	58			
4	Bulk, Scale and Streetscape	59			
5	Proposed Design Change	59			
6	Barham Setting and Site Lines	60			
7	Restoration of Barham	63			
8	Revised Entry and Landscape Setting	66			
9	Administration Building Conclusion	68			

Document/Status Register				
Issue	Date	Purpose	Written	Approved
P1	18/07/19	Preliminary Issue	IB	RD
P2	15/08/19	Preliminary Issue	IB	RD
A	26/09/19	ISSUE FOR SSD RtS	IB	RD
A	18/10/19	ISSUE FOR SSD RtS	IB	RD

A Introduction

A Introduction

1 Introduction

This Architectural Design Statement – Response to Submissions has been prepared for SCEGGS Darlinghurst by Tanner Kibble Denton Architects.

SCEGGS Darlinghurst submitted a State Significant Development Application (SSD 8993) to the NSW Department of Planning and Environment (DPE) in February 2019 proposing the SCEGGS Darlinghurst Masterplan 2040. Following exhibition and notification of SSD 8993, the DPE issued a Response to Submissions (RtS) letter dated 12 April 2019.

Submissions were received from Government agencies and the public. In addition, the NSW Department of Planning & Environment also undertook a preliminary assessment of the EIS and requested that matters raised by them be addressed.

The Masterplan is a holistic approach to the long term planning of the schools future facilities needs. There are three main components to the Masterplan which have received comment in the RTS. This response to submission is divided into three sections and provides a separate response to each of these components:

- A. Wilkinson House
- B. Administration Building
- C. Multi-Purpose Building

In accordance with clause 85A of the Environmental Planning and Assessment Regulation 2000, the Applicant is required to respond to all issues raised and where necessary revise the submission documents.

SCEGGS Darlinghurst have provided additional information for each of the masterplan components and proposed some design amendments in order to address the issues and concerns raised.

SCEGGS Darlinghurst are committed to working with all neighbours and interested parties to finalise a desirable outcome that is appropriate for its urban context and that does not adversely impact neighbours or the Darlinghurst locality.

This Architectural Design Statement responds to the key built form design issues raised and outlines where the design has been amended in response.

Introduction

2 SCEGGS Educational Values

SCEGGS Darlinghurst provides their students with an education as a foundation for life-long learning and the opportunity to realise their potential. The Schools aspires for their students to be confident, articulate, resilient young women, ready to take their place in an ever-changing world.

SCEGGS Darlinghurst is an inner city, non-selective school, educating within the context of Christian values. The School emphasises the worth of the individual, personal integrity and social responsibility.

The interdependent and essential elements of a SCEGGS education include:

- A broad, rigorous curriculum
- A diverse co-curricular program
- Leadership opportunities
- An integrated, inclusive pastoral program

The learning experiences and adventures arising within these programs help to equip the girls with the essential set of values, skills and knowledge to achieve their goals and face the challenges beyond school.

The SCEGGS philosophy is to ensure that academic curriculum:

- Maintains strong academic traditions and high expectations and standards
- Values learning in all subjects
- Provides a balance between practical and theoretical subjects

SCEGGS Darlinghurst staff work in partnership with students and their parents to foster capable and flexible learners who are skilled communicators, open-minded, independent and able to reflect critically on society and its values.

It is therefore critical that SCEGGS are able to continue to develop their facilities to support and facilitate these aspirations. The provision of a high quality and secure learning environment is central to meeting the requirements of the curriculum and to supporting the educational experience for the girls.

The SCEGGS 2040 masterplan has been developed in close consultation with representatives of the School Board and the School Executive responsible for curriculum development. The 2040 masterplan will ensure that SCEGGS have an established long term plan for providing high quality facilities which support the school's education values.

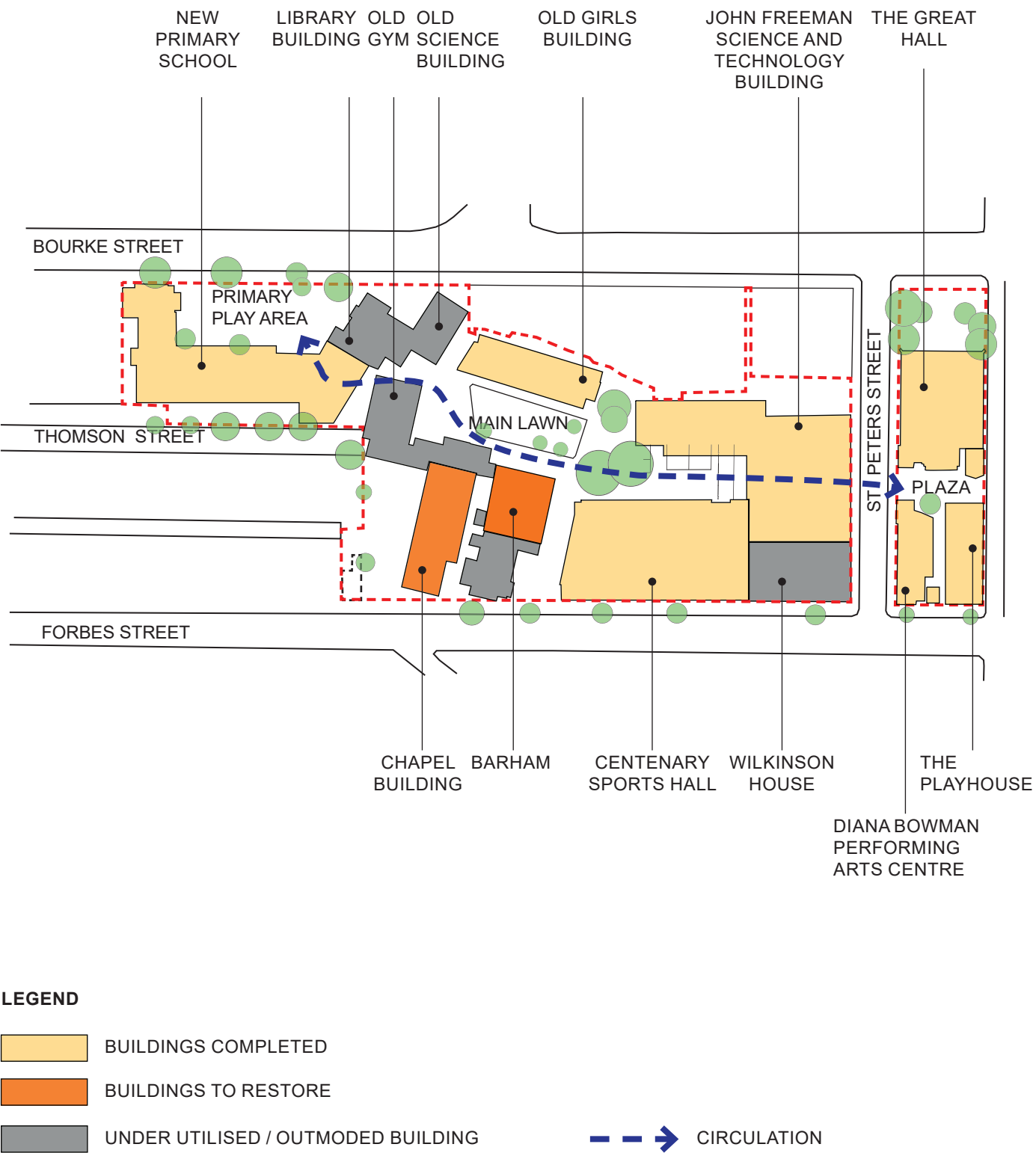
3 The Need for the Development of the SCEGGS Campus

SCEGGS established their school campus in Darlinghurst in 1901. Since these early beginnings the campus has developed and evolved with new buildings and the acquisition of new parcels of land, to meet with the school's growth in student numbers and changing educational needs. By the end of the 20th century, most of the schools development appears to have been a reaction to this expansion without a wholistic approach to campus planning. The campus layout had developed within the context of a relatively constrained site, (part of which had been a rock quarry) with difficult and complex topography and in a suburb that had evolved into a close grained and congested urban area on the fringe of the CBD. The resulting campus buildings, were in many cases, not aligned to each other, had floor levels which did not align with floors of adjacent buildings and were repurposed buildings or ad hoc additions to earlier buildings.

The Schools 2020 Masterplan developed in 1999 and endorsed by City of Sydney Council, may have been the first major step in the school's history which considered long term planning of the current site. The 2020 Masterplan envisaged the renewal of 6 early outmoded school buildings, the reordering of the urban context of the campus including the establishment of the main 'school street' circulation spine. The final component of the 2020 Masterplan was the Joan Freeman Science and Technology building which was completed in 2016.

This 2040 Masterplan follows from the 2020 Masterplan and addresses the three remaining outmoded buildings on the campus to the extent that the completion of the Masterplan will realise the total renewal and upgrading of every building on the campus to contemporary standards for the next generation of SCEGGS girls.

The 2040 Masterplan recognises that the school's aspirations for providing a high quality education must be supported by space that meets with the curriculum and the most up-to-date learning facilities. A quality learning environment will not only support the learning activities but will be appropriated as a learning tool by the staff and students. The relatively small site area and the physical constraints of the SCEGGS site, where space is at a premium, make it critical for SCEGGS Darlinghurst to utilise every available space to its maximum efficiency and effectiveness. Not utilising this space effectively can result in not providing adequate learning spaces that meet contemporary learning requirements



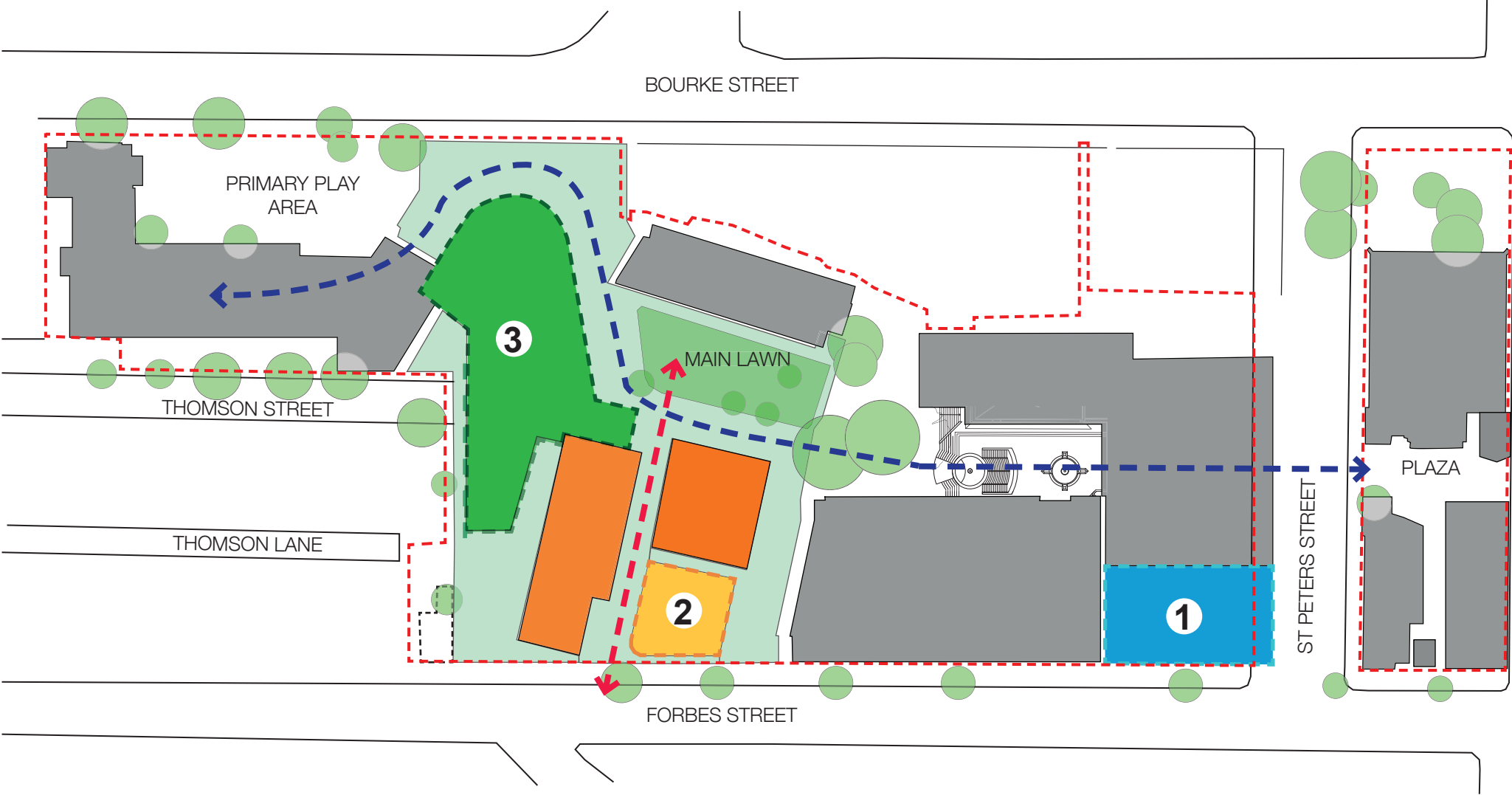
Introduction

and impact the schools ability to deliver a high level education.

The 2040 Masterplan therefore focuses on the three remaining sites where key space is not able to support the school's mission;

- 1 Wilkinson House – Completed in 1928 as a residential flat building which, typical of the period, is comprised of small spaces and narrow passageways and is constructed of loadbearing masonry and timber construction. This building is not suitable for use as an educational facility and is not readily able to be adapted for educational purposes.
- 2 The Administration Building - The 1900 - 1930s eastern extension, to Barham is an unsympathetic extension constructed for much different educational needs, is outmoded, of poor construction quality and not appropriate as a component of the schools core administration facilities and the main point of entry to the campus.
- 3 The Multi-Purpose Building – will provide a broad floor plate for flexible learning areas. The Multi-Purpose Building will replace the outmoded Science and Library Building which comprises of separate towers comprising of a stack of single classrooms, with floor levels that don't align and a building form not aligned to the street. It will also replace the Old Gymnasium which has been altered through a range of ad hoc, unsympathetic additions.

As noted above the development of these sites is essential for the sustainability of the school as a leading educator of girls. The recent changes in the tertiary and the working environment require SCEGGS to continue to adapt and evolve the campus to ensure that the school supports a 'future focused learning environment' and an environment which supports their educational mission and values.



LEGEND

NEW BUILDING

RESTORED BUILDINGS

REVITALISED LANDSCAPE SPACE

Introduction

4 Summary of Submission Comments

The following is a summary of the key issues raised by NSW Department of Planning related to built form and urban context.



Image: Previously submitted Wilkinson House

Wilkinson House

- > Demonstrate Option C is the most appropriate solution



Image: Previously submitted Administration Building

Administration Building

- > Bulk and scale
- > Street Alignment
- > Views of Barham from Forbes Street



Image: Previously submitted Multi Purpose Building

Multi Purpose Building

- > Bulk and scale
- > Height
- > Setbacks to the boundary and street
- > Views
- > Overshadowing

B Wilkinson House



B Wilkinson House

1 Wilkinson House and Learning Needs

The Masterplan has identified that SCEGGS Darlinghurst generally suffers from a lack of adequately sized large flexible General Learning Spaces across the campus.

Of the School's 30 learning spaces provided for secondary students, only 12 learning spaces are over 60m² and able to adequately accommodate a full classroom size.

By way of comparison, the NSW Department of Education provides a minimum of 20 General Learning Spaces of 60m² for a school of an equivalent size (4 stream).

Presently, Wilkinson House accommodates five learning spaces varying in size from 41m² to 57m². These are deficient when assessed against the NSW Department of Education minimum classroom size of 60m².

Originally constructed in 1928 as a block of flats, the three storey building was adapted by SCEGGS for staff and classroom use in 2001.

Because the learning spaces in Wilkinson House are undersized, they present challenges in accommodating a full-size class group. This limits what subjects the school can use these spaces for, limits timetable flexibility and they are not able to be fully utilised. In practice, only the larger four are of a suitable size for use as general purpose classrooms; in 2018, their average occupancy rate was 80%.

These learning spaces are poorly shaped for learning and inefficient due to the adaption of existing spaces. Small rooms and pokey areas do not allow uninterrupted sight lines and do not meet contemporary space requirements for child protection. The smallest learning rooms do not permit collaborative learning classes.

Further, the staff and learning areas generally are deficient with regard to thermal comfort, acoustics and provision of fresh air. Access to and within the building is severely compromised by narrow corridors, a narrow stair and changes in level.

The School's experience from using Wilkinson House since 2001 is that the learning spaces do not work well, are difficult to access and are not conducive to learning spaces. These spaces are not inspirational and the least desirable spaces in the school for learning. These spaces do not meet the school's requirements to provide high quality, contemporary flexible learning spaces.



Existing apartments on Level 2 of Wilkinson House were adapted in 2001 to create new learning spaces. Learning spaces are generally undersized, poorly shaped, lack flexibility and lack natural light.



Misaligned floor levels to access Wilkinson House result in convoluted access and a series of narrow ramps.



Access within Wilkinson House is via a narrow circulation stair (900mm) that does not cater for the volume of students moving between classes and results in a bottleneck.



The main entry and foyer from Forbes Street incorporate a number of steps and level changes that do not allow disabled access through the main entry of the building. Access throughout the building does not meet contemporary requirements.

Existing Wilkinson House

2 Existing Wilkinson House Issues

Learning Spaces

- 1
- The existing building contains 5 primary learning spaces ranging in size from 41m² to 57m² on Level 2.
- 2
- The existing learning spaces are generally undersized for the school's requirements and are not able to be fully utilised, noting that the NSW Department of Education minimum classroom size is 60m².
- 3
- The existing learning spaces are not inspirational and do not meet the requirements of larger flexible, collaborative learning spaces.
- 4
- Learning spaces are poorly shaped for learning with comparatively low ceilings, and are inefficient due to the adaption of existing spaces.
- 5
- Small rooms and pokey areas allow for concealment and do not meet contemporary space requirements for child protection.

General Circulation and Functionality

- 6
- The main stair access is central to the building and away from thoroughfares connecting other buildings.
- 7
- Narrow corridors create congestion during peak periods and do not provide adequate area to wait before class. Internal circulation has no ventilation, natural light or views.
- 8
- Existing floor levels do not align with adjacent buildings negating opportunity for future expansion and requiring a convoluted series of ramps for access.
- 9
- The main entry opening directly onto the street is an unacceptable security risk and the entry is locked and not able to be used.

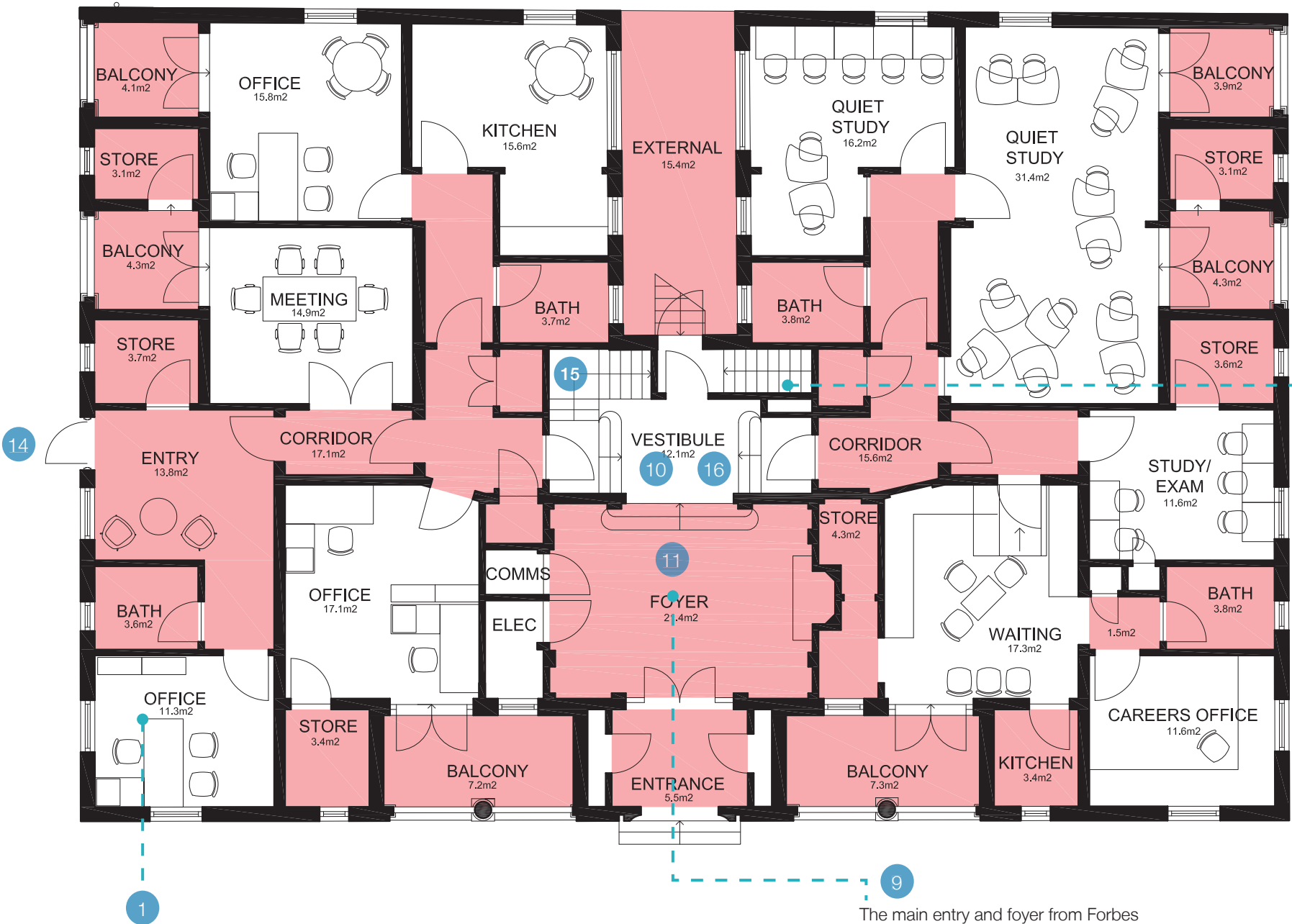
BCA

- 10
- Egress width through the main stair is only 900mm, compared to the BCA minimum requirement of 1000mm for egress.
- 11
- The balustrade to the main circulation stair is only 950mm high, compared to the BCA minimum requirement of 1000mm minimum for safety.

Access

- 12
- The original main entry and foyer from Forbes Street incorporates a number of steps and level changes that do not allow disabled access and this entry is not used.
- 13
- Access to Wilkinson House is via an arrangement of narrow ramps between Wilkinson House south facade and the Centenary Sports Hall on each level and wayfinding is not clear.
- 14
- Entry into Wilkinson House is via a narrow side entry door that has been introduced on each level.
- 15
- Access within Wilkinson House is via narrow corridors and a narrow stair that do not properly cater for the volume of students moving between classes or two-way circulation and results in bottlenecks. The main stair is 900mm wide.
- 16
- The main circulation stair does not incorporate compliant handrails, contrasting nosings and tactile indicators.

Originally constructed in 1928 as a block of flats, spaces within the existing building generally consist of a 'rabbit warren' of small, pokey spaces that are inadequate for a contemporary learning facility.



- 12
- Access is via a narrow circulation stair (900mm) that does not cater for the volume of students moving between classes and results in bottlenecks

- 9
- The main entry and foyer from Forbes Street incorporate a number of steps and level changes that do not allow disabled access through the main entry of the building

Existing Wilkinson House

- 17
- Door clear opening widths are less than 850mm and circulation space around doors does not comply.
- 18
- The building does not have a passenger lift or accessible amenities.

Structural

- 19
- Wilkinson House is a load bearing masonry building with timber framed floors and roof structure. The central circulation stair and external balconies are constructed out of concrete.
- 20
- The current load bearing masonry and timber floor structure does not meet current standards for earthquake loads.

Natural Light, Ventilation and Views

- 21
- The existing small windows provide low levels of natural light.
- 22
- The existing windows provide low levels of natural ventilation (3.3%) which is below BCA 5% minimum.

Services

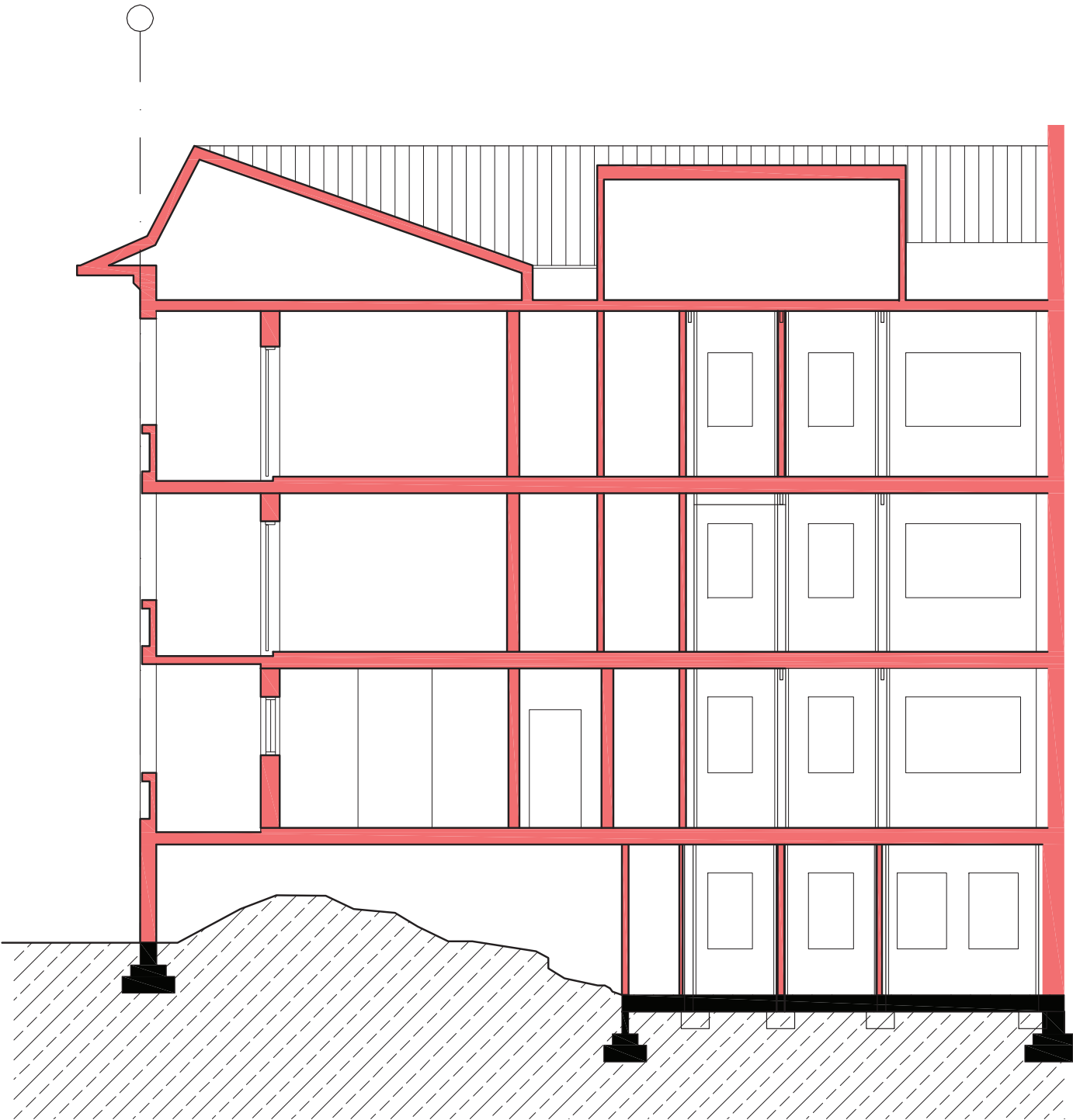
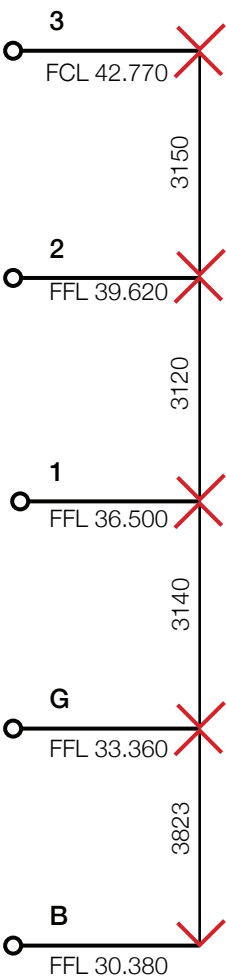
- 23
- Spaces within the building rely on the existing arrangement of natural ventilation, ceiling fans and wall mounted electric heaters for conditioning of spaces which are inefficient and inadequate to properly condition the spaces.

Energy Performance

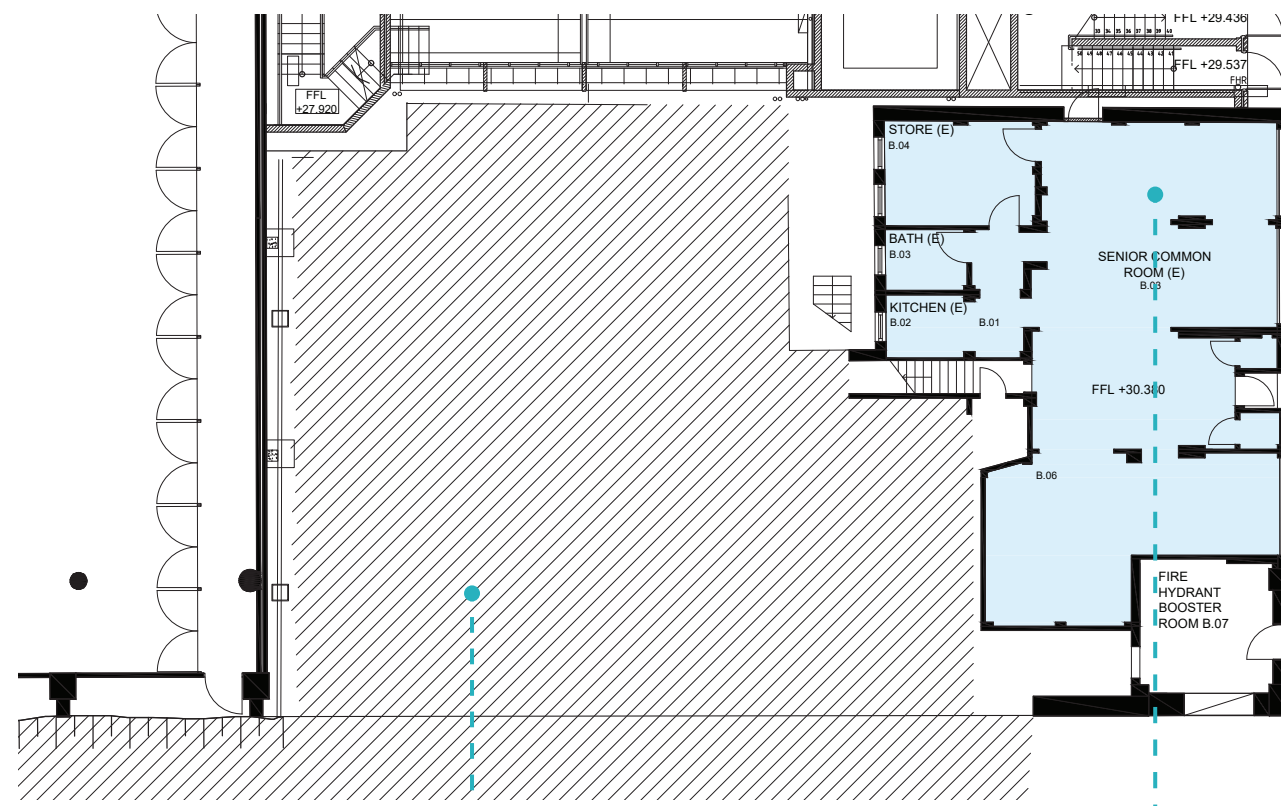
- 24
- The existing masonry facade is poorly insulated and has a poor thermal performance, resulting in higher levels of energy required for heating and cooling.
- 25
- Existing glazing is lower performance resulting in higher levels of heat gain and heat loss through windows.

Acoustics

- 26
- The existing timber floor provides poor acoustic separation between spaces.
- 27
- Foot traffic noise on timber floor resonates to spaces below.



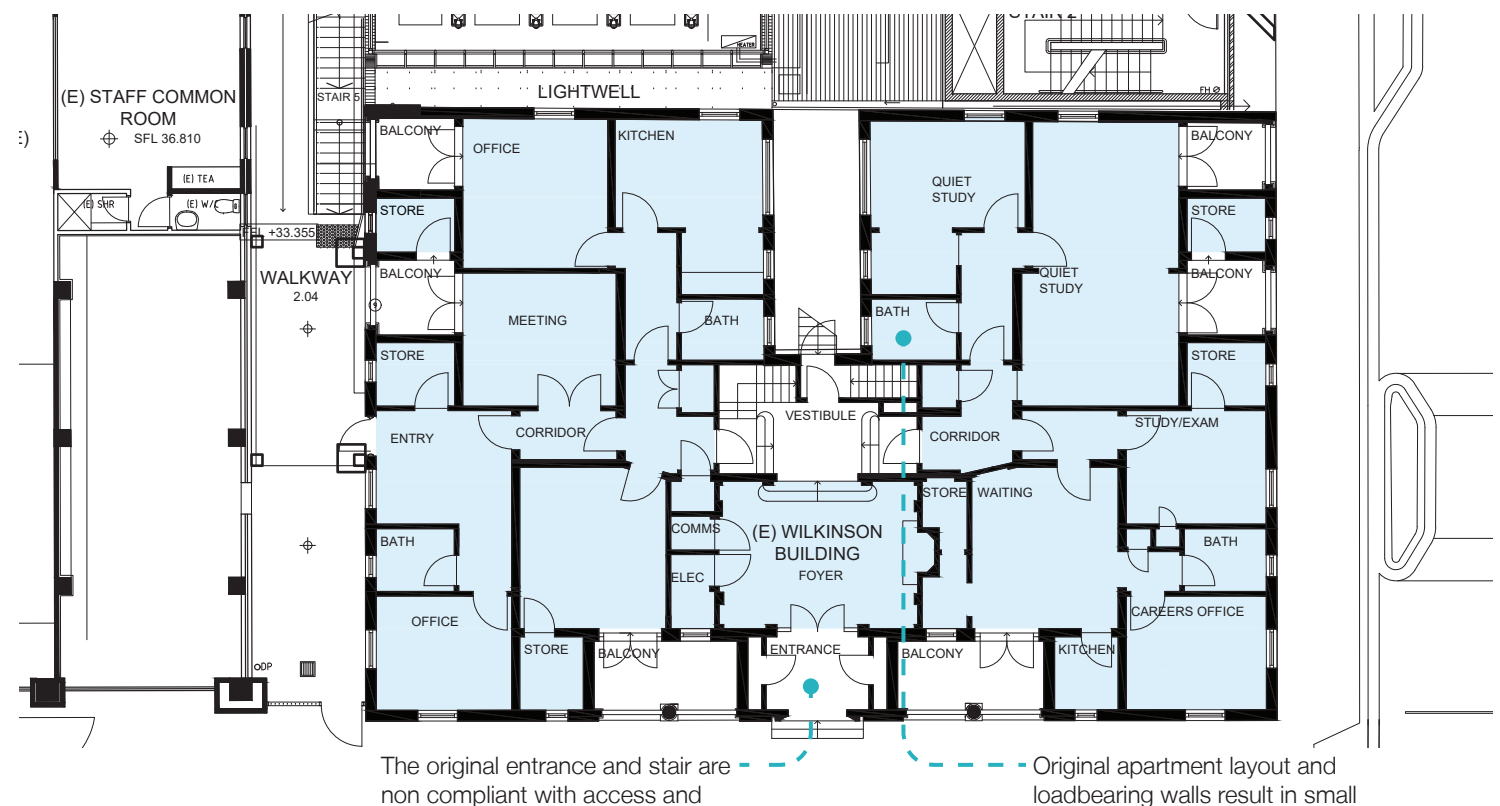
Existing Wilkinson House



Existing Basement Floor Plan

Extent of basement potential not utilised

Small largely unusable basement floor area with no natural light



Existing Ground Floor Plan

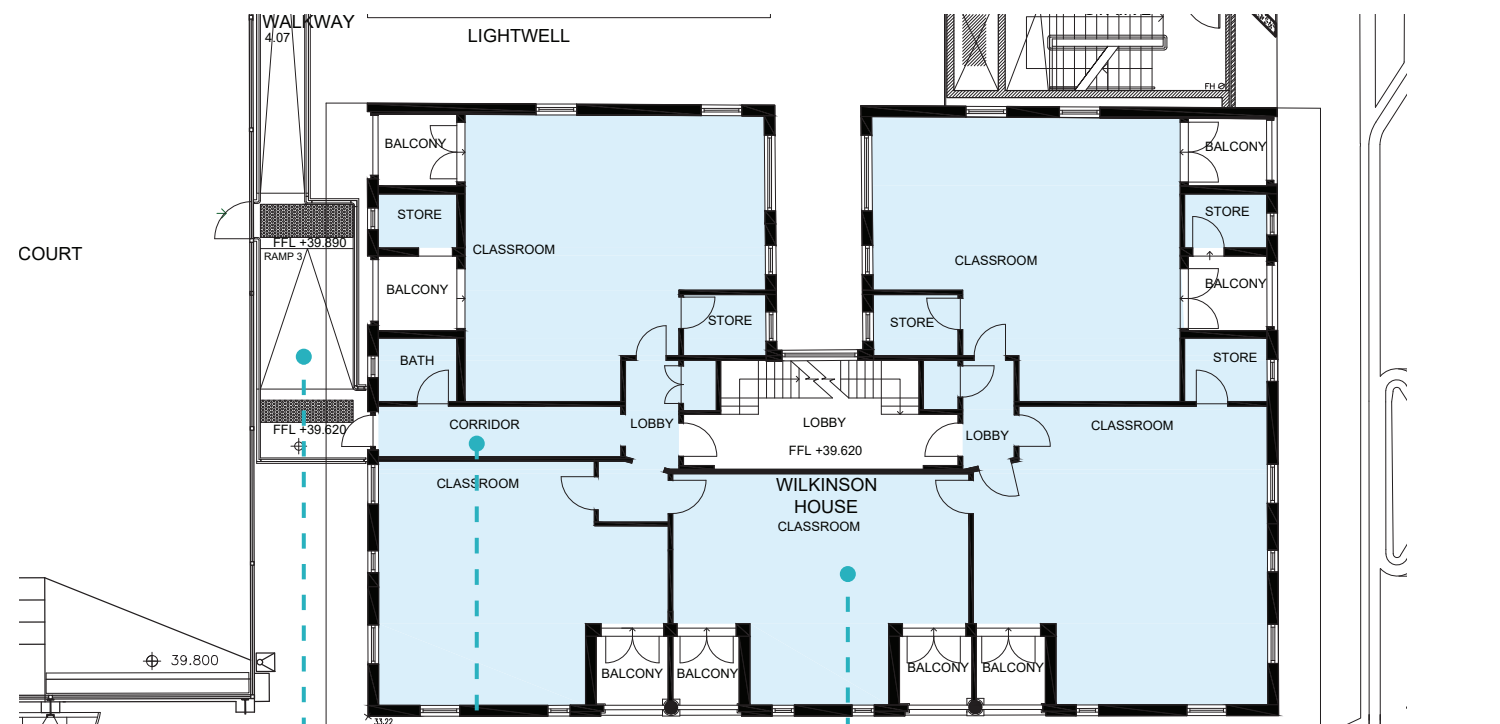
The original entrance and stair are non compliant with access and safety requirements. The Forbes street entrance is a high security risk for the school.

Original apartment layout and loadbearing walls result in small spaces largely unsuitable for contemporary learning spaces



Existing 1st Floor Plan

The original narrow staircase and low height balustrades are non compliant resulting in an unacceptable safety risk



Existing 2nd Floor Plan

Access to the Wilkinson House is via a series of narrow ramps and corridors resulting in a convoluted circulation route, connecting each floor level of the building to the wider school campus

Undersized, inadequate existing learning spaces do not meet contemporary learning and child protection requirements

Existing Wilkinson House

3 Existing Wilkinson House Conclusions

The school's experience from adapting and using Wilkinson House since 2001 is that the existing learning facilities are inadequate, undersized and do not meet the School's requirements for contemporary learning and meeting spaces. The existing building also raises a number of safety and compliance concerns which must be addressed.

Not adapting the existing facilities is therefore not seen as an option for the school.

Options Analysis

4 Wilkinson House Redevelopment

In order to meet the school's learning facility requirements, the school proposes to redevelop Wilkinson House to provide larger flexible spaces for learning and meeting.

The proposed redeveloped Wilkinson House accommodates:

- > Large flexible learning spaces (75m² and larger).
- > Large flat flexible multi-purpose space suitable for meetings, music and drama rehearsals, examinations, etc.
- > Larger flexible learning space connected to the Centenary Sports Hall to accommodate ancillary sporting activities and functions.
- > Existing administrative functions.

5 Wilkinson House Options Analysis

The State Significant Development Application for Wilkinson House included an Options Analysis. This study was prepared in order to consider and assess options for redeveloping the site to meet contemporary learning standards.

