STATE SIGNIFICANT DEVELOPMENT ASSESSMENT REPORT:

- ***LEES 1 Science Research and Teaching Facility (SSD 7054); and***
- ***F23 Administration Building (SSD 7055), the University of Sydney***

Environmental Assessment Report
Section 89H of the *Environmental Planning and Assessment Act 1979*

November 2016

ABBREVIATIONS

Applicant	The University of Sydney
CIV	Capital Investment Value
Consent	Development Consent
Council	City of Sydney
Department	Department of Planning and Environment
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPI	Environmental Planning Instrument
GCMP	Grounds Conservation Management Plan
LEP	Sydney Local Environmental Plan 2012
Minister	Minister for Planning
OEH	Office of Environment and Heritage
OGA	Office of the Government Architect
RMS	Roads and Maritime Services
RtS	Response to Submissions
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning and Environment
SEPP	State Environmental Planning Policy
SRD SEPP	*State Environmental Planning Policy (State and Regional Development) 2011*
SSD	State Significant Development

Cover Photographs: Illustrative LEES 1 building photomontage northern view (*Source: Rice Daubney)* and illustrative F23 Administration building westerly view (*Source: Grimshaw)*

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EXECUTIVE SUMMARY

This report is an assessment of two State significant development applications lodged by the University of Sydney (the applicant) seeking approval for the development of a new eight storey science research and teaching facility (known as the LEES 1 building) (SSD 7054) and for the development of a new five storey administration building and two level basement car park (known as the F23 building) (SSD 7055) at the University of Sydney, Camperdown Campus.

The Department of Environment and Planning's (the Department) report has been prepared to consider both State significant development applications concurrently on the basis that: they were lodged by the same applicant; are on the same parcel of land; and they are sited opposite one another at the University's Camperdown Campus City Road entry; and will create a new gateway for the University. The assessment of both applications in this report enables the key heritage, built form and access considerations to be undertaken concurrently by Department.

The LEES 1 building and F23 building proposals each have capital investment values (CIV) of $67,818,867 and $56,527,419 and will generate 84 and 140 construction jobs, respectively. No additional employees are generated, with each proposal facilitating the relocation and consolidation of existing staff, students and employees from other areas of the campus to the proposed purpose built facilities.

The proposals are State significant development under clause 15 of Schedule 1 to the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP), as they are development for the purpose of an *educational establishment* with CIVs greater than $30 million. The Minister for Planning is the consent authority.

Each site is located within the boundary of the University of Sydney, Camperdown Campus, which is zoned SP2 Infrastructure (Educational Establishment) under the Sydney Local Environmental Plan 2012 (SLEP). The development of an *educational establishment* is permissible with consent.

Both proposals were exhibited from 9 June 2016 until 25 July 2016 and all submission received responded to both proposals within the same correspondence, with the exception of the Roads and Maritime Services who did not comment on the LEES 1 building proposal. In this respect, a total of seven agency submissions and one public submission were received for the F23 building proposal, with the LEES 1 building proposal receiving only six submissions. Submissions received from the City of Sydney and the Heritage Division of the Office of Environment and Heritage (Heritage Office) objected to the proposal and raised significant concerns, respectively. The matters raised in the agency submissions included: heritage impacts; landscape and public domain impacts; built form concerns; parking and transport impacts; contamination; and construction impacts and management.

The applicant provided a Response to Submissions (RtS) for each proposal, which included additional information and responses to the key issues raised in submissions for each proposal. The applicant's RtS's also proposed minor design amendments to each proposal, including amendments to the Level 5 eastern terrace alignment, external façade materials and landscaping of the F23 building and the building entry point designs, internal layout and Level 8 plant room layout of the LEES 1 building. Notwithstanding the minor amendments proposed, the City of Sydney Council reiterated its objection to both proposals.

The applicant provided an addendum to its RtS in response to the City of Sydney's continued objections and concerns of the Heritage Office. The RtS addendum outlines further justification of the potential heritage impacts from the proposed built form encroachments into Eastern

Avenue, further justification of the number of motorcycle and bicycle parking spaces and end-of-trip facilities provided and clarification of site contamination of the F23 building site.

The Department has assessed the merits of each proposal and determined the key issues associated with the proposals to be: heritage; built form and urban design; transport and traffic impacts; and amenity impacts. The Department is satisfied the impacts of the proposals have been addressed in each Environmental Impact Statement (EIS) and RtS, and can be adequately managed through the recommended conditions of consent.

The Department considers the application is consistent with the objects of the *Environment Planning and Assessment Act 1979* (EP&A Act), including ecologically sustainable development, State priorities and *A Plan for Growing Sydney*. The Department is satisfied the subject sites are suitable for the proposed development of new educational establishments and would enhance the University's Camperdown Campus gateway and its tertiary educational facilities and teaching resources. The Department therefore considers the proposals would be in the public interest and recommends that the State significant development applications be approved, subject to conditions.

TABLE OF CONTENTS

1. BACKGROUND AND PROPOSED DEVELOPMENT

1.1 Background

The University of Sydney (the applicant) proposes the redevelopment of its Camperdown Campus City Road gateway, proposing the construction of two new educational establishments, the LEES 1 Science Research and Teaching Facility (SSD 7054) (LEES 1 building) and F23 Administration building (SSD 7055) (F23 building), on opposite sides of Eastern Avenue.

The LEES 1 building proposal comprises the demolition the existing lower ground level Carslaw building façade sections and loading bay facilities and the construction and operation of a new eight level (35 m) science research and teaching facility with connections to the existing adjacent Carslaw building. The proposed development would cater for existing staff and students who are proposed to be relocated from other areas of the Camperdown-Darlington Campus into a purpose built facility for the Science Faculty.

The F23 building proposal comprises the removal of an existing at-grade car park and the construction and operation of a new five storey (24.98 m) administration building, including a two level, 96 space basement car park, closure of the northern leg of the existing City Road signalised intersection and widening of existing Fisher Road entry/exit. The proposed development would cater for the consolidation of all University administration and business services from other areas of the Camperdown-Darlington Campus into a single facility.

1.2 Site Description

The LEES 1 building and F23 building sites have primary frontages to City Road and sited adjacent to each other, but separated by Eastern Avenue. The LEES 1 building site is located immediately south of the Carslaw building and bound by City Road to the south, Eastern Avenue to the west, the existing Keith Murray pedestrian bridge to the southwest, and Barff Road to the east. The F23 building site is located immediately south of the Madsen building and is bound by City Road to the south, Eastern Avenue to the east and Fisher Road/St Paul's College Oval to the west. Both sites are described as Lot 11 DP 1171806 and Part Lot 1 DP 1171804.

The LEES 1 building site is undeveloped and serves as informal open space containing a number of existing mature trees, including a row of four Moreton Bay Figs along City Road, which are proposed to be retained and protected under the proposal. The F23 building site is currently occupied by a 63 space at-grade car park, accessible from City Road and Fisher Road, and contains existing access roads and associated landscaping.

The proposals are located approximately 2.5 kilometres (km) southwest of Sydney's central business district and one kilometre west of Redfern Station. Existing University land uses surround the sites to the north and south, while Victoria Park is located immediately north-east of the LEES 1 building and St Paul's College Oval is located immediately adjacent to the west of the F23 building, with St Paul's College residential accommodation located further west beyond its oval.

Each site is located within the University's local heritage conservation area, listed under SLEP and on the University's section 170 Register under the *Heritage Act 1977*. The sites are also located adjacent to items of high heritage significance, including the Gatekeeper's lodge, Madsen building, the Institute building, St Paul's College (inclusive of its buildings, quadrangles, oval, cricket pavilion and grounds), Eastern Avenue and Victoria Park.

The project locations are shown in **Figures 1** to **4.**

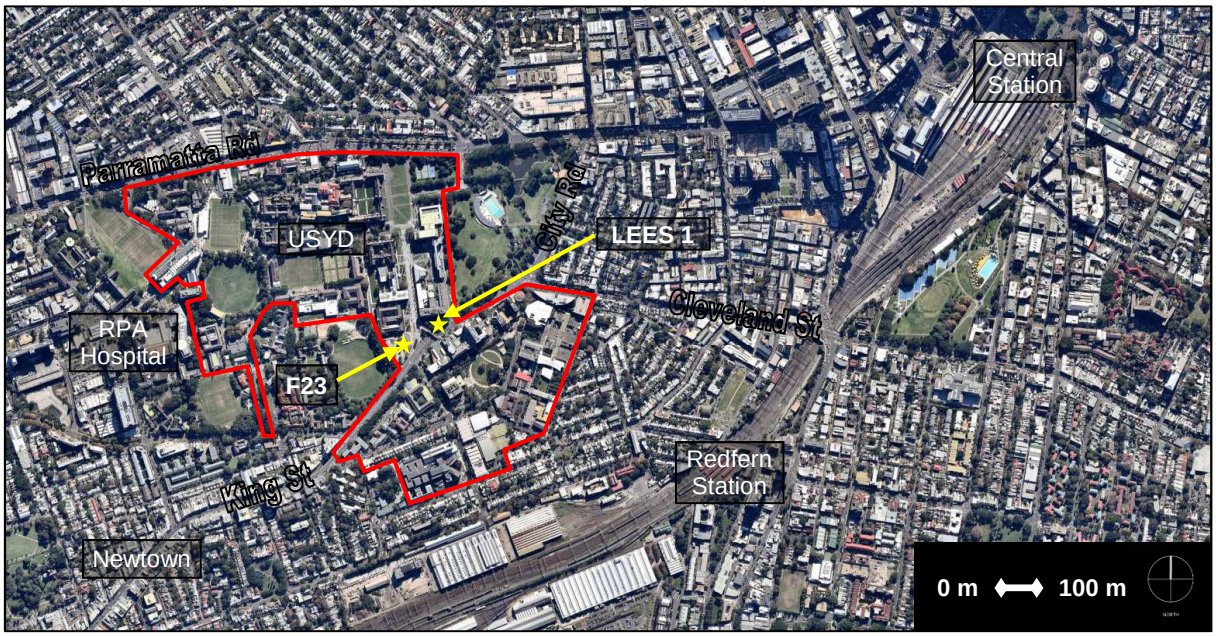

Figure 1: Project Locations (source: www.nearmap.com)

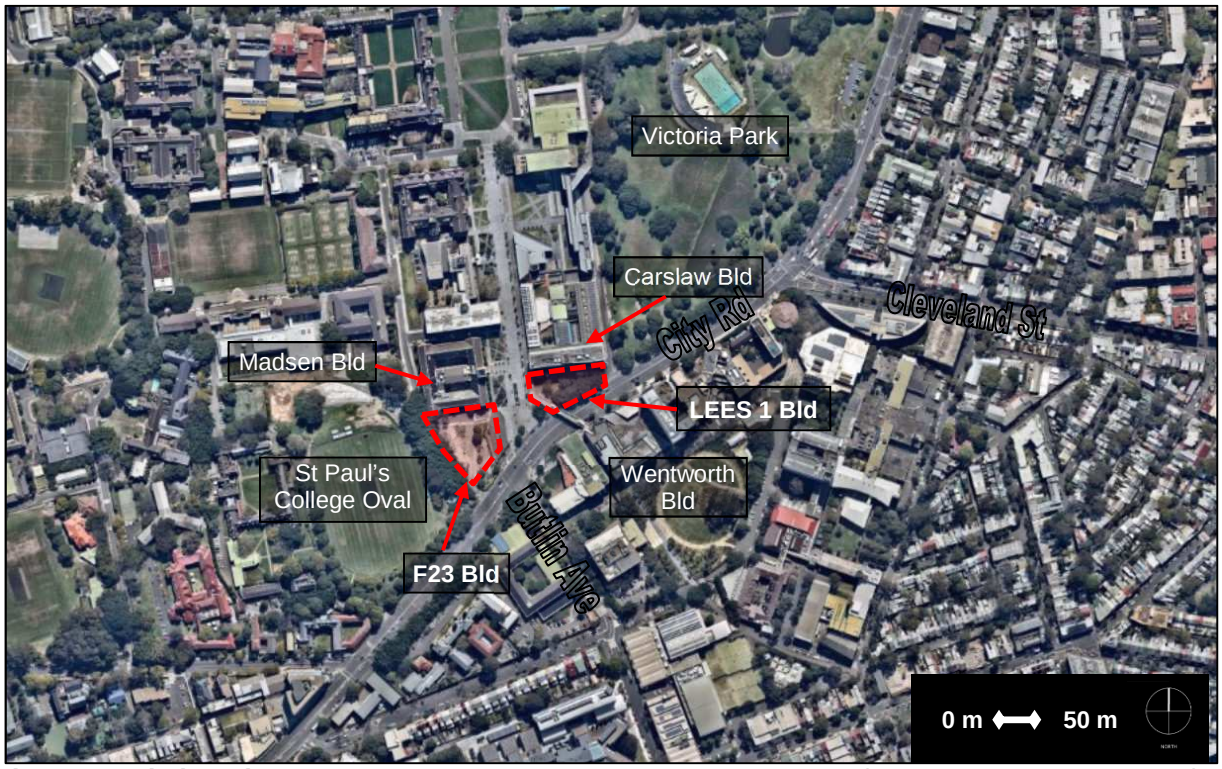

Figure 2: Existing Site Layout (source: www.nearmap.com)

Figure 3: Existing LEES 1 Building Site Layout (source: www.nearmap.com)

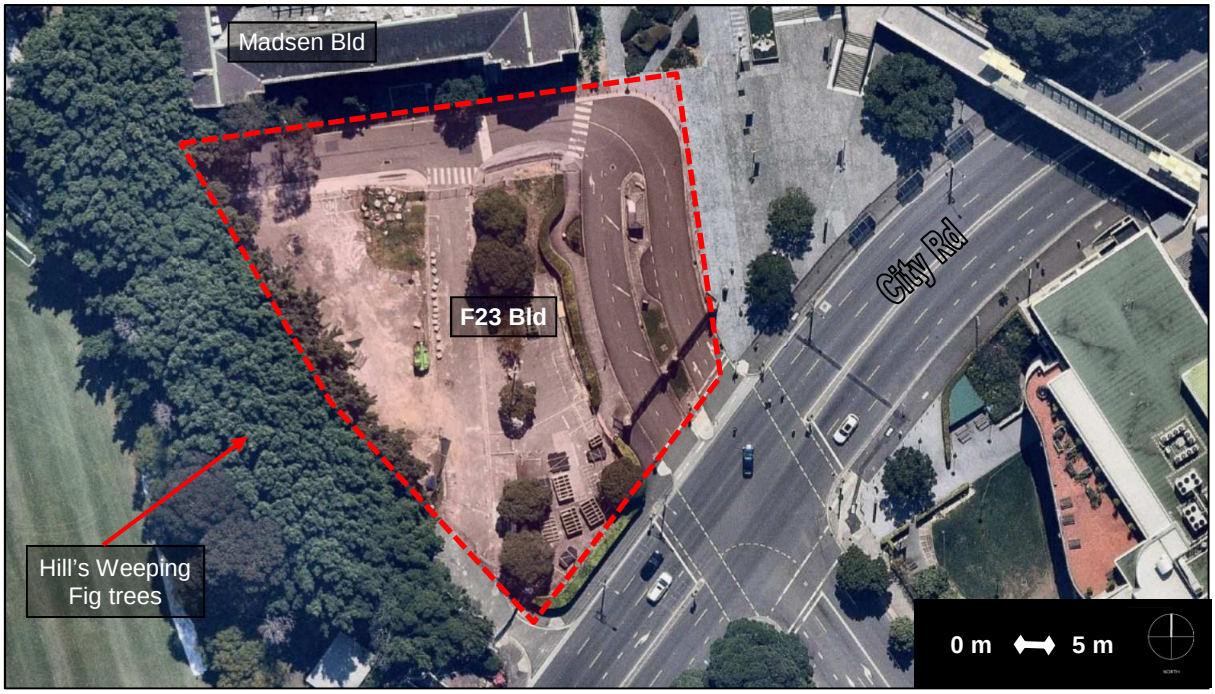

Figure 4: Existing F23 Building Site Layout (source: www.nearmap.com)

1.3 Surrounding Development

The University's Camperdown Campus is surrounded by a mix of residential, commercial, health and supporting educational land uses and built forms of varying scales up to 11 storeys (City Road Urbanest student accommodation building). The sites front City Road/King Street, a major arterial classified road servicing the inner west that carries an annual average daily traffic volume of more than 40,000 vehicles.

The immediate surrounds are characterised by existing University buildings of varying heights, including the predominant three storey Madsen building located immediately north of the proposed F23 building site, seven storey Carslaw building located adjacent to the proposed LEES 1 building site. The sites are located approximately 200 m east of the

existing setting of heritage significant University of Sydney's affiliated residential colleges, the closest being St Paul's College.

1.4 Campus Improvement Program

On 16 February 2015 the then Minister for Planning approved the State significant development application (SSD 6123) for the University of Sydney's Campus Improvement Program (CIP) concept proposal. The CIP approved new *educational establishment* building envelopes of varying heights and scale, with new built form subject to separate detailed development applications.

The closest CIP approved building envelopes to the LEES 1 building and F23 building are show in **Figures 5** and **6**

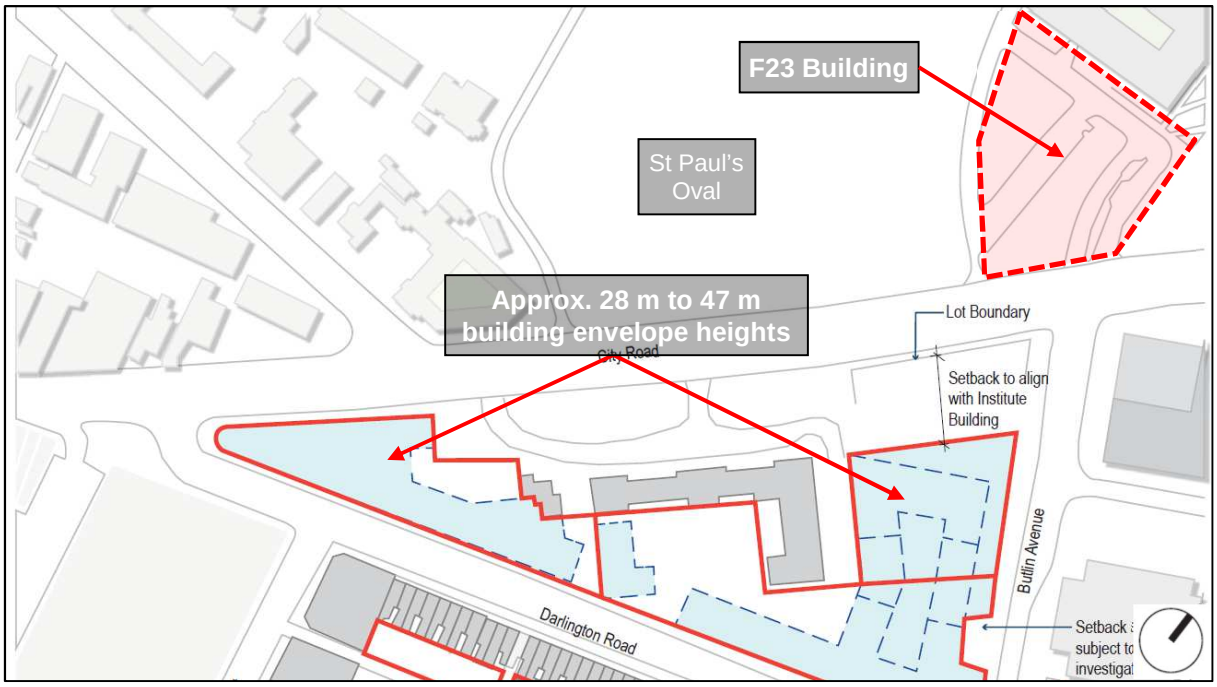

Figure 5: SSD 6123 Concept Proposal – Merewhether Precinct (source: Applicant)

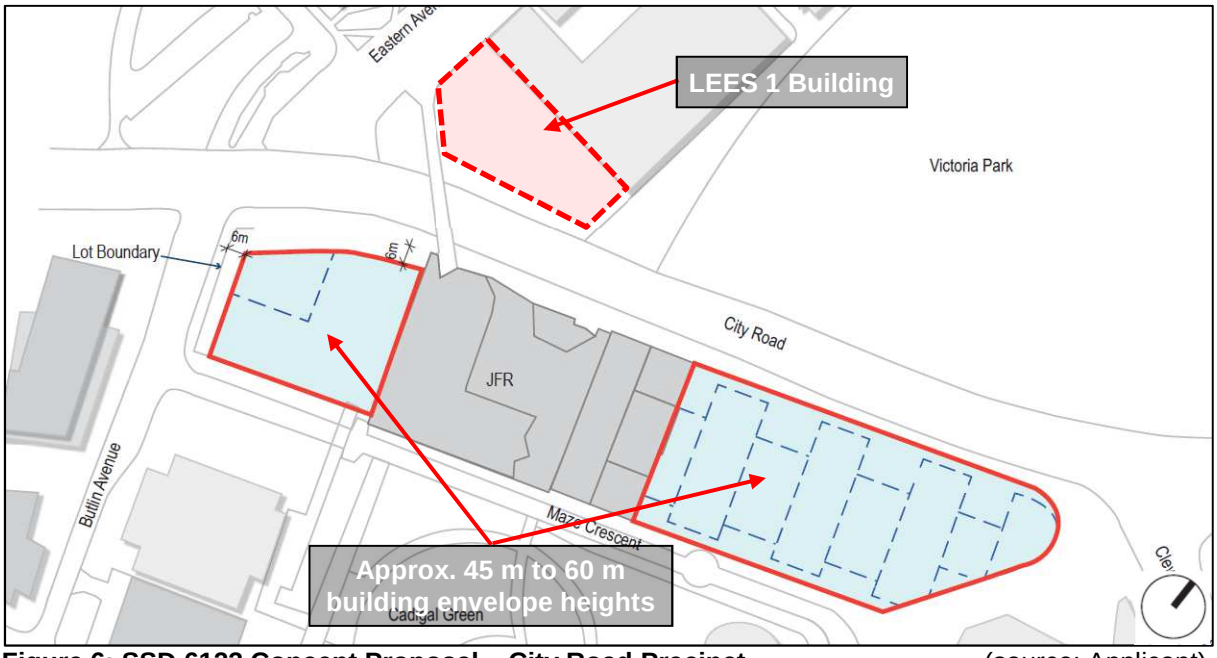

Figure 6: SSD 6123 Concept Proposal – City Road Precinct (source: Applicant)

The scale, form and mass of each building envelope in the six approved CIP precincts were designed to respond to the context of their respective precincts. The proposed LEES 1 building and F23 building however, are located outside the approved CIP precincts and are standalone buildings. The proposals are sited opposite endorsed building envelopes within the Merewether Precinct and City Precinct, where future development is envisaged up to approximately 57 metres within building envelopes endorsed under the CIP approval.

1.5 Project Description

Table 1 provides a summary of each proposal's key components and features (as amended by the RtS) and **Figures 7** to **13** depict the proposed site layouts.

