NSW GOVERNMENT | Planning & Infrastructure

MAJOR PROJECT ASSESSEMENT
University of Technology, Broadway Building
Major Project Application MP 09_0212

Director-General's
Environmental Assessment Report
Section 75I of the *Environmental Planning and Assessment Act, 1979*

November 2011

Published November 2011
NSW Department of Planning & Infrastructure
www.planning.nsw.gov.au

EXECUTIVE SUMMARY

This is a report for the development of the University of Technology Sydney (UTS) Broadway Building Project Application which is part of the approved Concept Plan (December 2009) for the UTS City Campus. The Concept Plan Approval required the Broadway Building to be assessed under Part 3A of the *Environmental Planning and Assessment Act 1979* (the Act). The estimated capital investment value of the proposed development is $223 million. The proposal is estimated to create 350 construction jobs.

Environmental Assessment
The Proponent lodged the Major Project Application comprising of:

- A 12 storey building with a maximum height of 46.82 metres (RL 54.550);
- 32,500 m² of gross floor area for education and associated ancillary use (student union kitchen and café);
- An architectural feature in the form of an aluminium binary screen on each façade to a maximum height of 57.281m (RL 71.721);
- Landscaping around the building;
- Parking for an additional 160 vehicles over three basement levels of the Broadway Building;
- Modification to the adjacent Building 10 car park for:
  - vehicle access to the Broadway Building car parking,
  - 250 bicycle parking spaces and shower/change room facilities resulting in a loss of 32 car spaces in this building; and
  - Pedestrian bridge links between levels 3-7 of both buildings.

The proposal was placed on public exhibition from 16 March 2011 until 15 April 2011 for a period of 31 days. The Department received 4 submissions from public authorities and no public objections. The key issues raised were:

- Lack of landscape detail to the laneway;
- Pedestrian safety between the footpath, aluminium screen and the building;
- Weather protection for pedestrians walking on Broadway;
- Provision and protection of street trees; and
- Future closure of Jones Street and impact on the existing bus route.

Assessment
The Department has assessed the merits of the proposal and is satisfied that the impacts of the proposed development have been addressed via the Proponent's Environmental Assessment, Preferred Project Report, the Statement of Commitments and the Department's recommended conditions of approval. On these grounds, the Department is satisfied that the site is suitable for the proposed development, subject to recommended conditions of approval and that the project will provide educational and employment benefits to the region. All statutory requirements have been met.

Continuing operation of Part 3A
On 22 June 2011, the NSW Government passed a Bill to create a new State significant assessment system and concurrently repeal the Part 3A system. Part 3A of the Act, as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A to the Act, continues to apply to transitional Part 3A projects. Director-General's environmental assessment requirements were issued in respect of this project on 19 January 2010, the Environmental Assessment was lodged on 15 March 2011, and the project is therefore a transitional Part 3A project.

Consequently, this report has been prepared in accordance with the requirements of Part 3A and associated regulations, and the Minister (or his delegate) may determine the application under section 75J of the Act.

TABLE OF CONTENTS

1 BACKGROUND

1.1 SITE CONTEXT

The University of Technology Sydney (UTS) City Campus site is located at the southern edge of the Sydney CBD at 81-121 Broadway, Ultimo (**Figure 1**). The Proponent is the UTS and has Concept Plan Approval for the redevelopment of the University (**Figure 2**). This proposal is for the construction of the Broadway Building (the application site). The Broadway Building was determined to be a Part 3A project as part of the Concept Plan determination pursuant to s75P(1)(a) of the *Environmental Planning and Assessment Act 1979* (the Act).

The Broadway Building is the second building to be developed as part of the UTS redevelopment. The three buildings previously located on the application site have been demolished as part of a separate application. Bulk earthworks and the basement structure were also approved in a separate application.

Figure 1 Locality of the UTS Site
Source: Google Earth

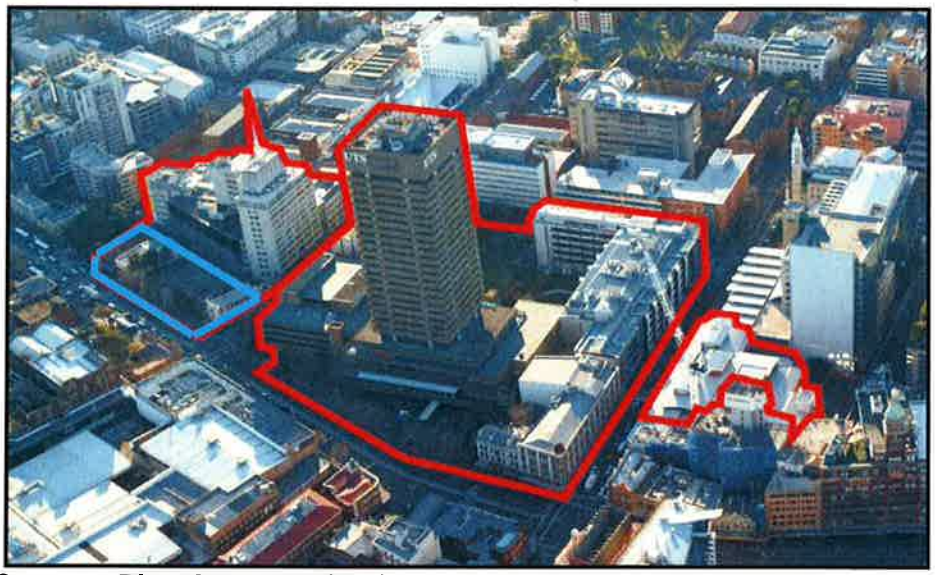

Figure 2: Concept Plan Approval (red) and Project Application (blue)
Source: JBA Broadway Project Application

1.2 DETAILED LOCATION

The site is bounded by Broadway, Wattle, Thomas and Jones Street. The site is 3,450m² in area and comprises of three lots owned by the UTS (**Figure 3**). The site comprises of the following allotments:

- Lot 1 in DP 554602;
- Lot 1 in DP 89492; and
- Lot 1 in DP 218673.

The site has a gentle slope of 4.8 metres from Jones Street to Wattle Street.

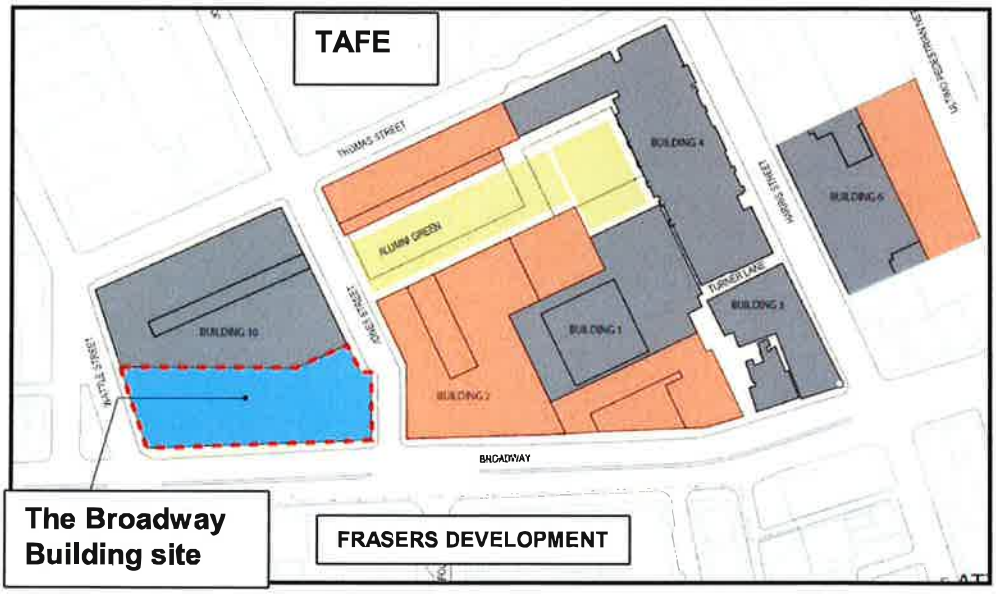

Figure 3: Broadway Building Site
Source: JBA Broadway Project Application

1.3 SURROUNDING DEVELOPMENT

The site is strategically located to all forms of public transport and mixed use urban development. Specifically, the Central Railway Station, Broadway Shopping Centre and Ultimo College are within 500m from the site. The Frasers site (former Carton United Brewery site) is situated across Broadway and has approval for new residential, commercial and public open space use.