Three broad options were developed that represent the range of possible alternatives for redeveloping Wilkinson House in accordance with the School's requirements for contemporary learning spaces:

- > Option A: Refurbishment of Wilkinson House
- > Option B: Redeveloping the building with the principal façades retained
- > Option C: Replacing Wilkinson House with a new building

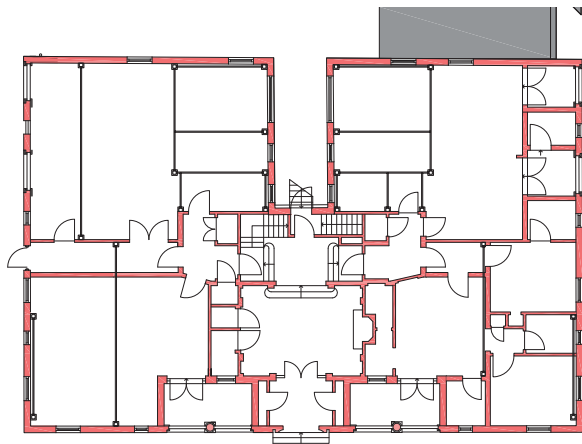
Refer to the Wilkinson House Options Analysis (Rev A) for a detailed description of each option.

The Options Analysis concludes that the 'replacement of Wilkinson House with a new building provides the optimum solution for redeveloping the site to meet the School's educational requirements and continued use of the site'.

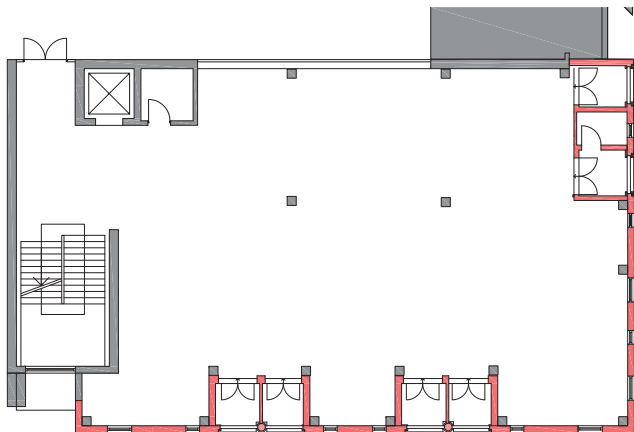
Therefore, Option C was the option included with the Development Application Submission.

The NSW Department of Planning has requested additional information demonstrating that Option C provides the most appropriate solution given the heritage constraints of the site. This information is outlined in the following pages.

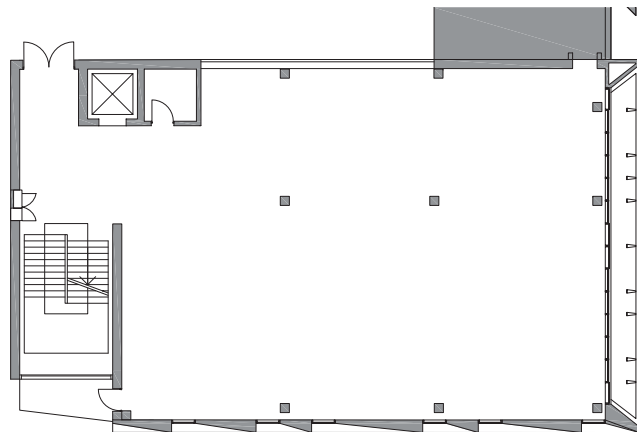
Option A



Option B



Option C



Options Analysis

5.1 Wilkinson House Comparison Criteria

The following pages provide a side by side comparison summary, comparing the 3 options considered for the redevelopment of Wilkinson house against the following criteria:

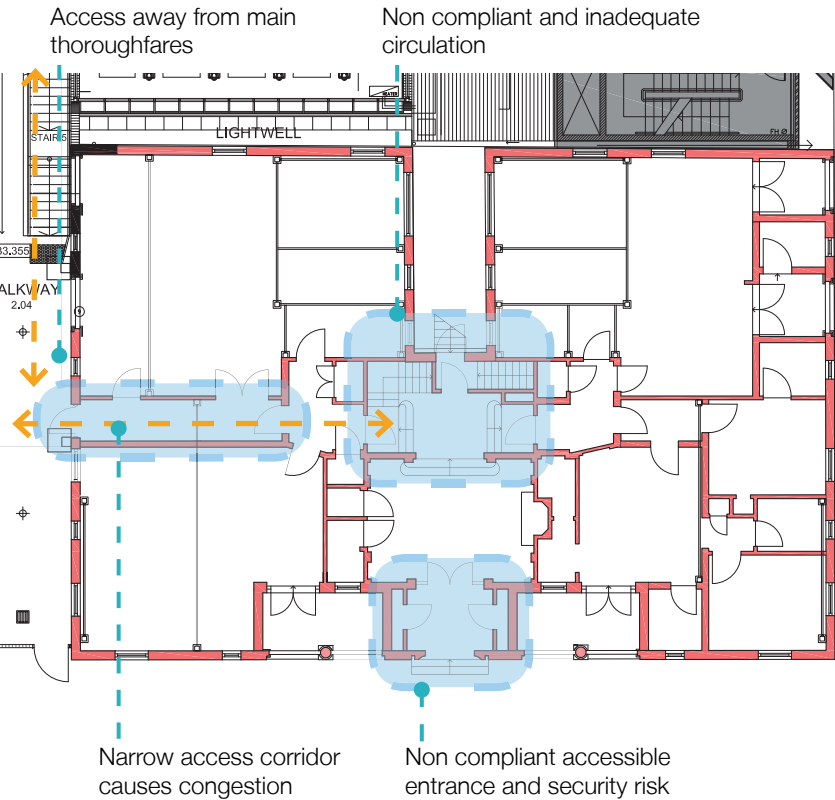
- > BCA and Access
- > Thermal Performance
- > Daylight
- > Views, Privacy and Acoustics
- > Ventilation
- > Floor to Ceiling Heights
- > Functionality
- > Buildability and Loss of Area
- > Education

Options Analysis

5.2 BCA and Access

Option A

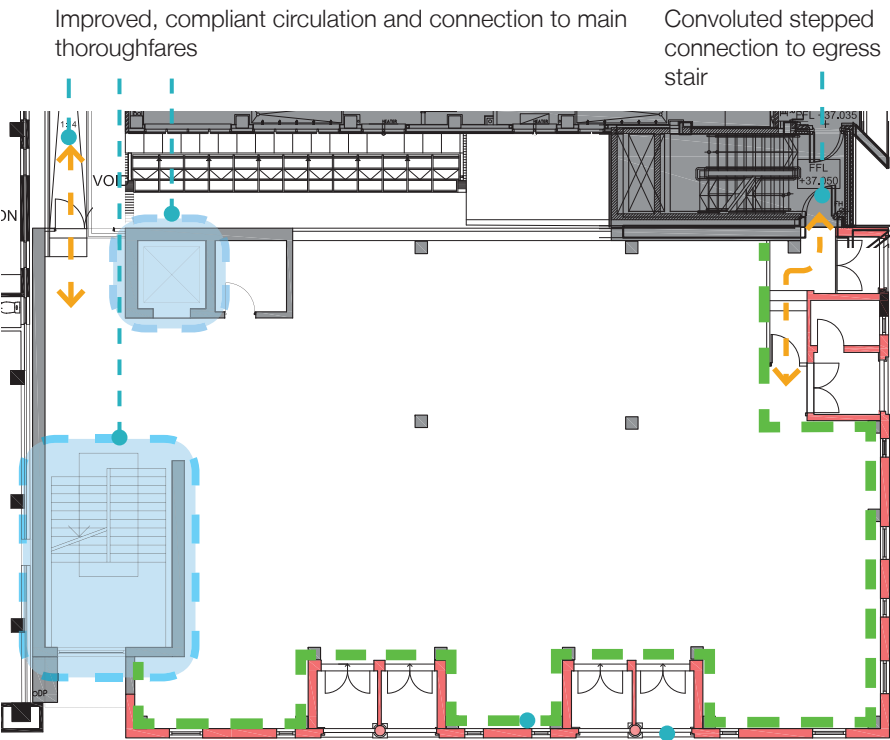
- > Egress width through the main stair is non compliant, below the BCA minimum requirement of 1000mm for egress
- > The balustrade height to the main circulation stair is non compliant, below the BCA minimum requirement of 1000mm for safety.
- > The main circulation stair does not incorporate compliant handrails, contrasting nosings and tactile indicators.
- > The original main entry and foyer from Forbes Street incorporates a number of steps and level changes that do not allow disabled access and this entry is not used.
- > Small windows result in non compliant natural ventilation due to the open area of windows being below the BCA 5% minimum.
- > Access to Wilkinson House from the school's thoroughfare is via a narrow network of ramps due to the difference in floor levels to adjacent buildings, creating congested passageways
- > Access to Wilkinson House is via a narrow side entry door, narrow corridors and a narrow stair that do not properly cater for the volume of students moving between classes or two-way circulation and result in bottlenecks.
- > Door clear opening widths are less than 850mm and circulation space around doors does not comply.
- > The building does not have a passenger lift or accessible amenities



Option A Floor Plan

Option B

- > The existing floor to floor heights remain in order to relate to the existing facade and balcony levels. As a result, the convoluted series of connecting ramps from Wilkinson House into the adjacent Joan Freeman building are retained.
- > Retained balcony balustrade heights at upper levels are 920mm, which is lower than EFSG required height of 1300mm required for first floor balustrade.
- > The window sill height of the second storey windows is 920mm, which is lower than the EFSG required height of 1200mm required for second storey windows.
- > The glazing to these windows is not grade A safety glass.
- > The existing poorly performing facades will require an additional insulated interal wall around the perimeter further reducing useable area
- > The retained small windows result in non compliant natural ventilation due to the open area of windows being below the BCA 5% minimum.
- > The introduction of the lift improves accessibility within Wilkinson House



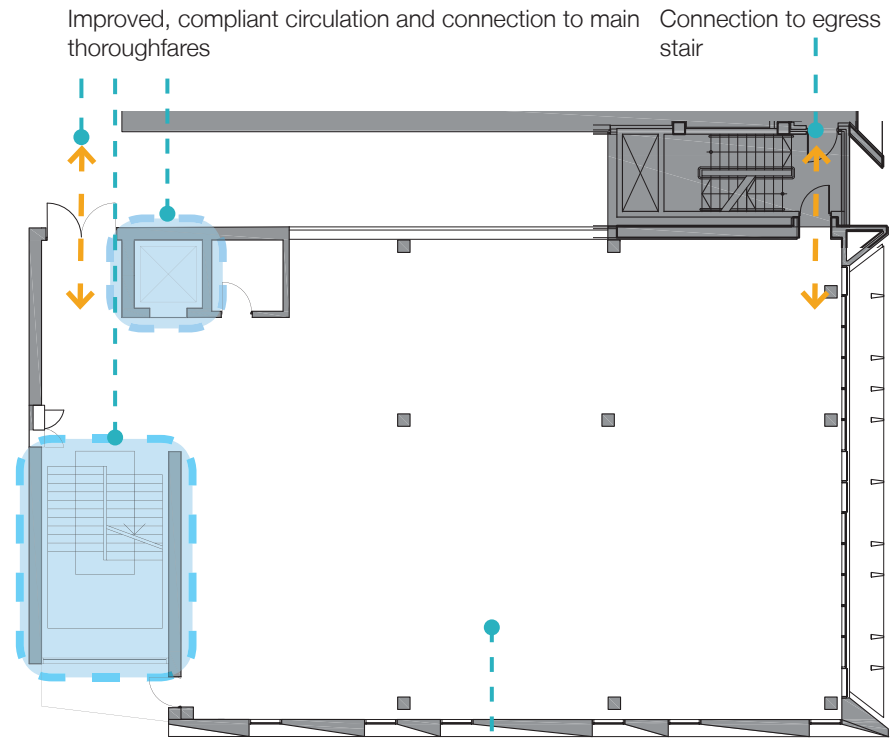
The existing facade requires an additional insulated wall behind the existing facade to comply with the BCA, resulting in a loss of floor area

Balustrades non compliant with Government EFSG

Option B Floor Plan

Option C

- > The new building will be designed to meet current BCA and Australian Standard requirements.
- > The new building will be fully accessible to meet current standards and will provide adequate means of pedestrian circulation throughout the building.
- > The new building will have lift access and accessible amenities.
- > The new building will be designed to have fully compliant levels of natural light, ventilation and thermal performance to meet requirements within the BCA and Australian Standards.



Fully compliant for BCA and Access

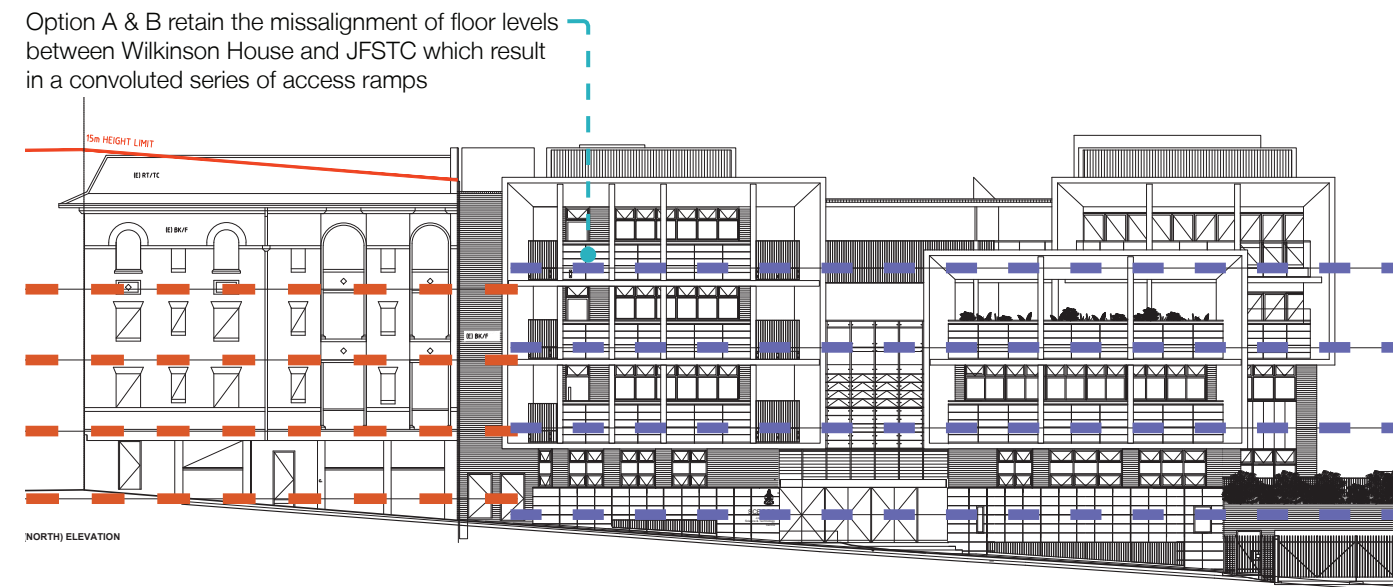
Option C Floor Plan

Options Analysis

5.2 BCA and Access

Option A & B

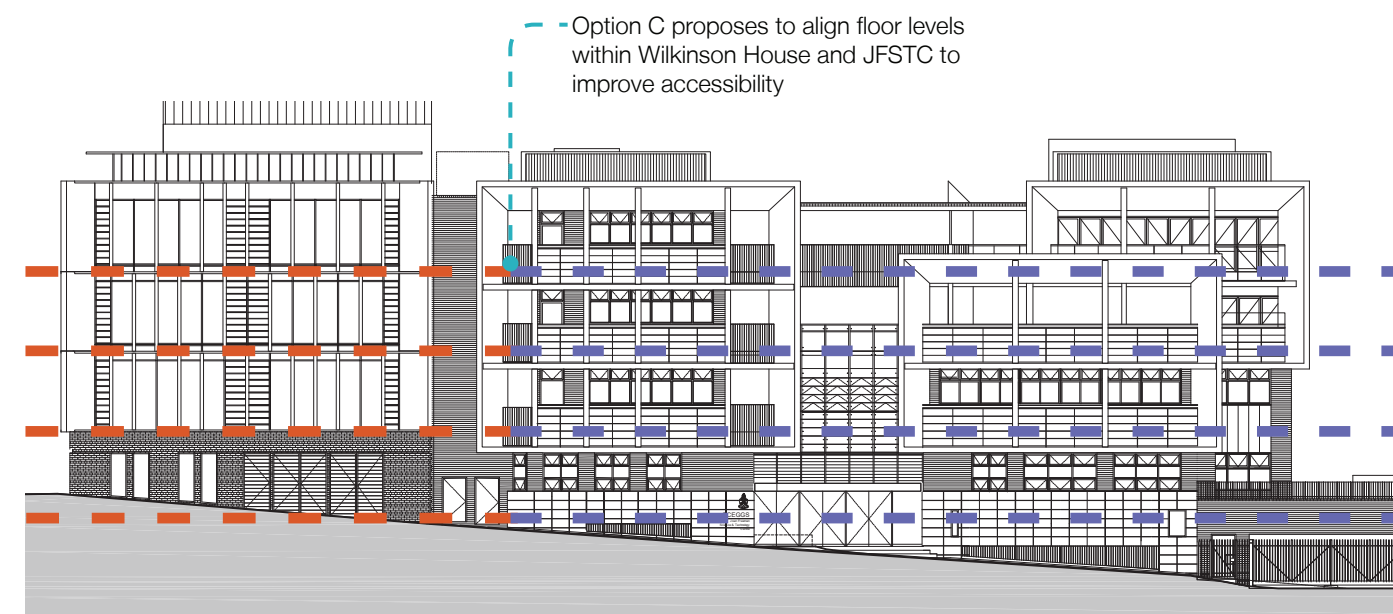
- > The existing floor levels are retained in order to relate to the retained facade and balcony levels. As a result, the existing convoluted series of connecting ramps from Wilkinson House into the adjacent Joan Freeman building is retained.



Option A & B Elevation

Option C

- > Option C proposes to align floor levels with the Existing Joan Freeman building, resulting in improved access to Wilkinson House, creates new connections to the Centenary Sports Centre and allows greater flexibility offering the potential for greater connections to the Joan Freeman Building.



Option C Elevation

Options Analysis

5.4 Daylight

Option A

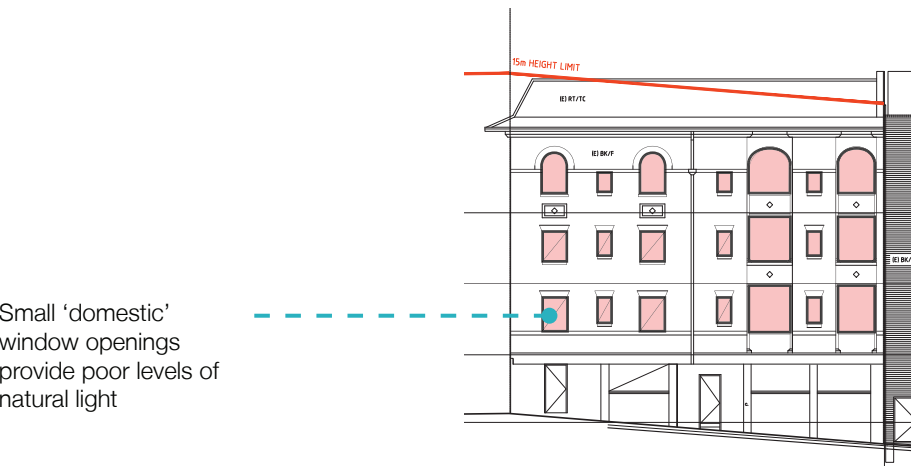
- > Originally designed as an apartment building consisting of a series of smaller residential spaces, the existing windows are of domestic proportions.
- > The existing small windows provide low levels of natural light
- > Daylight to internal spaces is therefore limited to only 26% of the nominated learning areas
- > Lack of solar shading to the windows results in the blinds on windows being closed as a result of solar heat gain and solar glare

Option B

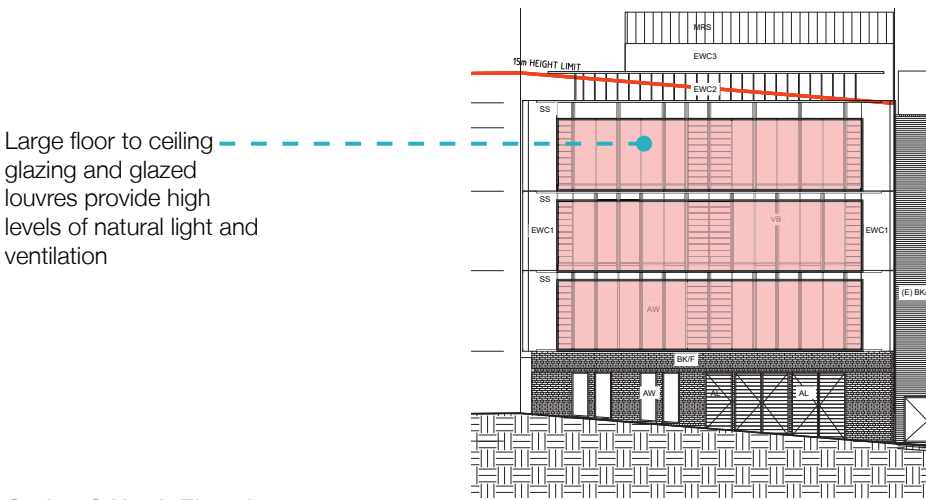
- > Retention of the existing facade results in the issue raised in Option A remaining in Option B
- > Originally designed as an apartment building consisting of a series of smaller residential spaces, the existing windows are of domestic proportions.
- > The existing small windows provide low levels of natural light
- > Daylight to internal spaces is therefore limited to only 26% of the nominated learning areas
- > Lack of solar shading to the windows results in the blinds on windows being closed as a result of solar heat gain and solar glare

Option C

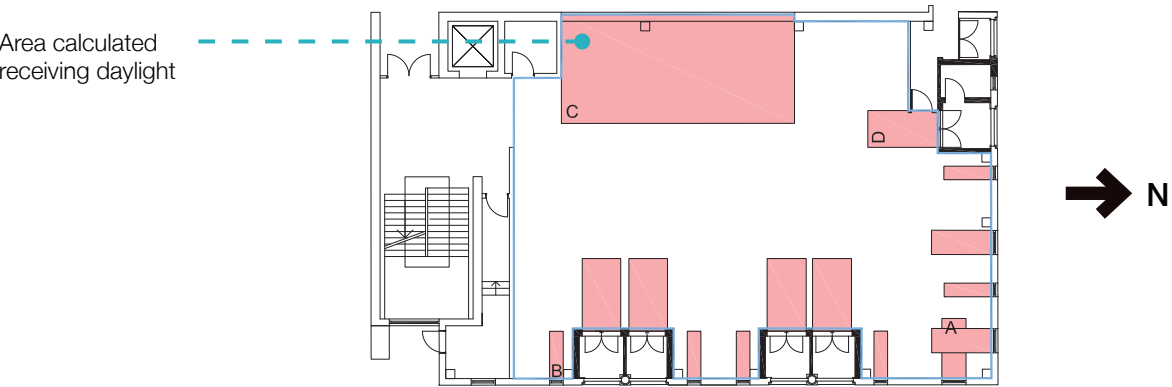
- > Option C provides high levels of daylight to 46% of the nominated area, an increase in 77% from option B and C.
- > Deep horizontal sunshades and vertical louvre blades protect the northern facade from solar heat gain and solar glare, allowing blinds to remain open
- > Windows consist of full height glazing allowing daylight to penetrate deep into the building
- > Glazing to the northern facade is maximised to make the most of the views towards the harbour and city, while the eastern glazing to the eastern facade is limited to provide privacy to the neighbouring residential buildings, while also providing sufficient daylight to spaces
- > High performance double glazing is proposed to be used throughout, maximising thermal performance, limiting solar gain and glare to provide the required thermal comfort to all areas



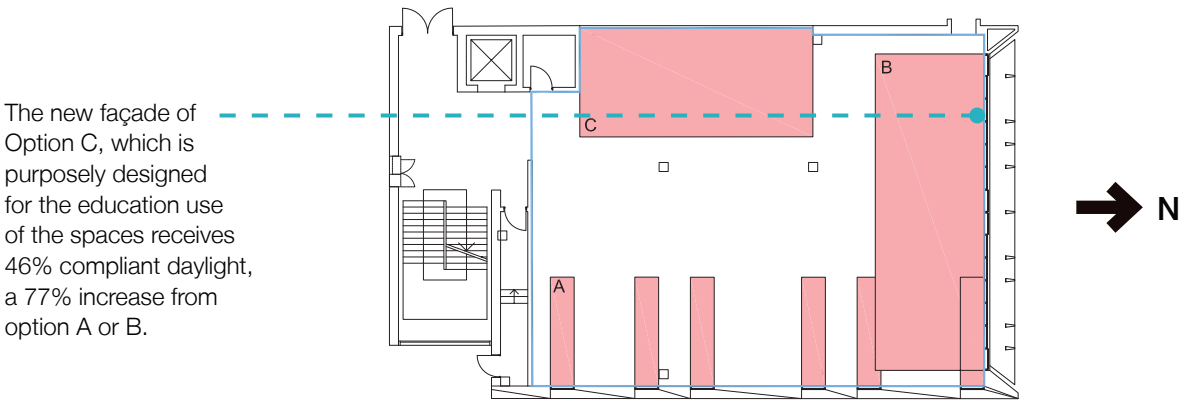
Option A & B North Elevation



Option C North Elevation



Option B First Floor Plan Green Star Daylight Diagram



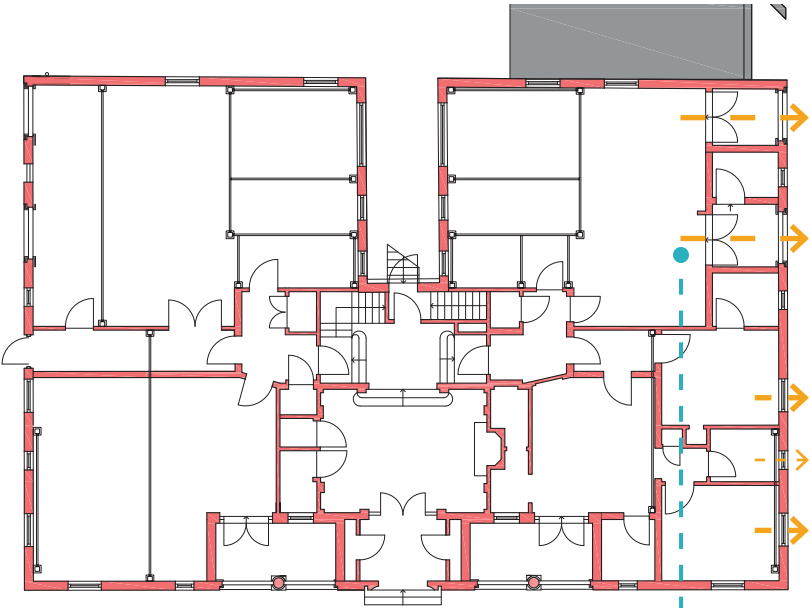
Option C First Floor Plan Green Star Daylight Diagram

Options Analysis

5.5 Views, Privacy and Acoustics

Option A

- > Views towards the city and harbour to the north are limited to internal spaces due to the small window proportions and restrictions to the internal layout
- > The existing timber floor structure provides poor acoustic separation between spaces
- > Foot traffic noise on timber floors resonate to spaces below

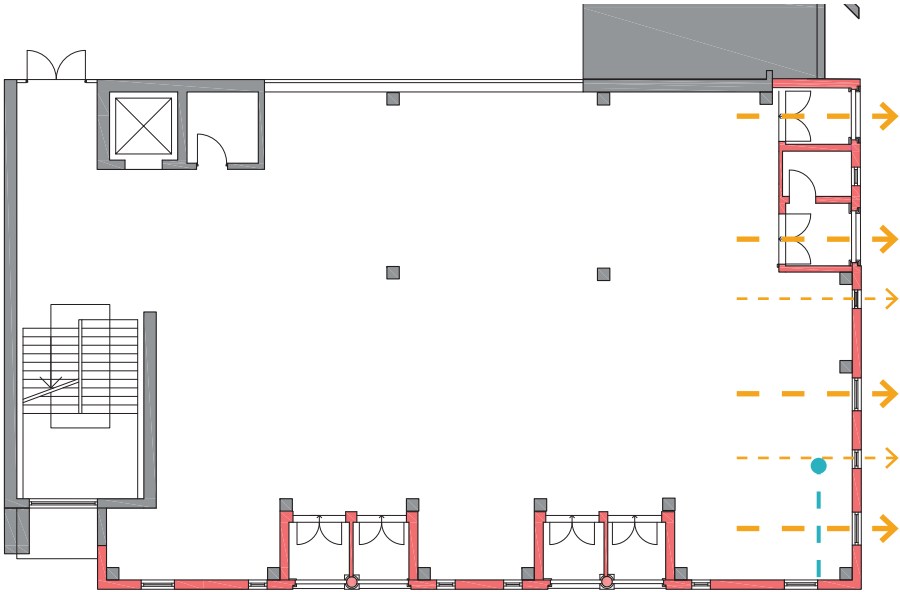


Limited views from learning areas to the north towards the Harbour

Option A Floor Plan

Option B

- > Removal of the internal walls provide more opportunity for larger areas to have views towards the north
- > The existing small window proportions however limit this opportunity



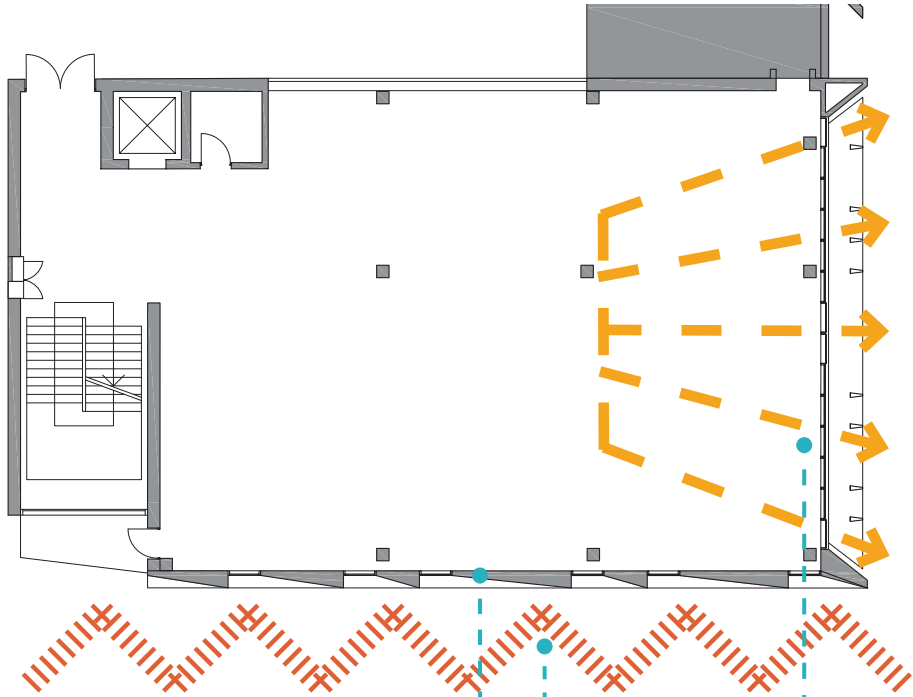
Removal of internal walls increases the opportunity for larger areas to have attractive views.

Views are however limited due to the small window proportions

Option B Floor Plan

Option C

- > Option C maximises views towards the harbour and city via the fully glazed, floor to ceiling windows
- > The new concrete floor slab will provide excellent acoustic separation between spaces and eliminate foot traffic noise.
- > Privacy to the residential buildings to the east and road noise from Forbes Street are addressed through an increased solid facade, and reduced extent of windows to the eastern facade



Increased solid facade sections and reduced window areas to the eastern facade maximise privacy to adjacent residential neighbours and address road noise

Full height glazing to maximise views and natural light to north

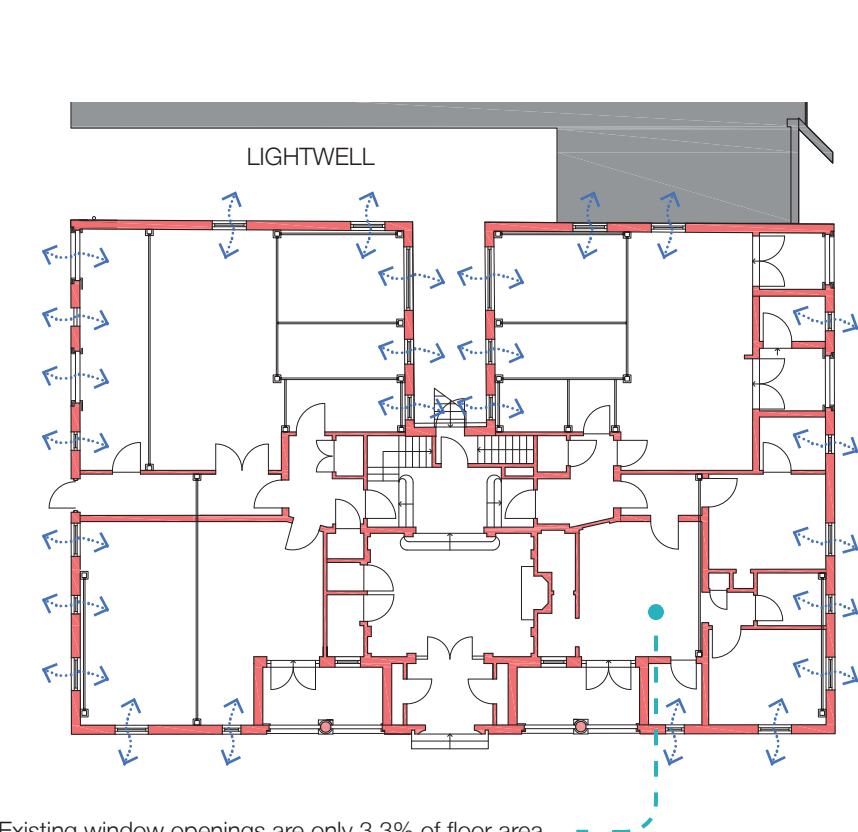
Option C Floor Plan

Options Analysis

5.6 Ventilation

Option A

- > The existing windows provide non compliant, low levels of natural ventilation (3.3%), which is below BCA 5% minimum.
- > Internal spaces such as corridors and stairs currently have no ventilation
- > The low floor to floor levels, new structural beams to allow for increased open spaces, and where load bearing walls have been demolished, will restrict the use of more efficient heating and cooling systems
- > Spaces within the building will rely on the existing arrangement of natural ventilation, ceiling fans and wall mounted electric heaters for conditioning of spaces which are inefficient and inadequate to properly condition the spaces.



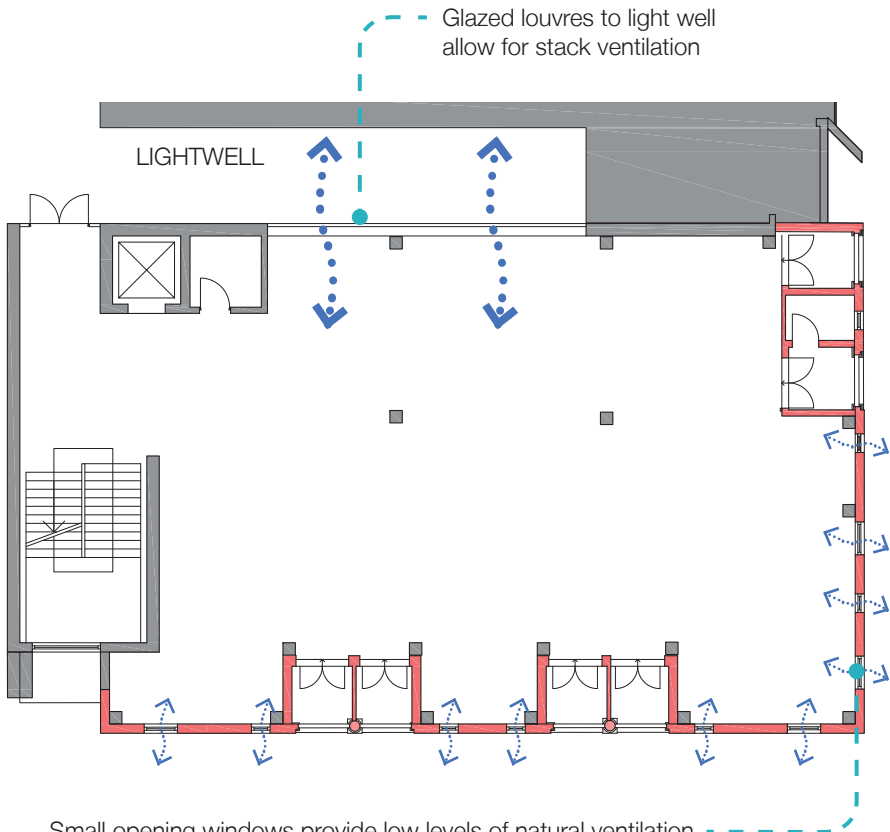
Existing window openings are only 3.3% of floor area which is below BCA minimum requirement of 5% for natural ventilation

Poor ventilation to internal rooms with no windows unless balcony doors are left fully open.

Option A Floor Plan

Option B

- > The retention of the existing small windows limit the opportunity for compliant ventilation from the northern and southern facade
- > The new glazing to the lightwell provides the opportunity for increased ventilation to the western facade
- > The reconfiguration of the circulation core and series of narrow corridors removes unventilated spaces
- > The retained low floor to floor levels and deep structural beams required to support the existing facade impact on services zones resulting in unacceptable floor to ceiling heights if air conditioning is introduced



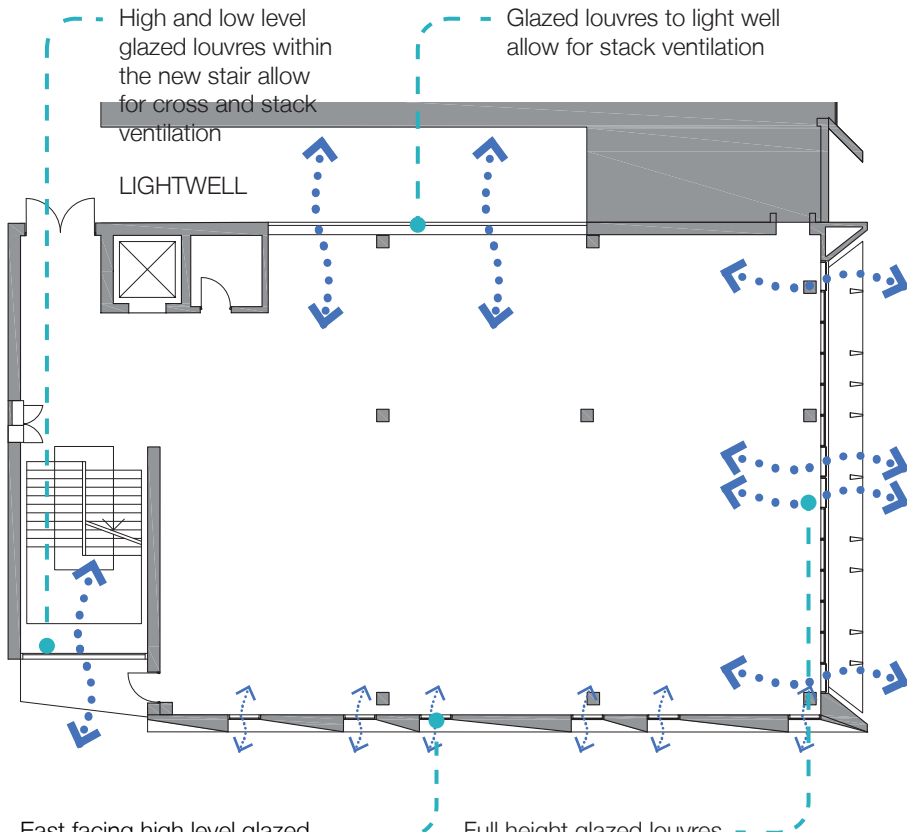
Small opening windows provide low levels of natural ventilation, while balcony doors would be required to be left fully open.