Table 1: Key Development Components

Proposal	LEES 1 building (SSD 7054)	F23 building (SSD 7055)
Development Summary	• **Construction of an eight storey science research and teaching facility, linked to the adjoining Carslaw building.**	• **Construction of a five storey staff and administration building, two storey basement car park and associated vehicle access augmentations and public domain works.**
Key Components	• minor demolition works to the interface with the Carslaw building; • removal of nine trees; • construction of an eight storey science research and teaching facility, with level one storage and loading dock facilities and level eight building services; • construction of building connections to levels 1 and 2 of the adjoining Carslaw building; • business identification and signage; and • ancillary services, civil and landscaping works, including a new substation in the Carslaw building basement.	• demolition of existing at-grade car park; • removal of 17 trees; • construction of a five storey staff and administration building, with ground level café; • construction of a two level, 96 space basement car park; • closure of the Camperdown Campus vehicle access from the City Road signalised intersection; • widening of Fisher Road access; • business identification and signage; and • ancillary stormwater management, public domain and landscaping works.
Site Area	1,723 sqm	5,643 sqm
Gross Floor Area (GFA)	9,800 sqm	8,501 sqm
Maximum Height	8 storeys (33.75 m – building parapet or 37.09 m – cooling towers)	5 storeys (24.98 m)
Parking Spaces	27 bicycle spaces	96 car spaces; 90 bicycle spaces; and 21 motorcycle spaces
Capital Investment Value	$67,818,867	$56,527,419
Duration of works	20 months	20 months
Construction Hours	• 7 am and 6 pm, Mondays to Fridays inclusive; • 7.30 am and 3.30 pm, Saturdays; and • no work on Sundays and public holidays.	• 7 am and 6 pm, Mondays to Fridays inclusive; • 7.30 am and 3.30 pm, Saturdays; and • no work on Sundays and public holidays.
Jobs	84 construction jobs	140 construction jobs

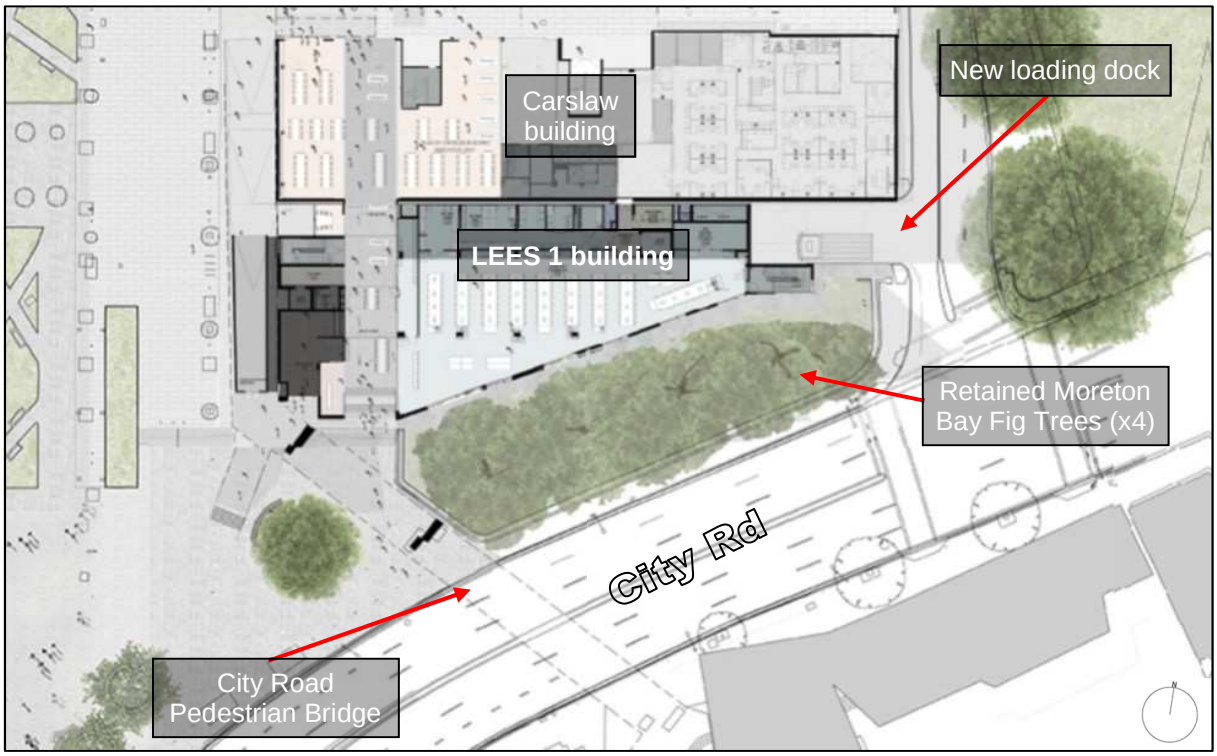

Figure 7: LEES 1 Building Layout (source: Applicant)

Figure 8: LEES 1 Building Photomontage (source: Applicant)

Figure 9: LEES 1 Building Photomontage, City Road (west) (source: Applicant)

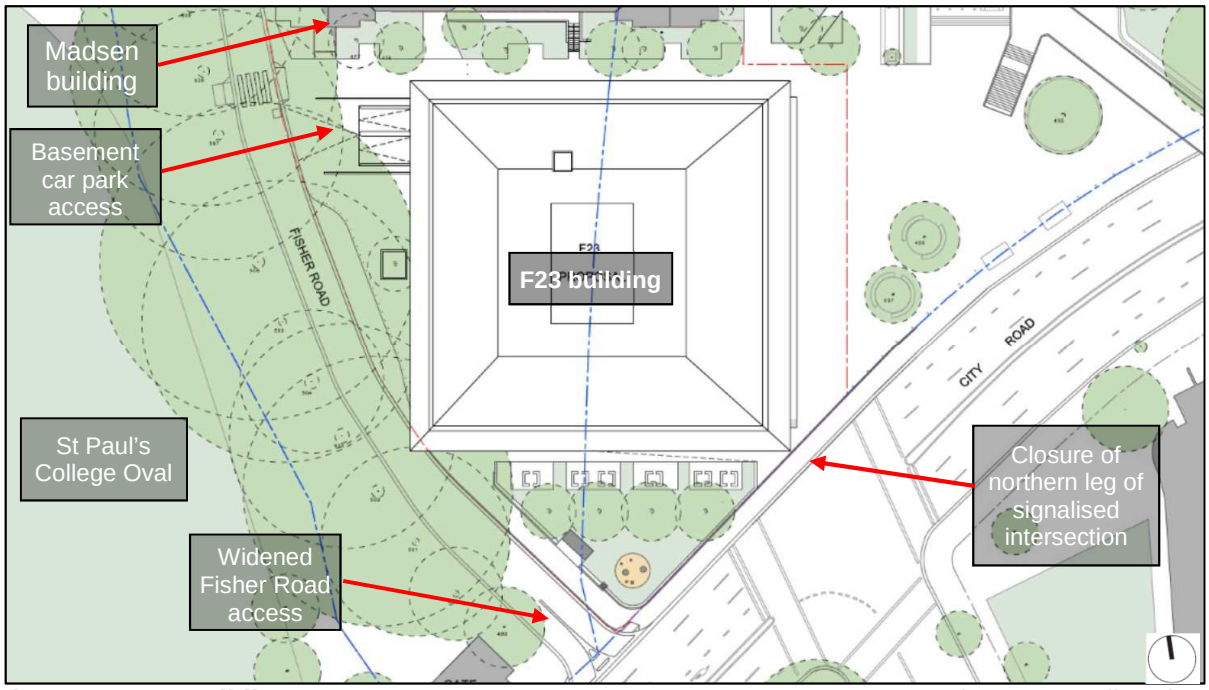

Figure 10: F23 Building Layout (source: Applicant)

Figure 11: F23 Building Photomontage, City Road (west) (source: Applicant)

Figure 12: F23 Building Photomontage, Eastern Avenue (south-west) (source: Applicant)

Figure 13: F23 Building and LEES 1 Building Photomontage, Butlin Avenue (source: Applicant)

1.6 Project Need and Justification

The applicant states the proposed developments are required to continue to deliver upgraded facilities, with their primary purpose to enable the relocation and consolidation of

the University's existing administration and business service functions to within the new F23 building and existing science research and teaching of the Life, Earth and Science Disciplines into the new LEES 1 building.

Specifically, the applicant states the F23 building will facilitate the relocation of 620 existing staff into one building that will improve operational efficiencies, better define the City Road entrance to the campus and frame the heritage significant Eastern Avenue.

The applicant also states the proposed consolidation of science research and teaching into a new purpose LEES 1 building provides improved opportunity for greater collaboration and growth of these areas to support the delivery of educational excellence in these fields. The proposed development also presents the opportunity for future integration with the adjacent Carslaw building, while also defining the campus's City Road entrance and framing of Eastern Avenue.

2. STATUTORY AND STRATEGIC CONTEXT

2.1. SEPP (State and Regional Development) 2011

The proposal is classified as State significant development because it is development for the purpose of an *educational establishment*, with a capital investment value (CIV) in excess of $30 million in accordance with Schedule 1 of SRD SEPP. Therefore the Minister for Planning is the consent authority.

2.2. Permissibility and Zoning

The site is zoned SP2 Infrastructure – Educational Establishment under SLEP. Development for the purpose of an educational establishment is permissible with consent.

The proposals are consistent with the zone objectives as they seek to provide new educational establishment infrastructure and are compatible with and supported by the existing functions of the University of Sydney. The proposals have been designed in response to existing site constraints to create a new entrance to the University's Camperdown Campus, while also providing purpose built administration, teaching and research educational facilities for staff, students and visitors. The proposals are also located optimally to benefit from accessibility to public transport.

The University of Sydney is identified as a heritage conservation area under SLEP and a number of locally listed heritage items are located on or adjacent to its Camperdown Campus, including the University's site landscaping, perimeter fencing and gates (Item 172), its Gatekeeper's lodge (Item 153) and St Paul's College group (Item 152) located adjacent to the F23 building site, and Victoria Park located adjacent to the LEES 1 building site. Further consideration of heritage is provided in **section 4.2.1** of this report.

Further consideration of the SLEP is provided in **Appendix B.**

2.3. Environmental Planning Instruments

The Department's consideration of relevant EPIs (including SEPPs) is provided in **Appendix B**. The proposal is consistent with the relevant requirements of the EPIs.

2.4. Objects of the EP&A Act

Decisions made under the *Environmental Planning and Assessment Act 1979* (EP&A Act) must have regard to the objects of the EP&A Act, as set out in section 5 of the Act (see glossary at **Appendix C**). The proposal complies with the objects of the EP&A Act as it represents the coordinated redevelopment and economic use of existing University land for the purpose of delivering improved teaching and education outcomes for current and future students.

2.5. Ecologically Sustainable Development

The EP&A Act adopts the definition of Ecologically Sustainable Development (ESD) found in the *Protection of the Environment Administration Act 1991* (see glossary at **Appendix C**). Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

(a) the precautionary principle,
(b) inter-generational equity,
(c) conservation of biological diversity and ecological integrity,
(d) improved valuation, pricing and incentive mechanisms.

The Department has considered the proposals in relation to the ESD principles. The Precautionary and Inter-generational Equity Principles have been applied in the decision making process via a thorough and rigorous assessment of the environmental impacts of each proposal. The proposals are considered to be consistent with ESD principles as described in the applicant's EIS's and **Appendix O**, which has been prepared in accordance with the requirements of Schedule 2 of the Regulation.

The proposals are located on a previously developed (F23 building) or underutilised (LEES 1 building) site. Their development would not result in the loss of any threatened or vulnerable species, populations, communities or significant habitats. However, the redevelopment would result in the loss of nine trees to accommodate the LEES 1 building and 17 trees to accommodate the F23 building. Both proposals will include new landscaping to offset these proposed losses, though importantly, propose the retention and protection of the existing significant fig trees adjacent to each site.

Both sites are not subject to bushfires, though are marginally impacted by the probable maximum flood (PMF) level and have been designed with finished floor levels 500 mm above the flood planning level to ensure any potential impacts are minimised. It is also noted that campus wide flood mitigation works proposed under the CIP will minimise the identified flood impacts at the F23 building site and result in the site being classified as a 'low risk' of hazard related to flood inundation.

The applicant also identifies that each proposal has been design to incorporate ESD initiatives, including energy efficient passive design to maximise indoor environmental quality and performance and reduce the consumption of natural resources through strategies to minimise water and embodied energy consumption, transport strategies to promote sustainable measures and reduce vehicular emissions.

The applicant also proposes to implement its own ESD rating tool, titled 'The University Sustainability Framework', noting it aligns with greater than 75 per cent of the Green Star initiatives and exceeds a number of environmental initiatives and targets that are specific to the University's needs. Sign-off requirements of the University's ESD rating tool are integrated into each development to ensure measures are achieved.

The Department has considered the proposals in relation to the ESD principles and is satisfied that the proposed sustainability initiatives would encourage ESD, in accordance with the objects of the EP&A Act and EP&A Regulation.

2.6. Environmental Planning and Assessment Regulation 2000

Subject to any other references to compliance with the Regulation cited in this report, the requirements for Notification (Part 6, Division 6) and Fees (Part 15, Division 1AA) have been complied with.

2.7. Strategic Context

The Department considers that the proposals are appropriate for the sites given they:

- are consistent with *Premiers Priorities* to improve education results through the provision of new and improved teaching and education facilities and to ensure NSW residents have the best educational infrastructure;
- are consistent with *A Plan for Growing Sydney,* as:
  - the proposals facilitate the provision of new, purpose built teaching, science research and administration facilities to enable the consolidation of staff and students from across the campus, making existing University building and land available for reuse and redevelopment to meet the growing needs of Sydney and its international competitiveness; and
  - the proposals are consistent with the priorities to support education infrastructure in the Broadway and Camperdown Education and Health Precinct;
- are consistent with *NSW Long Term Transport Master Plan 2012*, as it proposes to strengthen usage of existing public transport services by removing existing on-site internal campus parking and consolidating a restricted amount of spaces to the campus periphery in designated locations and limiting the provision of additional car parking, thereby encouraging a modal shift away from private vehicle use and encouraging sustainable transport use;
- are consistent with *Sydney Cycling Future 2013*, as additional on-site car parking is restricted and each proposal is supported by proposed bicycle parking and associated end-of-trip facilities and a campus wide cycling strategy to encourage a modal shift away from private vehicle use;
- are consistent with the vision outlined in the Greater Sydney Commission's draft *Central District Plan* (currently on exhibition), as they will contribute to the continuing growth of Camperdown-Ultimo as a health and education super precinct, solidifying Australia's position as a leader in innovation; and
- would provide direct investment of up to $124 million, supporting 224 construction jobs.

2.8. Secretary's Environmental Assessment Requirements

The EIS's is compliant with the Secretary's Environmental Assessment Requirements and are sufficient to enable an adequate consideration and assessment of each proposal for determination purposes.

3. EXHIBITION CONSULTATION AND SUBMISSIONS

3.1. Exhibition

In accordance with section 89F of the EP&A Act and clause 83 of the EP&A Regulation, the applications and accompanying information was made publicly available for at least 30 days following the date of first publication, in accordance with the Regulation. The Department publicly exhibited each proposal from 9 June 2016 until 25 July 2016 (47 days):

- on the Department's website; and
- at the Department's Information Centre and City of Sydney's offices.

The Department also advertised the public exhibition in the Sydney Morning Herald, The Daily Telegraph and Sydney Central Courier on the 8 June 2016. The Department notified adjoining landholders, and relevant State and local government authorities in writing.

The Department received a total of eight submissions during the exhibition of the applications - seven submissions from public authorities and the City of Sydney, and one submission from the general public. A summary of the issues raised in the submissions received is provided in the following sections.

3.2. Public Authority Consultation and Submissions

The **City of Sydney (Council)** provided detailed comments on each proposal, advising that until the maters identified in its submission were resolved, it objected to both proposals. Council's key comments are provided as follows:

LEES 1 Building

- the proposed floor plate design requirements and resultant encroachment of the upper levels of the LEES 1 building into the Eastern Avenue view corridor, described as a significant view corridor that in accordance with the University's Grounds Conservation Management Plan (GCMP) *"should be retained and if possible enhanced"*, is not considered to be an extraordinary circumstance that justifies this, and will weaken the strength of the 'grand vista';
- it is recommended that the upper levels of the Eastern Avenue elevation are redesigned such that the building in its entirety does not protrude beyond the alignment of the adjoining Carslaw building;
- the amount of pruning to the existing significant Moreton Bay Fig trees anticipated by the applicant's submitted arborist report does not reflect the distance of the trees from the proposed building or allow for scaffolding/hoarding, building clearance and construction access requirements, or allow for future tree canopy growth;
- it is recommended that the building be setback from the trees to allow a minimum two metres from the existing canopy edge;
- Council does not consider the exploratory root investigations undertaken and detailed within the submitted arborist report provide a true representation of possible root impact on the significant Moreton Bay Fig trees and that further investigations be undertaken to determine the exact extent of impact;
- the proposed building entrance designs are not clear or legible and opportunities exist for alternate design solutions to provide a more generous and visible opening;
- the proposed building materials are not clearly defined, which does not provide certainty for the final result and should be conditioned to require details of the final material;
- detailed shadow diagrams are required to differentiate existing and proposed shadows cast, particularly in relation to the potential adverse impacts upon the health and longevity of the existing Moreton Bay Fig trees;

F23 Building

- Council recommends the preferred alignment of the eastern alignment of the F23 building be amended to respect the primary façade alignment of the adjacent Madsen building and that the northern elevation of the proposal better acknowledge the Madsen building's bulk and form by referencing its more solid and vertical proportions;
- the form of the building, with respect to the size of the development site, demonstrates the limited space left available to create the envisaged pedestrian priority plaza, particularly at the interface of the proposed building's south eastern corner and City Road;
- the proposed building footprint results in significant impacts on the form and pedestrian desire lines within the gateway plaza between the existing Darlington and Camperdown campuses, which could be improved by realigning the building footprint with the Madsen building's main façade and maintaining pedestrian priority in this location;
- sufficient space is available for additional tree planting to be incorporated into the design and the proposed Port Jackson Fig feature tree should be replaced with a Moreton Bay Fig tree;
- no objection is raised to the removal and salvage of the vehicular entrance gate posts and the proposal is supported, in principle, from a heritage perspective;
- a public domain plan will be required to document all works associated with the realignment of the Fisher Road and a footpath damage bank guarantee will be required;
- the proposed loading area adjacent to the F23 building is not supported and must be undertaken within the building envelope;
- the finished floor levels must comply with Council's Interim Floodplain Management Policy and a stormwater quality assessment should be provided in accordance with Council's DCP;

General

- a green travel plan is required to demonstrate the proposals will encourage modal shift away from car use and seek to encourage sustainable transport (and active transport) in a manner that aligns with the targets and objectives set out in Sustainable Sydney 2030 and the Green Square TMAP;
- Council does not support the provision of additional motorcycling parking above the maximum permitted in SLEP and car share spaces must be provided on-site as per Council's DCP;
- 304 visitor bicycle parking spaces and improved bicycle parking and end-of-trip facilities area required;
- closure and removal of signalised access to the site from City Road will require approval from the RMS and the proposed shared zone should remain closed during normal operations and access restricted by the installation of bollards, though removal of access altogether is preferred; and
- Council is dissatisfied with the findings of the geotechnical reports and preliminary contamination assessments prepared for each proposal and are considered not to have properly investigated the suitability of the sites for their intended use.

Heritage Division of the Office of Environment and Heritage (Heritage Office) stated development within the University should seek to enhance and protect the state heritage values and significant features and elements identified within the University's GCMP. It noted that:

LEES 1 Building

- the proposed encroachment of the LEES 1 building into the canopy of the existing City Road Moreton Bay Fig trees would have a significant adverse impact on the identified state heritage values, and recommended the southern façade of the building be setback three metres from the trees to ensure their protection; and

F23 Building

- the F23 building should respect the axial arrangement of Eastern Avenue (graded as exceptional significance in the GCMP) by not protruding past the alignment of the Madsen and Anderson Stuart buildings and to provide a more open landscape (public domain) at the south eastern corner of the building at City Road, and recommended that the eastern façade of the building be setback four metres to achieve this.

Heritage also advised the Heritage Council, at its meeting on 3 February 2016, resolved to recommend listing the University of Sydney, University Colleges and Victoria Park on the State Heritage Register and to conditionally endorse the University's GCMP (subject to its listing).

Roads and Maritime Services (RMS) raised no objections to either proposal, however commented that the EIS presented different information to that discussed originally during consultation. RMS requested updated information be submitted reflecting that initially discussed during consultation and be provided for review with the Response to Submissions.

RMS also requested a detailed construction traffic management plan be submitted detailing access routes and methods undertaken, including consideration of heavy vehicle exit routes onto City Road.

Transport for NSW (TfNSW) provided the following comments for consideration:

- the applicant should assess the implications in relation to traffic and pedestrian safety of each proposal and provide mitigation measures, including a loading dock management plan;
- the applicant should provide bicycle parking and end-of-trip facilities for cyclists and pedestrians within the LEES 1 building;
- the applicant should prepare way-finding strategies and travel access guides for each proposal to assist with increasing walking and cycling travel mode shares; and

- the applicant should provide on-site drop-off and pick-up facilities, particularly for taxis to minimise the potential for such activities on City Road.

TfNSW also recommended a number of conditions of consent relating to loading dock operation, safety and management, drop-off and pick-up arrangements and construction traffic and pedestrian management.

Environment Protection Authority (EPA) provided the following comments for consideration:

- the applicant should develop appropriate procedures for identifying and dealing with unexpected finds of site contamination, including building asbestos containing materials;
- the applicant must satisfy the requirement of the *Protection of the Environment Operations (Waste) Regulations 2014* and be required to consult with SafeWork NSW;
- demolition, site preparation, bulk earthworks, and construction works should be undertaken during standard construction hours in accordance with the Interim Construction Noise Guideline 2009 and be required to schedule intra-day respite periods for particularly annoying noise generating construction activities;
- a detailed noise assessment of all mechanical plant and equipment is not provided and the applicant should provide a worst-case quantitative assessment of the 'night-time' background noise level in accordance with Industrial Noise Policy guidance material and ensure that plant and equipment does not generate noise that exhibits tonal or other annoying characteristics; and
- the University would need to apply for a review and variation to its current radiation management licence and ensure that facilities satisfy all mandatory requirements of the Radiation Control Act and Regulation.

The EPA also recommended a number of standard conditions of consent, regarding erosion and sediment control, waste control and management, and noise management and compliance monitoring.

Office of Environment and Heritage (OEH) commented that a potential archaeological deposit (PAD) was recorded in 2005 opposite the site on the other side of City Road. OEH concluded the PAD record demonstrated the possibility that Aboriginal objects may be present within the University grounds, unless previous activities has resulted in the destruction of all potential PAD's. Notwithstanding, OEH recommended an unexpected finds protocol be in place in the event that Aboriginal objects are uncovered during development.

The Department has reviewed OEH's comments and considers it appropriate that each proposal be conditioned to prepare an unexpected finds protocol prior to the commencement of works.

Sydney Water recommended standard conditions of consent regarding utilities arrangements.

The Department has fully considered the issues raised in submissions in its assessment of the development.

3.3. Public Submissions

The Department received one submission from the general public, which objected to the proposals and raised the following key issues:

- the proposals will impact on the current enjoyment of sunlight along Abercrombie Street;
- the continual development proposed by the University is impacting greatly on the historical heritage of the locality;
- the proposals will contribute to existing noise impacts generated by the continuous operation of roof top plant and equipment;

- the proposals will impact on views of the city and the appeal of the existing terrace streetscape;
- the proposals will generate construction noise and air pollution impacts; and
- Abercrombie Street should not be used as a heavy vehicle route.