1.4 STRATEGIC CONTEXT

Pyrmont Ultimo is identified as a major precinct of Central Sydney under the Metropolitan Plan for Sydney 2036. This precinct is to become a vibrant mixed use area with accessible high density and high amenity housing with specialised commercial activities (multimedia and maritime). It will serve an important tourism, convention and exhibition function and support Sydney's global role. The mixed land use vision for this area is complimented by the continued education uses proposed for the site which will re-inforce the character of this area.

1.5 PREVIOUS APPLICATIONS

The development of the Broadway Building forms part of the Concept Approval (December 2009) for the UTS City Campus. The Concept Plan approval allows an additional 83,750m² Gross Floor Area (GFA) for educational, social and sporting facilities, and student housing at the UTS Broadway campus for the following:

- New Broadway Building and Thomas Street Building, with a combined GFA of 44,650m²;

- Expansion of Buildings 1 and 2, with a combined additional GFA of 10,800m²;
- Expansion of Building 6 for the provision of student housing, with an additional 25,250m² GFA;
- Modifications to Buildings 3, 4 and 10;
- Modifications to Alumni Green, with a new Multi Purpose Sports Hall and book vault beneath; and
- Public domain improvements to Broadway and Thomas, Harris, Wattle and Jones Streets.

The proposed development is generally consistent with the approved Concept Plan. There are minor non-compliances with the Conditions of Approval and Statement of Commitments, namely that of:

- the Proponent does not consider it appropriate to locate bus shelters outside the Broadway Building;
- the building plant is setback less than 6m from the façade of the building; and
- the Radio Tower on Building 10 is partially screened as a result of the proposed development.

A s75W modification application was approved on 15 March 2011 to enable the bulk earthworks component of the Broadway Building to be undertaken ahead of the project application for the Broadway Building. The modification approved the construction of temporary retention/stabilisation systems for the basement areas. These matters do not require further assessment under the Project Application.

2 PROPOSED DEVELOPMENT

2.1 THE PROPOSED DEVELOPMENT

The project consists of the construction of a new 12 storey single envelope building providing 32,500m² of gross floor area (GFA) to accommodate the Faculty of Engineering and Information Technology (FEIT). The Broadway Building will connect at ground level and at several levels above ground with the existing UTS Building 10 to provide an integrated teaching environment.

The Proponent seeks project approval for the construction of a new building (**Figure 4**) comprising of:

- A 12 storey building with a maximum height of 46.82 metres (RL 54.550);
- 32,500 m² of GFA for education and ancillary use (student union kitchen and café);
- An architectural feature in the form of an aluminium binary screen on each façade to a maximum height of 57.281m (RL 71.721);
- Landscaping around the building;
- Parking for an additional 160 vehicles over three basement levels of the Broadway Building;
- Modification to the adjacent Building 10 car park for:
  - vehicle access to the Broadway Building car parking,
  - 250 bicycle parking spaces and shower/change room facilities resulting in a loss of 32 car spaces in this building; and
  - Pedestrian bridge links between levels 3-7 of both buildings.

The construction of the Broadway Building will not be staged. The Proponent intends to achieve a 5 star Green Star Education v1 design rating to be certified by the Green Building Council of Australia.

Figure 4: View from Broadway
Source: Preferred Project Report

Design

The proposed design is the result of a design competition. The volume of the building has been broken in two with a 'crevasse' forming a light-filled linear atrium. The atrium occupies the lower levels and is then part filled-in above with bridges and stairs connecting the

northern and southern parts of the building together, as well as with student lounge and research spaces.

The design incorporates a distinctive architectural feature in the form of tilted and angled plates made from perforated anodised aluminum screens which clad the four facades of the building. The surface of each plate is cut to form a series of 'gills'.

Openings are incorporated into the design of each screen at street level to provide a visual connection to the activities within the building and on the street.

The screen translates as a binary code system which is made up of squares representing '0' and dashed lines representing '1'. Once the code is translated, it reads as 'University of Technology Sydney Faculty of Engineering and Information Technology'.

Functional Use Distribution

The Proponent intends to create flexible spaces in the design of the Broadway Building. The internal spaces of the building are allocated with high volume student areas. Teaching areas, lecture theatres and laboratories are located at the lower levels up to Level 5, and lower volume spaces such as research areas, research laboratories and academic staff accommodation between Levels 6 and 12.

Key characteristics of the functional use distribution design element include:

- providing direct access from the main foyer to the rest of the campus from Jones Street and the laneway;
- clustering lecture theatres on Level 00 with access to the campus and the public domain;
- providing Student Union spaces on Level 1 to activate the crevasse and Laneway;
- glazed frontages to all three streets allow for visual connection to internal spaces;
- the ground levels contiguous with Jones Street, Wattle Street, Broadway and the new laneway are taken up with student social spaces (Union, café etc); and
- the crevasse is spanned at all levels with bridges and stairs between floors.

Building height and roof features

The building height on each elevation is varied as a result of the gentle slope of 4.8 metres from Jones Street to Wattle Street. The maximum height of the building is 46.820 metres and its lowest point has a height of 39.410 metres with a difference of 7 metres across the site.

The roof will accommodate a building plant, a water tank for harvested rainwater and renewable energy technologies in the form of a wind turbine, a solar trough hot water system and a solar panel. The building height and features are noted in the following **Table 1**.

Table 1 Height of Building and features

Elevation	Range	Building	Plant	Screen
Broadway	Max.	45.040m	49.015m	57.281m
	Min.	40.110m	47.310m	52.036m
Jones Street	Max.	40.110m	47.310m	55.387m
	Min.	39.410m	46.610m	51.604m
Wattle Street	Max.	46.820m	50.785m	54.821m
	Min.	45.050m	49.015m	54.245m
Arcade Elevation	Max.	46.820m	50.785m	48.697m
	Min.	39.410m	46.610m	54.770m

The renewable energy technologies are intended to promote innovation in teaching and research. While the wind turbine will be largely used for teaching purposes, the solar trough and solar panels will also generate some energy for the building.

Pedestrian access

There is a 4.8 metre slope in the land from Jones Street to Wattle Street. This has resulted in the two main pedestrian entrances to the building forming at Wattle Street which is on the ground level and Jones Street on Level 2 (**Figure 5**). The crevasse formed in the middle of the building creates a defined pedestrian movement through the building while allowing easy access to facilities.