Low floor to floor heights result in unacceptably low ceilings if mechanical ventilation or air conditioning is introduced

Option B Floor Plan

Option C

- > High performance double glazing and glazed louvres are proposed to the north, east and west facades and will be detailed to provide fully compliant ventilation to all spaces
- > The east facing glazed louvres capture the dominant breeze while the western lightwell provides the opportunity for cross and stack ventilation
- > Increased floor to floor levels provide adequate service zones for the introduction of energy efficient, mixed mode air conditioning
- > Exposed concrete soffits and secure glazed louvres allow for night time purging



East facing high level glazed louvres capture dominant breeze for natural ventilation

Full height glazed louvres provide natural ventilation to the northern facade

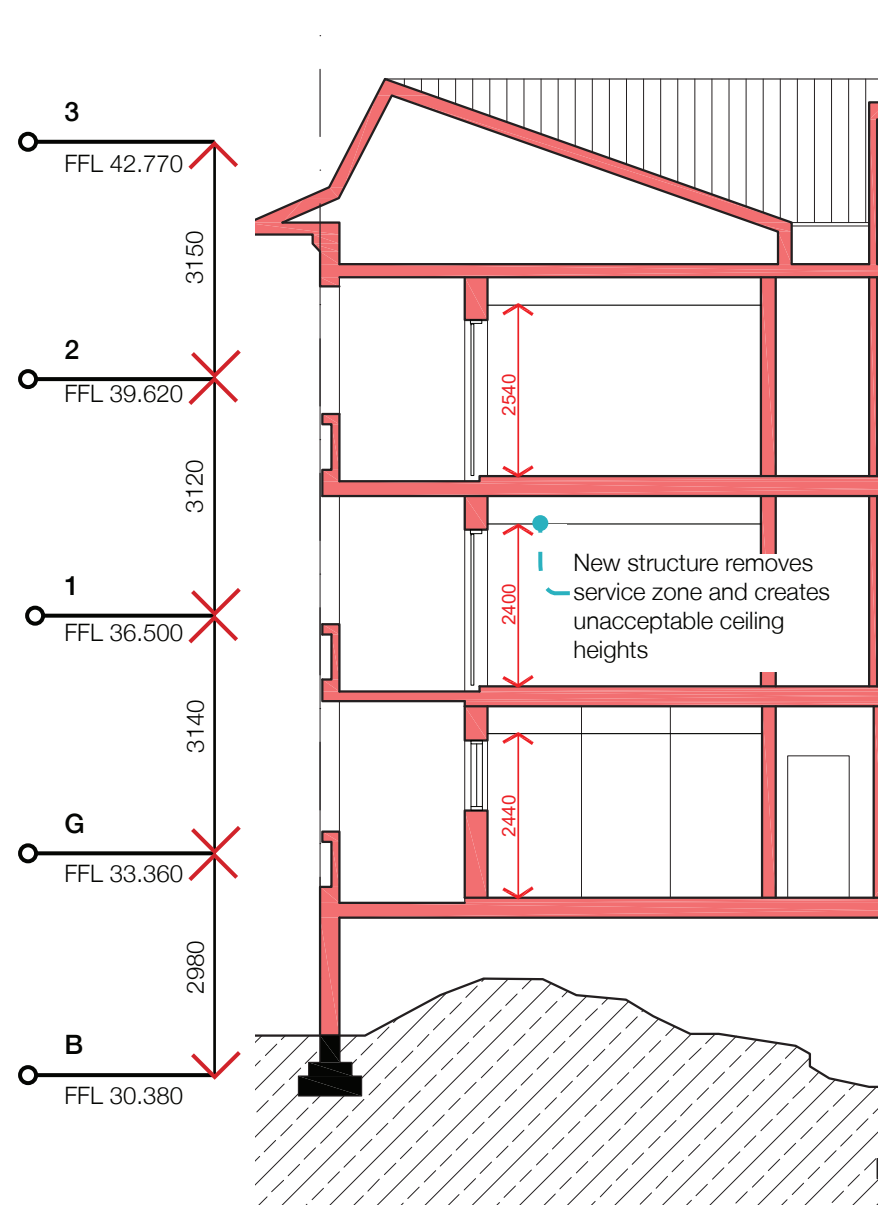
Option C Floor Plan

Options Analysis

5.7 Floor to Ceiling Heights

Option A

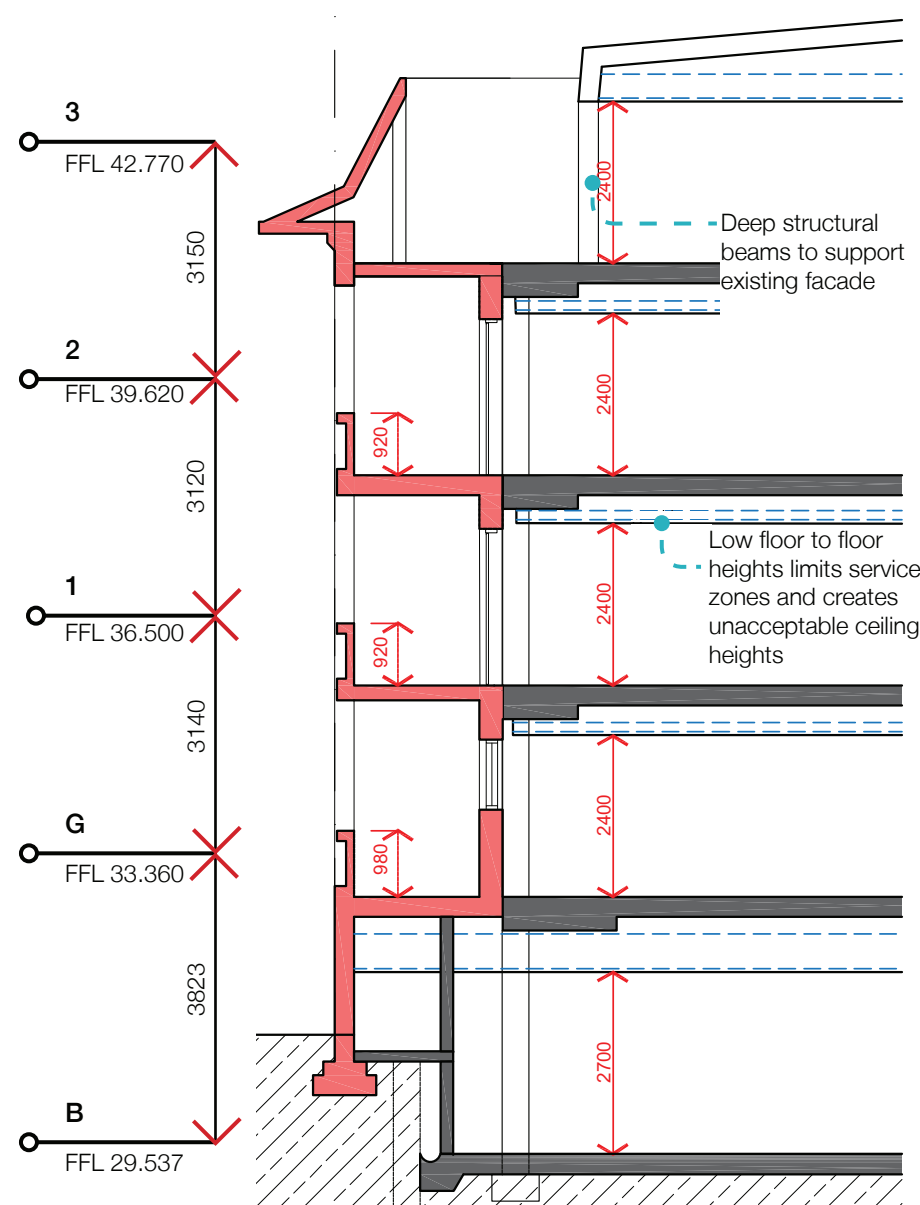
- > Low floor to floor levels combined with the introduction of significant new structural steel beams to allow for removal of internal load bearing walls for larger teaching areas result in unacceptably low floor to ceiling height
- > The lack of service zone at high level results in the existing inefficient heating and cooling system being required to remain
- > The 2.4 meter floor to ceiling heights are well below the 2.7 meters required by the Department of Education EFSG



Option A Section

Option B

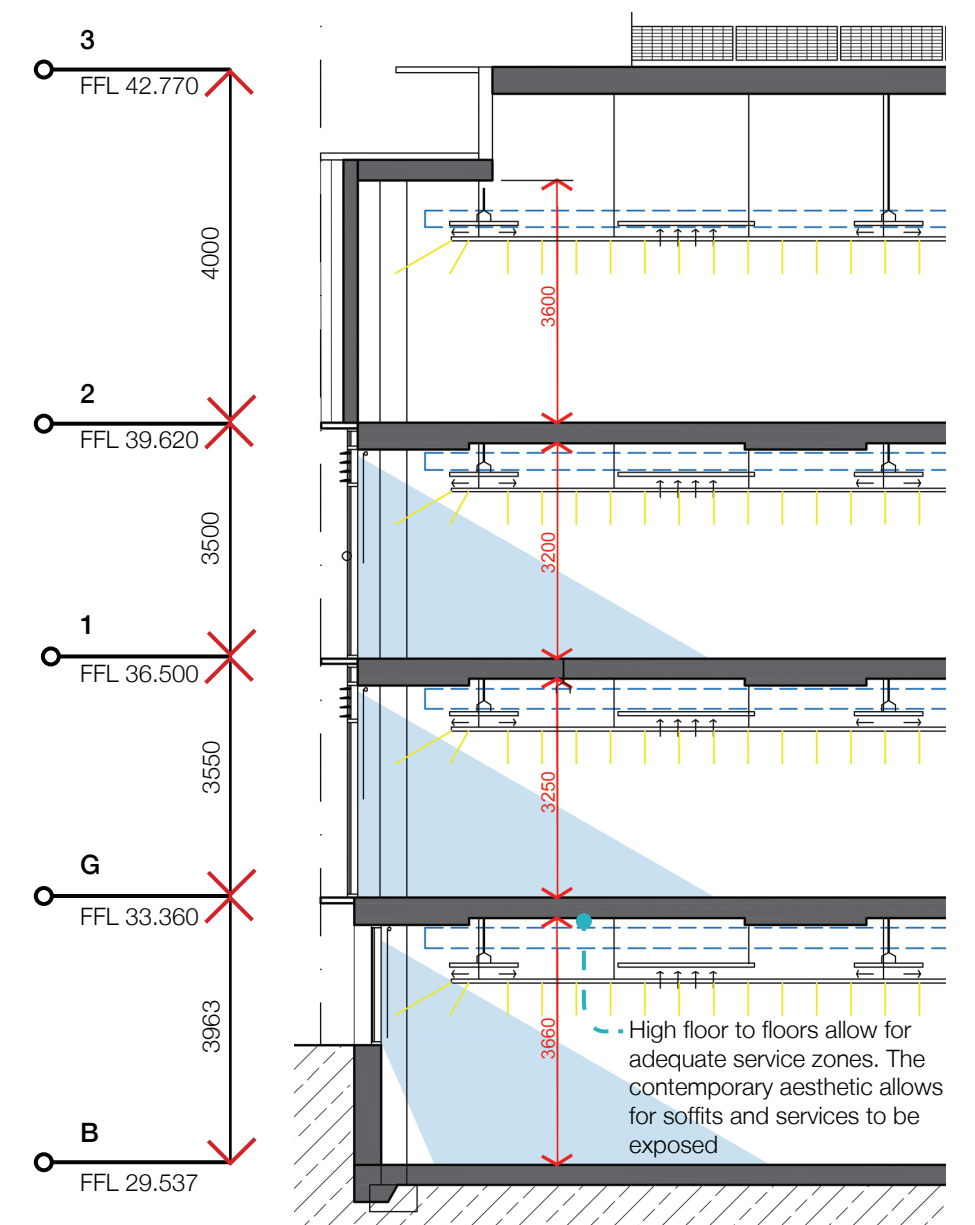
- > The existing floor levels are retained in order to relate to the existing facade, and balcony levels providing floor heights of 3150mm approximately.
- > Deeper, 500mm structural beams are required for the new floors to support the retained facade which result in a floor to underside of beam height of 2650mm.
- > The introduction of services and ceilings result in large areas of the spaces having a floor to ceiling height of 2400mm or less.
- > These heights are significantly less than the EFSG requirement for a minimum 2700mm ceiling height and are not acceptable



Option B Section

Option C

- > Increased floor to floor heights provide high floor to ceiling/ exposed soffits heights
- > Structural beam depths are minimised through the design of an efficient structural system.
- > Energy efficient, mixed mode air conditioning can be fully integrated into the building. The mixed mode system will deliver fresh external air when conditions permit and air conditioning at other times to provide for user comfort.
- > The contemporary aesthetic of the building allows for exposed soffits and services providing an attractive learning environment while utilising embodied thermal mass
- > Increased floor to floors allow for taller windows allowing light to penetrate deeper into the floor plate
- > The external plant will be accommodated within a plant area recessed into the roof so that plant is not readily visible.



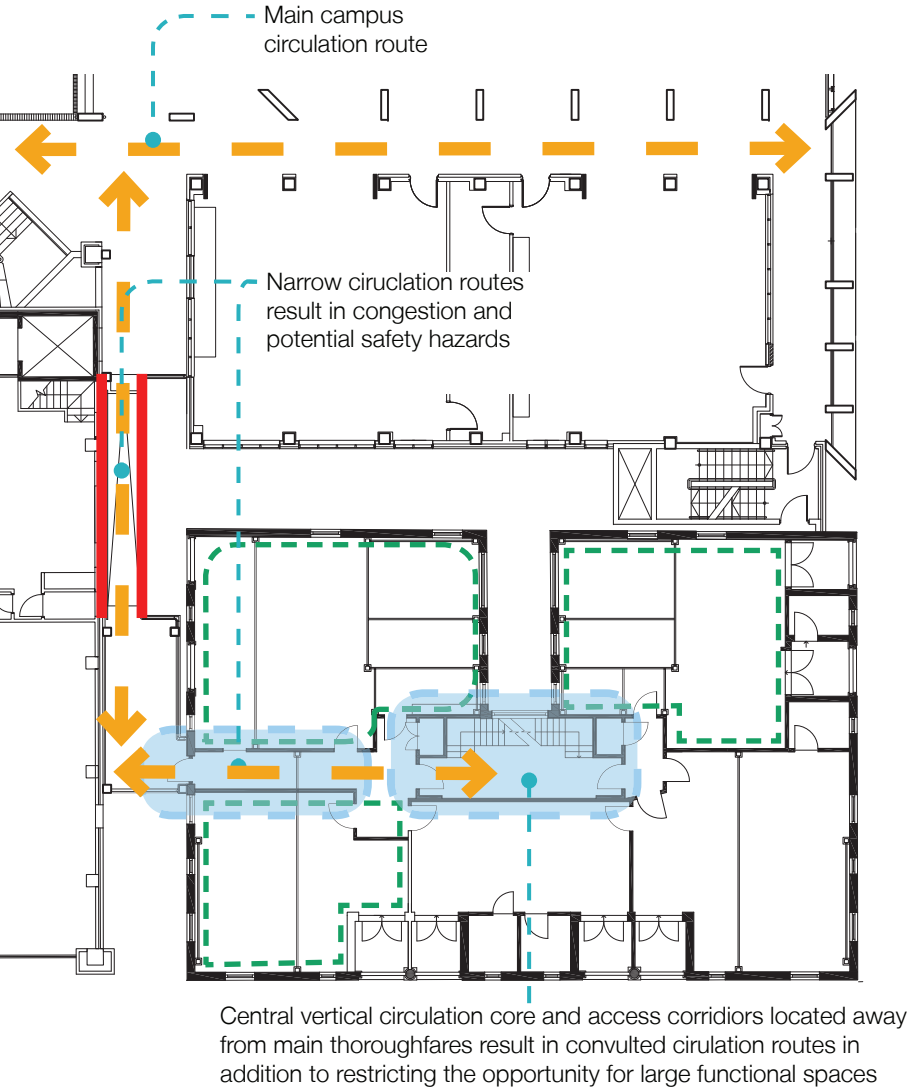
Option C Forbes Street Section

Options Analysis

5.8 Functionality

Option A

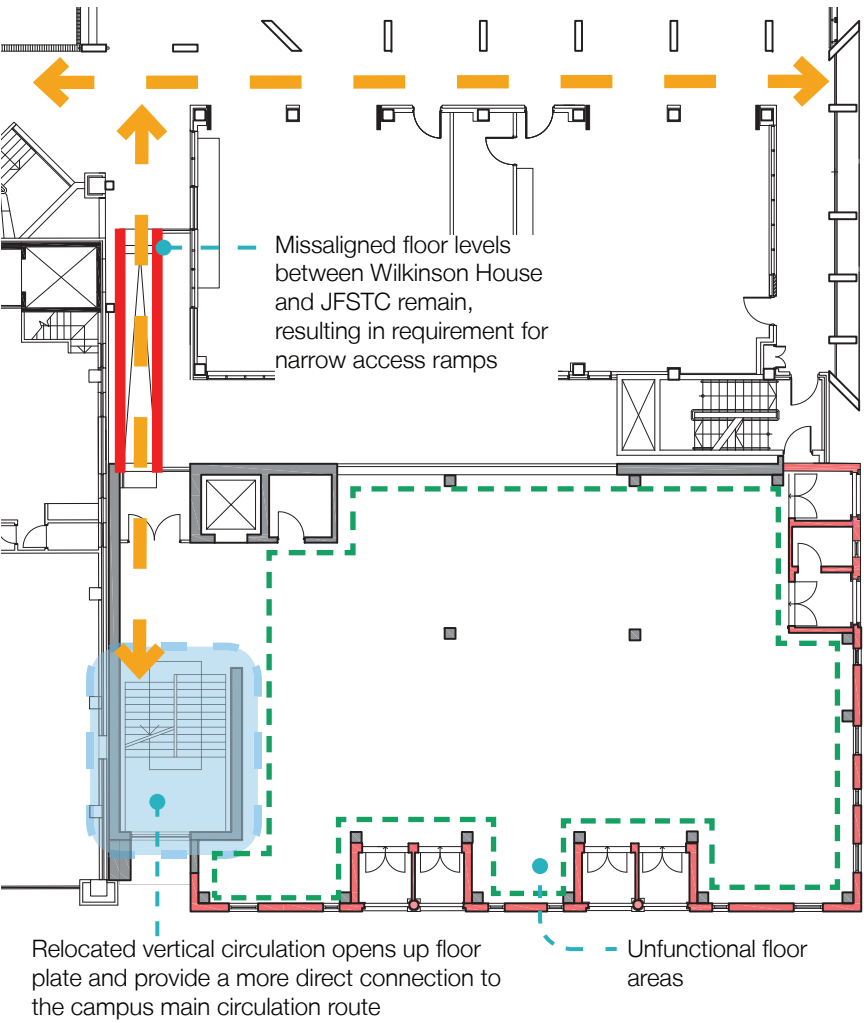
- > The main stair access is central to the building and away from thoroughfares connecting other buildings creating convoluted circulation
- > Narrow corridors create congestion during peak periods and do not provide adequate area to wait before class.
- > Internal circulation has no ventilation, natural light or views.
- > Existing floor levels do not align with adjacent buildings negating opportunity for future expansion and requiring a convoluted series of ramps for access.
- > The main entry opening directly onto the street is an unacceptable security risk and the entry is locked and not able to be used.
- > The centralised stair and access corridors restrict the opportunity to create large, nook free teaching spaces



Option A Floor Plan

Option B

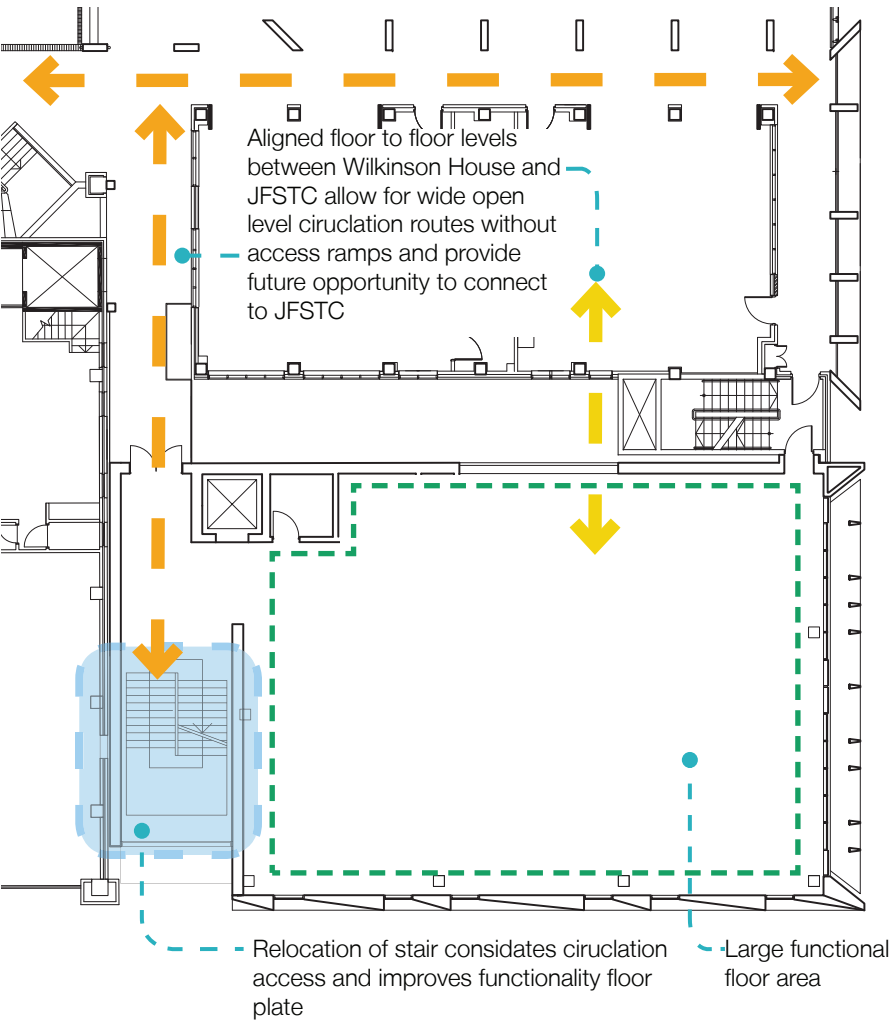
- > Relocation of the stair core increases the opportunity for large flexible learning spaces while locating it nearer the main circulation route, reducing wasted floor area
- > The retention of the existing balconies significantly reduces usable area, create nooks which affect large open learning areas and do not meet current child protection requirements
- > The narrow circulation routes and a difference in floor levels between buildings are retained, resulting in the series of ramps required for access to Wilkinson House remaining.
- > The difference in floor levels between Wilkinson House and Joan Freeman Science and Technology Centre further limit future connections



Option B Floor Plan

Option C

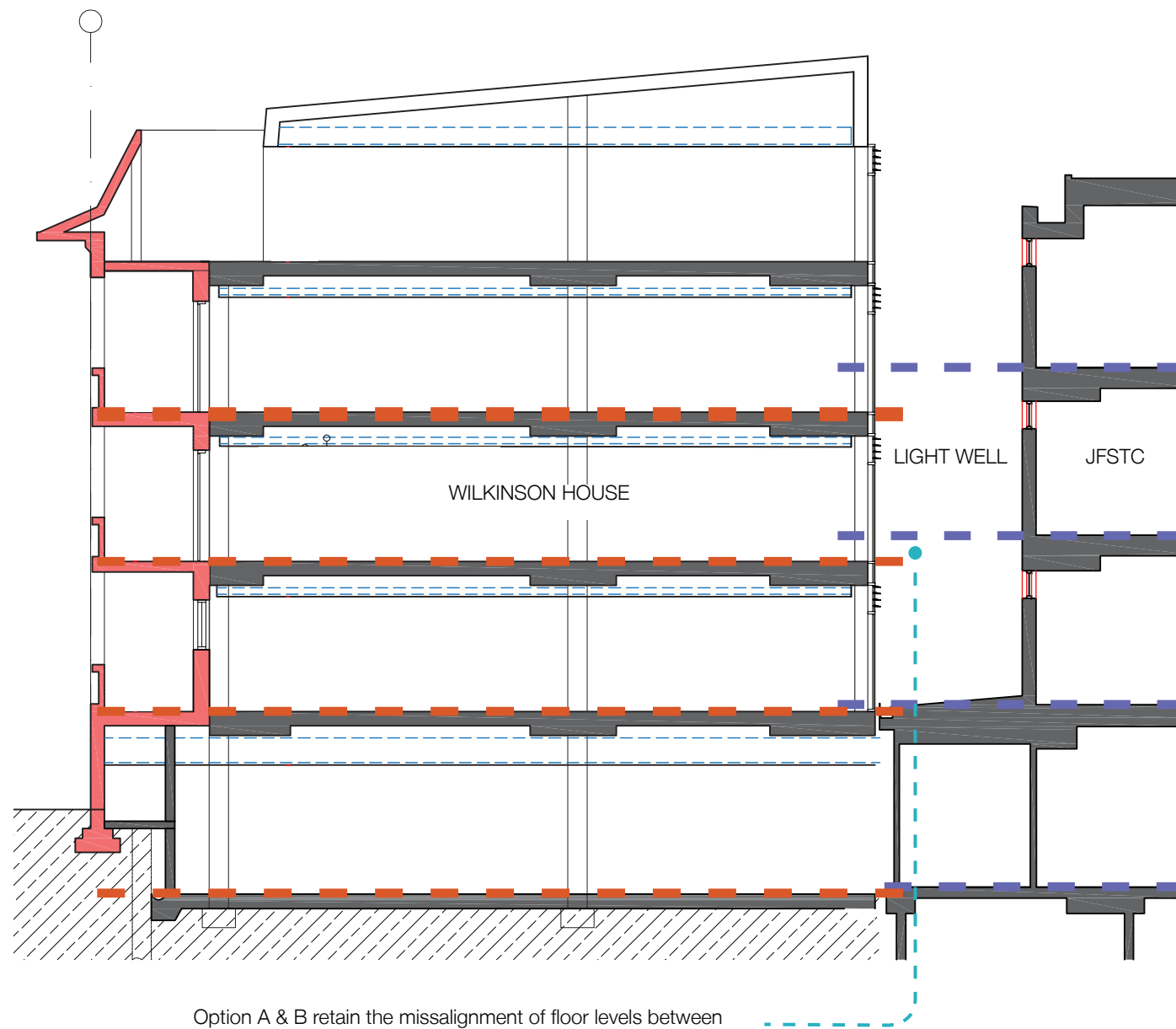
- > The new building will be designed with a wide stair and circulation core that is located at the southern end of the building to maximize the open floor plate for educational space and to allow direct, consolidated connection to major school thoroughfares eliminating convoluted ramps and passageways.
- > Floor levels will align with the adjacent Joan Freeman building allowing future connection and eliminating convoluted ramps.
- > Alignment of floor levels with JFSTC improve access to the building while providing future opportunity to connect to JFSTC
- > The revised entry location optimises connectivity to the school and improves security.



Option C Floor Plan

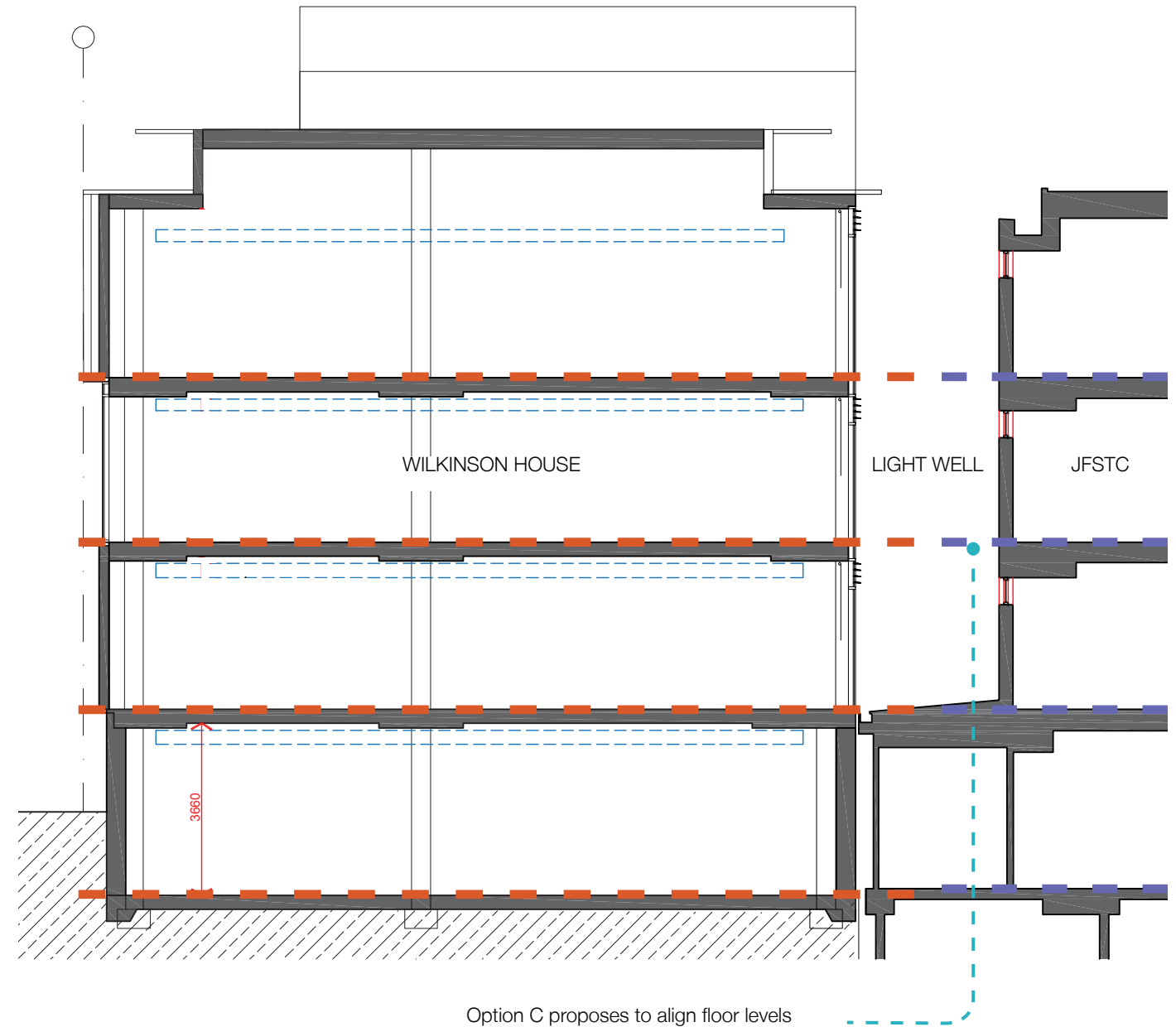
Options Analysis

5.8 Functionality



Option A & B retain the misalignment of floor levels between Wilkinson House and JFSTC which result in a convoluted series of access ramps reducing the functionality of spaces

Option B Section



Option C proposes to align floor levels within Wilkinson House and JFSTC to improve accessibility, functionality and future flexibility

Option C Section

Options Analysis

5.9 Buildability and Loss of Area

Construction Methodology of Option B

Wilkinson House is a load bearing masonry building with internal timber floors supported by the internal walls. These internal walls provide structural stability to the external facade.

Option B requires the insertion of a new structure behind the existing masonry façade. This concept poses significant structural complexities as the removal of the internal walls will undermine the stability of the facade and access to the interior is limited to the north and east facades which have relatively small openings. Coupled with this is the constraint of the footprint of the building which is relatively small for demolition plant required and the constraints of building and demolition on an inner city site and the impact on adjacent structures, residents and traffic.

SCEGGS have engaged the services of the following specialist consultants to review the option of retaining the two main street facades (Option B) to determine the feasibility of this option and the likely impacts to neighbours during construction:

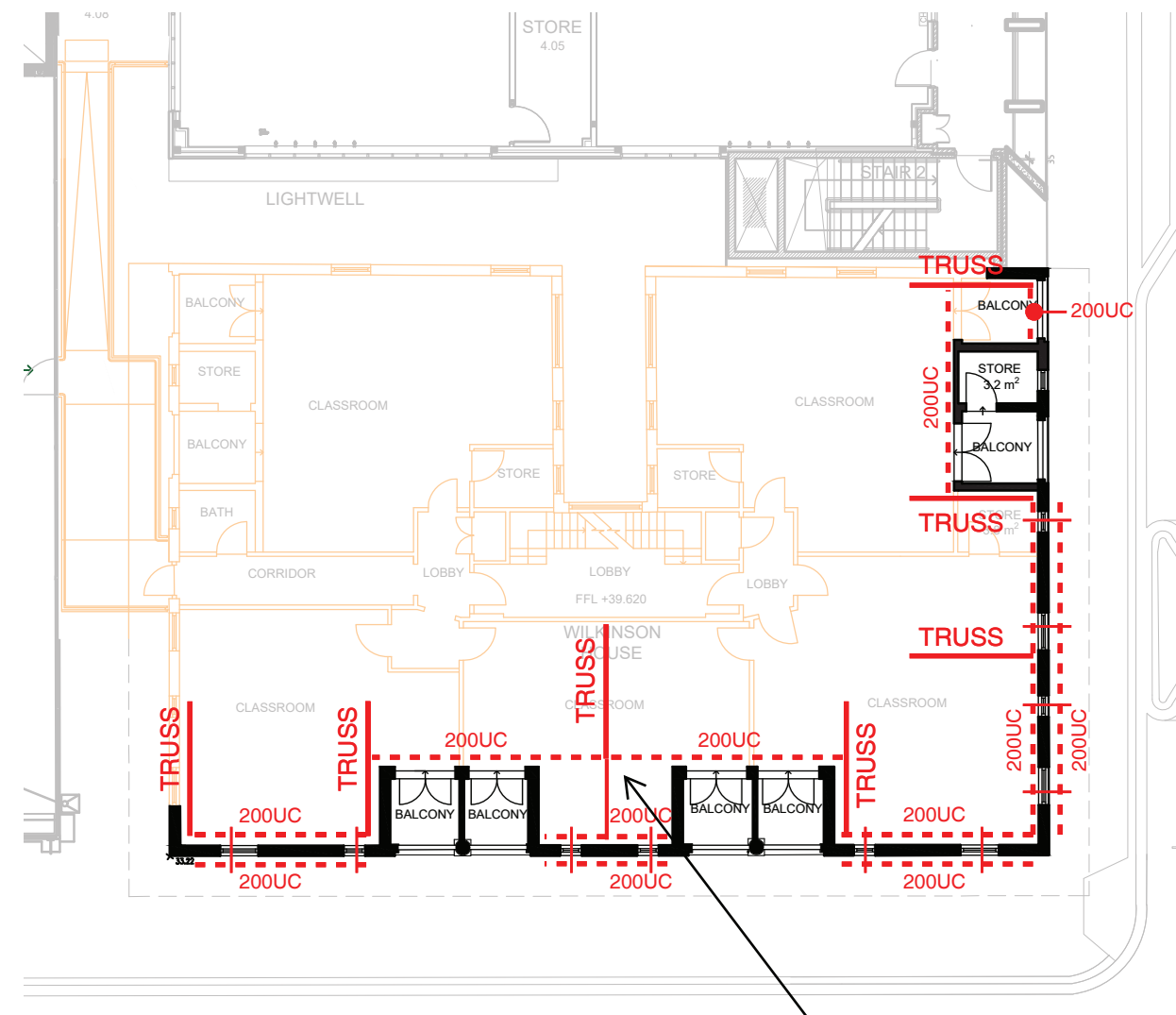
- Taylor Thomson Whitting (TTW)
- ICMP Group (Innovative Construction Methodologies, Management & Planning)

TTW are a leading structural and civil engineering firm with extensive experience in façade retention and alterations and additions to existing buildings on constrained sites.

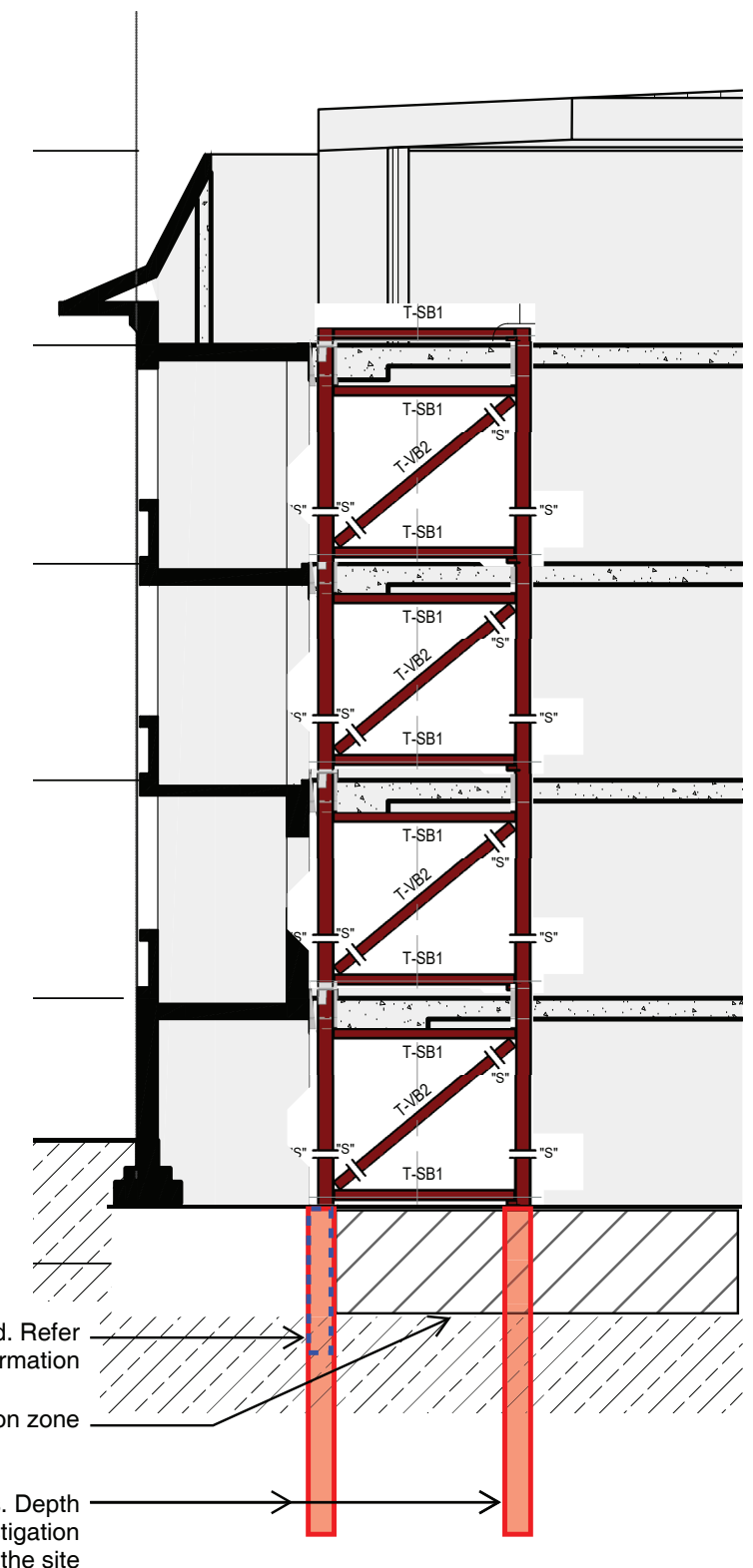
TTW investigated options and methodologies for how to support the existing facade temporarily whilst the new building was built behind it. Temporary support of the facade includes the installation of vertical steel trusses supported on temporary piles. Options for retaining the existing facade included the support of the facade from within the site boundary and from outside the boundary (adjacent footpath). The structural drawings from this investigation are presented on the following pages.

ICMP are a construction management firm with hands on experience in the construction of facade retention.

ICMP investigated to the constructability of the temporary structural support options developed by TTW, which considered issues such as access for piling rigs, demolition trucks, craneage, vibration impacts to adjacent buildings, safety risks and impacts to existing site services.



Option B: Plan - Temporary works required to support facade during demolition and construction



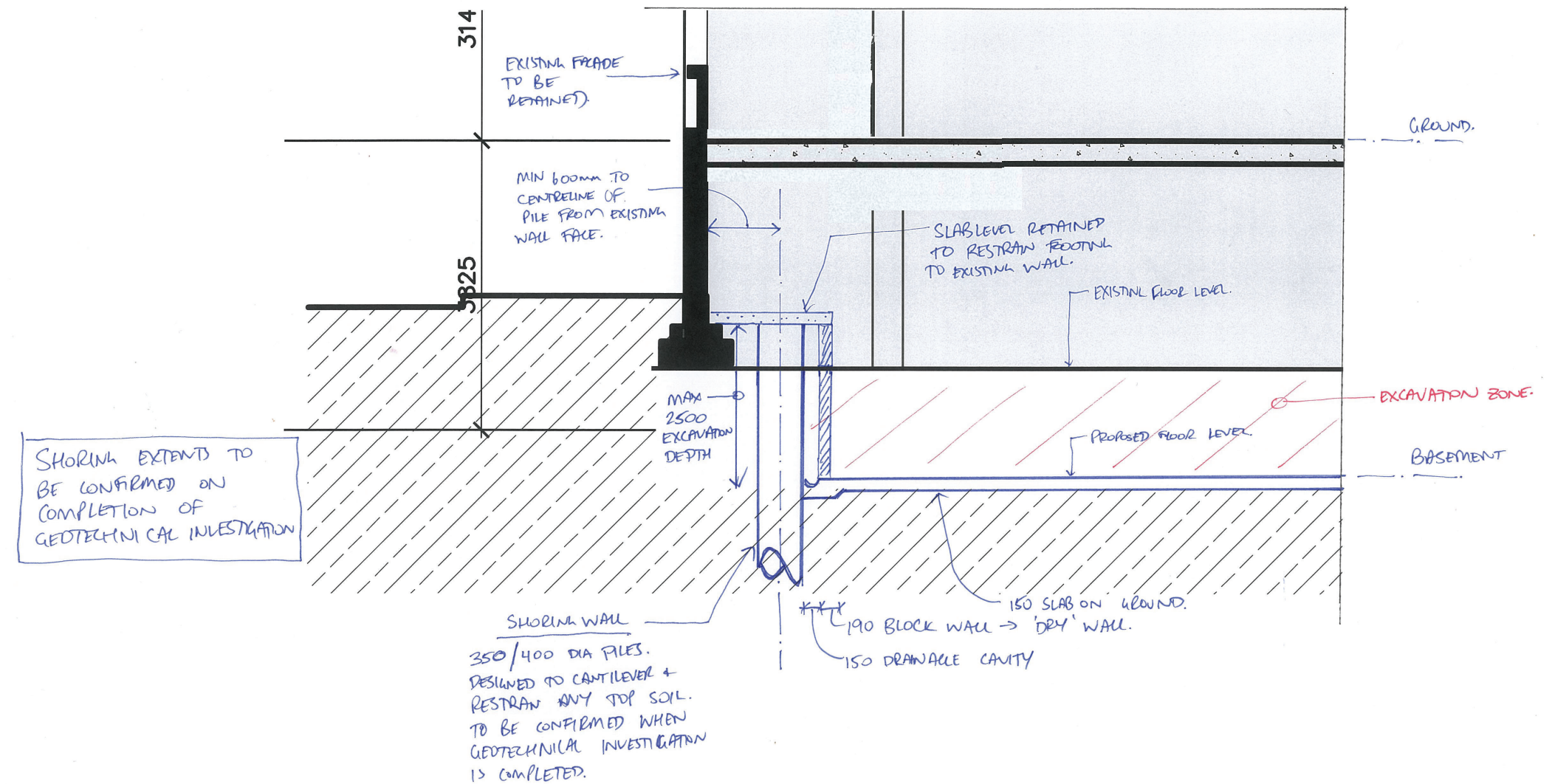
Option B: Section - Temporary works required to support facade during demolition and construction

Options Analysis

5.9 Buildability and Loss of Area

Refer to the Wilkinson House Structural Options: Retention of Existing Facade - for a review of the construction methodology reviewed by Taylor Thompson Whitting for Option B to determine it's feasibility.

