DARLING HARBOUR LIVE

JBA

State Significant Development Application
Environmental Impact Statement

Sydney International Convention, Exhibition and Entertainment Precinct
Public Private Partnership Component

Submitted to Department of Planning and Infrastructure
On Behalf of Darling Harbour Live

Volume 1 of 5

March 2013 ■ 12811

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Date 21/03/13

This report has been reviewed by: Alexis Cella/ Lesley Bull

Date 21/03/13

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SUBMISSION OF ENVIRONMENTAL IMPACT STATEMENT (EIS)
prepared under the *Environmental Planning and Assessment Act 1979* Section 78A

Environmental Impact Statement prepared by	
Name	Alexis Cella / Lesley Bull
Qualifications	BRTP (Hons) MPIA / BTP (Hons) MEL MPIA CPP
Address	Level 7, 77 Berry Street, North Sydney
In respect of	State Significant Development Application for construction and use of Sydney International Convention Centre (ICC), ICC Exhibition Centre, 'The Theatre' and associated development such as retail premises and car parking, including demolition of existing structures, site preparation, infrastructure and road upgrades, public domain and landscaping, remediation works and upgrades and amendment to Sydney Metro Light Rail office/ maintenance facilities and stations.
State Significant Development Application	
Applicant name	Darling Harbour Live
Applicant address	30 Hickson Road, Millers Point NSW 2000
Land to be developed	Sydney International Convention, Exhibition and Entertainment Precinct – Public-Private Partnership (PPP) Site
Environmental Impact Statement	PPP Site
Certificate	I certify that I have prepared the content of this EIS and to the best of my knowledge: ▪ It is in accordance with Part 4 of the *Environmental Planning and Assessment Act 1979* and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. ▪ It contains all available information that is relevant to the environmental assessment of the development to which the statement relates. ▪ The information contained within this statement is neither false nor misleading.
Signature	
Name	Alexis Cella
Signature	
Name	Lesley Bull
Date	21/03/2013

Executive Summary

Purpose of this report

This Environmental Impact Statement (EIS) in relation to development of the Sydney International Convention Centre (ICC), ICC Exhibition, Event Deck and 'The Theatre' within the overall Sydney International Convention, Exhibition and Entertainment Precinct within Darling Harbour, is submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), *and State Environmental Planning Policy State and Regional Development 2011* (SEPP SRD). The proponent is Darling Harbour Live (a consortium comprising Lend Lease, Capella Capital, AEG Ogden and Spotless), selected as the preferred proponent to transform Darling Harbour

Key features of the SICEEP Project, for which approval will be sought over a number of individual Development Applications, include:

- Delivering world-class convention, exhibition and entertainment facilities, including:
  - A 40,000m^2 exhibition space (Australia's largest);
  - Over 8,000m^2 of meeting rooms space, across 40 rooms (Australia's largest);
  - Convention space capacity for more than 12,000 people (Australia's largest);
  - A ballroom capable of accommodating over 2,000 people (Sydney's largest); and
  - A premium, red-carpet entertainment facility with a capacity of 8,000 persons.
- Providing up to 900 hotel rooms in a hotel complex at the northern end of the Precinct.
- A vibrant and authentic new neighbourhood at the southern end of the precinct, called 'The Haymarket', including apartments, student accommodation, shops, cafes and restaurants.
- Renewed and upgraded public domain that has been increased by a hectare, including an outdoor event space for up to 27,000 people at an expanded Tumbalong Park.
- Improved pedestrian connections linking to the proposed Ultimo Pedestrian Network drawing people between Central, Chinatown and Cockle Bay Wharf as well as east-west between Ultimo/Pyrmont and the City.

Public-Private Partnership (PPP) Site SSDA

This State Significant Development Application seeks consent for the Public-Private Partnership (PPP) component of the Darling Harbour Live development, being the core facilities comprising the International Convention Centre (ICC), ICC Exhibition, Event Deck and The Theatre, ancillary commercial premises and public domain upgrades.

Specifically, this SSD DA seeks development consent for the following works:

- Demolition of existing improvements on the site, including the existing Sydney Convention Centre (part) and Sydney Exhibition Centre;
- Construction of a new, integrated and world-class Convention, Exhibition and Entertainment Centre;
- Public domain improvements, including:
  - reinvigorating and expanding Tumbalong Park;
  - provision (part) of a new active north-south pedestrian connection (known as The Boulevard);

  - provision of new east-west connections, including Harbourside Place and Tumbalong Place;
  - Provision of a pedestrian bridge link from Quarry Street;
  - Retention of the tidal cascade water feature;
  - Reconfiguration and upgrade of Darling Drive (part);
  - Provision of a new square adjoining the Chinese Garden;
  - Provision of a new open space 'event deck' (connected with the Exhibition Centre);
  - Integrated art, play zones, water play and recreation areas;
  - Provision of retail kiosks;
- Associated tree removal and replanting;
- Provision of ground level public car parking within the Exhibition and Entertainment Centre facilities;
- Ground and elevated loading docks (accessed off Darling Drive) for Convention, Exhibition and Entertainment Centre facilities;
- Realignment of Darling Drive;
- Two vehicle drop off points off Darling Drive;
- Provision of signage zones for building identification signage, ancillary to the proposed facilities; and
- Extension and augmentation of physical infrastructure / utilities as required.

Planning Context

The proposed development has a total Capital Investment Value (CIV) of over $10 million and is therefore classified as SSD pursuant to Schedule 1 of the SEPP SRD.

A request to issue Director-General's Requirements (DGRs) for environmental assessment of the proposed development was made on the 14 December 2012 and was provided to Darling Harbour Live on 21 January 2013. Updated DGRs were issued to the proponent on 12 March 2013 (see **Appendix A**).

Section 5.0 of the EIS considers all applicable legislation in detail. The proposal complies with all relevant planning controls.

Darling Harbour Development Plan No 1 (DHDP) is the principal environmental planning instrument applying to the Site. Under Schedule 6 Part 7 clause 23(1) of the EP&A Act, the DHDP is taken to be a regional environmental plan. By operation of Schedule 6, Part 21 and Clause 15 of the *Environmental Planning and Assessment Regulation 2000*, Regional Environmental Plans are deemed to be State Environmental Planning Policies (SEPPs). Its principal aim is to define the type of development which may be permitted within the Darling Harbour Development Area. Uses permissible on the Site are broad and include development for the purposes of tourist, educational, recreation, entertainment, cultural or commercial facilities, car parking stations, film television and radio stations, hotels, parks and gardens, residential buildings, serviced apartments, shops, refreshment rooms and utility installations. There are no maximum building heights or GFA restrictions imposed by DHDP, and no other detailed controls or provisions that guide or restrict the form of development on the site.

Environmental Impacts

This EIS provides an assessment of the environmental impacts of the project in accordance with the DGRs and sets out the undertakings made by Darling Harbour Live to manage and minimise potential impacts arising from the development. Key planning issues identified and addressed in the EIS include:

- Design Excellence;
- Built Form and Urban Design;
- Visual and View Impact;
- Transport and Accessibility;
- Social and Economic Issues;
- Heritage and Archaeology;
- Water Cycle Management;
- Noise and Vibration; and
- Environmental and Construction Management.

All relevant planning considerations are addressed in Section 5.0 of this EIS. This assessment finds that the potential impacts of the proposed development are acceptable subject to the implementation of the mitigation measures identified in Section 6.0.

Conclusion

The Compilation of Mitigation Measures has been prepared to inform the ongoing management of the PPP Site throughout the detailed design, construction phase and operational phase of the core facilities and public domain. This Environmental Impact Statement fulfils the requirements of the *Environmental Planning and Assessment Act 1979* and addresses the Director General's Requirements, and demonstrates that the impacts of the proposal can be satisfactorily managed. In light of the above, and the significant benefits of the proposed development, we therefore recommend that the proposed development be approved.

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Infrastructure in support of a State Significant Development (SSD) application for the Public Private Partnership (PPP) component of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) Project at Darling Harbour.

The SICEEP Project (an election commitment of the NSW Government) will deliver Australia's global city with new world class convention, exhibition and entertainment facilities that can compete effectively in the national and international events markets. The SICEEP Project importantly forms a critical element of the NSW Government's aspiration to "make NSW number one again". The SICEEP Project is being delivered as a 'whole of precinct' renewal guided by a Master Plan for the entire site, which also involves the creation of a new mixed use residential neighbourhood (known as The Haymarket) and international hotel which will be subject to separate development applications.

More specifically the PPP works comprise the convention centre, exhibition centre, theatre/entertainment facility (referred to throughout this report as the 'core facilities'), and associated public domain upgrades.

The SICEEP Project Site is located within the Darling Harbour precinct which is identified as a State Significant Site in Schedule 2 of *State Environmental Planning Policy (State and Regional Development) 2011*. As the proposed development will have a capital investment value of more than $10 million it is declared to be State Significant Development (SSD) for the purposes of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The EIS has been prepared by JBA on behalf of Darling Harbour Live (a consortium comprising Lend Lease, Capella Capital, AEG Ogden and Spotless) and is based on the Architectural Drawings provided by renowned international design and architecture firms Populous and HASSELL, (see **Appendix BB**) and other supporting technical information appended to the report (see Table of Contents).

This report describes the site, its environs and the proposed development, and provides an assessment of the proposal in terms of the matters for consideration under Section 79C(1) of the EP&A Act.

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the Requirements of the Director General of the Department of Planning and Infrastructure for the preparation of the EIS, which are included at **Appendix A**. This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

1.1 Overview of Proposal

The proposed development involves the construction of new convention, exhibition and entertainment facilities at Darling Harbour along with associated public domain upgrades.

This application seeks approval for the following development:

- Demolition of existing improvements on the site, including the existing Convention Centre and Exhibition Centre;
- Associated tree removal and replanting;
- Construction of a new, integrated and world-class Convention, Exhibition and Entertainment Centre (core facilities);
- Public domain improvements, including:
  - reinvigorating and expanding Tumbalong Park by 3,000m^2,
  - provision (part) of a new active north-south pedestrian connection (known as the Boulevard);
  - provision of new east-west connections, including Harbourside Place and Tumbalong Place;
  - Provision of a pedestrian bridge link from Quarry Street;
  - Retention of the tidal cascade water feature;
  - Reconfiguration and upgrade of Darling Drive (part);
  - Provision of a new square adjoining the Chinese Garden;
  - Provision of a new 5,000m^2 open space 'event deck' (connected with the Exhibition Centre);
  - Erection and use of a temporary shelter structure on the Event Deck for use up to 80 days per year;
  - Integrated art, play zones, water play and recreation areas;
  - Provision of retail kiosks;
- Provision of ground level parking within the Exhibition and The Theatre core facilities;
- Ground and elevated loading docks (accessed off Darling Drive) for the Convention, Exhibition and The Theatre core facilities;
- Two vehicle drop off points off Darling Drive;
- Alterations to the existing Metro Transport Sydney Offices;
- Improvements to Convention and Exhibition Centre light rail stations;
- Provision of signage zones for building identification signage, ancillary to the proposed facilities; and
- Diversion, extension and augmentation of physical infrastructure / utilities as required.

Approval is also sought for a range of temporary works during construction, including:

- Temporary stairs from the raised pathway under the Western Distributor to Darling Harbour ground level;
- Temporary pedestrian ramp south of the Exhibition light rail station and associated temporary pedestrian crossing along Darling Drive south of Pier Street; and

- Temporary ramp north of Convention light rail station and associated temporary pedestrian crossing along Darling Drive.

The proposed public domain will generally be open to the public 24 hours per day 7 days per week. Approval is sought for a range of outdoor events and functions to occur within Tumbalong Park, Harbourside Place and Tumbalong Place, the existing natural amphitheatre at Cockle Bay, and the Quarry Street 'Event Deck'.

The types of events and functions are expected to potentially include:

- Concerts and festivals;
- Entertainment linked to exhibitions and conventions;
- Additional space for exhibitions (e.g. the 'event deck');
- Markets;
- Sporting events;
- Open air cinema and theatre;
- Special events such as Australia Day, New Year's Eve, Anzac Day, Chinese New Year etc; and
- Food and wine events.

1.2 Background to the Proposal

Need for Renewed and Expanded Convention, Exhibition and Entertainment Facilities

Sydney has been an international leader in providing world class convention, exhibition and entertainment facilities. The existing convention, exhibition and entertainment centre facilities at Darling Harbour were constructed in the 1980's and have provided an excellent service for Sydney and NSW.

The NSW Government has however recognised that Sydney needs to maintain its position as a city that is a premier destination for national and international conventions, entertainment and business events and exhibitions.

The Sydney Harbour Foreshore Authority (SHFA) advises that over the past five years the existing facilities have been unable to accommodate about 27 international conventions, 142 national conventions and 12 exhibitions, at significant economic cost to NSW.

The NSW Government considers that a precinct-wide renewal and expansion is necessary and is accordingly committed to Sydney maintaining its position on centre stage for hosting world-class events with the creation of the SICEEP Project. Most notably, the reasons for renewal and expansion of facilities include:

- The convention centre, exhibition centre and entertainment centre would require significant expenditure to address lifecycle issues in coming years; and
- The convention centre, exhibition centre and entertainment centre lack the functionality and flexibility to be found in state of the art facilities; and
- Sydney needs to respond to the very substantial improvement in the standard of equivalent facilities elsewhere if it is to realise its full potential in the convention and exhibition markets.

Table 1 below provides an overview comparison of the existing Darling Harbour facilities with other comparable facilities in Australia and Asia Pacific. It demonstrates that the current facilities at Darling Harbour are not meeting the expectations of Sydney as a Global City and the premier destination for major events in Australia, or as a major competitor in the Asia Pacific Market.

Table 1 – Comparison of convention, exhibition and entertainment facilities

		Facilities					
		Exhibition space	*Plenary space (convention capacity)*	*Banqueting facilities*	*Entertainment facilities*	*Meeting rooms*	*Location*
Venue	*Existing Darling Harbour Facilities*	27,200m²	4,500 pax	1,000 pax	10, 000 pax (concert mode) 12,000 pax (sports mode)	4,336m²	CBD
	Proposed Facilities	32,961m²	4,441 pax	2,000 pax	8,000 – 9,000pax	8,500m²	CBD
	Sydney Olympic Park	21,600m²	N/A	N/A	21,000 pax	N/A	Western suburbs
	Melbourne	30,000m²	5,541 pax	1,500 pax	N/A	32 rooms 4,605m²	CBD
	Brisbane	25,000m²	8,621 pax	2,000 pax	4,000	17 rooms 3,852m²	Southbank
	Suntec Singapore	12,000m²	10,600 pax	1,300 pax	N/A	31 rooms	CBD
	Marina Bay Sands Singapore	30,000m²	N/A	6,000 pax	11,000 pax	250 rooms	Outer suburbs
	Kula Lumpur Convention Centre	9,710m²	3,500 pax	2,000 pax	2,800 pax	20 rooms	CBD
	Hong Kong Convention & Exhibition Centre	53,000m²	7,100 pax	2,160 pax	N/A	52 rooms 6,000m²	CBD
	Asia World Hong Kong	70,000m²	3,800 pax	5,000 pax	14,000 pax	N/A	Airport

Delivery of SICEEP Project

The SICEEP Project (Core Facilities) is one which will be delivered through a Public Private Partnership (PPP). A PPP delivery approach was selected by the NSW Government to ensure a service-led solution to the business need, and give the private sector the maximum opportunity to add value through innovation.

Infrastructure NSW (INSW) is the State Government agency responsible for delivering the SICEEP Project for the NSW Government.

A comprehensive package of requirements was developed by INSW to ensure the best value is achieved in delivering the facility for NSW. By requiring consortia to include finance, design, operation and maintenance disciplines, the economic, urban design and facility functionality aspects of the core facilities are able to be best resolved.

Expressions of Interest for SICEEP Project

Following the NSW Government's decision to renew and expand the existing convention, exhibition and entertainment facilities at Darling Harbour, it called for Expressions of Interest (EOI) from the private sector in September 2011. The purpose of the EOI process was to identify a short-list of proponents to be invited to participate in the Request for Proposals (RFP) process.

The EOI outlined expectations surrounding the private sector role in the SICEEP Project, including:

- Design, construction and financing of the expanded and enhanced convention, exhibition and entertainment complex.

- Operations following completion of the Project, including event marketing, venue management, food and beverage services, security, car parking etc;
- Recurrent and lifecycle maintenance of the expanded and enhanced facilities for a set period of time; and
- Facilitation of appropriate commercial development within the Precinct, including new hotel, car parking and food and beverage outlets.

In December 2011, the NSW Government shortlisted consortia to design, build, operate and maintain the new facilities at Darling Harbour, these were:

1. Darling Harbour Live (formerly Destination Sydney) – comprising AEG Ogden, Lend Lease, Capella Capital and Spotless; and
2. VeNuSW – comprising Plenary Group, Brookfield Multiplex and Suntec International Convention & Exhibition Services.

RFP Process and Selection of Preferred Proponent

In April 2012 the shortlisted consortia were invited to submit proposals (Request for Proposals) for the SICEEP Project. The purpose of the RFP process was for the NSW Government to identify a successful proponent to enter into negotiations in order to deliver the project.

Bids were received in August 2012 by the two consortia, and following a rigorous evaluation process the NSW Government announced Darling Harbour Live (formerly Destination Sydney) in December 2012 as the preferred proponent to transform Darling Harbour by creating a new Sydney International Convention, Exhibition and Entertainment Precinct.

Darling Harbour Live's Preferred Master Plan

The Darling Harbour Live Preferred Master Plan was developed in collaboration with renowned international design and architecture firms OMA, Populous, HASSELL, DCM, AJ+C and PWP Landscape Architecture. A copy of the Precinct Plan which articulates the vision of the Master Plan is provided at **Figure 1**.

Darling Harbour Live's Preferred Master Plan generally comprises two core elements:

1. A new world-class convention, exhibition and entertainment precinct with two new hotels (referred to collectively as the 'ICC Sydney'); and
2. A new southern neighbourhood and vibrant community hub (referred to as 'The Haymarket').

Linking these two core elements will be a new, expanded and integrated public realm.

Key aspects of the Preferred Master Plan are summarised in **Table 2** below.

Table 2 – Summary of key components of Preferred Master Plan

Component	Details
International Convention Centre (ICC) Sydney	
ICC Convention Centre	Max Roof Height: approximately RL45 - RL50 Approx. GFA: 73,000m^2 Includes Grand Ballroom, plenary/convention spaces, meeting rooms, cafe
ICC Exhibition	Max Roof Height – approximately RL 40 Approx. GFA: 56,000m^2 Includes Car park, exhibition halls, meeting rooms and Event Deck
The Theatre (Entertainment	Max Roof Height – approximately RL 44

Component	Details
Centre)	Approx. GFA: 57,500m^2 Includes multifunctional auditorium
ICC Hotels	2 x hotel towers Max Roof Height – approximately RL 130 and RL 73 Approx. 900 rooms Includes meeting facilities and ballroom
The Haymarket	
Student Accommodation	2 x residential tower buildings Approx. 1000 beds
Mixed Use North East Block	Residential buildings above mixed use podium Includes above ground car parking and podium green roof
Mixed Use South East Block	Residential buildings above mixed use podium Includes above ground car parking and podium green roof
Mixed Use South West Block	Residential buildings above mixed use podium Includes above ground car parking and podium green roof
North West Commercial /Office Building	Includes above ground public car parking
North Mixed Use Building	Includes retail ground floor and residential
Public Realm	
Public realm	Approx. 76,500m^2 Includes: the Boulevard, Tumbalong Park, Haymarket Square, Harbourside Place, Tumbalong Place

The Darling Harbour Live proposal (PPP component) will create 1,600 new jobs during construction with ongoing employment opportunities for 4,000 people across the precinct.

The ICC Sydney facilities will generate $200 million per year in economic benefit for NSW, or some $5 billion over the course of the 25 year concession period for operating the new facilities.

The Haymarket will create approximately 2,100 new jobs during construction, with ongoing employment opportunities for over 2,000 people.

This SSD application specifically seeks approval for the core facilities (convention centre, exhibition, and entertainment centre) and associated public realm components of the Preferred Master Plan. The other elements of the project will be subject to separate development applications.

Figure 1 – Darling Harbour Live Precinct Plan

1.3 Objectives of the Proposal

The following strategic objectives have been endorsed by the State to guide the development and implementation of the SICEEP Project:

- Deliver world-class core functions of convention, exhibition and entertainment facilities that exceed the expectations of domestic and international visitors;
- Reaffirm Darling Harbour as Australia's premier gathering place by creating an exciting, connected, active and vibrant precinct that brings delight to visitors and Sydneysiders alike;
- Provide Sydney with unified high quality convention, exhibition and entertainment facilities that befit Australia's global city;
- Maximise the direct and indirect economic benefits to NSW from the Project;
- Provide a value for money solution for the State, with completion on time and on budget;
- Demonstrate excellence in design and environmental sustainability; and
- Enhance connectivity around and through the Precinct, and optimise the quality of the public domain.

1.4 Analysis of Alternatives

Strategic need for the proposal

The NSW Government recognises that the existing convention, exhibition and entertainment facilities at Darling Harbour are facing stronger competition from similar facilities within the Asia-Pacific region. Competing venues in the region are able to accommodate world class interactive exhibitions and conferences in flexible spaces that are better suited to modern needs.

Accordingly new facilities are required that will provide appropriate facilities that:

- are suitable for contemporary conventions, exhibitions and events;
- are competitive with other facilities nationally and internationally;
- are constructed to international best practice;
- are more flexible in their ability to respond to the changing needs of the convention, exhibition and event industry; and
- are designed for longevity.

Alternative options

Three options are available to the NSW Government in responding to the identified need for improved convention, exhibition and entertainment facilities.

Do Nothing

The 'do nothing' option, would result in the facilities at Darling Harbour remaining unchanged and requiring ongoing maintenance. Sydney's appeal as a suitable venue for international conferences, exhibitions and events would diminish, to the detriment of the locality and the wider NSW and Australian economy. As identified in Section 1.2, this option would represent a significant and unacceptable lost opportunity for NSW in terms of the potential economic, cultural and social benefits. This option is therefore not considered to be viable.

Refurbish the existing facilities
Refurbishment of the existing facilities is not physically capable of achieving the required venue parameters identified in Section 1.2. Marketing of conventions is based on the facilities and on their location. Refurbishment of the existing facilities would therefore be largely cosmetic, with the expense of undertaking the required upgrade works providing limited improvements in overall venue functionality and capability, and would do little to extend the design life of the existing structures. The refurbishment of these facilities would therefore provide limited long-term economic benefits compared to those available from new, modern and purpose-built facilities which met the international market requirements.

Provide new facilities in an alternative location
The large-scale spatial requirements of a modern and integrated convention and exhibition centre and the built-up nature of the CBD with limited availability of suitably sized sites precludes an alternative central-Sydney location to Darling Harbour, and as such an outer-Sydney venue would be required to be identified. There are very few consolidated sites in State Government ownership of sufficient size to accommodate the required facilities within the central-Sydney area which can be made available at feasible cost. The airspace above Central Railway Station which was identified by the City of Sydney could only be utilised through the establishment of a podium above the existing rail facilities, at significant cost and disruption to the rail network. This location is therefore not considered to be feasible.

As identified in Section 1.2, comparable international facilities are located in either CBD locations or near airport hubs in order to allow visitors to easily commute between the airport and other business engagements. An outer-suburbs location is therefore considered unsustainable and inferior to a central-Sydney location such as Darling Harbour.

Sydney has performed well in attracting business tourism to the SCEC in comparison to similar-capacity facilities internationally specifically as a result of the current location. Located on the Sydney Harbour foreshore in a parkland setting, whilst located immediately adjacent to the Sydney CBD, the location of the SCEC is unique in the amenity provided to guests. An outer-Sydney or airport location would be significantly disadvantaged by the loss of these key competitive advantages.

International business travellers spend an average of $6,000 per trip within Sydney, and outer-suburbs provide more limited opportunities to capture this economic input due to the more limited availability of hotels, tourism-related industries and activities, retail and dining options. Shifting Sydney's premier business tourism facilities away from the CBD would therefore fail to harness the complete economic benefits available to the NSW economy, which is inconsistent with the primary objectives of the project and the NSW State Plan. This option is therefore not considered to be viable.

The exhibition facilities at Sydney Olympic Park, Homebush, will continue to play a secondary role to the SICEEP core facilities as a host for state and national events.

In light of the above, the SICEEP redevelopment project within Darling Harbour is the only viable option that will meet the objectives of the NSW Government, and meet the expectations of residents and visitors to Sydney.

1.5 Director General's Requirements

In accordance with section 89G of the EP&A Act, the Director-General of the Department of Planning and Infrastructure issued the requirements for the preparation of the EIS on 12 March 2013. A copy of the Director General's Requirements (DGRs) is included at **Appendix A**.

The DGRs require that the EIS must include the documents listed in Schedule 1 of the EP&A Regulation and must meet the requirements of Schedule 2 of the Regulation, specifically the form specifications in Clause 6 and the content specifications in Clause 7. Several stakeholders were also identified with whom consultation must occur during the preparation of the EIS.

Table 3 provides a summary of the individual matters listed in the DGRs and identifies where these requirements are addressed in this report and the accompanying technical studies.