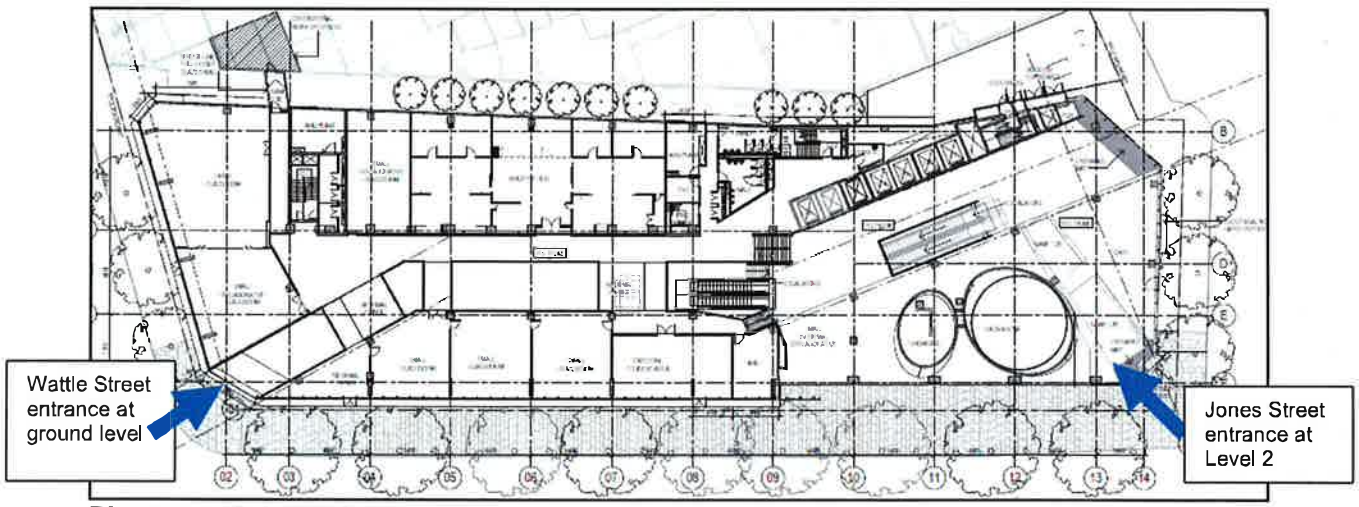

Figure 5: Main pedestrian entrances
Source: Preferred Project Report

Above ground pedestrian connections will be provided between Building 10 and the Broadway Building between levels 3-7. An arcade pedestrian thoroughfare is proposed between Jones and Wattle Street at the rear of the building.

Vehicle access

The proposed entrance and exit arrangements for parking and delivery are achieved through Building 10 and will consist of:

- 160 car parking spaces and 18 motorcycle spaces in the proposed Broadway Building; and
- 250 bicycle spaces (102 cycle locker spaces) and servicing/loading in the existing Building 10.

Broadway is an arterial road with four traffic lanes in both westerly and easterly directions. There are dedicated bus lanes on Broadway in both directions. As a result of the Frasers development, traffic signals at Broadway and Jones Street will be moved to the intersection of Broadway and Balfour Street. The right turn bay for buses will be relocated from Jones Street to Wattle Street heading west on Broadway.

The Concept Plan Approval included a Transport Management and Accessibility Plan (TMAP) for improved travel and access to the site. The Proponent claims that initiatives under the TMAP applicable to this plan include:

- Rationalisation of bus stops;
- Preparation of a Transport and Access Guide (TAG); and
- Preparation of a Green Travel Plan.

Landscaping
Landscaping is proposed around the building in the form of replaced trees on Broadway and smaller trees within the laneway. This is in accordance with the approved Concept Plan. Landscaping issues are addressed further in Chapter 6 of this report.

Utilities and Services
The site will need to be serviced with water, sewer, electricity and telecommunications services.

2.2 DESIGN COMPETITION

UTS conducted a Design Excellence competition for the Broadway Building in 2009. The Design Competition jury included the Department of Planning and Infrastructure, Sydney City Council and UTS.

The winning design was assessed against providing accommodation for the University over the next 20 years, improving the University's physical identity, re-engineering the use of common facilities and learning space, and re-integrating research activities with greater prominence. The Proponent's brief required a 'gateway' building design with high visibility and iconic value.

The Jury for the competition raised several issues/recommendations on the winning scheme by Denton Corker Marshall (DCM) which related to:

a) Pedestrian Amenity on Broadway: The jury recommended that the screen provide weather protection along Broadway, be made unclimbable and should be terminated no less than 2.2 metres above the footpath to allow pedestrians and motorists view of activities within the building.

b) Height: The jury suggested that there may be scope for the design to comply with the building height limit.

c) Screen: The Proponent is to prepare appropriate studies to ensure the strength and durability of the screen.

d) Pedestrian circulation: Stairs at ground level should be moved to the west of the building. The uses on the laneway should co-incide with areas of activity.

e) Activation of Wattle Street: Re-location of the substation on ground level to Jones Street forecourt.

f) Broadway façade activation: Activation of the Broadway façade.

g) Heritage: Retention of former buildings was not considered essential.

While the Proponent has complied with most of the above recommendations, it has chosen not to terminate the screen above the footpath. The Proponent has widened the colonnade to provide better weather protection and incorporated lighting into the design to facilitate surveillance of the space behind the screen. An unclimbable area has also been created along the screen. Thus, the pedestrian amenity and the striking building design are maintained by not terminating the screen above the footpath. The Proponent addressed these concerns in the PPR.

2.3 PREFERRED PROJECT REPORT

The Department discussed minor issues of landscaping, safety and surveillance of the pathway behind the screen, and signage with the Proponent. The Proponent submitted a Preferred Project Report (PPR) on 11 October 2011 addressing issues raised by agencies. The PPR explained design improvements with revised architectural drawings and provided

more detail design information in terms of landscaping, pedestrian amenity, safety and security and illumination as depicted in the following illustrations. Agencies were advised of the PPR. The City of Sydney, Transport for NSW and Roads and Maritime advised that they have no objection to the development.

3 STATUTORY CONTEXT

3.1 CONTINUING OPERATION OF PART 3A

On 22 June 2011, the NSW Government passed a Bill to create a new State significant assessment system and concurrently repeal the Part 3A system. Part 3A of the Act, as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A to the Act, continues to apply to transitional Part 3A projects.

Director-General's environmental assessment requirements (DGRs) were issued in respect of this project on 19 January 2010, the Environmental Assessment was lodged prior to 1 October 2011, and the project is therefore a transitional Part 3A project.

Consequently, this report has been prepared in accordance with the requirements of Part 3A and associated regulations, and the Minister (or his delegate) may determine the application under section 75J of the Act.

3.2 MAJOR PROJECT DECLARATION

The UTS Broadway Campus development was declared to be a Part 3A project by the Minister on 4 September 2008 as it falls into the class of development described in Clause 20 of Schedule 1 (Classes of Development) – Educational facilities that has a capital value of more than $30 million. The Minister approved the Concept Plan on 23 December 2009.

The Concept Plan Approval determined pursuant to S75P(1)(a) that the Broadway Building be assessed under Part 3A of the Act.

3.3 ZONING

The site is located entirely within the City of Sydney local government area and is currently zoned Residential-Business in the Ultimo-Pyrmont zoning map that forms part of the Sydney Local Environmental Plan 2005. The proposed development is not prohibited by the LEP as it is consistent with the zone objectives of generating employment and supporting mixed use development.

3.4 DIRECTOR GENERAL'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

On 19 January 2010, the Director-General issued environmental assessment requirements pursuant to Section 75F of the Act. Issues to be addressed included urban design and built form, traffic and transport, solar access, wind effects, energy efficiency and ecologically sustainable development.

3.5 SECTION 75I(2) OF THE ACT & CLAUSE 8B OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000

Section 75I(2) of the Act and Clause 8B of the *Environmental Planning and Assessment Regulation 2000* provides that the Director-General's report is to consider a number of requirements. These matters and the Department's response are set out in the following **Table 2**.

Table 2: Section 75I(2) criteria

Section 75I(2) criteria	Response
Copy of the Proponent's environmental assessment and any preferred project report.	The Proponent's EA and Preferred Project Report are included as appendices to this report at **Appendix D**.
Any advice provided by public authorities on the project.	All advice provided by public authorities on the project for the Minister's consideration is set out at **Appendix C** of this report.
Copy of any report of the Planning Assessment Commission in respect of the project.	Not Applicable.