The Department notes the concerns raised regarding solar access, noise and amenity impacts, view impacts in the public submission are unlikely to be perceived or eventuate due to the approximate 450 metre distance separation between the proposals and the resident's property address in Abercrombie Street. The concerns raised regarding the cumulative impact of University development within the locality and impact on its heritage significance are noted. Further consideration regarding bulk and scale and heritage impacts is provided in **sections 4.2.1** and **4.2.2** of this report.

Notwithstanding, standard conditions recommended to be imposed on each proposal will ensure construction noise, vibration an air quality impacts generated comply with relevant guidelines. The Department also notes Abercrombie Street is unlikely to be utilised as a route for construction vehicles considering the provision of signal controlled vehicle access from City Road for each development site. Further, the Department has recommended standard conditions requiring the applicant prepare and implement a construction pedestrian and traffic management plan that will ensure any potential impacts are appropriately managed and mitigated.

3.4. Applicant's Response to Submissions

The applicant provided a response to the issues raised in submissions, including additional justification for the proposed designs of both the LEES 1 building and F23 building, particularly in relation to the projections into the heritage alignment of Eastern Avenue. No amendments were proposed to either building, however, the applicant's Response to Submissions reports (RtS) proposed a number of other minor amendments as follows:

LEES 1 Building

- refined south western corner of entry structure and increased width of level two southern stairs to improve the transparency and legibility of the building entrance;
- revised internal layout on levels one to seven to provide improve efficiencies and adaptability to user requirements;
- refinement of rooftop plant room layout;
- revised stormwater strategy that now proposes to discharge directly to the existing stormwater system in City Road and provide on-site detention in accordance with Council relevant engineering guidelines;

F23 Building

- façade material changes;
- revised roof shape and increase in lift overrun from 24.78 metres to 24.98 metres;
- revised atrium size and setback of the level five terrace to align with façade line below;
- revised landscape plan that includes provision of additional replacement trees;
- deletion of the proposed shared way/emergency vehicle access point from City Road and provision of increased landscaped area and revised public domain treatment in its place;
- downgrade to the maximum size of vehicle that can access the site to a medium rigid vehicle (MRV) provision of a dedicated parking bay within basement car park for regular service/delivery vehicles;
- revised loading bay arrangement to provide for a proposed campus set-down/pick-up location for taxis and other vehicles; and

General

- revised traffic modelling of the proposed augmented City Road/Butlin Avenue signalised intersection to provide satisfactory levels of services for both pedestrian and vehicular movements.

The Department made the RtS's publicly available on its website and referred them to Council, the Heritage Office, RMS and the EPA for comment. No public submissions were received regarding the RtS's. A summary of the issues raised by Council and agencies is provided below.

Council maintains its objections to both proposals as it believes they will result in unacceptable heritage, urban design, and amenity and landscape impacts. A summary of its key remaining concerns are provided as follows:

LEES 1 Building

- heritage impacts of the proposed protrusion of the upper levels five to eight beyond the alignment of the Carslaw building into the heritage alignment of Eastern Avenue;
- heritage impacts on the Moreton Bay Fig trees from the proposed siting of the development and the requirement for pruning to enable its construction and ongoing operation;
- potential heritage and health impacts on the Moreton Bay Fig trees associated with the proposed encroachment of construction works within the tree protection zones;
- the unwarranted and unjustified removal/transplant of tree T435;

F23 Building

- heritage impacts of the proposed alignment of the building which should respect the primary façade alignment of the adjacent Madsen building;
- location of F23 building loading area is not supported adjacent to the street and must be undertaken from within the building envelope to minimise poor pedestrian amenity impacts;
- while the transplanting of tree T435 is not supported, the design of the triangle shaped landscape between the proposed building and City Road should be consistent with the road frontage and include at least one fig tree;

General

- provision of addition motorcycle parking above that permitted under Council's DCP is not supported;
- additional bicycle parking and end-of-trip facilities should be provided as an upgrade of existing facilities and it is insufficient to address this issue by contending the proposals will accommodate existing staff and students;
- the suitability of the sites should be investigated by detailed site assessments and a remediation action plan submitted; and
- a condition should form part of any consents issued requiring compliance with the ESD reports prepared to ensure objectives are not diminished during construction or upon completion of the developments.

The **Heritage Office** reiterated its concerns raised during the exhibition of the proposals, recommending the southern façade of the LEES 1 building be setback three metres from the Moreton Bay Fig trees to ensure their protection and that the F23 building be amended to respect the axial arrangement of Eastern Avenue by not protruding past the alignment of the Madsen and Anderson Stuart buildings and to provide a more open landscaped public domain at the south-eastern corner of the building at City Road.

EPA commented that the applicant's RtS appeared to omit a response to its comments provided on the F23 building proposal and its comments regarding radiation control in respect of activities within the LEES 1 building.

RMS reviewed the applicant's response and advised it did not raise any objections to either proposal.

3.5. Response to Submissions Addendum

The applicant provided an addendum to its RtS's in response to the Council continued objections and the concerns reiterated by the Heritage Office. The RtS Addendum provided further justification for the proposed encroachments of each proposal into the alignment of

Eastern Avenue. Site contamination details were also provided that demonstrate each site is suitable for its intended purpose.
The applicant also noted it was now proposed to retain existing tree T435 (adjacent to the LEES 1 building), and it would provide additional bicycle parking and end-of-trip facilities within the F23 building.

The applicant's addendum response also clarified an error in its RtS, which omitted a response to the matters raised by the EPA, though no further comments were received from the EPA on the updated addendum response. Notwithstanding, the Department is satisfied the applicant's RtS and addendum response has satisfactorily addressed the concerns contained within the EPA's original submission.

The Department has fully considered the applicant's response to issues raised in submissions in its assessment of the development as detailed in Section 4 of this report.

4. ASSESSMENT

4.1. Section 79C Evaluation

Table 2 identifies the matters for consideration under section 79C (see glossary at **Appendix C**) that apply to State significant development, in accordance with section 89H of the EP&A Act. The table represents a summary for which additional information and consideration is provided for in **Section 4** (Key and Other Issues) and relevant appendices or other sections of this report and the EIS, referenced in the table.

The EIS has been prepared by the applicant to consider these matters and those required to be considered in the SEARs and in accordance with the requirements of section 78(8A) of the EP&A Act and Schedule 2 of the EP& A Regulation.

Table 2: Section 79C(1) Matters for Consideration

Section 79C(1) Evaluation	Consideration
(a)(i) any environmental planning instrument	Consideration of relevant EPIs has been undertaken in **Appendix B**. The proposal satisfactorily complies.
(a)(ii) any proposed instrument	Not applicable.
(a)(iii) any development control plan	Refer to **Appendix B**.*
(a)(iiia) any planning agreement	Not applicable.
(a)(iv) the regulations	The development applications satisfactorily meet the relevant requirements of the Regulation, including the procedures relating to development applications (Part 6 of the Regulations), public participation procedures for SSD's and schedule 2 of the Regulation relating to environmental impact statements. Refer to discussion at **Section 2.6**.
(a)(v) any coastal zone management plan	Not applicable.
(b) the likely impacts of that development	The Department's assessment has given appropriate consideration to the likely impacts of each proposal and is satisfied they can be appropriately mitigated or conditioned (refer to **Section 4.2**).
(c) the suitability of the site for the development	The existing university campus is well established as one of Australia's oldest tertiary education institutions and the proposal's locations at the gateway of its Camperdown Campus provides the opportunity to establish an improved sense of identity and arrival. Further, the LEES 1 building site is underutilised and provides the opportunity to integrate with the adjoining Carslaw building. The F23 building site also enables the applicant to redevelop the existing at-grade car park and provide new basement

	parking and consolidate existing at-grade from within the campus to the new periphery location (refer to **Section 2.7**).
(d) any submissions	Consideration has been given to the submissions received for each proposal during the exhibition in **Section 3** of this report. Key issues raised in submissions have been considered further in **Section 4.2** of this report.
(e) the public interest	The proposals are considered to be in the public interest as they would provide improved educational and teaching facilities and provide improved learning outcomes for students (refer to **Section 4.2.5**).
Biodiversity values exempt if: (a) On biodiversity certified land (b) Biobanking Statement exists	Not applicable.

* Under clause 11 of the SRD SEPP, development control plans do not apply to state significant development. Notwithstanding, consideration has been given to relevant Development Control Plans at **Appendix B**.

4.2. Key and Other Issues

The Department has considered the EIS, the issues raised in submissions and the applicant's response to these issues in its assessment of the applications. The Department considers the key issues to be:

- heritage;
- built form and urban design;
- parking and traffic impacts;
- noise and vibration impacts; and
- other matters.

4.2.1. Heritage

The University of Sydney is identified as a heritage conservation area under SLEP (Camperdown Campus only) and contains a number of locally listed heritage items, including its site landscaping, perimeter fencing and gates (Item 172) and the Gatekeeper's lodge (Item 153) located adjacent to the F23 building site on the corner of Fisher Road and City Road. Other nearby items include the University's Anderson Stuart building (Item 189), Physics building (Item 187) and Edward Ford building (Item 188) and Victoria Park (including its Gardener's Lodge, entry gates and piers, park layout, paths and plantings – Item 139).

The University's GCMP, which is currently being considered for endorsement by the Heritage Council alongside the Heritage Council's recommended listing of the University of Sydney on the State Heritage Register, also ranks the heritage significance of existing University built form (see **Figure 14**), ranking the Carslaw building as having little heritage significance and Madsen building as having moderate heritage significance. The GCMP also details a number of significant planning and visual axes (see **Figure 15**), identifying Eastern Avenue as a significant view corridor that should be retained and, if possible, enhanced, in accordance with Policy 18 of the GCMP.

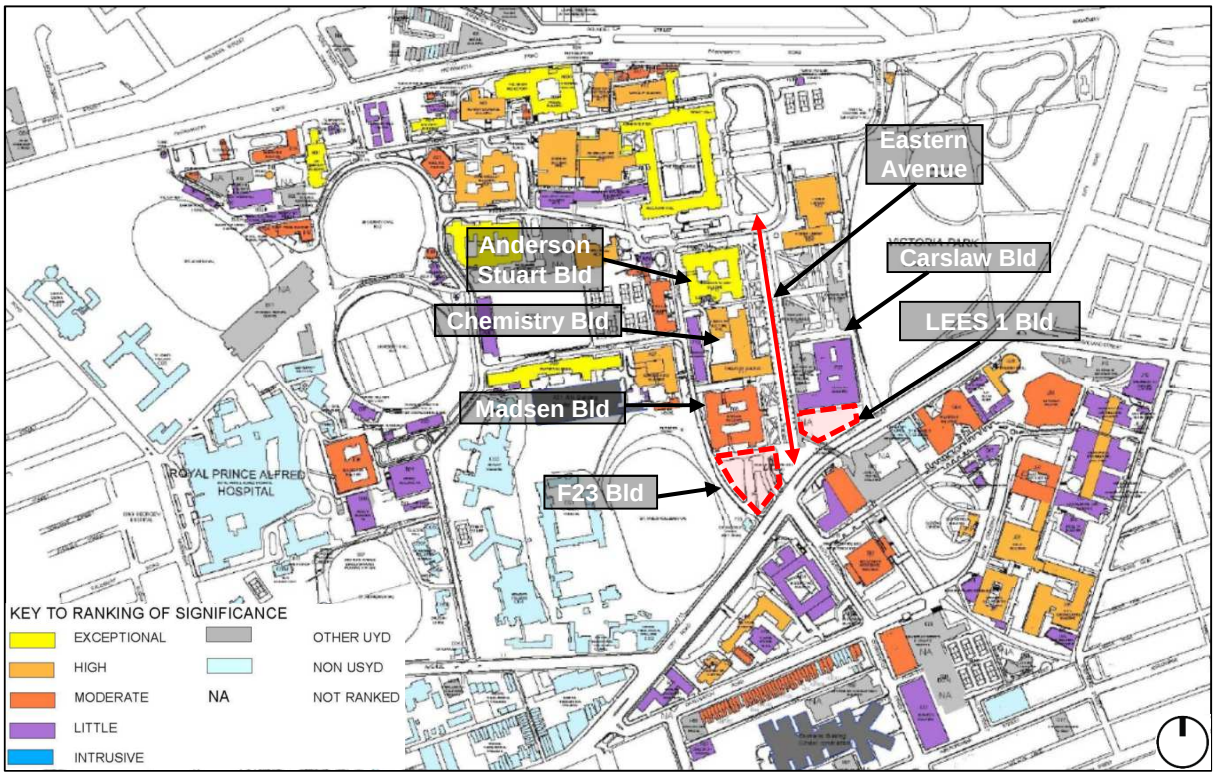

Figure 14: GCMP University Building Heritage Signficance Ranks (source: GCMP, 2015)

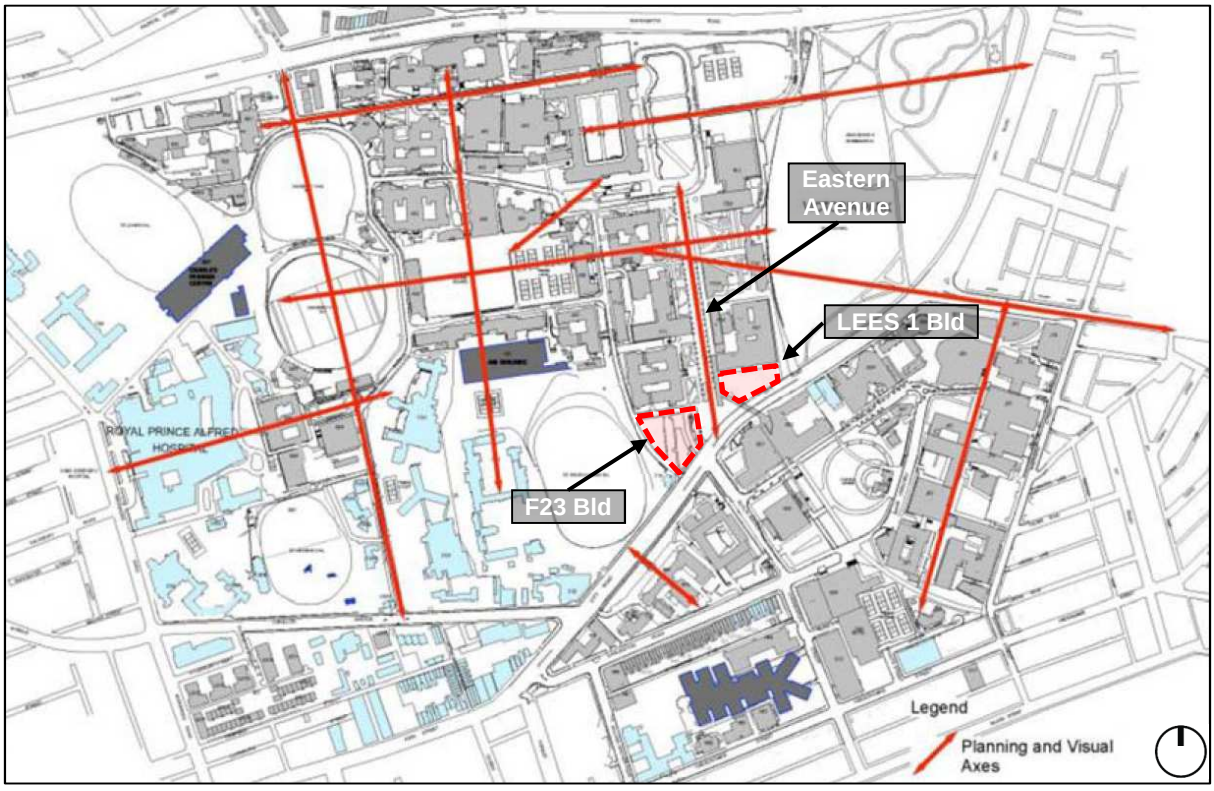

Figure 15: Significant University Planning and View Axes (source: GCMP, 2015)

Council and the Heritage Office both objected to each proposal and the proposed encroachments into the alignment of Eastern Avenue and potential impact of the LEES 1 building on the existing heritage significant Moreton Bay Fig trees. Specifically, objections were raised to the following aspects of each proposal:

- impacts on the Eastern Avenue significant view corridor, as identified in the GCMP;

- the two metre encroachment of the LEES 1 building upper levels (five to eight) into Eastern Avenue will impact on its axial arrangement, vertical alignment and strength;
- impacts of the LEES 1 building development on the existing Moreton Bay Fig trees, requiring pruning and works within the tree protection zones (addressed at **section 4.2.2**); and
- the projection of the F23 building forward of the alignment of the adjacent Madsen building and concurrent encroachment into Eastern Avenue.

The Department also referred the applications to the Office of the Government Architect (OGA) for review, whose comments were conveyed to the applicant in the Department's post-exhibition correspondence issues letter. The OGA commented that the proposed encroachments of both buildings into Eastern Avenue would potentially undermine the heritage significance of the alignment and that the southern façade of the proposed LEES 1 building be setback from the Moreton Bay Fig trees to ensure of their protection.

The applicant's RtS and addendum response provided additional information regarding the historical significance of Eastern Avenue and the history of development along its axis to further justify the proposed building encroachments into the alignment of Eastern Avenue, as follows:

- campus master plans from 1915 through to current proposals demonstrate building locations sit within a landscape frame, where alignments are established by axis in the public realm rather than ordered by continuous built edges;
- the street wall alignment of built form along Eastern Avenue is a recent development established early the year 2000 and previously there was no indication of edge continuity in the built form;
- existing built form along Eastern Avenue suggests a limited and implied principal edge line, but also interrupts this edge arrangement to define individual buildings and entry points;
- the proposals continue this morphology of the alignment, deliberately disrupting recent inconsistent development along its alignment to better define the conclusion of Eastern Avenue at City Road;
- the spatial experience of Eastern Avenue was altered by urban design and landscaping works undertaken in 2008 that transformed it into a pedestrian zone;
- the alignment of the Madsen building and Anderson Stuart building is more apparent in plan than in reality and the existing Chemistry building irrevocably disrupts the western edge and visual building alignment of Eastern Avenue;
- the Law building (2008) created a distinct building alignment of Eastern Avenue, but it is not an alignment of heritage significance;
- the design of the LEES 1 building:
  - does not impact of the visual axis from City Road to University Place;
  - plays a part in disrupting recent development that created a wall on Eastern Avenue, contrary to the GCMP; and
  - enhances the sense of City Road.
- the design of the F23 building proposal maintains the character of Eastern Avenue and sits outside of its visual corridor and won't have an adverse impact on its heritage significance;
- the F23 building proposal aligns the primary façade with the lower portico of the Madsen building, which is a significant reduction from the eastern boundary alignment of the building envelope with the Chemistry building proposed within the SEARs application;
- the projection of the F23 building proposal forward of the adjacent Madsen building is considered of less importance than the urban design issue of establishing a better sense of identity and arrival to the campus.

The applicant's Statement of Heritage Impact for each proposal details the original curved alignment of Eastern Avenue was initially proposed by Walter Burley Griffin in the University's 1915 General Plan as a grand southern extension to University Place. Further refinements to the plan in Professor Leslie Wilkinson's 1920 campus master plan proposed built form along a less grand straightened Eastern Avenue, with built form setback from its western edge and landscaped spaces provided between. Notwithstanding, the curved

alignment of Eastern Avenue remained until the development of the Madsen building occurred between 1939 and 1944 along the alignment of the Anderson Stuart building (1883 to 1922), following which Eastern Avenue was straightened and its current north-south alignment was established.

Between the 1950's and 1970's the Chemistry building (1958) was constructed on the western edge of Eastern Avenue and development of the previously unoccupied eastern edge took place, most notably being Fisher library (1962) and the Carslaw building (1965) (see **Figure 16**). It was during this period that Eastern Avenue became the University's main Camperdown Campus thoroughfare and its City Road end was extensively modified to provide vehicular access into the campus.

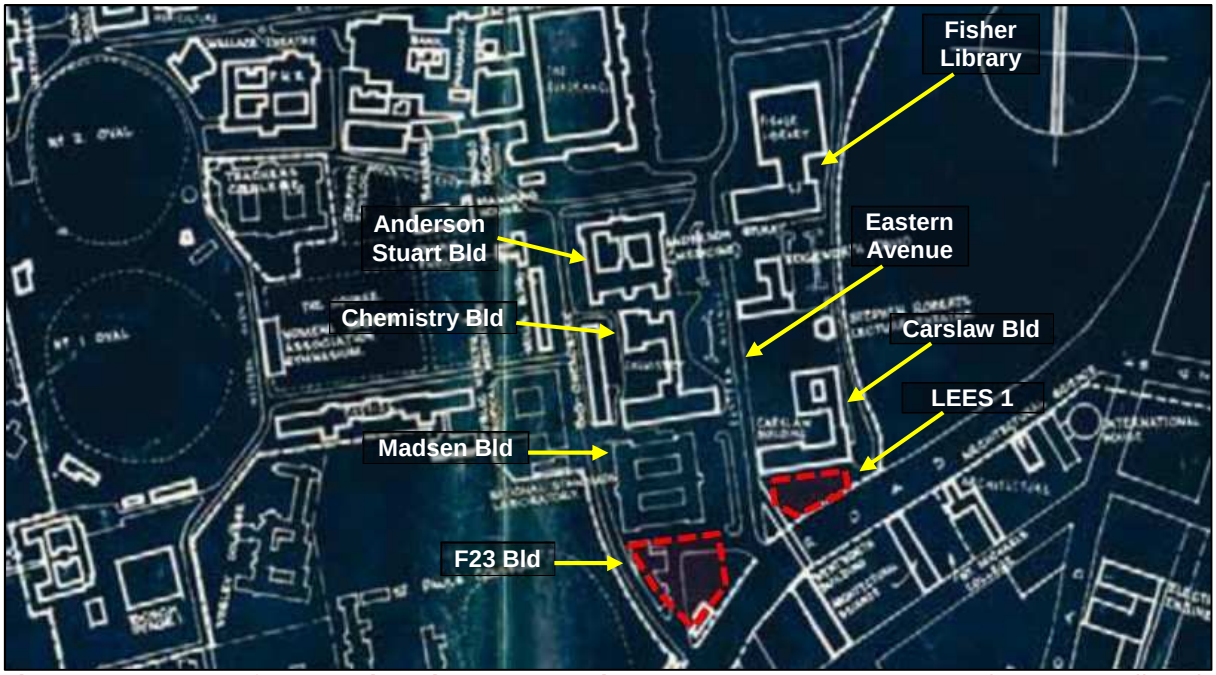

Figure 16: Extract of 1967 University Campus Plan (source: Applicant)

It is evident from development along the axis that:

- Eastern Avenue's western edge is characterised by landscaped setbacks between the main north-south link existing built form;
- the Chemistry building development on the western edge of Eastern Avenue resulted in a significant projection into the landscaped setback originally established by the Anderson Stuart building and Madsen building; and
- during the 1960's the Fisher library building and Carslaw building established the visual and built form character of Eastern Avenue's eastern edge, with landscaped spaces provided between buildings; and
- the development of the Eastern Avenue Auditorium building (2000) and Law building (2008) infilled landscaped spaces and established a continuous street wall along the eastern edge of Eastern Avenue.

LEES 1 Building

The Department has considered the concerns raised in submissions received and the applicant's justification for the proposed projection of the upper levels of the LEES 1 building into Eastern Avenue and is of the opinion the proposed two metre building projection will impact on the established significance of Eastern Avenue and would be contrary to Policy 18 of the applicant's own GCMP.

