

SSD 16_7894: CHAU CHAK WING MUSEUM UNIVERSITY OF SYDNEY, CAMPERDOWN CAMPUS

UNIVERSITY OF SYDNEY RESPONSE TO SUBMISSIONS

18 DECEMBER 2017





The University of Sydney has reviewed all submissions received during the statutory public exhibition period of State Significant Application SSD 16_7894 – Chau Chak Wing Museum, located on the eastern edge of the University's Camperdown campus and bounded by University Avenue to the east and south, University Place to the west, and Parramatta Road to the north.

The University of Sydney's *Response to Submissions* (RtS) has been structured into the following categories in order to differentiate between sources of submissions, relevant disciplines, relevant issues, and changes to design.

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1. University of Sydney Response to Department of Planning & Environment & Government Architect's Office

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Built Form and Urban Design	
The potential for a more interactive public domain along the southern elevation at ground level (at the western end of the elevation) and at lower ground level 1 (at the eastern end)	URBAN DESIGN GENERALLY The site location, directly adjacent to one of the most important vistas on campus, has directly informed the building design. Similarly, the landscape character of the site, with stands of significant trees along the north and south sides, and large areas of lawn and ivy groundcover, have been influential forces in determining a design solution that is responsive to place and purpose.
	Each side of the building responds to the landscape setting in a unique way, acknowledging the orientation, solar access, views, topography, relationships to adjacent spaces on Campus, as well as the internal functions of the museum building.
	In this regard, the CCW Museum building is designed as an integral part of the landscape. From the outside, the ground plane is expressed as a series of terraces; an interplay of indoor and outdoor spaces.
	SOUTHERN ELEVATION
	The southern elevation is part of the setting for a key main axial vista between The Quadrangle and Victoria Park. Whilst the building defers to the fig trees along University Avenue as the primary definition of this vista, the design also anticipates the potential for a range of visual and physical connections between the building and the public domain around it.
	The tree canopies form a clear understory that allows views from the pedestrian pavements along the south and north sides of University Avenue, whilst the canopies of these trees almost entirely screen the building's upper storey from these locations.
	The building design incorporates a glazed slot between the upper level and the ground plane, which can be enclosed or opened to public view depending on internal display requirements.
	It is important to recognise that the majority of items that make up the University's collections are relatively small, and therefore difficult to identify at a distance.
	Like many other cultural buildings that rely on the tight control of internal environmental and atmospheric conditions to protect sensitive collection items, the opportunities for large glazed openings are limited, as the ingress of light and the potential for temperature and humidity variation close to the external perimeter of the building is problematic for the long term display and protection of artefacts. Also, to provide the required levels of security to protect the \$250m+ in Museum collections the building has been designed with one point of entry and egress as this provides greater physical protection and monitoring of patrons.
	This consideration, along with the views framed by the existing trees, limit the opportunities for conventional activation initiatives along the southern façade. However, the building siting anticipates potential future enhancements to the public domain and landscape spaces around the building as the University acquires and commissions major new art pieces that can be installed outside, or projected onto the upper level facades at night time.
	From the inside, including along the southern elevation, the public spaces are visually and/or physically connected to the outside, with framed views of the parkland and vistas of the City and University Place to guide wayfinding and embrace the unique character and sense of place of this part of the Campus.



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	The sloping site provides direct indoor-outdoor connections both visual and physical on many floors, including: • Arrival Forecourt with ground floor foyer as point of welcome, information and entry (Western side) • Lower Terrace and Café as an exhibition 'break' and space for functions and events (Eastern side) • Gallery Courtyard to Level 1 Gallery, as outdoor learning and exhibition space (Eastern side) The ground line along the southern elevation is steep following the existing contours which drop 5 metres from west to east. The western end is part of the Arrival Forecourt, where the southern corner is the school groups gathering space close to the museum entrance off University Place. The eastern end leads to the café terrace seating area with views and aspect across Victoria Park. The public domain surrounding the building is highly accessible and welcoming, consisting of a series of 'outdoor rooms', open gathering and seating spaces. These have been further developed since the initial submission. • Northern Gathering Space – located on the sunny North West under a major existing fig tree. • Garden Walk – this is the existing footpath with new 'bush library' plantings and seating.
	Eastern Lawn – as a continuity of the parkland linking to Victoria Park.