Copy of or reference to the provisions of any State Environmental Planning Policy that substantially govern the carrying out of the project.	Each relevant SEPP that substantially governs the carrying out of the project is identified and assessed in **Section 3.6** below.
Except in the case of a critical infrastructure project – a copy of or reference to the provisions of any environmental planning instrument that would (but for this Part) substantially govern the carrying out of the project and that have been taken into consideration in the environmental assessment of the project under this Division.	An assessment of the development relative to all environmental planning instruments is provided in **Section 3.6** below.
Any environmental assessment undertaken by the Director General or other matter the Director General considers appropriate.	The environmental assessment of the project application is this report in its entirety.
A statement relating to compliance with the environmental assessment requirements under this Division with respect to the project.	The Proponent's EA addressed the Director-General's assessment requirements adequately as addressed in this report.
Clause 8B criteria	Response
An assessment of the environmental impact of the project.	An assessment of the environmental impact of the proposal is discussed in **Section 5** of this report.
Any aspect of the public interest that the Director-General considers relevant to the project.	The public interest is discussed in **Section 4** of this report.
The suitability of the site for the project.	The report assesses the suitability of the site for the project in discussion of the key issues in **Section 5** of this report.
Copies of submissions received by the Director-General in connection with public consultation under section 75H or a summary of the issues raised in those submissions.	A summary of the issues raised in the submissions is provided in **Section 4.** Copies attached in **Appendix C** of this report.

3.6 ENVIRONMENTAL PLANNING INSTRUMENTS

State Environmental Planning Policy No. 55 (Remediation of Land) (SEPP 55)

SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment by specifying that certain considerations be made by the consent authority when determining development applications in general, and where relevant, land has been appropriately remediated.

A Stage 1 Environmental Site Assessment was prepared for the approved Concept Plan for the site as a result of soil contamination to the site from contaminants from underground fuel storage tanks and previous use of ash waste as fill.

The Proponent prepared a Stage 2 Contamination Assessment under Modification 1 (MP08_0116 Mod 1) of the Concept Approval. The Proponent also committed to preparing a Remediation Action Plan resolve any contamination issues that may arise. This matter was satisfactorily addressed under the approved Modification 1 determination.

State Environmental Planning Policy (Infrastructure) (Infrastructure SEPP)

Clause 104 of this SEPP applies to traffic generating development and requires consultation with the RTA since the University will cater for more than 50 students. Due to the size of the development, the proposal was referred to the RTA for comment in accordance with the Infrastructure SEPP.

The Roads and Maritime Services (formerly RTA) made a submission with several proposed conditions of approval relating to parking design. These matters are discussed in more detail in Section 6 of this report.

State Environmental Planning Policy 64 (Advertising and Signage)
The proposed signage is defined as a "building identification sign" under Clause 9 of the Advertising and Signage SEPP and does not require assessment against the objectives of Schedule 1. Nonetheless, the proposed sign is acceptable because it does not detract from the amenity or visual quality of the area. The signage is also considered to be compatible with the scale and proportion of the building.

3.7 OBJECTS OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979

The objects of any statute provide an overarching framework that informs the purpose and intent of the legislation and gives guidance to its operation. The Minister's consideration and determination of a project application under Part 3A must be informed by the relevant provisions of the Act, consistent with the backdrops of the objects of the Act.

The Department has considered the Objects of the Act in the assessment of this application. The assessment of the project in relation to the Objects is provided in Chapter 5.

4 CONSULTATION AND ISSUES RAISED

4.1 PUBLIC EXHIBITION AND NOTIFICATION

The proposal was placed on public exhibition from 16 March 2011 until 15 April 2011 for a period of 31 days. An advertisement was placed in the Sydney Morning Herald. Neighbouring residents/landowners were also notified of the exhibition by the Department.

The Environmental Assessment (EA) was made available to the public at the Department of Planning's Bridge Street Office and Town Hall House in the city. Copies of the EA were forwarded to the City of Sydney, RTA (now Roads and Maritime Services), Department of Transport (now Transport for NSW) (who incorporated comments from Railcorp in their submission) and State Transit Authority (STA) for comment. All of these agencies provided comments to the Department and are discussed below.

4.2 SUBMISSIONS

The Department received a total of 4 submissions from government authorities, and 1 submission from the public in support of the development. The key issues raised were:

- Landscaping to the laneway;
- Pedestrian safety between the footpath, aluminium screen facade and building;
- Weather protection for residents on Broadway;
- Provision and protection of street trees;
- Future closure of Jones Street and impact on bus routes;
- Preparation of a Green Travel Plan;
- Potential impact on any future mass transit corridors along Broadway;
- Additional car pooling provision; and
- Preparation of a Workplace Travel Plan.

The following **Table 3** provides an assessment of agency submissions. An assessment of the key issues has been undertaken in **Section 5** of this report. A list of issues raised in the submissions received can be found in Appendix C. The Department is satisfied that adequate public consultation for the proposal has been undertaken in accordance with the legislation.

Table 3: Assessment of Agency Submissions

Agency	Issue	Department Response
City of Sydney	Insufficient detail to landscaping • No response to microclimate zones or vertical elements proposed. • No illustration on how laneway will function or how the landscape responds to the adjacent built form or uses. • Adequate setbacks of buildings to allow for the natural development of tree canopies. • Continuous trenches for trees to maximise soil volume available for trees. • Careful consideration for drainage. • Use of advanced tree stock.	Proponent submitted a Landscape Design Report in PPR. The level of detail and works proposed in the landscape plan has been assessed as sufficient.
	Proposed screen • Extension of screen to footpath creates a barrier between street and building. • Overhanging of footpath to provide a partial awning.	• 58% of the building will be visible from the street. • The overhang is not required as the colonnade has been widened with lighting and safety measures improved in PPR.
	Street trees • Any new trees should be consistent with Council's *Street Tree Master Plan*.	Proponent has agreed to this.

	Closure of Jones Street • Council requested that the Proponent is to comply with the Roads Act for any road closure and undertaking public domain works.	Permanent closure is not part of this application.
	Green Travel Plan • Council requested the UTS to implement a Green Travel Plan for the site.	No need for condition as the majority of people travelling to University will use public transport.
Transport for NSW	• More than 10% of car parking spaces should be designated for car pooling. Travel demand measures should be prepared as part of the Workplace Travel Plan and Transport and Access Guide should be updated.	The 15 (10%) proposed car pooling spaces are considered to be sufficient in the absence of development standards for this arrangement.
	• Service search be carried out prior to commencement of works.	Condition of Approval.
	• Recommended conditions of approval applied to further consultation and engineering detail to be undertaken to ensure it is consistent with earlier agreed engineering testing and its impact of the future construction and operation of the Westmead to CBD transport corridor.	Discussed in detail in Section 5.6 of this report.
Roads and Maritime Services	• Additional pedestrian movements will require pedestrian safety measures.	Pedestrian safety will be improved once Jones Street is closed to traffic. Proponent will prepare a Construction Management Plan to address pedestrian safety.
	• Clear sight lines provided on the property boundary line to ensure adequate visibility for vehicles leaving the parking and cyclists or pedestrians.	The proposal uses an existing egress point. Proponent's traffic report concluded that no traffic and access issues are expected to arise from the proposed development.
	• Minimum queuing length between boom gates and property shall be a minimum of three car lengths per lane..	The Proponent has made allowance for four queuing vehicles with two vehicles per lane.
	• Consultation with RTA, DoT and STA for any changes to bus services.	No change to bus service proposed.
	• RTA recommended several conditions of approval relating to parking dimensions and traffic movement.	All supported by Proponent.
State Transit Authority	• Does not support the temporary or full closure of Jones Street since a right turn bay and bus stops are to be provided prior to the closure of Jones Street.	Buses will still be able to use Jones Street and will not be impacted by the construction zone. The permanent closure is not part of this application.
	• Proposed turning paths create several conflict points creating dangerous situations for bus, pedestrians, construction work and traffic.	As above.
	• Request to comment on traffic management plans.	Supported by Proponent.