Setting back the upper levels of the building's western elevation will ensure the legibility of Eastern Avenue axis is not undermined and its visual corridor remains uninterrupted along its eastern edge. Conformity with the recently established street wall character, particularly at this southern end of Eastern Avenue, will further strengthen the visual corridor and its north-south alignment, particularly between the between the existing outdoor heritage significant University Place and City Road, and the Darlington Campus beyond.

The Department therefore recommends a performance condition be imposed requiring amendments to the western elevation of the LEES 1 building (see **Figure 17**) as follows:

- the western façade be aligned not to project beyond the western face of the Carslaw building; and
- any design resolution to accommodate the lost floor space in complying with the above performance requirement does not result in reduced southern setback to the Moreton Bay Fig trees.

Compliance with the above recommended building amendments will ensure the alignment of the LEES 1 building is aligned to the western façade of the Carslaw Building adjacent and ensure the alignment of Eastern Avenue remain intact.

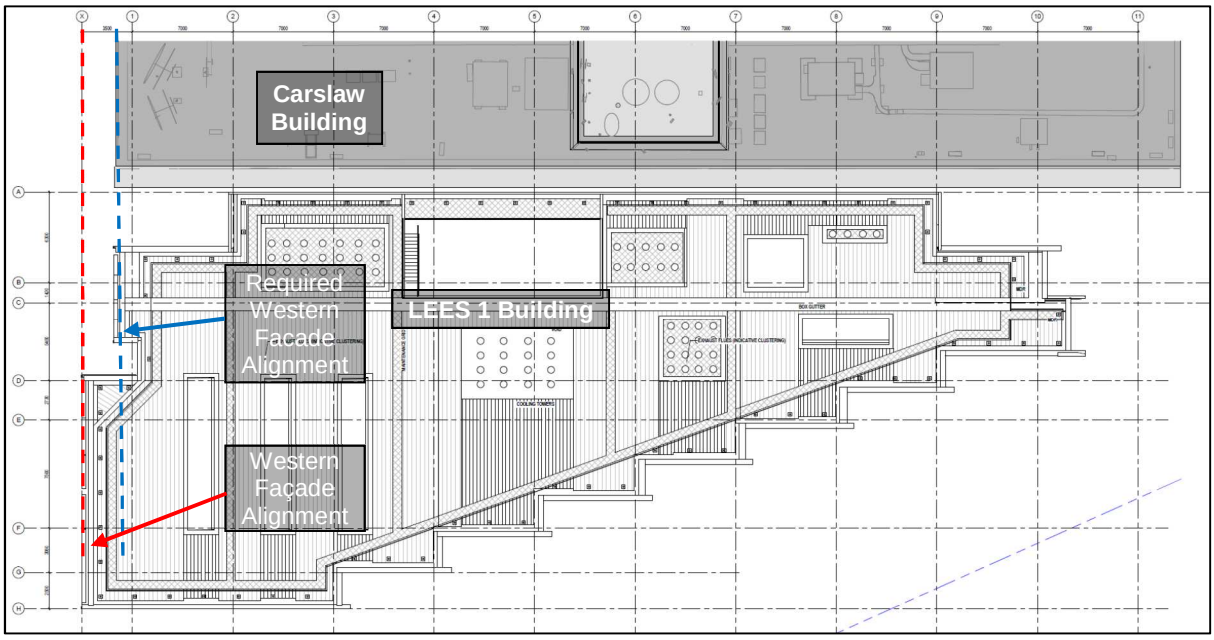

Figure 17: LEES 1 Building Performance Condition (source: Applicant)

F23 Building

The Department accepts the easterly portion of the Chemistry building disrupted the continuation of the landscaped setback along the western edge of Eastern Avenue and that small projections into this alignment are apparent. Notwithstanding, these existing small projections are minor in form and scale. Further, they do not reduce the dominance of the alignment established by the primary façades and building mass of the Anderson Stuart building, northerly portion of the Chemistry building and Madsen building, whether in plan or not.

The Department does not accept these small projections, including the Madsen building's small projecting portico, and siting of the Chemistry building's easterly portion, justify the established significance of the axial arrangement being ignored. The proposed projection of the F23 building alignment beyond the Madsen building's primary façade is also considered to further negatively disrupt the significance of the alignment.

The Department considers the eastern façade and eastern elevation colonnade of the proposed F23 building should be setback further to provide greater respect to this north-south

axial arrangement of built form associated with Eastern Avenue. It is also considered setting back the proposal provides the opportunity for the significance of the alignment to be further reinforced by extending its axial arrangement south to City Road, which is currently restricted by the existing vehicle access arrangements and at-grade car park.

A performance condition is therefore recommended to be imposed requiring amendments to the eastern elevation of the F23 building (see **Figure 18**) as follows:

- the eastern façade be aligned not to project beyond the eastern face of the Madsen building's tower element;
- the eastern elevation colonnade be setback and aligned with the eastern edge of the path located immediately in front of the Madsen building; and
- any design resolution to accommodate the lost floor space in complying with the above performance requirements does not result in a reduced northern and western setback to the Madsen building and Fisher Road Hill's Weeping Fig trees, respectively.

The Department notes the above amendments to the F23 building eastern façade and colonnade elevation would ensure its alignment is consistent with the primary façade alignments of the heritage significant Anderson Stuart building and Chemistry building (northerly portion), which are noted as being more aligned with the eastern face of the Madsen building's tower element, not the building's lower portico.

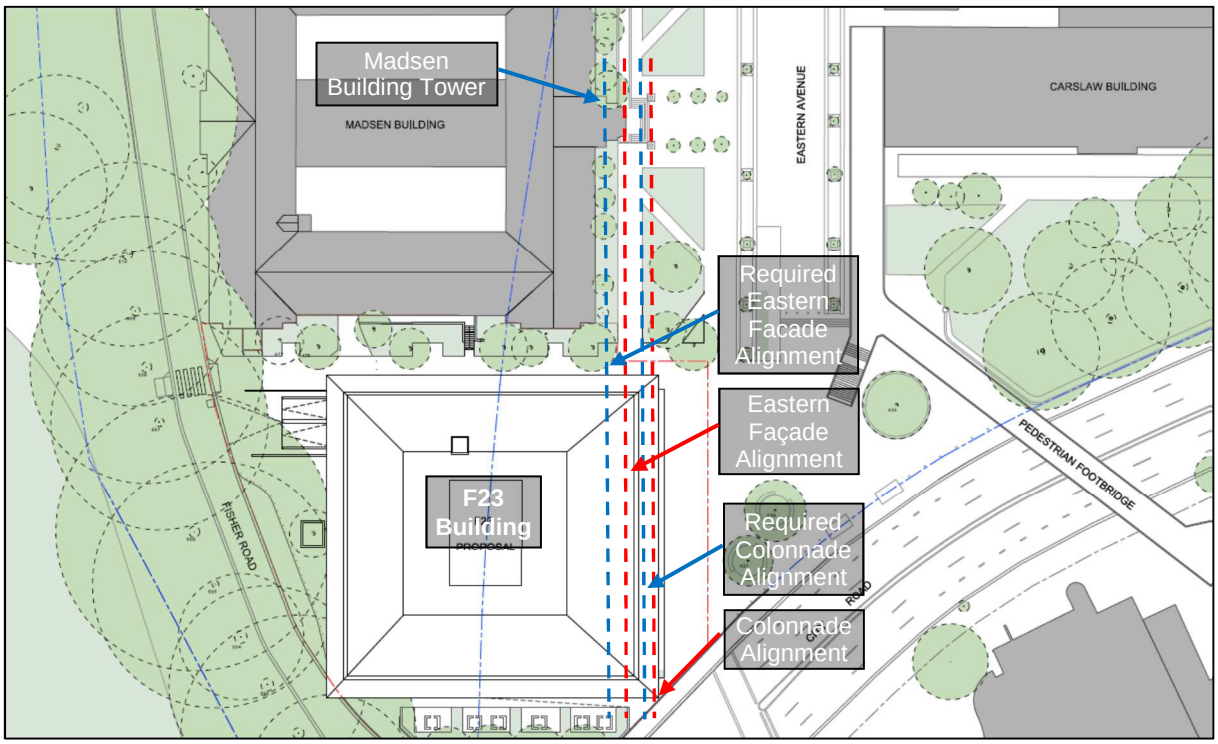

Figure 18: F23 Building Performance Condition (source: Applicant)

Conclusion

The Department has carefully considered the potential heritage impacts of both proposals, particularly the proposed built form projections into the alignment of Eastern Avenue and is of the opinion such intrusions would undermine the strength of the heritage significant axis. Design amendments required in accordance with the Department's recommended performance conditions would provide greater respect to the axial arrangement of built form and heritage values along Eastern Avenue. The recommended design modifications are also considered minor and capable of being accommodated by the applicant to ensure that the functionality of each proposed is not adversely impacted on.

More generally, the proposed LEES 1 building and F23 building are considered to resolve the design and functionality of the University's City Road gateway to create an improved sense of arrival to the campus. The proposals would also not adversely impact on the heritage significance of existing nearby items, the University's site landscaping, perimeter fencing and gates, St Paul's College, or the Gate Keepers Lodge.

The existing Gatekeeper's Lodge adjacent, is sited forwarded of the proposed F23 building and will therefore retain its visual prominence when viewed from either direction on City Road. In addition, the proposed widening and use of the Fisher Road entry will revive the significance of the location and function of the Gatekeeper's lodge. Further, the design and materials and finishes of both proposals has had regard to the materiality and architectural form of existing built form, to ensure a greater level of continuity is achieved between buildings.

Having regard to the above and recommended design amendments of each proposal, the Department is satisfied that the LEES 1 building and F23 building would not result in an adverse heritage impact or impact on the heritage significance of Eastern Avenue.

4.2.2. Built form and urban design

Landscape and Public Domain

LEES 1 Building

The LEES 1 building landscaping works comprise:

- the removal of nine trees from the proposed building footprint;
- the retention of four heritage significant Moreton Bag Fig trees fronting City Road; and
- new low groundcover plantings between the existing Moreton Bay Fig trees (see **Figure 19**).

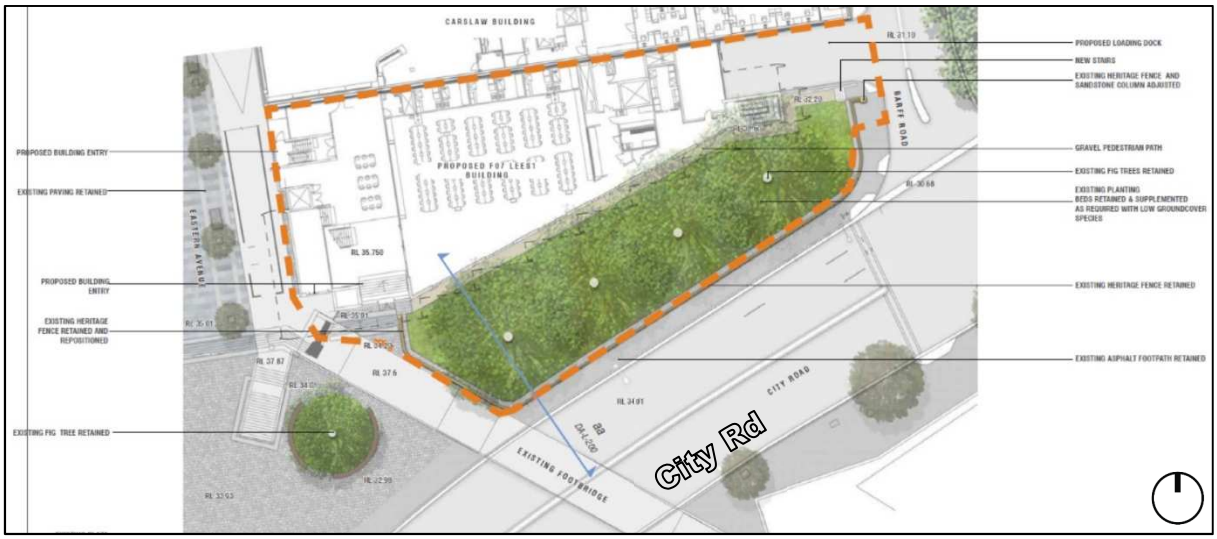

Figure 19: LEES 1 Building Landscape Plan (source: Applicant)

The applicant's arborist report states that pruning works required to accommodate the proposal were previously undertaken in accordance with separate Council approval and that any additional pruning required of the upper crown of the Moreton Bay Fig trees would be limited to branches no greater than 50 mm in diameter, represent terminal growth only and represent less than five per cent of each tree's crown. It also advised that ongoing pruning of large diameter braches would not be required and that no pruning would be required for scaffolding or construction and that works will be supervised by the project arborist.

While no concerns were raised by agencies regarding trees identified for removal, Council and the Heritage Office objected to the siting of the LEES 1 building and its potential impact on the existing Moreton Bay fig trees and the applicant's failure to setback the southern façade further back to prevent any potential damage. Further, Council objected to the encroachment of the

proposed development into the tree protection zones (TPZ's) of the Moreton Bay Fig trees and noted overshadowing generated by the proposal may result in adverse impacts upon tree health.

The Department also advised the applicant of advice provided by the OGA in its post-exhibition issues letter, which noted the building design should be revised and setback to prevent major encroachments on the existing Moreton Bay Fig trees.

The applicant's RtS and addendum response provided additional justification for the proposed siting of the LEES 1 building and to demonstrate that no adverse impacts on the health and condition of the Moreton Bay Fig trees would occur, as follows:

- an arborist was engaged during the design phases of the proposal to assess the maximum amount of pruning acceptable, with root and crown pruning works undertaken in accordance with two separate approvals granted by Council;
- the TPZ encroachment is only slightly larger than a 'minor encroachment' and exploratory root investigations did not uncover any roots greater than 50 mm in diameter therefore the proposal would not significantly impact the health or life expectancy of the trees;
- a qualified arborist will be engaged to undertake fortnightly inspections, prepare monthly compliance reports and supervise works within the TPZ's during the construction period;
- the building has been designed and sited to ensure no additional pruning is be required for hording/scaffolding or to accommodate construction works;
- flexible design scaffolding will be coordinated in conjunction with arborist advice, including the installation of temporary ground protection to prevent soil compaction within TPZ's;
- any additional pruning required would address terminal growth and be limited to branches no greater than 50 mm in diameter;
- no objection is raised to the imposition of a security bond for the protection of the Moreton Bay Fig trees during construction works;
- tree T435 is now proposed to be retained and will not be relocated or removed as originally proposed;
- a permanent drip irrigation system will be installed to minimise potential future impacts; and
- revised overshadowing diagrams demonstrate the trees are already heavily overshadowed by existing University buildings.

The Department is satisfied that the applicant has demonstrated the proposal has been designed with regard to the existing Moreton Bay Fig trees and to ensure no adverse impacts occur to their health and 15 to 40 year life expectancy. The Department, therefore, does not consider it necessary that the design of the proposal be amended as per the OGA recommendation to setback the southern façade further north from the existing Moreton Bay Fig trees.

To ensure the health and condition of the existing Moreton Bay Fig trees is maintained and protected, the Department recommends the following requirements be conditioned:

- a suitably qualified arborist be present on-site during the erection of hording/scaffolding to ensure that no damage to existing Moreton Bay Fig trees occurs;
- the applicant be required to pay a bond per Fig tree to ensure they are protected for the duration of works and during the occupation and operation of the LEES 1 building;
- an independent arborist be engaged to prepare a report verifying the health and condition of the existing Moreton Bay Fig trees prior to the occupation of the building and 12 months following;
- no additional pruning be permitted to accommodate hording/scaffolding or construction works; and
- a permanent drip irrigation system be installed prior to construction works to support the future health of the trees during prolonged dry periods and minimise physiological stress.

F23 Building

The F23 building landscaping works (as updated by the RtS) comprise:

- the removal of 17 trees from the proposed building footprint and landscape bed adjacent to the southern elevation of the Madsen building;
- new tree planting, planters, seating and triangular shaped landscaped corner treatment (see **Figure 20**);
- associated public domain works to Eastern Avenue; and
- crown pruning works to nine of 11 existing heritage significant Hill's Weeping Fig trees opposite on Fisher Road to accommodate proposed building and provide road clearances.

No objections were raised, however, Council commented that opportunity exists for more tree planting to be incorporated into the development. It also recommended amendments to the proposed public domain paving and building interface, and the replacement of the proposed Port Jackson Fig tree with a Moreton Bay Fig tree. The Heritage Office recommended a more open public domain be provided at the south-eastern corner of the proposal at City Road. The Department also advised the applicant the building design should be revised to ensure impacts to existing significant Hill's Weeping Fig trees were minimised.

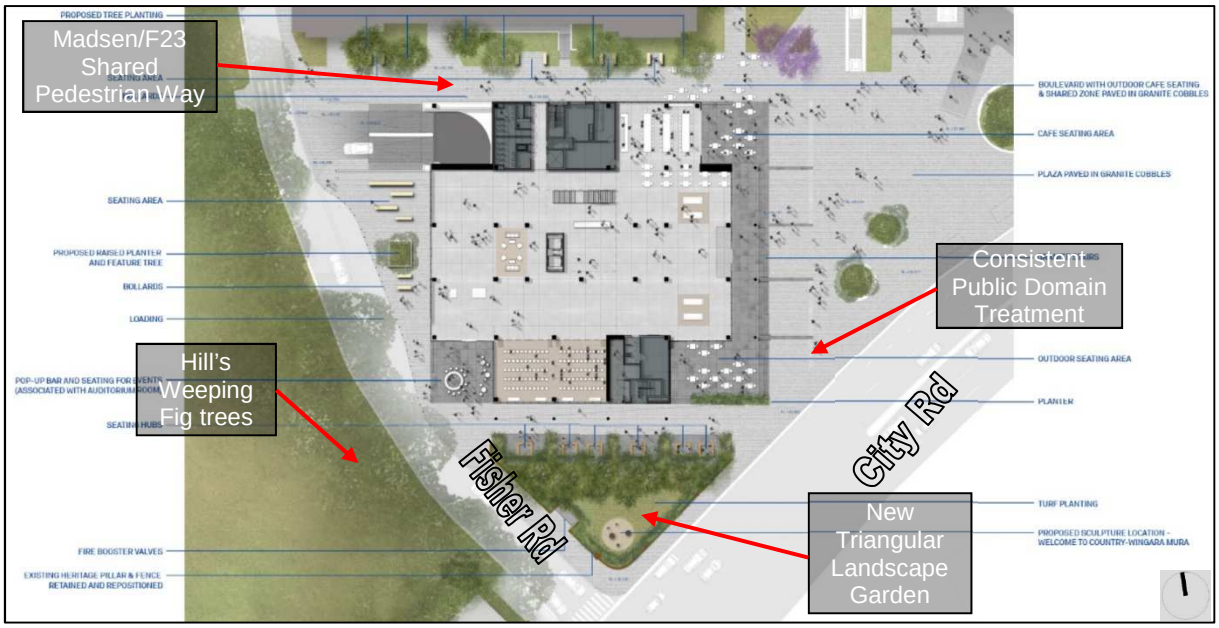

Figure 20: F23 Building Landscape Plan (source: Applicant)

The applicant's RtS and addendum response provided an amended landscape plan and additional information relating to the protection of the Hill's Weeping Fig trees, and the landscape and public domain design, as follows:

- building works are located outside the TPZ's of the existing Hill's Weeping Fig trees and any public domain and road kerb works would be undertaken above existing grade to minimise potential impacts;
- pruning works would represent less than five per cent of each tree's crown and limited to branches no greater than 50 mm in diameter;
- no additional pruning for scaffolding/hording, building clearance or construction will be undertaken;
- additional landscape planters and tree planting will be provided adjacent to Madsen building and within triangular shaped corner treatment; and
- the emergency access/shared way has been deleted from the proposal, including hardstand paving which has been replaced with paving consistent with the existing public domain.

The Department is generally satisfied with the proposed landscaping and public domain, noting additional tree planting, planters and integrated seating are proposed to improve the landscape treatment and amenity of the public domain surrounding the proposed building. The deletion of the emergency access/shared will also enable the provision of consistent

paving treatments and an enlarged triangular landscaped area at the front of the site. Additionally, the proposed public domain works associated with the proposal are proposed to integrate the adjacent Eastern Avenue public domain, which will benefit from the activation of the F23 building at the ground plane.

The Department also considers Council's recommendation that a new Moreton Bay Fig tree be provided in place of the proposed Port Jackson Fig tree to be appropriate. In this respect, it is noted the provision of such a Fig tree species will provide a landscape link and further reinforce the heritage significance of the existing Moreton Bay Fig trees along the City Road frontage of the LEES 1 building site. A condition is recommended to ensure this occurs.

The proposed recommended pruning works to some of the existing Hill's Weeping Fig trees opposite the site are considered minor, and as noted in the applicant's arborist report, are unlikely to reduce their life expectancies or significantly affect their visual symmetry. To ensure that the proposed F23 building does not impact on these trees, the Department recommends a condition prohibiting any additional pruning, beyond that identified in the submitted arborist report, from being undertaken to accommodate any scaffolding/hording, building clearance or construction.

Bulk and scale

LEES 1 Building

The proposed LEES 1 building involves the demolition of minor structures and minor excavation and the construction of a new eight level science research and teaching facility, having a maximum building height of 33.75 metres (37.07 metres to the top of cooling towers) and total gross floor area of 9,800 sqm. All levels are proposed to comprise laboratory research areas, with the upper levels also containing office and work space areas, with rooftop mechanic plant proposed on level eight.

The building footprint of lower levels one to four (see **Figure 21**) is contained within a footprint influenced by the TPZ's of the adjacent Moreton Bay Fig trees at its southern edge, and the alignment of Eastern Avenue and existing pedestrian bridge on its western edge. Upper levels five to eight are proposed to project approximately two metres from the footprint of the lower levels, slightly projecting out above the existing Moreton Bay Fig trees and pedestrian bridge (see **Figure 22**).