These reports conclude that the temporary work required to support the existing facade present significant difficulties and large risks to the existing facade structure and safety concerns.



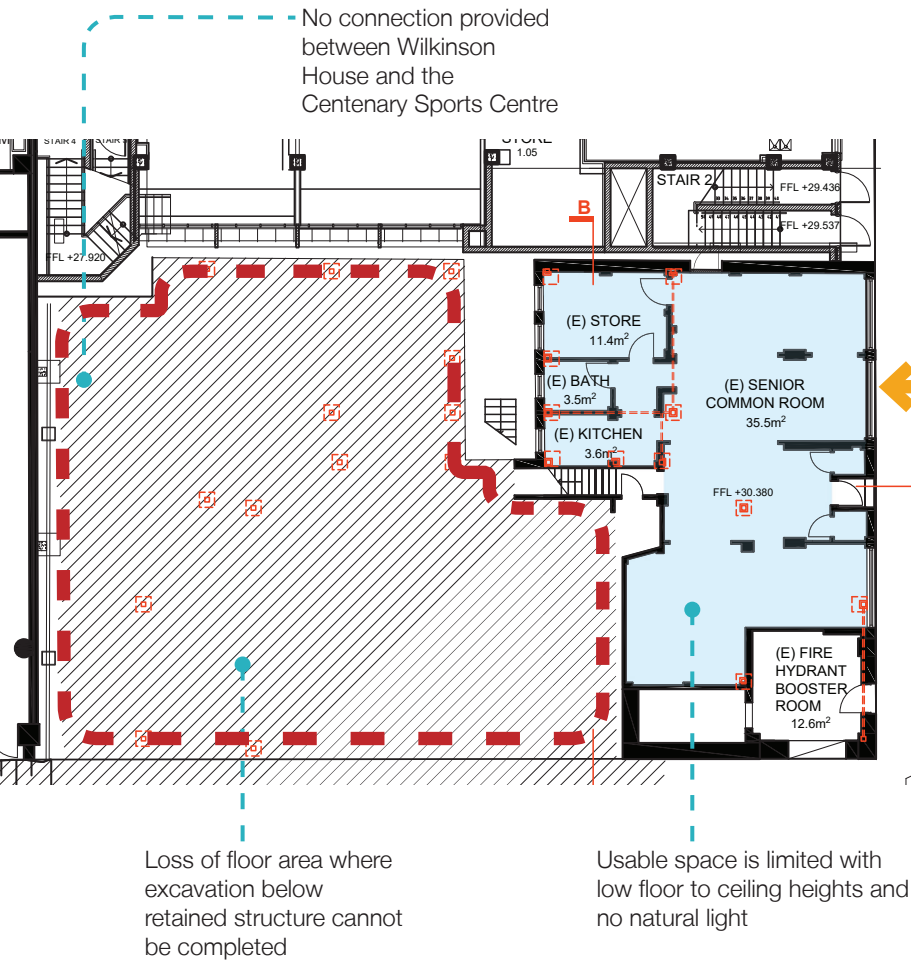
Permanent shoring required to allow basement excavation

Options Analysis

5.9 Buildability and Loss of Area

Option A

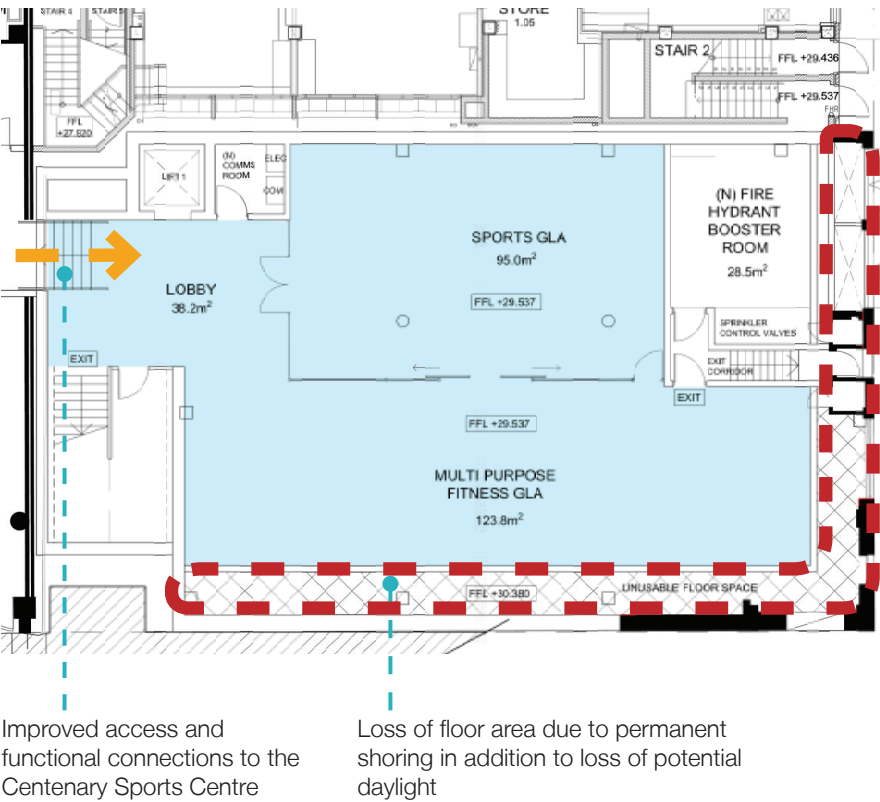
- > The existing building will require substantial structural modifications and intervention in order to allow the demolition of internal, load bearing walls and meet requirements for earthquake loads. The fire rating of this structure will further reduce the effective floor area of each space.
- > The removal of load bearing walls to create larger learning spaces result in a series of columns within learning areas that restrict layout and are undesirable for clear sight lines
- > Removal of existing external doors and windows would be required to provide access for new structural elements
- > Retention of the existing structure results in the loss of potential floor area where excavation cannot be completed



Option A Basement Plan

Option B

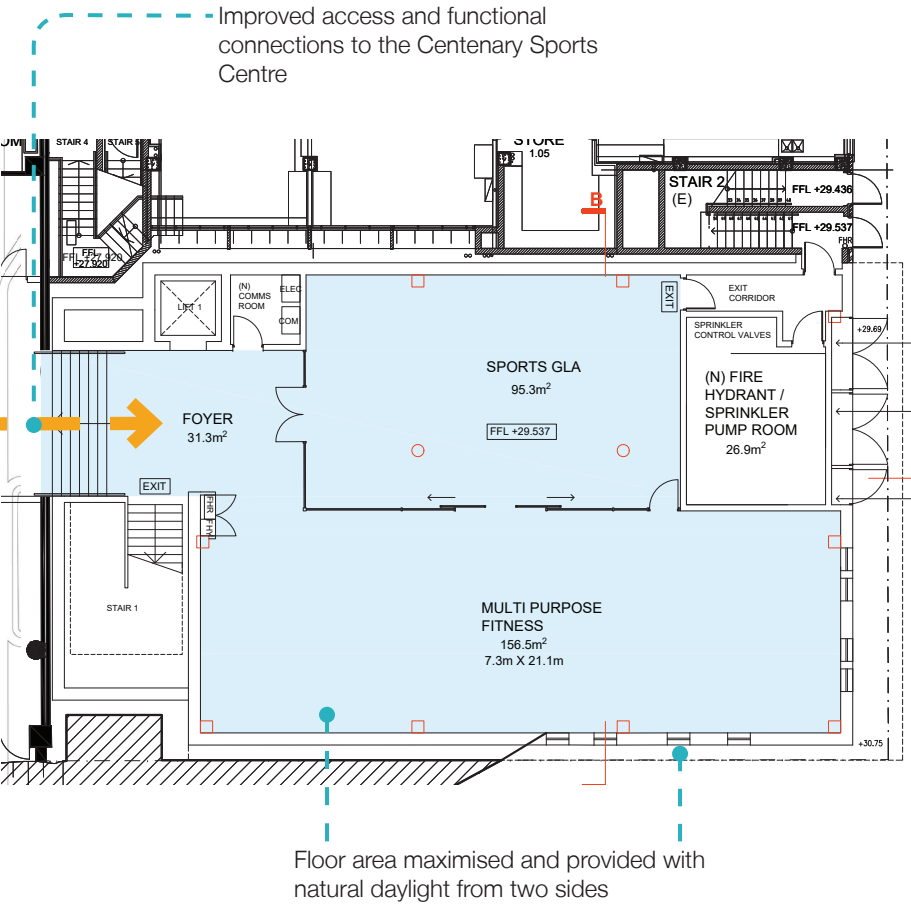
- > The existing Wilkinson House is a load-bearing masonry building with timber framed floors and roof structure. The external balconies are of concrete construction.
- > Option B requires the two principal street facing façades to be retained. Before construction of the new building can commence, the existing façades must be supported by a significant temporary supporting structure in order to allow the demolition of the existing building behind.
- > Retention of the Wilkinson House façades will impose complex construction and buildability constraints, and consequently impact on cost and timing. Impacts to neighbours during construction will be greatly increased.
- > Retention of the existing facade requires permanent shoring to allow for the new basement floor slab, reducing floor area and the opportunity for natural light
- > Demolition of a portion of the facade will be required for demolition and construction access
- > Removal of existing external doors and windows is required to allow for the facade to be supported during demolition and construction
- > The option creates a significant risk to the facade



Option B Basement Plan

Option C

- > Option C allows for floor area to be maximised at all levels
- > Natural daylight is provided to the north and eastern façades at basement level
- > Improved connectivity is provided to the adjacent Centenary Sports Centre



Option C Basement Plan

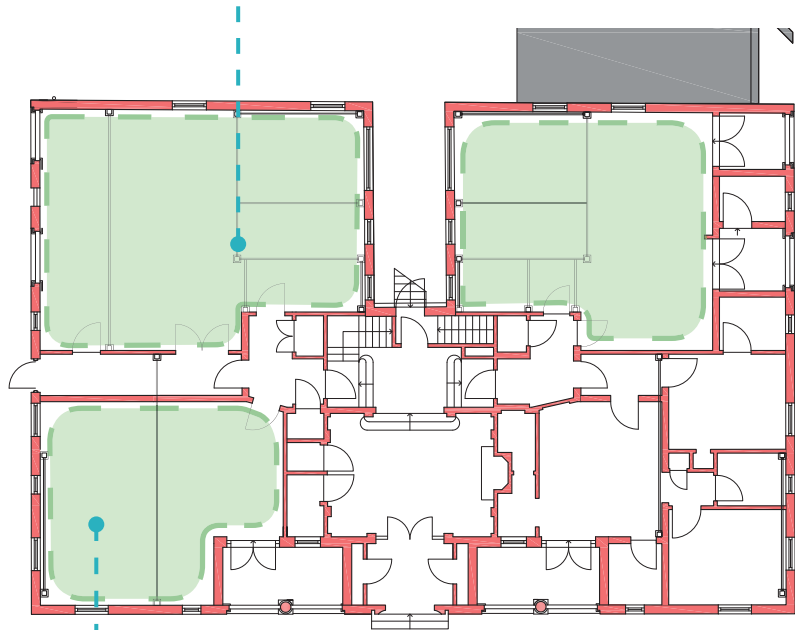
Options Analysis

5.10 Education

Option A

- > Provides a total of 10 learning spaces, however most of the spaces are undersized and below the minimum EFSG classroom size of 60m2. Four of the learning spaces are only 40m2 approximately.
- > Retention of the existing central stair core and access corridors prevent larger, practical learning spaces from being provided
- > New structural columns required to remove the existing loadbearing walls reduce flexibility of the spaces and impact sightlines.
- > Learning spaces are poorly shaped and inefficient made worse by existing balconies resulting in actual effective floor area of these spaces being reduced further
- > Learning spaces do not meet the school's requirements for large flexible collaborative learning spaces
- > 10 learning spaces ranging from 41m² to 76m²
- > 8 spaces are less than the minimum 60m²

Internal columns required to support the existing structure due to removal of loadbearing walls do not allow for clear, column free spaces, create safety hazards and do not allow for large flexible spaces

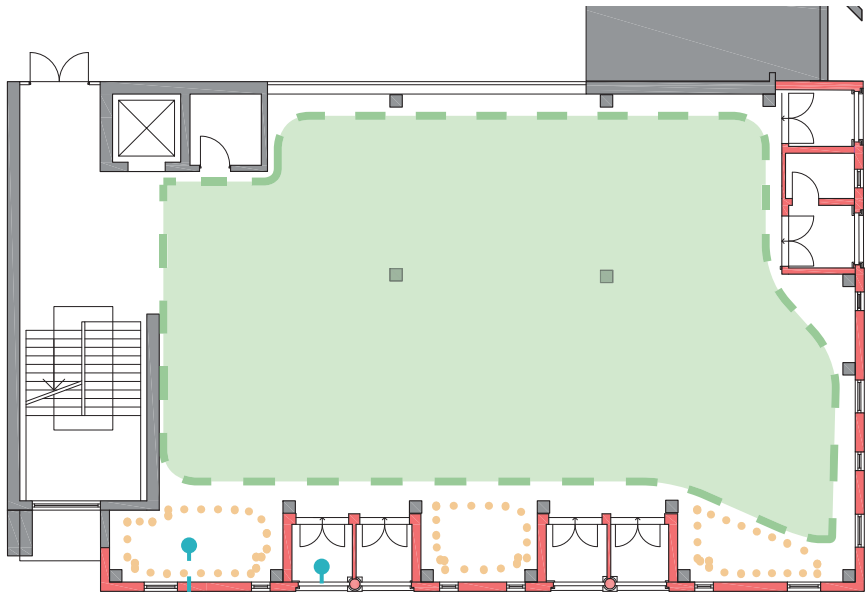


Inadequate learning spaces

Option A Basement Plan

Option B

- > Option B provides a total of 9 learning spaces. Most of these spaces range from 60m2 to 65m2, however the retention of recessed balconies results in the actual effective floor area of these spaces being reduced to effectively less than the minimum EFSG requirement of 60m2.
- > The retention of the recessed balconies results in poorly shaped learning spaces that are inefficient and restrict the flexibility of these spaces.
- > The recessed balconies create areas for concealment and do not meet contemporary requirements for child protection.
- > 9 learning spaces ranging from 59m² to 170m²

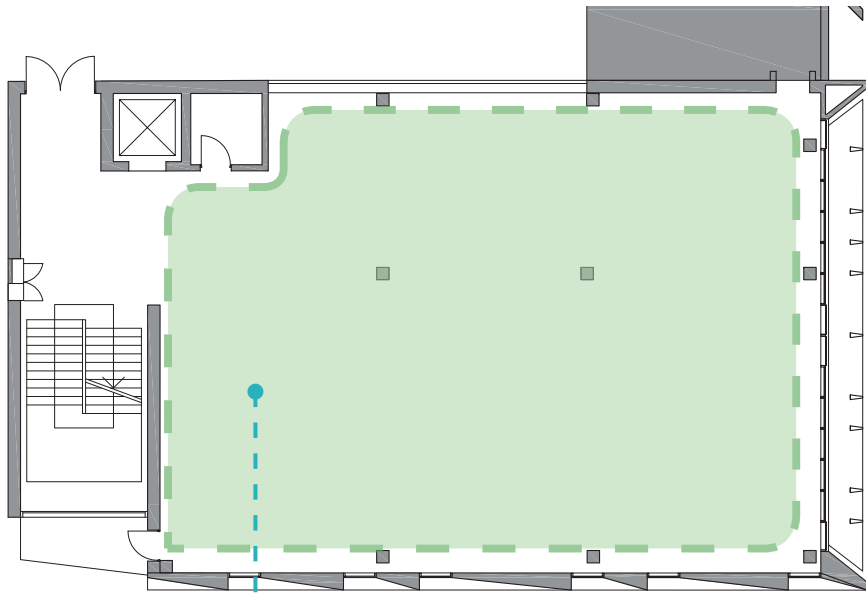


Ineffective learning spaces, loss of usable area and child protection issues

Option B Basement Plan

Option C

- > Option C provides 9 large flexible learning areas over 4 levels of the building ranging from 64m2 to 156m2.
- > Option C provides large flexible collaborative learning spaces that meet with contemporary educational activities design and the needs of the school.
- > The flexible floor space can be used for a range of different learning activities and as larger meeting spaces.
- > 9 learning spaces ranging from 64m² to 156m²



Clear open floor area meets learning requirements

Option C Basement Plan

New Building Design

6 Contemporary Educational Building Design

Tanner Kibble Denton Architects are the Architects and Lead Consultant for the SCEGGS 2040 Masterplan.

TKD Architects specialise in the design of educational facilities including Primary and Secondary Schools and Tertiary institutions. Educational building design is one of the company's core business streams and senior members of the firm have over 25 years' experience in the field of educational design.

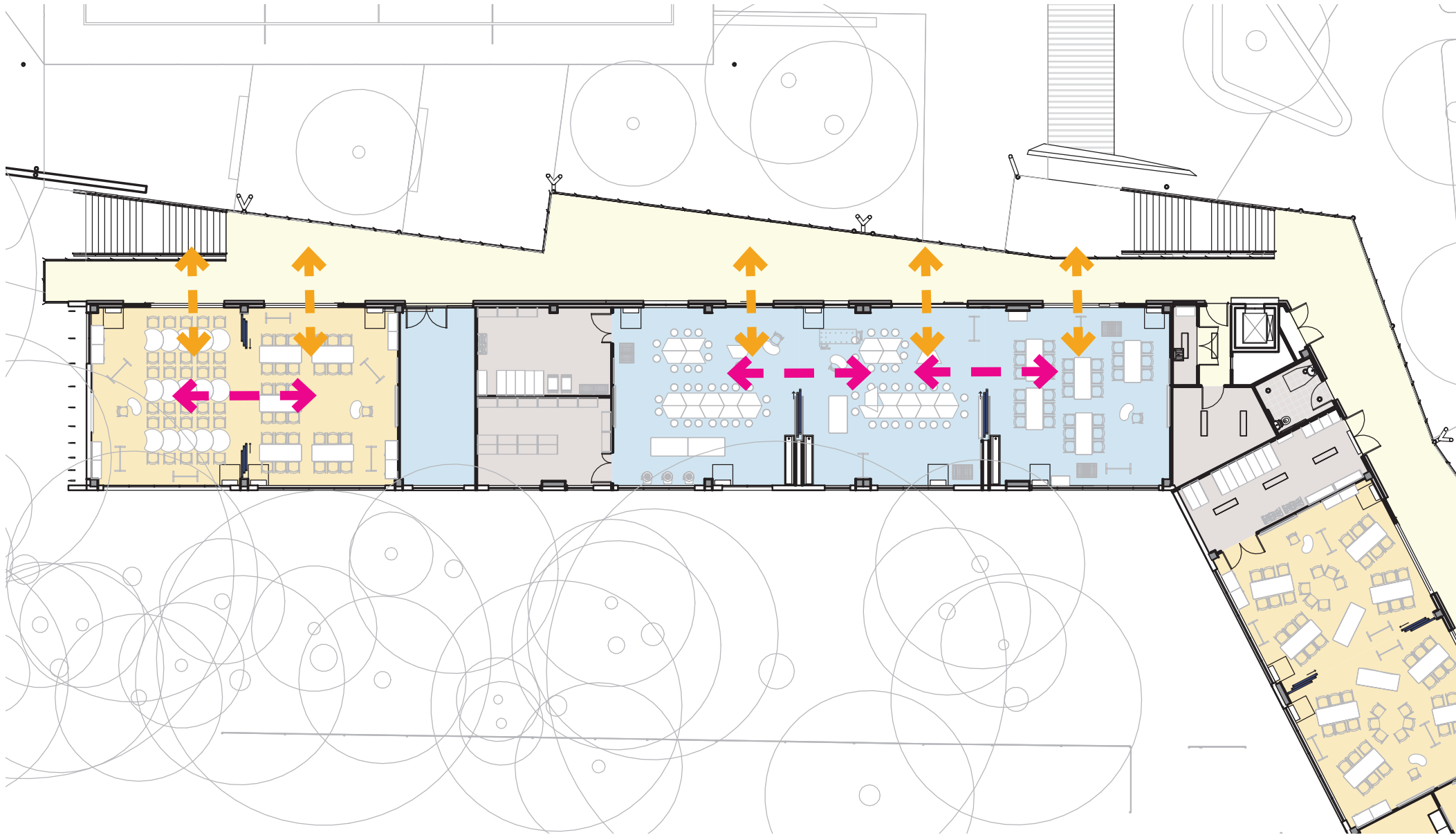
TKD Architects have a number of long standing private school clients, in addition to recently working on 14 Schools for the NSW Department of Education including Primary and Secondary Schools. TKD Architects are a member of the Association for New Learning Environments and representatives of the firm regularly attend the Association for Learning Environments (A4LE) and New Generation Learning conferences to keep abreast of current trends in the design of educational facilities.

The key development in the evolution of educational building design TKD Architects have observed is the development away from the constraints and limitations of the 'traditional' cellular classroom arrangement. Today's educational spaces are more open planned and provide a range of learning settings to suit the various activities of the contemporary curriculum. These spaces must include the flexibility for individuals to work alone as well as for small to medium sized groups to work collaboratively in a way that may simulate their future work environments or tertiary environment.

Examples of the development of these concepts can be found in three recent projects by TKD Architects:

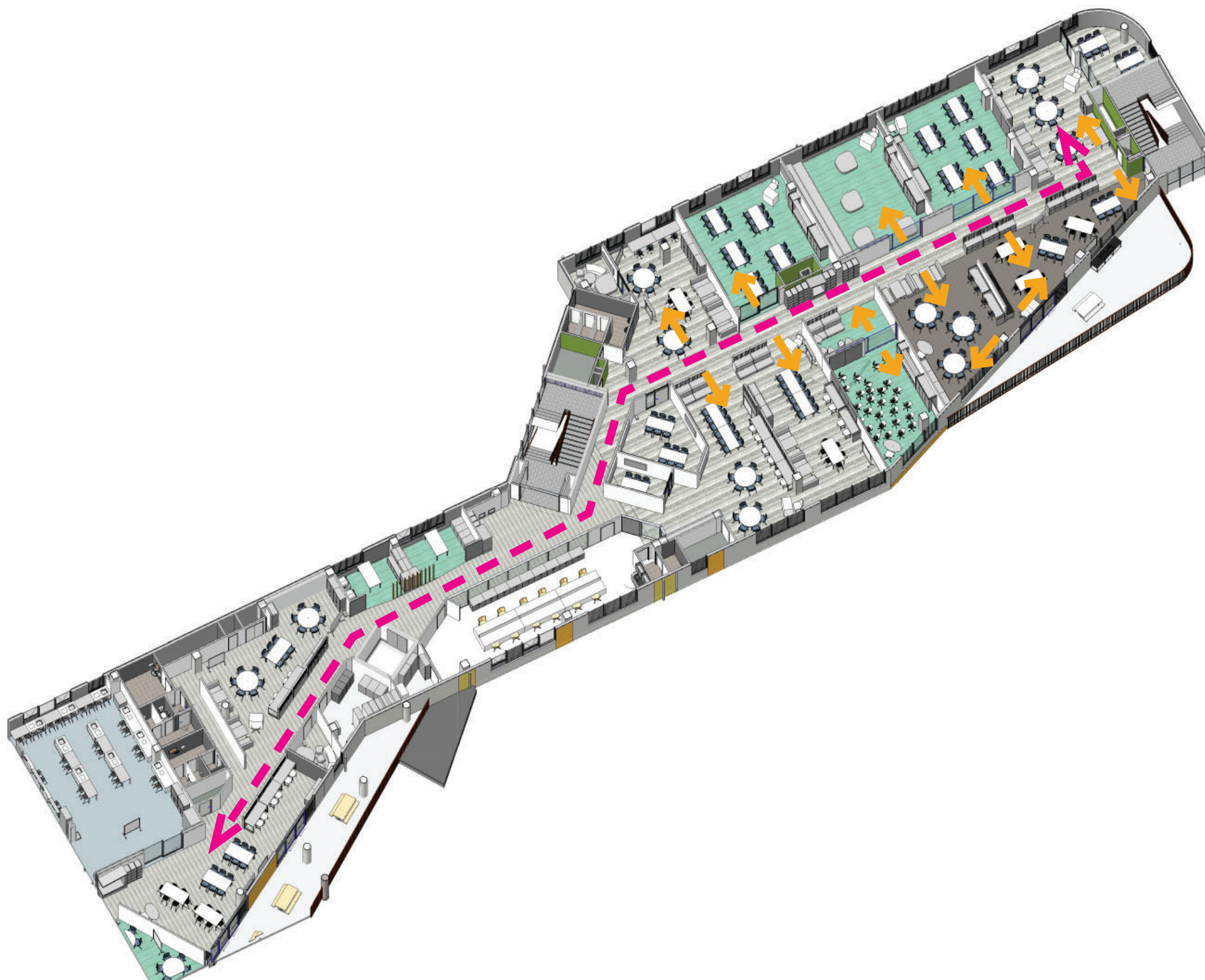
- > A new building at Cherrybrook Technology High School for the NSW Department of Education provided General Learning, Visual Arts and technology facilities. As a NSW Department of Education School, the design utilizes the Department's Educational Facilities Standards and Guidelines (EFSG) which includes classroom sizes of 65m². However, these spaces are designed with sliding screens between each room and onto wide outdoor verandas allowing classroom groups to work together in a space double the size and for teaching activities to extend to the outdoors.
- > Alexandria Park School is also a NSW Department of Education School which utilises the Department's EFSG. This design provides for classroom areas to be combined into larger collaborative areas or separated by operable screens for flexibility.
- > Redlands School is a private school. The New Learning Hub will provide classrooms of around 75m² in area which can be joined together to form much larger spaces and which open onto a central collaborative breakout space.

TKD Architects Option C design for Wilkinson House is a further development of these concepts which are targeted towards future focussed learning.



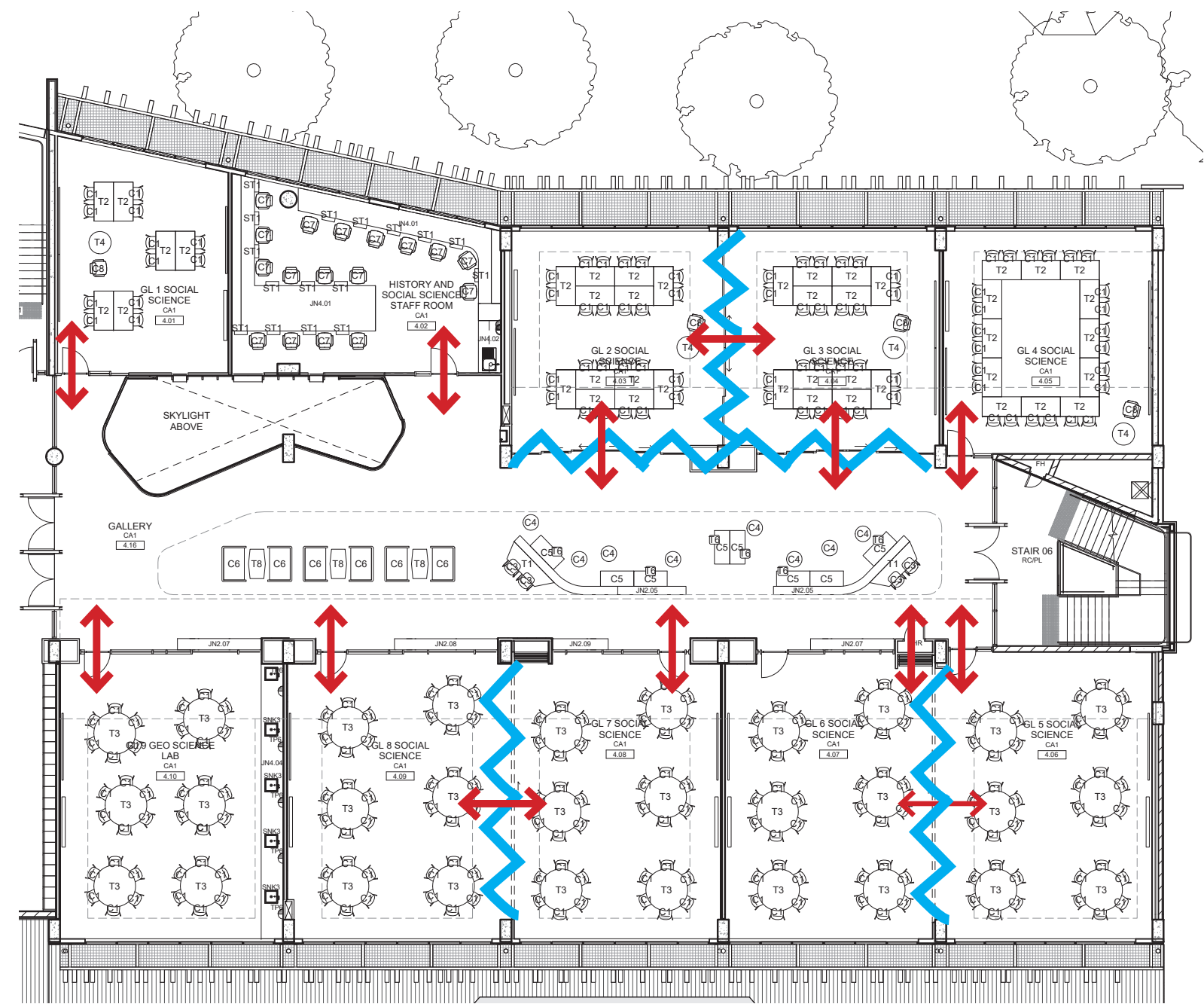
CherryBrook High School General Learning Areas are provided with operable sliding screens between spaces and onto outdoor areas (completed in late 2018).

New Building Design



Alexandria Park Community School provides General Learning areas which are combined into open planned spaces for collaborative learning activities (under construction)

New Building Design



Redlands New Learning Hub provides large spaces that can be joined together to form larger learning areas and can breakout to a central learning space (under construction)

New Building Design

7 SCEGGS Learning Requirements

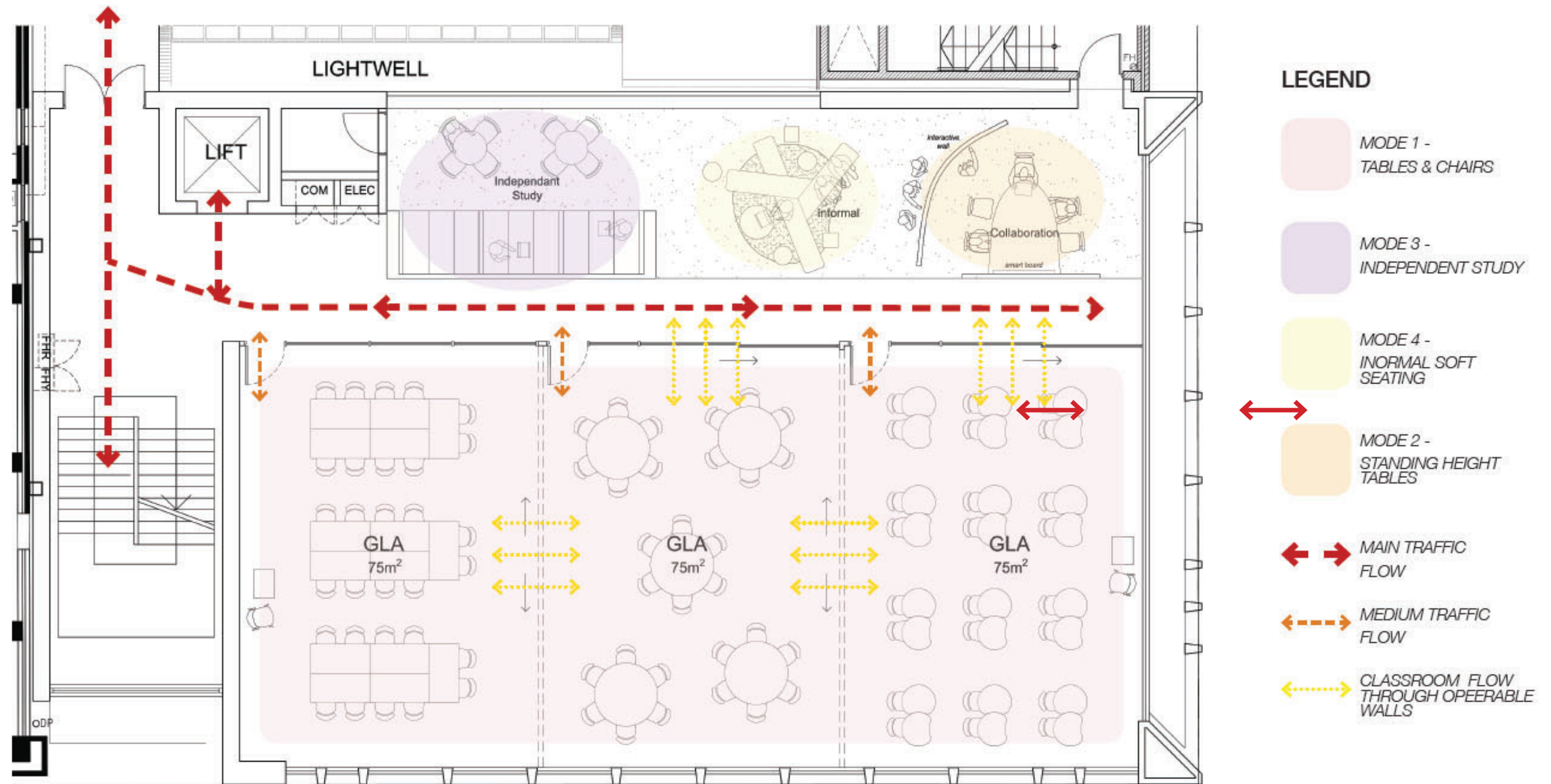
SCEGGS is committed to providing an outstanding education for girls and providing facilities that will meet contemporary learning needs.

SCEGGS requires facilities that are highly functional, flexible and inspiring spaces that are conducive to future learning and working needs. The school requires learning spaces that are innovative, flexible, collaborative and stimulating:

- > Create flexible and stimulating spaces that are adaptable for changing needs of students and learning modes.
- > Promote spaces that encourage learning for students and teachers through collaboration, social interactions and active investigation.
- > Promote flexible spaces that allow for different sized groups to engage learner self-management and self-direction.
- > Support a full range of teaching strategies from explicit instruction to facilitation of inquiry and authentic project based-learning.
- > Enable future-focused learning practice by the use of on-line collaborative technology to ensure students can access rich stimulus, global perspectives and have the ability to create for a wide authentic audience.
- > Create learning spaces that incorporate high levels of natural light, natural ventilation and visual connections to the outside.



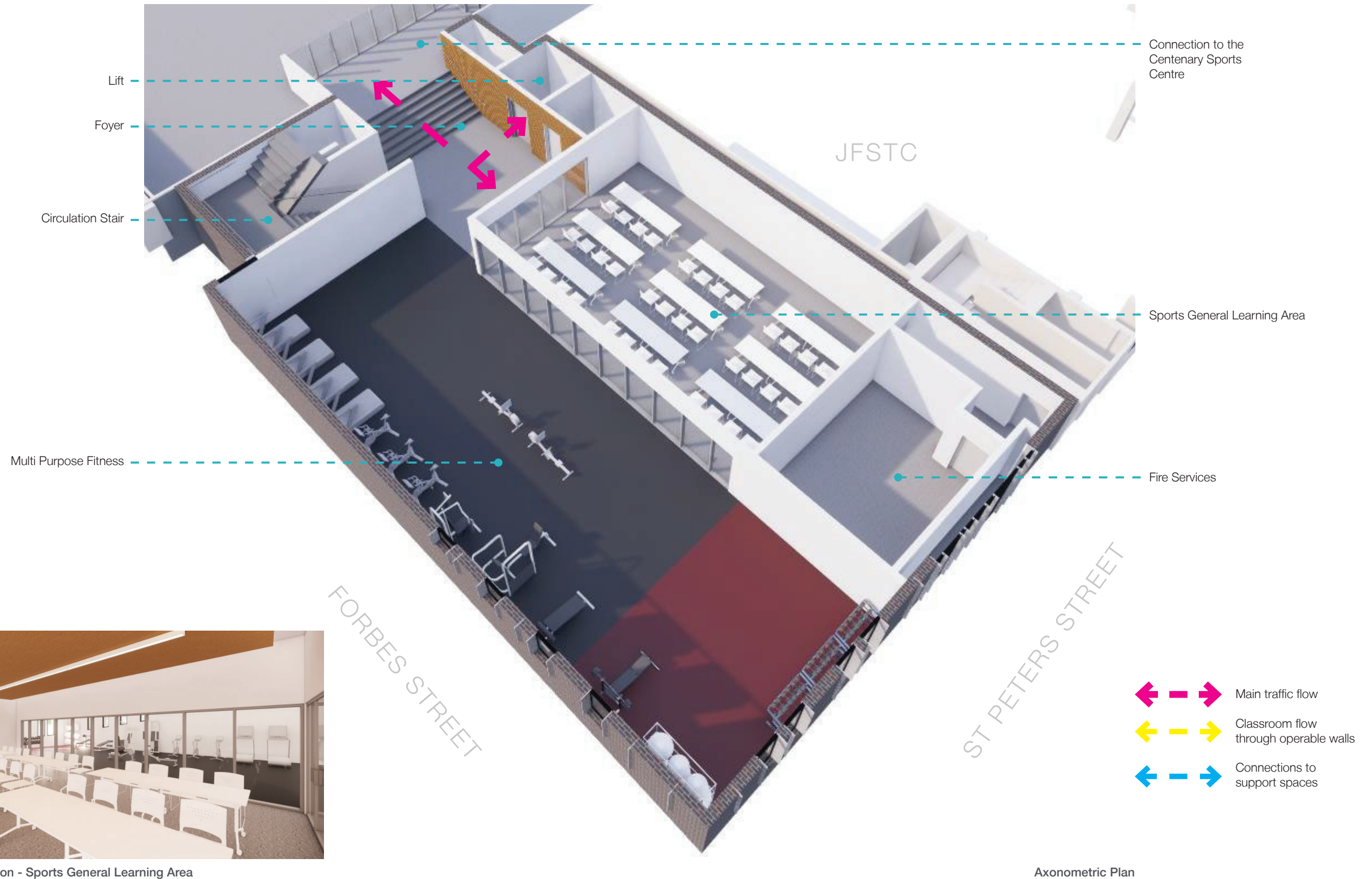
New Building Design



Wilkinson House Option C provides collaborative spaces that can be joined together to form larger learning areas with adjacent breakout spaces.