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Improvements to develop the amenity of ground floor on northern side (for example, allowing the auditorium to open to the north terrace)	The outdoor spaces along the northern side of the building are distinctly different from the other sides, and several spaces capitalise on the outlook to the heavily planted edge along the boundary to Parramatta Road, without compromising building security or internal environmental conditions, or exposing the building users to the heavy noise emanating from Parramatta Road.	
	Like the southern side, the configuration and use of spaces along the northern side of the building respond to the adjacent landscape spaces and vistas.	
	The Multi-Purpose Room (auditorium) is provided with a large picture window which provides excellent visual connectivity between this space and the gathering space directly outside. The gathering space provides a sheltered terrace which is linked to the existing path that runs along the edge of the site before it drops down to the fence line along Parramatta Road.	
	As the building requires highly specific museum operational requirements (security, circulation) and environmental conditions (light levels, humidity, temperature), it is not possible to provide doors between the Multi-Purpose Room and the gathering space.	
	There is also a level change between inside and outside of approximately 1.2m, with the outside level lower than the internal floor level. There are considerable restrictions on the ability to modify the external levels along the northern edge as any major adjustments could adversely impact existing trees.	
	The Schools Education Room also enjoys views to the north with a wide window that looks directly into the canopies of the existing trees along the boundary to Parramatta Road. Noise from Parramatta Road would be undesirable if the northern side of the building was opened up.	
	Due to the existing site slope, which cannot be dramatically modified due to existing trees, the Schools Education Room window is more than 8m above the ground level below.	
	The café terrace at Lower Level 1 physically links to the external pathway running along the northern site boundary, and enjoys panoramic views across the landscape from the north to the southeast.	
The siting, form and scale of the building make reference to the fact that it forms part of a set of buildings that frame University Place. However, the white concrete proposed for the museum building is intentionally distinctive and less complementary in this setting. The Applicant is requested to further consider an appropriate design response to the University's neighbouring buildings and surrounding landscape.	The building materials and colours have been carefully selected to complement the setting and establish relationships between neighbouring buildings.	
	The proposed Envisia low-carbon 'white' concrete of the upper level is actually light grey in colour. This is a neutral colour, which responds appropriately to the position of the upper storey within the trees canopies that surround the building. The concrete is non-reflective, which will help the upper level remain recessive within the landscape, whilst allowing the upper level surfaces to be a suitable background for the projection of artwork or displays in the future.	
	The neutral light grey colour also references the lightness of the Fisher Library to the south, reinforcing the legibility of these buildings as a gateway to University Place.	
	The ground level terrace blocks, which follow the contours of the site as it steps down from University Place towards Victoria Park are clad in warm sandstone coloured precast concrete that relates to the sandstone of the Quadrangle Building and dark bronze cladding of Fisher Library. These materials reinforce the design strategy of burying the bulk of the building within the ground, thereby minimising the building volume above ground. The material expression of these substantial elements, which are coloured by natural sands that also define the sandstone materiality of neighbouring buildings, and which are robust and with a module and scale which makes them legible as structural rather than cladding elements, further reinforces the design's integration of site, building and landscape.	
	Physical samples of the proposed finishes will be provided to the DPE as part of this Response to Submissions. These samples were endorsed by the project's independent Design Review Panel at its Meeting #5 on 11 September	

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	2017, the summary of which are included in Appendix J - DRP Chairs summary statement
 Heritage The Department requests consideration be given to potential design options and/or built form enhancements to better integrate the relationship between the proposed museum building and the existing gatehouse (Baxter's Lodge) located immediately east of the site. Endorsement from the NSW Heritage Council should be sought for any proposed design solutions. 	The University of Sydney wishes to inform the Department that the Heritage Council of NSW has now endorsed this proposal. Design Strategy The University acknowledges the DPE's (and HC's) concern may relate to the original "View E" photomontage prepared by Richard Lamb & Associates in conjunction with JPW Architects. That photomontage was intended to provide certification of the adequacy and accuracy of block photomontages only, and was not intended to convey a photorealistic "CGI' representation of this aspect of the building design.
	The University has since further developed the design of the loading dock entry, and hereby responds with a preferred design and landscape solution illustrated overleaf. This is also supported by three "before and after" photomontages. from differing approach perspectives at Appendix A. The entry to the museum loading dock has been designed as an understated entry to minimise its visual impact upon, and not compete with, Baxter's Lodge. The photomontages are found at Appendix A Loading dock, Visual Analysis.
	The principal design strategy for the dock entrance has been to minimise its visual impact from Parramatta Road and the main pedestrian axis between Victoria Park and The Quadrangle, without compromising the legibility of Baxter's Lodge and the University Gates at this entry to the Campus.
	The location has been determined by studies to minimise loss of existing trees, and the proposed design allows the retention of the existing fig shown to the south of the dock entry. The proposed location also enables the southern side of the dock entry to align with the southern end of Baxter's Lodge, creating a defined zone of built structures close to the Campus perimeter, which are most obviously defined by the sandstone gate posts, and which reinforces the landscape character of this part of the Campus once this threshold is passed.
	The materials and detailing for the dock entry are similar to those of the building, and the expression of the dock entry is consistent with the quality and character of the main museum building, rather than a degraded or more basic finish that might be possible where a back of house or service entrance is hidden from view.
	The dock entry design defers to Baxter's Lodge and the University Gates as the dominant elements at the Campus entry. The existing landscape to the north will shade the entry for most of the day, whilst Baxter's Lodge enjoys good solar access throughout the year.
	This design approach was discussed in detail and endorsed by the project's independent Design Review Panel at its Meeting #5 on 11 September 2017, the summary of which are included in Appendix J .
	Options Considered
	A range of other locations for the dock entry were considered, but all had considerable visual and topographical impacts from key view points and considerable physical impacts on existing trees. Refer to Appendix K showing options considered and the reasoning into the current location.
	A range of positions for the roller shutter line were tested as part of the preliminary design phase. The 4.5m high clearance for the largest trucks that will service the Museum is roughly similar to the gutter level of the main roof section of Baxter's Lodge.
	Positions for the roller shutter line closer to the road would create a significant visual bulk close to the road edge and overwhelm Baxter's Lodge, whilst restricting views from the Campus entry across the lawn and landscape towards University Place.
	The proposed alignment of the driveway and the shutter position enable the landscape levels around the dock entry to