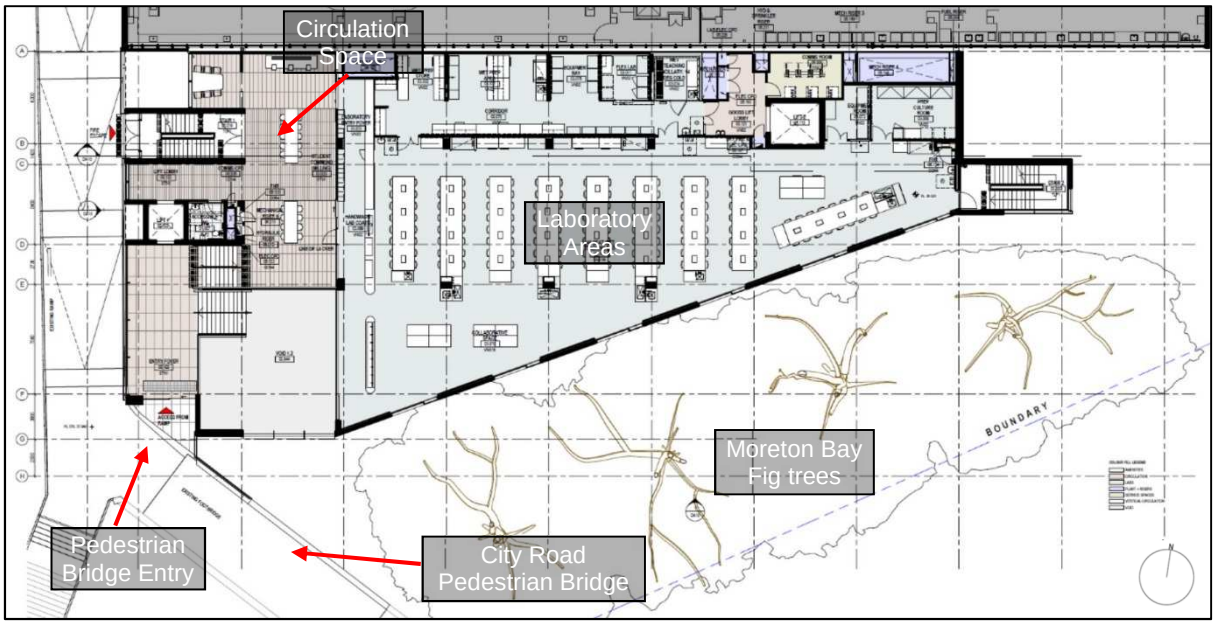

Figure 21: LEES 1 Building Typical Level (One to Four) (source: Applicant)

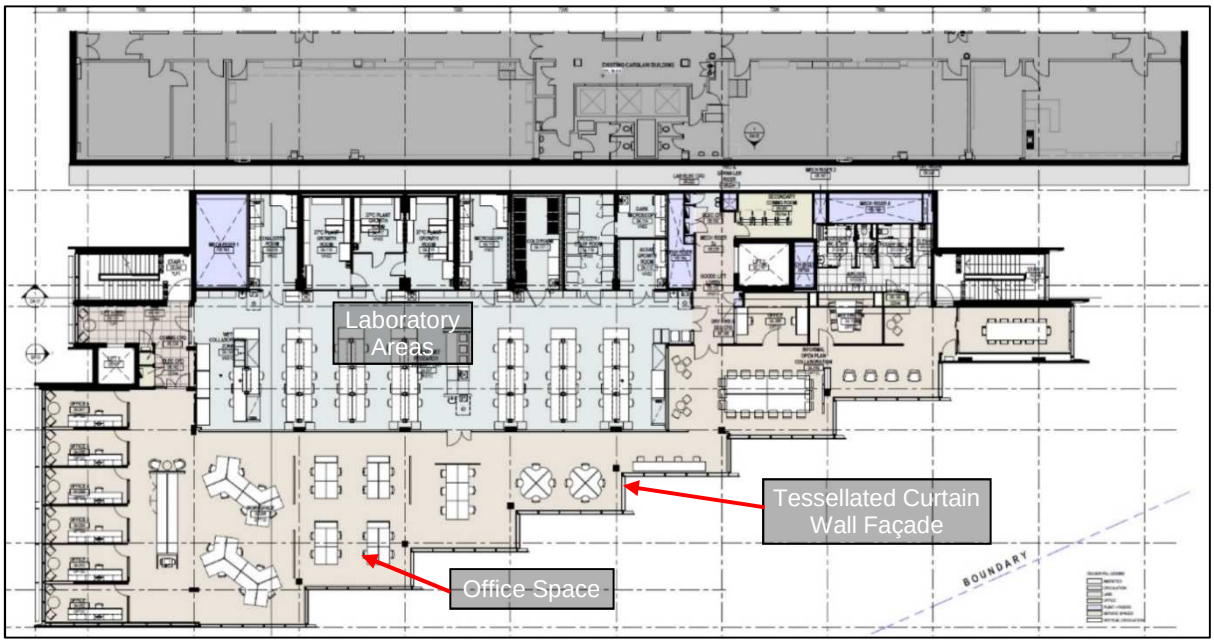

Figure 22: LEES 1 Building Typical Level (Five to Seven) (source: Applicant)

Additional works include internal connections to the adjacent Carslaw building at levels one and two, a new surface chamber substation within the Carslaw building basement and modifications to the existing City Road pedestrian bridge to facilitate direct building access at level three (see **Figure 23**).

The materials and finishes of the LEES 1 building consist of clear curtain wall glazing panels to the tessellated southern elevation, solid terracotta panels, structural off-form concrete, aluminium louvers to the western elevation and concrete fin louvres over weather louvres to the façade of basement services and storage rooms. The tessellated façade design is proposed to reorientate the existing Carslaw building geometries to better address its angled City Road frontage, while the proposed modern curtain wall panels extend to the full height of the building façade to ensure the level eight rooftop plant is not visible from any vantage points.

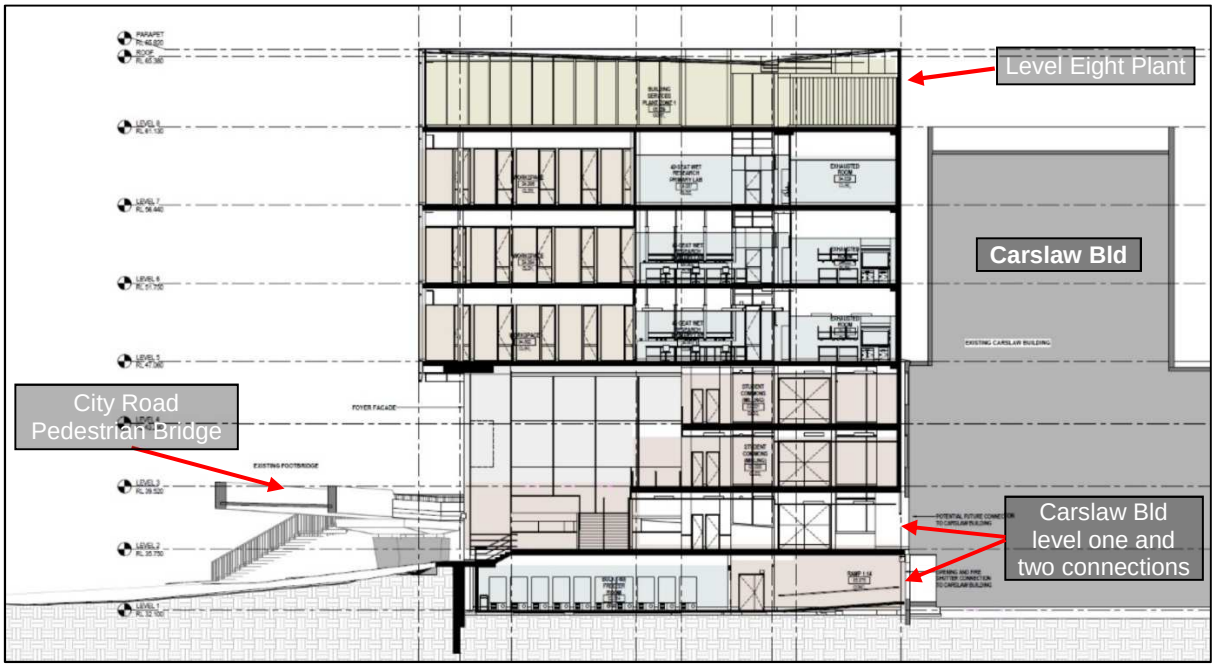

Figure 23: LEES 1 Building Section (source: Applicant)

No agency objections were raised to the bulk and scale of the proposal, however Council commented that the materials and finishes proposed were not clearly understood and the large areas of glazing would impact on the building's energy efficiency. Council also requested detailed shadow diagrams should be provided to differentiate between overshadowing from existing University buildings and the proposal.

Advice provided by the OGA and conveyed to the applicant, raised concerns with the projection of the proposal's upper levels into the Eastern Avenue alignment, its apparent bulk and scale resulting from its narrow footprint, amenity for occupants of the proposed building and the existing Carslaw building, and the need for the proposed loading dock to be suitably treated to reduce its visual prominence from the public domain.

The applicant's RtS and addendum response provided additional information justification for the design and siting of the building, amenity, overshadowing impacts and its proposed materials and finishes, as follows:

- the LEES 1 building has been designed to functionally integrate with the Carslaw building through a phased process, though access restrictions and certification requirements for research levels will limit complete integration;
- the narrow Carslaw building floorplate ensures a satisfactory level of amenity is maintained to the upper four levels;
- a proposed blade stair extends from the LEES 1 building to create a visual pocket for the loading to assist with reducing potential visual impacts; and
- the proposed materials and finishes will ensure building transparency and engagement with the public and environmental performance is achieved.

The proposed 33.03 metres building height is not considered out of character with existing development in proximity to the site, most notably the adjacent Carslaw building and Eastern Avenue Auditorium building. The proposed height will provide an appropriate transition to larger University building (greater than 40 metres) envisaged on the southern side of City Road, the envelopes of which were previously endorsed as part of the approval of the University's approved CIP. The proposed RtS amendments to the location of the proposed mechanical plant, setting it back further away from the buildings City Road edge, will assist in ensuring it does not impact on the design and bulk of the proposal.

Additional details submitted by the applicant with its RtS also demonstrate the possible future connections between the proposal and adjacent Carslaw building. Conceptual designs of potential connections demonstrate the possibility of new links on levels three to seven in conjunction with refurbished laboratory and teaching spaces in the Carslaw building that would positively link the two buildings and their functions.

The Department notes solar access and amenity levels of the upper four levels of the Carslaw building would be satisfactory. The applicant has also advised up to 18 per cent of the southern façade is core/mechanic plant area and 33 per cent is located in zones where the LEES 1 building steps away from the Carslaw building façade. The applicant also notes future planned decanting and revisions to the internal fitout of the Carslaw building will further minimise potential amenity impacts.

The applicant notes the LEES 1 building has been designed to express and reflect the science research being undertaken, with the large curtain wall glazing enabling a visual connection between the external public domain and building's occupants. Further the upper level projection of the tessellated City Road elevation satisfactorily articulates the façade and provides visual interest, which is further enhanced through the proposed use of varied materials and textured finishes for the proposal. The Department also notes the applicant's commitment to the deliver the proposed materials and finishes and recommends a condition to ensure this occurs.

The Department supports the proposed bulk and scale of the proposal and considers the proposed design and layout of the LEES 1 building would contribute to existing built environment and streetscape of City Road through the provision of good quality design. Its recommended condition to setback the western façade to align with the Carslaw building will also limit any potential impacts on the significance of the Eastern Avenue alignment.

F23 Building

The proposed F23 building involves the demolition of the existing at-grade car park and associated vehicular access way and excavation to accommodate a two level basement car park and the construction of a new five storey administration building (plus rooftop mechanical plant) The F23 building is proposed to have a maximum building height of 24.98 metres and total gross floor area of 8,501 sqm. The ground floor is proposed to contain a building entry/lobby and auditorium and new café in the north-eastern corner (see **Figure 24**). All remaining upper levels are proposed to be a typical office layout, comprising offices and meeting spaces and access to terrace areas (see **Figure 25**). Central to the building is a continuous atrium void that alters in size between each level.

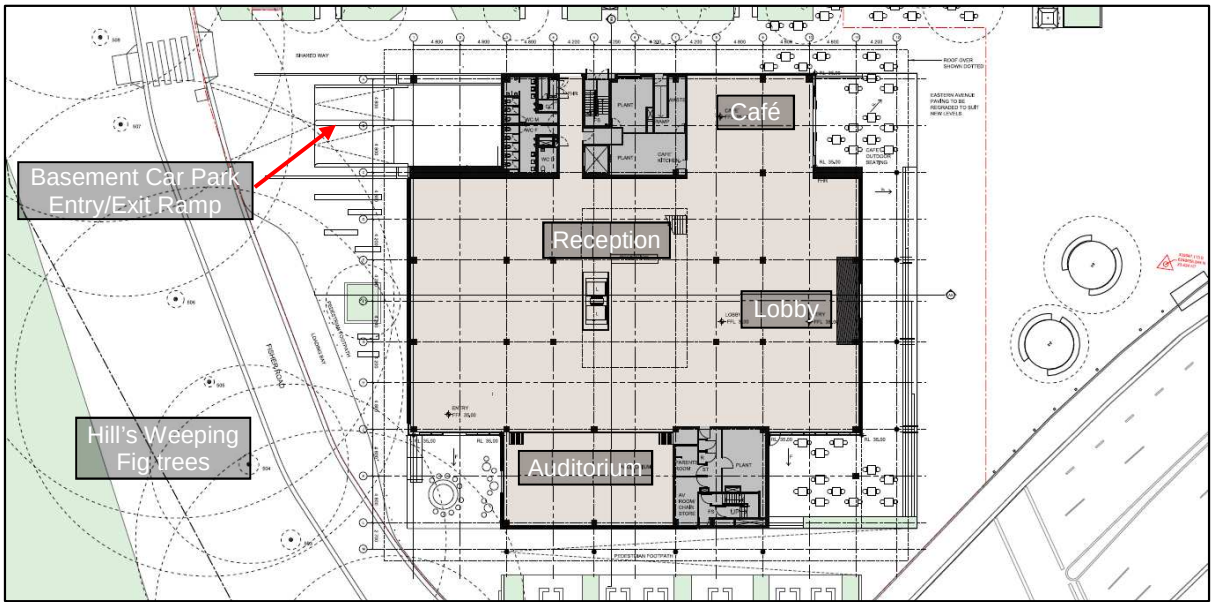

Figure 24: F23 Building Ground Level (source: Applicant)

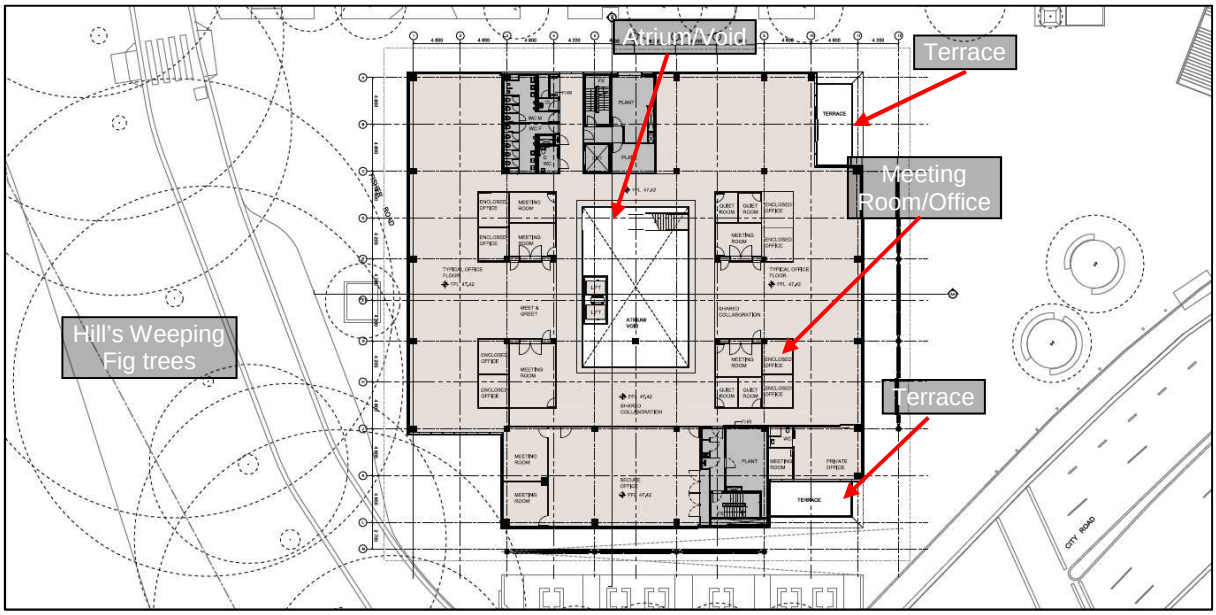

Figure 25: F23 Building Typical Upper Level (source: Applicant)

The design of the proposed building's pitched roof form, which centrally integrates the rooftop mechanical plant, provides for large overhangs beyond the building footprint below and the establishment of a colonnade along its southern and eastern elevations (see **Figure 26**).

The proposed materials and finishes will consist of light and/or cream coloured sandstone rain clean cladding system, multiple layered glazing panels to the tessellated southern elevation, and darker aluminium metallic finishes to the proposed roof, columns and louvres.

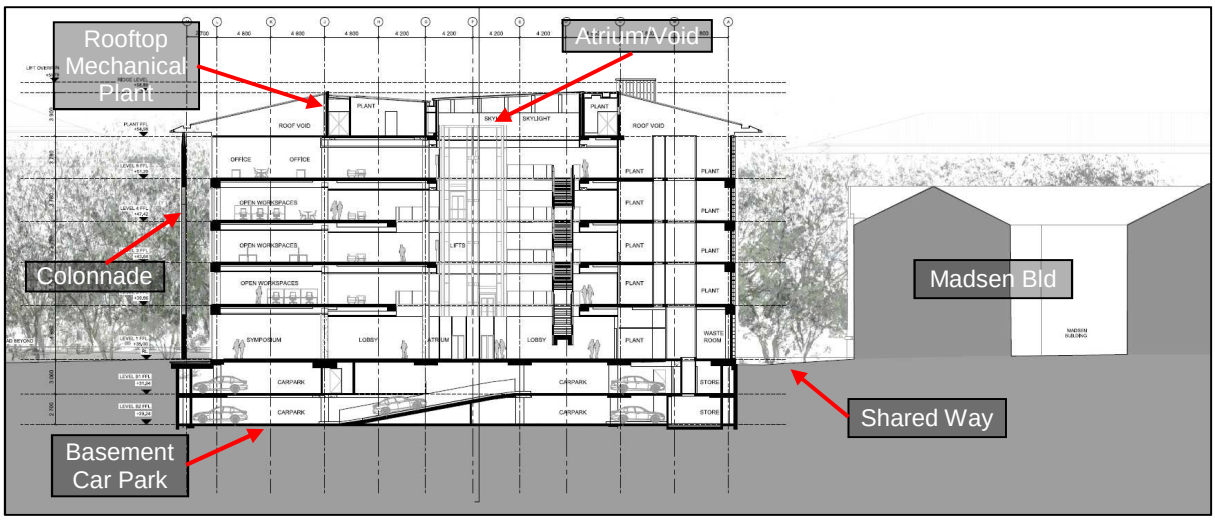

Figure 26: F23 Building North-South Section (source: Applicant)

Further to the heritage alignment objections and concerns raised by the OGA, Council and the Heritage Office and addressed in **section 4.21**, Council also suggested the design of the northern elevation be amended to acknowledge the more solid and vertical proportions of the Madsen building. The Department also raised concerns with the projection of the proposed building forward of the Madsen building and also recommended an increased to the northern setback to improve the legibility of the Madsen building.

The applicant's RtS and addendum response provided additional justification to the design and massing of the proposed building as follows:

- the F23 building ground plane is further activated through public access provisions;
- the northern setback of the F23 building to the Madsen building considers both the requirement to maintain vehicle access to its driveway as well as establishing pedestrian movement between Fisher Road and Eastern Avenue;
- the Madsen building should not be used as a benchmark for a new building on Eastern Avenue, but rather respect its form; and
- the proposed materials and finishes will ensure building transparency and engagement with the public and environmental performance is achieved.

The applicant also notes the building expression will reflect the typology of the historic Madsen building and Stuart Anderson building, but will provide a modern design that reflects a civic presence and contributes to the establishment of a new campus gateway. Façade articulation is satisfactorily achieved through the use of varied materials and finishes and strong horizontal lines that break the vertical massing of the proposed building. The Department also considers visual interest will be delivered through the proposed varied materials and textured finishes of the proposal. The Department also notes the applicant's commitment to the delivery of the materials and finishes proposed and recommends a condition to ensure this occurs.

The proposed 24.98 metre building height is not considered to be out of character with existing development in proximity to the site, most notably the Carslaw building and Eastern

Avenue Auditorium building. Further, the Department notes the proposed height will provide an appropriate transition to larger University building (greater than 40 metres) envisaged on the southern side of City Road, the envelopes of which were previously endorsed as part of the approval of the University's CIP.

The Department supports the proposed bulk and scale of the proposal and considers the proposed design and layout of the F23 building would contribute to existing built environment and streetscape of City Road through the provision of good quality design.

Design excellence

General

Clause 6.21 of SLEP requires a development demonstrate design excellence to ensure that the highest standard of architectural, urban and landscape design. In addition to a development's form, appearance and mass, consideration is also to be given to potential environmental amenity impacts (view loss, privacy, overshadowing, etc.) and public domain impacts.

The applicant detailed that each proposal was subject to its own alternate design competition requirements through its Design Excellence Policy, which requires projects to deliver the highest architectural, urban and landscape design standards. The following criteria of the University's Design Excellence Policy is required to be considered by project teams to ensure the highest standard of architectural, urban and landscape design is delivered:

- high standard of architectural design, materials and detailing appropriate to the building type and location;
- whether the form and external appearance will improve the quality and amenity of the public domain and or detrimentally impact on view corridors;
- the bulk, massing and modulation of buildings, and street frontage heights;
- environmental impacts, including overshadowing, visual and acoustic privacy, wind and reflectivity;
- ESD principles;
- pedestrian, cycle, vehicular and service access and circulation requirements;
- public domain impacts and proposed improvements; and
- the impact on any special character area.

Each proposal was the result of a two stage design competition process conducted by the University. Winning concept design schemes were initially selected to inform the SEARs requests, following which, further consultation and consideration of the design brief was undertaken, resulting in the University deciding to amended design brief and conduct a second staged design competition.

The University invited six architectural firms to submit entries for its second design competition stage, including the original concept design winning architectural firm. Entries received were reviewed by a tender evaluation committee, with independent expert architectural, urban design and heritage advice provided by the design excellence review panel. The tender evaluation committee resolved the following regarding each proposal:

> *LEES 1 building – "With a commitment to excellence in the design development process, the proposal can deliver a landmark building, and an effective gateway element which marks the transition between the traditional Camperdown campus, and a new integrated town centre and learning campus in the Darlington precinct. It has the potential to enhance the University's brand and reputation"*
>
> *F23 building – "Superior design outcome and the design team are clearly more skilled and experience… effective planning solutions, superior to the reference design." "Creative response to defining "front door" and effective sense of arrival." "Delivers internal planning design excellence outcomes."*

Advice provided by the OGA on the proposed LEES 1 building noted it was satisfied with the rational to ensure the occupant amenity of the proposed development and adjoining Carslaw building would be maintained, and that the building entries with the public domain would ensure clarity and accessibility to the public domain. It also noted the courtyard typology of the proposed F23 building would express a rational internal strategy that promotes a high degree of legibility. It was also noted the architectural expression and materiality of the proposed building would achieve the principles of visibility and transparency. Further assessment of both the LEES 1 building and F23 building is provided below.

LEES 1 Building

The proposal has been designed with the vision of contributing to a new gateway to the University's Camperdown Campus and convey the importance the University places on investment in research and teaching. The proposal, in conjunction with the F23 building proposal, is envisaged to create a new urban square and entry forecourt that will provide defined termination of Eastern Avenue at City Road.

Architecturally, the proposal positively responds to the site's unique constraints, ensuring the building design accommodates and protects the existing Moreton Bay Fig trees fronting the site's City Road frontage, while projecting the built form out and above the crown of the existing trees, prominently displaying the tessellated façade to the public domain.

Proposed connections to the Carslaw building adjacent at its lower levels provides for the integration of the two buildings and will allow for the future redevelopment of the Carslaw building's internal layout. Additional information provided in the applicant's RtS satisfactorily demonstrated the proposed integration strategy and rationale to ensure the amenity levels of internal occupants of both buildings would be achieved and maintained.

The contemporary design of the LEES 1 building responds to the predominant horizontal massing of older buildings on the campus by providing a transition between older and proposed newer parts. This is achieved through the expression of both horizontal and vertical façade proportions through modulation and openings. The building design is further enhanced and articulated through the effective use of materials, and strong vertical lines to break up the horizontal mass.