Table 3 – Location of Director General Requirements in the EIS

Director General Requirement	Location in Report	
General Requirements as relevant to the scope of works for each individual SSDA	Report	Appendix
The EIS must meet the minimum requirements in Schedule 2 the *Environmental Planning and Assessment Regulation 2000*, specifically: – form specifications in clause 6; and – form specifications in clause 7.	Pages i, ii, iii	-
Relevant EPI's, policies and guidelines	Report	Appendix
Address the relevant statutory provisions and planning policies and guidelines applying to the site including:	Section 5.2 and 5.3	-
EP&A Act 1979	Section 5.2	
State Environmental Planning Policy (State & Regional Development) 2011	Section 5.2	
State Environmental Planning Policy (Infrastructure) 2007	Section 5.2	Appendix K
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004	N/A	N/A
State Environmental Planning Policy No.65 – Design Quality of Residential Flat Development		N/A
State Environmental Planning Policy No.55 – Remediation of Land	Section 5.3 and 5.11	Appendix E
Draft State Environmental Planning Policy (Competition) 2010	Section 5.2	–
Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005		
Darling Harbour Development Plan No.1		
NSW 2021	Section 5.3	
Metropolitan Plan for Sydney 2036	Section 5.3	
NSW Long Term Transport Master Plan		
The Sydney City Draft Sub-Regional Strategy		
Sustainable Sydney 2030		
Infrastructure NSW SICEEP Urban Design and Public Realm Guidelines	Section 5.4	Appendix H
City of Sydney Chinatown Public Domain Plan	Section 5.4	Appendix K
Development Near Rail Corridors and Busy Roads - Interim Guideline	Section 5.18	Appendix W
Planning Guidelines for Walking and Cycling	Section 5.3	Appendix K
NSW Bike Plan 2010		
Integrating Land Use and Transport Policy Package		

Director General Requirement	Location in Report	
Cycle Strategy and Action Plan 2007-2017		
Healthy Urban Development Checklist	Section 5.3	-
Waste Classification Guidelines (DECC 2008)	Section 5.3	Appendix Q
Heritage Council Guidelines assessing the Significance of Archaeological Sites and Relics	Section 5.10	Appendix D
Crime Prevention through Environmental Design principles.	Section 5.24	Appendix Z
Built Form and Design Excellence	**Report**	**Appendix**
Address the height, bulk and scale of the proposed development within the context of the locality.	Section 5.4	Appendix H
Address the visual impact	Section 5.5	Appendix O
Address design quality	Section 5.4	Appendix H
Address the Urban Design and Public Realm Guidelines		Appendix H
Outline the strategy to ensure design excellence is achieved	Section 5.5	Appendix H
Public Domain and Urban Design	**Report**	**Appendix**
Address all aspects of the public domain such as open spaces within the precinct and footpath, road paving, cycleways, tree planting, footway dining, public art and light	Section 5.5	Appendix H
Identify and analyse key pedestrian desire lines to the surrounding area and critical links to the CBD.	Section 5.5	
Address WSUD opportunities	Section 5.16	
Address the CPTED for the design of the public domain	Section 5.23	Appendix Z
Demonstrate pedestrian circulation and connections on site and to surrounding streets in schematic form	Section 2.2.5 and 5.7	Appendix H
Address the Urban Design and Public Realm Guidelines	Section 5.4	
Ecologically Sustainable Development	**Report**	**Appendix**
Detail how ESD principles will be incorporated in design, construction and ongoing operations including: - sustainable technologies or renewable energy - integrated Water Management Plan	Section 4.10, 5.15 and 5.19	Appendix I
Address the potential for sustainable technologies and/or renewable energy	Section 4.9	
Provide an integrated Water Management Plan	Section 5.15	Appendix U
Amenity	**Report**	**Appendix**
Demonstrate a high level of environmental amenity including: - solar access - acoustic impacts - visual privacy - view loss - wind impacts - reflectivity and - overshadowing	Sections 5.4, 5.5, 5.6, 5.12 and 5.13	Appendix H, N, U, S, T
Noise & Vibration	**Report**	**Appendix**
Identify the main noise and vibration generating sources and activities during construction (including demolition) and operation and outline measures to mitigate potential impacts	Section 5.17	Appendix W
Transport and Accessibility (Construction and Operation)	**Report**	**Appendix**
Address the impact of traffic and pedestrian volumes including - upgrading or road improvements - impacts on light rail corridor or western distributor - level of car parking - sustainable transport measures	Section 4.7 and 5.8	Appendix K
Provide details of any upgrading or road improvement works required		
Address any impacts on the Light Rail Corridor and western distributor		
Justify the level of parking provided on site		

Director General Requirement	Location in Report	
Provide details of measures to encourage sustainable means of transport	Section 5.7	Appendix K
Address the impact from construction traffic		
Provide details of the parking arrangements during demolition/construction		
Provide details of the pedestrian and cyclists connections to the surrounding area		
Address road safety at key intersections		
Drainage, Flooding, Climate Change and Sea level Rise	Report	Appendix
Provide a drainage concept for the site including WSUD	Section 5.15	Appendix U
Address likely groundwater, flooding and sea level rise risks on the site and measures to ameliorate any impacts	Section 5.14	
Heritage	Report	Appendix
Address the impacts of the proposal on heritage significance of the site and adjacent area, including identifying opportunities for heritage interpretation within the public domain	Section 5.8	Appendix C and D
Utilities	Report	Appendix
Address existing capacity and augmentation requirements	Section 3.5 and 4.12	Appendix F
Address how infrastructure will be protected during demolition and construction phases	Section 4.3 and 5.24	
Staging	Report	Appendix
Provide details regarding staging of the development	Section 4.13	Appendix M
Contributions	Report	Appendix
Address the provision of public benefit, services and infrastructure and any relevant contributions requirements	Section 5.2 and 5.22	-
Water Quality	Report	Appendix
Address water quality impacts during construction	Section 5.15 and 5.24	Appendix U
Air Quality	Report	Appendix
Address air quality issues in relation to the Cross City Tunnel ventilation	Section 5.16	Appendix V
Construction Impacts	Report	Appendix
Address demolition and construction impacts including - noise and vibration - air quality and odour impacts - water quality and construction waste management - traffic management - vehicle routes and truck numbers - hours of operation - access arrangements - traffic control measures - crane locations and swing paths - community notification and complaints handling	Section 5.17 and 5.24	Appendix M
Specific Requirements – SSDA Convention, exhibition and entertainment centre		
Built Form and Design Excellence		
Demonstrate that the detailed design of the buildings addresses the requirements of the adopted design excellence strategy	Section 5.4	Appendix H
Public Domain and Urban Design		
Address the cumulative breakout/forecourt needs in terms of spatial and practical requirements for gathering	Section 5.7	Appendix K
Address the potential impacts of the IMAX redevelopment on accessibility and functionality of the adjoining public domain and parkland	Section 5.5	Appendix H
Address opportunities for heritage interpretation within the public domain.	Section 5.8 and 5.9	Appendix C

Director General Requirement	Location in Report	
Transport and Accessibility		
Assess the traffic impacts on the surrounding area during peak operating events including - Vehicular access - Public transport - Provision for taxis coaches and buses - Safety and security including crowd management and access for emergency vehicles	Section 5.7	Appendix K
Detail vehicle access including VIP and other pick up/drop off entries and servicing requirements		
Address the impacts on public transport from both non-event and event uses		
Identify the provision for taxis, coaches and buses accessing the site		
Address impacts to existing bus operators and coach/bus access		
Address the management of heavy vehicles for loading/unloading		
Investigate opportunities for additional bus layover/parking off Darling Drive for major events		
Address safety and security during major events		
Water Quality		
Provide any details of air heating/cooling systems which intake and discharge water from Sydney Harbour/Cockle Bay.	There will be no direct intake or discharge of water from heating/cooling systems to Sydney Harbour/Cockle Bay.	

1.6 Planning Approvals Strategy

In response to separate contractual agreements with the NSW Government and staging requirements, it is proposed to submit a number of separate development applications for key elements of the overall SICEEP Project.

This SSD Application seeks consent for the development of the SICEEP core facilities and associated public domain improvements, access and infrastructure upgrades.

Separate staged and detailed development applications will be lodged for 'The Haymarket' precinct and the ICC Hotel. The staging of initial development applications for the SICEEP Project is reproduced in **Figure 2** below.

Figure 2 – Staging of initial planning applications for the SICEEP Site

1.7 Other Approvals

In addition to the approvals noted elsewhere in this document, additional approvals will be required in order to permit the proposed development to occur. These approvals include, but are not limited to:

- *Sydney Harbour Foreshore Authority Regulation* under clause 4 (for commercial activities and uses in Darling Harbour);
- *Roads Act 1993* (including Section 138 approvals);
- *Protection of the Environment Operations Act 1997* (including environmental protection licences); and
- *Sydney Water Act 1994* under Section 73 (compliance certificate).

These additional approvals, and any other which may be required, will be sought at the appropriate time.

2.0 Site Analysis

2.1 SICEEP Site Location and Context

The SICEEP Site is located within the Darling Harbour precinct. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

Darling Harbour is unique in terms of its function, location, land ownership and physical characteristics. Darling Harbour is a mixed use precinct located between the Sydney CBD and Pyrmont Peninsula. The land is owned entirely by the NSW State Government.

Historically, Cockle Bay has been subject to a significant amount of land reclamation and infilling in order to create an artificial valley and shoreline for Darling Harbour. The central valley is open and flat, and runs in a north-south direction from the Cockle Bay Shoreline towards Haymarket. The topography gently rises to the east and west from the valley floor towards ridgelines located in the vicinity of Harris Street to the west and Hyde Park to the east.

The SICEEP Site is located within the western portion of the Darling Harbour Precinct, and is generally bound by the Light Rail Line to the west, Harbourside Shopping Centre and Cockle Bay to the north, Darling Quarter, the Chinese Garden of Friendship and Harbour Street to the east, and Hay Street to the south.

The SICEEP Site occupies an area of approximately 20 hectares within the Darling Harbour Precinct. Its location is shown in **Figure 3** below and an aerial photograph of the site is provided at **Figure 4**.

Figure 3 – Location Map of the SICEEP Site

Figure 4 – Aerial photograph of the SICEEP Site and surrounds

2.2 PPP Site Description

The PPP Site (i.e. the DA Site) is located within the central and northern portions of the overall SICEEP site. The PPP Site is bounded by the Light Rail Line to the west, the Harbourside Shopping Centre to the north, Cockle Bay, the IMAX Theatre, Darling Quarter and the Chinese Garden of Friendship to the east and generally Pier Street to the south. The PPP Site is irregular in shape and occupies an approximate area of 14.84 hectares. An aerial photograph of the site is provided at **Figure 5** below.

Figure 5 – Aerial photograph of the PPP Site

The legal description of the land to which this application relates (the PPP Site) is identified at **Table 4** below.

Table 4 – Legal Description and Ownership of the Site

Lot and DP	Owner
Lot 1 DP 612907	Sydney Harbour Foreshore Authority
Lot 2 DP 612907	Sydney Harbour Foreshore Authority
Lot 205 DP 771841	Sydney Harbour Foreshore Authority
Lot 210 DP 771841	Sydney Harbour Foreshore Authority
Lot 33 DP 870306	Railcorp (stratum)
Lot 34 DP 870306	Railcorp (stratum)
Lot 35 DP 870306	Railcorp (stratum)

Lot and DP	Owner
Lot 35 DP 870306	Railcorp (stratum)
Lot 602 DP 1009796	Sydney Harbour Foreshore Authority
Lot 302 DP 1021761	Sydney Harbour Foreshore Authority
Lot 2 DP 1048307	Sydney Harbour Foreshore Authority
Lot 900 DP 1132344	Sydney Harbour Foreshore Authority
Lot 901 DP 1132344	Sydney Harbour Foreshore Authority
Lot 1010 DP 1147364	Sydney Harbour Foreshore Authority
Lot 800 DP 1164281	Sydney Harbour Foreshore Authority
Lot 200 DP 1165804	Sydney Harbour Foreshore Authority
Lot 201 DP 1165804	Sydney Harbour Foreshore Authority

2.2.1 Existing Development

The PPP Site is currently occupied by the Sydney Convention and Exhibition Centre (SCEC), public domain spaces and landscaping including Tumbalong Park, land beneath the Western Distributor and Pier Street viaducts, Exhibition Place and Darling Drive. The Sydney Metro Light Rail and Sydney Monorail traverse the site's western boundary. Photographs of the existing development are provided in **Figures 6** to **12** below.

The SCEC is a large convention and exhibition facility located within the central portion of the PPP Site and extends under the Western Distributor viaduct to present a continuous wall of buildings along the western edge of Darling Harbour. The SCEC has a built footprint of 6.83 hectares, with existing building heights up to approximately RL 22m AHD.

The SCEC opened in 1988 and has been in operation for nearly 25 years, with major additions in 1998. The venues are capable of hosting a range of events including regular events such as the Sydney International Boat Show and the Australian International Motor Show. The key features of the SCEC are as follows:

- 3,500 plenary space within the Bayside Auditorium;
- 1,000 plenary space within the Parkside Auditorium (below the Western Distributor);
- five 5,000m^2 inter-connectable exhibition halls providing a total exhibition space of 25,000m^2;
- 4,336m^2 of meeting room space;
- 1,000 person banqueting capacity; and
- 731 car parking spaces.

Immediately to the west of the SCEC buildings (fronting Darling Drive) are the back-of-house servicing areas for these venues, comprising loading docks, truck manoeuvring space and service areas which are approximately 3 metres above street level and above the Exhibition Centre at-grade parking station. A series of vehicular and pedestrian ramps provide access from the SCEC to Darling Drive, which provides two lanes per direction running between Haymarket and Pyrmont.

Figure 6 – Convention Centre's northern facade viewed from Darling Drive

Figure 7 – Convention Centre's eastern facade viewed from eastern foreshore of Cockle Bay

Figure 8 – Convention Centre viewed from Darling Drive

Figure 9 – Convention Centre (Parkside) and pedestrian lift to Western Distributor

Figure 10 –Eastern elevation of Exhibition Centre viewed from public domain

Figure 11 – Exhibition Centre forecourt viewed from south near Pier Street

Figure 12 – Tumbalong Park viewed from Exhibition Centre forecourt

2.2.2 Topography

Prior to European settlement the Cockle Bay shoreline extended approximately 800m further to the south of its current location through the PPP Site. Cockle Bay began to be modified in the early 19th Century by way of significant land reclamation and infilling, which was extended further north over subsequent decades up until the late 20th Century.

The land reclamation and infilling described above has resulted in an artificial valley that is open and flat, and runs in a north-south direction from Haymarket to the current Cockle Bay foreshore. Accordingly the PPP Site is generally flat, with little variation in the ground level RL. The landform has been mounded and terraced up to the lower (car parking) level of the existing Exhibition Centre, resulting in a rise of approximately 2-3 metres from Tumbalong Park to the west. This is reflected in the Survey Plan prepared by Rygate Surveyors (refer to **Appendix B**).

The topography around the PPP Site gently rises away from the valley floor towards ridgelines located in the vicinity of Harris Street to the west and Hyde Park to the east.

2.2.3 Landscaping and Vegetation

To the east of the SCEC is a significant public open space area comprising:

- a meandering north-south accessway (extending from the northern edge of the site at Cockle Bay to the southern edge at the Entertainment Centre);
- Tumbalong Park (a circular park with an area of approximately 1 hectare);
- landscaping;
- play areas; and
- public art.

Overall the public domain area within central Darling Harbour which is within the PPP Site has an area of approximately 4 hectares.

There are a number of trees located within the public domain and parklands to the east of the SCEC, with significant variation in tree species, age and condition.

Mature street tree plantings are located along the eastern (SCEC) side of Darling Drive between Pier Street and the Western Distributor. These trees have heights in excess of 10 metres and occupy a large portion of the road verge, with some pavement damage in evidence. Landscape plantings along the western side of Darling Drive are generally comprised of shrubs and small trees growing below the Monorail.

There is also a row of mature trees that align Exhibition Place, located to the south of the exhibition centre (north of Pier Street).

2.2.4 Heritage and Archaeology

Heritage

A Statement of Heritage Impact (SOHI) relating to the SICEEP redevelopment has been prepared by TKD Architects (**Appendix C**).The SOHI identifies those heritage items that are present on the SICEEP Site, and its vicinity. The following items are identified as being within the PPP Site:

- The Carousel – moveable (State significance); and
- Darling Harbour Water Feature (nomination for State Heritage Register accepted but not gazetted).

The following heritage items are identified as being located within the vicinity of the PPP Site:

- Chinese Garden of Friendship (State significance);
- Former Hydraulic Pumping Station No.1 (the Pumphouse) (State significance).
- Powerhouse Museum (local significance);
- Water Cooling System and Manifold – remains within Novotel carpark (local significance); and
- Sewage Pumping Station No.1 (State significance).

A location map illustrating the location of these heritage items, and other items in the vicinity of the wider SICEEP Site is provided below in **Figure 13**.

Figure 13 – Heritage items within and surrounding the SICEEP Site

Heritage significance

The SOHI includes an assessment of the heritage significance of each identified item. The significance of those items within the PPP Site boundary is reproduced below.

- Darling Harbour Water Feature (nomination for State Heritage Register accepted but not gazetted)

  "The Darling Harbour Water Feature's importance is derived primarily from its aesthetic significance, established as an item of exemplary design for its period, receiving the Walter Burley Griffin Award of the Royal Australian Institute of Architects, and the New South Wales Chapter Civic Design Merit Awards in 1991. In 1992 it was awarded the National Civic Design prize of the Australian Institute of Landscape Architects.

  The Water Feature was designed in 1987 by a notable architect, Robert Woodward, a war veteran whose career as a fountain designer was of national and international prominence.

The Darling Harbour Water Feature is of State significance as an example of outstanding fountain design representative of excellence in Australian modernist design of the mid twentieth century.

The Woodward spiral fountain is a beautiful piece of original design with its interplay of water, light and surface texture. It is both an irresistibly interactive water element and beautiful spiral sculptural form. The Woodward water feature makes a significant contribution to the urban design of Darling Harbour. It is one of a group of iconic structures and garden features at Darling Harbour associated with the 1988 Bicentenary Celebrations. It is significant for its historical and cultural values".

Source: State Heritage Register Nomination

- The Carousel

"The Darling Harbour Carousel is a rare, complete and intact example of an Edwardian carousel, and is representative of a wider variety of similar machines. The Darling Harbour Carousel retains its steam engine and original workings, and demonstrates the methods of construction and operation that are associated with the "golden age" of carousels (1890s and 1920s). Its rich decorations are entertainingly attractive and form both an expression of traditional fairground architecture and an exposition of the popular idiom, appropriately demonstrating on-going adaptation to times and places. The Darling Harbour Carousel has been part of Sydney's cultural life for most of the twentieth century, associated with many major cultural festivals and events, and has travelled throughout much of NSW as a central entertainment of the important agricultural shows and fairs. It continues to entertain children and adults alike in its present location as part of a major tourist locality in Sydney."

Source: Godden Mackay Heritage Consultants

Archaeology

Non-Indigenous Archaeology

A Non-Indigenous Archaeological Assessment and Impact Statement has been prepared by Casey and Lowe, which conforms to the Heritage Branch, Office of Environment and Heritage Guidelines for Archaeological Assessments, and in accordance with the DGRs. The report identifies those Non-Indigenous archaeological items within and in the vicinity of the SICEEP Site. The Exhibition Precinct – Iron Wharf Archaeological Remains (local significance) is identified as being within the PPP Site.

The SOHI prepared by TKD Architects (**Appendix C**) includes an assessment of the heritage significance of the Exhibition Precinct – Iron Wharf Archaeological Remains, which is reproduced below.

Exhibition Precinct – Iron Wharf Archaeological Remains

"The Iron Wharf was considered to be an engineering masterpiece at the time of its construction. Parts of the wharf still remain buried at the site and are significant archaeological remains. They have the potential to inform about early large scale iron construction. The Iron Wharf is significant as it was one of the first large scale iron constructions in the world. The construction of the wharf led to the development of Darling Harbour as the major goods centre in Sydney."

The Non-Indigenous Archaeological Assessment and Impact Statement identifies other archaeological heritage items located elsewhere within the PPP Site, and its vicinity. These include:

- Pier Street Precinct Archaeological Remains (local significance);
- Chinese Garden of Friendship (buried archaeology) (State significance);

- Water Cooling System and Manifold (local significance); and
- Cockle Bay Precinct, Archaeological Remains (State significance).

Indigenous Archaeology
An Aboriginal Archaeological Assessment Report has been prepared by Comber Consultants in association with the Metropolitan Local Aboriginal Land Council, and in accordance with the Office of Environment & Heritage (OEH) Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, and in accordance with the DGRs.

Comber Consultants have conducted a search of the Aboriginal Heritage Information Management System (AHIMS) database and have determined that there are no known Aboriginal sites or objects located within or immediately near the PPP Site, however they note that a midden containing aboriginal artefacts was encountered during excavation works for the nearby development 'Darling Quarter' (to the east of the PPP Site).

Given that aboriginal occupation was most intense near coastlines, and that artefacts have been found in nearby locations, Comber Consultants advise that subsurface archaeological deposits may be located within the south-western portion of the site, in the vicinity of the original shoreline. It is not expected that deposits will be located in areas comprising reclaimed land (which comprises the majority of the PPP Site).

2.2.5 Access

Pedestrian Access

Pedestrian access to the site from the north, east and south is dominated at ground level by a series of open plazas and public open space areas. These spaces provide multiple opportunities for pedestrians to access the key pedestrian routes entering the Sydney CBD to the east and Haymarket to the south.

Pedestrian connections to the west are inhibited due to the location of the Light Rail Corridor, existing SCEC buildings and the topography of the land; however pedestrian access is available via an elevated pedestrian walkway from a pedestrian footpath on the Pier Street overpass, the Western Distributor and the Convention Monorail Station. Direct and accessible pedestrian access is provided between the public domain adjoining the north-east corner of the Exhibition Centre and Harris Street via a lift to the pedestrian footpath which runs below the Western Distributor viaduct. The pedestrian footbridge located immediately to the north of the existing Convention Centre on Darling Drive also provides pedestrian access through to Pyrmont Street.

A graphic illustrating pedestrian connectivity to and from the PPP and SICEEP Site is provided at **Figure 14** below.

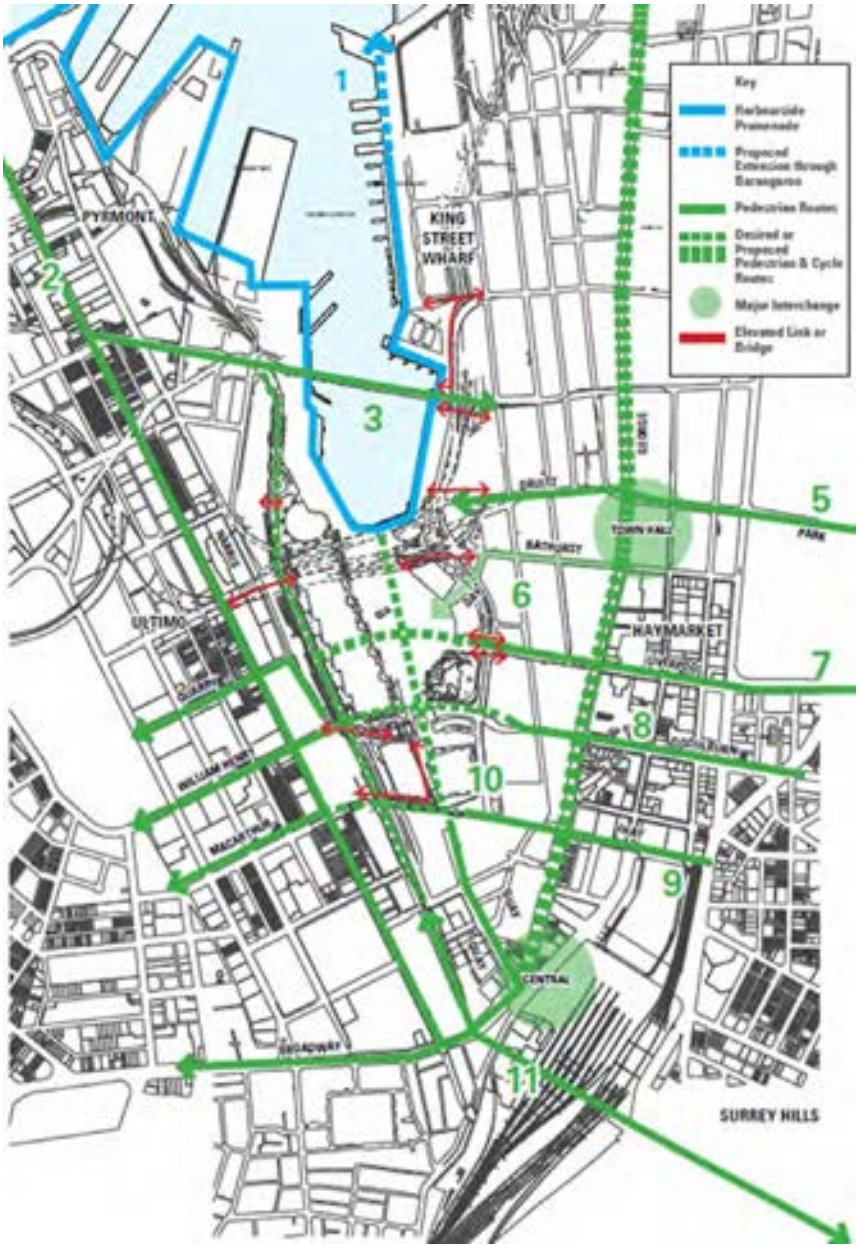

Figure 14 – Existing and desired pedestrian connectivity within the SICEEP site and surrounds

Source: (AECOM 2013)

Cycling

The PPP Site is accessible to cyclists via formal and informal cycle routes which are identified within the City of Sydney's cycle network. The existing north-south footway to the east of the existing SCEC buildings provides opportunity for cyclists to use this shared path to travel from Darling Harbour into Haymarket and connect to on-road painted cycle lanes.

A painted on-road cycleway is provided in both directions along Darling Drive. From the intersection of Darling Drive and Murray Street, cyclists can continue to the east via the Pyrmont Bridge and then the King Street and Kent Street separated cycleways and beyond, or via the Union Street separated cycleway to the ANZAC Bridge shared path of Bulwarra Road marked on-road cycle lane in Pyrmont. To the south of the SICEEP site, cyclists can connect into the existing mapped network of on-road painted cycle lanes which provide connectivity to southern Sydney.

Rail

The PPP Site has good rail connectivity, being located approximately 700m walking distance to the west of Town Hall Station. Town Hall Station is a key station in the CityRail network with excellent connectivity to the wider network. Lines connecting at Town Hall include:

- Eastern Suburbs and Illawarra Line (Bondi Junction and Sutherland);
- Bankstown Line (Bankstown and Liverpool);
- Inner West Line (Strathfield and Liverpool);
- Airport and East Hills Line (Airport and Campbelltown);
- South Line (Strathfield and Campbelltown);
- North Shore Line (Chatswood and Hornsby); and
- Northern Line (North Sydney and Macquarie Park).

The PPP Site is located between 800m and 1.5km walking distance to the north of Central Station. Central Station provides access to all Sydney suburban rail lines, intercity and interstate rail services. Central Station is a significant multi-modal interchange point with access to the Sydney Metro Light Rail and local and regional bus services.

Light Rail

The Metro Light Rail traverses Darling Drive along the western boundary of the PPP Site. The Metro Light Rail runs from Central Station to Lilyfield via Darling Harbour, The Star Casino, Wentworth Park, Glebe, Rozelle and Lilyfield. Two light rail stations are located in the immediate vicinity of the PPP Site, being the Exhibition Centre and Convention Light Rail Stations. Services operate every 10-15 minutes in each direction between 6am and 11pm, with services running every 30 minutes between Central and The Star Casino between 11pm and 6am.

The Convention Light Rail Station is located immediately to the north-west of the Sydney Convention Centre across Darling Drive and provides direct access to the SCEC and Darling Harbour. The Exhibition Centre Light Rail Station is located to the north west of the intersection of Darling Drive and Pier Street opposite the Exhibition Centre. Zebra crossings provide access across Darling Drive to the PPP Site from both stations.

The Metro Light Rail Operations Depot is located to the west of the Convention Centre loading dock across Darling Drive within the PPP Site, with access to the facility from Pyrmont Street. This facility includes the control centre for light rail operations as well as maintenance facilities for rolling stock cleaning and servicing.