5 ASSESSMENT OF ENVIRONMENTAL IMPACTS

5.1 DESIGN OF BUILDING

The proposed design is the result of a design competition as discussed earlier. The modern design uses a perforated aluminium screen across each façade with full height glass behind.

The proposed building complements its locality while creating a functional learning environment. It also complies with the Concept Plan Approval in respect of bulk and scale as set out in the following **Table 4**.

Table 4: Building Dimensions

Element	Concept Plan	Environmental Assessment
Height	46.91m	46.82m
Architectural feature	10.7m above building height	17.1m above building height
GFA	34,650 m²	32,500 m²
Car parking	160 spaces	160 spaces
Number of storeys	11-12 storeys	11 on Jones Street and 12 on Wattle Street

Gross Floor Area

The gross floor area (GFA) of the Broadway Building is 32,500 m² which is less than the maximum of 34,650 m² of GFA approved in the Concept Plan.

Height

The new 12 storey building consists of a single building envelope at 46.82 metres in height which is slightly lower than the approved Concept Plan. The proposed height will be generally consistent with the height of adjacent buildings, namely the Frasers development which is 60 metres high. The new building will make maximum use of the site which previously had a 2 and 3 storey building with ground level car parking occupying most of the site.

Views to radio tower

The approved Concept Plan included a Statement of Commitments to minimise the impacts on heritage items on and around the site. To this effect, the built form of the Broadway Building was required to maintain the distant views of the Building 10 Radio Tower from the south and west.

The Proponent states that the Tower will be partially screened off by the proposed architectural feature closer to the UTS but distant views will be maintained. The following **Figure 6-8** identifies the critical western, south western and southern views.

Figure 6: Critical western view
Source: Environmental Assessment

Figure 7: Critical south western view
Source: Environmental Assessment

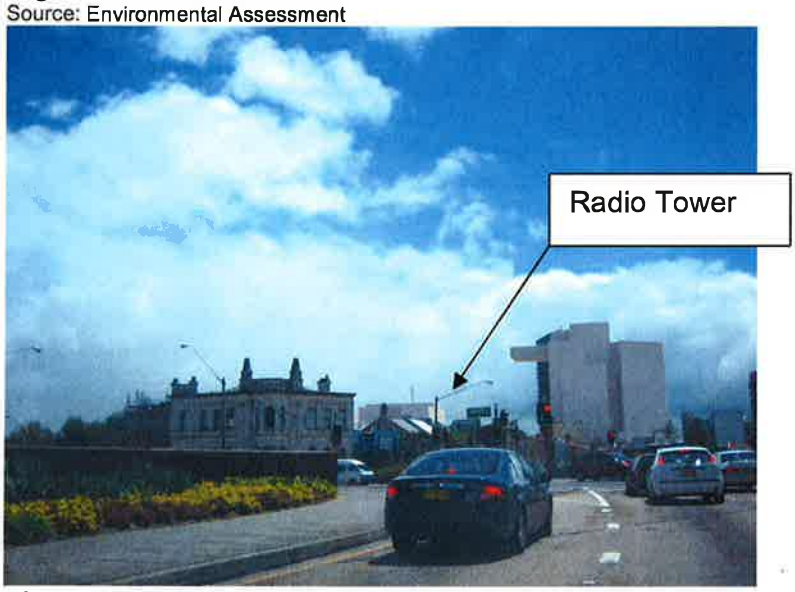

Figure 8: Critical southern view
Source: Environmental Assessment

The Department has assessed the impact on distant views against the approved Concept Plan and noted that the extent of the visual impact is not greater than what was approved in the Concept Plan. While only the base of the tower is blocked by the screen at a closer distance, the Department is satisfied that the distant views are still maintained by the proposed design.

Architectural Feature

The Proponent proposes an architectural feature which consists of a perforated aluminium screen across each façade (**Figure 9**). The highest point of the screen is along the Broadway frontage at Jones Street which is 17.1 metres above the highest point of the building.

The height of the architectural feature does not comply with the height proposed in the approved Concept Plan. The Proponent argues that the screen was deliberately designed to hide the plant and roof features. The Department believes that the proposed design achieves this screening effect. Also, the 7 metre height difference will not be a significant distraction from the intended effect of the screen which is a main element in the design of the building. The architectural feature enables the building to read as a single sculptural object.

Figure 9: View from Broadway
Source: Preferred Project Report

The colour of the screen has since changed from the exhibited EA from a charcoal matte finish to a lighter medium grey colour. The screen will be laser cut from 4mm thick sheets of aluminium in 1400mmx 3800mm modules.

The open elements of the screen above street level will be in-filled with a fine perforation (3 to 6.5 metres above the footpath) to prevent people climbing it.

In terms of signage and illumination, the Proponent intends to have the name 'UTS' embedded into the top left corner of the Broadway and Wattle Street façades (**Figure 10**), each with a total area of 40m². The Proponent has prepared the proposed signage to comply with the Council's Signage DCP. The proposed 'gills' will have a subtle green glow lighting at night, creating an 'activating' effect on the building.

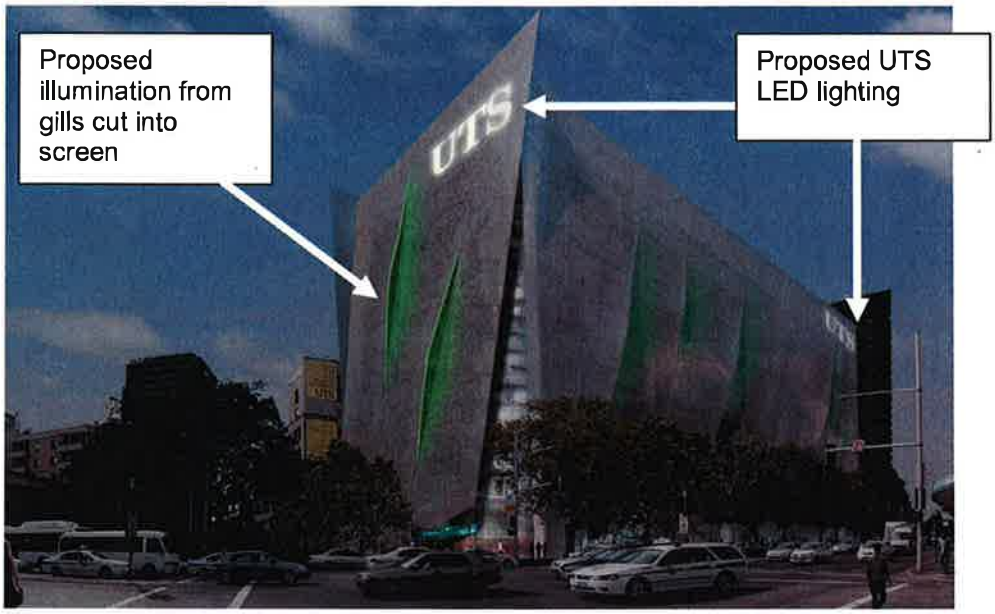

Figure 10: Night view from Broadway
Source: Preferred Project Report

Visual impact of plant
The Concept approval required the proposed building plant to be not less than 6m from the façade of the building and for the plant to be incorporated into the design of the building to minimise the visual impact of plant to the street. The Proponent proposes the plant to be a minimum 1.740m from the façade of the building.