The Department also notes the projected upper levels of the LEES 1 building glazed curtain wall façade will largely sit above the crown of the existing Moreton Bay Fig trees, extending to the building's full height to integrate the level eight mechanical plant and ensure it does not detract from the overall design. Further, rooftop cooling towers are set back from the front façade to minimise any potential visual impacts, while other plant and services rooms are discreetly obscured from view through the use of external louvres that integrate with the rest of the external building design.

The proposal also seeks to integrate ecological sustainable development measures into its design and operations, incorporating environmentally responsive measures to improve the energy efficiency of the buildings functions. Such measures include rooftop solar photovoltaic cells, passive design principles (i.e. double glazing along the building's façade to reduce heat loss and prevent heat gain), natural ventilation and the selection of energy efficient equipment and fixtures.

The proposal would not adversely impact on the amenity or visual privacy of nearby land uses, with overshadowing generated by the proposal generally falling across the University's campus and its own buildings or on City Road. In this regard, shadows cast across the proposed F23 building and Jane Foss Russel building (opposite the site on the southern side of City Road) would either not detrimentally impact on their solar access provisions or are already currently overshadowed by other University buildings.

F23 Building

The proposal has been designed and sited in its prominent City Road location to express the "growing esteem and prestige" of the University and its civic presence within the campus. The proposal will also contribute to the establishment of the Camperdown Campus' new gateway. The proposal, in conjunction with the LEES 1 building proposal, is envisaged to create a new urban square and entry forecourt, integrating the ground plane with the adjacent public domain.

Architecturally, the proposal has been designed to respond to its site constraints, ensuring the building design accommodates and protects the existing Hill's Weeping Fig trees along the opposite side of Fisher Road, while the siting and architectural form in conjunction with the Department's recommended façade alignment amendments, respects the existing heritage qualities of Eastern Avenue and adjoining Madsen building.

The internal layout of the proposal is supported, expressing a high degree of legibility, while the proposed materials and finishes would achieve a sense of transparency, promoting high levels of visibility and connection between building occupants and surrounding public domain. The applicant also advises in its RtS that the proposed ground level functions are designed to promote high levels of activation with the surrounding public domain, including the proposed café, auditorium and exhibition spaces, and landscape seating. The proposed pitched roof design also effectively integrates rooftop mechanical plant into the roof form, ensuring it does not detract from the overall design or results in any potential visual impacts.

The proposal is also proposed to deliver a functional, flexible and resource efficient and sustainable building, incorporating environmentally responsive measures to improve the energy efficiency of the buildings functions and meet the University's benchmarks outlined in its Sustainability Framework. Such measures include indoor air quality management, solar photovoltaic cells, passive design principles, selection of energy efficient equipment and fixtures, rainwater reuse, and use of sustainable and recycled construction materials.

The proposal would also not adversely impact on the amenity or visual privacy of nearby land uses, with overshadowing generated by the proposal generally falls within the University campus, on its own buildings or City Road and a small south-eastern section of St Paul's College oval, which would not generate any adverse amenity impacts.

Conclusion

Having regard to the above, and the further detailed analysis provided in subsequent sections of this report, the Department has given consideration to the design of each proposal and is satisfied the proposed LEES 1 building and F23 building exhibit design excellence and would ensure that a high standard of architectural design is delivered at the proposed new campus gateway and would contribute to the ongoing delivery of design excellence across the campus.

4.2.3. Parking and Traffic Impacts

Parking and Loading Dock Arrangements

The LEES 1 building development proposes no new car parking and a total of 27 secure, weather protected bicycle parking spaces (15 staff/12 student), four showers (three staff/one student – unisex) and 102 lockers (90 staff/12 student) are also proposed. A new loading dock at the ground level of the LEES 1 building (see **Figure 27**) is also proposed with access provided from Barff Road. The new loading dock is proposed to be shared with the adjoining Carslaw building. The new loading dock has been designed to accommodate two vehicles at one time, include a 6.4 metre long small rigid vehicle (SRV) and 12.5 metre heavy rigid vehicle (HRV).

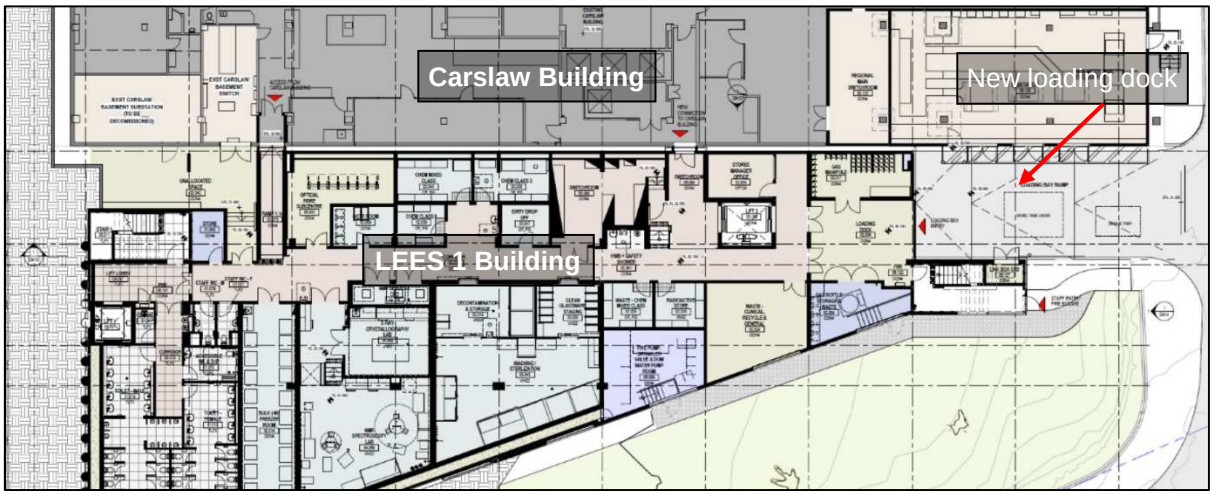

Figure 27: LEES 1 Building Level One Loading Dock (source: Applicant)

The proposed F23 building seeks approval to decommission and demolish an existing 63 space at-grade car park and construct a two level basement car park with 96 car parking and 21 motorcycle parking spaces, with vehicle access proposed from Fisher Road and revived City Road/Fisher Road intersection. A total of 90 secure, weather protected bicycle parking spaces, 10 showers and 66 lockers are also proposed within the basement (see **Figure 28**).

The proposal also includes a new MRV loading dock and taxi set-down/pick up area on the ground floor adjacent to the western elevation, while courier vans and smaller delivery vehicles are proposed to be accommodated within the basement car park.

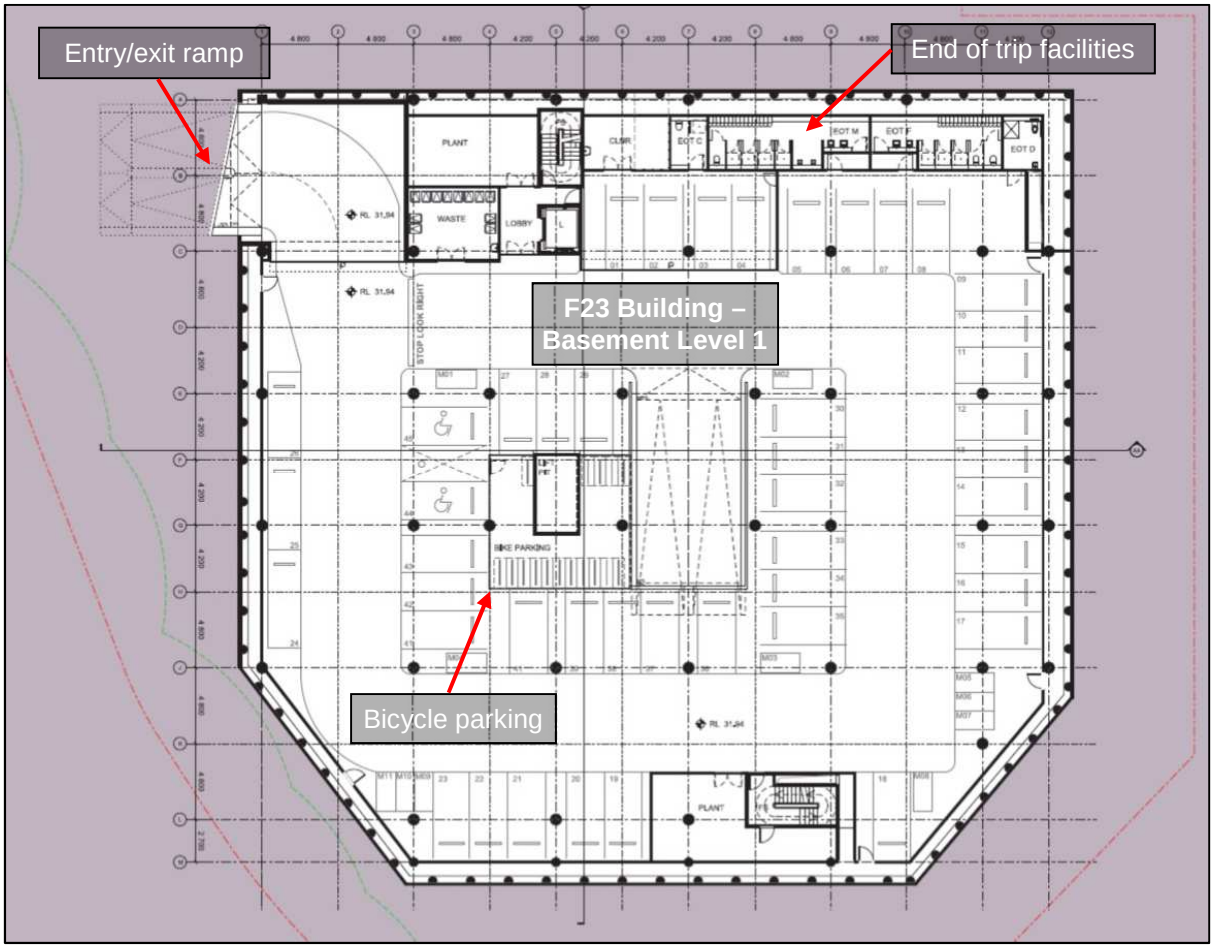

Figure 28: F23 Basement Level (source: Applicant)

No objections were raised to the provision of no car parking within the LEES 1 building proposal or the proposed F23 building 96 space basement car park. Notwithstanding, Council objected to the following aspects of both proposals:

LEES 1 building

- the amount of bicycle parking and end-of-trip facilities proposed, advising that 264 visitor and 27 staff/student bicycle parking spaces, seven showers and 102 lockers were required in accordance with its DCP criteria;

F23 building

- the excess amount of motorcycle parking;
- the lack of bicycle parking and end-of-trip facilities, advising that 107 staff bicycle parking spaces, 12 showers and 107 lockers were required in accordance with its DCP criteria;
- the proposed loading dock, requesting it be relocated to the basement car park; and
- car share spaces must be provided in accordance with its DCP.

TfNSW also raised concerns regarding loading arrangements proposed for each proposal, requesting the applicant assess the implications of the loading dock designs and locations on traffic and pedestrian safety. It also requested provision be made for a dedicated taxi set-down/pick-up area within the campus.

Bicycle Parking and End-of-trip Facilities

The applicant advises bicycle parking and end-of-trip facilities are proposed in both proposals even though no increase to staff or student numbers is generated or proposed. It also argues Council's DCP criteria is not applicable and any requirements should not be assessed in isolation of the existing bicycle parking and end-of-trip facilities provided throughout the campus.

Further, the applicant notes that Council's DCP criteria would generate a requirement for over 5,000 bicycle parking spaces based on the University's current staff and student population. The applicant believes this target to be unreasonable and considers the alternative approach calculated based on ten per cent of full time staff and five per cent of the peak number of students using a building at 75 per cent occupancy ratio, to be more appropriate to determine a more reasonable bicycle parking target.

The applicant's F23 building proposal RtS also advises that the suggested appointment of a car share bay at ground level is supported and that the proposed excess motorcycle parking spaces within the proposed F23 building addresses its strategy, outlined in the approved CIP, of providing periphery campus parking to limit vehicle movements within the campus. Notwithstanding, the applicant commented it would not object to the motorcycle parking spaces being reduced and replaced with bicycle parking instead. It also noted that a dedicated taxi set-down/pick-up area could be accommodated within the loading bay area.

The Department acknowledges that neither proposal will increase staff or student enrolments and is generally satisfied with the bicycle parking and end-of-trip facility provisions provided in each building. It is also noted that the functionality of the proposed F23 building could be considered similar to that of a traditional office building, with its location being the final destination point for the building's future occupants. In this regard, the proposed provision of 90 bicycle parking spaces, ten showers and 66 lockers is considered satisfactory.

It is also considered a holistic approach to the assessment of bicycle parking and end-of-trip facilities, that considers the University as a whole, to be more appropriate given the transient occupation of typical university teaching and research buildings by students and staff. In this regard, it is acknowledged approximately 1,700 bicycle parking spaces are already provided across the campus, while 98 showers and 485 lockers are also available within a 400 metre radius of both development sites.

While the proposals will only nominally increase campus bicycle parking, the Department notes the University is committed to improving the provision of bicycle parking and associated end-of-trip facilities in line with its projected growth, as outlined within its draft Sustainable Transport and Mobility Plan (STAMP), which was submitted with its F23 building proposal RtS to address concerns raised by Council regarding bicycle parking provisions and TfNSW's request for a green travel plan.

The draft STAMP outlines initiatives and objectives to prioritise active travel, walking and cycling, including the provision of accessible, affordable and quality active transport infrastructure. While the draft STAMP outlines the applicant's proposed approach to the required provision of future facilities, no details are provided on how existing deficiencies will be addressed.

To ensure that implementation of the applicant's draft STAMP is considered a suitable alternative to a green travel plan and becomes an effective tool in delivering more sustainable transport outcomes, the Department recommends a condition requiring it be updated and prepared by a suitably qualified transport planner in consultation with Council, and that it outlines where, and quantifies how and when, future bicycle parking and end-of-trip facilities will be provided to meet the existing campus deficiencies and projected future demand.

In addition, under the CIP approval, the University is required to provide bicycle parking and end-of-trip facilities to satisfy its projected staff and student population growth (approximately 10,000 by 2020) in conjunction with the staged delivery of 264,650 sqm of GFA under its approved CIP.

The Department does not consider it necessary to reduce the proposed number of motorcycle parking spaces within the F23 building basement, noting it is generally satisfied with the number of bicycle parking spaces provided. The provision of 21 motorcycle parking spaces will help contribute towards the University's proposed removal and relocation of existing inner campus parking to its periphery. Acknowledging the applicant's agreement to the provision of a car share bay, the Department recommends a condition requiring two car share bays be provided, details of which are to be submitted to the satisfaction of the certifying authority prior to the opening of either building.

Loading

The applicant's LEES 1 building Traffic and Transport Impact Statement advises the existing operations of the Carslaw building loading dock generate approximately 26 deliveries per day, and that the proposed LEES 1 building loading dock would not significantly increase the intensity of vehicle movements. It also advises the ability of the new loading dock to accommodate two vehicles simultaneously would enable improved operational efficiencies and any increased vehicle movements would only be in the order of approximately one to two vehicles per hour and generate a negligible traffic impact.

The applicant's LEES 1 building RtS also advised that no objection was raised to the requirement for a loading dock management plan to be prepared and, if required, undertake a road safety audit of the loading dock arrangements. The Department is satisfied the proposed new LEES 1 building loading dock is unlikely to significantly increase vehicle movements or generate unacceptable traffic impacts above that which is currently generated by the existing Carslaw building loading dock. The supporting swept paths also satisfactorily demonstrate that vehicles up to a 12.5 metre HRV can be accommodated.

The applicant's F23 building proposal RtS and addendum response provided additional justification for the proposed retention of the loading dock at ground level, as follows:

- relocating the loading dock to the basement car park would dramatically change design requirements and make the development unfeasible;
- the restriction of the loading dock to MRV ensures satisfactory access provisions are catered for by the proposal and within the existing campus; and

- no objection is raised to Council's and TfNSW's recommended conditions requiring a loading dock management plan be prepared and, if required, undertake a road safety audit of the loading dock arrangements.

The Department is satisfied the proposed F23 building loading dock is unlikely to result in adverse traffic or pedestrian impacts and that vehicle movements along Fisher Road would not be compromised by vehicles utilising the loading dock. It also considers satisfactory pedestrian circulation would be maintained at all times and significantly improved over the current site arrangements. It is also noted the removal of the originally proposed emergency access/shared way in front of the F23 building will also positively contribute to the public domain and pedestrian amenity in this location.

To ensure any potential impacts on safety regarding the proposed new loading dock arrangements for each proposal are minimised, the Department recommends conditions of consent requiring the preparation and implementation of a loading dock management plan and for loading dock design safety audits to be undertaken and any recommended road safety measures be implement in full.

Traffic and Access

The F23 building proposal seeks approval to remove the existing signal controlled vehicle access into the Camperdown Campus by closing the northern leg of the City Road/Butlin signalised intersection and creating a three-legged T-intersection (see **Figures 29** and **30**). The existing Fisher Road driveway access from City Road is proposed to be widened to facilitate ongoing left-in/left-out vehicle access.

No works or amendments to the existing vehicle access arrangements or the existing City Road/Barff Road signalised intersection are proposed in conjunction with the LEES 1 building proposal. It is also noted the proposed new LEES 1 building loading dock would have a negligible impact on the existing level of services for both pedestrians and vehicles at this intersection.

The RMS raised no objections to the proposed amendments to the City Road/Butlin Avenue signalised intersection and widening of Fisher Road entry/exit. Council, however, commented that the amendments would reduce efficiency of vehicles exiting onto City Road from Fisher Road. The Department also sought clarification from the applicant regarding a modelled decrease in intersection performance.

TfNSW also recommended construction pedestrian and traffic management plans for each proposal be prepared to ensure any construction impacts were managed, noting several projects within the CBD were likely to be under construction at the same time.

The applicant's RtS and addendum response provided a revised intersection layout (see **Figure 30**) and additional justification for the proposed intersection arrangement, as follows:

- the proposed City Road/Butlin Avenue signalised intersection layout was remodelled to address erroneous errors identified in the layout lodged with the EIS; and
- remodelling demonstrated:
  - a predicted level of service 'A' for all vehicles during the am and pm peak periods; and
  - a predicted level of service 'C' and 'D' for pedestrian movements during the am and pm peak periods (originally 'D' during both periods).

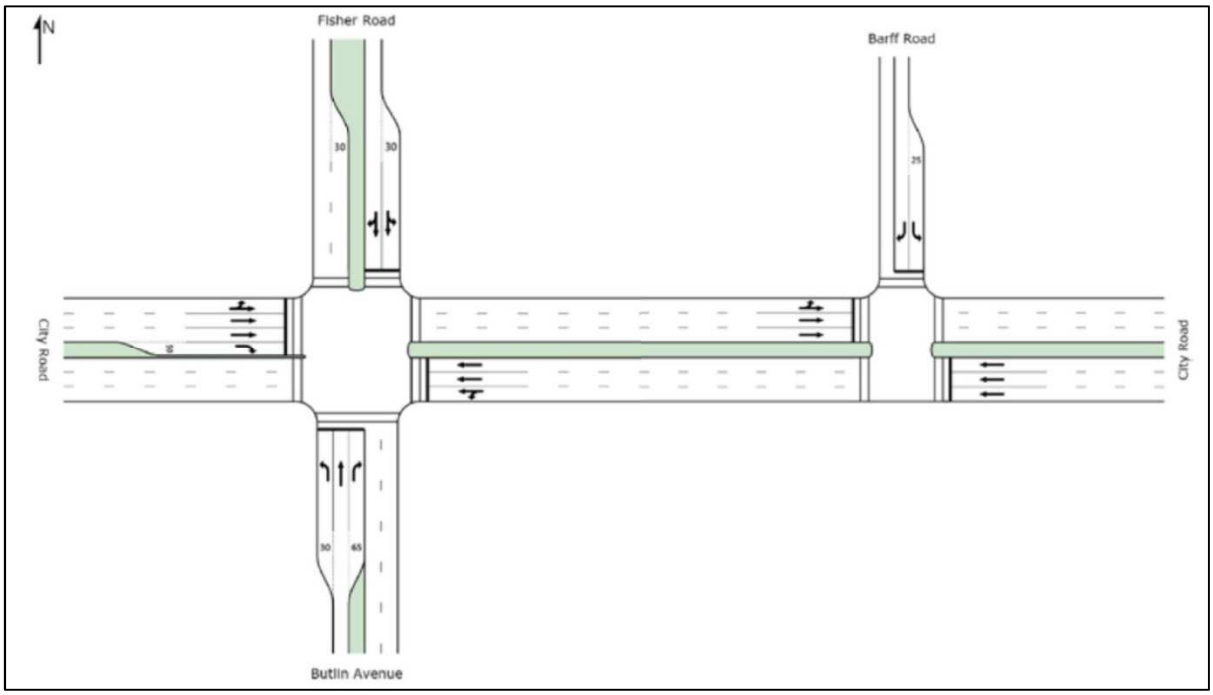

Figure 29: Existing City Road/Butlin Avenue/Campus Intersection Layout (source: Applicant)

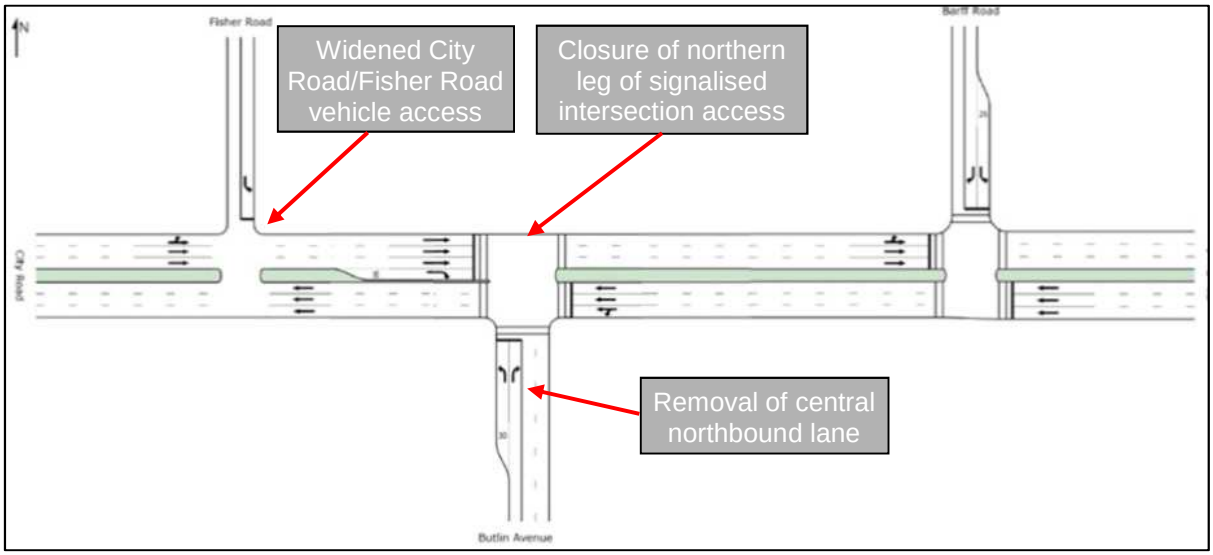

Figure 30: Proposed City Road/Butlin Avenue Intersection Layout (source: Applicant)

Construction vehicle movements are likely to utilise existing signalised intersections at City Road/Barff Road (LEES 1 building) and City Road/Butlin Avenue/Camperdown Campus (F23 building) enabling better management of vehicle movements. Additional vehicle movements attributed to construction traffic was not expected to be significant. Notwithstanding, the Department notes each intersection has spare capacity to accommodate additional vehicle movements without detrimentally impacting on their operational efficiency.