Ferry

The PPP Site is situated 500m walking distance to the south-east of the Darling Harbour Ferry Terminal, 700m south of the Pyrmont Bay Ferry Wharf and 1km south of the King Street Ferry Wharf. Ferries from these locations connect the PPP Site with key locations, including Circular Quay, Milsons Point, and Parramatta. Ferries also connect the PPP Site with a variety of visitor attractions located around Sydney Harbour.

Bus

The PPP Site is situated approximately 600m by foot to the west of bus stops on George Street. George Street is a major bus corridor with very frequent services, and connects the PPP Site with the wider Sydney CBD and a wide variety of suburban locations, whilst local bus services also run along Harris Street in Pyrmont.

Monorail

The Convention Monorail Station is located immediately to the west of Darling Drive near the Convention Centre within the PPP Site and connects the Site with key attractions in Central Sydney.

In March 2012, the NSW Government announced that the Monorail will cease operations on 30 June 2013. Metro Monorail Infrastructure is being dismantled as part of a separate project managed by Transport for NSW, and is scheduled to begin in August 2013 and be completed within the PPP Site by December 2013.

Vehicular Access

The Exhibition Centre public carpark has separate exit and entry points to Darling Drive with controlled entry and a total provision of 731 spaces.

Controlled service vehicle access to the Convention Centre and Exhibition Centre from Darling Drive is predominately located in the vicinity of the Western Distributor viaducts. Access to the Convention Centre ground-level loading dock is provided via a controlled driveway to Darling Drive. A vehicular flyover commencing from the southbound lane of Darling Drive near the Convention Monorail Station provides service access to the upper level of the Convention Centre, before rejoining Darling Drive at a point approximately 250m to the south.

Controlled access to the Exhibition Centre loading dock/ service zone is provided via the Convention Centre loading dock driveway. A single controlled vehicular access point to this area is also located at Darling Drive immediately to the north of the Pier Street intersection.

A loop drop-off driveway is located immediately to the north of the Convention Centre (located outside of the PPP Site) and is bound by Darling Drive and the Harbourside Shopping Centre. This driveway provides the primary street address to the Harbourside Shopping Centre and access to the shopping centre loading docks, a pick-up/layover and drop point for coaches, taxis and limousines and includes a bus stop for the Sydney Explorer tourist bus service.

An internal loop road known as Exhibition Place is situated to the south of the Exhibition Centre and is accessed via Darling Drive. Exhibition Place loops around the Darling Harbour Operations Office, which is located under the Pier Street Overpass, and traverses past the southern façade of the Exhibition Centre, the northern façade of the Entertainment Centre (SEC) Car Park and to the east of the storage yard. The road is used as a passenger pick-up/drop-off point and also provides access to the SEC car park.

2.2.6 Soil and Geotechnical Conditions

A Geotechnical Assessment Report has been undertaken by Douglas Partners (DP) and included as **Appendix P**. The Report presents the findings of a desktop study, which determines the likely geotechnical and soil characteristics of the PPP Site. The report draws upon previous geotechnical investigations prepared on behalf of the NSW State Government and carried out at the site to make its assessment.

Site Geology

According to the report, the 1:100,000 scale Sydney geological sheet indicates the PPP Site is underlain by imported fill and natural alluvial sediments of Quaternary Age overlying Hawkesbury Sandstone of Triassic Age. The sheet also indicates that a small segment of the south-western corner of the PPP Site is bisected by the Great Sydney Dyke and igneous intrusion.

Douglas Partners advise that the significant geological features and structures shown within the site or its immediate environs are:

- Filling – alluvial and estuarine sediments, high strength sandstone boulders and building rubble of variable compaction and depth;
- Deep palaeochannels through the site;
- Highly variable sandstone bedrock levels;
- Relatively willow groundwater levels;
- Possible presence of GPO fault (or sheared zone) projected through the southern portion of the site; and
- The Great Sydney Dyke crossing the southern portion of the Site.

Subsurface Conditions

The Geotechnical Assessment Report identifies six distinct geotechnical subsurface profiles present across the PPP Site, including:

- Filling – including estuarine and alluvial sediments, with sandstone cobbles and boulders at RL1.1 to -10.6;
- Alluvium and estuarine deposits – very loose to medium dense sands with very soft to stiff clays at RL 0.0 to -10.6;
- Residual soils – stiff clayey sands or sandy clays above bedrock at RL1.4 to -11.7;
- Sandstone (Class V/IV) – very low to low strength, extremely and highly weathered at RL-1.5 to -15.3
- Sandstone (Class III) – medium strength, slightly to moderately weathered at RL -12.2 to -20.8; and
- Sandstone (Class II/1) – high strength fresh sandstone.

It is noted that groundwater levels on the site have been measured at depths of RL-0.55 to -1.7. Groundwater levels are likely to be subject to variations as a result of tidal flows from Cockle Bay.

2.2.7 Site Contamination

The site was progressively reclaimed with filling of unknown origin during the late-19th and early-20th centuries for use in railway and port-related uses up until the mid-1980s, when Darling Harbour was developed for its current uses. The former Ultimo Power Station was located adjacent to the western site boundary and operated from 1900 to 1961.

Detailed and extensive site contamination investigations have been undertaken across the PPP Site in order to determine the presence and extent of potential contaminants as a result of historical site uses, including heavy metals, fuels, lubrication oils, pesticides, herbicides, asbestos and organic contaminants.

Soil Contamination

Results of previous site investigations reveal that:

- natural soils within the site were found not to have been impacted by contamination prior to or after filling;
- fill materials within the site were found to be impacted by widespread, low-level contamination from petroleum, lubrication oil and heavy metals;
- no asbestos material was identified within site soils; and

- acid sulphate soils were identified within the site.

Groundwater Contamination

Groundwater within the site contains low concentrations of metals and petroleum and lubrication oils, however these levels were generally within or comparable to the screening criteria.

Further discussion in relation to contamination and remedial strategies is contained within **Section 5.12** of this EIS.

2.2.8 Water Cycle

Stormwater drainage within the Site is comprised of a subterranean local network and trunk drainage, and overland flow paths. Stormwater is captured by surface inlet pits which drain into minor pipe networks, and ultimately into major trunk stormwater culverts that discharge into Cockle Bay. Overland flow paths which bypass the drainage network flow through the Darling Harbour Precinct and also discharge into Cockle Bay.

2.2.9 Utilities and Infrastructure

Hyder Consulting (with input from AECOM) have undertaken a desktop study of existing utility infrastructure services within and in the vicinity of the PPP Site and undertaken subsequent consultation with service providers as detailed in the Services Infrastructure Report (**Appendix F**). Existing infrastructure services for water, sewer, gas, electricity and communications are provided to the existing SCEC buildings from mains and distribution infrastructure within and in the vicinity of the site including within Darling Drive and Pier Street.

2.3 Surrounding Development

Development surrounding the site is characterised by a mix of tourist-related, commercial and residential buildings which are medium to high density in scale with the CBD-edge location of the site.

A map of the key developments surrounding the SICEEP site is provided at **Figure 15**. Photographs of the PPP site's surrounds are provided at **Figures 16** to **28**

Figure 15 – Key developments surrounding the SICEEP Site

North (Cockle Bay)

To the north of the PPP site is the Harbourside Shopping Centre and Cockle Bay. The Pyrmont Bridge, located approximately 300m to the north of the PPP Site, crosses Cockle Bay and is a major east-west pedestrian and cyclist connection between the CBD and Pyrmont.

The Harbourside Shopping Centre opened in 1988 and is a two storey building with approximately 120 tourist-oriented retail outlets, food retail and restaurants. The centre includes ground and first-level restaurants and bars which address Cockle Bay. A ground-level pedestrian entrance to the centre is located directly to the north of the Convention Centre, with pedestrian access also available from the loop road from Darling Drive, to the north near the Australian Maritime Museum and to the first-floor from the Pyrmont Bridge.

Cockle Bay serves as a hub for tourism-related maritime activities, with public and private wharves used as regular drop-off and pick-up points for harbour cruises. The Cockle Bay Wharf is a three-storey building located on the western foreshore south of the Pyrmont Bridge with a range of restaurants, cafes and bars oriented towards the tourist market. To the north of the Pyrmont Bridge, the Sydney Aquarium and Wild Life Sydney Zoo and King Street Wharf precinct include a range of tourism-related uses, commercial office, residential, retail and dining land uses.

Key sites further to the north of the Harbourside Shopping Centre along the western foreshore of Cockle Bay include the Australian Maritime Museum, The Star Casino and Pyrmont Bay Wharves.

The wide, connected public promenades along the southern foreshore of Cockle Bay create an amphitheatre for water-based events and celebrations as diverse as the New Years Eve fireworks, the Sydney International Boat Show and the Chinese New Year dragon boat regatta. Terraced public domain spaces along the southern foreshore provide additional opportunities for public views to the water during major events.

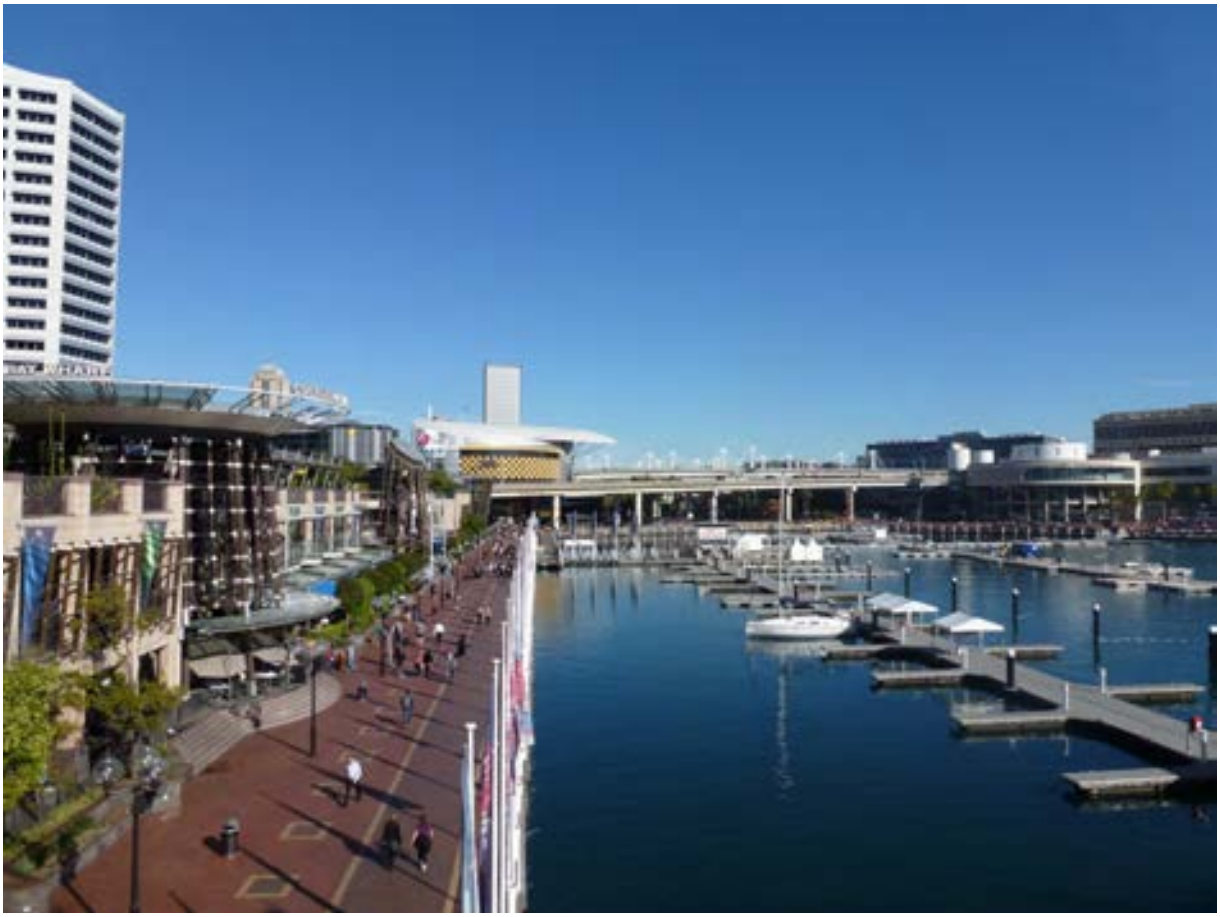

Figure 16 – Cockle Bay Wharf (left), IMAX and Western Distributor (centre) and Sydney Convention Centre (right)

Figure 17 – Western Distributor (left), Sydney Convention Centre and Goldsbrough Apartments (centre) and Harbourside Shopping Centre and Novotel Sydney (right)

West (Pyrmont)

To the west of the Metro Light Rail Operations Depot is the Oaks Goldsbrough Apartments building, a 13-storey former wool-store which has been converted to residential/serviced apartments. This building is located on the western side of Pyrmont Street between the Western Distributor viaducts and Allen Street.

The Novotel Hotel is located immediately to the north-west of the site across Darling Drive, and is a nine storey building with four levels of undercroft parking accessible from Murray Street. The Novotel is a 4.5 star hotel with 525 rooms, guest facilities and limited meeting and conference facilities. Direct pedestrian access is provided from the car park to Darling Harbour across Darling Drive via the Convention Monorail Station pedestrian bridge.

The Ian Thorpe Aquatic Centre is located to the west of the Exhibition Centre at the corner of Pier Street and Harris Street opposite the Exhibition Centre Light Rail Station. Pedestrian access is available between the aquatic centre and the PPP site via the at-grade crossing at the light rail station.

Directly to the north of the aquatic centre is the Bullecourt Apartments, which has frontages to Harris Street, Quarry Street and Pyrmont Street and comprised of two 5-8 storey residential flat buildings.

The Global Switch data centre is located at 390-422 Harris Street within Pyrmont and sits immediately to the west of a vacant site with frontage to Pyrmont Street. The vacant land is proposed to be developed to expand the existing data centre.

Figure 18 – Goldsborough Apartments viewed from Darling Drive to the east

Figure 19 – Novotel Sydney viewed from Darling Drive to the east

Figure 20 – Exhibition Centre Light Rail Station (foreground) with Ian Thorpe Aquatic Centre (background centre) and Bullecourt Apartments (background right)

East (Darling Quarter, Sydney CBD)

Tumbalong Park is bound to the east by the Darling Quarter development, a 6-8 storey commercial development with ground floor restaurants, cafes and food retail. This development is tenanted by the Commonwealth Bank of Australia with over 6,000 staff employed within this precinct.

The Darling Quarter development included a new interactive children's playground which forms part of the Tumbalong Park public domain precinct including water play areas, climbing equipment and other active recreation equipment.

To the north of the Darling Quarter development is the Sydney Information Centre, a two storey building for tourist information services. To the north of this building is the IMAX Theatre complex, which includes the IMAX cinema and ground level food retail and cafes.

The Chinese Garden of Friendship was developed in partnership with the local Chinese community as part of the 1988 Bicentenary redevelopment of Darling Harbour and adjoins the PPP Site to the south-east and is open to the public daily.

Beyond the site's immediate surrounds is the Sydney CBD, with key east-west paths of travel including Goulburn Street, Liverpool Street and Bathurst Street commencing at Harbour Street and providing access to and across, the main CBD area.

Figure 21 – Western facade of Darling Quarter development and Tumbalong Park

Figure 22 – View to Darling Quarter through-site link and Exhibition Centre in background from Day Street

Figure 23 – IMAX Theatre viewed from the north

Figure 24 – Exhibition Centre (foreground) and Sydney CBD (background) viewed from Pier Street

South (Sydney Entertainment Centre, Haymarket)

To the south of the PPP Site is the Sydney Entertainment Centre precinct and Haymarket. The Sydney Entertainment Centre (SEC) commenced operations in 1983 and has a maximum capacity of approximately 12,000 persons for stage performances, music concerts and sporting matches. The building occupies a footprint of approximately 1.18 hectares.

The SEC is surrounded by large open forecourt areas to the north and south which provide connectivity into the PPP Site to the north and to Haymarket and Chinatown to the south/south-east. There is a limited offering of food retail at the ground level of the SEC which addresses the southern forecourt.

To the west of the SEC is a five-storey public car park with approximately 1,900 car spaces, and a commercial tenancy is located on ground level at the northern side of this car park. Vehicular access into the SEC car park is provided via Quay Street, Darling Drive, and an access road to the north.

Figure 25 – Pier Street viaduct and SHFA Operations Facility (right) viewed from the north

Figure 26 – Northern facade of the Sydney Entertainment Centre

Figure 27 – Hay Street and the Sydney Entertainment Centre forecourt

Figure 28 – Entertainment Centre Car Park (right) adjoining Darling Drive to the south of PPP Site

3.0 Consultation

Consultation is recognised as an important part to the successful delivery of the SICEEP Project, with the NSW Government speaking with industry and stakeholders from day one of the Project's inception. This has continued through to inform the master planning and design development of Darling Harbour Live's preferred scheme.

A Stakeholder and Community Engagement Report (**Appendix G**) has been prepared by The Hornery Institute[1] and draws on the stakeholder and community engagement program undertaken prior to the lodgement of any development applications for the SICEEP Project. More specifically, the Report provides commentary with respect to:

- The current community context;
- Outcomes from the baseline and pre-consultation engagement programs; and
- Summarises design mitigation in response to issues raised.

The level of consultation undertaken up to the lodgement of this DA is considered to be appropriate and justified and exceeds minimum requirements of the Department of Planning's Major Project Community Consultation Guidelines (October 2007) – therefore meeting DGR requirements.

3.1 Community Context

One of the first steps in the consultation process was to identify and understand the community catchment. Three community catchments were identified:

- Local Catchment – comprising the residential, commercial and institutional site neighbours, together with those agencies and opinion formers that have an interest in the precinct;
- Primary Catchment– comprising residents and businesses within the suburbs of Haymarket Pyrmont and Ultimo; and
- Secondary Catchment–comprising residents and businesses throughout Greater Sydney together with interstate and overseas visitors to Darling Harbour.

3.2 Stakeholder Analysis

The next step was to map and identify relevant participants to consult and engage with. **Table 5** provides an overview of the breadth of stakeholder engagement that has been undertaken leading up to the lodgement of this SSD DA.

[1] *The Hornery Institute [THI] is an independent non-profit organisation founded by the late Stuart Hornery on his retirement in 2000. THI has developed integrated expertise in evidence-based urban strategy, placemaking/place management and community engagement using design-led thinking. Based in Brisbane the team works with public and private sector clients together with other non-profit organisations and agencies throughout Australia. The team has a good working understanding of the local communities in Haymarket, Pyrmont and Ultimo, as well as the residents and visitors of the CBD area through Project work undertaken in this area since 2008.*

Table 5 - Summary of stakeholder participants

Agencies and peak bodies	Government	Industry and partners	Precinct players	Opinion formers	Service providers and utilities
- Australian Institute Of Architect's - National Trust - BIKESydney - Australia Day Council - Good living Growers Market - Guide Dogs NSW - History Council of NSW - Homelessness NSW - IDEAS Sydney - Motorcycle Council Of NSW inc - Multicultural Disability Advocacy - Council of NSW Local Community - Services Association - Historic Houses Trust - Metropolitan Land Council - Action for Transport	- EPA - RMS - TfNSW - DoPI - Ministry for Police and Emergency Services - DET - SHFA - City of Sydney - Railcorp	- Diversified Exhibition and Trades Fairs - Australian Business Events Expo - Boat Show - Gaming Technologies - Exhibitions And Event Association Of Australia - Arinex - International College of Management Sydney - Meetings and Events Australia - Business Events Sydney	- University of Technology Sydney - Institute of TAFE Ultimo College - Powerhouse Museum - Ian Thorpe Aquatics Centre - Historic Houses Trust - Chinatown – Haymarket Chamber Of Commerce - Fairfax Media - Frasers Property Group - Australian Broadcasting Corporation - Australian National Maritime Museum - Star City - Harbourside Shopping Centre - Darling Quarter	- Sydney Business Chamber - Committee for Sydney - Australian Chinese Business Council - Property Council - National Council For Indigenous Excellence - Architects Institute Of Australia	- Sydney Water - AusGrid - Jemena (gas) - Telstra - National Broadband Network - VEOLIA Light Rail - Police and Emergency Services

In terms of the community as a stakeholder, it was segmented in accordance with their proximity to the site and participation was sought from:

- The executive or management committees of neighbouring apartment buildings, including:
  - Executive Committee Goldsbrough
  - Executive Committee Bullecourt
  - Executive Committee Peak Apartments
  - The Oaks Goldsborough (serviced apartments)
  - Novotel
  - Executive Committee 18- 20 Allen Street
  - Executive Committee Darling Court
- Local resident associations and action groups, including:
  - Council of Pyrmont and Ultimo Community Associations
  - Pyrmont Action Association
  - Friends of Pyrmont Community Centre
  - Blackwattle Cove Coalition
  - Ultimo Village Voice
  - Chinese Historical Association of Australia
  - Pyrmont Community Group
  - Pyrmont Action Inc
  - Pyrmont Community Group

- Social Infrastructure for Children In Ultimo Pyrmont (Sinc-UP)

- Residents and businesses in Darling Harbour, Haymarket, Pyrmont and Ultimo; and
- Representatives from the wider Sydney community.

Local residents and representatives from the wider Sydney community have been engaged through the media, letter drops, website, on line activities and structured recruitment.

3.3 Engagement Programs

Three key engagement platforms have been used across all stakeholder groups in the lead up to the lodgement of this SSD DA, specifically:

- printed material – including mail-outs of letters, newsletters, project fact sheets, postcard feedback forms.
- face-to-face communication – manned model displays, community forums, one on one briefings, roundtable sessions, qualitative research workshops, working groups, presentations, design workshops.
- Technology – Project telephone number, project email, project website, on-line forum

The Stakeholder and Community Engagement Report at **Appendix G** elaborates further on the above engagement activities.

3.4 Outcomes from Consultation

3.4.1 Baseline Consultation

Early engagement was undertaken by both INSW and Darling Harbour Live during the request for proposals stage in order to build their understanding of the stakeholder and community environment, before moving ahead with developing the master plan and detail design. The objectives of this early engagement by Darling Harbour Live were to ascertain stakeholder and community:

- Perspectives about the area today – what they value and what should be changed;
- Aspirations about what the proposed revitalisation of the precinct could achieve (for them and for Sydney), i.e. what success would look like; and
- Concerns about what could eventuate from the proposed revitalisation of the precinct in other words what failure would look like.

The key findings from this baseline consultation exercise are detailed within Stakeholder and Community Engagement Report at **Appendix G**. Importantly, the baseline consultation with stakeholders and representatives and the community helped shape and influence the master plan and design development during the request for proposal phase, including through:

- Delivering an integrated response – consider the site holistically to leverage maximum outcomes for the precinct.
- Addressing authenticity – delivering the Haymarket as a mixed use neighbourhood that offers local service and convenience retail for local people, responding to the need for local, low cost and incubator space for start-up businesses attracted to the knowledge hub around the University and TAFE, providing a public realm with a local activation and youth focus.
- Connectivity and accessibility – creating a strong north south spine that improves the ability for residents and visitors to connect to the visitor

attractions and waterfront environment, realignment entrances to light rail stations to assist with wayfinding and simplifying access.

- Permeability – introducing new east – west connections between Pyrmont/Ultimo and Darling Harbour, Chinatown and the CBD, and reconnecting the city grid at the southern end, breaking down the building footprints and creating individual addresses and identifies for the core facilities, developing a signage and wayfinding strategy for the precinct and surrounds.
- Signature design – internationally respected architects have been engaged to deliver the project and ensure the precinct as a whole supports a new identity and landmark for the City, a tiered solution to the exhibition facilities interface with the public realm improves its relationship and minimises overshadowing impacts to Tumbalong Park.
- Public realm – the quantum of public realm has been significantly increased.
- Disruption during construction – limiting excavation by retaining the existing car parking in situ and selecting above ground parking for the southern precinct, sleeved by active uses, architectural screening etc.

3.4.2 Pre-lodgement Consultation

Building on the baseline consultation, Darling Harbour Live has undertaken a further program of stakeholder and community engagement (in conjunction with INSW) since being selected as the preferred proponent.

The specific feedback received during this phase of consultation is detailed within the Stakeholder and Community Engagement Report at **Appendix G** and the Services Infrastructure Report at **Appendix F** (in relation to consultation undertaken with service providers and utilities). Worth highlighting is the feedback received from both local residents and residents across greater Sydney (refer to **Table 6** Given the significance of the SICEEP Project and the benefits to be delivered across the City and State more broadly there was revealed to be widespread support for the project from residents (sampled) throughout Greater Sydney. There is generally overwhelming support for the SICEEP Project from Precinct Stakeholders, Opinion Formers, and Industry – all of which acknowledge the substantial benefits a project like this will deliver.

Table 6 – Summary of key concerns and expressions of support from local residents and residents across Greater Sydney

Local residents		Residents across Greater Sydney[1]	
Concerns expressed	Expression of support	Concerns expressed	Expression of support
- Justification for development - Traffic congestion, reduction in car parking and inadequacy of public transport - View impacts and overshadowing - Height, location and design of the Hotel - Height and orientation of the residential towers - Loss of green open space, places for relaxation and facilities for active recreation	There were general expressions of support for the renewal and revitalisation of the Darling Harbour precinct. The community identified opportunities to provide new childcare and library facilities for existing and future residents.	- Construction impacts - Reduction in car parking - Costs to tax payers - Public transport accessibility - Managing impacts of larger events	- Good for Sydney - Economic benefits - Expanded public space - Vibrant and exciting Haymarket Precinct - Planned well and thought through to meet various demands - Look and feel of the design

[1] Views expressed are based on the research workshops undertaken with residents independently recruited from throughout Greater Sydney.

A detailed compilation of all the responses and feedback across the various engagement platforms has been undertaken by The Hornery Institute and is presented in the Stakeholder and Community Engagement Report (**Appendix G**).

The key areas of concern raised during the pre-lodgement consultation engagement program have been identified based on the opinions expressed by consultation participants, and have been considered by Darling Harbour Live during the design development phase. A summary of how key issues have been addressed through the project design is included within the Stakeholder and Community Engagement Report (**Appendix G**).

3.5 Utility Service Providers

Several consultants have undertaken additional consultation with relevant utility service providers during the preparation of their reports in order to determine the existing capacity of infrastructure to support the development of the PPP Site. A Services Infrastructure Report has been prepared by Hyder (with input from AECOM) from which details the consultation undertaken with relevant providers in accordance with the DGRs (refer to **Appendix A**).

Electricity

Preliminary meetings were held with Ausgrid's Planning Engineers (Distribution and Major Projects) between April and May 2012 during the SICEEP bid phase. AECOM/Lend Lease submitted an application for a Feasibility Study from Ausgrid on 15th May 2012.

AECOM and Lend Lease re-opened negotiations and discussions with Ausgrid after the announcement of preferred proponent. On January 15, 2013, representatives from AECOM, Lend Lease and INSW met with Ausgrid planners and engineers. On January 18, 2013, AECOM submitted an 'Application For Connection' for the PPP component of the works to Lend Lease who formally submitted to Ausgrid with the Application for Connections for the PDA and Hotel components of the overall project.