New Building Design

Basement Level



New Building Design

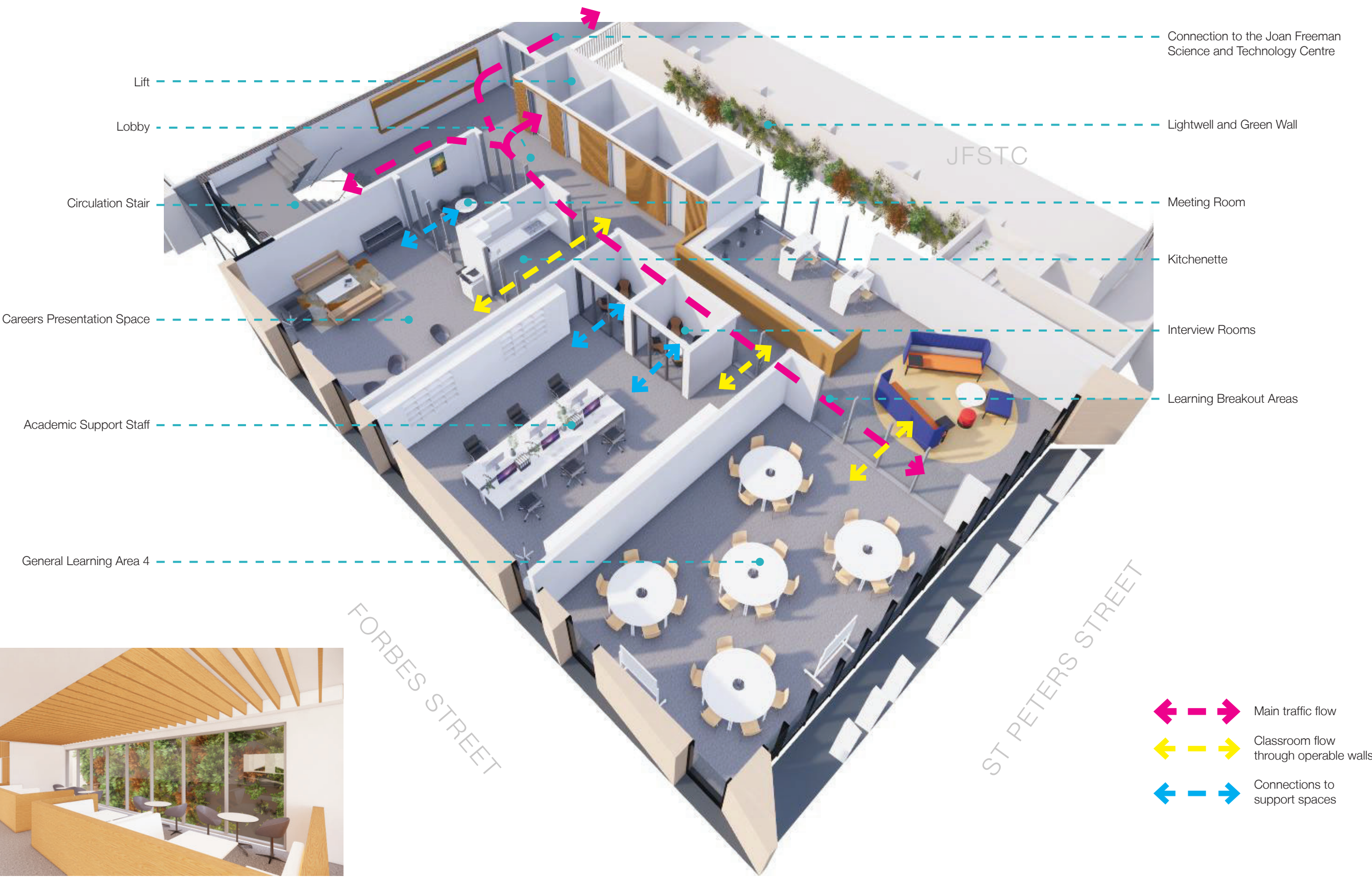
Ground Level



Artist Impression - General Learning Areas 2 & 3

New Building Design

Level 1

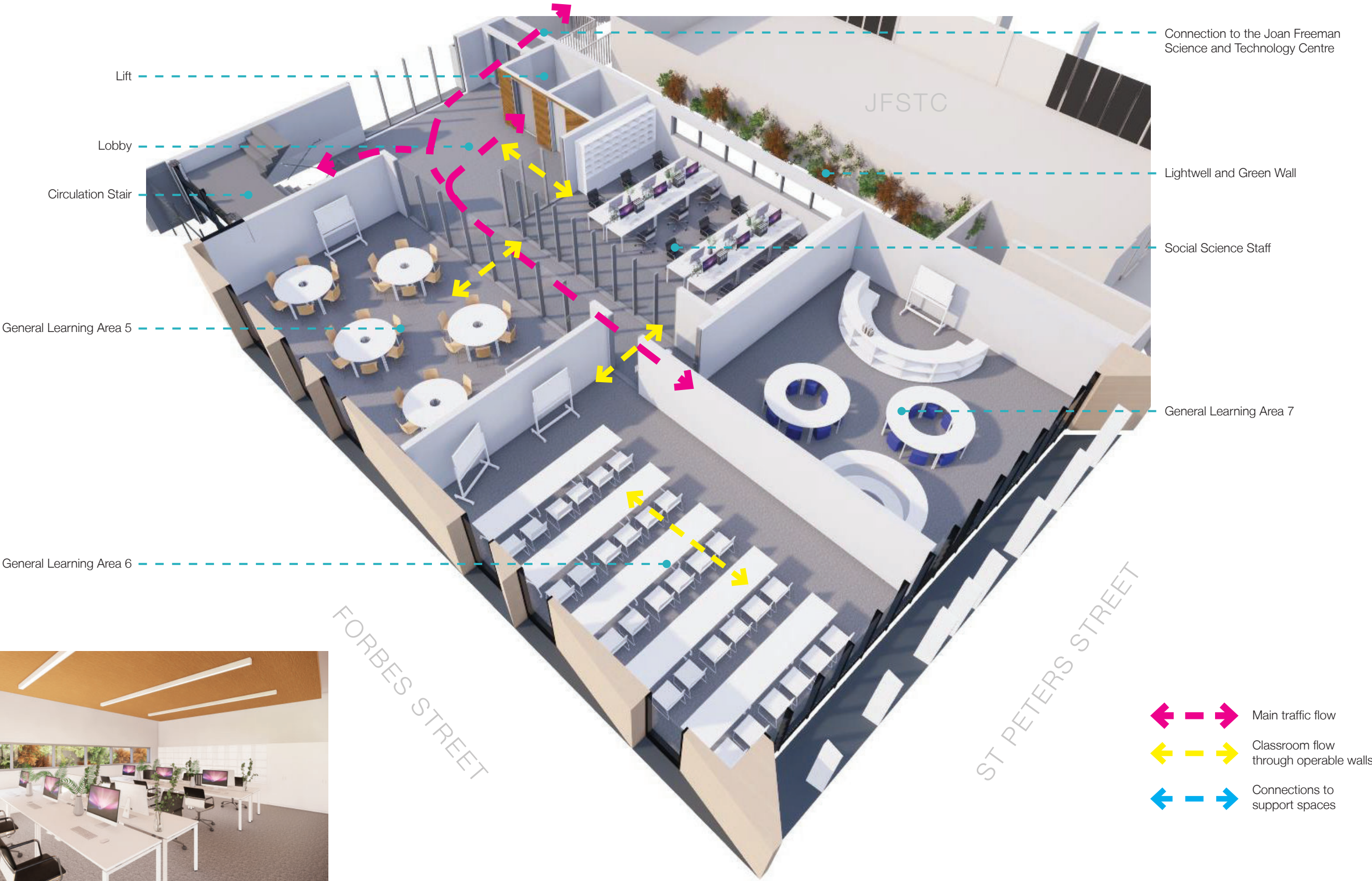


Artist Impression - Learning Breakout Areas

Axonometric Plan

New Building Design

Level 2



Artist Impression - Social Science Staff

Axonometric Plan

New Building Design

8 Streetscape and Context

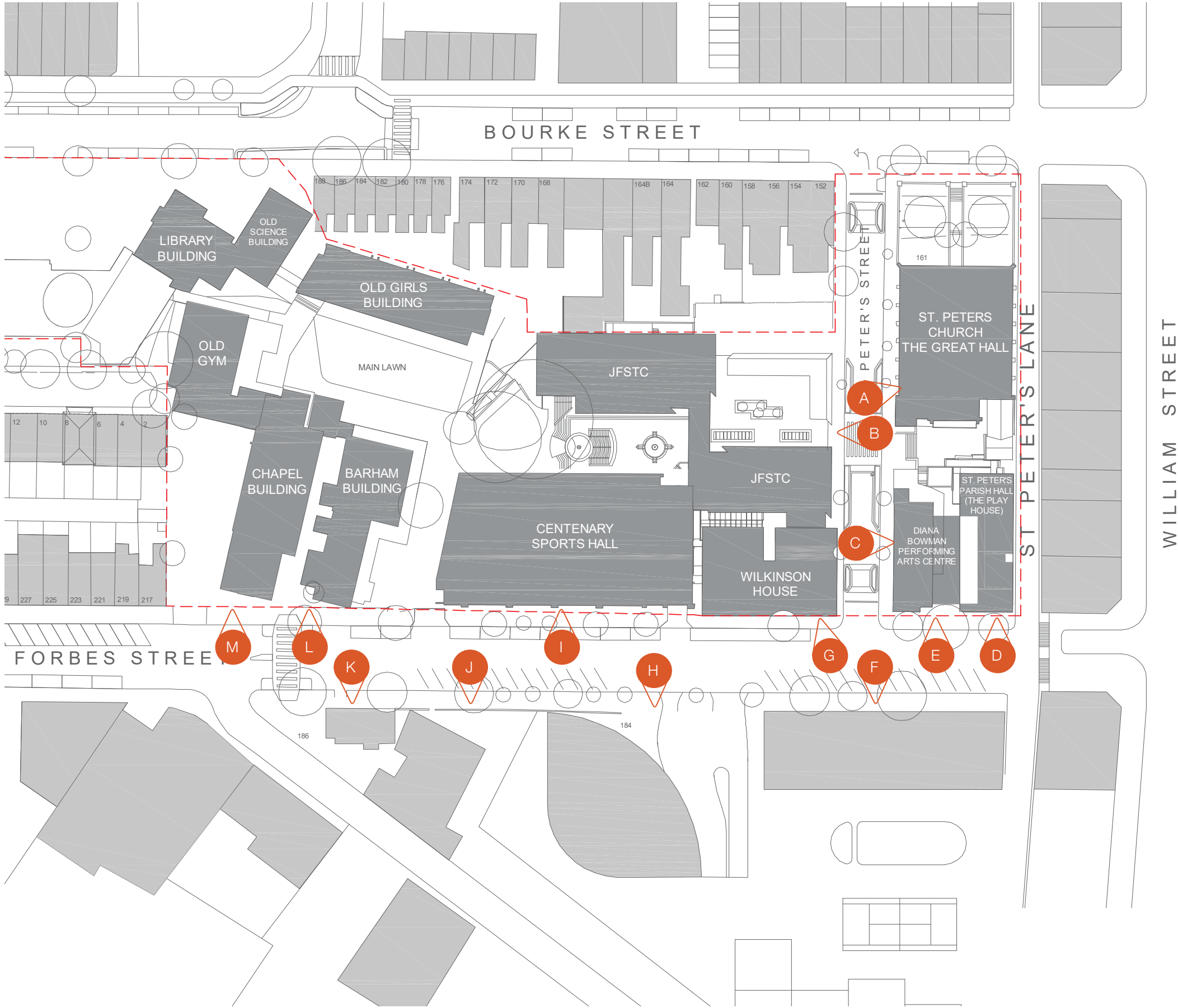
Sited at the northern end of Forbes Street at the corner of St Peter’s Street, the streetscape and urban context of Wilkinson House is varied, characterised by a mix of historic residential and public buildings and the newer school buildings of the SCEGGS campus. The environs are urban in character, predominated by buildings aligned to the street boundaries and which are typically two or more storeys in height. The character and scale of these streetscapes is illustrated in the following images.

The St Peter’s Street streetscape is largely defined by the sandstone façades of St Peter’s Church. Newer buildings in St Peter’s Street include the Joan Freeman Science and Technology Building and the Diana Bowman Performing Arts Centre. The façades of these buildings incorporate masonry elements which relate them to the sandstone character of the area.

To the south of Wilkinson House is the Centenary Sports Hall which defines the adjacent Forbes Street frontage with face brickwork. It was included as an exemplary urban infill project in the City of Sydney 1997 DCP for its ‘articulation of façade using structural elements to provide rhythm’.

Immediately opposite Wilkinson House on the east side of Bourke Street is the four-storey residential building which forms part of the Horizon Apartment complex, comprising an exterior of brick, concrete and sandstone.

Further south on Forbes Street, the streetscape comprises the historic SCEGGS Chapel Building, the twentieth century additions to Barham, and the former St Peter’s Rectory, all with face brick exteriors.



New Building Design



St Peters Street: view north to St Peters Church



St Peters Street: view south to JFSTC



Corner St Peters Street and Forbes Street: DBPAC



Forbes St: view west to St Peters Parish Hall (Play House)



Forbes Street: view west to Diana Bowman Performing Arts Centre and St Peters Parish Hall



Forbes Street: view east into the Horizon Building complex



Forbes Street: view west to Wilkinson House corner on St Peters Street intersection



Forbes Street: view east to the Horizon Building tower



Forbes Street: view west to the Centenary Sports Hall



Forbes Street: view east to 186 Forbes Street



Forbes Street: view east to former St Peters Rectory (188 Forbes Street)



Forbes Street: view west to laundry additions to Barham



Forbes Street: view west to Chapel Building and School entry

New Building Design

9 Design Excellence

The proposed replacement building for Wilkinson House has been designed to offer a high quality of architectural design, materials and detailing that is worthy of replacing the existing building.

The Wilkinson House Redevelopment provides a building that is in scale with the surrounding development and outwardly expresses the contemporary learning nature of the building and SCEGGS campus.

The building will provide contemporary and flexible learning spaces while complementing the surrounding street context and responding to environmental factors.

The new building provides natural surveillance of the surrounding public domain and introduces a richness of materials and quality detailing.

9.1 Materials and Finishes

The Wilkinson House Redevelopment has been designed with high quality low maintenance and durable external materials that will complement the character of the school campus and the St Peter's Street precinct.

External materials consist of face brickwork to the lower levels of the building that complements the treatment to the Joan Freeman Building and local buildings while providing a robust and grounding material adjacent to the public street.

The building above this base features large areas of glazed windows and sandstone cladding with white vertical concrete blades used to articulate the facade, provide sun protection, that relates to the fenestration and material treatment used on the Joan Freeman Building.

9.2 Wilkinson House Design Aesthetic

The proposal to demolish the existing Wilkinson House has not been taken lightly and the process of designing the external appearance of a new building for the site involved investigation of a number of options. There was consideration of proposing the new building with a predominantly brick façade as a reference or memory to the existing building. However, it was decided that a new building should look forward and reflect the internal functions as well as the school's high standing as an educational institution with the strongest possible presentation to the street and provide the building with the highest quality of finish and detailing. It was determined that the light coloured sandstone would meet this criteria and better relate to the materials and context of the prominent buildings within the immediate precinct. Comparable in scale to the present building, the overall form of the new building has been designed to complement the context of the surrounding buildings and relate to the scale and proportion of their predominant architectural features. The façade design responds positively to its context and the environment and provides a rich and textured contribution to the public domain.



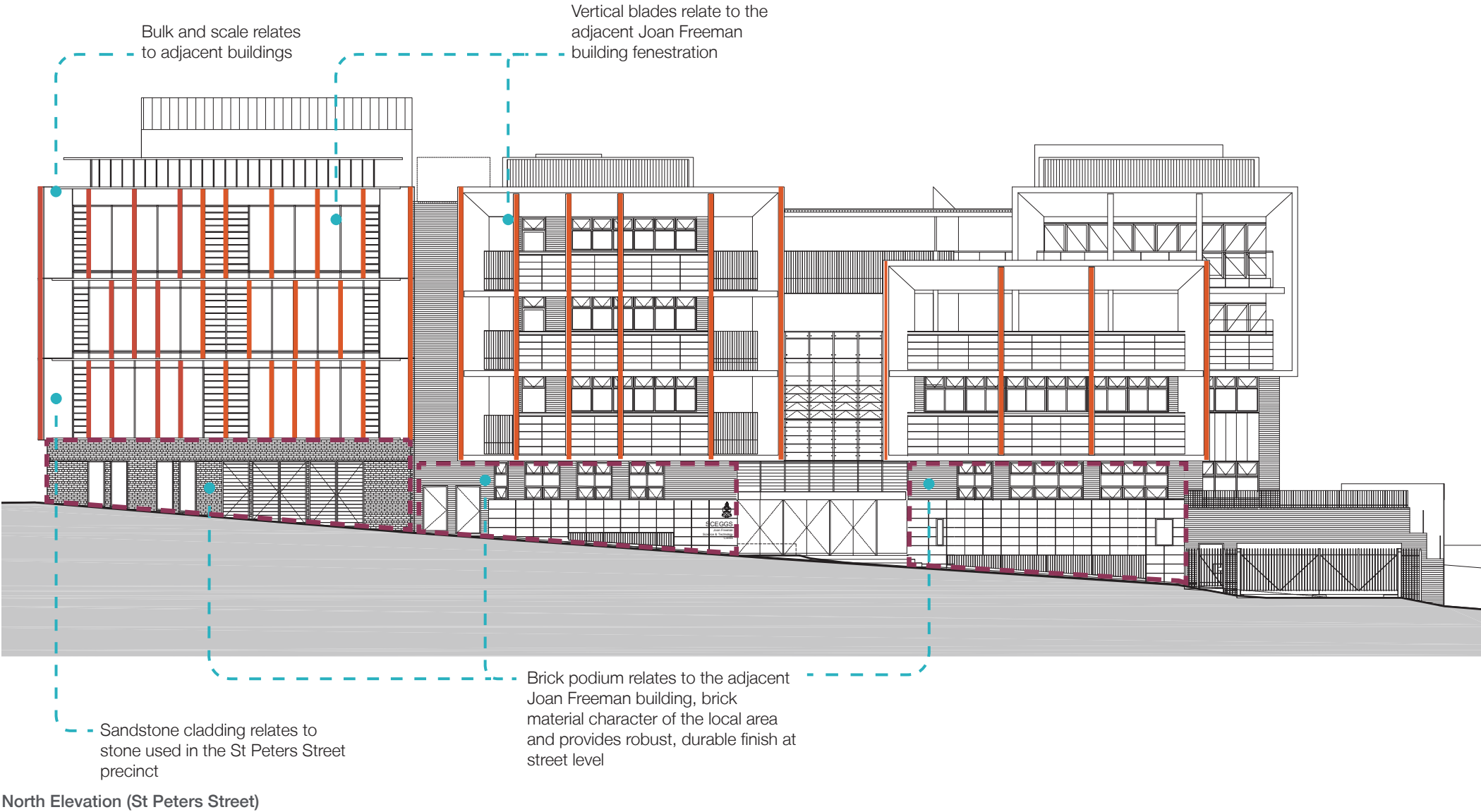
New Building Design

9.3 Facade Composition

The facade composition for the proposed Wilkinson House responds to the surrounding development, local urban context and unique environmental conditions.

The facade of the new Wilkinson House complements the adjacent St Peter's Street precinct and the Joan Freeman building. It does not try to mimic Joan Freeman building but retains its own identity that reflects the contemporary nature of the learning spaces contained within. The facade incorporates face brick and sandstone cladding, which is characteristic of the St Peter's Street precinct (refer to *Streetscape and Context* above).

Face brick work provides a durable finish at the street level and adjacent to the public domain. Vertical blades on the northern facade relate to the vertical fenestration of the Joan Freeman Building and cut out low angle sun. Deep horizontal sunshades protect against the northern sun. Vertical slot windows on the eastern facade increase privacy of neighbours while maintaining some natural light to learning spaces.



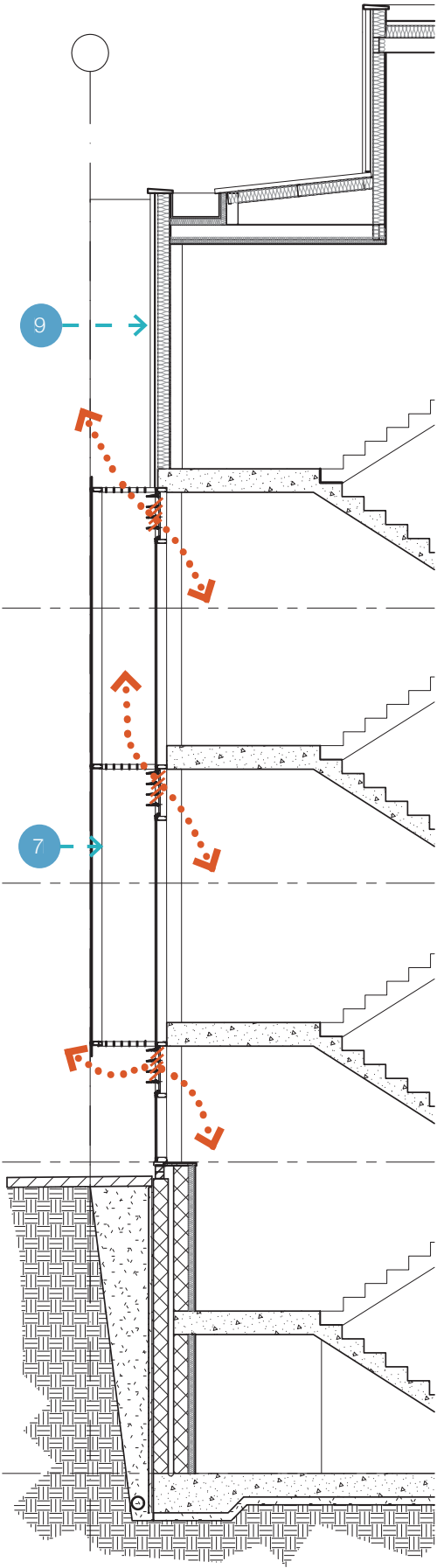
New Building Design

9.4 Facade Design and Detail

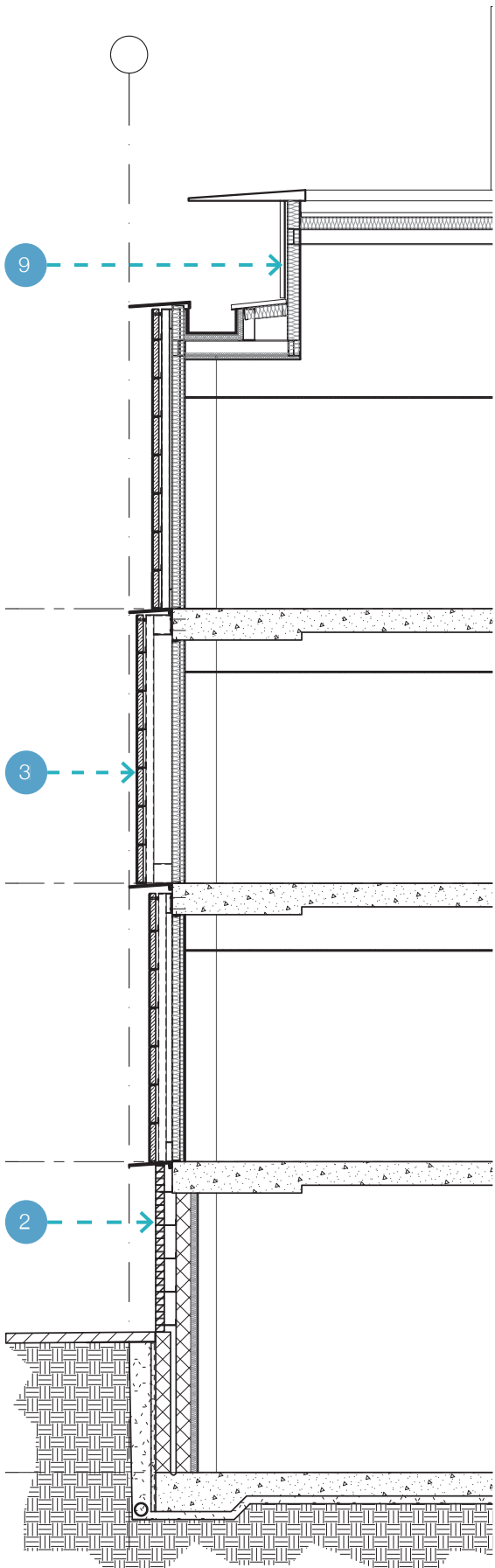
The building has been designed with a high-quality facade. Section and plan details on the following pages describe the facade design and quality in additional detail.

The facade design incorporates the following:

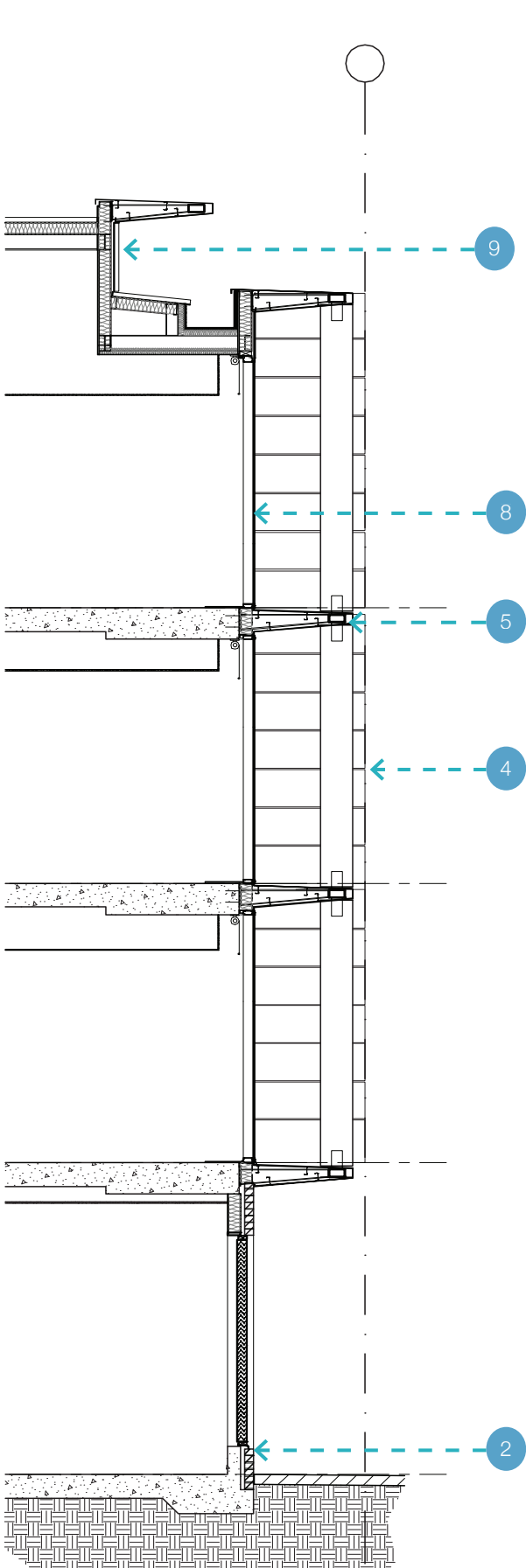
- 1 High quality materials of sandstone and face brick, in keeping with the local context and character of the St Peter's Street precinct (refer to Streetscape and Context above)
- 2 Robust face brickwork at the building base, where it can withstand the rugged treatment it will receive adjacent to the pedestrian pavement. Brickwork has been stretcher bonded in accordance with the local context. Vertical windows further modulate the facade
- 3 Sandstone facade above the brick base provides a richness of material combined with quality plate steel detailing and expressed joints
- 4 Vertical precast concrete blades on the northern facade relating to the adjacent vertical fenestration of the Joan Freeman Building and to cut out low angle western sun
- 5 Deep horizontal sunshades to protect against the northern sun
- 6 Vertical slot windows and louvres, with plate steel surrounds, on the eastern facade to increase privacy of neighbours while maintaining natural light to the learning spaces
- 7 Frameless glass treatment to the main circulation stair, offering a high-quality facade treatment, natural surveillance and activation of the street.
- 8 High performance double glazed windows and louvres to the northern facade
- 9 Ribbed zinc wall cladding



Wall Section A - Main Circulation Stair



Wall Section B - East Facade



Wall Section C - North Facade

New Building Design

Glazed circulation stair provides natural light into the building and activation of the street

Vertical slot windows increase privacy to neighbours while maintaining natural light and ventilation to learning spaces

Sandstone cladding relates to materials used in adjacent St Peters Street precinct

Angled sandstone facade elements provide visual interest and texture



Perspective Image (Forbes Street)

New Building Design

Deep horizontal sunshades protect against northern sun

White vertical blades relate to Joan Freeman building fenestration and cut out low angle sun

Robust and detailed face brickwork provides durable finish at street level



Perspective Image (St Peters Street)

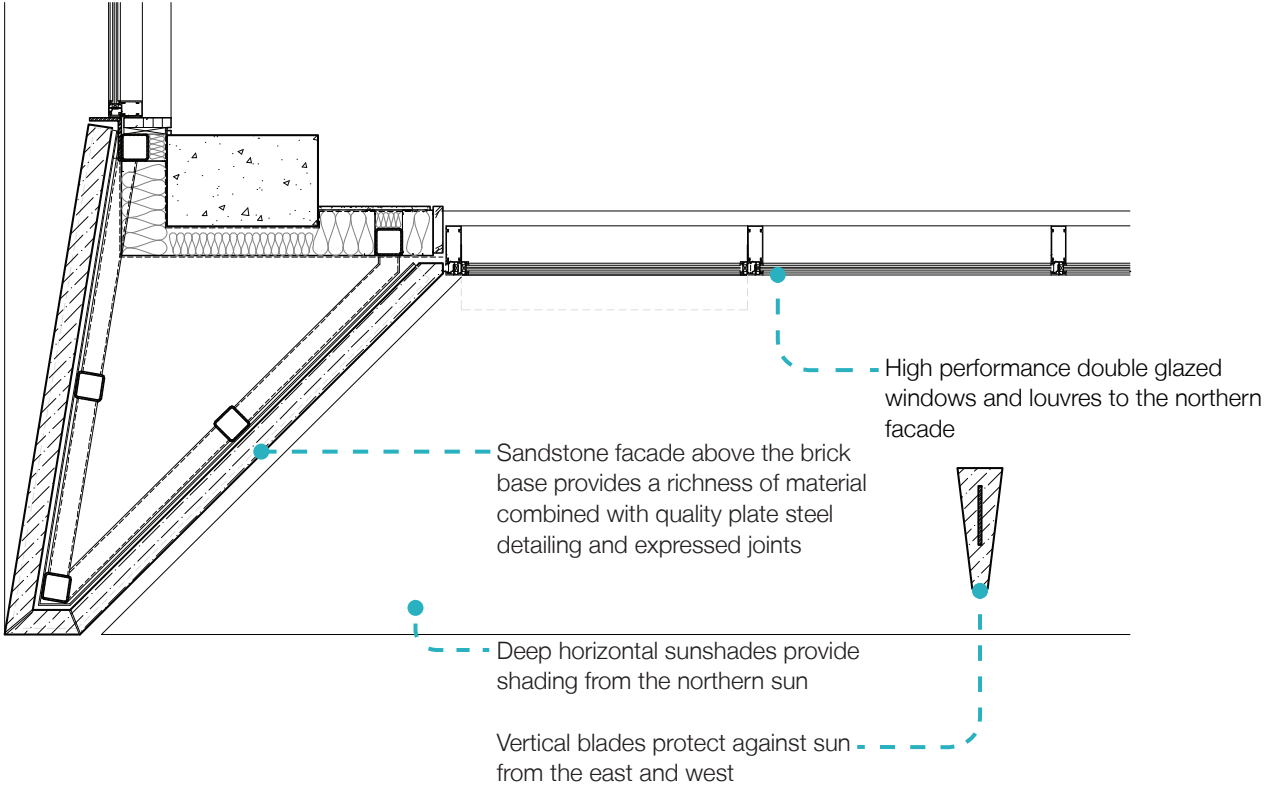
New Building Design



Angular sandstone facade with expressed joints

Deep horizontal sunshades and vertical blades

Artist Impression - North Facade (St Peters Street)



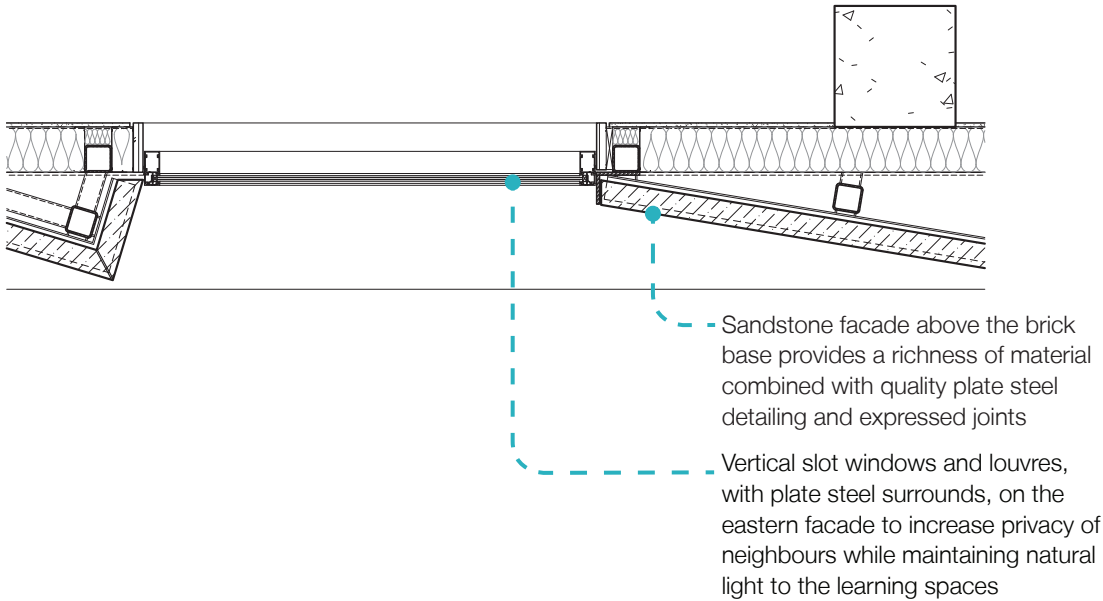
Plan Detail E - North Facade



Vertical Slot glazing and high level louvers

Angular sandstone facade

Artist Impression - East Facade (Forbes Street)



Plan Detail D - East Facade

New Building Design

10 Proposed Design Change

SCEGGS proposes to refine some the detailing of Wilkinson House.

The street level brickwork and metal louvres have been developed to create a more refined, highly detailed element to the building, improving the pedestrian experience.

The materiality to the top of the building has been revisited. The zinc cladding proposed provides a higher quality material, enriched by a natural patina.

The glazing to the stair has been revised to provide a stronger glazed element. Through creating a frameless protecting bay which has been increased in height the element becomes a more prominent and refined part of the Forbes Street Elevation.



Perspective Image - Refined, Highly Detailed Street Level Frontage

Revised materiality - Zinc cladding provides a higher quality material, enriched by the natural patina

The glazing to the stair has been revised to provide a stronger glazed element. Through amending the recessed glazing to a projecting, frameless glazed bay and increasing its height the element becomes a more prominent, refined element to the Forbes St elevation

The brickwork and window reveals to the lower level of the building has been revisited to provide a more refined, higher level of detail. Vertical stainless steel blades have been introduced to window reveals and brickwork panels, which mirror the treatment on the Joan Freeman Science and Technology Centre.

Standardised aluminium louvres have been revised to provide a more robust and enhanced feature to the building. Randomised vertical stainless steel blades tie in with the revised brickwork treatment, while reflecting the elevation treatment at upper levels. Between the blades, black, horizontal steel louvres sit recessed, emphasising the quality of the stainless steel blades.



Perspective Image - Projecting Glazed Bay to Main Circulation Stair

New Building Design

11 ESD and Energy Efficiency

11.1 Ecologically Sustainable Development (ESD)

Environmental sustainability is important to SCEGGS Darlingtonhurst, both in terms of the schools values and management of the school campus, and the new Wilkinson House provides an exciting project for the school, incorporating the principles of ESD and Energy Efficiency.

The new Wilkinson House have been developed using the principles of ESD and has been assessed against an accredited rating framework - Greenstar. The project is expected to achieve a high level of environmental sustainability and has been benchmarked as Best Practice.

The building will be used as a sustainability learning tool for the students.

Refer to the ESD Report for further information.

11.2 Energy Efficiency

The existing Wilkinson House building is not very energy efficient.

The existing facade is poorly insulated, natural light and ventilation into the building is inadequate, windows are not energy efficient and there is no sun shading. The poor performance of the facade results in poor thermal comfort for occupants and excessive energy used in building services to counteract external conditions. The existing façade could be upgraded with the insertion of an internal wall skin and insulation, however, this results in the additional loss of floor area (of already undersized spaces) and loss of any heritage detailing on the internal side of the retained façade.

The new Wilkinson House provides the opportunity to develop a building that incorporates the principles of ESD and Energy Efficiency. The new building proposes the following energy efficient initiatives:

- > Energy efficient facades with high levels of insulation.
- > External materials that are robust, durable and low maintenance.
- > Energy efficient double glazed windows with appropriate sun shading.
- > Appropriately sized windows to maximise opportunities for natural light and ventilation.
- > The use of mixed-mode air conditioning to provide high levels of fresh air with reduced energy input. The mechanical system will incorporate heat recovery.
- > Energy efficient lighting and smart control systems.
- > Energy efficient hot water system.
- > Metering and monitoring of all services so that they can be managed efficiently. Interactive monitoring displays as integrated learning tools for students.
- > Energy modelling demonstrating a reduction in energy consumption of the proposed building compared to a reference building.

11.3 Environmental Design

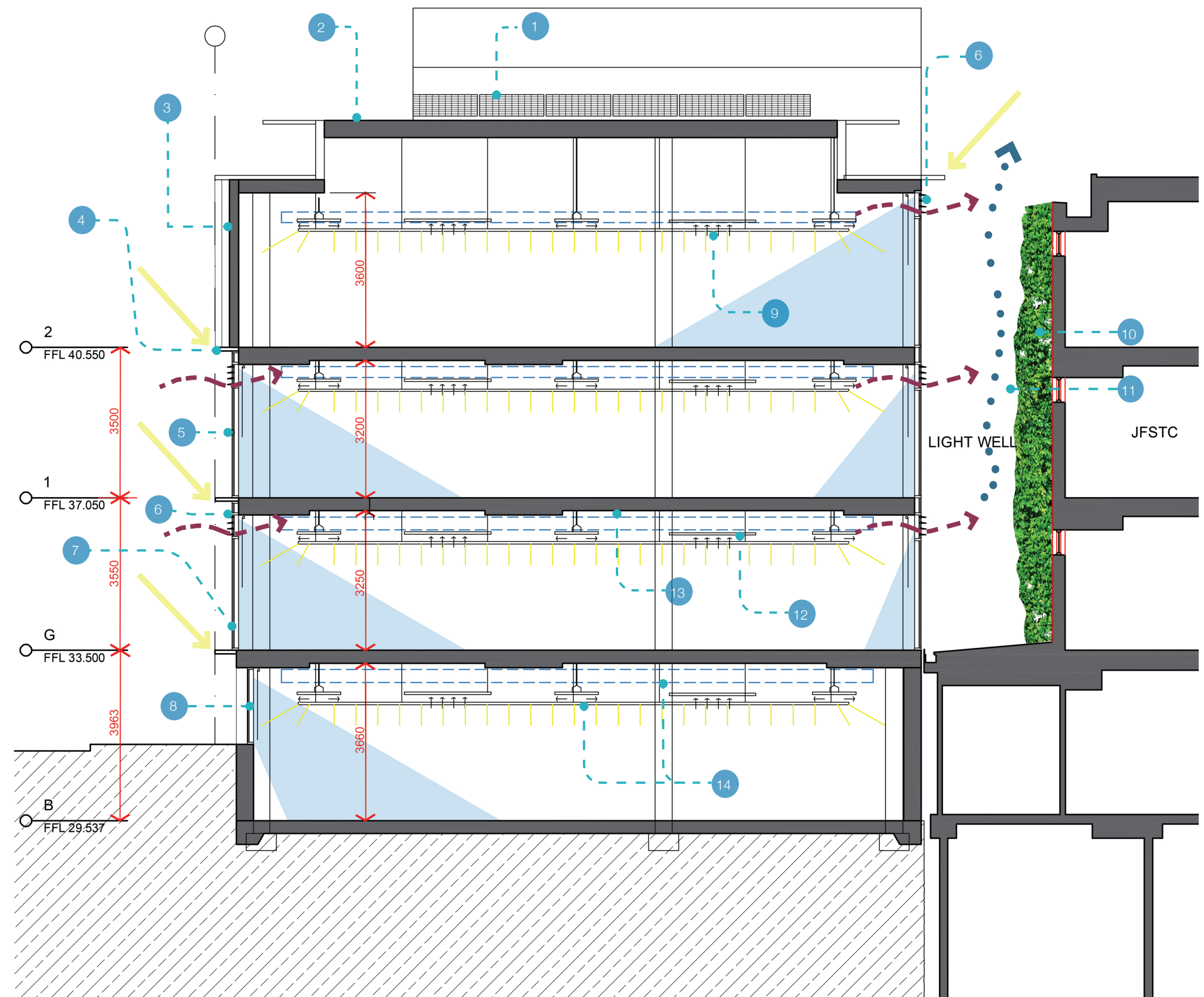
In addition to the energy efficient measures described above, the new building design will incorporate the following additional environmental design features:

- > Light well and green wall between Wilkinson House and the adjacent building to bring in natural light
- > Water efficient fittings and fixtures.
- > External materials that are robust, durable and low maintenance.
- > All paints, sealants, adhesives, floor coverings and composite timbers used internally will be low VOC.
- > Acoustic separation between different spaces.
- > The project will target reductions in waste generation during construction and operation.
- > The project will target increased recycling.
- > The building will incorporate separate bins for waste and recycling for separation of waste streams.
- > The SCEGGS Darlingtonhurst campus is well serviced by the existing public bus network, providing access to nearby public facilities and local centres.
- > Plant species for the greenwall to the light well will be selected to be suitable to the surrounding microclimate and light conditions

The school currently includes bicycle parking facilities and end of trip facilities.

New Building Design

- 1 Roof top solar PV panels
- 2 Pale roofing materials minimise summer heat gain
- 3 High levels of thermal insulation and air tightness to external façade
- 4 Projecting overhangs and deeply set windows provide solar shading to reduce direct solar heat gain
- 5 High performance double glazing to fixed window and glazed louvres
- 6 East facing high level glazed louvres capture dominant breeze and provide natural ventilation for mixed mode air-conditioning & night time purging
- 7 Floor to ceiling high glazing provide high levels of natural light which penetrate deep into the building floor plates
- 8 Adjustable internal blinds allow for customised user comfort
- 9 Acoustic comfort provided by ceiling baffles and insulated walls to provide acoustic separation and minimise reverberation
- 10 West facing green wall provides a natural air filtration system, biodiversity, improved air quality, noise reduction and creates an aesthetically pleasing, cooling effect to breakout areas
- 11 The new external lightwell provides opportunity for greater light levels to floor plates, stack ventilation and night time purging
- 12 LED lighting with localised lighting control and occupancy sensors reduce energy consumption, and improve user comfort
- 13 Exposed concrete soffits provide thermal mass for night time purging
- 14 Mixed mode air-conditioning combined with operable windows and ceiling fans minimise energy consumption



New Building Design

11.4 Natural Light

As a benchmarking tool to compare Visual Comfort of Option B (retaining the existing façade) and Option C (proposed new façade), the Green Star Design and As Built rating tool has been used to compare the quantity of daylight to internal spaces for the two options.

The certification scheme awards up to 2 points for daylight where a percentage of the nominated area receives high levels of daylight. 1 point is awarded where 40%, and 2 points where 60% of the nominated area receives daylight.