To ensure construction vehicle movements generated by the proposals do not generate adverse impacts on existing traffic movements within the local road network, the Department recommends a condition requiring the applicant prepare and implement a construction pedestrian and traffic management plan

The Department has considered the applicant's proposed access arrangements and raises no objections to the proposed closure of the northern leg of the existing signalised intersection

and the widening of the Fisher Road access point. The applicant has satisfactorily demonstrated that both proposals will not result in adverse traffic or pedestrian impacts.

The Department also recommends a condition requiring the applicant to consult with the RMS prior to the commencement of access arrangement works to ensure the final intersection design layouts satisfy the RMS's requirements.

Pedestrian Movement and Accessibility

Council raised concerns with the proposed design of the LEES 1 building entrances and their potential conflict with the existing City Road pedestrian bridge and the siting of the proposed F23 building leading to potential impacts on pedestrian movement and accessibility. TfNSW also requested the applicant develop way-finding strategies and travel access guides for each proposal.

The applicant's LEES 1 building proposal RtS and addendum response provided additional justification for, as follows:

- the location of a primary entrance to the proposed LEES 1 building on level three was designed to accommodate the majority of northerly pedestrian movements across the City Road pedestrian bridge (see **Figure 31**);
- the alternate level two primary entrance was integrated with the Carslaw building to accommodate the majority of southerly pedestrian movements (see **Figure 31**); and
- the siting of the F23 building would not encroach into the existing City Road footpath and would therefore not have an impact on restricting pedestrian flows in this location.

The Department notes a proposed secondary LEES 1 building entrance is accessed by passing beneath the existing pedestrian bridge and provides ground plane access to the large entry lobby. While not designated as the primary entrance, it provides a more direct pedestrian path and provides access to bicycle parking and end-of-trip facilities, which are both likely to improve the attractiveness and activation of this entry point over time.

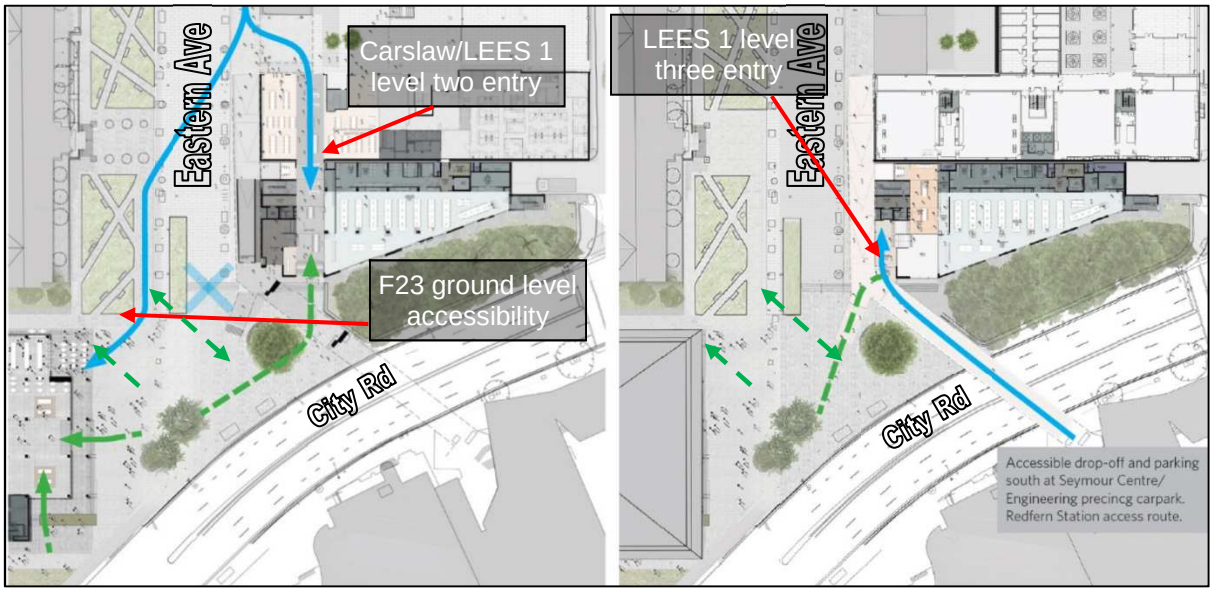

Figure 31: Primary and Secondary Pedestrian Travel Paths (source: Applicant)

The Department is also of the opinion that the closure of the northern leg of the existing City Road/Butlin Avenue signalised intersection and the deletion of the proposed emergency access/shared way (originally proposed) would also positively contribute to pedestrian amenity and circulation in this location.

The Department also notes the proposed augmentations to the signalised intersection will provide a similar or improved level of service for pedestrians traversing between the Darlington and Camperdown Campuses, positively contributing to the activation of the new gateway public domain between the two new buildings.

The Department has considered the concerns raised regarding the proposals and the applicant's responses and is generally satisfied the proposed LEES 1 building entrances and F23 building siting and design would not adversely impact on pedestrian movements and accessibility. To ensure pedestrian movements are satisfactorily achieved and maintained following the development of each proposal, the Department recommends a condition requiring the preparation and implementation of way-finding strategies and travel access guides.

4.2.4. Environmental and Residential Amenity Impacts

The proposals were accompanied by noise impact assessments (acoustic reports) that assess potential construction and operational noise and vibration impacts on nearby sensitive land receivers, including existing educational establishments and residential colleges. Noting the similar locations of each proposed, the closest sensitive receivers include St Paul's College (existing and future development), the Urbanest Student Accommodation building and surrounding University buildings (see **Figures 32** and **33**).

Figure 32: LEES 1 Building Sensitive Reciever/Noise Monitoring Locations (source: Applicant)

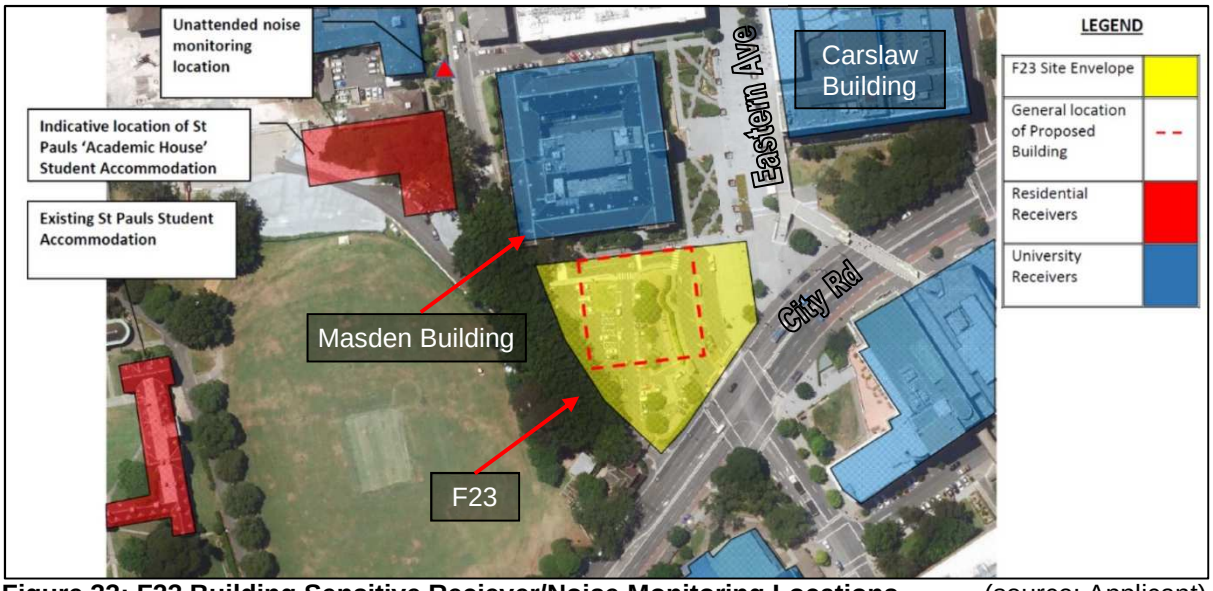

Figure 33: F23 Building Sensitive Reciever/Noise Monitoring Locations (source: Applicant)

Background noise monitoring undertaken for each proposal established rating background levels (RBL (dB(A) L_{90})) in accordance with the *NSW Industrial Noise Policy* (INP), the results of which are present in **Table 3**.

Table 3: Rating Background Noise Level

Proposal		Day (7 am – 6 pm)	Evening (6 pm – 10 pm)	Night (10 pm – 7 am)
LEES 1 building	**L_{A90} dB(A)**	50	49	43
	L_{Aeq} dB(A)	58	55	52
F23 building	**L_{A90} dB(A)**	46	44	43 – 44

The EPA identified concerns with the background noise monitoring undertaking, though acknowledged the dominance of nearby traffic noise, particularly during the night time, and therefore considered the levels presented suitable for the calculation of noise criteria.

Construction Noise and Vibration Impacts

The EPA's Interim Construction Noise Guideline (ICNG) outlines the process of establishing construction noise management levels for surrounding sensitive receivers. Based on the established background noise levels and ICNG recommended day time noise management levels, construction noise and vibration management levels for residential receivers, commercial premises and educational land uses have been established for construction activities, which are outlined in **Table 4**.

Table 4: Construction Noise Management Levels (L_{Aeq} (15 min))

Sensitive Receiver Day (7 am – 6 pm)	LEES 1 building	F23 building
Residential	68 (Background + 10 dB)	56 (Background + 10 dB)
Commercial	70 (external noise level)*	70 (external noise level)*
Education	45 (internal noise level)*	45 (internal noise level)*

* = 10dB(A) difference between external and internal noise

The EPA advised that all construction related activities should be appropriately managed, particularly high noise impact activities and only undertaken during standard construction hours. It also recommended the applicant schedule intra-day respite periods for construction activities identified as annoying to sensitive receivers.

Construction noise impacts generated from demolition, bulk excavation and construction works associated with each proposal are likely to result in sensitive receivers being "noise affected", though would be unlikely to be "highly noise affected", i.e. noise level above 75 dB(A). Where "highly noise affected" emissions are generated and identified, it is recommended that further controls are immediately implemented to reduce the exceedance and monitored to confirm compliance.

Construction vibration is expected to comply with criteria for the surrounding sensitive receivers through the implementation of recommended management and mitigation measures, including appropriate selection and location of vibration generating equipment to minimise potential impacts on nearby buildings and their occupants. The applicant's acoustic report prepared for the LEES 1 building proposals notes that particular attention will be required to ensure potential impacts on occupants of the adjoining Carslaw building are closely monitored and managed.

The acoustic reports for each proposal recommend a number of measures to control noise impacts during construction including standard best practice construction measures, scheduling of works to manage the impacts on the range of sensitive receivers, and undertaking noise and vibration monitoring. In addition, the applicant raised no objections to the EPA's recommended conditions of each proposal.

To ensure compliance with ICNG is achieved and maintained throughout the development of both proposals and noting the proximity of sensitive receivers, particularly existing education receivers, the Department recommends a condition requiring the applicant prepare and implement a Construction Noise and Vibration Management Plan for each proposal. The plan should:

- be prepared in consultation with the noise sensitive receivers where the highly affected noise management level is predicted to be exceeded;
- works to be undertaken during standard construction hours, as follows:
  - 7 am and 6 pm, Mondays to Fridays inclusive;
  - 7.30 am and 3.30 pm, Saturdays; and
  - no work on Sundays and public holidays;
- identify the selection of alternative construction appliances to avoid the generation of excessive noise levels, such as the use of pneumatic hammers as opposed to hydraulic hammers;
- identify appropriate measures to mitigate the noise impacts, including the erection of acoustic barriers, which can provide noise level reductions up to 15 dB(A);
- monitor noise and vibration impacts;
- establish a complaints management system;
- implement noise reducing site/work practices and require regular noise checks of equipment; and
- implement intra-day respite periods for construction activities identified as annoying.

The Department is generally satisfied that subject to recommended conditions and the preparation and implementation of an appropriate construction environmental management plan, construction vibration and noise impacts of each proposal can be satisfactorily managed and mitigated to a level that ensures the amenity of surrounding sensitive receivers is not adversely impacted upon and that potential impacts on human comfort and buildings and structures are minimised.

Operational

The LEES 1 building is proposed to make provision for 24 hour access to all staff and students, though will typically operate between 8 am and 6 pm, weekdays. Administration functions within the F23 building are expected to typically occur within standard office hours, while the operation of the proposed function spaces is anticipated until 12 midnight, with amplified music not proposed externally. The proposed ancillary café on the ground floor is proposed to operate between 7 am and 6 pm.

The operation of each proposal is likely to result in potential noise impacts generated from general day to day operations and 24 hour operation of mechanic plant. Use of the proposed F23 building function spaces is also likely to result additional noise impacts during the evening and night periods up to 12 midnight.

Based on the established background noise levels and ambient noise levels, project specific noise levels for each proposal were established, which are the most stringent of the intrusive and amenity criteria for adjoining sensitive receivers in accordance with the INP (refer to **Tables 5** and **6**).

Table 5: LEES 1 Building Project Specific Operational Noise Management Levels L_{eq} dB(A)

Sensitive Receiver	Time of day	Recommended acceptable Noise Level dB(A) L_{eq}
Residential (urban)	Day Evening Night	55 45 42
Education	All times	45 (internal noise level)*

* = 10dB(A) difference between external and internal noise

Table 6: F23 Building Project Specific Operational Noise Management Levels L_{eq} dB(A)

Sensitive Receiver	Time of day	Recommended acceptable Noise Level dB(A) L_{eq}
Residential (urban)	Day Evening Night	60 50 41
Education	All times	45 (internal noise level)*

* = 10dB(A) difference between external and internal noise

The EPA commented that an assessment of mechanical plant and equipment noise impacts was required to provide a worst-case quantitative assessment of the night time background noise level in accordance with the INP and ensure that its night time operation does not generate adverse noise impacts. It also recommended noise compliance monitoring and assessment is required during commissioning of mechanical plant for each proposed to ensure operational noise levels do not exceed the predicted levels.

The applicant's acoustic report prepared for the LEES 1 building proposal advises final mechanical plant details have not been selected, though are proposed to be acoustically attenuated to ensure noise emissions generated are not intrusive or impact adversely on amenity levels.

The applicant's acoustic report prepared for the F23 building proposal outlined predicted noise levels from day-to-day operations of the new café, symposium and function spaces would satisfactorily comply with project specific noise goals. Notwithstanding, to ensure operations of function spaces and the ancillary café do not adversely impact on surrounding revisers, the Department recommends appropriate hours of operation conditions. The acoustic report also states that mechanical plant details had not been finalised, though with acoustic attenuation would ensure noise criteria is complied with.

In addition, the applicant's RtS and addendum response further advises that assessment and compliance monitoring of mechanical plant could be satisfied as condition, allowing final mechanical plant to be selected and appropriately treated acoustically.

The Department considers noise generated from the proposals can be managed to comply with the relevant criteria. The Department has recommended conditions requiring the applicant to identify the required mitigation measures to attenuate the mechanical plant noise prior to commencement of works to ensure that it complies with relevant noise criteria. The Department has also recommended conditions requiring the applicant undertake a noise monitoring program of the mechanical plant within 60 days of the commencement of use of both the LEES 1 building and F23 building to verify that the measured noise levels of the mechanical plant do not exceed the established noise criteria.

4.2.5. Other Matters

Developer Contributions

The University of Sydney's Camperdown Campus, is identified as being located within the Western Precinct of the City of Sydney Council's Section 94 Contributions Plan 2006. Contribution rates applicable for the Western Precinct are based on the number of new staff.

The applicant's EIS's for each proposed presented an argument that they would not generate any additional demand for services provided under Council's Contributions Plan, noting neither proposal generated additional staff or student enrolments. The Department also notes that no objections or comments were made by Council requesting the payment of contributions.

Council's Contributions Plan outlines types of development that may be eligible for an exemption on an individual merit, including:

- developments which provide a distinct community benefit on a not-for-profit basis; and
- development by or for non-profit organisations which provide a distinct community benefit.

The applicant has sought an exemption to the payment of contributions for both proposals under section 2.14 of Council's Contribution Plan, arguing:

- the University of Sydney is a not-for-profit institution that relies on grants, donations and external funding to provide new facilities for the university and wider community;
- the proposals involve the relocation and consolidation of existing staff and students that do not warrant the collection of contributions to offset increased services demands;
- Planning Circular D6 does not support the imposition of a levy relating to Crown developments;
- the University of Sydney has a public charter and is open to the public as a non-gated, accessible and permeable precinct which provides access to a number of public libraries, open space and community facilities such as child care centres, sporting facilities (aquatic centre, playing fields, stadiums); and
- it is unreasonable for the University to pay contributions which will effectively result in reduced facility and infrastructure spending.

The Department notes the University itself provides a range of accessible community facilities that caters for its campus population. The Department is also satisfied the proposed developments would not generate an additional demand on existing infrastructure and services and notes staff or students enrolments are not proposed to be increased. The Department has reviewed the applicant's position and is satisfied the proposed developments are eligible for an exemption under Council's Contribution Plan.

Contamination

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) is the primary environmental planning instrument guiding the remediation of contaminated land in NSW. SEPP 55 requires a consent authority to consider whether the land is contaminated, and if so, whether the land will be remediated before the land is used for the intended purpose.

The EPA commented the applicant be required to engage a site auditor and provide a Section A site audit statement for the whole of both development sites to determine the suitability for the proposed land use prior to construction works commencing. It also recommended:

- an unexpected finds protocol be prepared and implemented for each proposal;
- the applicant be required to satisfy the requirements of the *Protection of the Environment Operations (Waste) Regulation 2014*; and
- the applicant be required to consult with SafeWork NSW concerning the handling of any asbestos that may be encountered.

LEES 1 Building

Since acquiring the former parklands site in 1924 from the City of Sydney Council, as part of the land swap between the two parties, no construction works occurred within the vicinity of the site until construction of the Madsen building in 1939 and works associated with the straightening and construction of a road along the alignment of Eastern Avenue were undertaken in 1944. It was not until the construction of the Carslaw building, between 1960 and 1965, that the site's character was established.

The applicant's Geotechnical Report reported preliminary site investigations (PSI) undertaken, including the drilling of five boreholes, found extensive filling occurred across the University's campus as part of its establishment and that filling material was found within the site at variable depths. The PSI recommended the following:

- additional investigations be undertaken to confirm waste classification and determine if a remediation action plan (RAP) is warranted;
- impacted contaminated soils be excavated, validated and disposed off-site;
- further testing be carried out to confirm the preliminary waste classifications identified, and once confirmed, impacted soils should be excavated and disposed off-site; and
- an unexpected finds protocol be prepared for bulk excavation and construction works.

Further investigations were undertaken by the applicant and detailed in its Phase 2 Contamination Investigation report (Phase 2 report). The Phase 2 report outlined further borehole drilling (see **Figure 34**) was undertaken to meet the minimum sampling density requirements for the site's area and in order to further investigate the extend and possible source of elevated polycyclic aromatic hydrocarbons (PAH) and total recoverable hydrocarbons (TRH) concentrations identified during the preparation of the PSI. Based on the results of further investigations, the Phase 2 report found:

- metal concentrations were within the respective health investigation levels (HIL)
- asbestos was not detected in analysed samples and potential asbestos containing materials (ACM) were not observed;
- concentrations of PAH were within HIL, except for samples collected from borehole 101;
- the variability of PAH concentrations recorded across samples collected from the garden/landscaped area, particularly borehole 6, is likely to be a result of the variable nature of filling (containing ash and slag);
- soil samples collected would be predominantly given a preliminarily soils classification as General Solid Waste (non-putrescible); and
- the site could be made suitable subject to the remediation of PAH contaminated filling.

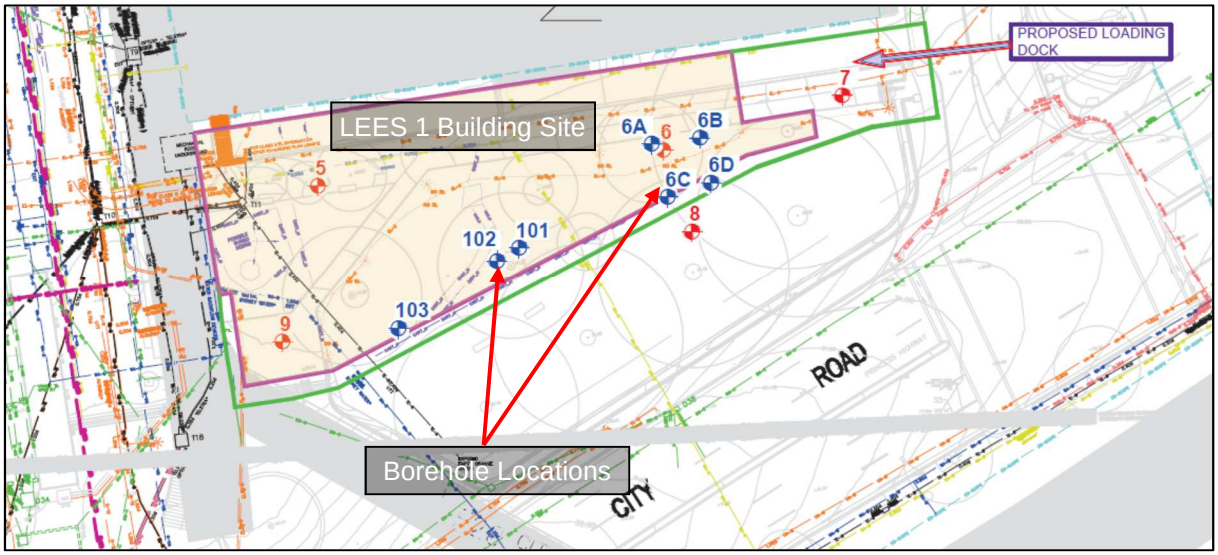

Figure 34: Borehole Sampling Locations (source: Applicant)

The applicant submitted a RAP to address the identified areas of environmental concern attributed to ash and slag in filling identified around borehole 6 and 101. The RAP presented off-site disposal in conjunction with excavation works to accommodate the proposed level one of the LEES 1 building, as the preferred method of remediating the site. In addition, the RAP recommends further assessment of filling identified to identify the source of the contamination, its waste classification and need for further works (if required).

The Department considers that, in conjunction with the recommended excavation and off-site disposal remediation measures and associated site management practices and implementation of an unexpected finds protocol, outlined in the RAP, the site can be made suitable for the development. The Department also considers the recommended conditions proposed by the EPA are satisfactory and will assist in ensuring the site is appropriately validated for the proposed use.

Accordingly, the Department is satisfied that, in accordance with clause 7 of SEPP 55, the subject site can be made suitable for the proposed development for its intended education use and has included a condition requiring validation of site remediation prior to the commencement of building construction works by an accredited site auditor.

F23 Building

The F23 building site remained largely undeveloped until construction of the adjacent Madsen building in 1939. The original curved alignment of Eastern Avenue passed through the site's location until its realignment and construction a road in 1944. The greatest physical change occurred in approximately 1980, where in conjunction with works to create a new City Road vehicular entrance, site was cleared and levelled to the roads and car parking. Further works occurred in 2008, though were limited to surface public domain works.

The applicant's Geotechnical Report reported preliminary site investigations (PSI) undertaken, including limited borehole drilling (see **Figure 35**), which found that concentrations of contaminants assessed were within the adopted site assessment criteria.