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	be neatly tied back into the existing topography, so that the existing slope and character of the landscape is the dominant expression, rather than the physical expression of the dock entry itself. Please refer to Appendix A Loading dock, Visual Impact Presentation
	Proposed CCW Museum as seen from Baxter's Lodge East Elevation
 Construction Traffic 5. Provide an assessment on the Level of Service (LoS) of key intersections used by construction vehicles, and an assessment of the impacts of increased traffic flows from construction vehicles proposed to make use of the locals roads (as identified by DPE) 	Cumulative construction traffic generated from the university is expected to be between 20 to 30 trucks and 10 to 12 light vehicles per day and will use Parramatta Road. Construction vehicles will arrive outside of peak hours and will have little or no effect on the peak hour road network operations. Modelling using conservative traffic generation estimates have indicated that the key Parramatta Road / Derwent Street / University Ave will have a minor increase in average delay but continue to perform at an equal level of service. Please refer to Appendix C Transport and Accessibility Impact Assessment
Provide information on any necessary traffic management measures that may be required during construction	Works will be conducted predominantly within the site. No external pedestrian, traffic or cycle routes would be affected by the construction works. Internal circulation is discussed in the Arup Transport and Accessibility report. Please refer to Appendix C Transport and Accessibility Impact Assessment
7. Provide information identifying the location of construction worker car	On-site parking will not be provided for private construction vehicles, with construction vehicles utilising works zones



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parking	within the site boundary and internal circulation routes. Construction workers will be encouraged to take public transport to the site or car pool and store their larger tools on site. This is consistent with all major University projects and is vigorously enforced. Please refer to Appendix C Transport and Accessibility Impact Assessment



2. University Response to NSW Heritage Council

The NSW Heritage Council submission describes the evolution of the HC's position from initial pre-SSD consultation to current. Listed below is the key current HC issues.

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The view towards the <i>loading dock entry from Baxter's Lodge (View E)</i> photomontage confirms Heritage Council concerns that the impact of the loading dock, located at the main entry to the University is unacceptable.	Subsequent to the submission, after meetings and consultations with the Heritage Council of NSW, the proposal has now been endorse on their behalf. The University acknowledges the matters raised by the Heritage Council, and responds as follows:
It is not designed as a counterpoint for the gate house (Baxter's Lodge).	1. The "View E" referred to by the Heritage Council in the original submission was prepared by Richard Lamb &
The design does not sit comfortably within the site.	Associates in conjunction with JPW Architects, and was included in the "Certification of View Analysis Assessment Report" within the SSDA, that was intended to "provide certification of the adequacy and"
The design of the loading dock is not well resolved and the utilitarian design has an unacceptable impact on the heritage values of the site.	accuracy of block photomontages only" ("Certification of View Analysis Assessment Report" by Richard Lamb & Associates, dated 17 May 2017, page 1). This view was not intended to convey a photorealistic "CGI" representation of this aspect of the building design. The University has, however, further developed the design of the loading dock entry, and hereby responds with amended drawings, and three "before and after" photos from differing approach perspectives. View E is superseded by Parramatta Rd photomontage in Appendix A
	The University believes that the proposed location of the loading dock entry driveway is the most appropriate design outcome, and this is demonstrated in the three photomontages included in this response at Appendix A. Upon arriving to site through the Parramatta Road entry gates, the driveway is hidden behind the shadows of the existing trees, as well as being tucked in behind the existing sandstone gate pillar on the western side of the University entrance. This is validated by photomontage Image 1, representing the experience of arriving by vehicle or on foot from Parramatta Road travelling in a westerly direction.
	2. The interpretation of the loading dock entry as being a "counterpoint" to Baxter's Lodge can best be defined as meaning "a contrasting and parallel element, item or theme", or "any element that is juxtaposed and contrasted with another". The proposed design satisfies both definitions, in that the existing sandstone gate pillar on the western side of the University entrance, into which the proposed loading dock entry interlocks, is an appropriate "parallel element", whilst the "negative space" of the loading dock entry, clad in high quality stone materials, is an appropriate contrasting element to the "positive space" of the Baxter's Lodge urban footprint. The design of the dock entry is an understated counterpoint to Baxter's Lodge which defers to the presence of the latter at the Campus entry.
	Setting back the entry shutter and integrating its sides with the surrounding landscape ensures that Baxter's Lodge and the Gates are viewed as the prominent built forms at the Campus entry along University Ave. The design of the dock entry, including the materials and detailing uses, is consistent with the main building and is of a high quality rather than a utilitarian solution that may be suited to a concealed back of house facility.
	3. Since the original SSD lodgement, the architect has developed the understated detailing of the loading dock entrance to further minimise its visual impact upon, rather than compete with, Baxter's Lodge.
	As demonstrated in Photomontage Image 1, the loading dock entry is located as close as possible to the University entry gates, which allows the majority of the existing site curtilage on University Avenue to be preserved as open landscape. Image 3 offers further evidence that the placement of the loading dock entry close to Parramatta Road is a minor component of the overall streetscape view when experienced by the majority of pedestrians arriving at the University via the steps from Victoria Park at University Ave, where the mounded grassed landscape and the curved low sandstone wall curtilage are the dominant visual cue. Furthermore, any alternative entry point to the basement would be detrimental to the Quadrangle forecourt if