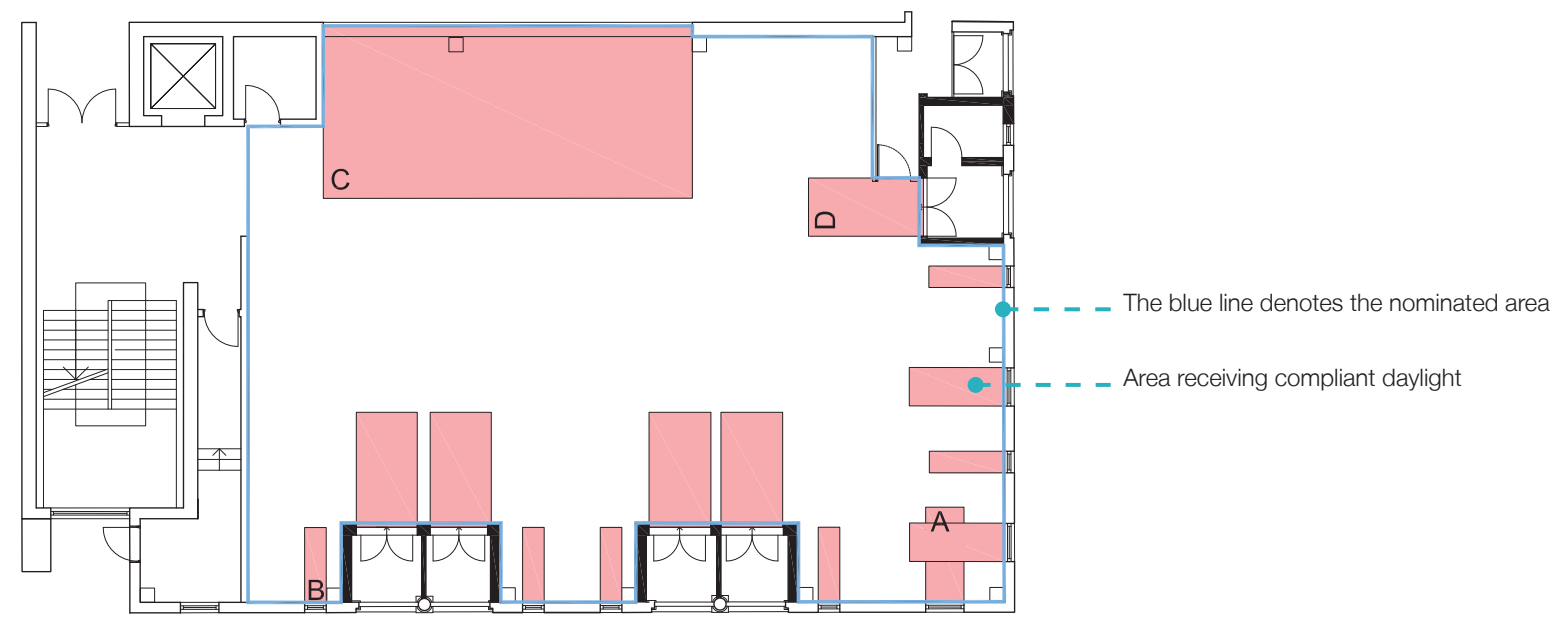
For both options, the Primary (classroom) and Secondary (breakout) spaces have been used as the nominated area in this instance. It is noted that Green Star requires the Primary Areas to be calculated. In addition, internal partitions have been excluded and the lightwell included at this stage.

The amount of daylight is determined by the following calculation, which takes into account the window height, desk height (h) and window width (w)

Depth of the Zone of Compliance = 'h' (= height of glazing - 700mm desk height)
'w' width of the Zone of Compliance = Width of the glazing
Zone of Compliance = h x 2 x w

The original façade of Wilkinson House was designed for residential use, where smaller windows provided sufficient light to smaller residential type spaces. Retention of the existing façade results in a poor percentage of area which receives natural daylight, only achieving 26% of the nominated floor area which receives compliant daylight.

In comparison, the new façade of Option C, which is purposely designed for the education use of the spaces receives 46% compliant daylight, a 77% increase.



TOTAL
A. H=1317 W=1070 2H=2634
AREA OF COMPLIANCE =7.3m2
B. H=1040 W=600 2H=2080
AREA OF COMPLIANCE =7.2m2
C. H=3100-700=2400 W=10280 2H=4800
AREA OF COMPLIANCE =49.3m2
D. H=2300-700=1600 W=1700 2H= 3200
AREA OF COMPLIANCE =11.7m2
TOTAL AREA OF COMPLIANCE= 75.5m2
NOMINATED AREA= 290.6
PERCENTAGE OF COMPLIANCE = 26%

Option B - 1st Floor Plan



TOTAL
A. H=3100-700=2400 W=1049 2H=4800
AREA OF COMPLIANCE =24.7m2
B. H=3100-700=2400 W=13950 2H=4800
AREA OF COMPLIANCE =67m2
C. H=3100-700=2400 W=10280 2H=4800
AREA OF COMPLIANCE =49.3m2
TOTAL AREA OF COMPLIANCE = 141
NOMINATED AREA= 306.7
PERCENTAGE OF COMPLIANCE= 46%

Option C - 1st Floor Plan

New Building Design

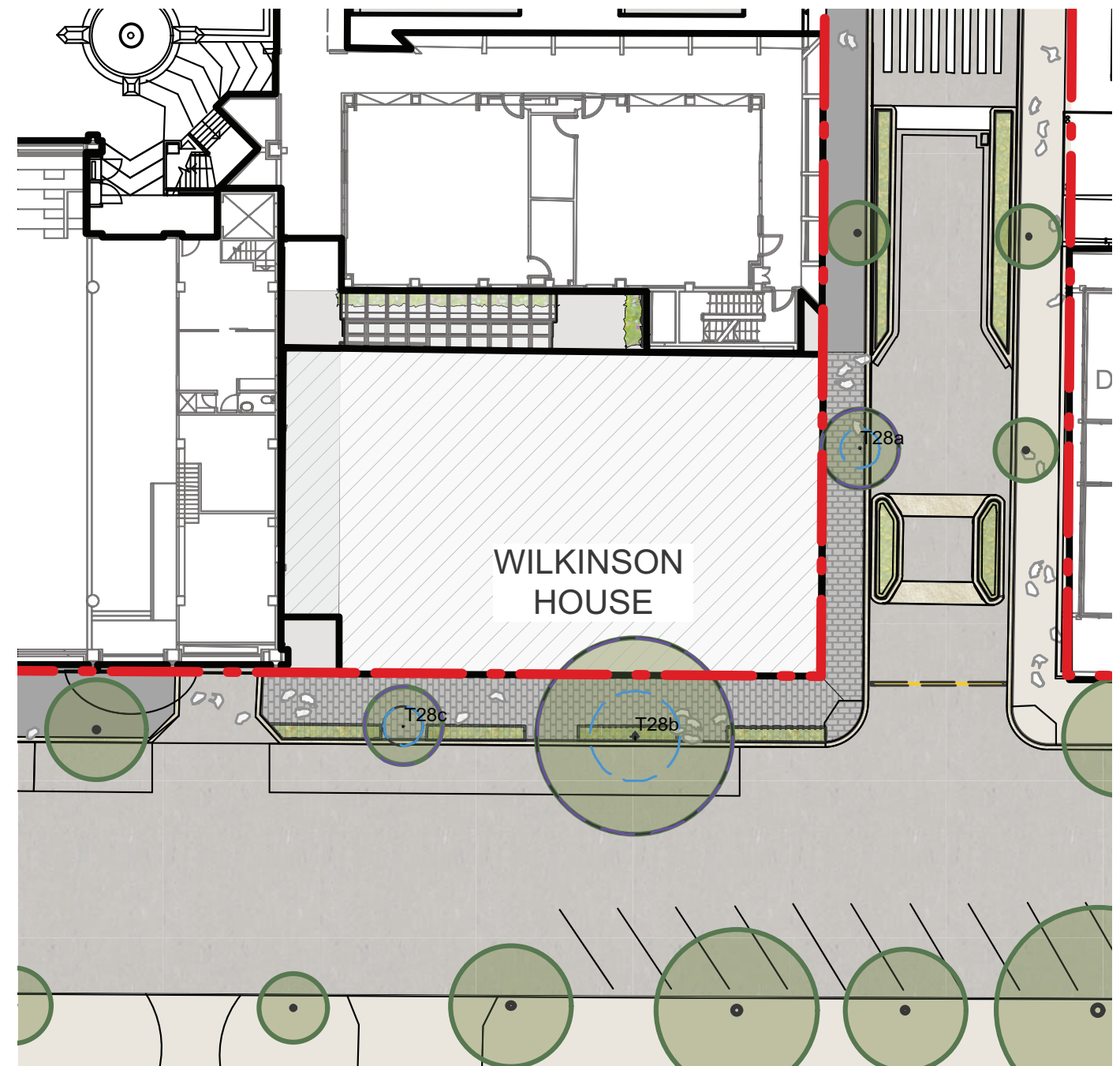
12 The Public Domain

The public domain surrounding Wilkinson House will be improved with quality landscape treatment.

The school propose to upgrade the public domain around Wilkinson House with:

- > High quality blue stone paving
- > Upgraded kerb edging
- > Incorporation of planting beds

Refer to the Landscape Masterplan by Context landscape architects for full details of the proposal.



New Building Design



View looking Southwest to corner of Forbest Street and St Peters Street

New Building Design



View looking east along St Peters Street

New Building Design



View looking North along Forbes Street

Conclusion

13 Wilkinson House Conclusion

This document concludes that Option C is the only option that meets the School's requirements for the redevelopment of Wilkinson House.

As noted above, the SCEGGS campus is relatively small in area and physically constrained due to the awkward topography. Space within the school campus is at a premium and it is not sustainable for the school to have space that does not provide efficient and effective spaces to support their learning programs. The current building layout and fabric is inadequate and is not effective in supporting the schools current learning activities.

Option A requires relatively significant intervention to the building fabric however it does not result in significant positive change to the current circumstance resulting in almost all of the key negative aspects of the building remaining. Therefore option A is not a viable option.

Option B retains the façade of the building and provides a more open plan building than Option A. However, the internal usable area of the building would be significantly reduced due to the retention of balconies and the addition of the façade support. The resulting shape of the internal spaces retains some of the key negative issues in relation to sight lines and supervision that Option A exhibits. The insertion of a new concrete floor structure and beams required for larger flexible learning spaces increases the floor depth and results in services and ceilings at an unacceptably low height. A significant area within the basement would also be lost due to the requirement to permanently shore and support the façade.

The retention of the façade leaves the building with an external fabric with poor thermal performance and does not respond to the opportunities for views and natural light. Moreover the façade, which was designed as a residential flat building, does not relate to the internal function of a school building.

The complete removal of the interior fabric will result in considerable adverse visual and physical impacts on the heritage significance of Wilkinson House.

Another primary issue is that a preliminary structural and construction analysis has indicated that retention of the façade would be significantly difficult, is likely to require partial demolition of the façade and the removal of all external windows and doors and the process would have more construction impact on the school and their neighbours. The analysis concludes that the facade should not be retained due to significant risks and difficulties of construction.

In summary, Option B would provide a building which does not optimise the internal space and educational functionality, retains a façade that performs poorly, and providing only a remnant of the original building that does not relate to the internal function of the building. Notably these outcomes would be at significantly more

cost and with more construction risk and impact.

Option C provides future focused learning space with an efficient, flexible and functional layout. The design is likely to be capable of achieving a Greenstar rating. The façade treatment and fenestration responds to the environmental characteristics of the site including views, privacy to neighbours, acoustics, solar access and cross ventilation. The design generally fits within the envelop of the existing building and has no impact on views from neighbouring properties or overshadowing. The building form has been resolved as a contemporary building that reflects its internal function. The design has been carefully considered to relate to adjacent built forms and the façade will comprise of high quality materials and detailing that will complement the surrounding buildings and provide a positive contribution to the streetscape and local context.

Option C provides a high quality outcome and meets with the schools requirements for educational space and is therefore the only viable option of the three alternatives.

C Administration Building



C Administration Building

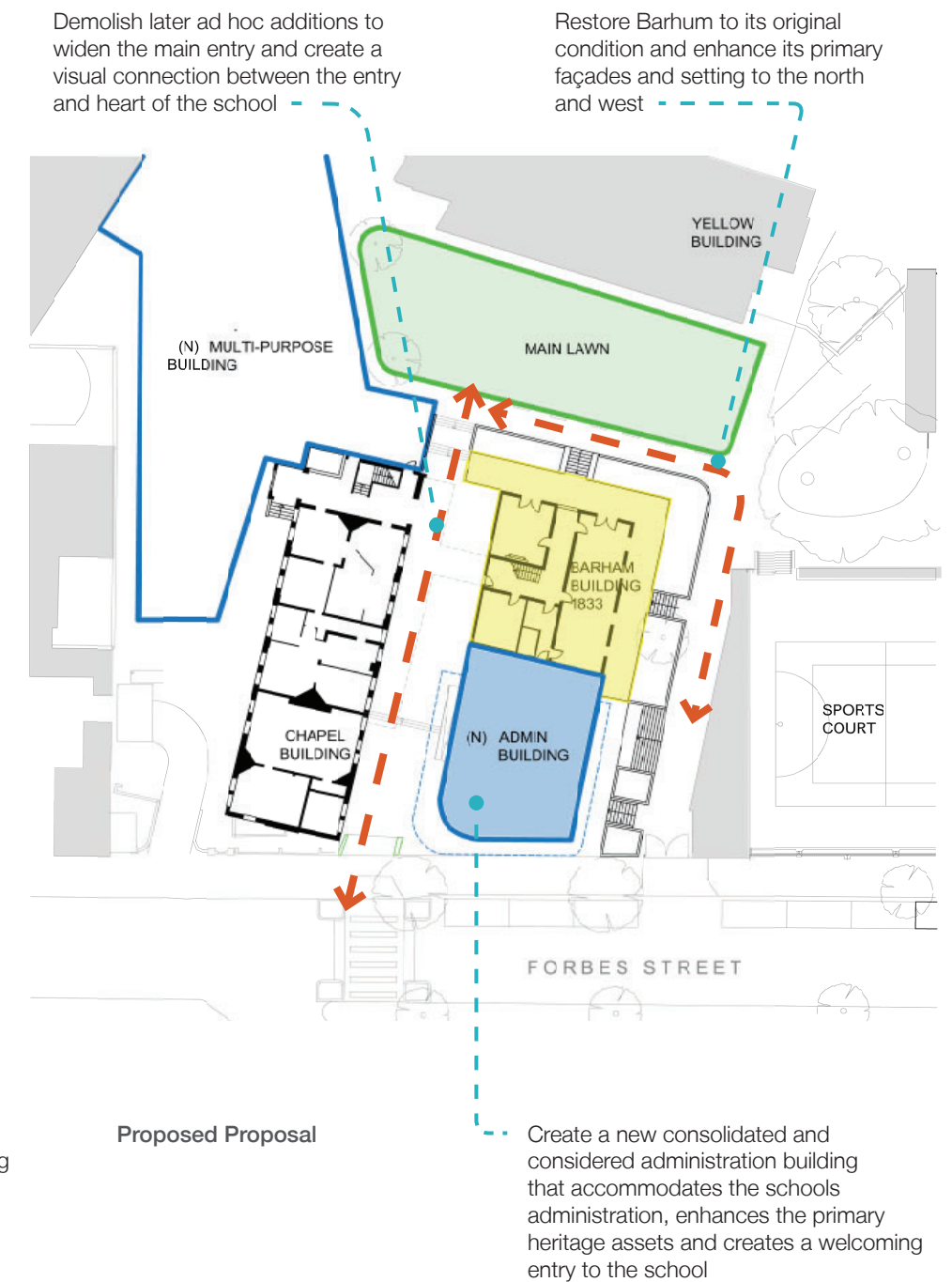
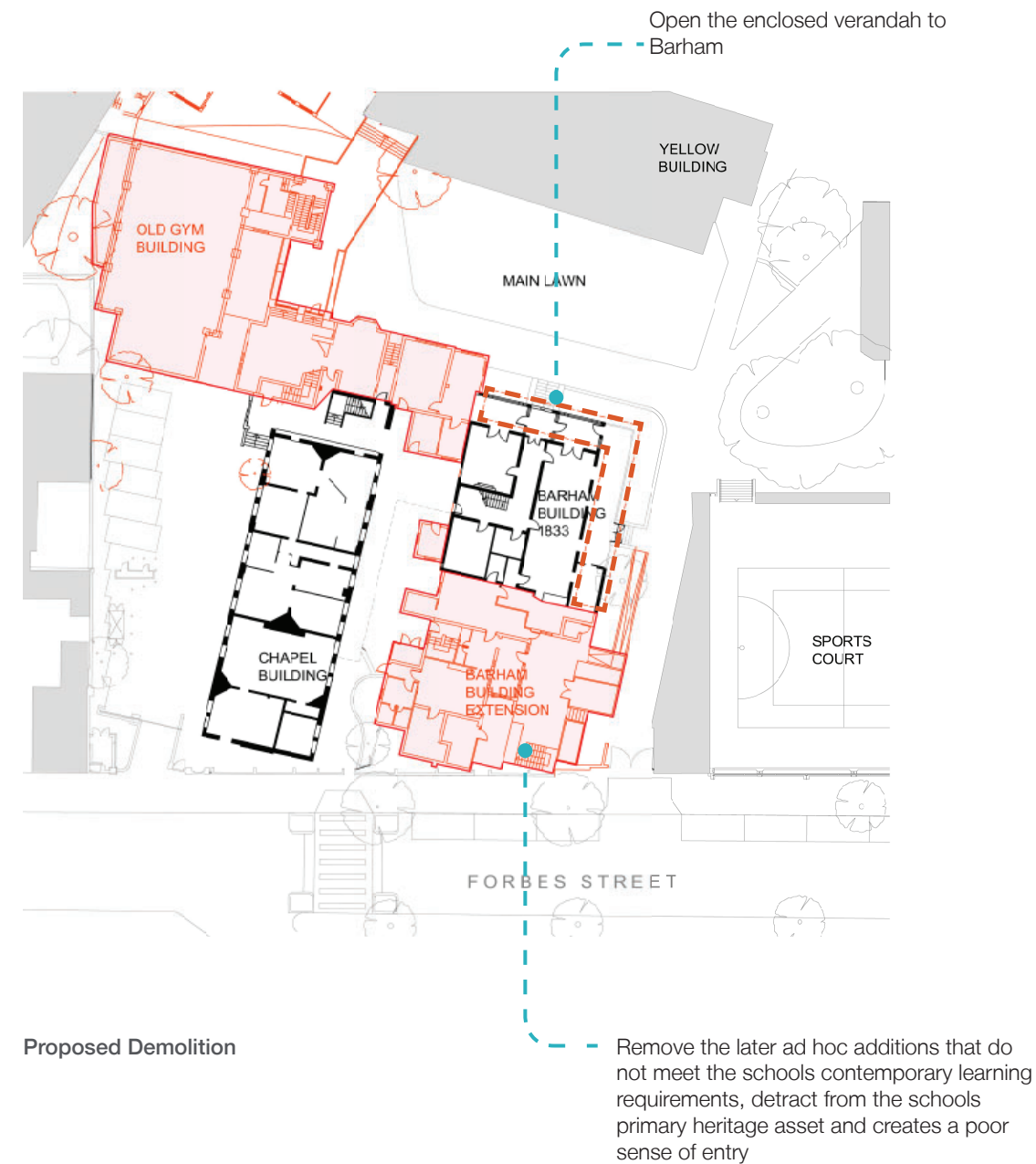
1 Design Proposal

The Barham Building, together with the Chapel Building, accommodates the core Administration functions of the school and effectively provides the main entrance to the Senior School Campus. It is important that this area functions well in terms of its ease of access, way finding, security and presentation of the school.

The current entry into the school is through a dark, narrow and unwelcoming space. Administrative functions are spread throughout existing convoluted spaces and way finding is poor. The existing Barham Building and Chapel Building have been engulfed by unsympathetic additions and there are no visual links between the main entry and the school campus.

In order to address these issues the Masterplan for the Administration precinct proposes the following:

- Demolition of the existing intrusive and outmoded ad hoc additions;
- Construction of a new purposeful, consolidated and welcoming Administration Building;
- Restoration of historic buildings; and
- Upgrade of landscaping to provide a revitalised entry to the school.



2 Removal of Ad Hoc Additions

Completed in 1833, the villa known as Barham was purchased in 1901 by SCEGGS and adapted for school use. Additions to the former residence date from 1901 onwards. These include a two-storey extension to the east and a two-storey extension to the south-west, abutting the end of the original verandah. The building was further extended to the east in the 1920s and to the south-west in the 1970s.

The existing later additions to the east of Barham have been designed and conceived as a rear addition to the original Barham building, likely developing from the school's early needs for expansion without consideration of the future campus layout and architectural relationship to Barham. The existing addition provides minimal contribution to the streetscape and provides a narrow and poor entry to the school. The building is generally in poor condition and has inefficient functionality.

These twentieth century additions to Barham and also to the neighbouring Chapel Building are utilitarian in character and constructed to meet the changing functional needs of the school. These extensions have been heavily altered and modified and have little integrity. Their ad hoc nature and location negatively impact the curtilage and appreciation of the original design of Barham. The 1960s south-west extension is an unsympathetic ad hoc development which is intrusive to the aesthetic significance of the building, crudely terminating the 1880s verandah.

The Masterplan proposes the demolition of these later and unsympathetic additions and their replacement with a new purpose design and welcoming Administration Building, restoration of Barham and a revitalised entry for the school.

Barham

Ad hoc additions that detract from the schools primary heritage asset and creates a poor setting for Barham.

Barham

- 1) These images illustrate the 1920s and 1970s additions to the south-west of Barham. Utilitarian in character, these additions are visually intrusive and detract considerably from the setting of Barham. They have no individual architectural merit and have been assessed as having little heritage significance. Removal of the later additions to Barham will enable the reconstruction of the former villa to its earlier nineteenth century appearance and enhance its setting.





Utilitarian additions



Utilitarian ad hoc additions add little to the streetscape and create a poor sense of entry

- 2) These images illustrate the 1901 and 1920s additions to the east of Barham. Utilitarian in character, these additions are visually intrusive, add little to the streetscape and create a poor sense of entry. They have no individual architectural merit and have been assessed as having little heritage significance. Removal of these later additions will allow for the creation of a new welcoming Administration Building, a revitalised widened entry and enable the restoration of Barham.



The main entry is dark, narrow and unwelcoming. Different floor levels require convoluted ramps and handrails.

Existing Ad Hoc Additions to Eastern Side of Barham to be Removed



Kitchen Courtyard and Garbage Enclosure



Garbage Enclosure



Utilitarian service stair

Significantly, the new Administration Building allows the removal of the unsympathetic ad hoc additions and the restoration of the key heritage features of the campus – Barham and the Chapel Building.



4 Bulk, Scale and Streetscape

The proposed bulk and scale of the new Administration Building is appropriate to its setting. While the new addition is larger than the existing addition, the new building allows for the removal of the various intrusive ad hoc building additions to the east and south-west of Barham, the removal of the infilled verandahs, and allows for these functions to be relocated into a considered and purpose designed Administration Building.

The height and scale of the building is in keeping with the surrounding buildings and below the permitted 15m height limit. The new building will generally sit below the roof level of the Chapel Building so that it remains the largest building and is not dominated.

The new Administration Building is proposed to be built to the street alignment in accordance with the existing urban grain and precedent of the area.

5 Proposed Design Change

Seeking to achieve excellence in design, SCEGGS has reviewed the proposed envelope of the Administration building and proposes to refine the overall height of the Administration Building.

The street parapet has been lowered to the approximate gutter level of the adjacent Chapel Building.

This refinement provides a slightly better relationship between the new building and the Chapel Building without loss of floor area required by the school to accommodate the administrative functions.

The design proposal creates a new consolidated and considered administration building that accommodates the schools administration, enhances the primary heritage assets and creates a welcoming entry to the school

The street parapet has been lowered to the approximate gutter level of the adjacent Chapel Building and in scale with the street



6 Barham Setting and Site Lines

Barham was originally designed as a freestanding building with its primary façades facing north and west to capture key views towards Sydney Harbour and the city. These façades were enhanced in the 1880s with the construction of sheltering verandahs. There was no direct connection or any setting between Barham and Forbes Street. Barham was always accessed and approached by driveway from the northwest. The facade facing east was always a rear elevation facing into a heavily planted rear yard with rear fencing to Forbes Street.

Following purchase of Barham by the school, a large two storey addition was built onto the rear east elevation of Barham in 1901.

The design proposal seeks to restore the principal north and west elevations of Barham to their nineteenth century appearance. The proposed Administration Building addition to the east of Barham is sympathetically designed and is provided with a clear visual articulation and setback from the historic building.

A comparison between existing sightlines to Barham from Forbes Street show that the proposed addition will not further obscure views to Barham.



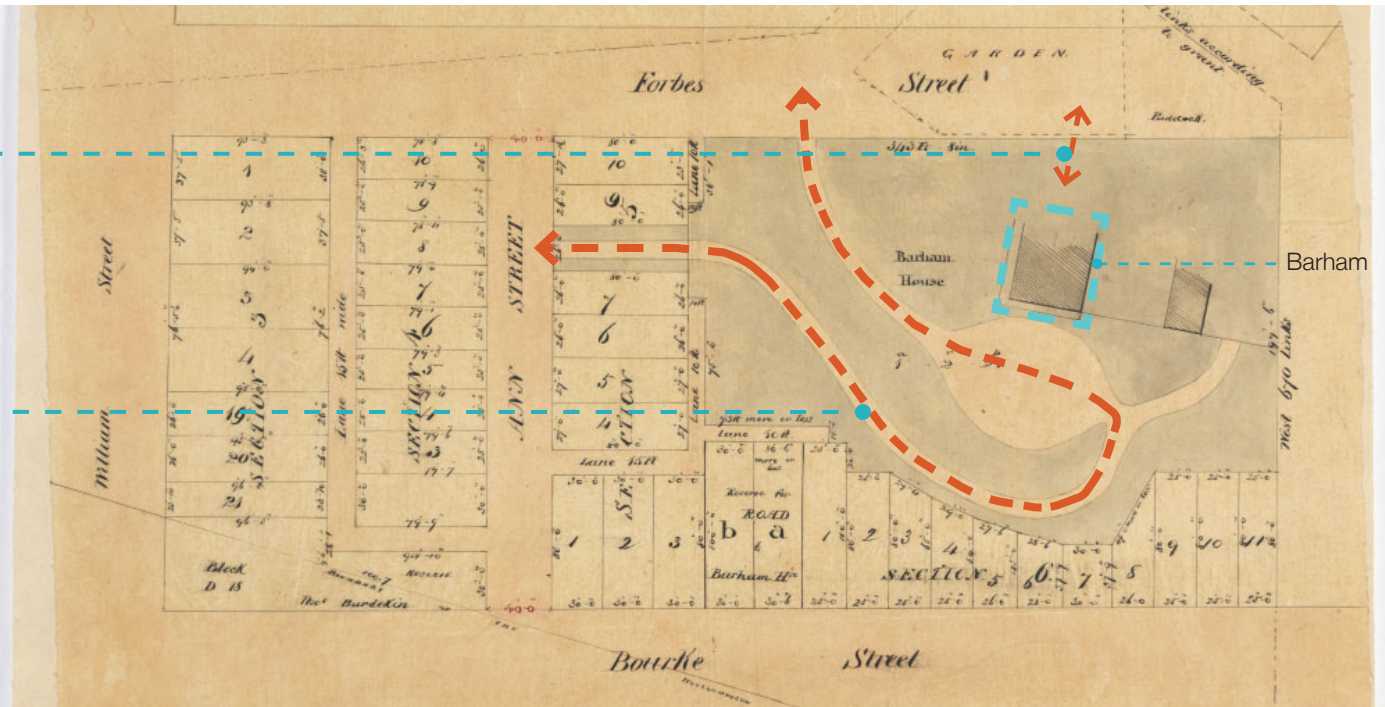
Circa 1880 photograph

Barham was originally accessed and approached from the northwest and had no direct connection northwest or setting or address to Forbes Street.

Forbes Street

The east side of Barham is the rear of the building which had no direct connection, setting or address to Forbes Street

Original access from northwest



Historic Plan - driveway access to Northwest

The later rear ad hoc additions to Barham detract from the school's primary heritage assets and create a poor sense of entry



North elevation of Barham currently visible from Forbes Street

Existing View

The design proposal creates a new consolidated and considered administration building that accommodates the school's administration, enhances the primary heritage assets and creates a welcoming entry to the campus



View to North elevation of Barham retained

Proposed View

View to Northern Elevation of Barham from Forbes Street



Barham was originally accessed and approached from the northwest and had no direct connection or address to Forbes Street.

The east-west corner of Barham is largely obscured by the existing ad hoc rear additions

Existing View

The design proposal creates a new consolidated and considered administration building that accommodates the school's administration, enhances the primary heritage assets and creates a welcoming entry to the campus



Proposed View

View to East-West corner of Barham from Forbes Street

7 Restoration of Barham

The existing Barham was been significantly altered over the years and has lost much of its original detailing. Additions have been unsympathetically added to the south-west of Barham that are visually intrusive and detract considerably from the setting of Barham. The original verandah has been infilled.

The Masterplan proposes that the later unsympathetic additions be removed to enable the reconstruction of Barham to its nineteenth century appearance within an appropriate setting. The removal of the additions to the south-west will also allow for the reconstruction of the verandah facing the lawn.

The proposed restoration includes the following:

- > The original verandah will be opened up and restored. The original timber frieze and cast iron balustrades will be reinstated.
- > The original timber nine pane double hung windows and shutters will be reinstated.
- > The original French doors and shutters will be reinstated.
- > The slate roofing will be restored. The original Ogee profile gutter will be reinstated.
- > A historic paint colour scheme will be developed from documentary and physical evidence investigations.
- > The sandstone pavements and garden edging will be reinstated. Historical and appropriate planting will be provided to enhance the setting of Barham.





Circa 1880-1890 photograph of Barham showing original open verandah and facade detail



Circa 1908 photograph of Barham showing original open verandah and facade detail

Historic colour scheme to be developed from documentary and physical investigations

Original verandah opened up and restored. Non-original enclosures to be removed. Original timber frieze and cast iron balustrades reinstated

Sandstone verandah and historical planting reinstated and appropriate plantings within garden bed to enhance the setting of Barham

Original Ogee profile gutter reinstated

Slate roofing restored

Original timber nine pane double hung windows and shutters reinstated

Original French doors and shutters reinstated



8 Revitalised Entry and Landscape Setting

The current entry into the school is through a dark, narrow and unwelcoming space. The existing Barham Building and Chapel Building have been engulfed by unsympathetic additions and there are no visual links between the main entry and the school campus.

In addition to the proposed Administration Building and the restoration of Barham House, the Masterplan proposes to upgrade and reinvigorate the landscaping to the Forbes Street entrance and Barham Curtilage.

The proposed landscaping will enhance Barham’s original character, whilst creating a new high-quality entrance for the school with custom entry gates, formalised entry paving, planting and seating. The landscaping will create a welcoming entry to the school and significantly improve sightlines, way finding and access into the school.

Refer to the Landscape Masterplan by Context landscape architects for full details of the proposal.



Proposed Landscape Plan - New Campus Entry



Artist Impression: View looking west from Forbes Street to Green Gate entry

9 Administration Building Conclusion

The proposed Administration Building has been designed to replace the 1900 -1930s unsympathetic ad hoc additions to Barham and the Chapel Building. This proposal includes the refurbishment and restoration of Barham and the upgrade of the surrounding landscaping, providing a greatly improved entry and presentation to the school campus.

The early twentieth century extension was designed to suit some of the early school uses. These uses have long since been removed and the building has undergone a number of changes and modifications up to the present, including the addition of external fire escape stairs and poor-quality infill to some of the external areas. The building is generally in poor condition and has inefficient functionality. It's connection to Barham is generally unsympathetic and does not provide clear circulation internally. The Building is in a key location for the School, being just inside the main pedestrian entry, and as part of the precinct accommodating the core administration facilities for the school. However, it turns its back to the street and does not provide an appropriate presentation for a prominent entry to the school.

The proposed Administration Building addition has been designed with a recessive connection to Barham. The design retains the current views of Barham as viewed from Forbes Street. The proposal also includes the removal of a series of ad hoc additions to south-west of Barham allowing a full restoration of three sides of Barham, enhancing its elevated presence adjacent to the Central Lawn and its status generally at the symbolic heart of the campus. The proposed Administration Building allows for the relocation of the staff dining area and kitchen from Barham, allowing for more appropriate uses for these spaces. The removal of the additions also allows for a strong connection from the front gate down to the Central Lawn and the main circulation spine of the school which will improve the entry experience and wayfinding.

The new Administration Building has been designed as a contemporary building providing an enhanced presentation of the SCEGGS Darlingtonhurst campus to Forbes Street. The design has been carefully considered to relate to the adjacent Chapel Building which also forms the entry. The original design has been slightly modified so that the parapet has been lowered to relate more closely to the form and scale of the Chapel Building. The façade of the new building will comprise of high-quality materials and detailing that will complement the surrounding buildings and provide a positive contribution to the streetscape and local context.

The new Administration Building will provide contemporary facilities for the school including an appropriate reception and entry adjacent to the front gate with optimum security and surveillance. The new building will include a passenger lift and improved accessibility to the entry administration precinct.

In conclusion the new Administration Building will replace poor quality and unsympathetic additions to Barham which will allow for the restoration of Barham and provide an improved presentation to the street, providing a positive contribution to the context and enhance the amenity of the entry and administration precinct.

D Multi Purpose Building



D Multi-Purpose Building

1 Design Proposal

The centre of the SCEGGS Campus is currently occupied by the existing outmoded Library and Science building, the Old Gymnasium and a range of unsympathetic, ad hoc additions. These buildings generally comprise of relatively small unconnected spaces which are generally on different levels with poor access. The spaces are generally outmoded and cannot be effectively utilised as contemporary learning spaces. These spaces are an inefficient use of space which is not sustainable on a campus which is constrained for usable area. The existing Library and Science building also present a sheer six storeys to Bourke Street and are angled against the historic urban grain.

In order to address these issues, the Masterplan proposes to replace these outmoded and inefficient buildings with a new consolidated and considered building that will meet their learning needs into the future.

The proposal for the new Multi-Purpose Building proposes the following:

- >
- > Removal of outdated, non-accessible buildings, with poor functionality, misaligned floors and no relation to the street
- > Creation of much needed contemporary learning spaces
- > The opportunity through larger floor plates and a new purpose designed building to provide open plan, flexible and multi-purpose spaces
- > The opportunity to contribute to the street scape and urban context

2 Key Built Form Issues Raised

The Masterplan for the new Multi-Purpose Building proposes an envelope that will allow the school to plan for the future development of the school.

The key built form issues raised in relation to the Multi-Purpose Building envelope can be summarised as follows:

- > Bulk and scale
- > Height
- > Views
- > Setbacks to the boundary and street
- > Overshadowing

Generally, the built form issues raised related to where the proposed building envelope exceeded the existing built forms.

3 Proposed Design Changes

In response to the built form issues raised, SCEGGS Darlinghurst proposes to make significant design changes to the proposed Multi-Purpose Building envelope in order to address all built form issues.

To mitigate issues related to views, bulk and scale, SCEGGS proposes to apply the Urban Design Principle of generally working, as much as possible, within the envelope of the existing buildings so that there is minimal additional built environment impact to neighbours.

While the permitted 15m height limit allows the school to propose a taller building, the school have elected to lower the building adjacent to their neighbours in Thomson Street and Bourke Street to the scale and height of the existing buildings.

In order to partly offset this loss of area (providing a positive outcome for neighbours) and using the principle of working within the existing building envelopes, the school propose to generally fit within the envelope of the existing Science and Library buildings, resulting in no additional built environment impact.

This modifications to the proposed building envelope have mitigated the effect of bulk and scale and loss of views from neighbouring properties in the vicinity of Forbes Street, Thomson Street, Thomson Lane and Liverpool Street.

The form of the building on Bourke Street has been modified to more closely extend the form of the terrace houses to the north while providing a clear separation. The levels above the podium have been setback with clear separation so that the form will read from the street as matching the Bourke Street terraces scale.

The green wall element at the end of Thomson Street has been retained, as has the façade treatment designed for privacy to neighbouring properties. The proposed total floor area is similar to the original proposal and is within the allowable floor space ratio for the site.



Existing photo from Bourke Street

Proposed design changes include:

Thomson Street

- 1. Removal of the top storey so that the envelope sits below the level of the existing Gym Building ridge level.
- 2. Provision of a two-storey scale building adjacent to Thomson Street in keeping with the scale of the existing neighbouring buildings.
- 3. Adjustments to the envelope to ensure that the proposed envelope generally fits within the envelope of the existing buildings (to be demolished) so that there is no loss of existing views or additional bulk or scale to the existing situation.

Bourke Street

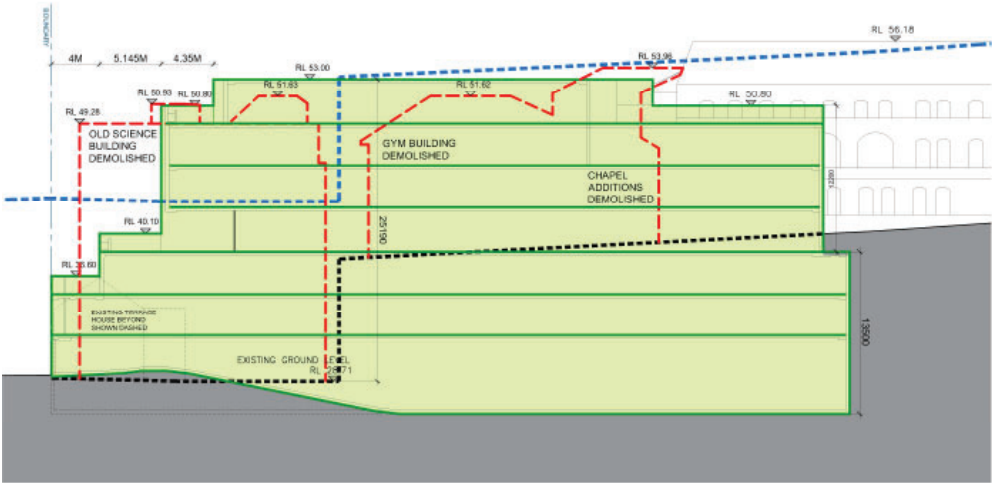
The existing Library and Science buildings present a sheer 6 storey height to Bourke Street, which is angled against the existing urban grain and only set back 2.4m. The proposed envelope looks to utilise the envelope of the existing Library and Science buildings but improves its relationship to the street and urban context through the following:

- 4. Provision of a two-storey scale building adjacent to Thomson Street and Bourke Street in keeping with the scale of the existing neighbouring buildings.
- 5. Above the two-storey height on Bourke Street the buildings sets back 4m at Level 3 (at the podium level of the school) and 8m above this at Levels 4 and 5.
- 6. The envelope sets back 4m from the adjacent terrace house on Bourke Street at Levels 4 and 5 (The existing Science building currently has 0m setback).
- 7. The envelope has been aligned parallel to the street in keeping with the existing alignment of existing neighbouring buildings.
- 8. Deletion of the blade wall adjacent to the Bourke Street Terraces.

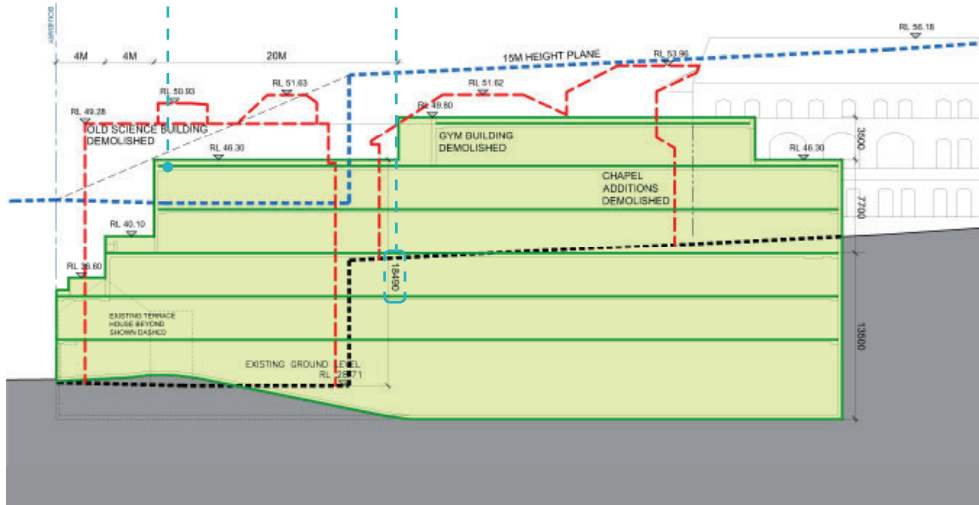
The details of these design changes are provided in the updated Architectural Drawings and described in the following sections of this Design Statement.