The Department does not object to the proposed location of the plant as this will be fully screened by the aluminium screens which clad the building. The Department believes that the full architectural design will be better appreciated by blocking the plant and equipment. Also, having the plant along the edge of the building will allow natural light to enter the atrium which extends to the roof.

5.2 PEDESTRIAN CONNECTION AND CIRCULATION

Pedestrian access and circulation
It was noted that there is no access to the Broadway Building along its Broadway frontage which has a length of just under a 100m. The Department believes that the entrances on the Jones and Wattle Street intersections with Broadway are adequate while the proposed internal crevasse will allow pedestrians to walk easily inside the building.

It was noted that pedestrian movement may be restricted by the screen (**Figure 11-12**) which extends to the ground. The Department believes that the 2.425 metre wide colonnade created between the screen and building is sufficient for pedestrians to move easily in this area.

The colonnade between the building and the screen will also give pedestrians protection from wind and rain along the length of the Broadway frontage, with additional protection on the Jones Street and Wattle Street frontages.

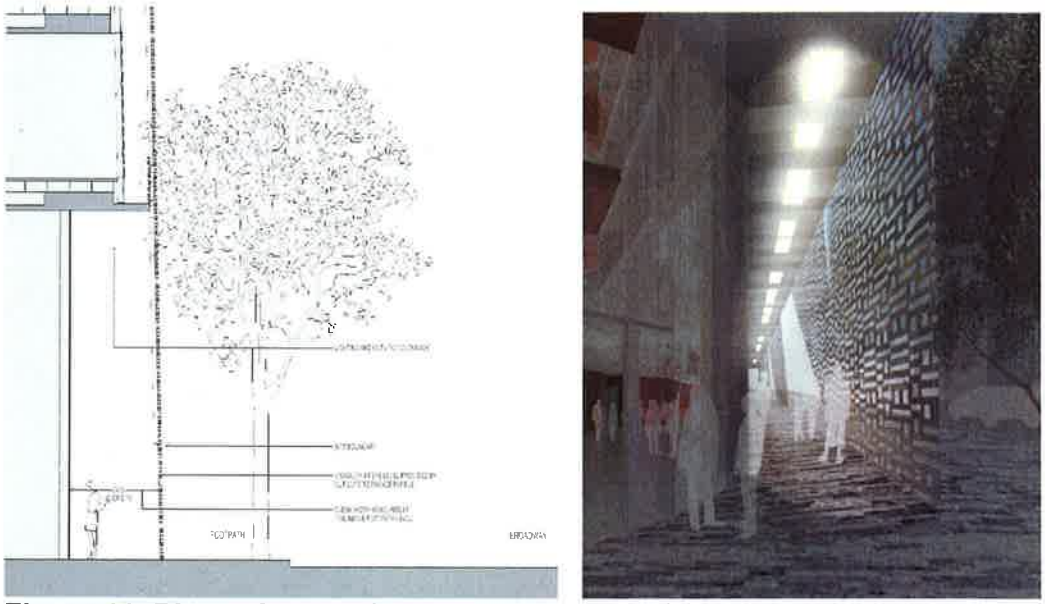

Figure 11: Dimensions and proposed lighting of walkway along Broadway
Source: Preferred Project Report

Figure 12: Pedestrian connectivity
Source: Preferred Project Report

5.3 LANDSCAPING AND PUBLIC OPEN SPACE

The City of Sydney requested further detail on the proposed microclimate zones, vertical elements and on how the laneway will function. Council also requested adequate setbacks of trees for their natural development along Broadway.

The Department is supportive of the proposed landscape plan (**Figure 13**) which is consistent with the approved Concept Plan. In terms of improving the public domain along Broadway, the five existing street trees along Broadway will be supported by four new trees which will be similar to the existing trees in this area.

The Department believes that the proposed design uses the limited space (width range from approximately 2.6m to 8.6m) in areas such as the arcade to the maximum benefit of its users (**Figure 14**). To this effect, the student café will flow out onto a terrace which is connected to the arcade to create useable flowing spaces.

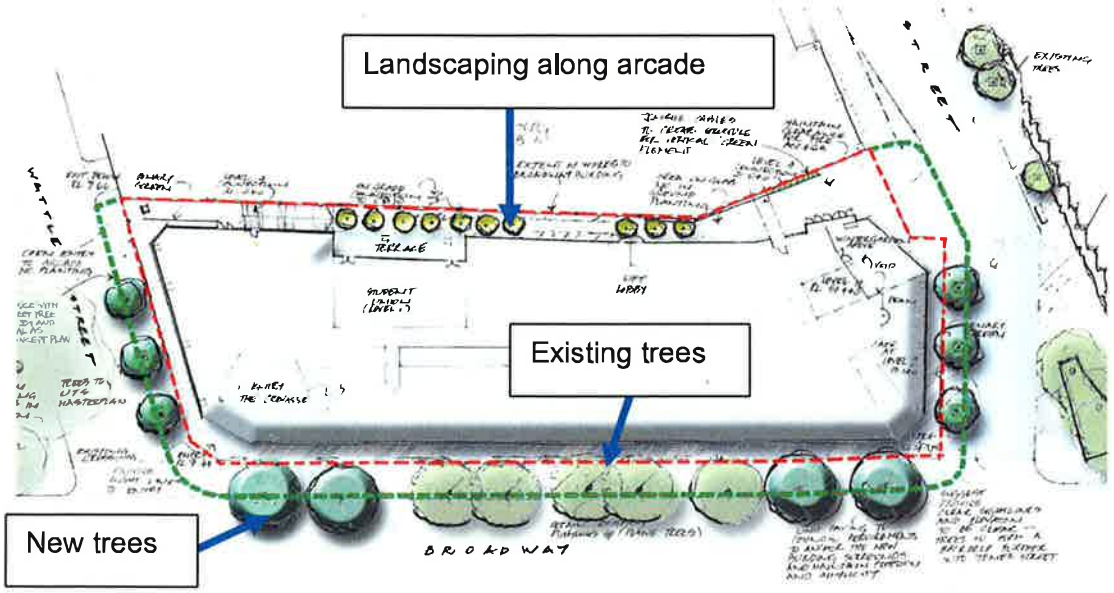

Figure 13: Landscape Plan
Source: Preferred Project Report

Figure 14: Landscaping to arcade looking north
Source: Preferred Project Report

5.4 ACCESS, PARKING AND TRAFFIC

Vehicular access

Vehicles will gain access to parking bays in the Broadway Building from Building 10 in Thomas Street **(Figure 15)**. Vehicles will exit from Wattle Street.