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	placed to the west, and impossible due to existing tree roots if placed to the south. Refer to Appendix A. 4. Since the original SSDA was lodged, the University has modified the design of the loading dock entry to produce a significantly improved resolution of the loading dock and its juxtaposition with Baxter's Lodge, as evidenced in the photomontages within Appendix A . The entry to the Museum Loading Dock has been designed as an understated entry to minimise its visual impact upon, and not compete with, Baxter's Lodge.
	Photomontage Image 2 illustrates a closer view (from Baxter's Lodge) of the existing sandstone retaining wall, and how this integrates with the new high quality materiality of the various terraced walls, the new steps at the end of the existing northern pathway, and the visual bulk and scale is further reduced by the introduction of planting and hedges.
	Please refer to Appendix A Loading dock, Visual Impact Presentation
The University is required to further consult with Heritage Council to resolve these issues	The University met with senior representatives of HCNSW on 27 September 2017 to discuss its objections. The most salient points from this meeting were that the HCNSW still maintains its original opinion that the site is "inappropriate" for development, including its opinions and concerns over the height of the building, disruption to city skyline views and the loading dock design.
	These opinions and concerns were then fully addressed on 1 November 2017 when the University again presented the whole project to the HCNSW, afterwards taking members to site by bus and conducting a tour of the site and its context. This site visit articulated the proposed building's location with the local environment, its relationship to the existing significant trees, views to and from the site, the location of the loading dock and the reasons for its location off University Avenue opposite Baxter's Lodge. The presentation to the HCNSW by the Vice-Chancellor and the Architect proved that the previous assumptions by the HCNSW were either inaccurate or of minor disruptive impact to the surrounding landscape setting and the Quadrangle building.
	By way of email sent by the HCNSW on 12 December 2017, HCNSW has provided a note advising that the proposed site is now supported. We await a formal letter from HCNSW outlining any further information and we expect to receive this letter imminently. Please refer Appendix L for the HCNSW email dated 12 December 2017. Should the formal letter from HCNSW (once received) contain any additional comments, suggestions or requirements, then these will be addressed under separate cover.



3. University of Sydney Response to Transport for NSW Submission

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TFNSW ISSUE	University of Sydney Project Response	
Service Vehicle Parking: The loading dock entry is located in close 25 metres from Parramatta Road and would have the potential to cause queueing of vehicles to Parramatta Road as well as an impact on bus operations along Parramatta Road. TfNSW Recommend University of Sydney prepare a Loading Dock Management Plan with details including:	The combined traffic flows from the loading dock is projected to generate a maximum of 6 vehicle movements on a typical University day. This maximum expected traffic flow is easily accommodated by the single loading dock. The loading dock entry is located on University Ave, setback 25 m from the Parramatta Road entry and provides room for three vehicles to queue on University Avenue at the traffic signals. It is proposed that a keep clear marking be located on University Avenue to enable vehicles to enter the loading dock ramp. Signage will also be installed to notify drivers not to stop/park across the driveway.	
 Details of measures to ensure that the operation of the loading dock do not cause queuing of vehicles on Parramatta Road; 	In conclusion, service and University vehicles travelling to and from the CCW Museum are not projected to cause queuing of vehicles to or from Parramatta Road	
 Details of incident management at the access to the loading dock; Loading dock management details including service vehicle movements during peak periods; and Management of conflicts between pedestrians walking on footpath 	Please refer to Appendix B Loading Dock Management Plan	
and the service vehicles using the loading bays.		
End of Trip Facilities: TfNSW requests that that the applicant installs bicycle parking (in accordance with Australian Standards Bicycle Parking Facilities AS2890.3) and end-of-trip facilities to encourage/support active transport to the proposed development.	Agree: The bicycle parking is consistent with the AS2890.3 standards and end of trip facilities are being provided to encourage/support active transport to the proposed development.	
Construction Pedestrian and Traffic Management Plan – Recommendations:	Agree: The University agrees to the TfNSW request and this be applied as a consent condition requiring the satisfaction of the Certifying Authority	
 TfNSW requests that the applicant be conditioned to the following: Prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) in consultation with CBD Coordination Office within TfNSW and Roads and Maritime Services. The CPTMP needs to specify, but not to be limited to, the following: Location of the proposed work zone; Haulage routes; Construction vehicle access arrangements; Proposed construction hours; Estimated number of construction vehicle movements; Construction program; Any potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works; Cumulative construction impacts of projects including projects within the University of Sydney precinct. Existing CPTMPs for developments within or around the development site should be referenced in the CPTMP to ensure that coordination of work 		



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TrNSW Issue	University of Sydney Project Response
 activities are managed to minimise impacts on the road network; and Should any impacts be identified, the duration of the impacts and measures proposed to mitigate any associated general traffic, public transport, pedestrian and cyclist impacts should be clearly identified and included in the CPTMP. 	
Submit a copy of the final plan to the City of Sydney, prior to the issue of any Construction Certificate.	Disagree: The University requests that the CPTMP be conditioned to be submitted to the satisfaction of the Certifying Authority. However, the University agrees that a copy can be submitted to City of Sydney prior to the commencement of works for information.