The proposed envelope has generally been reduced to fit within the envelope of the existing buildings

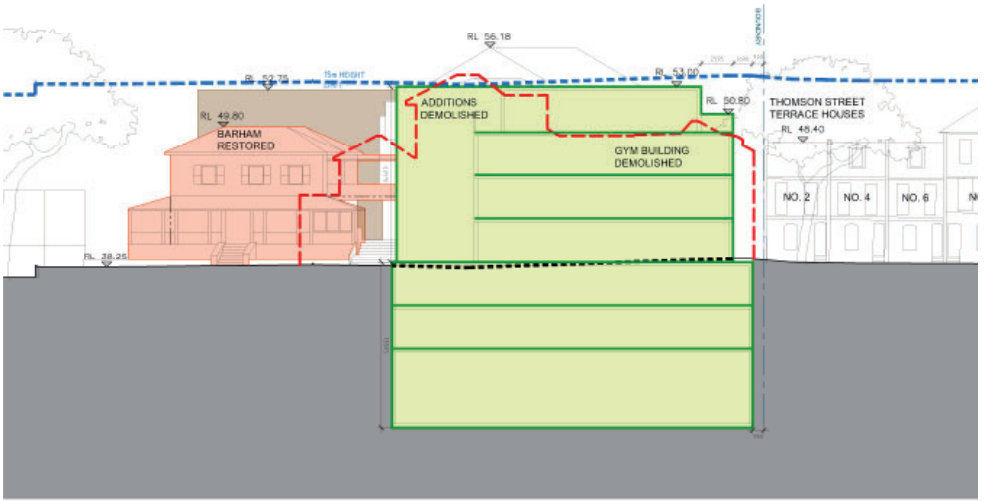
The overall height of the building has been reduced from 25.2m to 18.5m



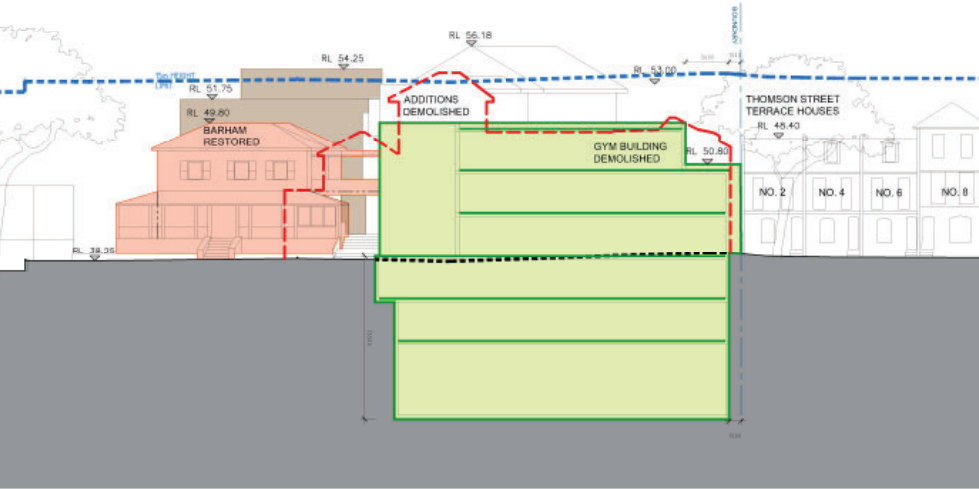
East West Section - Submitted DA Envelope



East West Section - Amended Design Envelope



North South (Thomson Street) Section - Submitted DA Envelope



North South (Thomson Street) Section - Amended Design Envelope

4 Visual Analysis

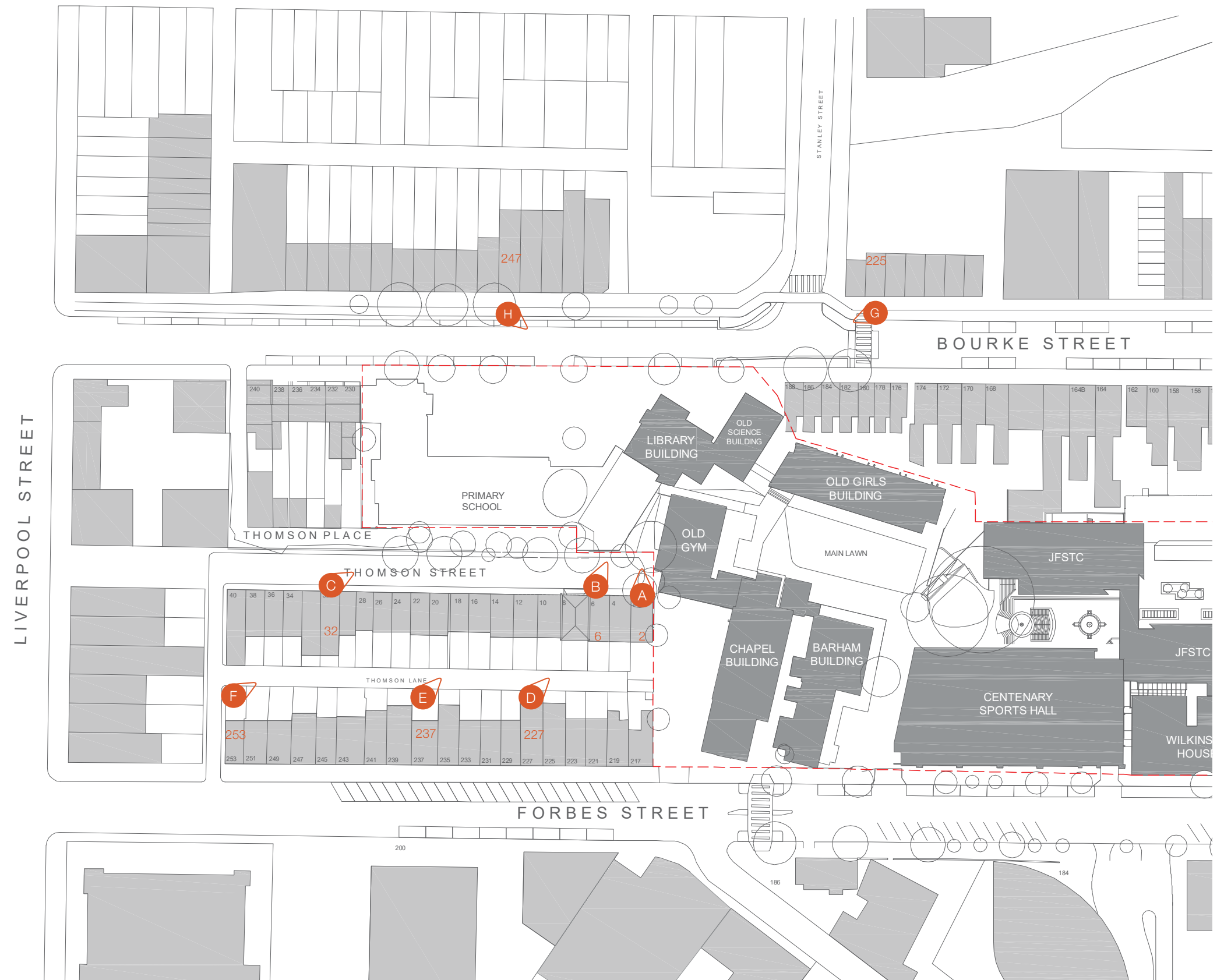
A visual analysis has been completed providing a comparison between the:

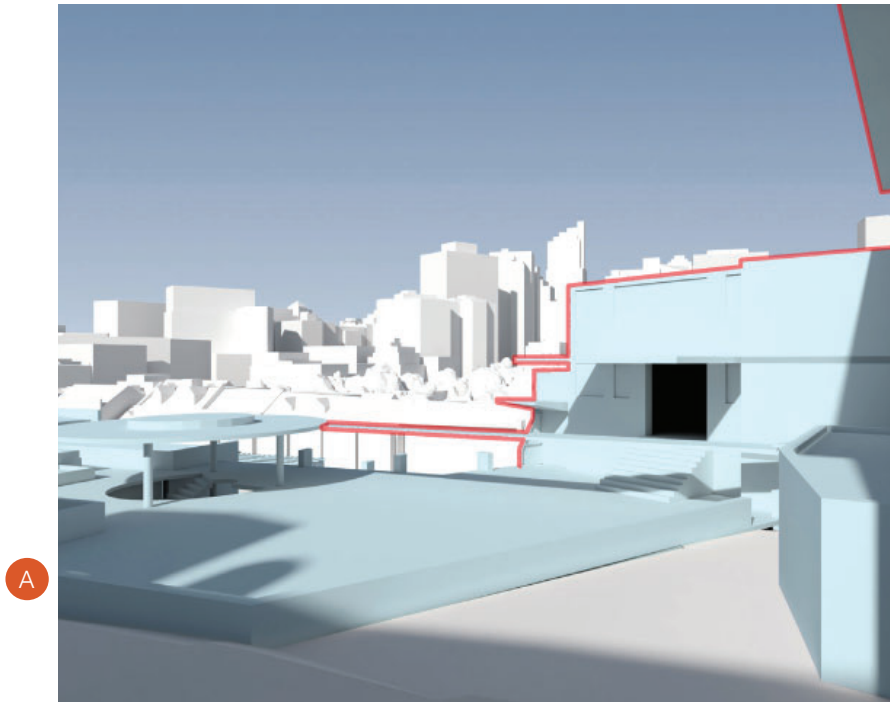
- > Existing View
- > Submitted DA Design; and
- > Amended Design

This Visual Analysis visually shows the proposed design changes to the Multi-Purpose Building envelope and demonstrates that the Amended Design has an insignificant impact on views and generally does not increase the existing bulk and scale.

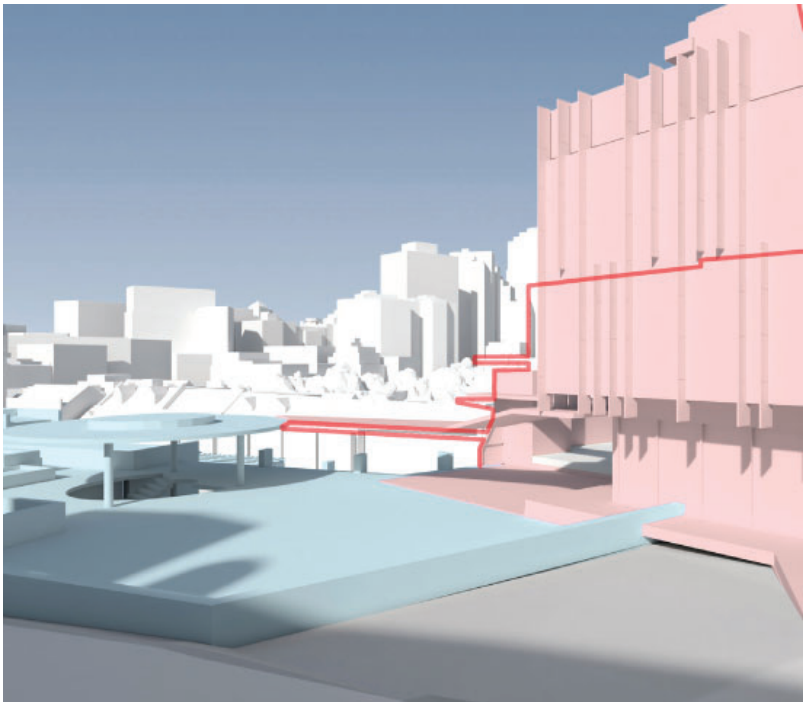
17 views from around the SCEGGS campus have been analysed and are contained in the Visual Impact Study prepared by Virtual Ideas. A selection of these views are provided on the following pages.

Refer to Visual Impact Study for the full analysis of views.

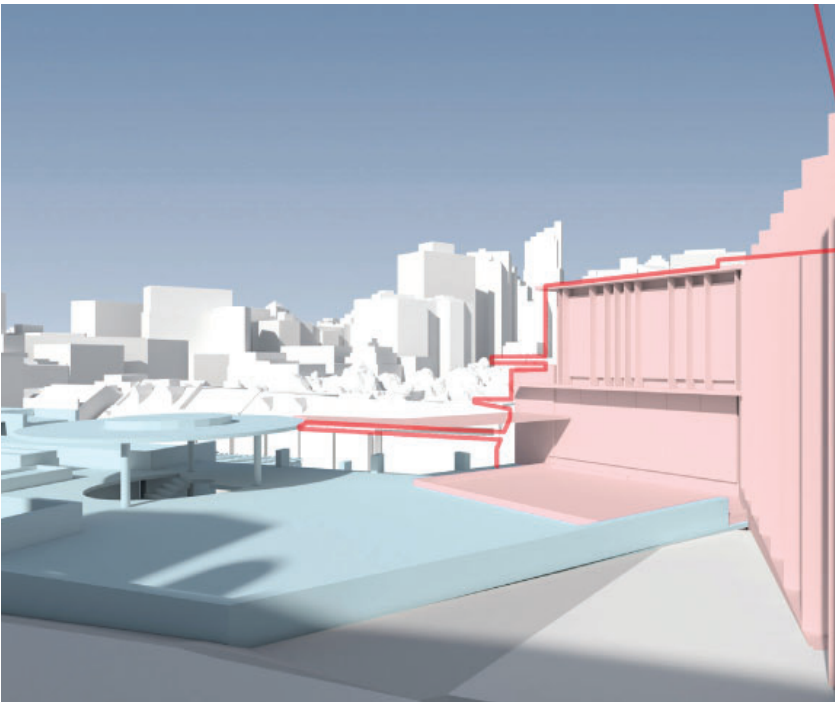




Existing View

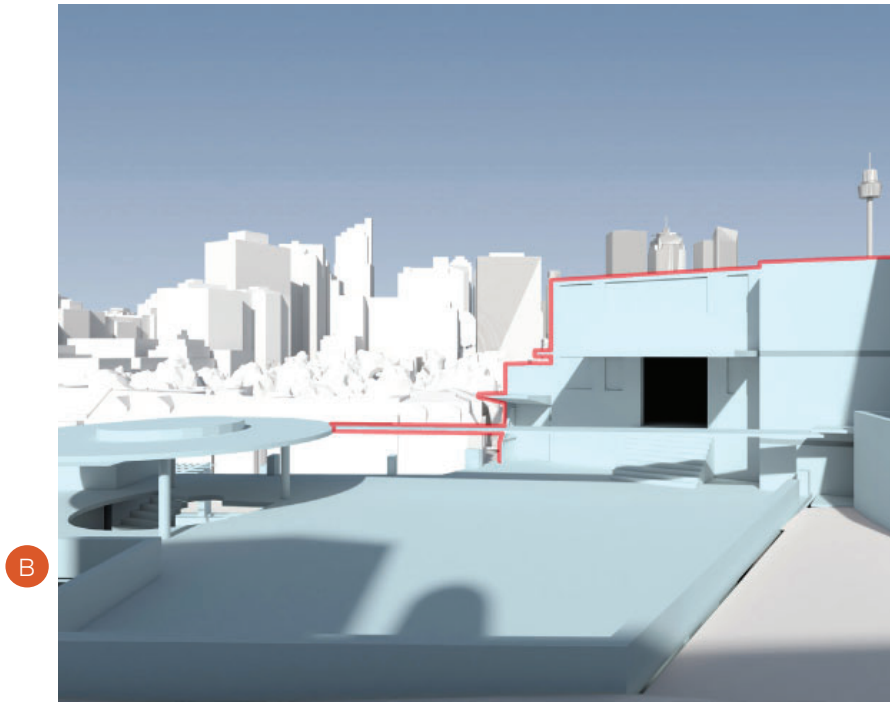


Submitted DA Envelope

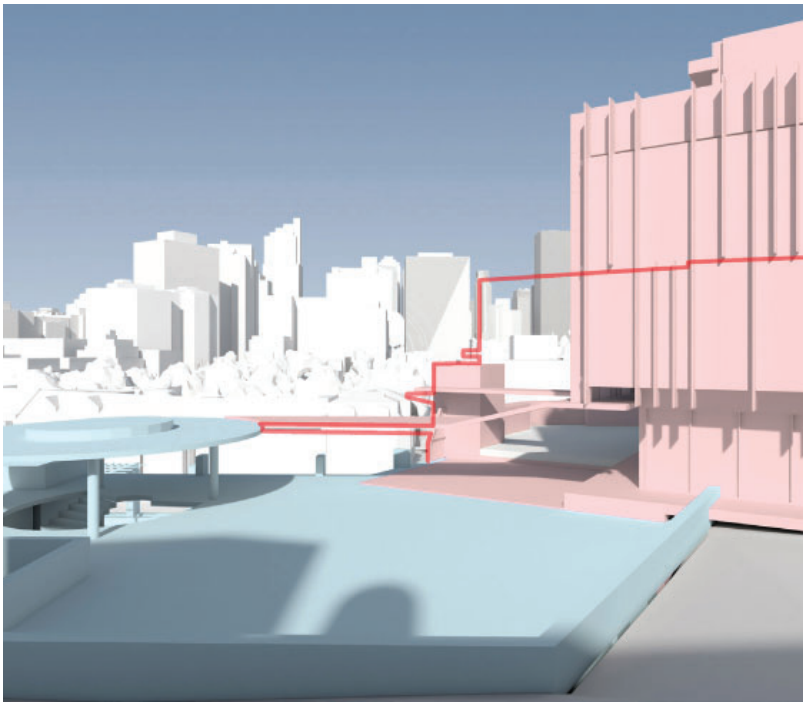


Amended Design Envelope

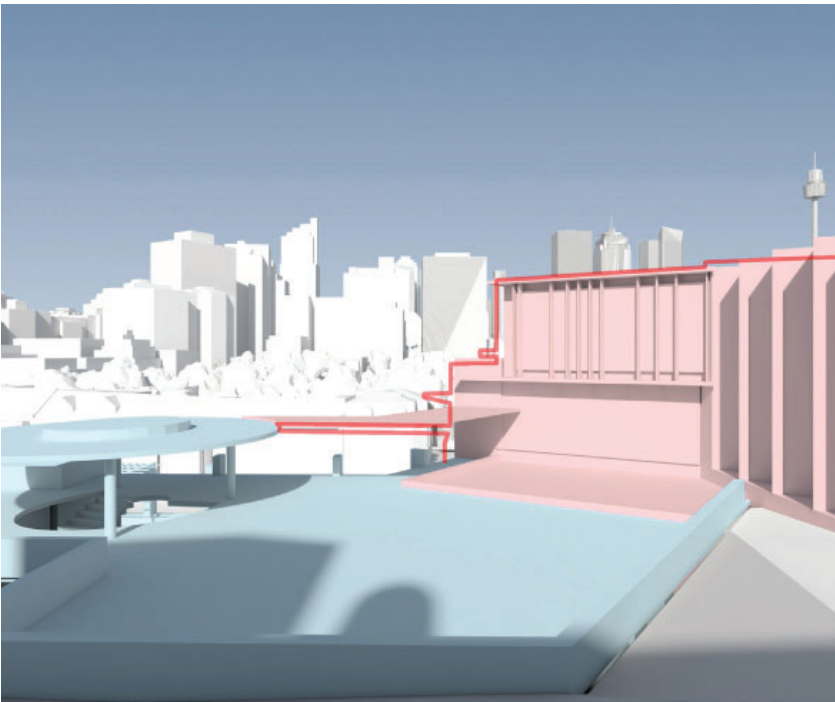
View from 2 Thomson Street



Existing View

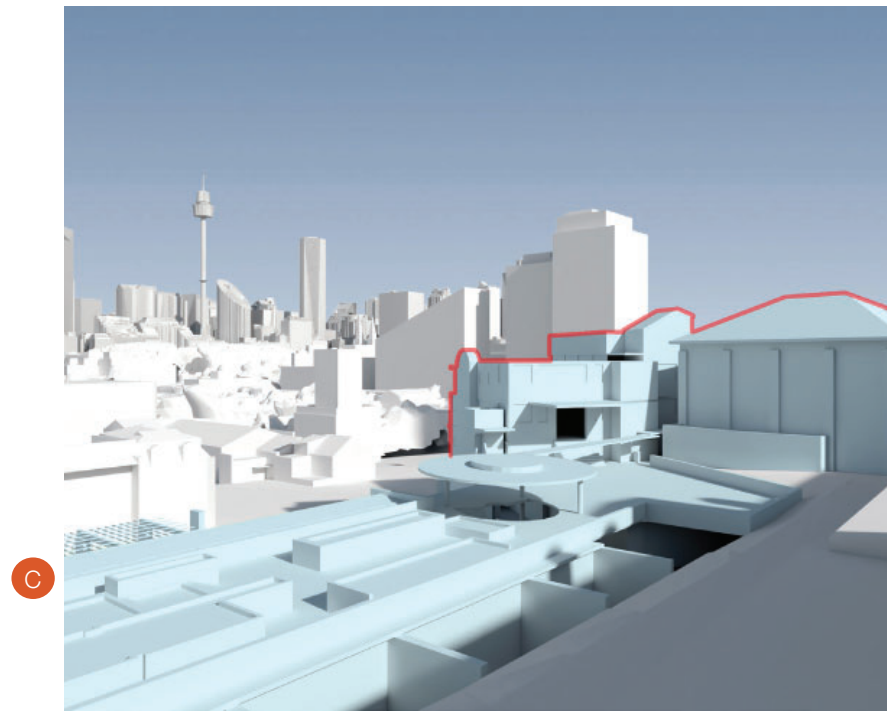


Submitted DA Envelope

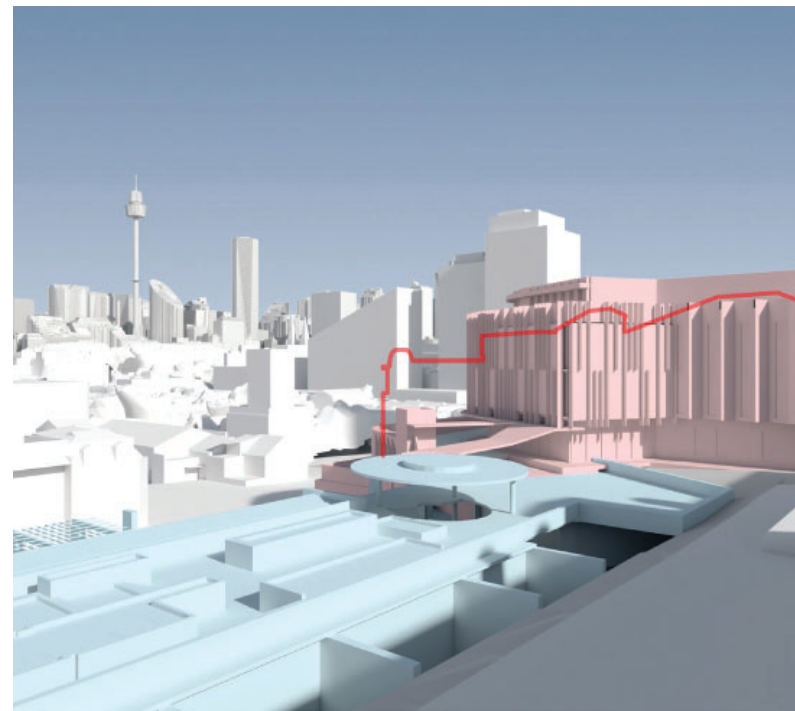


Amended Design Envelope

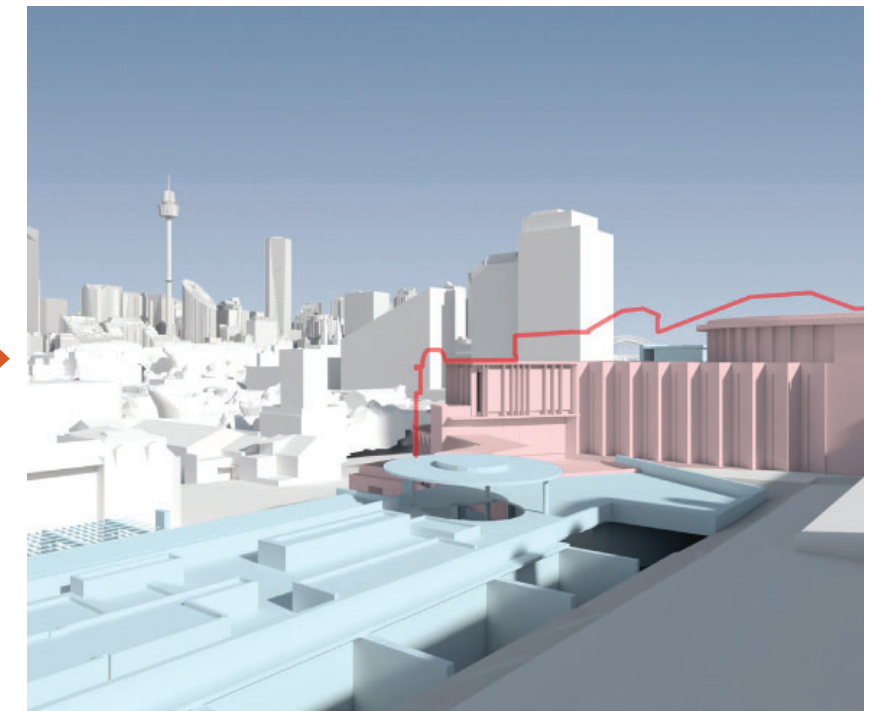
View from 6 Thomson Street



Existing View

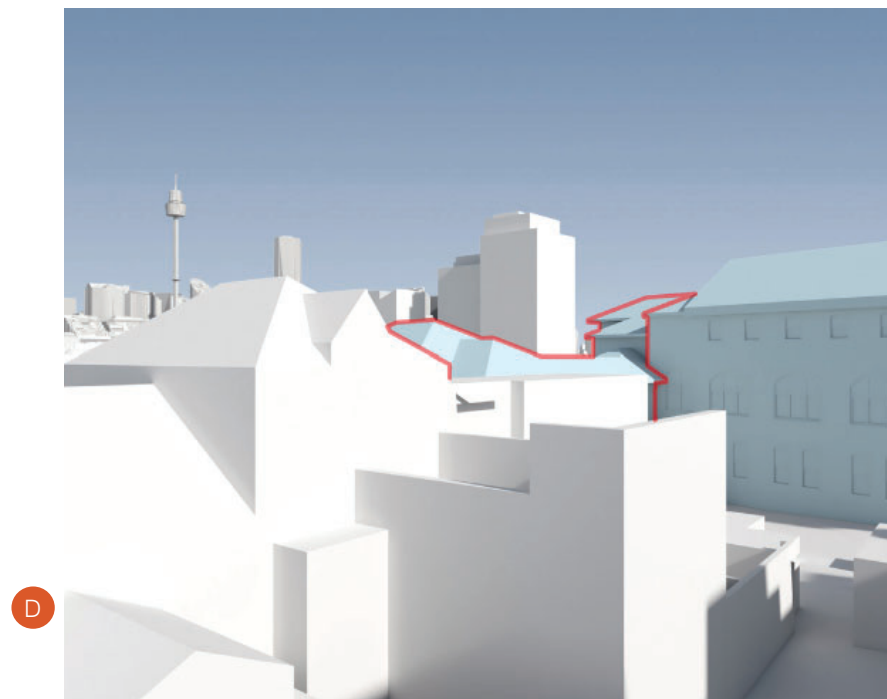


Submitted DA Envelope

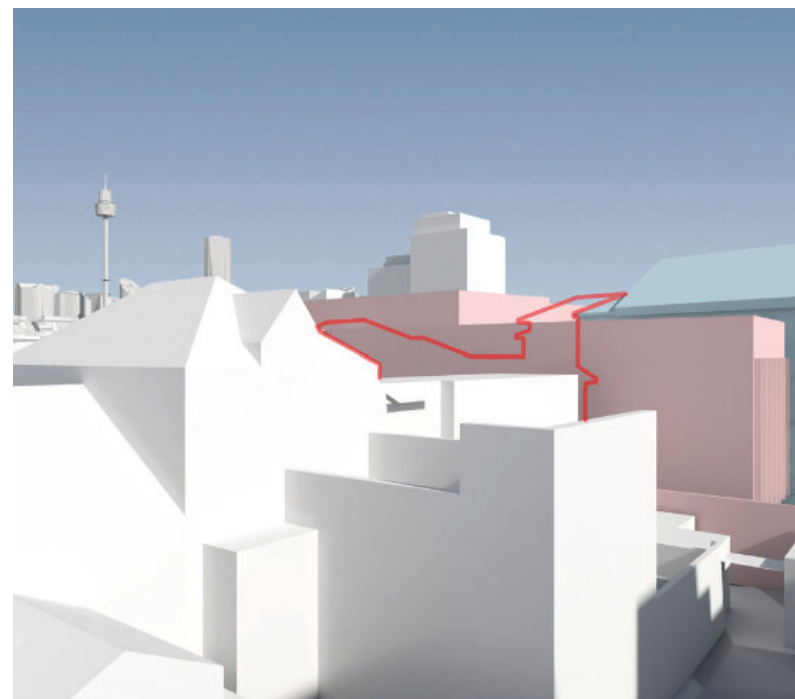


Amended Design Envelope

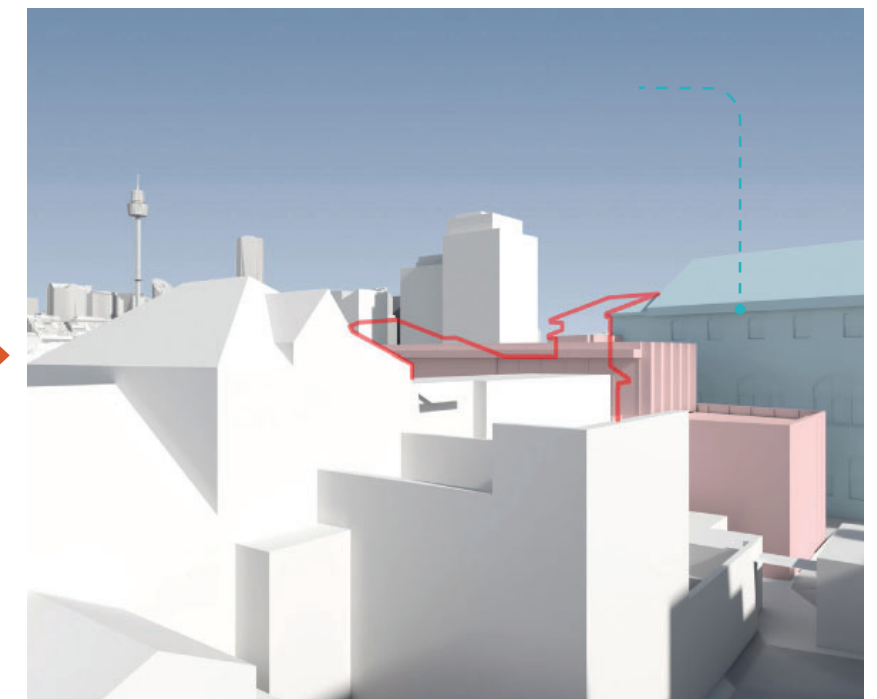
View from 22 Thomson Street



Existing View



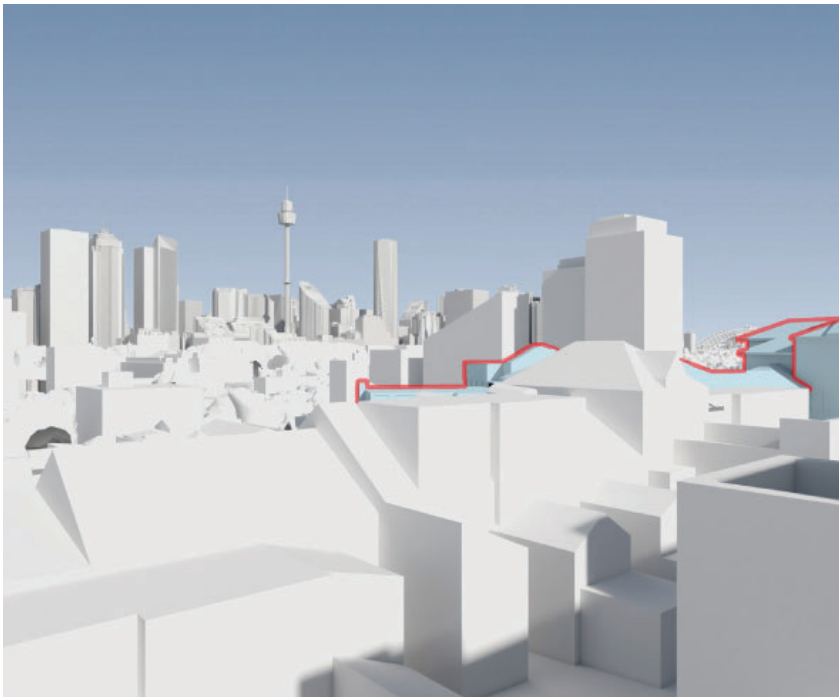
Submitted DA Envelope



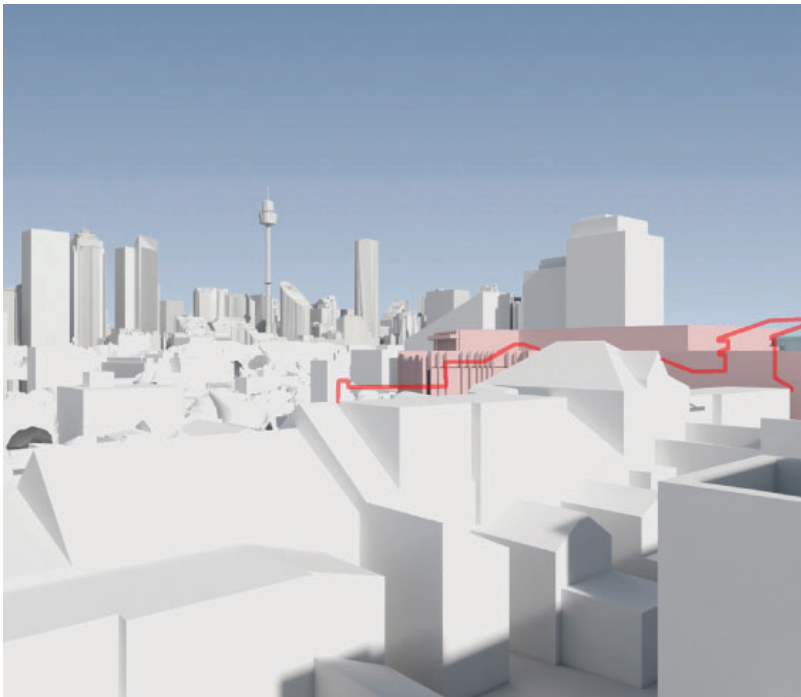
Amended Design Envelope

View from 227 Forbes Street

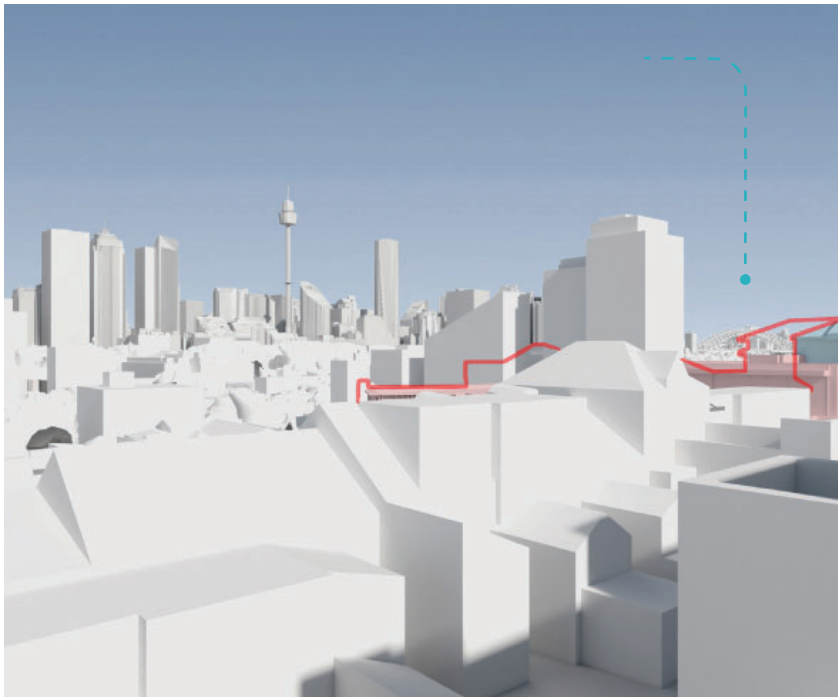
E



Existing View



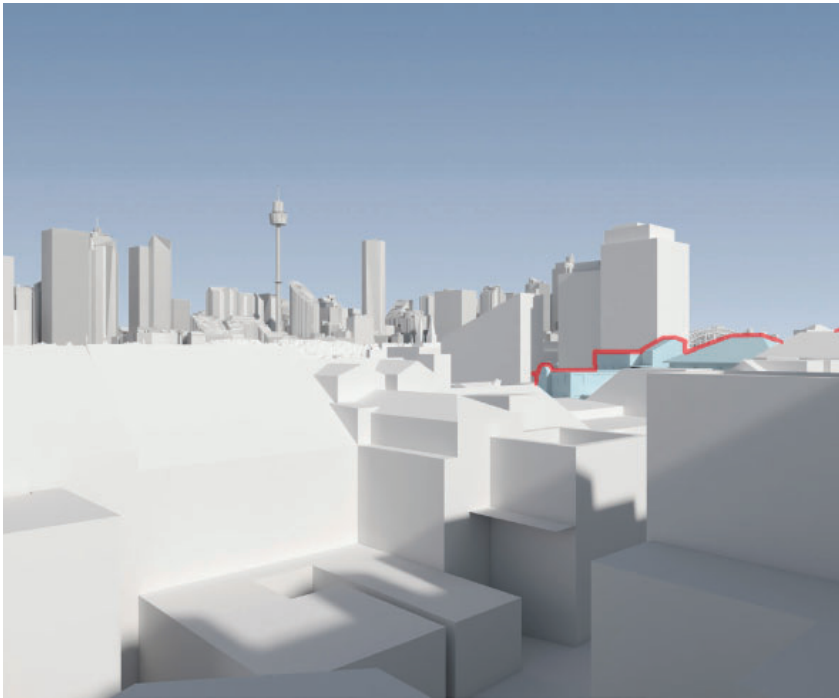
Submitted DA Envelope



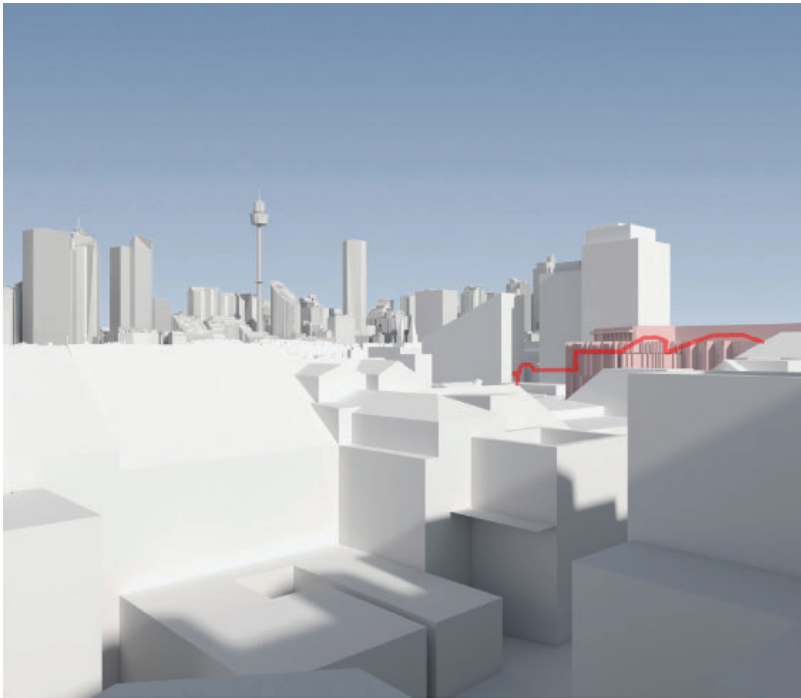
Amended Design Envelope

View from 237 Forbes Street

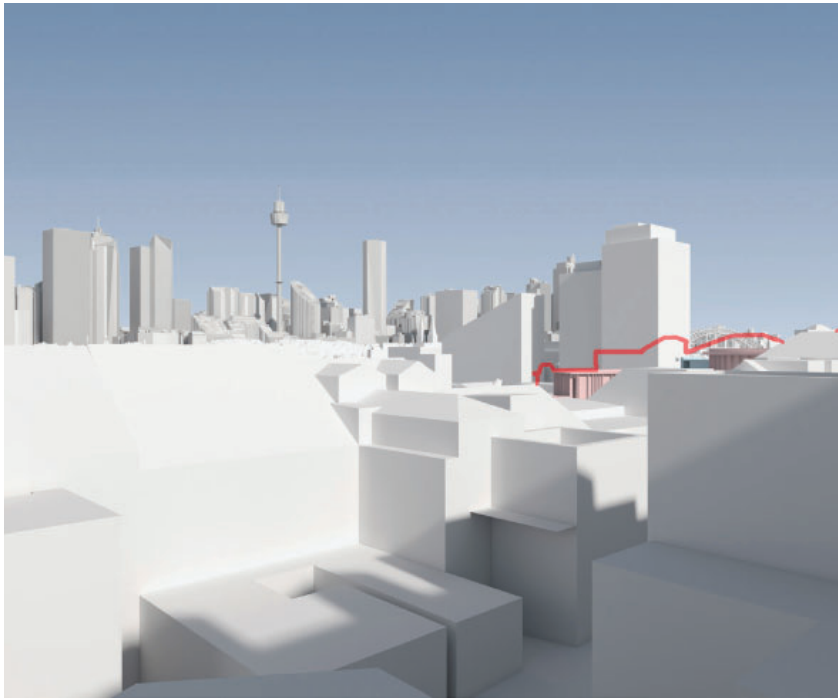
F



Existing View



Submitted DA Envelope



Amended Design Envelope

View from 253 Forbes Street

5 Height Limit

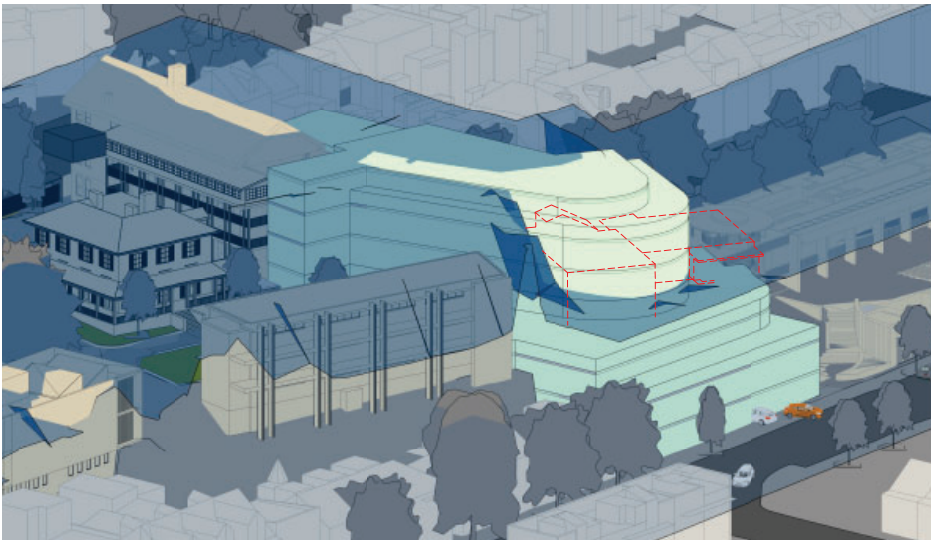
The City of Sydney LEP applies a 15m height limit across the SCEGGS Darlinghurst campus.