Subsequent to the submission of the 'Application For Connection' for the SICEEP precinct, correspondence was received from Ausgrid confirming the availability of electrical supply to the SICEEP precinct as well as a feasibility study that provides an indicative description of the works required to service the precinct. Further details of correspondence with Ausgrid are included within the Services Infrastructure Report at **Appendix F**.

Water and Sewer

Sydney Water was consulted during the design process for the purposes of water and sewer use. Hyder Consulting has provided a report at **Appendix F**, which demonstrates consultation with Sydney Water.

Sydney Water has confirmed in principle the development can be serviced from its existing sewage infrastructure and is preparing a formal response to the feasibility application describing their requirements for the collection system and the receiving sewer pumping station.

Correspondence from Sydney Water has indicated that subject to commercial negotiation and confirmation of developer charges, Sydney Water will be able to supply the site with the required sanitary (potable) water connections.

Gas

Hyder Consulting undertook a consultation with Jemena at their offices on the 18th of January 2013, and presented a concept master plan of the SICEEP development, along with predicted future gas demands for the development. Further details of correspondence with Jemena are included within the Services Infrastructure Report at **Appendix F**.

Communications

Hyder Consulting and AECOM met with NBN Co at AECOM offices on the 8th of January 2013 and presented the master plan. NBN Co indicated that they would be interested in supporting the project and issued an Early Certificate determining that the development is within the NBN fibre footprint and subject to agreeing to NBN Co.'s terms and conditions NBN Co has agreed to procure the installation of fibre infrastructure at the development. Further details of correspondence with NBN Co are included within the Services Infrastructure Report at **Appendix F**.

4.0 Description of Proposed Development

This chapter of the report provides a detailed description of the proposed development. Architectural, landscape/public domain, and civil drawings are included at **Appendix BB, CC** and **DD** respectively.

This application seeks approval for the following development:

- Demolition of existing improvements on the site, including the existing Convention Centre and Exhibition Centre;
- Associated tree removal and replanting;
- Construction of a new, integrated and world-class Convention, Exhibition and Entertainment Centre (core facilities);
- Public domain improvements, including:
  - reinvigorating and expanding Tumbalong Park by 3,000m^2,
  - provision (part) of a new active north-south pedestrian connection (known as the Boulevard);
  - provision of new east-west connections, including Harbourside Place and Tumbalong Place;
  - Provision of a pedestrian bridge link from Quarry Street;
  - Retention of the tidal cascade water feature;
  - Reconfiguration and upgrade of Darling Drive (part);
  - Provision of a new square adjoining the Chinese Garden;
  - Provision of a new 5,000m^2 open space 'event deck' (connected with the Exhibition Centre);
  - Erection and use of a temporary shelter structure on the Event Deck for use up to 80 days per year;
  - Integrated art, play zones, water play and recreation areas;
  - Provision of retail kiosks;
- Provision of ground level parking within the ICC Exhibition and The Theatre;
- Ground and elevated loading docks (accessed off Darling Drive) for the Convention, Exhibition and Entertainment Centre facilities;
- Two vehicle drop off points off Darling Drive;
- Alterations to the existing Metro Transport Sydney Offices;
- Improvements to Convention and Exhibition Centre light rail stations;
- Provision of signage; and
- Diversion, extension and augmentation of physical infrastructure / utilities as required.

Approval is also sought for a range of temporary works during construction, including:

- Temporary stairs from the raised pathway under the Western Distributor to Darling Harbour ground level;
- Temporary pedestrian ramp south of the Exhibition light rail station and associated temporary pedestrian crossing along Darling Drive south of Pier Street; and
- Temporary ramp north of Convention light rail station and associated temporary pedestrian crossing along Darling Drive.

The proposed public domain will generally be open to the public 24 hours per day 7 days per week. Approval is sought for a range of outdoor events and functions to occur within Tumbalong Park, Harbourside Place and Tumbalong Place, the existing natural amphitheatre at Cockle Bay, and the Quarry Street 'Event Deck'.

The types of events and functions are expected to potentially include:

- Concerts and festivals;
- Entertainment linked to exhibitions and conventions;
- Additional space for exhibitions (e.g. the 'Event Deck');
- Markets, food and wine events;
- Sporting events;
- Open air cinema and theatre; and
- Special events such as Australia Day, New Year's Eve, Anzac Day, Chinese New Year etc.

4.1 Site Preparation and Demolition

Site Demolition Plans are provided within the Architectural Drawings, Landscape Drawings and Civil Infrastructure Drawings provided at **Appendix BB, CC** and **DD.** All existing improvements within the subject site will be demolished and/or removed/relocated, with the exception of key elements that are to be retained, including:

- existing slab of Sydney Exhibition Centre (part) within the proposed building footprint for the ICC Exhibition and The Theatre;
- shell and superstructure of the Sydney Convention Centre (Parkside) building (below Western Distributor Viaducts);
- existing roads and associated structures, including the Western Distributor and Pier Street viaducts;
- Darling Harbour Water Feature (Woodward Fountain); and
- existing landscaping, trees and public domain features as noted in the Landscape Plans (**Appendix CC**).

4.2 Excavation (Minor)

The redevelopment of the PPP Site will involve a range of minor excavation works, including:

- Bored piers extending to the depth of rock for the installation/construction of foundation/piles and lift piles.
- Relatively shallow excavations for the installation of utilities (i.e. 1-2 m deep), strip footings and pile caps. Where possible, the existing services will be reused (i.e. stormwater culverts and sewer mains). Although some new service trenches will be required.
- Minor cut and fill of soils within the public realm/ Tumbalong Park.
- Works will generate approximately 26,000m^3 of soil – to be reused on-site or disposed of offsite.
- Potential importation of fill materials for possible re-levelling works at Tumbalong Park.

- Construction is to be at grade (utilising exiting slabs) with no further basement excavations (excluding the minor cut and fill activities).

4.3 Core Facilities

The ICC Sydney core facilities are detailed in the Architectural Drawings prepared by Hassell + Populous (**Appendix BB**). The operations of these facilities will be guided by the Plan of Management prepared by AEG Ogden (**Appendix J**).

4.3.1 International Convention Centre (ICC)

Located generally within the footprint of the existing Sydney Convention Centre at the northern end of the SICEEP Site, the ICC will provide a new international-standard facility with convention spaces, meeting rooms, an auditorium, a small theatre and a 2,000 seat ballroom.

Built Form and Architectural Treatment

Part of the structure of the existing Sydney Convention Centre located below the Western Distributor will be retained and stripped out for refurbishment and integration into the new ICC building. The new building will provide six (6) levels of convention centre facilities and two (2) levels for plant, with a maximum roof height of RL 48.3m AHD (i.e. 45 metres above existing ground level). Within the levels a number of mezzanines exist to provide separation between service and 'public' spaces and enable circulation.

As shown in **Figure 29**, the new ICC building will be a landmark which incorporates glazed facade which emphasises the angular form of the building and provides a strong built edge to the south-western corner of Cockle Bay. The visual presence of the ICC has been designed to draw attention from the Western Distributor viaducts which are dominant within this precinct at present.

Figure 29 – View to proposed ICC from Cockle Bay

Land Use & Floor Space by Level

Ground Level
At Ground Level the ICC provides main pedestrian entrances fronting onto the Cockle Bay foreshore and Harbourside Place (a new east-west connection – refer to **Section 4.3** for further details) which lead into a large internal foyer and circulation space. Concierge and convention registration desks, cloaking rooms, bathrooms, media facilities and a cafe will be accessed from this foyer, with vertical circulation (stairs, elevators and lifts) providing access to upper levels of the ICC from this space.

Servicing and operations facilities comprise the majority of the ground floor space including facilities management offices, storage rooms, data and audio-visual services, staff cafeteria, staff locker and change rooms, waste storage areas and the loading dock.

Active uses in the form of food and beverage outlets are also proposed along the eastern elevation of the ICC (under the Western Distributor), opening out onto the public realm/ the Boulevard.

The Ground Level building layout and uses are shown at **Drawing CO_AR_0100_L0**.

Level One (RL 7.0)
Level One of the ICC is shown at **Drawing CO_AR_0101_L1** and is generally comprised of:

- +2,500m^2 convention/exhibition space;
- ICC administration offices, meeting rooms and staff facilities;
- VIP and speaker reception and private rooms;
- main catering kitchen; and
- Pyrmont Theatre (part) – 1,000 seat tiered theatre.

Level Two (RL10.9)
Level Two of the ICC is shown at **Drawing CO_AR_0102_L2** and is generally comprised of:

- Pyrmont Theatre (part) – 1,000 seat tiered theatre;
- Darling Harbour Theatre (part) – 2,500 seat tiered theatre;
- 1,972m^2 of meeting room floorspace;
- pre-function space and lounges;
- food and beverage; and
- main pedestrian connection through to ICC Exhibition (Exhibition Concourse).

Level Three (RL17.2)
Level Three is shown at **Drawing CO_AR_0104_L3** and is generally comprised of:

- mid-level of Darling Harbour Theatre (no access);
- 1,727m^2 of meeting and presentation room floor space;
- catering finishing kitchen; and
- pre-function and circulation spaces.

Level Four (RL 24.5)
Level Four is shown at **Drawing CO_AR_0106_L4** and is generally comprised of:

- mid-level seating, access and pre-function space for Darling Harbour Theatre;
- 2,257m^2 of meeting and presentation room floor space;
- catering finishing kitchen; and
- pre-function and circulation spaces.

Level Five (RL 32)
Level Five is shown at **Drawing CO_AR_0108_L5** and is generally comprised of:

- upper-tier seating, access and pre-function space for Darling Harbour Theatre;
- Grand Ballroom;
- catering finishing kitchen; and
- pre-function and circulation spaces.

Access and Servicing

Public Pedestrian Access
Pedestrian access to the ICC will be provided from two main entrances at the ground-plane adjacent to the Darling Harbour Water Feature (Woodward Fountain) and a pedestrian entrance on the northern façade (adjoining the new Harbourside Place). These entrance points provide access to the main public foyer which provides access to the various facilities within the ICC.

Pedestrian access to the ICC is also provided from the main Exhibition Centre internal concourse (RL 10.9m AHD) which provides access and connections to and from the outdoor circulation terrace located along the eastern edge of the Exhibition Centre. The internal concourse also extends to The Theatre supporting the single precinct approach to core facilities.

The ground-level retail tenancy at the eastern edge of the ICC will be accessible to pedestrians directly from the adjacent public domain.

Loading and Servicing
The ICC loading dock will be located on the ground-plane with access from Darling Drive immediately to the north of the Western Distributor viaduct. The ICC loading dock will have the capacity to accommodate up to three articulated trucks (approximately 20m long) and up to four light/medium rigid vehicles within the loading dock simultaneously.

4.3.2 ICC Exhibition

The ICC Exhibition will be constructed as a multi-storey exhibition space within the northern portion of the existing Sydney Exhibition Centre building footprint. The existing slab will be retained in part with the new ICC Exhibition building to be constructed above, with the two stacked exhibition halls (which are able to be divided into smaller spaces) comprising a total exhibition space of more than 32,000m^2.

Built Form and Architectural Treatment

The ICC Exhibition is oriented towards Tumbalong Park, which is the key public domain interface to the building, presenting key pedestrian access, internal and external circulation spaces towards this space. Large expanses of glazing and covered walkways orient the building towards the public space. Earth and landscaping will ramp up to the main pedestrian concourse above and against the building podium, creating a new topography for this interface which reduces the overall appearance of building bulk from the east and provides the added benefit of increasing the quantum of public open space. Glazing and structural elements will be complemented by a protruding timber-styled 'folded' feature roof (refer to **Figure 30**).

The western facade of the ICC Exhibition will be architecturally treated with materials and design form which facilitates the practical functions of this space – vehicular access, servicing, and noise mitigation – whilst creating a built form which relates to the urban form. Facade cladding and articulation will reduce the overall bulk of this facade and hide servicing activities, presenting an interesting built edge to the public domain.

Figure 30 – View to proposed Exhibition Centre from Tumbalong Park

Land Use & Floor Space by Level

The ICC Exhibition is comprised of three distinct levels, being the existing basement car park (reconfigured), the lower exhibition halls and the upper exhibition halls. Within these levels a number of split-levels and mezzanines exist to provide separation between service and 'public' spaces and enable circulation.

Basement Carparking and Ground Level Retail (RL 2.5)
A total of 719 public car parking spaces will be provided with vehicular access from Darling Drive. As noted, this level is to be located above an existing slab.

Soil and landscaping will be mounded against the eastern facade of the ICC Exhibition ground level to conceal the car parking podium and provide a transition between the public domain and the raised outdoor circulation terrace.

A small retail tenancy will be located within this eastern facade with access from the boulevard at ground level between the car park fire corridor exit points. This retail space will be designed for food and drink retail, and will include outdoor seating along the boulevard frontage. A trafficable green roof will span above the retail tenancy which forms part of the terraced landscaping.

Lower Exhibition Halls (RL 6.0)
The Lower Exhibition Level is comprised of four (4) exhibition halls with a total exhibition space of 19,556m^2 with ancillary facilities, service and circulation spaces. Operable walls divide each of the halls, enabling flexibility for future users. An internal column grid of 27 metres by 27 metres is provided for structural support to the upper level.

From ground plane, a series of stairs, ramps and elevators will provide access to the covered Outdoor Circulation Terrace which runs along the eastern length of the building. From the terrace access is provided to the internal foyer (pre-function space) and concourse which connects through to the ICC to the north and The Theatre to the south. Registration, cloaking and management facilities are provided in four modules (one per exhibition hall) at the east of each exhibition hall adjoining the concourse.

The pedestrian concourse and terrace sits above the floor level of the exhibition halls (approximately 6 metres higher). Pedestrian access from the terrace to exhibition halls will be provided via wide internal stairs and elevators, with separate vertical circulation to each exhibition hall.

The loading dock, service zone, kiosks, bathrooms and storage areas for the Lower Exhibition Halls are located directly beneath the pedestrian concourse and terrace.

A mezzanine level is located directly above the Lower Exhibition Level pre-function space with meeting rooms, hospitality suites, exhibition organiser's offices and bathrooms.

Upper Exhibition Halls (RL21.50)
The Upper Exhibition Level is comprised of three (3) exhibition halls with a total column-free exhibition space of 13,405m^2 with ancillary facilities, servicing and circulation space. Again, operable walls divide each of the halls, enabling flexibility for future users and enabling a range of events with varying size requirements to be accommodated.

The pre-function space for the Upper Exhibition Level is accessed via stairs and lifts from the Lower Exhibition Level pre-function space. Registration and kiosk facilities are located within the pre-function space adjacent to the exhibition halls, which are accessed on-grade from the pre-exhibition space.

The loading dock for the Upper Exhibition Halls is located at the western end of the exhibition halls, with vehicular access to this space provided via a series of ramps from the lower-level vehicular access point.

A mezzanine level is located directly above the Upper Exhibition Level pre-function space with meeting rooms, hospitality suites, a press room and bathrooms.

Access and Servicing

Public Pedestrian Access
Pedestrian access will be provided to the ICC Exhibition primarily from a series of ramps, stairs, elevators and lifts located at the eastern and south-eastern interfaces of the building with Tumbalong Park. At the south-eastern corner of the site a wide staircase, escalator and lifts will provide public access to the outdoor pedestrian concourse along the eastern boundary of the Exhibition Centre. This concourse will provide public access to the internal foyer and pre-event area for the Exhibition Centre and also provide a break-out space from the venue into the public domain.

Direct pedestrian access to the ICC Exhibition internal concourse is also provided from the ICC Convention in the north and The Theatre in the south which provides the core facilities as a single connected entertainment and convention precinct.

Public Car Park
Vehicular access to the public car park will be provided from a separate entry and exit point to Darling Drive, with access to be controlled via ticketed boom gates. Pedestrian exit and entry to the car park will be provided from lobbies located adjacent to Tumbalong Park at the northern and southern ends of the ICC Exhibition building.

Loading and Servicing
Loading access to the site will be provided from Darling Drive via a truck access ramp providing left-in access only to the north-west corner of the building. From Darling Drive the truck access ramps up to the level of the Lower Exhibition Halls. At this point, service vehicles can turn east and traverse an internal access road to the loading zone for the Lower Exhibition Halls, or continue south and enter the circulation ramp structure providing access to the Upper Exhibition Halls. Service vehicle egress from the site is provided at an access point at the south-west corner of the ICC Exhibition building to Darling Drive. Part of the raised apron of the loading dock servicing the Upper Level Exhibition Halls is proposed to traverse across Darling Drive and the Light Rail Corridor.

4.3.3 Event Deck

The Event Deck is located to the south of the upper-level ICC Exhibition halls and is comprised of a trafficable open space with a total area of approximately 5,000m^2. The Event Deck will provide a multi-functional space for public and private use which is integrated with both the ICC Exhibition and with Tumbalong Park. **Figure 4** provides indicative illustration of the Event Deck in use, whilst **Figure 3** above illustrates the appearance of this space from Tumbalong Park.

Public Domain, Landscaping and Pedestrian Access

The Event Deck will be comprised of a generally flat paved surface with landscaped edges, including a planted edge with natural grasses which slopes downwards towards the deck's Tumbalong Park edge. Moveable landscaping and furniture will be provided within this space and managed by the venue operator in order to break up the expanse of the Event Deck and provide improved amenity and functionality during periods of informal use.

Public pedestrian access between Quarry Street and Tumbalong Park will be maintained at all times via the proposed new pedestrian bridge and the pedestrian path along the southern edge of the Upper Exhibition Halls. Access to the main Event Deck area will generally be restricted to daylight hours (sun-up/sun-down). With the exception of high-security events, public access to the Event Deck will be maintained during event and bump-in/bump-out days to the portion not in use for that event.

Figure 31 – Indicative photomontage of Event Deck usage

Oxygen Lounge, Events and Temporary Structures

The Event Deck will host a range of events throughout the year including spill-out exhibition events in conjunction with the Exhibition Centre, conference dinners and other events.

The Oxygen Lounge is comprised of a 1,200m^2 area located at the eastern edge of the Event Deck which will be used for the hosting of smaller events such as cocktail and pre-dinner drinks throughout the year. This space will also be able to be integrated into larger, temporary structures to support larger events. Use of the Oxygen Bar by patrons will cease by 11pm each evening except during large-scale celebratory events. This is supported by amenities and a small covered space with bar facilities.

Types of events to be hosted on the Event Deck include:

- Cocktails and pre-dinner drinks within Oxygen Lounge;
- Outdoor exhibitions (with or without temporary structure);
- Conference dinners (with or without entertainment and live music); and
- Large-scale celebratory events – up to six events per year (e.g. Australia Day, New Years Eve celebrations).

Use of the Event Deck by patrons will cease by 11pm, with the exception of large-scale celebratory events which will be limited to six occasions per year. It is anticipated that the Oxygen Lounge and Event Deck will be used for approximately 220 days per year, including event set up (bump-in) and pack up (bump-out) days.

Some events will require the erection of marquee or similar structures for weather protection and noise mitigation. **Drawing EX_AR_2003** details the location, form and configuration of a temporary structure which will be erected for events hosted on the Event Deck requiring weather protection. Consent is sought for these temporary structures to be erected and used on the Event Deck for up to 80 days per year, including bump-in and bump-out days.

4.3.4 The Theatre (Entertainment Centre)

The Theatre will bookend the PPP Site to the south with a new 8,000 seat theatre for entertainment events such as concerts, stage shows and indoor sport matches. The building will have a maximum building height of RL 44.00m AHD (i.e. 41.5m above ground level). Options to increase internal seated capacity to 9,000 patrons will be investigated during design development.

Built Form and Architectural Treatment

The main pedestrian entrance at the north-east corner of the building will be the dominant visual element from Tumbalong Park, with the void over the main staircase creating a clear public entry statement (refer to **Figure 32**).

At the upper levels, the northern and eastern facade will incorporate large expanses of glazing which provide clear sight lines into and out from the public pre-event foyers. This interface will promote a strong visual relationship between pedestrians within both The Theatre and Tumbalong Park.

Figure 32 – Proposed view to The Theatre from Tumbalong Park

Land Use & Floor Space by Level

The Theatre is comprised of an 8,000 seat theatre with access from three main public/event foyer levels. Service levels at Ground Level are sleeved with active uses associated with The Theatre and retail tenancies along the key pedestrian interfaces with the Chinese Garden of Friendship and Tumbalong Place (a new and vibrant east-west connection between Darling Drive and the Boulevard).

Ground Level (RL2.5)
The Ground Level is comprised of:

- 107 public car parking spaces;
- ground level retail tenancies;

- main ground patron entrance;
- VIP entry foyer;
- ticket box office;
- food preparation kitchen;
- facilities management, equipment and food storage; and
- waste rooms.

Level One (RL 6.0)
Level One is comprised of the main stage area and venue management and storage facilities, including:

- main stage area;
- loading dock;
- staff break, change and locker rooms;
- equipment store rooms;
- catering kitchen;
- VIP conference, meeting and holding room.

Level Two – Main Foyer (RL12.0)
Level Two is comprised of the main (lower) foyer, which is accessible from ground level either via a series of stairs, by escalator or by lift located at the north-east corner of the building adjoining Tumbalong Park. The main foyer will include security screening areas, circulation and pre-event holding space, catering and merchandise outlets, bathrooms and vertical circulation to upper level foyers.

Lower-level seating within the theatre will be accessible directly from the main foyer level via controlled entry points. The lower rows of seating will be retractable into a void space underneath the mid and upper-level seating in order to provide a larger stage area or standing-room space and allow for a range of seating configurations in this space.

A mezzanine level (RL15.0) is included within the north-west corner of the building with venue management offices and staff facilities.

Level Three – Mid-level Foyer (RL18.0)
The mid-level foyer will include circulation and pre-event holding space, catering and merchandise outlets, temporary bar areas, bathrooms and vertical circulation to lower and upper level foyers. Mid-level seating within the theatre will be accessible directly from the main foyer level via controlled entry points.

Level Four (RL 24.0)
Level Four is comprised of circulation space to upper/lower levels, corporate function rooms, prayer rooms and bathrooms.

Level Five – Upper Foyer (RL 30.0)
The upper-level foyer will include circulation and pre-event holding space, catering outlets, temporary bar areas, corporate function rooms, bathrooms and vertical circulation to lower level foyers.

The top of the roof will RL44.0m at its highest point towards the building's eastern facade.

Access and Servicing

Public Pedestrian Access
Pedestrian access to The Theatre will be provided primarily from the main pedestrian staircase located at the north-east corner of the building which rises to the main theatre security area foyer, with the concourse connection to the ICC Exhibition also landing within the main foyer space. Lift access will also be provided from this location.

Access to the ground level retail tenancies will be provided directly from the north-south boulevard and from Tumbalong Place.

Loading and Servicing
The Loading Dock for The Theatre will be accessed from a ramped entrance at the intersection of Pier Street and Darling Drive, with the ramp rising to a dock at Level 1 on-grade with the main stage area.

4.3.5 Building Identification Signage Zones

The proposal seeks approval for ancillary building identification signage zones for the core facilities, as identified on the elevations within the Architectural Drawings (**Appendix BB**). Details of the exact content, materiality, and illumination etc. of signs within these zones will be the subject of approval by the Director General prior to the issue of the relevant CC.

4.4 Landscaping and Public Domain

Public domain areas within the PPP Site will be upgraded in accordance with the Landscape Plans (**Appendix CC**) prepared by Hassell. The public domain site plan is illustrated at **Figure 33**. Final design resolution of all landscaping and public domain treatments and structures will occur in consultation with INSW and SHFA.

Figure 33 – Public Domain Site Plan

North-South Boulevard ('The Boulevard')

The north-south boulevard will be the key pedestrian site access route from the core facilities to surrounding pedestrian connections, attractions such as Cockle Bay and surrounding precincts including The Haymarket. The boulevard will be the main address to the core facilities and will typically be comprised of a paved footway 20 metres in width running between Cockle Bay and the Chinese Garden of Friendship, with small incursions of soft landscaping, street furniture and public art.

Information and interactive way-finding kiosks will be installed as part of the proposed public domain works as detailed in the Landscape Plans.

A series of 'skytrackers' (precinct lighting and advertising markers) will be located along this north-south linkage to emphasise this link within the precinct and assist in identifying this precinct within the CBD as a major entertainment precinct. The skytrackers will be subject to a separate future development application, however indicative locations and precedent designs for these structures are included within the Landscape Drawings (**Appendix CC**) for information purposes.

Tumbalong Green

Tumbalong Green will be re-surfaced with an expanded turfed area and new pedestrian paths across this space to improve usage, desire lines, way-finding and integration with existing and new adjoining public domain spaces. New pathways across Tumbalong Green will improve the permeability of this space and encourage more active use of this space outside of formal events.

A key component of the new Tumbalong Green will be the erection of a new stage/pavilion structure at the southern edge of the green to be used in the hosting of the cultural events in place of the temporary structures which are currently used. This pavilion will incorporate small back-of-stage facilities and amenities for event operations and a large 12 metre by 8 metre LED screen for the broadcasting of major sporting events, films, entertainment graphics and the like.

Active and Passive Recreation Spaces

The public realm within the PPP Site will be upgraded to provide a range of active and passive recreation spaces as detailed in the Landscape Drawings. These will include:

- active water play area to complement and integrate with existing Darling Quarter public domain;
- playground equipment;
- soft landscaped areas for passive recreation;
- pavilions to be provided by SHFA for public uses;
- retail kiosks to be provided by SHFA;
- street furniture including seating and tables; and
- public toilets.

On-street dining associated with retail tenancies within the core facilities and retail kiosks will be provided within the public domain in the 'alfresco zones' identified in the Architectural Drawings (**Appendix BB**).

Entrance to Chinese Garden of Friendship

The forecourt to the Chinese Garden of Friendship will be upgraded to provide a new, high-quality plaza with cherry blossom trees and interactive water features which continues the character of the gardens beyond the existing wall. This space provides an open area capable of accommodating markets and events linked to the gardens.