4. University of Sydney Response to Environment Protection Authority Submission

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EPA ISSUE	University of Sydney Project Response
EPA has identified the following site specific concerns with recommendations submitted for DPEs consideration:	
Construction phase	Agree: The University of Sydney has engaged Douglas Partners to carry out further site investigations and
Recommendation 1	update the site investigation report accordingly.
The proponent be required to revise the Detailed Site Investigation Report to -	The report concludes that based on the findings of the previous and current investigations, the site is considered to be suitable, from an environmental perspective, for the proposed museum development.
(a) verify area of the development site, and(b) include additional sampling data which meets the relevant data quality objectives	Further site investigation has been completed and the assessment has now been completed in accordance with SEPP55
Note: The EP&A submission highlights concerns with the following contained in the EIS Appendix 17 Detailed Site Investigation (OSI)	The report has been updated and section 3.1 now identifies the development site area as 0.28ha, this was a typographical error.
 page 17 of the OSI Report confirms that the site assessment 'was not strictly completed in accordance with SEPP55' and thus does not meet the EIS requirement to assess the site suitability in relation to SEPP55 (EIS p7)', 	 The further site investigation that has been completed included test pit investigation, which is an appropriate methodology in identifying the presence of asbestos. No asbestos was identified and details can be referred to in Appendix H Contamination report.
section 3.1 of the OSI Report describes the area of the development site area as 0.28 hectares however section 6.3 reports the site area as 2.8 hectares with such a discrepancy thwarting a proper assessment of whether the sampling	The updated report, section 6.1 and 6.2 outline the Data Quality Objectives and Project Quality procedures, please refer attached in Appendix H Contamination report.
density is adequate, 3. section 4.3 of the OSI Report notes that preliminary in-situ waste classification was undertaken and no building materials	Two rows have been added to Table C1 which present the statistical results for the filling samples only in relation to the B (a)P concentrations.
were reported (Appendix 17, section 9) however the borehole investigation methodology used is not the preferred methodology for identifying the presence of asbestos in fill materials, 4. OSI Report sections 6.2 and 12 confirm respectively that	6. In relation to the 'organic odour' noted on Borehole Log 10, all results for the sample collected from this location at a depth of 1.0 m indicated that no organic analytes were detected above laboratory detection limits, indicating that contamination is not associated with this 'odour'. No other signs of gross contamination have been noted in the previous or current investigation. Thus the odour is not considered to be significant or warrant any further investigation in this area of the site.
no Quality Assurance samples were collected and " no comment can be made regarding the field QA" however the quality of the data was not assessed and data quality that does not meet the minimum data quality requirements of the assessment should not have been reported,	7. The updated report includes ground water investigations. No free ground water was observed.
 Table C1_Summary of Results to the OSI Report indicates that combined statistical analysis was undertaken on fill and natural soils however fill and natural soils should be considered to be separate populations of data and thus are not appropriate for combined statistical analysis, 	
6. The OSI is unclear whether the 'organic odour' referred to in Borehole 'Log #10' is an organic contaminant (such as	



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hydrocarbon, volatile organic compound) odour or another odour, and 7. Previous investigations did not include required ground water sampling and analysis.	
Recommendation 2 The proponent be required to ensure that prior to any bulk excavation work – (a) a delineation assessment is undertaken to better assign an appropriate waste classification to the material prior to any bulk excavation work, including test pit sample points in order to enable the visual identification of asbestos containing materials in fill, and (b) If the delineation assessment referred to in paragraph (a) above identifies asbestos containing materials, appropriate contingency measures have been implemented.	When carrying out further site investigations, Douglas Partners completed 3 x test pit sample points. No asbestos was identified. The recommendations of the preliminary waste classification (DP, 2013) should be followed as per Section 4.3 of Attached Appendix H Contamination report.
Recommendation 3: The proponent be required to ensure that an unexpected finds protocol (including a plan of action in the event that asbestos containing material or other contamination being encountered during site preparation, bulk excavation or other construction activities) is prepared and implemented before any works commence on site.	Agreed: The University of Sydney will ensure that an unexpected finds protocol (UFP) will form part of any excavation contractor's standard work method statements / construction management plans such that there is a plan of action to deal with finds of potential contamination not encountered by the current investigations. The UFP must include inter alia methods for identifying, investigating and managing asbestos on site if found.
Recommendation 4: The proponent be required to satisfy the requirements of the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> with particular reference to Part 7 'asbestos wastes'.	In Principle Agreement: Demolition works do not form part of this SSDA submission. And has been dealt with under a separate approval for early works site demolition by REF 7-2017, approved on 22 May 2017 under the provisions of Clause 29(1) (d) <i>Development Permitted Without Consent</i> of the <i>SEPP (Infrastructure)</i> 2007. All works that will involve the removal of any hazardous materials (including asbestos containing material and lead paint) will be carried out in accordance with the requirements of SafeWork NSW and in accordance with applicable legislation.
Recommendation 5: The proponent be required to consult with Safework NSW concerning the handling of any asbestos waste that may be encountered during the course of the project.	In Principle Agreement: Demolition works do not form part of this SSDA submission and has been dealt with under a separate approval for early works site demolition by REF 7-2017, approved on 22 May 2017 under the provisions of Clause 29(1)(d) <i>Development Permitted Without Consent</i> of the <i>SEPP (Infrastructure) 2007</i> . All works that will involve the removal of any hazardous materials (including asbestos containing material and lead paint) will be carried out in accordance with the requirements of SafeWork NSW and in accordance with applicable legislation.
Recommendation 6 : The proponent be required to ensure that all excavated material is assessed, classified and managed in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" (Department of Environment Climate Change and Water, December 2009).	Agreed: The University will ensure that all excavated material is assessed, classified and managed in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" (Department of Environment Climate Change and Water, December 2009).
Noise & Vibration Recommendation 7: The proponent be required to – (c) confirm (before site preparation and bulk excavation	The University of Sydney confirms that impact piling will not be undertaken as part of the proposed development.