Most of the campus complies with this height limit, with the exception of the existing Library and Science Buildings which were constructed in the 1960s and 70s, prior to the introduction of the present LEP height control.

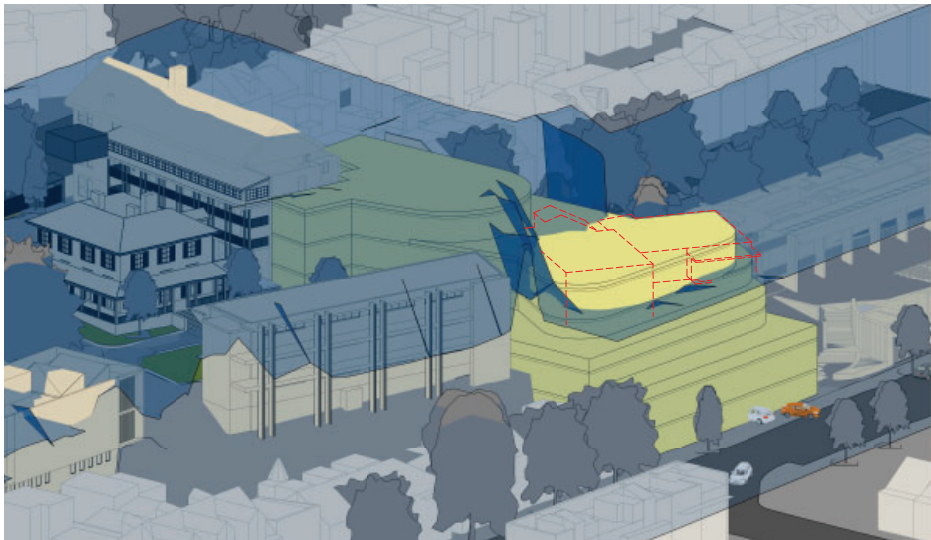
As these taller buildings have been a part of the urban fabric for many years, it is proposed to utilise and maintain these existing envelopes for the new building envelope in some areas, while reducing the height of the envelope below the 15 metre height limit in other areas to minimise impacts to neighbours.

Whilst the existing Library and Science buildings present a sheer six storeys to Bourke Street, and is angled against the historic urban grain; the proposed envelope utilises the scale of the existing buildings, but seeks to improve its relationship to the street and urban context.

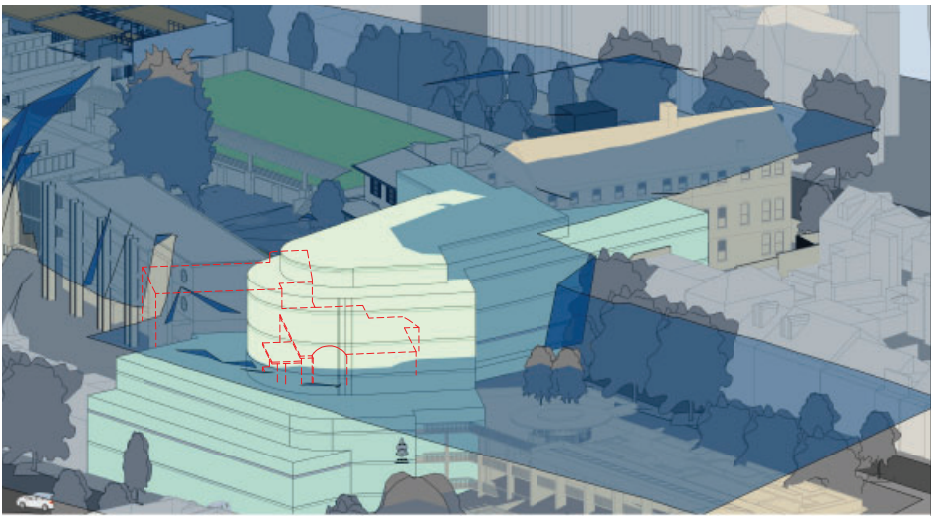
The proposed building envelope is two storeys along Bourke Street to relate to the adjacent two-storey terraces and the historic street alignment. Above this level, the proposed envelope steps back to minimise the impact of the building's bulk to the streetscape and adjacent buildings.



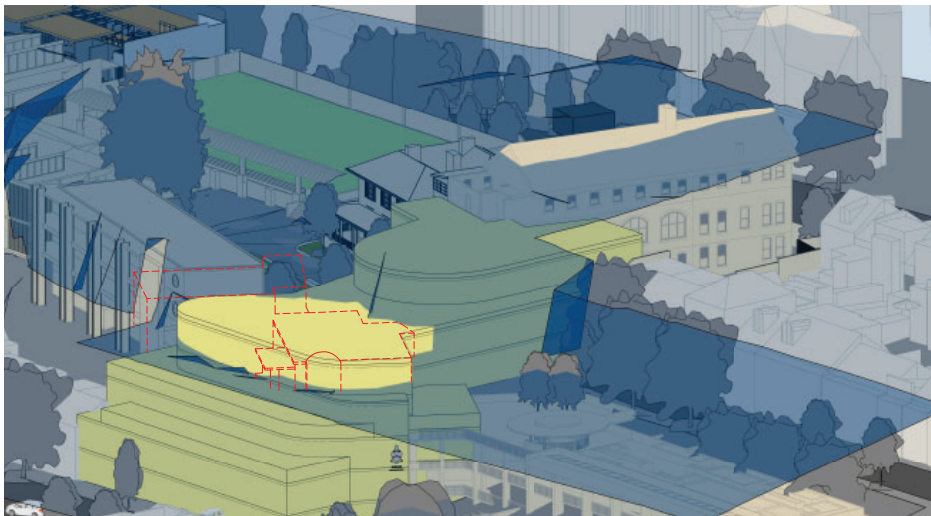
Northwest- Submitted DA Envelope



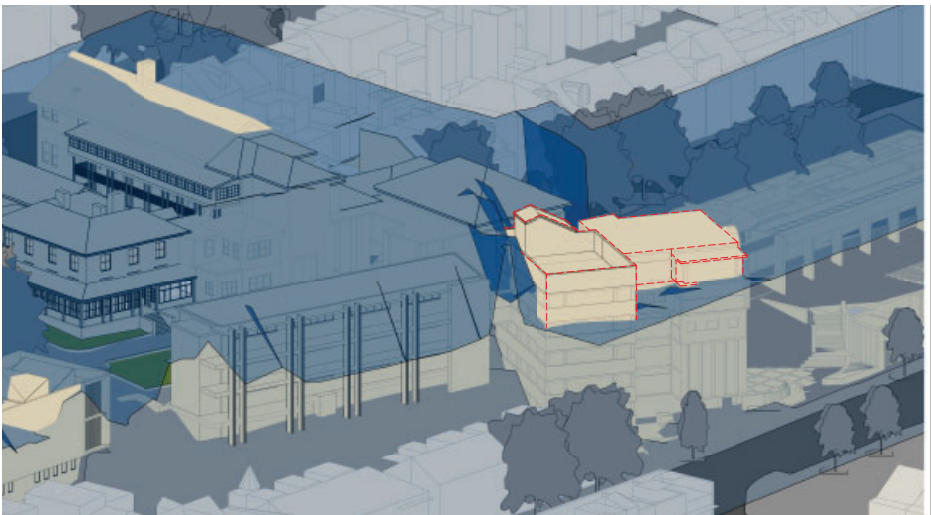
Northwest- Amended Design Envelope



Southwest- Submitted DA Envelope



Southwest- Amended Design Envelope

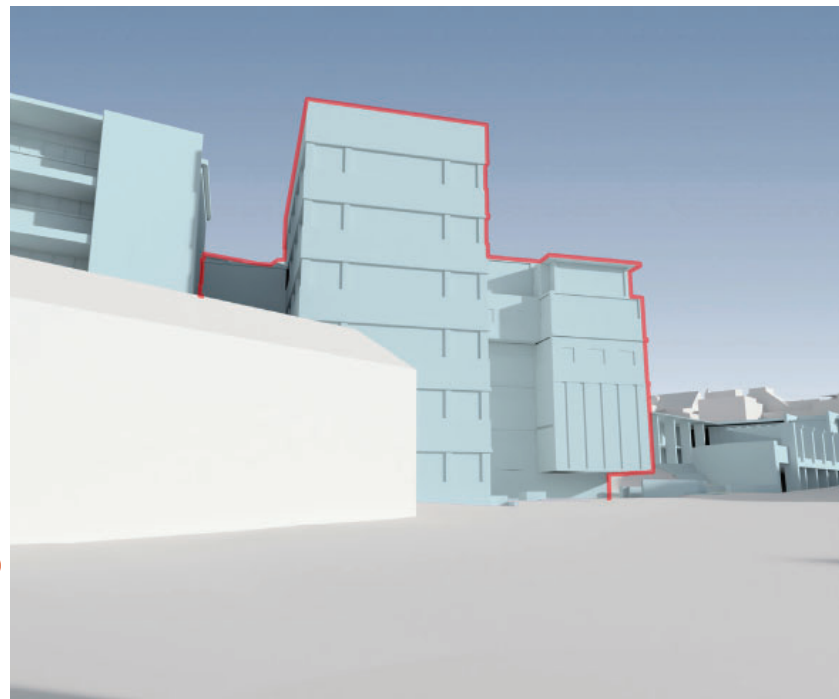


Northwest- Existing Envelope

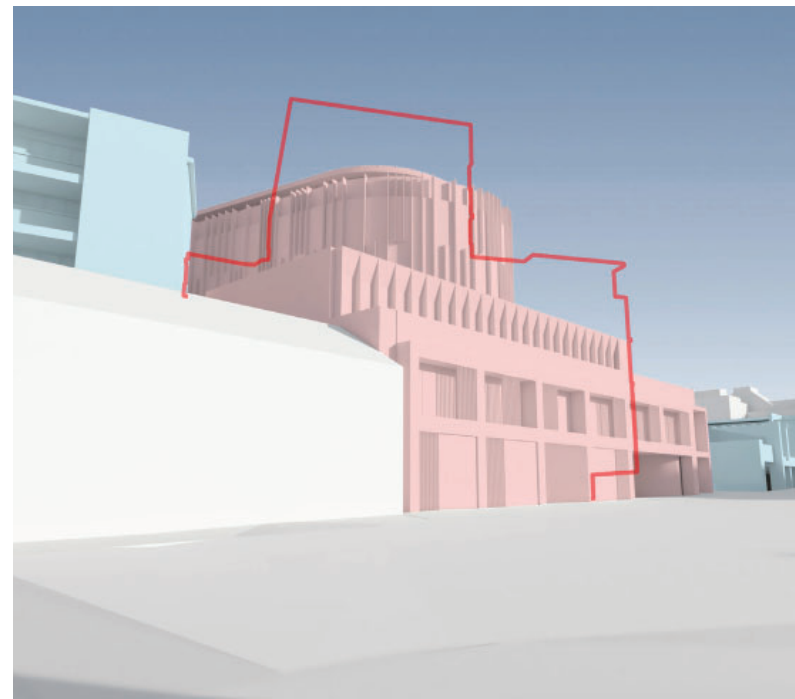


Southwest- Existing Envelope

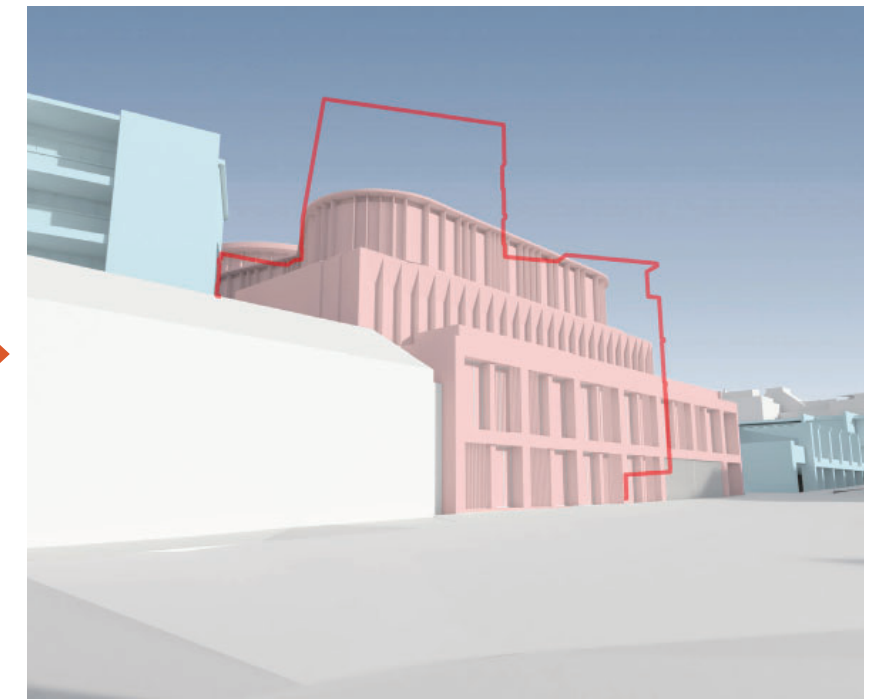
G



Existing View



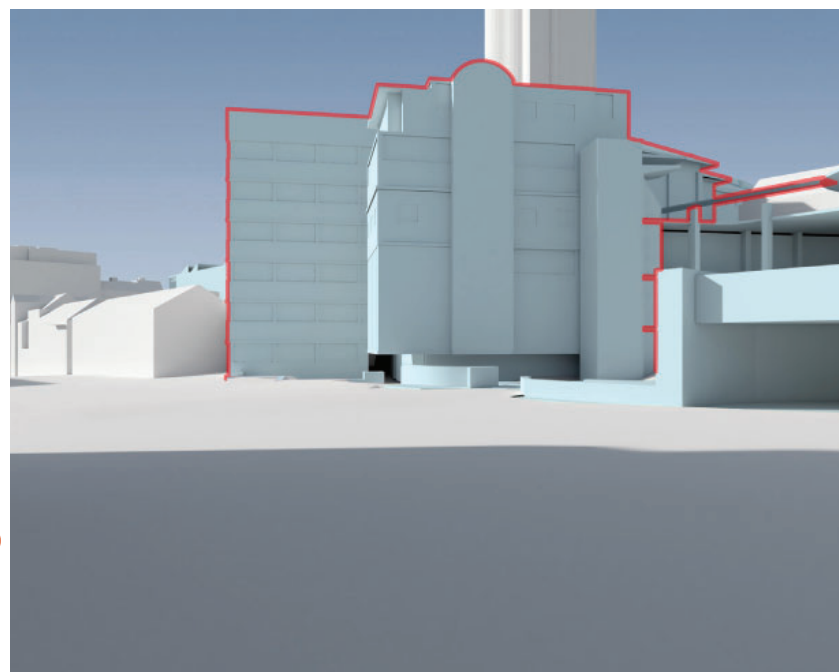
Submitted DA Envelope



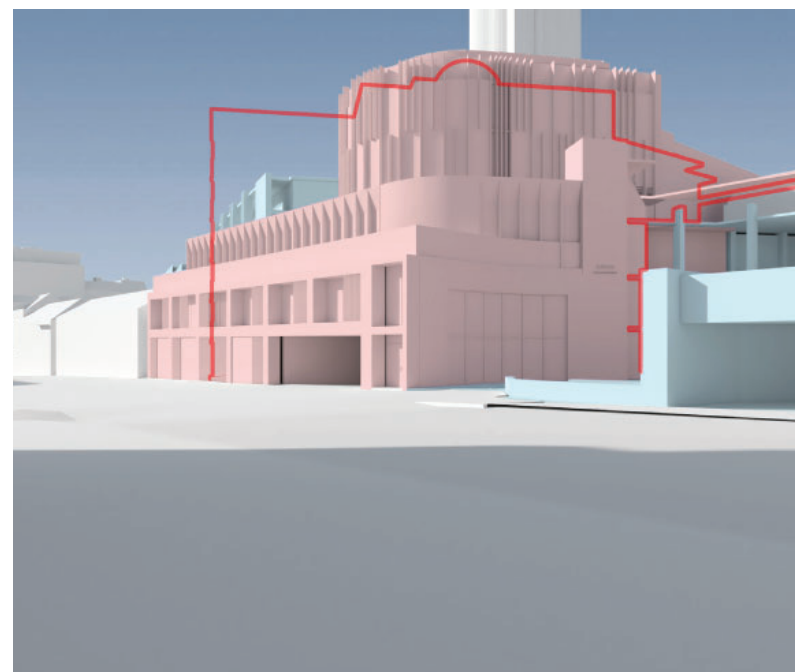
Amended Design Envelope

View from 225 Bourke Street

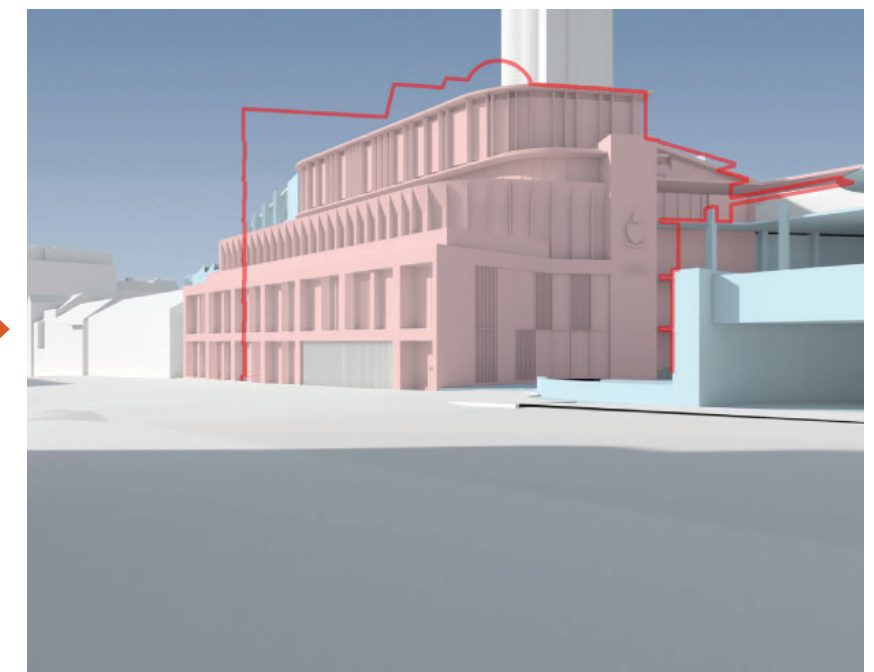
H



Existing View



Submitted DA Envelope



Amended Design Envelope

View from 247 Bourke Street

6 Bourke Street Streetscape

The streetscape along Bourke Street is varied and buildings range in height from 2 to 4 storeys. Buildings in the vicinity of the new Multi-Purpose Building are primarily terrace houses ranging in height from 2 to 3 storeys.

The existing Library and Science building currently present a sheer six storeys to Bourke Street and are angled against the historic urban grain.

The amended envelope proposes a two-storey scale adjacent to the existing Bourke Street Terraces, which is in keeping with the existing scale.

Taking the issues raised by the City of Sydney into consideration, the blade wall originally proposed adjacent to the existing neighbouring Bourke Street terraces has been removed.

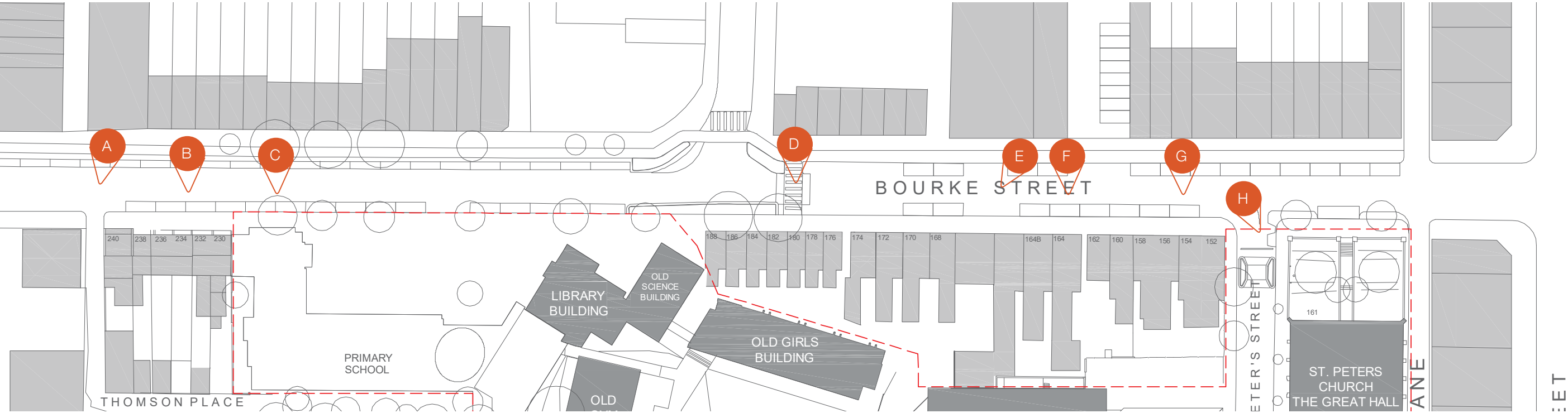
The amended envelope proposes a two-storey scale adjacent to the terraces, improving the relationship of the proposed envelope with its heritage context and neighbours.



Artist Impression: View looking South from Bourke Street



Artist Impression: View looking North from Bourke Street



7 Overshadowing

The amended design means that there are no additional shadow impacts from what is existing.

The impact of shadows on the front elevations of 2 – 6 Thomson Street is improved, when compared to the existing, with reduced shadows.

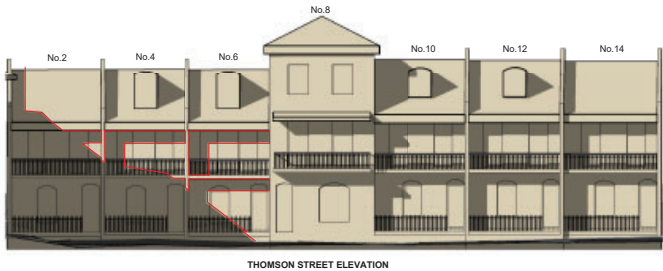
The shadow study shown here is during the winter solstice on the 21st June. Thomson Street residences are in full shadow up to 11.20AM as the sun is behind the façade.

The shadows outlined in yellow show the additional shadow cast by the DA submitted building envelope. The areas outlined in blue show where the existing shadows have been reduced based upon the amended building envelope, resulting in a positive outcome for the Thomson Street neighbours.

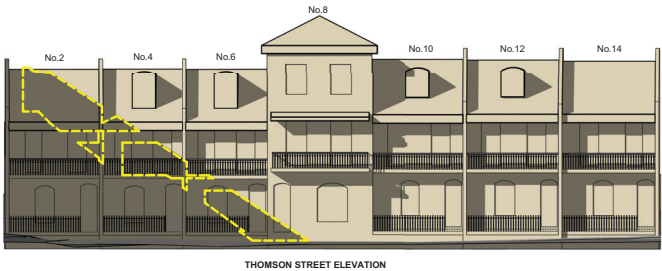
LEGEND

ADDITIONAL SHADOWS CAST ONTO THOMSON STREET RESIDENCES

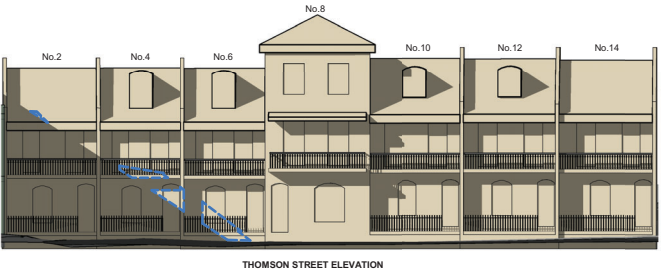
REDUCTION IN SHADOWS CAST ONTO THOMSON STREET RESIDENCES



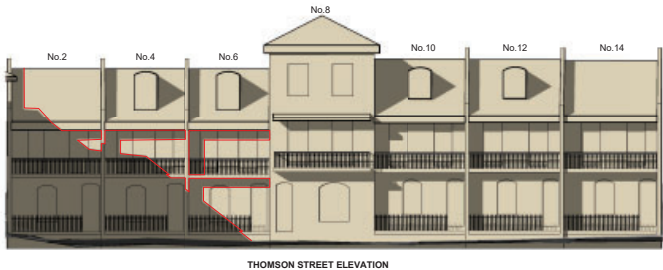
Existing 1.30pm



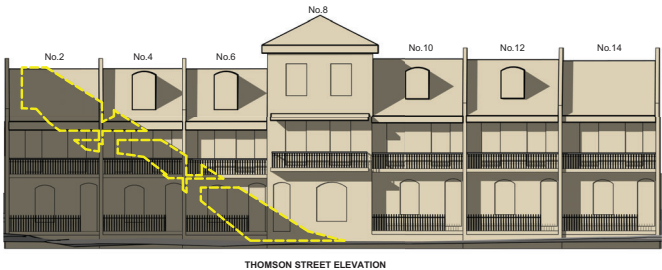
Submitted Design 1.30pm



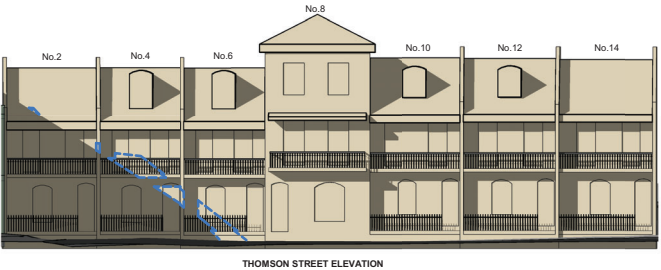
Amended Design 1.30pm



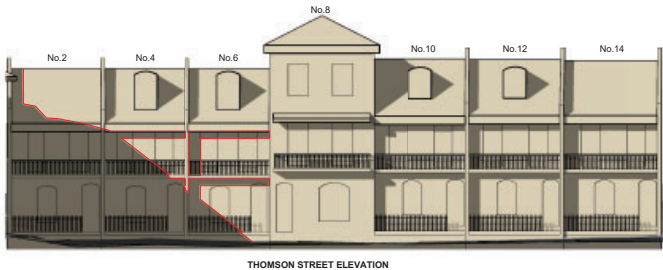
Existing 2pm



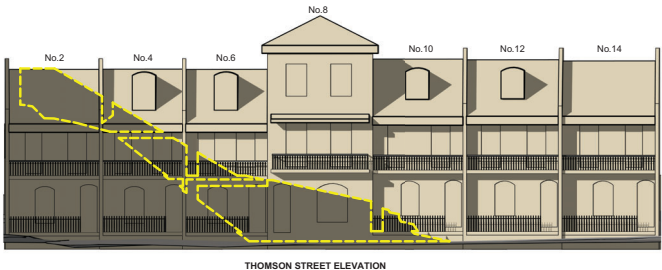
Submitted Design 2pm



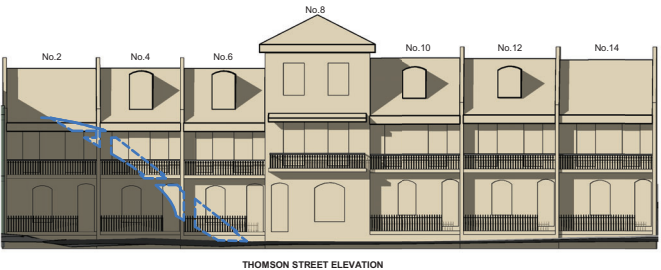
Amended Design 2pm



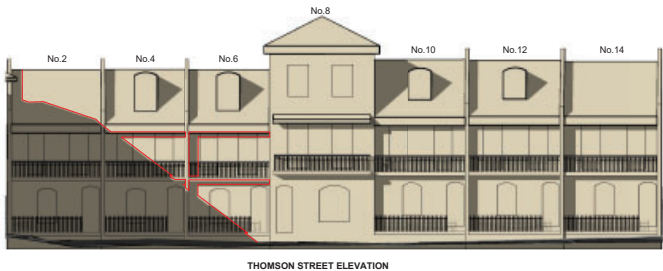
Existing Design 2.30pm



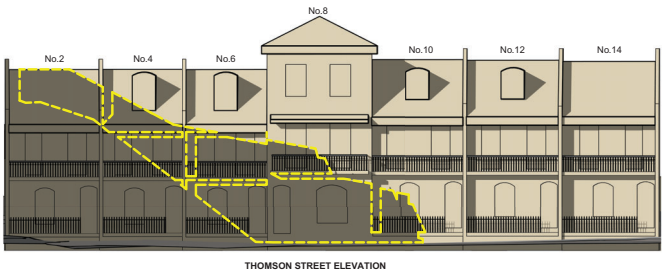
Submitted Design 2.30pm



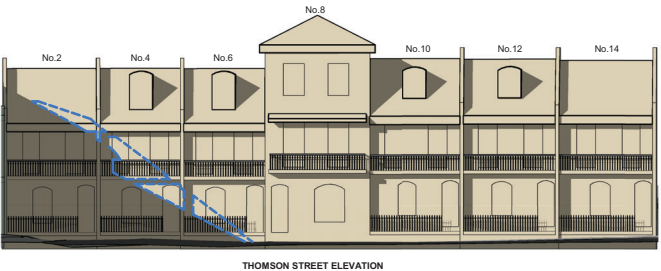
Amended Design 2.30pm



Existing Design 3pm



Submitted Design 3pm



Amended Design 3pm

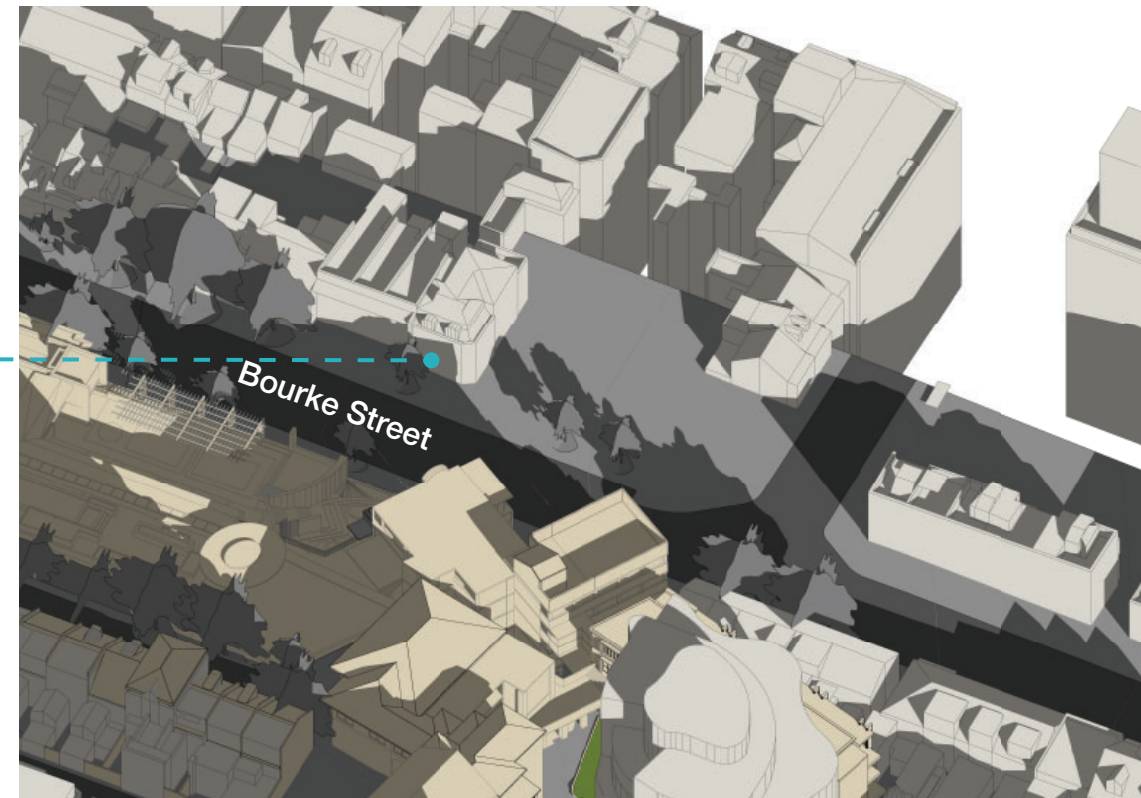
Thomson Street Elevation - Existing Envelopes

Thomson Street Elevation - Submitted Envelope

Thomson Street Elevation - Amended Envelope

The impact of shadows on the front elevations of 243 – 245 Bourke Street is improved, when compared to the existing, with no shadows being cast on the facades at 9am.

Shadows cast on Bourke Street terraces from the existing building envelope



9AM WINTER SOLSTICE - EXISTING

No shadows cast on Bourke Street terraces from the amended design



9AM WINTER SOLSTICE - PROPOSED

8 Privacy and Overlooking

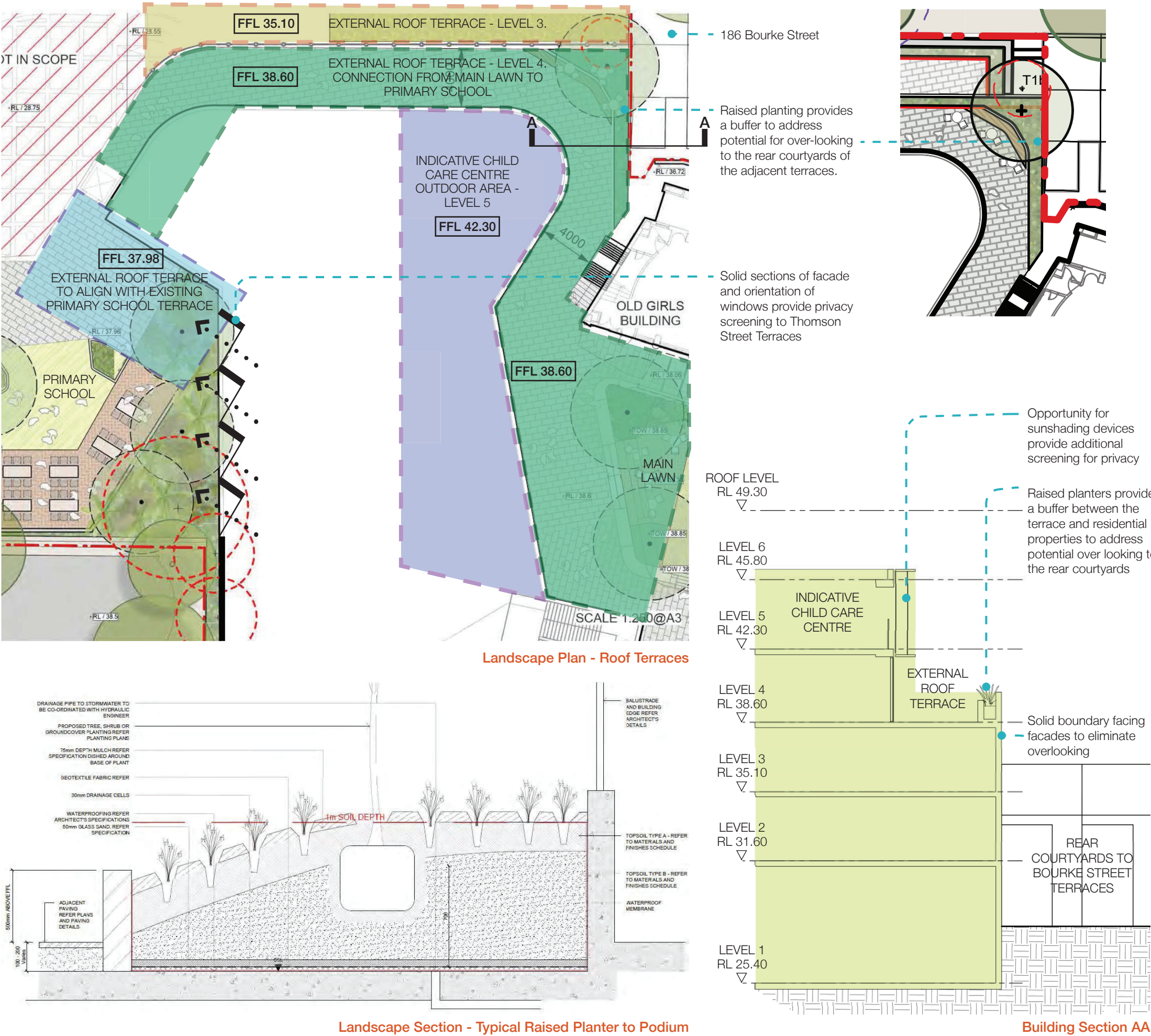
The extent of proposed external roof terraces will be determined during the detailed design submission for the Multi Purpose Building, however the diagrams opposite intend to clarify how the project can address concerns raised with overlooking and loss of privacy.

The amended design proposes to significantly reduce the amount of roof terraces to allow for the overall building height to be kept within the envelopes of the existing buildings to address height and loss of view concerns.

- The amended extent of external roof terraces are as follows:
- > Level 3 - 4 Meter wide external roof terrace facing Bourke Street
 - > Level 4 - 4 Meter wide external roof terrace provides a connection between the existing Primary School and Main Lawn.
 - > External roof terrace to replace the existing section of Primary School roof terrace to be demolished.
 - > Level 5 - External roof terrace for the Child Care Centre

It is envisaged that the proposed Multi Purpose Building and roof terraces will have no increased adverse impact on privacy or overlooking to the Thomson Street, Thomson Lane or rear courtyards to No. 186-184 Bourke Street.

The detailed design submission will look to incorporate measures to mitigate privacy and overlooking through planting buffers which provide a pedestrian setback, sun and privacy screening and the design and orientation of windows.



9 Multi Purpose Building Conclusion

The proposed Multi-Purpose building will replace the existing outmoded Science and Library building, the Old Gymnasium and a range of unsympathetic, ad hoc additions. These buildings generally comprise of relatively small unconnected spaces which are generally on different levels with poor access. The spaces are generally outmoded and cannot be effectively utilised as contemporary teaching spaces. These spaces are also an inefficient use of space which is not sustainable on a campus which is constrained for usable area.

The proposed Multi- Purpose space will give the school the opportunity to provide large open plan and flexible learning areas.

SCEGGS Darlinghurst has responded to the concerns raised by agencies and the community regarding the bulk and scale of the proposal, its impact on views of the city skyline from neighbouring properties and its street scape presentation to Bourke Street.

The proposed building envelope has been modified so that the form is generally accommodated within the envelope of the existing buildings on the site, which are proposed to be demolished and replaced with the new building. This has mitigated the effect of bulk and scale and loss of views from neighbouring properties in the vicinity of Forbes Street, Thomson Street, Thomson Lane and Liverpool Street.

The form of the building on Bourke Street has been modified to more closely extend the form of the terrace houses to the north while providing a clear separation. The levels above the podium have been setback with clear separation so that the form will read from the street as matching the Bourke Street terraces scale.

The green wall element at the end of Thomson Street has been retained as has the façade treatment designed for privacy to neighbouring properties. The proposed total floor area is similar to the original proposal and is within the allowable floor space ratio for the site.

In conclusion the proposed revised design addresses all of the issues raised with a design that will provide a positive contribution to the school and the surrounding context.

E Conclusion

E Conclusion

1 Conclusion

SCEGGS Darlington have taken on board all of the comments and issues raised by agencies and the community and propose significant design amendments in order to genuinely address the issues and concerns raised.

The proposed **Multi-Purpose Building** envelope has been modified so that the form is generally accommodated within the envelope of the existing buildings on the site, which are proposed to be demolished and replaced with the new building. This has mitigated the effect of bulk and scale, loss of views and overshadowing from neighbouring properties in the vicinity of Forbes Street, Thomson Street, Thomson Lane and Liverpool Street. The new building envelope provides a positive and greatly improved contribution to the Bourke Street context.

The proposed **Administration Building** has been refined so that it better relates to the Forbes Street scale and retains the Chapel Building as the dominant feature. The proposed Administration Building creates a welcoming and revitalised entry to the school. Significantly, the proposed Administration Building allows for the removal of the existing unsympathetic ad hoc additions and the restoration of Barham within a substantially improved setting.

The options for redeveloping **Wilkinson House** have been further investigated. The option of reusing or adapting the existing building has substantial issues and is not considered a viable option for the school to meet their learning requirements on a constrained campus.

The option of retaining the principle street facades (Option B) results in unacceptably low ceiling heights, recessed balconies reduce functional floor area and result in poorly shaped spaces for learning, existing windows result in low levels of natural light and ventilation, floor levels do not align with adjacent buildings resulting in convoluted access ramps and limiting future flexibility. The retention of the facades will also impose complex construction and buildability constraints, increased impacts on neighbours during construction and has a high risk of cracking or damage to the façade retained.

Option C provides a high-quality outcome, that responds to the local context and is the only option that will meet the school's requirement for adequate contemporary and flexible learning spaces. This investigation demonstrates that the provision of a

new building (Option C) is the most appropriate solution.

SCEGGS Darlington has existed in its present location as a functioning school for girls since 1901 and wishes to maintain its position and continue to offer the high standard of education for which the school is renowned. The school must be able to provide appropriate teaching and learning environments that include up to date facilities and allow it the flexibility to further develop and upgrade these facilities into the future. The Masterplan is a response to the current state of the facilities at SCEGGS and outlines the framework within which the school intends to upgrade its existing facilities and integrate new facilities within its unique context over the next 20 years.

SCEGGS Darlington is a responsible neighbour and land owner committed to staying on its inner-city site and working with its neighbours. SCEGGS Darlington has listened to the concerns raised over their proposed Masterplan and has responded favourably and positively to all concerns. The proposed design amendments are genuine responses to the issues raised and generally result in positive outcomes. SCEGGS Darlington therefore request that the Masterplan proposal, incorporating the proposed design amendments, be approved in its entirety.