4.5 Metro Transport Sydney Light Rail Operations Facility

The PPP project includes the partial demolition, alterations and additions to the Metro Transport Sydney (MTS) Light Rail Operations facility with new offices, maintenance stores/workshops in order to provide a new public pedestrian linkage between Quarry Street (at Pyrmont Street) and the Event Deck. The proposed works, which are detailed in **Drawing PP_AR_0052** and **Drawing PP_AR_0053**, will provide an at-grade publicly accessible pedestrian bridge over the light rail corridor and Darling Drive. The new works to the MTS offices are generally related to the upper levels and are comprised of:

- relocation of existing reception area and office areas to the south within the existing footprint;
- filling of existing monorail pit to accommodate new offices and reception areas;
- new control and server room to be provided on same level as offices;
- existing amenities (toilets and lunchroom) to be retained;
- existing light rail car wash to be demolished and slab extended to accommodate new maintenance stores and/or workshop;
- landscaping to external areas; and
- new office utilities including fire, water, electrical and communications services;
- retention of existing internal loading dock and lower-level workshops

4.6 Light Rail Interface Works

A range of works are proposed that will share an interface with or affect the Light Rail Corridor (LRC). It is noted that this DA seeks approval for interface works that may normally be classified as Development Permitted Without Consent and considered under Part 5 of the *Environmental Planning and Assessment Act 1979* (i.e. those works located within the LRC), however as the works are directly related and support the PPP consent is being sought under Part 4 of the EP&A Act. Importantly though, whilst approval for works within the LRC are sought, these works will be carried out by Transport for NSW ensuring such critical works are managed appropriately. In particular, this application seeks consent for the following works which share an interface with or affect the Light Rail Corridor (LRC):

- Temporary pathway extending from existing pedestrian ramp from Exhibition light rail station to south of Pier Street;
- Realignment of Darling Drive, including demolition and excavation, service relocation and new road structure;
- Loading dock apron structure associated with ICC Exhibition above the light rail corridor;
- New bridge extending from Quarry Street over Darling Drive onto Event Deck;

- Extension of Exhibition light rail platform/ramp and crossing extending from existing light rail platform to new crossing on either side of the rail tracks;
- Extension of stairs from Pyrmont St stairs and upgraded ramp to current BCA and DDA; and
- Temporary pathway from existing Convention Centre light rail station to north of roundabout.

4.7 Access and Parking

4.7.1 Public Car Parking

The proposed development incorporates the provision of two new public car parks within the core facility buildings, being:

- ICC Exhibition public car park – 719 spaces; and
- The Theatre public car park – 107 spaces.

Access to these car parks will be controlled via a ticketed boom gate system with parking fees to be collected by the venue operator. Parking for motorcycles will be provided at the applicable rates within each car park.

The ICC Exhibition car park will include designated vehicular zone near goods lifts for the loading and unloading of exhibitor stall equipment during bump-in and bump-out days.

In addition to the above, a total of 400 public car parking spaces are proposed to be provided within The Haymarket (subject to separate approval) to meet the demand generated by the operations of the core facilities.

Public bicycle parking within the public domain and ICC Exhibition public car park will have change facilities and will be provided at appropriate rates to support bicycle usage within the precinct.

4.7.2 Roads

Road infrastructure works within the PPP Site are detailed within the Civil Infrastructure Drawings prepared by Hyder Consulting and included at **Appendix DD**.

Darling Drive

Darling Drive will be realigned and relocated a short distance to the west of its current location adjacent to the light rail corridor in accordance with the Civil Infrastructure Drawings provided at **Appendix DD**. The new road reserve will be comprised of:

- separated dual-lane bicycle path located along the western edge of the road reserve; and
- dual-carriageway road with dividing median.

Vehicle crossovers and slip-lanes (where applicable) will be provided at the entrances to loading docks for the core facilities.

Internal Access Roads/ Pedestrian Shared Zones

Harbourside Place

Located at the northern end of the ICC, Harbourside Place will provide a loop road off Darling Drive providing access for vehicles to drop-off and pick-up convention delegates and other visitors to Cockle Bay and surrounding development, including the Harbourside Shopping Centre and the future ICC Hotel. The road will be a U-

shaped loop around a landscaped median, with the vehicle carriageway to be at-grade with the pedestrian footpath to create a slower vehicular environment. Car parking spaces will be provided on this lane adjacent to the ICC for taxi and private car pick-up and drop-off. An indicative photomontage of the public domain treatments to this space is included at **Figure 34**.

Tumbalong Place
Tumbalong Place will be a new vehicular loop road with restricted access (controlled by venue management) from Darling Drive and a pedestrian east-west link located between the ICC Exhibition and The Theatre. This access road will provide pick-up and drop-off facilities to the corporate and VIP entrance foyers and access to the off-street taxi/private car standby area to the west of The Theatre. The vehicular loop road will protrude approximately 50 metres east into the site from Darling Drive, with the remainder being for pedestrian access only. This area will be paved to the specifications identified in the Built Form and Public Realm report (**Appendix H**) and will include landscaped planters and trees, and will be activated by retail uses and other active uses along the northern edge of The Theatre.

Exhibition Place
Exhibition Place will be upgraded generally within its existing alignment as a one-way road, with the eastern extent of the road pulled back to the west of the SHFA operations centre and then continuing back to the east within the area currently occupied by the Entertainment Centre public car park before rejoining Darling Drive. This road will provide vehicular ingress and egress to The Theatre public car park.

The Pier Street up-ramp from Exhibition Place will be removed as identified in the Demolition Plans (**Appendix BB**).

Figure 34 – Indicative photomontage of Harbourside Place

4.7.3 Pedestrian and Cyclist Access

Ground level pedestrian access will be significantly enhanced throughout the PPP Site as a result of the proposed development to provide greater pedestrian and cyclist connectivity within the site and to adjoining localities. Whilst full details of shared paths are included within the architectural, public domain and civil infrastructure (**Appendices BB, CC** and **DD**), key pedestrian improvements include:

- Boulevard running north-south within the site and providing a direct and legible connection between the existing Cockle Bay promenade and future

continuation into The Haymarket precinct, with active uses and street furniture.

- New 'hard landscaped' linkages across Tumbalong Green to allow formal east-west pedestrian movements that track desire lines based on existing and proposed uses.
- Two upgraded pedestrian crossings of Darling Drive to provide improved access to the Convention and Exhibition Light Rail Stations. These pedestrian crossings will connect directly to Harbourside Place and Tumbalong Place (described above) respectively, which are key pedestrian shared zones and will promote connectivity between the PPP Site and the light rail.

In addition to ground-level connectivity, the proposed development responds to the physical and topographical barriers to provide improved shared pedestrian/cyclist access between the site and Pyrmont. Above-grade pedestrian linkages within the site will be provided as follows as part of the PPP Site development:

- The upgrade of the Metro Light Rail Operations Facilities as described at **Section 4.4** of this EIS will be undertaken in order to permit the construction of a pedestrian footbridge providing an at-grade connection between Quarry Street/Pyrmont Street and the Event Deck/ ICC Exhibition.
- The public pedestrian lift and stair to the Western Distributor viaduct to Fig Street/Harris Street pedestrian footpath which is currently located adjacent to the Sydney Convention Centre Parkside building will be relocated to the north-eastern corner of the ICC Exhibition outdoor terrace area.
- A public pedestrian bridge will connect the ICC Exhibition lower-level concourse and outdoor terrace to the main foyer (Level 2, RL 12.0) of The Theatre.
- Access to the Pier Street pedestrian footpath will be retained and unaltered.

4.8 Water Cycle Management

Detailed Stormwater Drainage Plans prepared by Hyder Consulting are included within the Civil Infrastructure Drawings at **Appendix DD** which detail the location and extent of proposed stormwater infrastructure within the PPP Site.

Features of the stormwater design include:

- Retaining all existing box culvert systems throughout the existing precinct.
- Re-use of existing stormwater drainage systems where possible.
- Wherever possible, retaining of existing local drainage pipe connections into the existing box culverts. However, where assessed as necessary, providing additional/larger connections in a manner approved by the asset holder (Sydney Water).
- Where necessary, providing new/additional stormwater systems to manage the proposed building structure and open space drainage.
- Provision of open space surface drainage systems with a focus on public safety, giving careful consideration to inlet type and location, and options of porous pavement areas.
- Consideration of existing and future overland flow paths throughout the SICEEP Precinct.
- Subsoil drainage, as required under pavement areas to ensure appropriate drainage to all areas of subgrade, sub-base and base areas.

4.9 Environmentally Sustainable Design

Environmentally sustainable design measures within the PPP site will be implemented on a precinct-wide basis to ensure that the overall development achieves a standard of environmental performance which is commensurate to the scale and importance of the new facilities. To this end, the ICC Convention has been designed to achieve a Gold LEED Rating to benchmark international best practice design and management. Darling Harbour Live will also work with the Green Building Council of Australia to achieve a Green Star Performance rating for the precinct.

Energy and Heating

The major energy project within the PPP site will be the installation of a 400kW capacity solar photovoltaic array installed upon the roof of The Theatre and the ICC Exhibition, being the largest solar array within the Sydney CBD.

Efficient heating and cooling of spaces within the ICC Convention, ICC Exhibition and The Theatre will be provided from a centralised thermal plant system in order to reduce overall energy use and minimise duplication of plant equipment. This is located within the ICC Convention utilising the existing plant areas within the Parkside Convention superstructure.

Water

Measures to reduce potable water consumption and wastewater discharge from the site will be implemented throughout the development site, including use of water-efficient fixtures and fittings, sub-metering of building plant and rainwater harvesting and reuse.

The development incorporates rainwater harvesting and storage facilities for use in toilet flushing, landscape irrigation and public domain water features. Water sensitive urban design (WSUD) strategies have been incorporated in the public domain treatments to improve water quality through use of swales and rain gardens, maximisation of soft landscaping to reduce overland flow and the use of permeable paving to improve groundwater infiltration.

Further investigation is proposed to be undertaken to determine the feasibility of connection to the Barangaroo South recycled water treatment plant for use in sub-soil landscape irrigation and/or the centralised plant area.

Transport

The environmentally sustainable design strategy for the PPP site is predicated on a number of integrated initiatives which seek to create a shift towards more sustainable travel modes, including:

- increase public transport usage by improving connectivity and ease of access to existing services and the implementation of a Green Travel Plan which promotes walking, cycling and public transport use;
- reduced private vehicle usage through a 20% reduction in on-site car parking provision and the promotion of alternate travel modes;
- improved pedestrian and cyclist facilities and linkages to promote non-car travel;
- provision of 50 dedicated car spaces and charging facilities to facilitate the rollout of Australia's first electronic car share scheme, with capacity to increase to 75 spaces if feasible; and
- designated parking spaces for small cars, carpool vehicles, electric and hybrid vehicles.

Waste

Retention and reuse of the existing slab and sub-surface structure of the existing core facilities will provide a significant reduction in construction waste and result in a saving of over 13,800 tonnes of embodied carbon. A detailed construction waste management plan will be developed prior to commencement of works to sort and manage waste streams to enable the recovery and recycling of high-value materials and the appropriate disposal for all other waste.

Operational waste will be separated into manageable streams to assist in achieving a minimum landfill diversion rate of 75% for venue operations.

4.10 Infrastructure and Services

Concept Utility Plans are included within the Services Infrastructure Report prepared by Hyder Consulting (**Appendix F**). As detailed in **Section 3.5**, the relevant service providers have been consulted and have advised that there is capacity to service the proposed development. Detailed design of utility infrastructure will be undertaken as part of detailed design prior to the issue of a Construction Certificate, and will be substantially the same as those works show in the Concept Utility Plans, being:

- Water and Sewer:
  - removal and diversion of existing water main located within proposed western footprint of ICC Exhibition;
  - new potable water mains along the eastern edge of the ICC, ICC Exhibition and The Theatre;
  - new potable water main along the western edge of the ICC Exhibition; and
  - new sewer main connection to ICC Exhibition and The Theatre.
- Gas:
  - new gas main along the eastern edge of the ICC, ICC Exhibition and The Theatre.
- Communications:
  - removal of existing Optus and Telstra communications services within existing SCEC buildings and within ICC, ICC Exhibition and The Theatre;
  - termination of removed services at junctions;
  - new communications services, carrier and distribution rooms to ICC, ICC Exhibition and The Theatre.
- Electrical:
  - removal and/or diversion of some existing electrical conduits within PPP Site;
  - new substations as required; and
  - new electrical lead-in conduits to ICC, ICC Exhibition and The Theatre.

4.11 Waste Management

Individual waste storage and management facilities will be provided within the service areas of the ICC, ICC Exhibition and The Theatre to accommodate the waste streams and volumes identified in the Waste Management Plan prepared by Waste Audit and Consultancy Services (**Appendix L**).

Waste facilities within each venue (including waste storage areas and waste compactors) are designed to accommodate the predicted waste volume generated by the maximum event capacity of that venue.

Public waste receptacles will be provided in appropriate locations within the public domain, with separate receptacles for general waste, paper/cardboard and comingled recycling.

4.12 Construction Management and Staging

A Construction Management Plan has been prepared by Lend Lease for the PPP Site (**Appendix M**) which generally details:

- construction planning and methodology;
- site establishment;
- environmental and safety management;
- construction waste management;
- stormwater and erosion control;
- noise and vibration management;
- air quality management;
- construction traffic and public access; and
- community relations management.

The Construction Management Plan will inform the preparation of a detailed Site Construction and Environmental Management Plan which will be finalised prior to the issue of a Construction Certificate.

Construction will commence upon the completion of scheduled events within the SCEC in December 2013, with works scheduled to be completed within a 32-month program to enable the opening of the new venues in December 2016 in order to minimise disruption to the local convention/exhibition program and flow-on impacts to the local tourism industry. **Table 7** outlines the anticipated construction program.

Table 7 – Indicative construction staging and program

Stage	Indicative Timing	Description of Works
1	December 2013 – January 2013	Internal demolition of Sydney Convention and Exhibition Centre
2	February 2014 – August 2014	Demolition of Convention Centre and Exhibition Centre
3		
4		
5		
6	July 2014 – April 2015	Construction of ICC Exhibition, The Theatre and ICC Convention
7	April 2015 – December 2015	Construction of ICC Exhibition, The Theatre, ICC Convention and Public Domain (Boulevard)
8	January 2016 – June 2016	Construction of ICC Exhibition, The Theatre, ICC Convention and Public Domain (Tumbalong Green)
9	July 2016 –August 2016	Construction of ICC Exhibition, The Theatre, ICC Convention and Public Domain (Entrance to Chinese Garden)
10	September 2016	Final Commissioning
11	December 2016	Handover of Core Facilities

5.0 Environmental Assessment

This chapter of the EIS contains our assessment of the environmental effects of the proposed development as described in the preceding chapters of this report.

Under Section 79C(1) of the EP&A Act, in determining a development application the consent authority has to take into account a range of matters relevant to the development including the provisions of environmental planning instruments; impacts on the built and natural environment, the social and economic impacts of the development; the suitability of the site; and whether the public interest would be served by the development. These matters are addressed in the following sections of this EIS.

The key planning issues associated with the proposed development are listed in **Table 8** below.

Table 8 – Planning Issues

Planning Issues	Assessment	
	EIS	Technical Study
Director General's Environmental Assessment Requirements	Section 1.5	Appendix A
Compliance with Relevant Legislation and Environmental Planning Instruments	Section 5.2	N/A
Compliance with Planning Policies	Section 5.3	N/A
Design Excellence	Section 5.4	Appendix H
Built Form and Urban Design	Section 5.5	Appendix H and BB
Public Domain	Section 5.6	Appendix H and CC
Visual Impact	Section 5.7	Appendix O
Transport and Accessibility	Section 5.8	Appendix K
European Heritage	Section 5.9	Appendix C
Archaeology	Section 5.10	Appendix D
Geotechnical	Section 5.11	Appendix P
Contamination	Section 5.12	Appendices E, Q and R
Reflectivity	Section 5.13	Appendix S
Wind Impact	Section 5.14	Appendix T
Water Cycle Management	Section 5.15	Appendix U
Air Quality	Section 5.16	Appendix V
Noise and Vibration	Section 5.17	Appendix W
Access	Section 5.18	Appendix X
Ecologically Sustainable Development	Section 5.19	Appendix I
Operational Waste Management	Section 5.20	Appendix L
Building Code of Australia	Section 5.21	Appendix Y
Social and Economic Impacts	Section 5.22	N/A
Crime Prevention through Environmental Design	Section 5.23	Appendix Z
Environmental and Construction Management	Section 5.24	Appendix M
Site Suitability	Section 5.25	N/A
Public Interest	Section 5.26	N/A

5.1 Director General's Environmental Assessment Requirements

Table 3 in **Section 1.5** provides a summary which sets out the individual matters listed in the DGRs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

5.2 Compliance with Relevant Legislation and Environmental Planning Instruments

5.2.1 Environmental Planning and Assessment Act 1979

This SEE has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed development. **Table 11** provides an assessment of the proposed development against the objects of the Environmental Planning and Assessment Act, 1979.

Under section 79C(1) of the EP&A Act, in determining a development application the consent authority has to take into account a range of matters relevant to the development including the provisions of environmental planning instruments; impacts of the built and natural environment; the social and economic impacts of the development; the suitability of the Site; and whether the public interest would be served by the development. This assessment includes only those matters under section 79C(1) that are relevant to the proposal.

Pursuant to section 89C of the EP&A Act, a State Environmental Planning Policy may declare any development, or any class or description of development, to be State significant development. Under the provisions of State Environmental Planning Policy State and Regional Development 2011 (SEPP SRD), this Concept Proposal is State Significant Development (SSD).

Table 9 – Objects of the EP&A Act 1979

Object	Comment
5(a)(i) To encourage 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.	The proposed development will contribute to the proper management, development and conservation of the natural and artificial resources of the Site. In particular, measures outlined in the Ecologically Sustainable Development Report prepared by AECOM and included as Appendix X will be implemented to ensure the conservation of natural resources throughout the construction and operational phases, and existing artificial resources and infrastructure will be retained where practicable. The proposed development will promote the social and economic welfare of the community by providing an improved urban environment for residential and commercial use, and will greatly enhance a key CBD location that is presently underused. The proposed development will contribute to a better environment through the implementation of sustainability measures, and the provision of extensive public domain works.
5(a)(ii) To encourage the promotion and co-ordination of the orderly economic use and development of land.	The proposed development involves the orderly redevelopment of the Sydney Convention and Exhibition Centre to ensure that the use of the land remains economic into the future. The Proposal will promote economic growth within Sydney and NSW and will make greater use of an underperforming Site. Mitigation measures included at Section 6.0 of this EIS will ensure

Object	Comment
	that development occurs in an orderly manner.
5(a)(iii) To encourage the protection, provision and co-ordination of communication and utility services.	The proposed development would not impact on the provision or coordination of communication and/or utility services. Relevant utility providers have been consulted during the development of the proposal.
5(a)(iv) To encourage the provision of land for public purposes.	The proposed development includes the provision of a substantial quantum of public domain works, to the benefit of existing and future residents, workers, and the wider community.
5(a)(v) To encourage the provision and co-ordination of community services and facilities.	The proposed development nominates usage rights of facilities within the site for community uses.
5(a)(vi) To encourage 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.	The proposed development will be undertaken in a highly modified and disturbed urban environment, and will not impact on biodiversity values. The Site is not considered to have habitat suitable for any threatened flora and fauna, and the only vegetation proposed to be removed are existing landscape plantings.
5(a)(vii) To encourage ecologically sustainable development.	The proposed development accords with the principles of Ecologically Sustainable Development, as set out in Schedule 2 of the EP&A Regulation 2000. This is further considered in Section 5.20 of this EIS.
5(a)(viii) To encourage the provision and maintenance of affordable housing.	The provision of affordable housing within The Haymarket precinct will be addressed separately within future Stage 2 DAs for this site.
5(b) To promote the sharing of the responsibility for environmental planning between different levels of government in the State.	Extensive consultation has been undertaken with various levels of government and government agencies during the preparation of this proposal, and all government agencies will be afforded the opportunity for further input into the development process during the public exhibition process.
5(c) To provide increased opportunity for public involvement and participation in environmental planning and assessment.	The community consultation carried out assisted the development of the proposal and is detailed in section 3 of this EIS. Further consultation will be carried out through the public exhibition of the EIS, prior to the commencement of construction, and throughout the construction period.

5.2.2 Relevant Environmental Planning Instruments

The following planning instruments, which are relevant to the proposed development to be addressed:

- State Environmental Planning Policy – (State & Regional Development) 2011;
- State Environmental Planning Policy – Infrastructure 2007;
- State Environmental Planning Policy No. 55 Remediation of Land;
- State Environmental Planning Policy No.64 – Advertising and Signage;
- Draft State Environmental Planning Policy – (Competition) 2010;
- Darling Harbour Development Plan No. 1; and
- Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005.

The SSD DA's consistency and compliance with the relevant strategic and statutory plans and policies is located in **Table 10** below.

Table 10 –Compliance with relevant environmental planning instruments

Instrument	Comments
SEPP (State & Regional Development)	Pursuant to the SEPP a project within the Darling Harbour Site will be SSD if it has a capital investment value (CIV) of $10 million or more. The PPP project has a CIV of $997.2 million, and is therefore identified as SSD and considered to be development of State and / or Regional Significance.
SEPP (Infrastructure)	The proposed development triggers consultation with NSW Roads and Maritime Services (RMS) under the provisions of Schedule 3 of the SEPP as the proposed development is traffic generating development which: – includes a public car park with more than 200 spaces; – is a place of assembly with more than 200 car spaces; Car parking, traffic generation and access are discussed at Section 5.7 of this EIS and in detail at Appendix K. The proposed development ensures the safety, efficiency and ongoing operation of classified roads in the vicinity of the site by providing safe vehicular access via local roads and incorporating management measures to reduce construction-phase air emissions or dust. As the concept proposal includes rail corridor land, referral of the application to the relevant rail authority is also required. Referral is required to the relevant electricity supply authority (Ausgrid) in regard to the proposed development including diversion of existing underground electrical power services.
SEPP 55 (Remediation of Land)	Clause 7 specifies that a consent authority must not consent to the carrying out of any development on land unless it has considered whether land is contaminated and if the land is contaminated, it is satisfied that the land is/ can be suitable for the proposed development. Site contamination is discussed in detail at Section 5.12 of this EIS. In brief, a Site Auditor's Statement has been prepared by an EPA-accredited site auditor (Graeme Nyland) and is included as Appendix E. The assessment concludes that the site can be made suitable for the proposed development subject to the implementation of the Remedial Works Plan (Appendix Q).
Draft SEPP (Competition)	The proposed development is consistent with the aims of the Draft SEPP (Competition) in that it will promote economic growth and competition within NSW.

5.2.3 SEPP 64 – Advertising and Signage

State Environmental Planning Policy No 64- Advertising and Signage (SEPP 64) applies to all signage that under an environmental planning instrument can be displayed with or without development consent and is visible from any public place or public reserve. The Architectural Drawings (**Appendix BB**) identify zones for building identification signage which illustrate the indicative location and size of future signage to the core facility buildings.

Under clause 8 of SEPP 64, a consent authority must not grant consent for any signage application unless the consent authority is satisfied that the proposal is consistent with the objectives of the SEPP and with the assessment criteria which are contained in Schedule 1.

A copy of this EIS must be provided to the RMS at the commencement of the public exhibition period in accordance with Clause 17 as the proposed signage is located more than 8 metres above ground level. **Table 11** below demonstrates the consistency of the proposed signage zones with these assessment criteria.

Table 11 – Compliance with the Schedule 1 Assessment Criteria of SEP 64

Assessment Criteria	Comments	Compliance
1 Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The proposed development is compatible with the desired character for new buildings within the Darling Harbour precinct, which should	Y
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed development is generally consistent with the nature and siting of building signage within the Darling Harbour precinct, and provides a consistent approach to signage within the PPP Site.	Y
2 Special areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposed signage is consistent with the provision of signage within the Sydney CBD, Darling Harbour and Cockle Bay and will not detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, open space areas or waterways.	Y
3 Views and vistas		
Does the proposal obscure or compromise important views?	The propose signage is integrated with the proposed buildings and therefore will not result in any obstruction of views, and the location and content of signage will not otherwise compromise important views within the precinct.	Y
Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed signage will sit below the ridgeline of the proposed building and will not dominate the skyline of the Pyrmont/Ultimo skyline.	Y
Does the proposal respect the viewing rights of other advertisers?	The proposed signage does not impact upon the viewing rights of other advertisers.	Y
4 Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The scale, proportion and form of the proposed signage is consistent with the setting of the core facilities within an established tourism precinct within the Sydney CBD.	Y
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposed signage contributes to the visual interest of the SICEEP Site by contributing to the identification and recognition of the precinct as a key tourism precinct.	Y
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	The integrated provision of signage zones during the core facility design period establishes a rationalised signage strategy which is consistent with the architecture of the precinct.	Y
Does the proposal screen unsightliness?	The proposed signage is integrated with the architecture of the proposed buildings and will be applied to building facades.	N/A
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The proposed signage does not protrude above the upper building line of the core facilities.	Y
Does the proposal require ongoing vegetation management?	The proposed signage will not require ongoing vegetation management.	Y

Assessment Criteria	Comments	Compliance
5 Site and building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signage has been designed to be fully compatible with the proposed buildings and is compatible with the architecture of the core facilities.	Y
Does the proposal respect important features of the site or building, or both?	The proposed signage has been located in the most architecturally appropriate locations to assist in place identification and wayfinding.	Y
Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The proposed signage has been fully integrated with the building architecture.	Y
6 Associated devices and logos with advertisements and advertising structures		
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	All illumination of future signage will be fully integrated with the building structure.	Y
7 Illumination		
Would illumination result in unacceptable glare? Would illumination affect safety for pedestrians, vehicles or aircraft?	Illumination of signage will not result in unacceptable glare, and the location of the proposed signage which is generally below the height of nearby road viaducts	Y
Would illumination detract from the amenity of any residence or other form of accommodation?	The location and orientation of signage is such that it will not impact on nearby residential receivers.	Y
Can the intensity of the illumination be adjusted, if necessary? Is the illumination subject to a curfew?	Darling Harbour is an established tourism precinct which will accommodate activity well into the evening and night time. As such it is not considered necessary or appropriate to impose a curfew on the illumination of signage. Illumination of signage, including and any dimming measures, will be incorporated in the detailed design of precinct signage.	Y
8 Safety		
Would the proposal reduce safety for any public road?	The proposed signage has been located in order to avoid any impacts on public roads, and views to building signage will generally be limited to pedestrianised areas within Tumbalong Park.	Y
Would the proposal reduce safety for pedestrians/cyclists?	The proposed signage will be located above ground level and will not distract from essential sight lines for pedestrian and cyclists.	Y
Would the proposal reduce safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposed signage will be integrated with the proposed buildings and will not significantly obscure sight lines from public areas.	Y

5.2.4 Darling Harbour Development Plan No.1

The Darling Harbour Development Plan No.1 (DHDP) is the principal planning instrument applicable to the SICEEP Site, and more specifically The PPP Site. It provides a broad framework for development, principally through identifying permissible uses.

The objectives of the DHDP are to encourage the development of a variety of tourist, educational, recreational, entertainment, cultural and commercial facilities, and to set out those uses which are deemed permissible.

The proposed development is consistent with these objectives as part of the SICEEP redevelopment project. The proposed redevelopment of the PPP Site will deliver new world class convention, exhibition and entertainment facilities, and will re-position Sydney as the major events and business venue in the Asia-Pacific region.

Table 12 below provides an assessment of the permissibility of these uses under the provisions of the DHDP.