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commences) whether impact piling is proposed to be undertaken, and (d) If impact piling is proposed, provide a revised noise impact assessment, including proposed additional noise and vibration mitigation and management measures such as intra-day respite	
Recommendation 8: The proponent be required to ensure that as far as practicable all demolition, site preparation, construction and construction-related work likely to be audible at any noise sensitive receivers, including residences and residential colleges, is undertaken only during the standard construction hours, being - (a) 7.00 am to 6.00 pm Monday to Friday, (b) 8.00 am to 1.00 pm Saturday, and (c) No work on Sundays or gazetted public holidays.	Disagree: The University notes that the CCW Museum site is located well within the Camperdown campus and separated by dense vegetation and Parramatta Road from any of the neighbouring residences in Forest Lodge. The university requests that the same hours of works be applied as those that were approved for the FASS project fronting Parramatta Rd, F23 and Lees 1 projects fronting City Road, and comprising (proposed changes highlighted in red): (a) 7.00 am to 6.00 pm Monday to Friday, (b) 7:30 am and 3:30 pm Saturday, and (c) No work on Sundays or gazetted public holidays.
Recommendation 9: The proponent be required to schedule intra-day 'respite periods' for construction activities identified in section 4.5 of the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers (i.e. surrounding residents).	Agreed: The University with support from the Acoustic consultant would propose that respite periods be developed as part of the detailed construction noise and vibration management plan to ensure that works are not unnecessarily restricted and the construction period protracted.
Recommendation 10: The proponent be required to ensure construction vehicles (including concrete agitator trucks) involved in demolition, site preparation, bulk earthworks, construction and construction-related activities do not arrive at the project site or in surrounding residential precincts outside approved construction hours.	Agreed and noted, the University will agree to this condition.
Recommendation 11: The proponent be required to consider undertaking a safety risk assessment of site preparation, bulk earth works, construction and construction-related activities to determine whether it is practicable to use audible movement alarms of a type that would minimise the noise impact on surrounding noise sensitive receivers, without compromising safety.	Disagree: Due to the scale and scope of the project and the varying delivery vehicles we do not believe that compliance with this proposed condition would be practical. As per the above responses all deliveries would be within the approved construction hours only. The site will be surrounded by 2100mm high solid hoarding. As part of the construction noise and vibration management plan, it is recommended that broadband beepers be installed where safe to do so and where practical management controls would allow. The requirement for delivery vehicles to use this style of reverse alarm is impractical given that there is very limited control the contractor has over delivery company vehicles and noise management. In any case, the deliveries via University Avenue and University Place (from Parramatta Road) will be a drive in/drive out type arrangement in which case reversing is unlikely and will be kept to an absolute minimum.
Dust control & Management Recommendation12: The proponent be required to: (a) minimise dust emissions on the site, and (b) Prevent dust emissions from the site.	Agreed: the University will agree to this condition.
Waste Control & Management Recommendation 6 & 13: The proponent be required to ensure that:	Agreed: the University will agree to this condition.



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(1) all waste generated during the project is assessed, classified and managed in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" (Department of Environment Climate Change and Water, December 2009);	
(2) the body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste, or spoil from the vehicle or trailer; and	
(3) mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site, is removed before the vehicle, trailer or motorised plant leaves the premises.	
Recommendation 14: The proponent be required to ensure that concrete waste and rinse water are: (a) not disposed of on the development site, and (b) Prevented from entering waters, including any natural or artificial watercourse.	Agreed The University will agree with the proposed condition.
Operational Phase	
Outdoor Spaces Recommendation 15:	Agreed The University will agree with the proposed condition
The proponent be required to ensure that terraces and other outdoor areas are not used after 10.00 pm nor before 8.00 am.	The University will agree with the proposed condition.
Recommendation 16 The proponent be required to ensure that events held at the museum and on associated terraces and other outdoor areas do not generate noise that exhibits tonal, low frequency or other annoying characteristics.	Agreed The University will agree with the proposed condition.
Recommendation 17	Agreed
The proponent be required to:	The University will agree with the proposed condition if required.
(a) provide a quantitative assessment of predicted operational noise impacts on surrounding noise sensitive receivers, especially those residences which are likely to be the most affected by noise from mechanical plant and equipment, especially at night;	For further information, please refer to Appendix E Acoustic memorandum from Arup
 (b) ensure plant and equipment does not generate noise (measured at the most affected or potentially most affected residence) that exceeds - (i) 53 dBA LAeq(period) for the daytime and evening periods, and (ii) 45 dBA LAeq(15minute) for the night-time period; and 	
(c) ensure plant and equipment does not generate noise that	



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exhibits tonal, low frequency or other annoying characteristics.	
Recommendation 18: That consideration be given to requiring the proponent (a) to undertake noise compliance monitoring and assessment during commissioning of mechanical plant and equipment serving the development; and (b) to report the results of the compliance assessment monitoring referred to in (a) to confirm that noise levels do not exceed levels predicted in the required noise impact assessment and acceptable noise criteria identified in the NSW Industrial Noise Policy, January 2000.	Agreed The University will agree with the proposed condition.
Waste Management Recommendation 19: The proponent be required to identify and implement feasible and reasonable opportunities for the reuse and recycling of waste, including food waste.	Agreed: A nominated area in the garbage room will be allocated for the storage of discarded bulky items and recyclable electronic goods. Recyclable electronic goods include batteries, equipment containing printed circuit boards, computers, televisions, fluorescent tubes and smoke detectors are stored in this area to encourage re-use of the item and to minimise waste. Green waste generated by the buildings landscape team area will be collected and removed from site by the maintenance contractor during scheduled or arranged servicing of these areas. Refer to EIS Appendix O – Waste Management Plan



SYDNEY WATER

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University of Sydney to submit application for S73 Compliance Certificate	Noted and agreed

5. University of Sydney Response to Office of Environmental Heritage

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OEH Issue	University of Sydney Project Response
O&EH unable to provide comments on Aboriginal cultural heritage at this time.	Noted