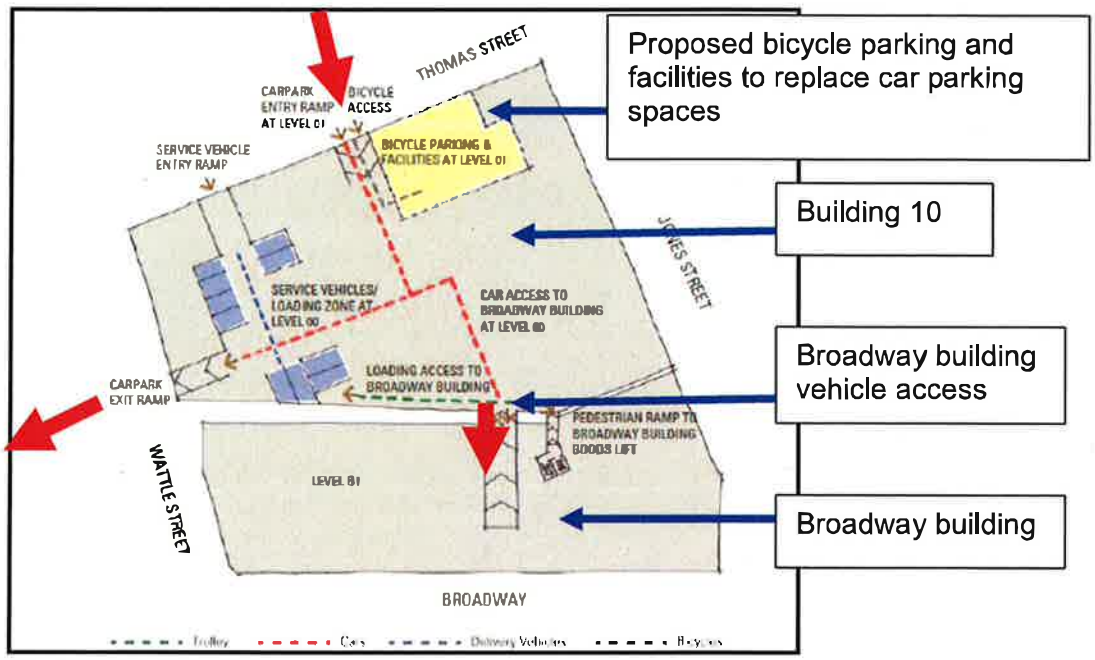

Figure 15: Access to the site
Source: Environmental Assessment

Car parking
Parking in the Broadway Building is accessed from Level 1 of Building 10 down to Level 00 and then via a new ramp to level B1 of the Broadway Building. The car park layout in the Broadway Building has been designed with a single two-way circulation aisle. The proposed 160 car parking spaces are consistent with the requirements of the Concept Plan.

Since vehicles need to travel through Building 10 to access the Broadway Building, the existing 168 car parking spaces in Building 10 will be modified. The modified parking arrangements of Building 10 to accommodate the new access arrangements will result in a reduction of car parking spaces for this building to 136 spaces (a loss of 32 spaces).

The loss of 32 car parking spaces in Building 10 is the result of reconfiguring the internal parking arrangements in this building. This will allow the proposed vehicle access to the new Broadway Building and accommodate the proposed bicycle facilities.

Given the sites close proximity to public transport, the Department believes that this loss will only benefit the site in support of lower car parking provision in areas with good public transport.

Bicycle access
The proposed bicycle parking will be located in Building 10 and accessed through the Thomas Street vehicle car park entrance. The 250 bicycle parking spaces will be located at the entrance of the car park for ease of access to the shower and change room facilities.

Traffic congestion
The Roads and Maritime Services required a minimum queuing length between the boom gates and the property boundary to be a minimum of three car lengths per lane for two entry lanes. This was to prevent vehicles queuing across the footpath and onto Thomas Street.

The Proponent has resolved this problem by creating a dual vehicle access into the car park with four queuing spaces, with each access having its own card reader for quicker access. This is intended to ensure that any additional queuing will occur within the car park rather than on the road.

The Proponent's traffic report concluded that the proposed development is unlikely to have any traffic impacts on the surrounding streets. Also, no traffic and access issues are expected to arise from the proposed development.

Relocation of bus shelters
The Statement of Commitments in the Concept Approval requires the Proponent to investigate consolidating bus shelters along Broadway in consultation with the STA and City of Sydney. While the Proponent's traffic study acknowledges that there are bus stops located in the main Broadway frontage to the site, it believes that it is appropriate to locate bus shelters along the Broadway frontage once construction work is complete. The Proponent has advised that there are no planned alterations to bus stops along Broadway during the construction stage of the development.

5.5 CONSTRUCTION MANAGEMENT

The Proponent has prepared a Construction Management Plan (CMP) and submitted it with the EA. The Proponent has committed to preparing a detailed CMP prior to commencing with construction. This plan will address matters of:

- Construction traffic management;
- Noise management;
- Waste management;
- Erosion and sediment control;
- Air and dust management;

- Pedestrian management; and
- Protection of existing trees.

While the proponent will prepare a detailed CMP, agencies have raised construction issues in terms of bus access and road closure, requiring consideration in this report.

Bus access to Jones Street

The Proponent does not intend to detour public transport services during the construction stage of the project. The Proponent's Construction Traffic Management Plan will allow buses to turn right from Broadway into Jones Street during the construction period.

The STA argued that the proposed bus turning paths cannot be supported as conflict points were identified for buses passing moving and parked vehicles in Jones Street.

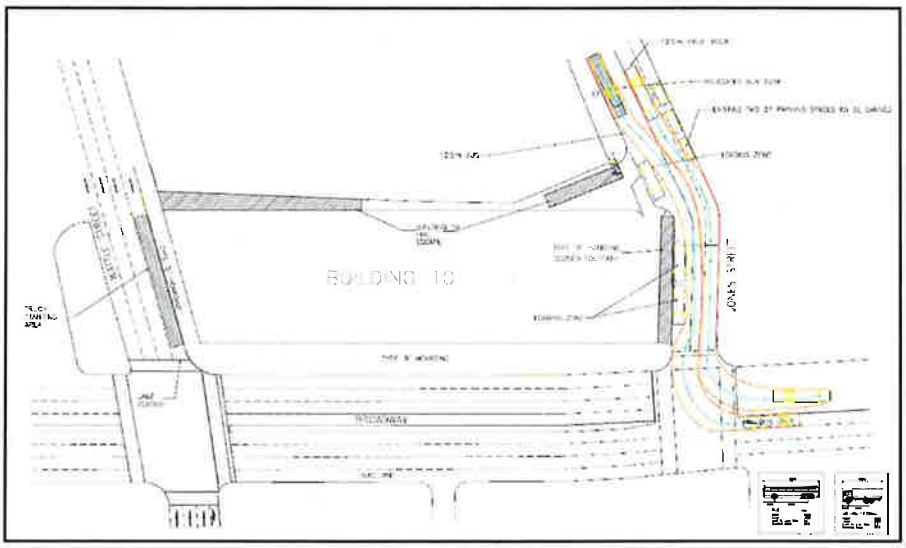

Figure 16: Potential conflict points of the Construction Traffic Management Plan
Source: Preferred Project Report

The Proponent argued that its Construction Traffic Management Plan identified all the potential conflict points and shows that all vehicles can manoeuvre safely (**Figure 16**).

The Proponent will reduce conflict between buses and trucks by road marking Jones Street, removing on-street parking, relocating the Jones Street bus stop and redirecting pedestrians to the eastern side of Jones Street.

As a result of the above arrangements, the swept paths for a bus entering Jones Street and a heavy rigid truck leaving Jones Street have been overlaid to show that they can pass each other. All of the swept paths allow for 300mm clearance of kerb and 300mm clearance to other vehicles. This will result in a 600mm clearance and allow two vehicles to pass each other.

The Department concurs with the Proponent that bus and truck manoeuvres to and from the site can be satisfactorily accommodated by the surrounding road network with the implementation of the above arrangements.

Permanent closure of Jones Street

The permanent closure of Jones Street was a condition on the Frasers approval and is not required as part of this application. However, the UTS made an application to the City of Sydney for its permanent closure as part of the ongoing development of their site.

The application to Council was reviewed by Council's Traffic Committee who had no objection to the permanent road closure subject to the following recommendations:

- Frasers Broadway was prepared to fund the necessary traffic lights changes and road alignment works at the intersection of Broadway and Balfour Street;
- The cost of implementing the closure of Jones Street is to be borne by the UTS as part of their ongoing development of the site; and
- The physical closure of Jones Street will not proceed until Council's concerns over the road widening of Broadway, which narrows the footway is resolved.

The application for the permanent closure of Jones Street was approved by Council.