Table 12 – Summary of permissibility

Component	Darling Harbour Development Plan No.1	Permissible?
Convention Centre	– Clause 6 (d) of DHDP - Schedule 1 includes 'convention centres' as a permissible use.	✓
Exhibition Centre	– Clause 6 (d) of DHDP - Schedule 1 includes 'convention centres' as a permissible use.	✓
Entertainment Centre	– Clause 6 (a) of DHDP includes development for the purposes of entertainment facilities as a permissible use. – Clause 6 (d) of DHDP – Schedule 1 includes 'entertainment centres' as a permissible use.	✓
Public domain improvements	– Clause 6 (a) of DHDP includes development for the purposes of recreational facilities as a permissible use. – Clause 6 (c) of DHDP includes development for the purposes of beautifying the landscape as a permissible use. – Clause 6 (d) of DHDP – Schedule 1 includes 'parks and gardens' as a permissible use. – Clause 6 (e) of DHDP includes development for any purpose incidental or subsidiary to permitted development as a permissible use.	✓
Outdoor events and functions, including involving live entertainment	– Clause 6 (a) of DHDP includes development for the purposes of tourist, educational, recreational, entertainment, and cultural facilities as a permissible use. – Clause 6 (d) of DHDP – Schedule 1 includes 'markets' as a permissible use. – Clause 6 (e) of DHDP includes development for any purpose incidental or subsidiary to permitted development as a permissible use.	✓
Retail premises	– Clause 6 (d) of DHDP – Schedule 1 includes 'art galleries', 'child care centres', 'commercial premises (other than premises used for pawnbroking or other forms of moneylending)', 'professional consulting rooms', 'recreation facilities', 'refreshment rooms', 'shops', and 'theatre restaurants' as permissible uses.	✓

Component	Darling Harbour Development Plan No.1	Permissible?
Demolition	– Clause 8 of DHDP - the renovation or demolition of a building or work may not be carried out except with a permit being obtained as a permissible use.	✓
Upgrade and reconfiguration of Darling Drive	– Clause 6 (d) of DHDP – Schedule 1 includes 'public utility undertakings' as a permissible use. – Clause 6 (e) of DHDP includes development for any purpose incidental or subsidiary to permitted development as a permissible use.	✓
Tree removal	– Clause 6 (e) of DHDP includes development for any purpose incidental or subsidiary to permitted development as a permissible use.	✓
Quarry Street pedestrian bridge link	– Clause 6 (e) of DHDP includes development for any purpose incidental or subsidiary to permitted development as a permissible use.	✓
Car parking	– Clause 6 (d) of DHDP – Schedule 1 includes 'car parking stations' as a permissible use. – Clause 6 (e) of DHDP includes development for any purpose incidental or subsidiary to permitted development as a permissible use.	✓
Signage e.g. wayfinding, building identification, event signage	– Clause 6 (a) of DHDP includes development for the purposes of tourist, educational, recreational, entertainment, cultural facilities or commercial facilities as a permissible use. – Clause 6 (c) of DHDP includes development for the purposes of beautifying the landscape as a permissible use. – Clause 6 (e) of DHDP includes development for any purpose incidental or subsidiary to permitted development as a permissible use.	✓
Extension/ Augmentation of infrastructure	– Clause 6 (d) of DHDP – Schedule 1 includes 'public utility undertakings' and 'utility installation' as a permissible use. – Clause 6 (e) of DHDP includes development for any purpose incidental or subsidiary to permitted development as a permissible use.	✓
Light rail works	– Clause 6 (d) of DHDP – Schedule 1 includes 'public utility undertakings' as a permissible use.	✓

5.2.5 Sydney Harbour Catchment REP

Foreshore and Waterways

The site is subject to the provisions of the *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005* (Sydney Harbour REP), and is located within the Foreshores and Waterways Area. Part 3 Division 2 identifies the matters which must be taken into consideration in the assessment of any application under Part 4 of the EP&A Act within this area. The key relevant matters for consideration are discussed in greater detail in **Table 13** below.

Table 13 – Sydney Harbour Catchment REP Foreshore and Waterways Matters for Consideration

Matter for consideration	Comment
21) Biodiversity, ecology and environment protection	The proposed development includes stormwater capture, treatment and disposal infrastructure to ensure water quality does not adversely impact upon water quality or aquatic vegetation. Vegetation within the public domain will incorporate a range of native species.

Matter for consideration	Comment
22) Public access to, and use of, foreshores and waterways	The proposed development improves access to the Sydney Harbour Foreshore by improving north-south and east-west public pedestrian connectivity to Cockle Bay.
23) Maintenance of a working harbour	The proposed development is generally consistent with the existing land use and does not result in the loss of and 'working waterfront' lands.
24) Interrelationship of waterway and foreshore uses	Proposal does not directly impact upon access to or uses within the waterway the waterway.
25) Foreshore and waterways scenic quality	The scale, form and design of the ICC Convention is consistent with the existing and desired character of the Cockle Bay foreshore and of Darling Harbour more broadly as a waterfront tourist precinct.
26) Maintenance, protection and enhancement of views	A Visual and View Impact Analysis has been prepared for the SICEEP project by JBA and is included at Appendix O. The impact (including cumulative impacts) of the proposed development upon views to and from Sydney Harbour, public places, landmarks and heritage items is considered to be acceptable on this site.
27) Boat storage facilities	Not applicable.
59) Heritage	Impacts on heritage items in the vicinity of the site are addressed at Section 5.9 of this EIS.

5.2.6 Development Contributions

The proposed development will deliver long lasting and significant public benefits to Sydney and NSW (refer to **Section 5.23** for further details), and therefore any requirement for additional contributions would undermine the objectives of supporting the development of the Darling Harbour area for the people. The SICEEP Site is specifically excluded from all City of Sydney S94 Contributions Plans as well as any contributions under S61 of the *City of Sydney Act 1988*. The exclusion of the SICEEP Site (and broader Darling Harbour Precinct) reflects that it has its own special planning regime that applies, and that the State Government has since the 1980s (originally as part of the State's Bicentennial Program) set out to promote and encourage a variety of tourist, educational, recreational, cultural and commercial facilities across Darling Harbour. There is therefore no formal mechanism to levy development across the SICEEP Site.

Accordingly there are no grounds for the imposition of development contributions in relation to the proposal.

5.3 Consistency with Planning Policies

5.3.1 NSW State Plan 2021

NSW 2021 is the long-term plan guiding government decision-making and resource allocation to deliver services in NSW. Constructing "*a world–class conference and exhibition facility at Darling Harbour to enable NSW to compete for international business events*" is identified as a priority action under NSW 2021 and is a critical component to achieving the economic goals established under this plan. The submission of this SSD DA represents a critical milestone in fulfilling this priority action and therefore realising the targets established for NSW over the decade to 2021. Based on the construction program identified in **Section 4.11** of this report, the core facilities will be able to commence operations in December 2016, providing early completion of one of the centre-piece projects within the NSW 2021 plan.

NSW 2021 is based around five strategies to rebuild the economy, provide quality services, renovate infrastructure, restore government accountability, and

strengthen our local environment and communities. In addition to the specific actions regarding the exhibition and convention facilities, the Plan includes numerous goals that are relevant to the site, such as 'grow patronage on public transport by making it a more attractive choice', 'build liveable centres', and 'enhance cultural, creative, sporting and recreation activities'. The Plan also aims to focus growth around existing transport hubs. The proposed development is consistent with these principles. In particular, the proposed public domain improvements within Tumbalong Park and surrounding the core facilities will provide a significant public benefit and will create a more vibrant recreational space which contributes to a more liveable city for tourists, workers and residents.

5.3.2 Metropolitan Plan for Sydney 2036

The Metropolitan Plan for Sydney aims to provide an integrated planning framework to manage Sydney's growth to 2036. The proposal is consistent with the following objectives of the Metropolitan Plan for Sydney:

- Objective A4 – to continue strengthening Sydney's capacity to attract and retain global businesses and investment.
- Objective A6 – to strengthen Sydney's position as a contemporary, global tourism destination.
- Objective A7 – to ensure Sydney continues to support major events in iconic locations, and remains competitive in the global event and convention market.

In particular, this SSD DA responds directly to Action A7.2 of the Metropolitan Plan which seeks to explore opportunities to improve and expand convention and exhibition facilities at Darling Harbour. As such the proposed development is considered to not only be consistent with the Metropolitan Plan, but also a critical element in delivering the vision for Sydney set out in this plan.

5.3.3 NSW Long Term Transport Masterplan

The NSW Long Term Transport Masterplan was published by Transport for NSW in December 2012. The Masterplan focuses on key transport challenges identified during an extensive consultation process, and sets out how the NSW Government aims to respond by integrating transport services, modernising the transport system, growing the network to meet future demand, and maintaining important road and public transport assets. The proposed development will promote increased walking and cycling both within the precinct and to surrounding transport nodes.

The proposed development is consistent with the Masterplan in that it will:

- support increased usage of the light rail and improved pedestrian access to existing stations; and
- boost walking and cycling for both commuting and recreational trips by improving off-road and on-road pedestrian and cyclist facilities, including paths, bicycle parking and change facilities.

5.3.4 Sydney City Draft Subregional Strategy

The Sydney City Draft Subregional Strategy is applicable to the City of Sydney LGA. The Strategy sets actions for the subregions of the metropolitan area in order to ensure local delivery of the objectives set out within the Metropolitan Plan for Sydney. The proposed development is consistent with the aims of the Draft Subregional Strategy in that it:

- provides for the upgrade of city-centre exhibition and convention facilities to optimise this precinct for further growth as identified in the Draft Subregional Strategy;

- improves Sydney's major cultural event facilities through the development of the ICC, ICC Exhibition, The Theatre and Tumbalong Green;
- provides for the improvement of an established tourism precinct within Sydney;
- incorporates industry best-practice ecologically sustainable design measures including the on-site generation of renewable energy;

5.3.5 Additional Relevant Planning Policies

The proposed development demonstrates consistency with key planning policies identified in the DGRs as demonstrated in **Table 14** below.

Table 14 – Consistency with relevant planning policies

Policy	Consistent?
Sustainable Sydney 2030	– Reduces GHG emissions through on-site renewable energy generation, efficient energy use and saved embodied carbon through slab retention; – 400kW of local electricity generation through community investment; – supports increased direct and indirect employment in tourism and entertainment sector; – supports public transport usage; – improves pedestrian and cyclist access to Sydney Harbour foreshore; and – provides new and upgraded recreational and cultural facilities to promote social interaction and community cohesion.
Infrastructure NSW SICEEP Urban Design and Public Realm Guidelines	Refer to Section 5.5 of the EIS.
City of Sydney Chinatown Public Domain Plan	Whilst not directly applicable to the PPP Site, the proposal enhances the vision and strategies for Chinatown by providing a revitalised space within the Chinese Garden of Friendship forecourt which is suitable for use for events with links to the local Chinese community and culture.
Development Near Rail Corridors and Busy Roads-Interim Guideline	The proposal incorporates appropriate noise mitigation measures within facade and building material treatments in order to minimise the impact of road noise on the core facilities.
Planning Guidelines for Walking and Cycling	The proposed development will improve walkability and cycleability across the city through the provision of new on and off-road routes, facilities and wayfinding signage. The SICEEP project will improve connectivity to the surrounding street network to the Sydney CBD, Haymarket and Pyrmont/Ultimo.
NSW Bike Plan 2010	The proposed development will improve connectivity for cyclists along the western edge of the CBD, including linkages to the regional bike network.
Integrating Land Use and Transport Policy Package (ILUT)	The proposed development is consistent with the ILUT in that it improves connectivity to existing public transport connections and promotes walking and cycling. By providing the new core facilities within the site of the existing SCEC, this development positions Sydney's key business tourism destination (ICC and ICC Exhibition) within a precinct which is within walking distance of supporting tourism-related businesses and destinations, including hotels, dining, entertainment and public transport.

Policy	Consistent?
Sydney's Light Rail Future	The proposal significantly improves pedestrian connectivity between the existing Convention and Exhibition Light Rail Stations to the western edge of the Sydney CBD, which will be further enhanced by the planned completion of the Dulwich Hill to Lilyfield light rail extension (with associated increases in service frequency) and will assist in reducing pressure on the key existing interchange at Central.
Cycle Strategy and Action Plan 2007-2017	The proposed realignment of Darling Drive includes a separated cycleway along the western alignment of Darling Drive and will form part of the City of Sydney's 'R8 Pyrmont – Moore Park' proposed regional cycle network.
Healthy Urban Development (HUD) Checklist	The proposed development is consistent with the HUD checklist in that it: – incorporates a range of public domain spaces which promote and are conducive to physical activity; – promotes walking, cycling and public transport through the location of core facilities within the Sydney CBD and through improved connectivity to the existing urban network; – includes local employment initiatives to reduce journey-to-work times; – provides a safe urban environment designed with regard to CPTED principles; – contributes to the local provision of community infrastructure through the provision of free and discounted meeting room spaces; and – supports local community institutions such as schools through contribution to fundraising activities and identification of educational opportunities associated with events hosted within the ICC.
Waste Classification Guidelines (DECC 2008)	Addressed in Appendix Q.
Heritage Council Guidelines Assessing the Significance of Archaeological Sites and Relics	Addressed in Appendix D and at Section 5.10 of this EIS.
Crime Prevention Through Environmental Design principles	Addressed in Appendix Z and at Section 5.25 of this EIS.

5.4 Design Excellence

Context

The achievement of design excellence for the redevelopment of the SICEEP Site has been an important theme since the project's genesis and inception, and is clearly linked to the Project Vision set by the NSW Government (i.e. delivering world–class convention, exhibition and entertainment facilities and reaffirming Darling Harbour as Australia's premier gathering place).

More specifically, one of the NSW Government's objectives for the SICEEP Project in fulfilling the vision includes *'demonstrate excellence in design and environmental sustainability'*.

A mix of ingredients are being utilised to create design excellence. The Government intent is to ensure a 'Precinct Outcome' whereby design forms an integral component of the consortium. A 'master plan' was required as the overarching document, guiding all aspects of the proposal.

Through development of the master plan within the consortium team, the competing interests of urban design, facility functionality, operational logistics and commercial realities were balanced.

Design Review Panel

As an initial step to ensuring design excellence is delivered, INSW established and appointed a Design Review Panel (DRP). The DRP is chaired by the Government Architect and includes the following membership:

- Peter Poulet (NSW Government Architect);
- Yvonne von Hartel AM – (Founding Principal of peckvonhartel); and
- Kim Crestani (Principal Manager Architecture, Transport for NSW).

In addition to the formal appointment of members to the DRP, there are also observers involved including Graeme Jahn AM (Director, City Planning, Development & Transport at the City of Sydney) and Helen Lochhead (Director, Strategic Developments at Sydney Harbour Foreshore Authority).

Biographies of the members and observers of the DRP are provided at **Appendix AA**.

The Terms of Reference (TOR) established by INSW for the DRP were:

1. Provision of advice on proposed architectural and urban design guidelines
2. Review of proponent concepts during the tender development phase
3. Provision of advice to Infrastructure NSW regarding design submissions
4. Review of design development documentation for the preferred proponent
5. Provision of specialist design advice as required by Infrastructure NSW

The design has been presented to the DRP on several occasions as it has evolved. The minutes of these meetings are included at **Appendix AA**. The recommendations of the DRP have been incorporated into the final design. As evident from the TOR, the DRP has and will continue to play a crucial role in championing design excellence for the SICEEP Project.

Urban Design Guidelines

Woods Bagot was engaged by INSW to prepare Urban Design and Public Realm Guidelines (Urban Design Guidelines) for the SICEEP Project, which provided a framework for the realisation of the Project Vision.

These Guidelines formed an important starting point and basis for the design concepts and Master Plans of the shortlisted consortia Darling Harbour Live (formerly known as 'Destination Sydney') and VeNuSW. Key design excellence principles set out within the Urban Design Guidelines include:

- Creating new connections in the east-west and north-south direction and helping to knit the city fabric together;
- Using appropriate building height, alignment, form, grain and massing;
- Using appropriate materials suited to the local area palette;
- Responding to the adjacent item of heritage significance through the design of alignments, proportions, and solid to void ratios;
- Preserving significant view corridors;
- Minimising loss of solar access to Public Realm;

- Preventing loss of privacy by overlooking of adjacent properties;
- Providing a new landmark on Darling Harbour, increasing the visual presence of facilities in the city and enriching the composition of the city skyline;
- Presenting a new face to the city, one that engages with people at street level and that enhances quality of the street life;
- Providing a constant presence of events both day and night which will create a critical mass and be responsive to the current and emerging city fabric; and
- Providing signatures spaces that are open to the parklands and Darling Harbour and in the process showcasing the city and making it an integral part of the convention experience.

Selection of the Preferred Proponent

A major component of the evaluation process undertaken by the NSW Government for selecting the preferred proponent included design. The overall RFP and selection process of the Preferred Proponent in this regard closely mirrored a City of Sydney Council 'invited' competitive design alternatives process. For example:

- Two shortlisted consortia were selected and invited to submit a proposal/design and compete for the role of preferred proponent;
- A project brief was issued to each consortia by INSW on which to formulate and base its proposal, including setting out evaluation criteria;
- Each consortia were given a set timeframe in which to prepare and submit their proposals;
- After submission, each consortia were given the opportunity to present their proposal to INSW; and
- An Evaluation Panel (jury) was appointed by INSW to assess, evaluate and recommend the nomination of a successful proponent.

Underpinning each of the shortlisted consortium's bids for the SICEEP Project were both renowned international and Australian design, architectural and landscape firms (all of which have demonstrated design excellence ability):

Darling Harbour Live

- OMA
- Populous
- HASSELL
- DCM
- AJ + C
- PWP Landscape Architecture

VeNuSW

- FJMT
- LMN Architects
- Architectus
- ASPECT Studios

The DRP played a key role in assisting and advising on the design of each proposal to the Evaluation Panel appointed by INSW. The interactive evaluation process

also enabled the opportunity for an iterative process on design related aspects (amongst others) to be provided (based on DRP comments) to each consortium. This provided an opportunity for each consortium to refine and strengthen design aspects.

Given the importance of design in selecting the preferred proponent, the involvement of the DRP and with two high calibre design teams competing against one another in multi architect/designer terms, the realisation of achieving design excellence in delivering the SICEEP Project by the Preferred Proponent has been assured.

Detail Design Development of Darling Harbour Live Master Plan

Design excellence in implementing the Darling Harbour Live Preferred Master Plan will be achieved through:

- Retaining an internationally and Australian renowned design team which is recognised for design innovation and excellence throughout the delivery of the project;
- Continuing regular and collaborative meetings with the DRP in the ongoing design and refinement of future DAs for which planning approval will be sought (refer to **Appendix AA** for details of meetings held with the DRP in relation to this SSD DA); and
- Utilising the Darling Harbour Live consortium's skills and proven track record to deliver world class convention, exhibition and entertainment facilities, a high quality, expanded and re-invigorated public domain, and a new neighbourhood with a vibrant and exciting mix of commercial, residential, and retail uses.

5.5 Built Form and Urban Design

5.5.1 Consistency with INSW Urban Design Guidelines

The proposed development responds directly to the Urban Design Guidelines prepared by Infrastructure NSW (INSW) which informed the project brief for the overall SICEEP Site and the proposal for the PPP Site. Consistency with the INSW guidelines is addressed in detail in the Built Form and Public Realm Design Report prepared by Hassell + Populous (**Appendix H**). In summary, the PPP Site proposal is consistent with the INSW guidelines in that it:

- provides for a hierarchy of vehicular and pedestrian corridors which support key attractors and spaces, including appropriate landscaping treatments and physical edges through built form and architectural treatments;
- achieves the required core facility parameters whilst integrating active retail and recreational uses which support a vibrant entertainment precinct throughout the year;
- provides for a built form which is appropriate to the CBD location of the site whilst also responding to local design drivers;
- provides a public realm which responds to the diverse uses and needs for recreational space within the Sydney CBD and Darling Harbour tourism precinct;
- incorporates landscaping, street art and public furniture which provide an appropriate mix of permanent amenity with flexibility to cater to a range of events including large-scale cultural events within Darling Harbour, Cockle Bay foreshore, Tumbalong Green, the Chinese Garden forecourt, The Theatre, ICC Exhibition, Event Deck and the ICC;

- includes facade interfaces which promote views between the interior circulation spaces of the core facilities and the public domain, enhancing the perceived relationship between these spaces;
- includes centralised thermal plant for core facilities and 400kW of on-site renewable energy generation; and
- incorporates appropriate management principles and parameters to allow strong ongoing management of the SICEEP site.

DRP comments provided during the detailed design have been considered by the design team and incorporated where appropriate, for example:

- Ensuring that Tumbalong Place acts as a primary access route through the site;
- Providing easy and equitable access to the eastern and western extends of the Event Deck;
- Providing an avenue of trees within the median of Darling Drive;
- Ensuring an appropriate relationship response between the ICC Exhibition and The Theatre main entry points;
- Refining the form of the ICC Convention so that the façade better expresses the functions within; and
- Utilising appropriate form of colour and texture in The Theatre façade.

5.5.2 Site Layout

The proposed building footprints draw on the successful elements of the existing SCEC whilst providing improved site permeability and connectivity to surrounding areas and creating core facilities that have a more interactive relationship with the public domain. The spatial dimensions of the core facilities are driven by the functional design parameters required for internal spaces to meet the venue capability brief. The proposed design manages these design drivers to deliver a site layout which also delivers in terms of urban grain, public domain quality and site permeability.

Positioning buildings along the western edge of the PPP Site adjacent to Darling Drive allows the continued provision of a wide, multi-purpose public space within the centre of Darling Harbour which is as equally capable of hosting large scale public events as it is accommodating the daytime leisure activities of the City's office workers. This central space emphasises the natural topography of Darling Harbour as the valley floor between Harris Street and George Street. Continuing to locate the core facilities alongside Darling Drive and the light rail corridor allows strong transport connections for venue servicing away from the key pedestrian zones (i.e. Tumbalong Park and the boulevard).

The core facilities are structured within a quadrangular layout, facilitating the creation of a clear north-south axis within the site along the boulevard, and three strong east-west linkages which run perpendicular from the main boulevard at the ground plane. These linkages provide connectivity from Tumbalong Park to Pyrmont and the light rail stations. As illustrated in **Figure 35** below, these east-west linkages are key in promoting continued pedestrian connectivity through the site from the existing urban street pattern within the Sydney CBD and Pyrmont.

Figure 35 – Site layout and pedestrian connectivity

Each building footprint within the PPP Site has been designed to present venues with a 'straight' interface with Tumbalong Park and the public domain, rather than the skewed and curved configurations of the SCEC. This straight edge provides the buildings with a clear address to the boulevard and parklands, encouraging views and activity to flow between the urban and landscaped spaces within this precinct. The inclusion of active retail uses and food premises within this direct interface at the ground plane will encourage users of this precinct to directly interact with the buildings rather than simply pass by.

5.5.3 Building Height and Scale

As illustrated in **Figure 36** and **37**, the proposed facilities respond to the context of the site's position at the CBD-edge, within the Darling Harbour topography and within the context of surrounding buildings. Building heights within the site respond to the valley topography by maintaining the positioning of core facilities towards the western edge of the valley and by strengthening the character of the valley floor through public domain treatments and terracing landscaping up towards the ICC Exhibition.

Figure 36 – PPP Site (proposed) and The Haymarket (indicative) built form– elevated 3D view from the east

Harris Street and George Street follow natural ridgelines within Pyrmont and Sydney respectively, sitting above the valley floor of the SICEEP site. These ridges have historically been the focal points of development within these localities, and have developed a built form which emphasises the height of the natural topography. The INSW guidelines establish building envelopes for the PPP Site which retains this lower topography within the landscaped setting of the Darling Central Precinct (i.e. ICC Exhibition and The Theatre) whilst permitting taller buildings within the more urbanised settings of Cockle Bay (i.e. ICC and ICC Hotel) and The Haymarket.

The broad scale of Tumbalong Park, with building separation distances of over 100 metres between the proposed core facilities and the Darling Quarter commercial development to the east, means that this precinct is able to support taller building heights than those which currently exist, whilst not impacting upon the dominance of the public realm within this space.

The scale of Cockle Bay and Sydney Harbour within the Bayside Precinct, and the more heavily urbanised character of development to the south, east and west of the bay, similarly supports taller buildings within the SICEEP Site which are larger in scale whilst retaining the prominence of the waterfront.

The proposed building heights respond to the topography of the site and the established built form within the site's surrounds. The core facilities typically sit level with, or below, the level of adjacent buildings to the west of the site within Pyrmont, as illustrated at **Figure 37** and **38**.