6. University of Sydney Response to Roads & Maritime Services

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RMS Issue	University of Sydney Project Response
RMS has no concerns with the proposal	Noted



7. RESPONSE TO PUBLIC SUBMISSIONS (CONSOLIDATED)

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Issue	University of Sydney Project Response
DPE has received a total of 6 public submissions in response to the public exhibition process, citing objections. The University's RtS has sought to list the issues of objection in order of frequency rather than listing each submission in turn. This has assisted the University in identifying common and individual issues as well as avoiding repetition in this RtS report.	
Concern about siting (but not the design) impact on Main Quadrangle/Great Hall. (4 submissions) 1. Concern about siting (but not the design) impact on Main Quadrangle/Great Hall. (4 submissions)	The objections to a building on the tennis court site is predicated on the original 1855 premise of locating the Quadrangle and Great Hall on the top of the Petersham ridge to ensure the visual prominence of the University. The idea being that citizens in the city could see the University and the University community could see the city. This perception of the university vista has since been gradually eroded by the subsequent landscaping of the University land, including what is now Victoria Park and the tennis court area. This is readily apparent when comparing the c.1885 photograph taken from Parramatta Road [HIS, Fig.4.4, p.24] with a similar c.1901 photograph [HIS, Fig.2.7, p.13] With the exception of the vista up what was originally the Main Drive [HIS, Fig.2.1, p.9] and, it is no longer possible to see the Quadrangle and Great Hall from Broadway or City Road, let alone the southern CBD. (HIS, p.19, Fig.3.1) There have been a number of past proposals by the University to locate a building on this site including (refer to HIS, pp.10-11 and p.17): • W B Griffin Master Plan 1915 • G McCrae (Govt Architect) Master Plan 1917 • Prof. L Wilkinson amendment 1939 • W H Maze (University of Sydney Architect) Development Plan 1961 • Cox Richardson Masterplan 2008 While the Wilkinson Campus Master Plan (1920) retained the tennis courts, a subsequent plan by Wilkinson (1939) proposed several buildings located on the eastern (city) side of the ridge line (Eastern Avenue), including a building on the tennis courts site. (HIS, p.13) Please refer to Appendix D for Heritage Impact Statement and Appendix I for Heritage Views Report. The dense line of trees that currently line Parramatta Road and University Avenue are to be retained with the proposed CCW Museum sited so as minimise any impact on the tree root protection zone. Please refer to Appendix F Arboriculture Impact Assessment.
Concern about View impacts between Main Quadrangle and City skyscape. (5 submissions)	All principal views and axes between the main Quadrangle and the City skyscape are largely retained (refer to 'before and after photomontages by JPW Architects at Appendix A . The only view of the Quadrangle and Great Hall to be disrupted by the proposed CCW Museum is the view looking up across the tennis courts from the small section of University Avenue entering off Parramatta Road [opposite Baxter's Lodge]. This is <u>not</u> a principal vista and is experienced by very few visitors to the University.
Objects to destruction of two historic museums, and removal of public access to them.	The proposal does not seek to demolish any existing University Museum buildings or to deny any public access to University Museums.



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(2 submissions)	The proposal consolidates the University's Museum collections into one significant and publicly accessible location, to allow a greater exhibition of museum artefacts than exists currently, increasing the collection on public display by up to three (3) times.
 4. Concern about heritage assessment which: (1 submission) Does not address the heritage significance of the site Does not include the 7 criteria defining heritage significance and does not reference the Burra Charter. 	The Landscape Assessment prepared by Craig Burton specifically focussed on "the study area as a cultural landscape and the identification of significant areas and items." (Landscape Assessment, p.3). The significance of the site is clearly assessed in Section 5 and the associated Fig.26 diagram (Landscape Assessment, pp.26-27). While not specifically referencing the Burra Charter the assessment considered the aesthetic, historic and social values of the site.
 5. Concern about impact on Conservation Area and State Heritage Register (1 submission) Does not comply with heritage objectives of Sydney LEP 2012 and Sydney Heritage DCP 	The University of Sydney (Camperdown campus) is listed as a Conservation Area (CA5) in the Sydney LEP 2012, with numerous elements including the campus landscapes, contributing to its overall heritage significance. The HIS (pp.28-30) specifically assesses the impact of the CCW Museum on adjacent heritage items, in accordance with the Sydney Heritage DCP (p.10).
 Inappropriate location due to Grounds Conservation Management Plan grading this site as being of exceptional significance Severs the existing open space setting which collectively tells the significant story of human interaction with place over time 	The ranking of the tennis court area as being of Exceptional significance in the Grounds CMP (2014), placing it on par with the significance of University Place, was contested by the University. Consequently, the Heritage Council specifically requested the Landscape Assessment, prepared by Craig Burton, respond to this issue. The landscape Assessment concluded the Tennis Court area is of Moderate significance, rather the Exceptional and that a well-designed building positioned outside the tree root protection zone could be acceptable. The proposed CCW Museum occupies a very small part of the campus and its proposed development reflects the development and continuing "human interaction with the place", specifically as a University for the past 160 years.
6. Proposal contradicts the 1854 University Senate Building Committee sought to safeguard all land in front of the Main Quadrangle to ensure the University would retain its presentation when viewed from the City. (1 submission)	Various past Masterplans for the university Camperdown campus have demonstrated this site as an appropriate site for future building: W B Griffin Master Plan 1915 G McCrae (Govt Architect) Master Plan 1917 Prof. L Wilkinson amendment 1939 W H Maze (University of Sydney Architect) Development Plan 1961 Cox Richardson Masterplan 2008 The original 1855 premise of locating the Quadrangle and Great Hall on the top of the Petersham ridge to ensure the visual prominence of the University has been gradually eroded by the subsequent landscaping of the University land, including what is now Victoria Park and the tennis court area. This is readily apparent when comparing the c.1885 photograph taken from Parramatta Road [HIS, Fig.4.4, p.24] with a similar c.1901 photograph [HIS, Fig.2.7, p.13] With the exception of the vista up what was originally the Main Drive [HIS, Fig.2.1, p.9] it is no longer possible to see the Quadrangle and Great Hall from Broadway or City Road, let alone the southern CBD. (HIS, p.19, Fig.3.1) The height and massing of the CCW Museum has been designed so that together with the Fisher Library the vista from the Quadrangle to the southern CBD is framed.
7. Concern about position and quality of photomontages. (1 submission)	The photomontages have been independently prepared and certified by Richard Lamb & Associated in strict adherence with the NSW Land & Environment Court <i>Photomontage Policy</i>
8. Landscape Analysis does not address site topography, original intent of the Women's Tennis Courts and Club, their minimal visual impacts, and	The Landscape Assessment prepared by Craig Burton specifically focussed on "the study area as a cultural landscape and the identification of significant areas and items." (Landscape Assessment, p.3). The significance of