Construction Noise and Vibration

Since matters of demolition and excavation have already been determined under previous applications, the Proponent was only required to prepare a Construction Noise and Vibration Management Plan (Renzo Tonin and Associates, 21 February 2011). This plan listed noise reduction levels expected during the construction of the building which were lower than the maximum permissible Australian Standards.

The Management Plan suggested several vibration monitoring methods to be undertaken by the Proponent. The Department is satisfied that appropriate construction noise and vibration mitigation measures will be implemented once the detailed Construction Management Plan has been prepared.

5.6 OTHER MATTERS

Westmead to CBD Transport Corridor

The Department's Infrastructure Project Branch advised that the development of the Metro Corridor has been deferred and that Transport for NSW has not made any Project Application to the Department for the construction of the railway line.

Possible impact of the basement excavation works and structural support on the future rail corridor were addressed in the Modification 1 Approval of the Concept Plan.

In its submission to the Department during the Broadway Building Project Application exhibition process, Transport for NSW raised issues of engineering detail and consultation to be undertaken to reduce any concerns of the future Westmead to CBD transport corridor, summarised as follows:

(1) "...the proponent must consult with the Department of Transport in relation to the potential impacts of the "Broadway Building" on the Westmead to CBD Transport Corridor.
(2) The design for the Broadway Building will be in accordance with the report entitled "Geotechnical Investigation and Hydrogeological Assessment.
(3) All structures which are proposed for construction ... which have a potential impact on the Westmead to CBD mass transit corridor must be designed, constructed and maintained in accordance with design criteria specified by the Department of Transport.
(4) Owners of the site of the approved development must allow in the design, construction and maintenance of the approved development for the future operations of metro railway tunnels in the vicinity of the approved development, especially in relation to noise, vibration, stray currents and electromagnetic fields.
(5) The proponent of the "Broadway Building" must deliver copies of any relevant drawings, plans or reports given to or issued by the NSW Department of Planning and Infrastructure to the Department of Transport for its records if requested in writing by the Department of Transport."

The modification to the Concept Plan dealt with excavation impacts and therefore conditions (1) to (3) are not relevant to this application. Conditions (4) and (5) are included in the recommended Instrument of Approval.

Safety and Security

The Proponent submitted a crime prevention report for the Broadway building in the PPR. The report makes several recommendations in terms of general lighting, interactive projected imagery and screen structure. The interactive lighting would utilise sensors that detect people in the colonnade and pavement area and use this information as input for lighting changes to the lighting display.

This study recommended that further assessment be undertaken of the actual lighting design specifications when they are available. The Department is satisfied that the recommendations applicable to safety and security are addressed by the Proponent in the PPR and if supported, has prepared a condition of approval for detailed lighting to comply with relevant Australian Standards.

Stormwater

In terms of stormwater discharge, the proposed design incorporates water sensitive urban design principles such as rainwater harvesting and on-site detention. Sydney Water has no objection to the discharge of stormwater from the proposed development to Sydney Water's stormwater channel provided that the conditions in its letter dated 25 January 2011 are complied with.

Wind

The Proponent's wind assessment identified wind conditions at the ground level of the proposed development are acceptable for use as a main public access way. No uncomfortable locations were recorded across the site.

Glare and Solar Access

Occupants of the residential building located to the west of the site are not expected to experience any glare discomfort as Building 10 to the north of the proposed building is expected to block excessive reflections. The glare study (Vipac Engineers and Scientists Ltd) identified no instances in which reflections from the proposed building could cause a persistent glare to motorists and pedestrians. The proposal also complies with the glare study requirement that the anodised aluminium screen shall have a matte finish.

There is no overshadowing to any adjacent residential development. Only the commercial use of the approved Frasers development is affected by the winter solstice shadow.

Noise from the Development

The Proponent's noise impact assessment provided guidelines and general recommendations for the control of noise within the building and noise mitigation measures to adjacent properties. The Proponent will undertake further testing of mechanical plant items once these items are in-place. To this effect, the Department has proposed a condition of approval for noise from plant and machinery not to exceed 5dB(A) above the background noise level when measured at the property boundary.

5.7 ESD PRINCIPLES

The Protection of the Environment Administration Act 1991 provides five accepted ESD principles:

(a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (the integration principle);

(b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the precautionary principle);
(c) the principle of inter-generational equity - that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the inter-generational principle);
(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making (the biodiversity principle); and
(e) improved valuation, pricing and incentive mechanisms should be promoted (the valuation principle).

The Department has considered the project application in relation to the ESD principles and has made the following conclusions:

1. Integration Principle - The proposed development will provide additional and improved teaching space for the Engineering and Information Technology Faculty and student facilities for the University. This educational use is consistent with the continued educational use on the site.

2. Precautionary Principle – The site has a low level of environmental sensitivity and has been cleared. Consequently, the proposed development will not impact on threatened or vulnerable species, populations, communities or significant habitats.

3. Climate Change – The proposed development is not likely to be impacted by potential rises in river or sea levels due to the height of the site above sea level and is not classified as being within a flood prone area.

4. Inter-Generational Principle – The development will facilitate the growth and development of the University which makes provision for both teaching and research in the Engineering and Information Technology Faculty. While minimal parking is proposed, the development will take advantage of the good public transport and make provision for carpooling, bicycle parking facilities. The Proponent also has committed to achieve a 5 star Green Star Education v1 design rating.

5. Biodiversity Principle –There is no natural vegetation on the site as it has been cleared. The site does not contain any threatened or vulnerable species, populations, communities or significant habitats. Therefore the proposal will not impact upon the conservation of biological diversity or ecological integrity.

6. Valuation Principle –. The development will facilitate the expansion and improvement of the UTS which is an internationally recognised institution and a large employer in the region, while also adding significant social and economic benefits to the region.
The Proponent is committed to ESD principles which include:

- Achieving minimum 5 star Green Star Education v1 design rating certified with the Green Building Council of Australia;
- Car parking which will accommodate small cars, carpooling vehicles, recharge points for hybrid/electric vehicles;
- Provision is also made for bicycle and motorcycle parking;
- Water efficiency through the use of rainwater capture and reuse; and
- Minimisation of waste production in construction and operation.

6 CONCLUSION

The Department has assessed the Environmental Assessment, Preferred Project Report and considered the submissions in response to the proposal. The Department believes the proposed development is generally consistent with the approved Concept Plan.

The key issues related to the design of the building and architectural feature, traffic control, pedestrian connection and circulation, and landscaping and public space. Other minor matters included stormwater management, glare and solar access, noise, and wind. The Department has considered the issues relating to the proposal and supports the proposed educational use, subject to the Statement of Commitments and recommended conditions of approval to ensure that all impacts are minimised or managed to an acceptable level.

The proposal is considered to be in the public interest as it will create a new educational facility with a modern design in Sydney. The proposed development is considered to provide educational, social and economic benefits to the region, subject to conditions of approval.

7 RECOMMENDATION

It is recommended that the Deputy Director-General as Delegate of the Minister:

(A) **consider** all relevant matters prescribed under Section 75J(2) of the *Environmental Planning and Assessment Act, 1979*, including those relevant matters prescribed by 75I(2) as contained in the findings and recommendations of the Director-General's report and appended documentation;

(B) **approve** the application, subject to conditions, under section 75J(1) of the *Environmental Planning and Assessment Act, 1979*, having considered all relevant matters in accordance with (A) above;

(C) **sign** the attached instrument of approval at Appendix A.

Prepared by:

Shivesh Singh
Senior Planner
Strategic Assessment

Simon Bennett
29.11.2011
Team Leader
Strategic Assessment

Reviewed by:

Michael File
Director
Strategic Assessment

30.11.11
Giovanni Cirillo
Executive Director
Urban Renewal and Major Sites

Tom Gellibrand 16/12/11
Deputy Director-General
Plan Making and Major Sites