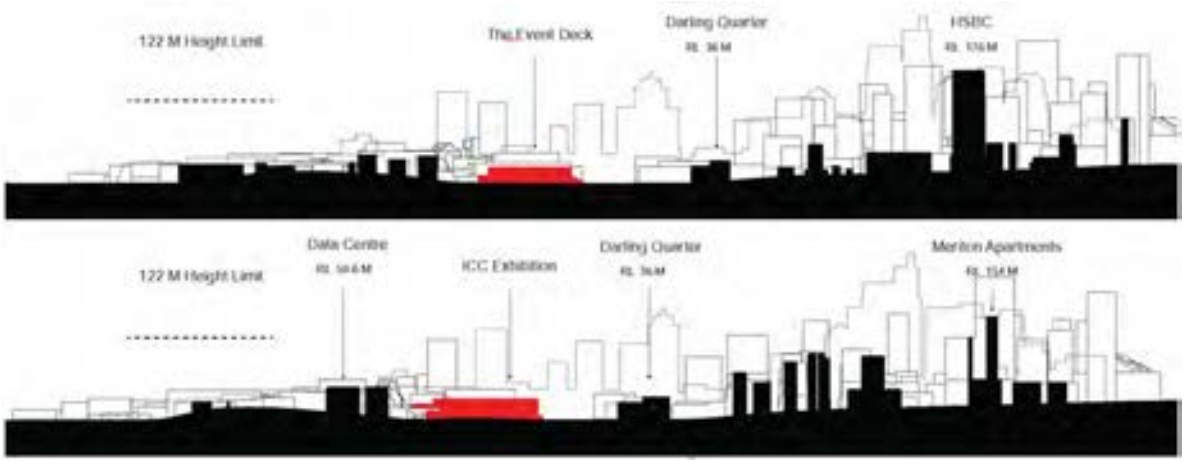

Figure 37 –East-west sections through Pyrmont, Darling Harbour and the Sydney CBD

Source: OMA

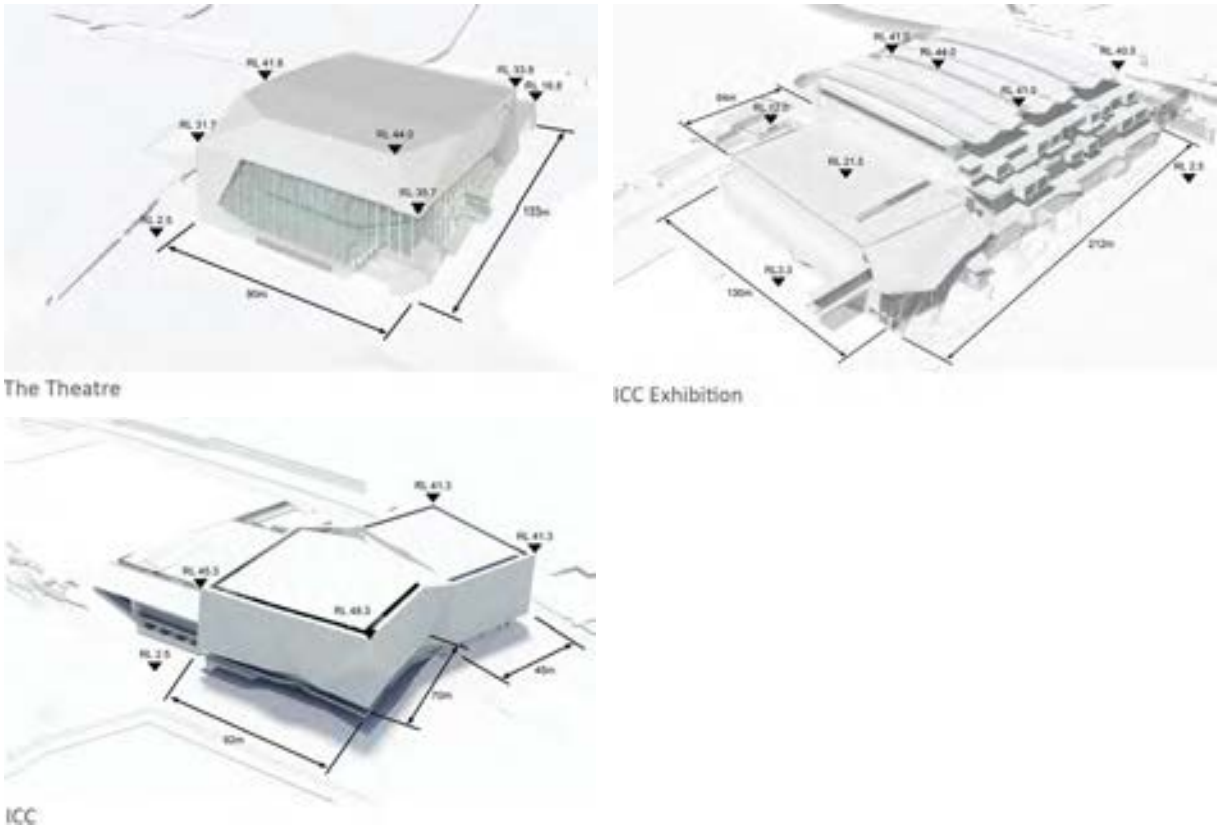

Figure 38 – Compliance with INSW building envelopes

ICC Convention

The ICC Convention Centre presents a maximum building height of RL 48.3 towards Cockle Bay and Harbourside Place, reducing to RL41.3 towards Darling Drive. The proposed building rises approximately 20 metres above the carriageway of the Western Distributor viaducts, establishing a strong visual presence within the precinct. This is considered to be a positive outcome, drawing attention away from the unsightly road structure and towards the new architecturally designed building. The height and scale of this building is considered to be appropriate as it will ensure that this building takes visual primacy over the Western Distributor and establishes an appropriate northern bookmark to the ICC Sydney core facilities.

ICC Exhibition and The Theatre

The location of The Theatre at the south-western corner of the PPP Site, abutting the sheer Pier Street viaducts, permits a building height and scale which is bolder within the Darling Central precinct and defines the immediately surrounding public precinct. Rising above the prominent entrance staircase, the building facade rises directly to a maximum frontage height of RL35.7 before sloping steeply to an upper roof level of RL44.0. The front facade is comprised largely of glass and invites views into the main foyer and circulation areas, creating a building roof mass that appears to hang over the glass-clad lower levels rather than a contiguous wall. The building height reduces towards Darling Drive to RL33.8, providing a lower development scale to this interface.

Whilst the upper roof height of the ICC Exhibition is equal to that of The Theatre, the scale of the building is less prominent and concealed by the terraced landscaping, the setback from the outdoor deck and the 'folded' roof which breaks up the roof line. This is complemented by the reduced building height at the Event Deck and the falling landscaped edge of this space towards the building's Tumbalong Park address.

The 'stacking' of the ICC Exhibition, with two levels of exhibition halls, significantly reduces the building footprint of this core facility, providing opportunities for additional east-west at the ground-plane and improving site permeability to allow new western linkages.

The lower level Event Deck (RL21.5) has been deliberately located to the immediate east of the Bullecourt Apartments in order to provide sight lines through to Tumbalong Park and break up the length and bulk of the core facility buildings within the Darling Central precinct. This break in the built form is a direct design measure to ensure that east-facing apartments within this residential building are not presented with a 'wall' of buildings within the PPP Site, and is discussed in detail within the Visual and View Impact Analysis prepared by JBA at **Appendix O**.

5.5.4 Architectural Design, Edges and Facades

As discussed in **Section 5.4** of this EIS, the proposal has been designed to ensure that the core facilities achieve design excellence and make a lasting positive contribution to the Darling Harbour precinct. Details of external materials and facade treatments are contained within the Materials Sample Board (under separate cover). The proposed buildings are designed to anchor activity within the precinct, whilst providing primacy of place and operation to the public domain within Tumbalong Park.

ICC Convention

The angular glazed facade of the ICC Convention responds to the two primary addresses to Cockle Bay and Harbourside Place, with a distinct and memorable facade which makes a positive contribution to the urban edge of this foreshore. The high quality architectural design is designed to draw attention away from the unsightly Western Distributor viaducts and emphasise the active edges to this space. This is considered to be a significant improvement on the existing building which is visually subservient to the viaducts.

The natural amphitheatre of Cockle Bay is further enhanced through the deliberate location of internal circulation and mingling spaces within the building addressing these frontages, with sight lines into and out of the building. The glazed facade creates a more meaningful visual relationship and sense of activity which extends between the public domain and the core facility, allowing the functioning of the convention space to contribute to the sense of activity within the public domain, and vice versa.

ICC Exhibition

The architectural design of the ICC Exhibition provides primacy of place within the Darling Central precinct to Tumbalong Park. The terraced landscaping along the eastern edge of the building expands and continues the soft landscaping of the park to the main concourse level of the building, whilst the landscaped edge of the Event Deck simultaneously imparts the impression of upper-level landscaping falling downwards towards the public domain. The rhythmic, folded form of the roof features, which incorporate timber treatments, breaks up the facade of the building in partnership with lower-level articulation of the building facade.

The series of trafficable stairs, ramps and outdoor terrace takes prominence within the building's eastern elevation and promotes perceptions of continued pedestrian access and activity between Tumbalong Park and the Exhibition Halls.

The Theatre

The architectural treatments of The Theatre to the north and east incorporate large glazed facades which invite views into and out of the main foyer and pre-event areas. The public entrance staircase and escalators at the north-eastern corner of the site create an opening into the building that invites access between the building and the public domain.

The incorporation of retail tenancies along the key pedestrian facades will invite direct interaction between The Theatre and the boulevard and Tumbalong Park throughout the day and evening, whilst locating less active areas such as security control and the like which are used less frequently and only in association with events hosted within The Theatre to upper building levels.

5.5.5 Street Activation

Active ground level uses are included throughout the ground-plane of the proposed development along key pedestrian routes focused around the north-south boulevard and east-west connections. These uses will include retail premises, restaurants and food premises, cafes (and active foyer spaces associated with the core facilities which will generate and support activity within the precinct throughout the day and into the evening, and contribute to a vibrant and high quality public space. The location of key active uses within the PPP Site and the immediate surrounds is illustrated in **Figure 39**.

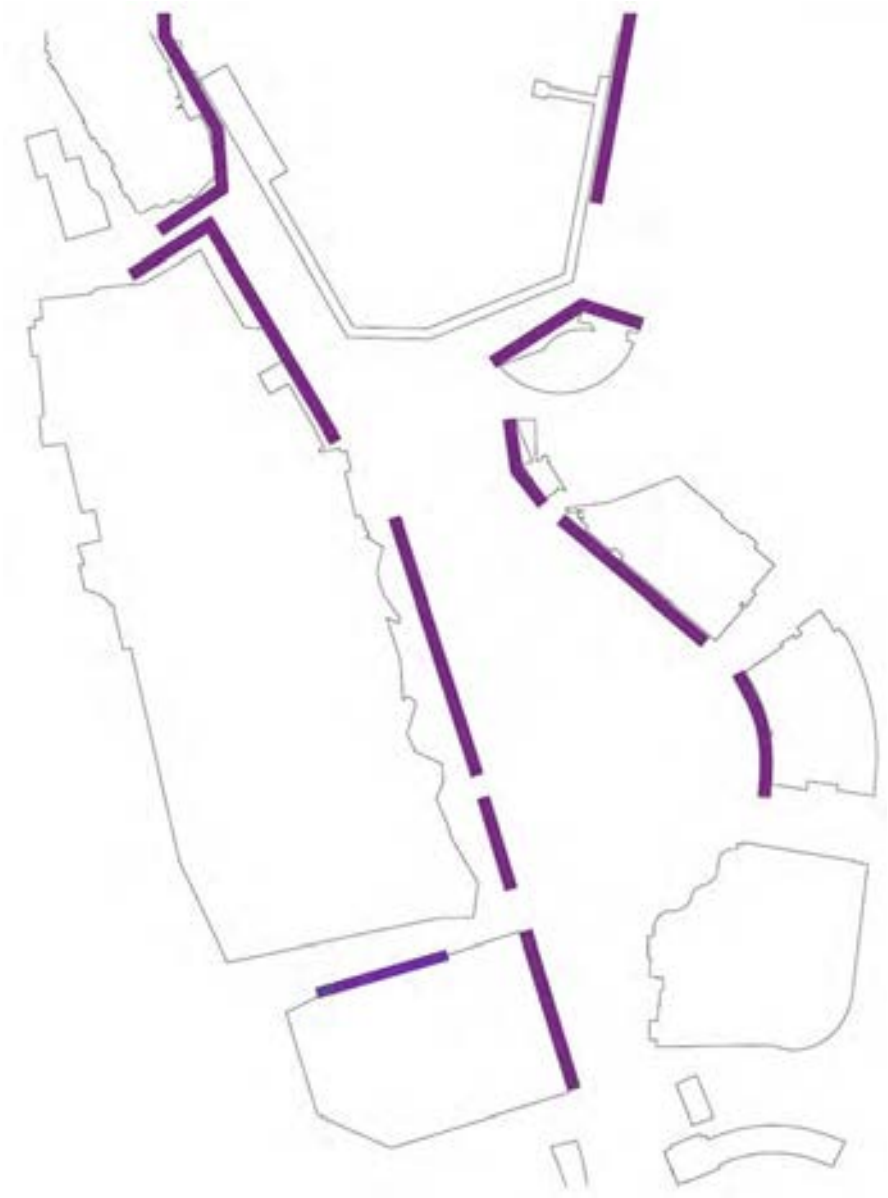

Figure 39 – Active edges within the PPP Site and surrounds

5.5.6 Overshadowing

Shadow Analysis diagrams have been prepared by Arterra (**Appendix N**) which illustrate the existing shadowing of the SICEEP Site and surrounds and the impact of new shadowing as a result of the SICEEP master plan (including the proposed PPP Site development and building envelopes for The Haymarket and the ICC Hotel).

The proposed PPP Site redevelopment minimises overshadowing of adjoining public open space, with only partial overshadowing of the north-south boulevard during the worst-case scenario of 3pm on 21 June (the winter solstice). There will be no overshadowing within Tumbalong Park between 9am and 3pm on 21 June, and only minimal overshadowing of the Chinese Garden of Friendship forecourt (there will be no overshadowing of the garden itself). In light of the above, it is considered that the proposed PPP Site redevelopment will not result in any adverse impacts upon amenity within the adjoining public domain as a result of the proposed development.

The indicative building envelope of the ICC Hotel (not included within this application) will contribute to some additional overshadowing of Tumbalong Park during the mid-afternoon period (3pm) during the worst-case scenario of 21 June. This shadowing will generally be limited to a small portion of the active play area at the northern end of Tumbalong Park, and approximately 10% of the surface of Tumbalong Green. The ICC Hotel envelope will not result in any overshadowing of Tumbalong Park during either the spring/autumnal equinox or the summer solstice. When taken in the context of the potential overshadowing caused by the ICC Hotel envelope, the cumulative impact overshadowing as a result of the PPP Site redevelopment is not considered to represent a significant cumulative impact upon the amenity of the public domain within Tumbalong Park.

5.5.7 Privacy

The proposed development considers the visual privacy of adjacent residential properties by minimising opportunities for views into habitable spaces from new development. The Event Deck is the only trafficable location within the core facilities with direct views to residential buildings to the west. The Event Deck is located some 60+ metres from the Bullecourt Apartments at its closest point, and as such it is considered that the privacy of dwellings within this building will not be adversely impacted by the proposed development.

5.6 Public Domain

Proposed landscaping within the PPP Site is shown in the Landscape Drawings prepared by Hassell and included at **Appendix CC**. The final detail of public domain and landscaping within the site will be finalised in consultation with SHFA prior to the issue of a Construction Certificate for the public domain works. The design, functionality and use of the public domain is discussed in additional detail within the Built Form and Public Realm Report prepared by Hassell + Populous (**Appendix H**).

Quality Open Spaces

The PPP Site redevelopment will provide an overall increase in the quantum of publicly accessible open space within the site, and will substantially improve the quality and amenity of new and augmented public open space within this precinct. Pedestrian connections across Tumbalong Green will create a more accessible and well-utilised public commons within the heart of the Darling Harbour precinct which facilitates both large-scale organised events and day-today informal use and recreation.

The addition of new interactive play spaces for children within Tumbalong Park will build on the already highly successful and popular active play area previously delivered as part of the Darling Quarter development. The extension of this active play area through to the north-south boulevard will improve access to the existing play area and create a space which generates activity throughout the entire Darling Harbour precinct.

The upgrades to the Chinese Garden of Friendship forecourt will provide a space which extends the character of the gardens out into the public domain through landscape plantings and materials, whilst providing opportunities for organised uses such as night markets. This proposed forecourt represents a significant improvement over the existing space in this location by retaining the functionality to accommodate events whilst providing new landscaping to create a more inviting public space throughout the year.

Pedestrian Desire Lines

The location and design of pedestrian pathways directly respond to existing and future pedestrian desire lines within the SICEEP Site and to surrounding localities, as illustrated at **Figure 40**.

Within the PPP Site, multiple opportunities exist for pedestrians to traverse the site in along the site axis via formal pedestrian routes. Public domain treatments, path widths and wayfinding signage will establish a clear hierarchy of pedestrian routes within the site which connect key activity nodes. Whilst the north-south boulevard will accommodate a large portion of pedestrian traffic between Cockle Bay and The Haymarket, a series of smaller paths will feed from and into this route providing access to local activity nodes including Darling Quarter and the IMAX site.

Connecting out to the broader urban framework, the construction of a new pedestrian bridge from Quarry Street will provide a continuous east-west pedestrian route from Pyrmont across the Event Deck and Tumbalong Green and into the Sydney CBD via the Liverpool Street pedestrian bridges. This new linkage overcomes and existing physical barrier to access and will significantly improve both ease and amenity of access to and from the PPP Site and Sydney CBD for Pyrmont residents.

The continuation of the boulevard into The Haymarket precinct will serve as an important future connection from the PPP Site into the southern CBD and Broadway, and will similarly improve the accessibility of Cockle Bay and Darling Harbour from these locations.

Overall, the proposed pedestrian circulation system significantly improves the user experience both within the PPP Site and for pedestrians within the surrounding localities.

Figure 40 –Pedestrian pathways and linkages within the PPP Site and the immediate locality

Core Facilities Breakout and Forecourt Needs

The capacity of pedestrian forecourts and the public domain to accommodate the anticipated pedestrian flows within the PPP Site, particularly those associated with the use of core facilities, is considered in the Traffic and Transport Assessment prepared by Hyder Consulting (**Appendix K**) and discussed in further detail at **Section 5.8** of this EIS. In brief the proposed pedestrian spaces are capable of accommodating the anticipated movements, with Event Management Plans to be implemented to facilitate pedestrian movement during peak periods of use.

Sight Lines and Visual Connectivity

The existing north-south pedestrian linkages within the PPP Site meander through the site and sight lines to key destinations are obstructed by intrusions from the built form, creating a pedestrian experience which is confusing and is not conducive to good wayfinding.

The proposed development seeks to substantially improve the pedestrian experience within the site by providing clear sight lines within the public domain to key pedestrian destinations such as Cockle Bay, Tumbalong Park, the core facilities and surrounding localities. The key element of this strategy is the provision of a direct, 20 metre-wide boulevard which runs from Cockle Bay at the north into The Haymarket to the south. Core facilities will directly address this boulevard, allowing the provision of clear pedestrian entrance points, whilst clear views to destinations across Tumbalong Park including east Darling Harbour and

CBD locations will be complemented by direct formal footpaths which follow visual desire lines.

Relationship to proposed IMAX redevelopment

The DGRs require the EIS to *"Address the potential impacts of the IMAX redevelopment on accessibility and functionality of the adjoining public domain and parkland"*. The EIS for the IMAX Redevelopment (SSD 5397-2012) including full details of the proposal had not been submitted to the NSW Department of Planning and Infrastructure or publicly exhibited at the time of preparing the EIS for the SICEEP PPP Site.

The PPP site incorporates fundamental design elements which ensure that the future redevelopment of the IMAX site is capable of suitably integrating into the broader Darling Harbour precinct, such as:

- promoting improved east-west pedestrian permeability between the core facilities and Darling Quarter within Tumbalong Park; and
- maintaining existing pedestrian permeability around the Cockle Bay foreshore.

5.7 Visual and View Impact

A Visual and View Impact Analysis has been prepared by JBA and is included at **Appendix O**. The methodology for the analysis is detailed within this report.

To support the visual analysis key public domain views, view corridors and public vantage points within and surrounding the SICEEP Site have been identified. Photomontages have been prepared for a total of 27 public domain views and vantage points in the following general locations:

- King Street Wharf;
- Darling Harbour East;
- Darling Harbour West;
- Tumbalong Park;
- Bathurst, Liverpool and Goulburn Street Corridors;
- Quarry, William Henry and Macarthur Street Corridors;
- Southern Precinct;
- Darling Drive;
- Pier Street;
- Pyrmont Street; and
- Ian Thorpe Aquatic Centre.

The selection of vantage points has also had regard to the location of existing heritage items within and in the vicinity of the site that are visible from the public domain including:

- Chinese Garden of Friendship, Hay and Pier Streets;
- Darling Harbour Rail Corridor;
- Darling Harbour Water Feature;
- Pumping Station No.1;
- Powerhouse Museum; and
- Pyrmont Bridge.

Seven key buildings in the vicinity of the SICEEP Site have been identified as being impacted or potentially impacted on by the SICEEP Project in terms of private views. A view impact analysis is provided for each of these key buildings:

- Novotel Sydney Darling Harbour;
- 18-20 Allen Street, Pyrmont;
- Darling Court;
- Oaks Goldsbrough Apartments;
- Bullecourt Apartments;
- The Peak Apartments; and
- The Quay (under construction).

The analysis considers the visual and view impacts in relation to both the PPP and The Haymarket SSDAs. It also provides a preliminary analysis of the cumulative visual and view impacts of the overall SICEEP Project on a site wide basis including the future International Convention Centre (ICC) Sydney Hotel component. The visual and view impact images included at **Appendix O** that show the future ICC Hotel are for information only and do not form part of the SSDA for which approval is sought. The detailed assessment of the visual and view impacts of the ICC Hotel component of the SICEEP Project is to be the subject of a separate future DA.

The urban design principles for the SICEEP Project have sought to preserve significant public domain street corridors, as well as to protect and reinforce views to and from key public domain open spaces, and significant heritage buildings and structures within the public domain.

The urban and architectural design approach has been to both ensure that important views to public buildings, along major streets and to the harbour are not obscured, and to enrich the existing public domain through improvements in visual connectivity within and to the site and maintaining lines of sight wherever possible. In the planning for the SICEEP Project emphasis has been placed on the retention and protection of key views and vistas at the street level and generally from or within the public domain from encroachment by the new building forms, and to site and design the new buildings to maintain and open up views from the public domain to Sydney Harbour. Consideration has also been given to views and outlook available from existing private residences and other adjoining development.

With respect to the public domain the Visual and View Impact Analysis demonstrates that:

- Existing important views from the public domain at street level to the most significant and highly utilised public domain spaces within and in close proximity to the SICEEP Site are retained and / or enhanced through the creation of new or re-aligned visual links;
- Existing public domain views to key heritage buildings and places are retained, including to the Woodward Fountain, Chinese Garden of Friendship, and Pumping station No.1 in the southern part of the Site; visual connectivity to other heritage items in the vicinity is not generally affected by the proposed new built form;
- The proposed new buildings within the SICEEP site will frame existing public domain views and enclose streets creating a pedestrian scale. They will also contribute to a new southern CBD skyline and redefine the skyline on the western side of Darling Harbour;

- Continuous and unobstructed sightlines to the foreshore are maintained to the public, and views to, through and over the Site are retained such that the public / pedestrians will continue to enjoy the visual qualities of the harbour and its foreshores. The principle east west public domain view corridors providing both physical and visual access to the foreshore are retained; and
- The continuation of existing streets into and through the SICEEP Site will establish new sightlines, visual permeability and views and vistas throughout the precinct.

Where the proposed new built form impacts on or reduces partial existing public domain views towards the Sydney CBD skyline, these impacts are considered to be minor and do not detract from the overall visual connectivity for pedestrians in the public domain nor result in an adverse impact. Generally, the affected vantage points are not key places for pedestrians to stop and view the CBD or its skyline, and the wide range of different viewing points available within the Darling Harbour precinct and its approaches will continue to provide for variety and interest in views, vistas and sightlines available to pedestrians approaching and moving through the precinct from the north, south, east and west.

Low, medium and high level views of the sky along streets and from public domain places (squares, parks etc) are retained, created or enhanced in a variety of contexts. The siting and design of the new buildings within the PPP precinct (and equally within The Haymarket precinct) has sought to preserve important views of the Sydney CBD from encroachment and to both maintain and open up significant views from the public domain.

The creation of the new Event Deck space in particular will provide a significant new publicly accessible vantage point for people to enjoy views across the SICEEP Precinct. The Event Deck forms part of a major new public domain connection between Quarry Street and Tumbalong Park.

With respect to the impact of the PPP development on private views the Visual and View Impact Analysis identifies that:

- The siting and design of new built form elements has sought to respond to view sharing principles and to provide for an appropriate outlook from adjoining private development to the greatest extent practicable in a highly urbanised inner city environment;
- Whilst the proposed PPP development will result in a reduction in some available private views, the majority of private view impacts to existing residents of the Oaks Goldsbrough, Darling Court and 18-20 Allen Street, and to the Novotel hotel building are relatively minor, with existing key private views maintained or substantially maintained in most instances;
- The impacts associated with the PPP development are considered to continue to provide for a reasonable outlook from apartments that may nonetheless have a change in 'view', consistent with current planning objectives, strategies, principles and development controls for the CBD which recognise that outlook, as distinct from views, is the appropriate measure of residential amenity within a global CBD context;
- The reduction in private views and change in outlook resulting from the new International Convention Centre building in relation to some lower level apartments (below Level 6) within the Oaks Goldsborough Apartment building are considered reasonable given the Site's highly urbanised location, the close proximity of the developments to each other, existing SICEEP Site constraints, and the functional requirements that are required to be met in relation to the design of the new building if it is to delivery on the State government's

objectives for the creation of a new world class entertainment, exhibition and convention precinct;

- The reduction in private views resulting from the International Convention Centre building is balanced by the new public and semi-public viewing areas within the SICEEP Site that will provide a benefit to the broader population of Sydney and NSW. The foyer spaces, exhibition concourse and function breakout spaces of the building have been designed to enable visitors to the Site to view out from the Site towards the Sydney CBD and Darling Harbour. In terms of view sharing principles the establishment of new facilities that provide for the broader public community to enjoy the waterfront location of Darling Harbour need to be balanced against the retention of views from the private domain. This is consistent with the aims of the Sydney Harbour REP which articulates that the public good (public views) take precedence over private good (private views) where change is proposed on the harbour or within its foreshores;
- The reduction in private views available from, in particular, a number of apartments at the lower levels of the Bullecourt Apartment building resulting from the new ICC Exhibition Centre building is similarly considered reasonable on balance in the particular circumstances of the case given the inevitability of interruption of views available from an existing relatively low level residential building located in such close proximity to the construction of a significant new public facility of the nature proposed;
- The impact on private views to the Bullecourt Apartments needs to be considered in the context of the public view sharing achieved through the design of the outdoor circulation terrace and series of outdoor terraces of the ICC Exhibition Centre building which will enable visitors to the Site to view out from the Site towards the Sydney CBD and Darling Harbour and the new Event Deck space which will provide a significant new publicly accessible vantage point for people to enjoy views across the SICEEP Precinct. These spaces provide for the broader public community to enjoy the waterfront location of Darling Harbour. This is consistent with the aims of the Sydney Harbour REP which articulates that the public good (public views) take precedence over private good (private views) where change is proposed on the harbour or within its foreshores.

The PPP development has little or no impact on existing views and outlook available from The Peak and The Quay Apartments that are located to the south of the SICEEP Site in close proximity to The Haymarket.

It is considered that the proposed PPP proposal has achieved a reasonable balance between the protection of private views and the protection of public domain views in the delivery of a new world class entertainment precinct on the foreshore of Darling Harbour.

Taking into consideration the overall SICEEP Project including the future ICC Hotel that will be the subject of a future SSDA, the development proposed as part of the PPP SSDA is acceptable in terms of visual and view impact.

5.8 Transport and Accessibility

Hyder Consulting Pty Ltd was engaged to prepare a Traffic and Transport Assessment (**Appendix K**). This Report has been prepared to fulfil the requirements of the DGRs and generally fulfils the requirements of a Transport Management and Accessibility Plan (TMAP). The comprehensive assessment, which considers and presents cumulative impacts from a Whole of Precinct perspective, also draws upon a number of previous studies prepared on behalf of the NSW Government.

5.8.1 Car Parking

The provision of car parking across the SICEEP Site has been carefully considered to ensure it supports sustainable initiatives/transport measures that encourage the uptake of non-car mode transport and reduce dependency on private vehicles. A further critical aspect to the provision of car parking is to ensure that it provides value for money to the NSW Government.

Hyder have undertaken an assessment of future parking requirements, based on:

- Event driven demand and capture rate, analysing historical data.
- Demand modelling based on average annual demand.
- Peak demand modelling.
- Benchmarking against other convention, exhibition and entertainment centres in Australia.

The analysis undertaken by Hyder reveals that the proposed parking solution to serve the core facilities of the PPP:

- provides adequate parking for daytime weekday demand;
- excess peak weekend day and evening demand can be serviced by the surrounding supply of carparks in the locality as there will be excess capacity outside of standard working hours (e.g. without commuter use for business and tertiary institutions);
- the carparking approach provides the greatest value for money option for the NSW Government by not requiring the construction of additional peak demand infrastructure that is likely to be used less frequently; and
- in comparison with the existing situation, the overall proposed parking provision for the SICEEP Site (Whole of Precinct) will be reduced by approximately 500 spaces - reducing the dependency of private vehicles and supporting an increase in mode share for sustainable means of transport.