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significant views to and from the site. (1 submission)	the site is clearly assessed in Section 5 and the associated Fig.26 diagram (Landscape Assessment, pp.26-27). Please refer to Appendix G Landscape Assessment
	The original premise of locating the Quadrangle and Great Hall on the top of the Petersham ridge to ensure the visual prominence of the University has been gradually eroded by the subsequent landscaping of the University land, including what is now Victoria Park and the tennis court area. This is readily apparent when comparing the c.1885 photograph taken from Parramatta Road [HIS, Fig.4.4, p.24] with a similar c.1901 photograph [HIS, Fig.2.7, p.13] With the exception of the vista up what was originally the Main Drive [HIS, Fig.2.1, p.9] it is no longer possible to see the Quadrangle and Great Hall from Broadway or City Road, let alone the southern CBD. (HIS, p.19, Fig.3.1)
	Please refer to Appendix D Heritage Impact Statement
The proposal undermines the exceptional significant cultural landscape (1 submission).	The ranking of the tennis court area as being of Exceptional significance in the Grounds CMP (2014), placing it on par with the significance of University Place was disputed. Consequently, the Heritage Council specifically requested the Landscape Assessment, prepared by Craig Burton, in response to this issue. The landscape Assessment concluded the Tennis Court area was of Moderate significance, rather than Exceptional.
	Please refer to Appendix G Landscape Assessment
10. The proposal does not acknowledge significance of Women's Tennis Courts, and the "marker" of women's spaces and equal rights. (1 submission)	The Sydney University Women's Sports Association (SUWSA) occupied the site from c.1911 through to 1932 after which the SUWSA moved to a more substantial clubhouse at the western end of the Hockey Square (HIS, p.27). The association of the SUWSA and equal rights for women on the University campus can be addressed through site interpretation incorporated in the new CCW Museum building as recommended in the HIS. (HIS, p.3)
	Please refer to Appendix D for Heritage Impact Statement
11. Underground entry to building is in conflict with Baxter's Lodge. (1 submission)	JPW and Arup have considered a number of proposals for the location of the loading dock, but all other options had considerable visual impacts from key view points and / or considerable impacts on the existing listed trees.
	The University has since further developed the design of the loading dock entry, and hereby responds with amended drawings with three "before and after" photomontages from differing approach perspectives. The entry to the Museum Loading Dock has been designed as an understated entry to minimise its visual impact upon, and not compete with, Baxter's Lodge. The photomontages are found at Appendix K Loading dock options
 Proposal has not addressed transport infrastructure to site including buses, parking, waste, delivery access, and disability access. (1 submission) 	Disagree: Please refer to Appendix C - Transport and Accessibility Impact Assessment
13. White concrete box materials do not complement surrounding heritage precinct. (1 submission)	Disagree: The building materials and colours have been carefully selected to compliment the setting and establish relationships between neighbouring buildings.
	The proposed Envisia low-carbon 'white' concrete of the upper level is actually light grey in colour. This is a neutral colour, which responds appropriately to the position of the upper storey within the trees canopies that surround the building. The concrete is non-reflective, which will help the upper level remain recessive within the landscape, whilst allowing the upper level surfaces to be a suitable background for the projection of artwork or displays in the future.



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	The neutral light grey colour also references the lightness of the Fisher Library to the south, reinforcing the legibility of these buildings as a gateway to University Place.
	The ground level terrace blocks, which follow the contours of the site as it steps down from University Place towards Victoria Park are clad in warm sandstone coloured precast concrete that relates to the sandstone of the Quadrangle Building and dark bronze cladding of Fisher Library. These materials reinforce the design strategy of burying the bulk of the building within the ground, thereby minimising the building volume above ground. The material expression of these substantial elements, which are coloured by natural sands that also define the sandstone materiality of neighbouring buildings, and which are robust and with a module and scale which makes them legible as structural rather than cladding elements, further reinforces the design's integration of site, building and landscape.
14. Building overshadowing will lead to plant failure. (1 submission)	Disagree: Any overshadowing from the proposed building form is not considered likely to lead to plant failure. The form does not significantly diminish solar access to the trees along University Avenue, and the landscape design will improve the setting of some of the existing trees on the northern side of the building.