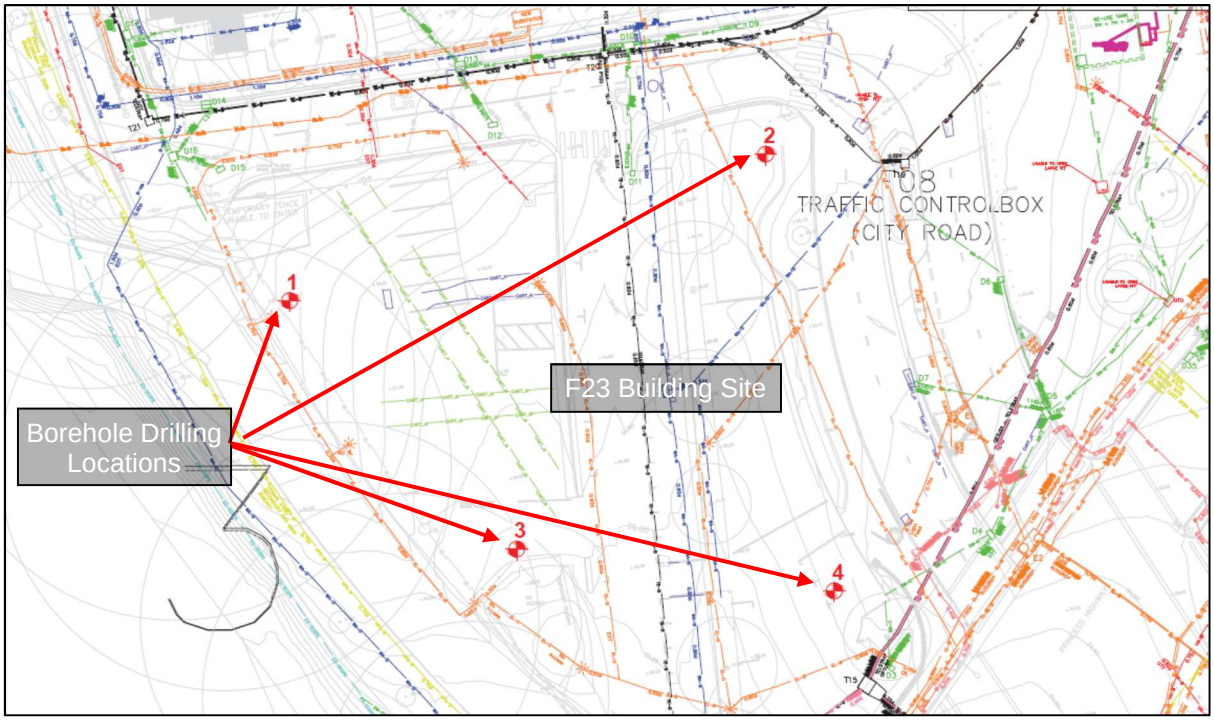

Figure 35: Borehole Sampling Locations (source: Applicant)

It was also stated that no asbestos or significant building rubble was observed in samples collected from boreholes. Based on the findings, the PSI recommended:

- further *in situ* or *ex situ* testing be carried out to confirm the preliminary waste classification and once determined, be excavated and disposed off-site;
- an unexpected finds protocol be prepared for bulk excavation and construction works; and
- excavated soils be inspected and validated to determine if underlying natural soil can be classified as virgin excavated natural material.

The Department is satisfied that the historical evidence and investigations undertaken by the applicant satisfactorily demonstrated the site is suitable for the proposed development in accordance with clause 7 of SEPP 55. The Department also considers the recommended conditions proposed by the EPA are satisfactory in ensuring the site is appropriately validated for the proposed use. A further condition is recommended by the Department requiring the preparation and implementation of an unexpected find protocol.

Public interest

The proposals are considered to be in the public interest as they would provide the following public benefits:

- additional investment in educational infrastructure within a highly accessible location;
- growing the Broadway and Camperdown Education and Health Precinct;

- delivering innovative architectural design as well as pioneering research, teaching and learning techniques;
- ensuring the State remains competitive in attracting students, staff and researchers in the tertiary education sector;
- revitalising existing at-grade parking and existing underutilised University land to provide visually interesting contemporary buildings that provide a more prominent entrance to the University;
- improved public domain interface with City Road through the establishment of a new Camperdown Campus gateway and entry forecourt; and
- delivery of approximately 220 new construction jobs.

5. CONCLUSION

The Department has reviewed the EIS for both proposals and considered advice from the public authorities, including Council. Issues raised in the submissions on the proposals have been considered and all environmental issues associated with the LEES 1 building proposal and F23 building proposal have been thoroughly addressed.

The Department's assessment of the LEES 1 building proposal has concluded that the applicant has demonstrated the LEES 1 building proposal can be constructed without damaging the existing heritage significant Moreton Bay Fig trees. Notwithstanding, to ensure all necessary protection measures are implemented at all times, the Department has recommended a condition requiring the payment of a bond for each tree.

However, the proposed encroachment of the building's western elevation into the alignment of Eastern Avenue is not supported and is considered to be contrary to the GCMP which seeks to enhance existing axes and view corridors. In considering the concerns raised by Council, the Heritage Office and the Office of the Government Architect, the Department has recommended a condition requiring the western façade be setback to provide greater respect to the axial arrangement of built form along the eastern edge of Eastern Avenue.

The Department's assessment of the F23 building proposal has concluded the proposed encroachment of the building's eastern elevation beyond the established façade alignment of the adjoining Madsen building into the Eastern Avenue alignment is unjustified. In considering the concerns raised by Council, the Heritage Office and the Office of the Government Architect, the Department has recommended a condition requiring the eastern façade and associated colonnade to be setback to provide greater respect to the axial arrangement of built form along the western edge of Eastern Avenue.

The Department has also concluded that the proposed amount of bicycle parking and associated end-of-trip facilities to be provided within each proposal is acceptable, despite Council's request for additional facilities to be provided to address existing on-site campus deficiencies. The Department has also recommended a condition be imposed on each application requiring the applicant's Sustainable Transport and Mobility Plan be updated in consultation with Council to provide greater certainty to the provision of active transport infrastructure and to address existing deficiencies across the Camperdown and Darlington Campuses under future University development.

The Department's assessment has also concluded that the built form each proposal is acceptable as it is consistent with the massing of existing University buildings and the scale of future development endorsed under the University's Campus Improvement Program concept proposal.

The design of the buildings generally demonstrate that design excellence has been achieved and that appropriate measures have been incorporated into the designs to ensure they

satisfactorily integrate with their immediate surrounds and minimise any potential impacts, particularly on heritage significant Fig trees adjacent to each site. The design of each proposal would not result in any adverse amenity impacts on surrounding sensitive receivers and notes that potential construction noise and vibration impacts have been balanced against the requirements to grow the educational facilities within an existing constrained education precinct.

The applications are consistent with the objects of the EP&A Act (including ecologically sustainable development), State priorities and *A Plan for Growing Sydney*. The Department is also satisfied the proposals would provide significant public benefits through the provision of additional education facilities within the highly accessible education and health precinct and improved public domain at the gateway to these proposal. The proposals would also provide approximately 220 construction jobs.

The Department is satisfied that the proposals have satisfactorily responded to the issues raised and recommends the SSD applications for the proposed LEES 1 building and F23 Administration building be approved, subject to recommended conditions. The Department's recommended conditions of consent for each proposal would ensure the construction and use of each building would not result in adverse environmental impacts on the surrounding environment.

6. RECOMMENDATION

In accordance with section 89E of the *Environmental Planning and Assessment Act 1979*, it is recommended the Minister for Planning:

(a) **consider** all relevant matters prescribed under section 79C of the EP&A Act, as contained in the findings and recommendations of this assessment report and appended documentation;
(b) **grant a wavier** to the requirement for a design competition under clause 5, section 6.21 of Sydney Local Environmental Plan 2012;
(c) **grant consent** to the State significant development applications for the LEES 1 Science Research and Teaching Facility (SSD 7054) and F23 Administration building (SSD 7055) at the University of Sydney, subject to conditions of consent set out in the attached instruments at **Appendices D** and **E**; and
(d) **sign** the attached development consents at **Appendices D** and **E**.

Prepared by: Peter McManus, Specialist Planning Officer

Endorsed by:

Karen Harragon 2/12/2016
Director
Social & Other Infrastructure Assessments

David Gainsford 2/12/16
Executive Director
Priority Projects Assessments

APPENDIX A RELEVANT SUPPORTING INFORMATION

The following supporting documents and supporting information to this assessment report can be found on the Department of Planning's website as follows.

1. SSD 7054 LEES 1 building – Environmental Assessment
   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7054

2. SSD 7055 F23 building – Environmental Assessment
   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7055

3. Submissions
   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7054
   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7055

4. SSD 7054 LEES 1 building – Applicant's Response to Submissions
   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7054

5. SSD 7055 F23 building – Applicant's Response to Submissions
   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7055

APPENDIX B CONSIDERATION OF ENVIRONMENTAL PLANNING INSTRUMENT(S) AND DCP(S)

State Environmental Planning Policy (State and Regional Development) 2011
The aims of this SEPP are to identify State significant development and State significant infrastructure and confer the necessary functions to joint regional planning panels to determine development applications.

The proposals are SSD in accordance with s. 89C of the *Environmental Planning and Assessment Act 1979* (EP&A Act) because both developments are for the purpose of an educational establishment with a capital investment value (CIV) in excess of $30 million, under clause 15 of Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2011.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
SEPP 33 provides clear definitions of hazardous and offensive industries and aims to facilitate development defined as such and to ensure that in determining developments of this nature, appropriate measures are employed to reduce the impact of the development and require advertisement of applications proposed to carry out such development.

The future scientific operations within the proposed LEES 1 building will involve the storage and use of chemicals for research and teaching purposes and production and handling of biological material, and would therefore be defined as potentially hazardous development and a Preliminary Hazard Analysis (PHA) report has been prepared by the applicant in accordance with the requirements of SEPP 33.

Based on the annual and weekly chemical volume transportation thresholds for SEPP 33, the proposed LEES 1 building would be expected to exceed the stipulated thresholds and therefore SEPP 33 applies to the LEES 1 building proposal and a risk assessment of the proposal has been undertaken.

The risk assessment undertaken for the proposal has given consideration to the likely hazardous substances stored and handled on-site and associated potential risks. The assessment has also considered the cause, possible consequences and likelihood of an event occurring.

The applicant's PHA concludes that safety management systems be implemented to reduce the risk of the potentially hazardous installations, and that the recommended mitigation measures employ design requirements outlined in the Australian Standards and engineered solutions. It was also concluded that through the implementation of measures in accordance with the Australian Standards and suitable engineered controls, the impact to the external environment would be small given the small volumes of chemicals on-site.

The applicant's PHA also recommends further a detailed risk assessment be undertaken of the final detailed design of the building and its internal layout, addressing matters related to:
- chemical storage and bulk chemical stores;
- laboratory design;
- hazard zones and hazardous atmospheres; and
- containment dispersion from stacks.

Having regard to the above, the Department is satisfied that, subject to the implementation of recommended building design controls, the identified risks associated with the operation of the proposed LEES 1 building can be satisfactorily mitigated and managed. The Department

recommends a condition requiring a detailed risk assessment report be prepared addressing the recommendations contained within the applicant's PHA prior to the certification of building works and to the satisfaction of the certifying authority.

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)
SEPP 55 aims to provide a state wide approach to the remediation of contaminated land. In particular, SEPP 55 aims to promote the remediation of contaminated land to reduce the risk of harm to human health and the environment by specifying under what circumstances consent is required, specifying certain considerations for consent to carry out remediation work and requiring that remediation works undertaken meet certain standards.

The contamination assessments undertaken for the LEES 1 building site identified some areas of environmental concern, recommending remediation of identified contaminants through the excavation of the basement ground level one. The applicant's Phase 2 report concludes that, post remediation, the site would be suitable for its continued use for educational uses. The applicant has provided a RAP for the site.

The PSI prepared for the F23 building site satisfactorily demonstrates the site is suitable for its proposed education use, noting that concentrations of contaminants assessed were within the adopted site assessment criteria. It was also stated that no asbestos or significant building rubble was observed in samples collected from boreholes.

The Department is satisfied that, in accordance with clause 7 of the SEPP, the investigations undertaken of each site demonstrates they can be made, or are, suitable for the continued education use. The Department has recommended conditions requiring a site validation report and site audit statement be prepared by an accredited site auditor upon completion of the remediation works and that the applicant prepare and implement an unexpected finds protocol for each site.

State Environmental Planning Policy No. 64 – Advertising Signage (SEPP 64)
The aim of *State Environmental Planning Policy No. 64 – Advertising Signage* (SEPP 64) is to improve the amenity of urban and natural settings by managing the impact of outdoor advertising.

The proposed LEES 1 building seeks approval for two 'University of Sydney' building identification signs within signage zones on level eight and level three of the southern, City Road elevation.

The proposed F23 building also seeks approval for building identification signage to be integrated on the eastern elevation at the ground level entrance of the proposal, comprising a 'University of Sydney' sign and university emblem sign, and orientated towards the new entry forecourt and City Road.

Having regard to the objectives of SEPP 64, the proposed building identification signage would not be incompatible with the existing tertiary education character of the locality. With specific reference to the SEPP 64 assessment criteria, the Department is of the opinion that:

- the proposed building identification signage and their respective proposed scale will not result in any obscuring of any views, the skyline or vistas, being contained to the facades of the proposed buildings;
- the viewing rights of other advertisers would not be impacted upon;
- the location and design of the proposed signage is integrated into southern façade of the LEES 1 building and the ground level entrance of the F23 building and are considered to be of a scale, proportion and form that is appropriate;
- they would not result in any visual clutter; and
- they would not reduce the safety for any public road, pedestrians or cyclists.

The Department notes no details were provided regarding the proposed illumination of the building identification signage. Accordingly, the Department recommends a condition for each proposal that no illumination of the proposed building identification signage is permitted.

The Department considers the proposed building identification signage associated with the proposal is satisfactory in the context of the scale, form and function of each building and would not result in any adverse environmental impacts.

State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP)
The aim of the Infrastructure SEPP is to facilitate the effective state wide delivery of infrastructure by providing greater flexibility in the location of infrastructure and service facilities, allowing the development of surplus government land, identifying relevant environmental assessment categories for development and relevant matters to be considered and providing for consultation with relevant public authorities.

Schedule 3 of the Infrastructure SEPP requires traffic generating development to be referred to the RMS. The proposals were referred to the RMS who raised no objection to the developments. Noting the proposed augmentations to the existing City Road/Butlin Avenue signalised intersection, the Department has recommended conditions to ensure that the design of the intersection adequately address RMS's requirements.

Sydney Local Environmental Plan 2012 (SLEP)
Consideration of the relevant controls contained within Council's LEP is provided below in **Table 1**.

Table 1: Consideration of SLEP 2012

City of Sydney LEP 2012	Department Comment/ Assessment	Yes/No
Clause 2.7 Demolition requires development consent	Demolition forms part of the both the LEES 1 building proposal (existing Carslaw building loading dock and lower ground floor façade) and F23 building proposal (existing at-grade car parking and associated access way infrastructure).	Yes
Clause 5.9 Preservation of trees or vegetation	The LEES 1 proposal would result in the loss of nine trees, with five existing Moreton Bay Fig trees proposed for retention, including four heritage significant Moreton Bay Fig trees fronting the site along its City Road frontage. The applicant propose to implement extensive tree protection measures during the construction of the proposal to ensure no adverse impacts or damage occurs to the existing trees. It also advises that no pruning would be required to accommodate construction scaffolding and hording. The Department has also recommended aa condition requiring the payment of a tree protection bond for each of the four significant Moreton Bay Fig trees, with the complete release of the bonds subject to the submission of an arborist report 12 months after the occupation of the development confirming no damage or impact to the life expectancy has occurred to the existing trees. The F23 proposal would result in the loss of 17 trees from the site which is assessed as having a relatively low visual impact on the existing site character due to their low to moderate landscape significance. The Department also notes the development footprint of the F23 building proposal is located outside of the TPZ's of the Hill's Weeping Fig trees located opposite the site on Fisher Road. Minor pruning	Yes

	works are proposed to nine of the 11 Hill's Weeping Fig trees to accommodate road clearances and the upper building elements, though these works would represent less than five per cent of each tree's crown. The Department also notes the project arborist will be contracted to be present during major excavation and building works associated with each proposed, particularly the LEES 1 building.	
Clause 5.10 Heritage conservation	Both proposals have been designed to ensure the significance of the existing heritage items and the University of Sydney conservation area is protected. The Statement of Heritage Impact's submitted for each proposal satisfactorily consider and assess the potential impacts of each proposal, particularly on the heritage significant University setting. Further, the Department has recommended conditions requiring the design of both the LEES 1 and F23 buildings be amended to better align with the heritage significant Eastern Avenue.	Yes
Clause 6.21 Design Excellence	The proposals are the subject to a two-stage design competition process conducted by the University, to ensure the requirements of the bespoke university and educational briefs were satisfactorily met. Each proposal is considered to reflect a modern development that will positively contribute to the establishment of a new campus gateway and entry forecourt that expresses the University's commitment to education. The proposed materials and finishes of each building will positively interact with existing campus development and a condition is recommended to ensure the design integrity of each building is delivered. The proposals has been designed to respect and interpret the existing heritage significant Eastern Avenue, and subject to recommended design amendments to the both proposals, are considered to positively respond to these qualities of the campus. The proposal's heritage impact, built form and urban design are further assessed in sections 4.2.1 and 4.2.2 of this report.	Yes
Clause 7.9 (3) Other land uses (Car parking)	No objections were raised to the car parking provisions of each proposal, noting the LEES 1 building proposal sought approval for no car parking. The proposed F23 building basement car park satisfactorily accommodate parking lost at-grade through the proposal and also provides some provision for demand generated by the proposal.	Yes
Clause 7.14 Acid sulfate soils	The development sites of each proposal are classified as Class 5 acid sulphate soils under the LEP. The proposals are not within 500 m of land classed 1 to 4 or is it below 5 m AHD and will not lower the water table below 1 m AHD on adjacent classes of land.	Yes
Clause 7.15 Flood planning	The LEES 1 building proposal is designed to connect into Council's existing stormwater network on City Road, and will ensure post-development flows match or improve on pre-development flows. The applicant also advises the finished floor level of the proposal will be 500 mm above the specified flood planning level in accordance with Council's Interim Floodplain Management Policy. The F23 building site is noted as being located within an existing floodway, with the lower lying north-western corner of the site adjacent to Fisher Road the most affected. Notwithstanding, the applicant advises progressive upgrades identified by the University's Campus Improvement Program will provide relief to such areas, and results in the site being classified as a 'low risk' of hazard related to flood inundation. The design of the F23 building proposal will ensure the finished floor levels are 500 mm above the specified flood	Yes

	planning level in accordance with Council's policies. Further, the crested design of the basement entry/exit ramp also provides 500 mm clearance above the flood planning level and will ensure the building is protected from inundation.	
Clause 7.20 Development requiring or authorising preparation of a development control plan	A development control plan (DCP) is required for land if the site area for the development is more than 5,000 square metres or if the development will result in a building with a height greater than 25 metres above ground level. However, a development control plan is not required to be prepared if the consent authority is satisfied that such a plan would be unreasonable or unnecessary in the circumstances. The Department considers a DCP would be unreasonable and unnecessary as the proposals have been subject to a multi-staged design competition process conducted by the University, which included an initial winning reference concept design scheme and subsequent detailed design competition, building upon the initial reference concept design scheme and feedback received through consultation. The Department also notes the two sites are contained wholly within the University's campus, resulting in minimal adverse environmental and amenity impacts, and are also sympathetic to existing and future proposed University buildings.	Yes

Sydney Development Control Plan 2012

Consideration of the relevant development controls contained within Council's DCP is provided below.

Table 2: Sydney DCP Compliance Table

Sydney DCP 2012	Department Comment/ Assessment	Yes/No
3.2.7 Reflectivity	The reflectivity assessment of the LEES 1 building façade notes that motorists travelling within the surrounding road network would not be adversely affected due to the orientation of the building's façade and angel of approach for motorists. The assessment concluded that adoption of its materials and finishes recommendations, compliance can be achieved to ensure potential adverse glare impacts are minimised. The applicant's reflectivity assessment of the F23 building façade notes that motorist heading south-west along City Road would be the most affected. The assessment noted the eastern façade would not result in adverse glare for motorists and pedestrians subject to the use of glazing with a maximum normal spectrum reflectance of 11 per cent at levels three and above. The assessment concluded that adoption of its materials and finishes recommendations, compliance can be achieved to ensure potential adverse glare impacts are minimised. The Department also recommends the imposition of its standard 'reflectivity' condition, requiring external materials do not exceed the maximum 20% reflectivity spectrum.	Yes
3.2.8 External Lighting	LEES 1 building external lighting is proposed to comply with relevant Australian Standards and designed in a manner that ensures any light spill is controlled. The Department notes the applicant does not seek approval for external lighting within the design of the F23 building. The applicant noted that any new outdoor lighting proposed in the future, separate to the application, would comply with the relevant Australian	Yes

	Standards.	
3.6 Ecologically Sustainable Development	Addressed at Section 2.5 of this report.	Yes
3.7 Water and Flood Management	Addressed in Appendix B Table 1 of this report.	Yes
3.9 Heritage	Addressed at Section 4.2.1 and Appendix B Table 1 of this report.	Yes
3.11 Transport and Parking	Addressed at Section 4.2.3 of this report.	Yes

APPENDIX C GLOSSARY

Ecologically Sustainable Development can be achieved through the implementation of:

(a) the precautionary principle - namely, that 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. In the application of the precautionary principle, public and private decisions should be guided by:
- *(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*
- *(ii) an assessment of the risk-weighted consequences of various options,*

(b) inter-generational equity—namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,

(c) conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,

(d) improved valuation, pricing and incentive mechanisms—namely, that environmental factors should be included in the valuation of assets and services, such as:
- *(i) polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
- *(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
- *(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.(Cl.7(4) Schedule 2 of the Regulation)*

Objects of the Act

(a) to encourage:
- *(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
- *(ii) the promotion and co-ordination of the orderly and economic use and development of land,*
- *(iii) the protection, provision and co-ordination of communication and utility services,*
- *(iv) the provision of land for public purposes,*
- *(v) the provision and co-ordination of community services and facilities, and*
- *(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
- *(vii) ecologically sustainable development, and*
- *(viii) the provision and maintenance of affordable housing, and*

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

Section 79C Evaluation

(1) ***Matters for consideration—general***

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) the provisions of:

(i) any environmental planning instrument, and

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) any development control plan, and

(iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

(v) any coastal zone management plan (within the meaning of the Coastal Protection Act 1979),

that apply to the land to which the development application relates,

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

(c) the suitability of the site for the development,

(d) any submissions made in accordance with this Act or the regulations,

(e) the public interest.

Note. *See section 75P(2)(a) for circumstances in which determination of development application to be generally consistent with approved concept plan for a project under Part 3A.*

Note. *The consent authority is not required to take into consideration the likely impact of the development on biodiversity values if:*

(a) the development is to be carried out on biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995), or

(b) a biobanking statement has been issued in respect of the development under Part 7A of the Threatened Species Conservation Act 1995.

APPENDIX D SSD 7054 RECOMMENDED CONDITIONS OF CONSENT

APPENDIX E SSD 7055 RECOMMENDED CONDITIONS OF CONSENT