In summary, Hyder conclude that the proposed car parking solution is sufficient to serve the demands of the redeveloped convention, exhibition and entertainment facilities and at the same time offer the best value for money for the NSW Government.

5.8.2 Servicing

Provision will be made for loading facilities within each of the core facilities of the PPP (refer to **Table 13** for an overview of dock capacity). Hyder confirm that all loading dock facilities will be designed in accordance with Australian Standards AS 2890.2 – Parking Facilities Part 2: Off-street commercial vehicle facilities.

Table 15 – Summary of loading dock capacity

Facility	Capacity
Convention centre loading facility	
Pantecs / 19m articulated vehicles	3
Vans / 8.8m medium size vehicles	4
Exhibition centre loading facility	
Lower level - 19m articulated vehicles	18 + 12 holding bays within tunnel
Upper level - 19m articulated vehicles	14
The Theatre loading facility	
19m articulated vehicles	3
12.5m HRV	1

Facilities have been designed in order to provide significantly improved efficiency compared to existing loading dock arrangements, including provision of designated slip lanes along Darling Drive (for the convention and exhibition facilities) that provide additional containment and queuing of vehicles – outside of the main public travel lane. Further queuing of vehicles is also available within the loading dock access lane and circulation lane for the Exhibition and The Theatre facilities.

The overall loading design for all core facilities has also considered and is able to accommodate concurrent operation of sufficient loading/unloading during major single and concurrent events. Further, the proposed layouts will ensure that separation between loading vehicle access and public access points is maintained.

5.8.3 Traffic Generation

A micro-simulation model (AIMSUN – Advanced Interactive Mircoscopic Simulator for Urban and Non-Urban Networks) has been developed for the core study area and provides the ability to model the movements of individual vehicles and their interactions with other traffic and network constraints. Detailed SIDRA modelling has also been undertaken to confirm the outcomes of the mirco-simulation modelling and to determine future intersection performance at key locations.

Peak traffic generation for the SICEEP Project as a whole has been estimated by Hyder to be:

- PPP - 2,276 estimated vehicle trips per hour (PM Peak).
- The Haymarket - 372 estimated vehicle trips per hour (based on indicative design scheme and apportioning zero trips for student accommodation)
- Hotel Complex (subject of a separate DA) - 0

Hyder advise that the majority of trips for both the Hotel Complex and student accommodation will comprise walking, public transport, taxi, coach, mini bus etc.

An assessment of future key intersection performance was undertaken by Hyder using both SIDRA modelling (where a Level of Service rating is given based on performance) and AIMSUN modelling. The SIDRA modelling results indicate that the impact of the overall SICEEP development does not impose conditions on the intersections worse than what would have otherwise occurred through existing traffic.
The results do acknowledge that some critical movements (not all of which are attributable to traffic generated by the overall SICEEP development) necessitate improvement measures in order to achieve satisfactory intersection performance.

Regarding the Darling Drive reconfiguration and re-alignment, Hyder advise that Darling Drive will continue to have capacity to accommodate the existing traffic plus additional traffic generated by the SICEEP development.

Mitigation Measures

Hyder advise that the following improvement measures should be considered in order to achieve satisfactory intersection performance:

- Pyrmont Bridge Road eastbound right turning bay extension at intersection with Darling Drive and Murray Street.
- Darling Drive westbound right turning bay extension at intersection with Murray Street and Pyrmont Bridge Road.
- Goulburn St westbound right turning bay extension at intersection with Harbour Street.

5.8.4 Pedestrian Analysis

Hyder undertook a pedestrian analysis of the proposed public realm space, based on pedestrian Level of Service (LoS) standards - which range from LoS A (free circulation) to LoS F (circulation reduced to shuffling, frequent contact). The inputs into the analysis included:

- information gathered from Sydney Harbour Foreshore Authority (SHFA) movement counts;
- pedestrian surveys; and
- estimated peak pedestrian movements.

The modelling results indicate that the public realm will generally be operating at a level of service "A" with the weekday pedestrian volumes and the event related pedestrian volumes. The incorporation of a wide 20m boulevard significantly improves pedestrian access and mobility within the precinct. Hyder also undertook a sensitivity test to determine the potential impact of increased pedestrian activity during events and the results indicate the level of service decreases to "B" with small patches of areas performing at a LoS "C".

In terms of major annual events (e.g. Australia Day, New Year's Eve etc), Hyder note that by the sheer volume of people attracted to Darling Harbour (in particular Cockle Bay), there are limitations in the amount of open space areas in terms of required capacity to accommodate the pedestrian movements. The implementation of Event Management Plans for these infrequent major events forms a critical component in managing these limitations.

5.8.5 Road and Pedestrian Safety

Hyder has undertaken an analysis of crash data (supplied by RMS) for the period of 2007 – 2012 for key streets adjoining the SICEEP Site, being Harbour Street to the east and Darling Drive to the west. The results reveal there has been a reduction in incidents since a peak in 2009 and the majority of incidents involving pedestrians occurred along Harbour Street.

Hyder note that the proposed reconfiguration of Darling Drive and confinement of the loading activities away from Daring Drive will promote safety for pedestrians and cyclists. Further, the proposed new pedestrian crossing facilities, linking core facilities with the light rail, are located at reasonable distances from the loading dock access points to ensure proper sight lines are maintained for both pedestrians and truck drivers.

In terms of Harbour Street, Hyder note that the section between Hay Street and Goulburn Street was particularly problematic. This is considered to be a result of the one way directional flow of traffic, limited pedestrian crossings, and medium to heavy pedestrian activity due to proximity to Chinatown. Future proposals associated with the Chinatown Public Domain Plan include provision for an additional pedestrian crossing facility across Harbour Street south of Goulburn Street.

A more detailed road safety audit (to determine future measures to reinforce safety) may be undertaken as part of the detailed design phase subject to the advice of the project traffic engineer.

5.8.6 Pedestrian Network

The proposed pedestrian network builds on the initiatives introduced with the Goods Line (Ultimo Pedestrian Network) and the Chinatown Public Domain Plan and provides interfacing with the improved pedestrian network around South Darling Harbour. Aside from maintaining existing routes, the design will extend the UPN to Darling Drive to improve access and strengthen linkages between Central Station, the education precinct (UPS/TAFE), Haymarket, Chinatown from the south towards the Powerhouse Museum and Darling Harbour to the north. The reconfiguration of Darling Drive and the new pedestrian connections will also enhance accessibility to Quarry Street to the west and create new east-west connections through Tumbalong Place.

The design proposes to enhance at-grade pathways through The Haymarket towards Tumbalong Park creating a direct north-south promenade extending from Quay Street to the Harbourside and linking major public gathering spaces (Haymarket Square, Tumbalong Park and Harbourside) within the Precinct.

The Traffic Transport and Access Plan (included within **Appendix K** illustrates the proposed pedestrian connections and linkages.

5.8.7 Cycle Network

The SICEEP Project aims to build upon the initiatives of the City of Sydney to improve connectivity within the locality with the cycle network and new public transport linkages. The SICEEP Project proposal will create new cycling routes through the public domain by:

- Extending the cycling route in the east west direction and providing a new shared pedestrian and cycle pathway linking the Precinct to the west along the Pier Street corridor link and;
- Enhancing the north-south connections at Quay Street to Harbourside via a through route between the core facilities and Tumbalong Park.

As part of the realignment and reconfiguration of Darling Drive, cycle connections will be enhanced via the dual lane two-way segregated cycle path on the west side of Darling Drive. Further connections to the existing routes will be provided through new linkages on the existing road network.

The Traffic Transport and Access Plan (included within **Appendix K**) illustrates the proposed cycle connections and linkages.

Bicycle use will be further promoted within the PPP Site through the inclusion of public bicycle parking within the public domain and secure parking and change facilities within the proposed buildings at appropriate rates.

5.8.8 Western Distributor

The proposed design ensures that there will be no impacts on the Western Distributor during the construction process by minimising excavation and general works within the corridor through the retention of the existing slab and building superstructure below the road viaducts. The Construction Management Plan (**Appendix M**) identifies management of vibration in the vicinity of the Western Distributor viaduct throughout the construction process, with detailed management measures to be included within the Construction and Environmental Management Plan to be prepared prior to the issue of a Construction Certificate.

5.8.9 Light Rail Interface

Table 16 provides a summary of the proposed works the subject of this SSDA, an assessment of the potential impacts, and proposed mitigation measures to minimise impacts. Light rail interface works will be carried out by Transport for NSW in order to ensure that critical works are managed appropriately.

Table 16 – Summary of proposed light rail interface works

Works Description	Impact on LRC	Mitigation measure
Temporary pathway extending from existing pedestrian ramp from exhibition light rail station to south of Pier Street.	Works carried out adjacent to LRC. No impact on LRC	– Protection of existing light rail fence line.
Realignment of Darling Drive, including demolition and excavation, serviced relocation and new road structure	Works carried out adjacent to LRC. No impact on LRC, all works carried out outside of the boundary of the LRC	– Protection of existing light rail fence line.
Loading dock apron structure associated with ICC Exhibition.	Construction of the section of the loading dock apron above (or within) the LRC.	– Consultation to occur with operator (already commenced). – Construction to be coordinated with operator of LRC to minimise timetable impacts (e.g. utilise existing rail shut down periods, maintenance and out of hours periods). – To be designed and constructed to facilitate the use of prefabricated components. – High priority to be given to construction activities in order to minimise any disruptions. – All works to be carried out in accordance with current legislation and regulations.
New bridge extending from Quarry Street over Darling Drive onto Event Deck	Construction of bridge structure above LRC.	– Consultation to occur with operator (already commenced). – Bridge structure to be designed to minimise impact on LRC. – Construction methodology to utilise existing monorail slab for support and eliminate the need for new structure above LRC. – High priority to be given to construction activities in order to minimise any disruptions. – All works to be carried out in accordance with current legislation and regulations.
Extension of Exhibition light rail platform/ramp and crossing extending from existing light rail platform to new crossing on either side rail tracks. Extension of stairs from Pyrmont St stairs and upgraded ramp to current BCA and DDA.	Platform extension works carried out within LRC.	– Works to be undertaken by TfNSW, ensuring appropriate measures will be in place to minimise impacts.

Works Description	Impact on LRC	Mitigation measure
Temporary pathway from existing Convention Centre light rail station to north of roundabout.	Works associated with temporary pathway are within LRC. Minimal impact on LRC.	– Works to be undertaken by TfNSW, ensuring appropriate measures will be in place to minimise impacts.

5.8.10 TMAP Package of Measures

Travel Behaviour Change

The main means of achieving behaviour change for travel to the SICEEP Site is to ensure that the required public transport services and infrastructure are made available (eg. bus routes, light rail, rail, footpaths, cycle-ways), and then to ensure that the community knows of their existence, and the benefits to them of using the facilities. Travel plans will play a key role in supporting travel behaviour change.

Public Transport Initiatives

INSW will continue to liaise with Transport for NSW regarding further opportunities for connectivity to Darling Harbour upon opening of the facilities. Current and future improvements to existing public transport services are being planned and implemented by Transport for NSW. The SICEEP Project will support this package of improvements and ultimately aims to increase the mode share for sustainable means of transport through the provision of sustainable transport information and the strengthening of site connectivity to public transport.

CityRail

Rail infrastructure initiatives focus on the existing rail system. The proximity of the existing rail stations puts the stations within walking catchment, and existing pedestrian linkages will provide improved connectivity. Improvements being planned by TfNSW to the rail network are aimed at providing better and more efficient services.

Light Rail

The SICEEP Project incorporates improved connectivity to the Light Rail Stations on Darling Drive via new pathways and pedestrian crossing facilities on Darling Drive. These connections will enhance access to the light rail transport system, promoting patronage of the system and supporting the investment being made by the NSW Government in extending the light rail network (e.g. the Inner West Light rail extension project). The future addition to the Light Rail network from Circular Quay to the eastern suburbs will also significantly improve light rail linkages to the SICEEP Site.

Bus Network

Proposals by the NSW Government to streamline the CBD bus network (achieving a more integrated transport solution to reduce congestion in the CBD) will create simpler, faster and better bus services.

Taxis, Coaches and Buses

Further reducing the dependency of private vehicles across the SICEEP Site will be the provision of new drop-off and pick facilities for busses and coaches and taxis.

Walking

The proposed north-south boulevard through the SICEEP Site and its connection with Quay Street and the Goods Line (Ultimo Pedestrian Network) will foster improved pedestrian linkages between Darling Harbour and Central Station.

To and from Town Hall station, connectivity can be improved focussing on the existing east-west crossings at Bathurst Street, Market Street, Liverpool Street, and Goulburn Street.

There is also considered to be benefits in focusing efforts on improving pedestrian access and desire lines to and from public transport nodes using existing facilities through interactive wayfinding and signage, coordination and pedestrian priority at signals and pathway enhancements.

Cycling

The provision of new cycling facilities linking the SICEEP Site to the external cycle network and the installation of support facilities will encourage the use of cycle as an alternative to private car.

Parking

Appropriate parking policies are to be incorporated in order to further reduce car mode split (and make sustainable means of transport more attractive), including:

- Reducing availability;
- Applying a pricing scheme to control the use of parking and discourage driving by both staff and visitors; and
- Carpooling measures to encourage high occupancy vehicles.

The provision of carparking information signage at key locations leading up to the SICEEP Site is also a critical feature to be adopted in order to direct traffic to suitable locations for parking, hence reducing travel time on the network and potentially road user delays.

Intersection Improvements

Intersection operational performance can be improved through signal coordination and optimisation of the signal timings. Liaison with the Roads and Maritime Services to be undertaken to ensure that future traffic forecasted for the SICEEP Project are considered and measures can be put in place to aid in minimising intersection delays during specific time periods and on special days.

5.8.11 Mitigation Measures

Mitigation measures for transport and accessibility are summarised as follows:

- The following improvement measures should be considered in order to achieve satisfactory intersection performance:
  - Pyrmont Bridge Road eastbound right turning bay extension at intersection with Darling Drive and Murray Street.
  - Darling Drive westbound right turning bay extension at intersection with Murray Street and Pyrmont Bridge Road.
  - Goulburn St westbound right turning bay extension at intersection with Harbour Street.
- Liaison with the Roads and Maritime Services to be undertaken to ensure that future traffic forecasted for the SICEEP Project are considered and measures can be put in place to aid in minimising intersection delays during specific time periods and on special days.
- Light rail interface mitigation measures are to be implemented by Transport for NSW generally in accordance with **Table 14** of this EIS.

5.9 European Heritage

A Statement of Heritage Impact (SOHI) has been prepared by TKD Architects (see **Appendix C**) to assess the potential impacts the proposed development will have (if any) on the heritage significance of the Site, and heritage items in the vicinity of the Site. TKD Architects' report follows the general guidelines for Statements of Heritage Impact set out in the NSW Heritage Manual and has been prepared in accordance with '*The Conservation Plan*' by Dr J. S. Kerr, the ICOMOS '*Burra Charter*', and the DGRs.

The SOHI identifies those heritage items that are present on the SICEEP Site, and its vicinity. The following heritage items (excluding archaeology) are identified as being within the PPP Site:

- The Carousel – moveable (State significance); and
- Darling Harbour Water Feature (nomination for State Heritage Register accepted but not gazetted).

The following heritage items are identified as being located within the vicinity of the PPP Site:

- Chinese Garden of Friendship (State significance);
- Darling Harbour Rail Corridor (State significance);
- Sewage Pumping Station No.1 (State significance);
- Commerce Building (local significance);
- Commerce House (local significance);
- Pyrmont Bridge (State significance); and
- Sydney Trades Hall (State significance).

Potential impacts of the proposal

The proposed development will result in significant changes to the existing built form, and therefore has the potential to impact upon the setting of heritage items within its vicinity. TKD Architects have assessed these potential impacts to specific heritage items as follows:

Darling Harbour Water Feature (heritage listing accepted but not gazetted)
The Darling Harbour Water Feature will be retained and conserved. The proposal has been carefully located to provide a curtilage for the Water Feature that will give it an appropriate setting comparable to that which presently exists.

The Carousel (not part of SICEEP Site)
The Carousel may be relocated from its present location beneath the M4 overpass to an open area at the northern end of the Darling Quarter Play sub-precinct. The impact on the Carousel is positive as it will greatly enhance its setting and integrate it into the overall development.

Chinese Garden of Friendship
The proposed Theatre is sited at a distance from the Garden that is similar to the existing situation. The space between the Theatre and the Garden is to be upgraded with new landscaping works. Because the garden itself is an internally focussed item there will be no impacts, although the setting on its western side will be enhanced by new landscaping works.

Darling Harbour Rail Corridor
Impacts on the Darling Harbour Rail Corridor will be limited. Although the heights of the proposed Convention Centre, Exhibition Centre and Theatre will be greater than the existing Convention, Exhibition and Entertainment facilities, they are comparable in scale to existing development on the western side of the Rail Corridor. The setting of the Rail Corridor itself will be enhanced and upgraded through landscaping works. Publicly accessible views, interpretation and understanding of the Rail Corridor will not be affected.

Sewage Pumping Station No. 1
The setting of the building will be impacted to some extent as a result of the scale of the new buildings; however the scale of the proposal is consistent with other recent and historical developments surrounding the Pumping Station. Publicly accessible views, interpretation and understanding of the Pumping Station will not be affected.

Commerce Building
There will be no impact on the Commerce Building because of its distance from the proposed development.

Commerce House
There will be no impact on the Commerce House because of its distance from the proposed development.

Pyrmont Bridge
The proposed development will have no impact on Pyrmont Bridge because of its distance from the structure.

Sydney Trades Hall
There will be no impact on the Trades Hall because of its distance from the proposed development.

In general terms, the proposal is considered to be acceptable in terms of its potential impacts to heritage items. In particular, the proposed development:

- will not impact upon the curtilage of items within Darling Harbour or its vicinity;
- will not impact on significant views to any heritage items;
- will retain the Darling harbour Water Feature; and
- will not visually dominate any heritage item.

Mitigation Measures

A Heritage Interpretation Strategy for the entire SICEEP Site is to be prepared in accordance with the NSW Heritage Manual and the OEH's Heritage Interpretation Policy. SHFA's 2008 publication '*Telling the Stories of Darling Harbour'* is an interpretation strategy based on ten distinct themes. Themes relevant to the PPP Site and potential opportunities for their interpretation are reproduced below:

- Gathering Cockles- the first people, and European Settlement.
  - Place in the paving quotes and thoughts describing the original natural landscape.
  - Use installations to showcase the range of traditional lifestyle skills including collecting foods, making tools and raising families.
  - Mark in the paving the outline of the harbour and creek line prior to reclamation.

- Messing about in Boats.
  - Present the Iron Wharf photograph and describe its iron construction technology, size and significance to reinforce Darling Harbour as a key maritime port.
- Getting the goods - how roads, rail and shipping connected Darling Harbour to the world.
  - Highlight the great wool stores on the western side of Darling Harbour, i.e. the Goldsborough Mort building and the story of Australia 'riding on the back of the sheep'.
  - Present a plan of the rail system and cuttings around the west side of Darling Harbour. Describe the railway sheds that dominated the centre of Darling Harbour and discuss the connection between railways and agricultural development.
  - Consider using the Western Distributor pylons for large-scale images of the railway yards and the western city industrial edge.
- Decline and rebirth – Darling Harbour's transformation from port and industrial area to leisure tourism precinct.
  - Present chronological images showing the transformation from its early colonial natural state to its shipbuilding and wharf period, its peak industrial period and its conversion to a public landscape.
  - Make this the central orientation storyboard for the precinct, summarising the interpretation themes and providing directions to guide the visitor to the particular sub-theme locations.

The SOHI recommends that the Interpretation Strategy should be incorporated into the detailed design of the SICEEP redevelopment, and that the process should include consultation with relevant stakeholders. The interpretation strategy would be complemented by appropriate interpretative devices, as outlined in *'Telling the Stories of Darling Harbour'*.

5.10 Archaeology

5.10.1 Indigenous Archaeology

An Aboriginal Archaeological Assessment Report has been prepared by Comber Consultants (**Appendix D**) in association with the Metropolitan Local Aboriginal Land Council, and in accordance with the Office of Environment & Heritage (OEH) Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, and in accordance with the DGRs.

Archaeological Background

A search of the Aboriginal Heritage Information Management System (AHIMS) database has been undertaken and no known Aboriginal sites or objects are recorded as being located within or immediately near the proposal. However, it is noted that archaeological deposits were encountered during excavation works for then nearby 'Darling Quarter' development. These deposits comprised a midden with charcoal and ten artefacts (eight chert, one silicrete, and one quartz).

It is anticipated that sub-surface aboriginal archaeological deposits may be encountered, particularly along the original shoreline (western portion of the PPP Site).

Comber Consultants also note that a complex aboriginal archaeological deposit was previously encountered nearby at the site bounded by Napoleon, Sussex, Erskine and Kent Streets. This suggests that deposits may also be encountered in former tidal zones.

It is not anticipated that deposits will be encountered elsewhere in the site, given that this is reclaimed land.

Impact Assessment

It should be noted that no significant excavation works are proposed as part of this SSD DA. Notwithstanding this, the Aboriginal Archaeological Assessment Report advises that piling works in proximity to the original foreshore could impact on Aboriginal archaeological deposits.

Mitigation Measures

In order to mitigate any impacts to potential aboriginal archaeological deposits, Comber Consultants advise that archaeological testing, recording and salvage should occur in areas where piling or any other ground disturbance that will penetrate the fill is to be undertaken within the area of the original foreshore, and archaeological monitoring should occur in the south western corner of Bayside in the area of the original foreshore.

In addition, the following measures are proposed:

- Prior to commencement of the monitoring and testing, a research design and management strategy should be prepared.
- Monitoring, recording and testing should be undertaken in partnership with the Metropolitan Local Aboriginal Land Council.
- If any Aboriginal "objects" (as defined under the *National Parks* & *Wildlife Act 1974)* are located during the course of the testing program, the Metropolitan Local Aboriginal Land Council should apply for a Care Agreement with the Department of Environment and Heritage to enable them keep the objects.
- The program of sub-surface testing should be coordinated with Casey & Lowe, the archaeologists undertaking testing/recording in respect of the historical archaeology.
- If any previously undetected Aboriginal "objects", artefacts or sites are uncovered, work must cease in the vicinity of that object, artefact or site and further advice sought from the archaeologist who undertook the program of sub-surface testing.

5.10.2 Non-Indigenous Archaeology

A Non-indigenous Archaeological Assessment and Impact Statement has been prepared by Casey and Lowe and is included as **Appendix D**. The Statement conforms to the Heritage Branch, Office of Environment and Heritage guidelines for Archaeological Assessments, and has been prepared in accordance with the DGRs. The Statement identifies non-indigenous archaeological items within and in the vicinity of the SICEEP Site.

Archaeological Background

Casey and Lowe note that the SICEEP Site has the potential to include archaeological remains that would illustrate many aspects of the evolution of Darling Harbour from the 1810s to the early 20th Century.

In particular, the PPP Site has the potential to demonstrate the development and expansion of Darling Harbour throughout the 19th Century when it was a centre for industry and maritime and railway trade. In light of this, it is anticipated that archaeological remains of additional items may be present on the PPP site.

An assessment of potential archaeological remains has been carried out in accordance with the Burra Charter of Australia ICOMOS, and it is anticipated that some of these items may be of State or local significance.

Items of potential State significance include:

- Dickson's Jetty (c1815) – within the proposed public domain to the east of the proposed theatre;
- Barker's Jetty (c1825) - within the proposed public domain in the vicinity of Tumbalong Park;
- 1850's Darling Harbour Goods Line;
- Dismantled remains of the 1874 Iron Wharf, which was demolished into the Harbour in the 1920s;
- Edges of industrial establishments - along the eastern edge of Darling Harbour, (e.g. Peter Nichol Russell Foundry);
- Ultimo Power House inlet and outlet pipes (c1899) which terminated at the edge of the Iron Wharf; and
- Water conduits (c1920s) associated with Ultimo Powerhouse.

Items of potential local significance include:

- Seawall, drains and reclamation (c1865); and
- 1876 Seawall and reclamation associated with the Iron Wharf.

Casey and Lowe advise that the archaeological remains identified above are considered to have a moderate to high level of potential survival within the PPP Site. Moreover, the recording, analysis and interpretation of these potential remains has a substantial ability to yield information on a range of former maritime and industrial activities that were essential to the development of NSW up to the early 20th Century.

Previously identified archaeological remains
The Statement also identifies that known archaeological remains of local significance are located within the PPP Site (Exhibition Precinct – Iron Wharf Archaeological Remains), being located in the vicinity of Tumbalong Park. The significance of these remains is reproduced below:

> *"The Iron Wharf was considered to be an engineering masterpiece at the time of its construction. Parts of the wharf still remain buried at the site and are significant archaeological remains. They have the potential to inform about early large scale iron construction. The Iron Wharf is significant as it was one of the first large scale iron constructions in the world. The construction of the wharf led to the development of Darling Harbour as the major goods centre in Sydney."*

Impact Assessment

The Statement notes that archaeology may already be impacted by existing development across the SICEEP Site. In particular, it is noted that a series of very large stormwater culverts were installed throughout areas of reclaimed land.

These culverts are known to be quite deep and are expected to have had substantial impacts on potential archaeological resources.

In terms of potential impacts arising from the proposed development, the Statement identifies that the proposals have only a limited potential to impact archaeological deposits, principally through the required piling works.
It is noted that the slab of the existing Sydney Convention and Exhibition Centre is proposed to be reused as part of the redevelopment, and basement excavation is not proposed. These aspects of the proposal will serve to lessen any potential impacts to archaeological deposits.

The potential impacts of each component of the PPP Site have been assessed as follows:

International Convention Centre
Potential archaeological remains include:

- 1876 Seawall and reclamation associated with the Iron Wharf;
- Dismantled remains of the 1874 Iron Wharf, which was demolished into the Harbour in the 1920s; and
- Water conduits (c1920s) associated with Ultimo Powerhouse.

Casey and Lowe find that piling within the footprint of the proposed building has the potential to impact on the 1876 seawall and reclamation. There is a possibility that dismantled remains of the 1874 remains may be impacted, however it is difficult to assess given the unknown location of the potential remains.

ICC Exhibition
Potential archaeological remains include:

- Pre 1850 archaeology in the original western foreshore (limited potential);
- Seawall, drains and reclamation (c1865);
- Dismantled remains of the 1874 Iron Wharf, which was demolished into the Harbour in the 1920s; and
- Ultimo Power House inlet and outlet pipes (c1899) which terminated at the edge of the Iron Wharf.

Piles associated with the existing building already exist in this location. The potential remains may be penetrated by additional piling work which is predicted to have a limited impact on surviving resources.

Theatre
Potential archaeological remains include:

- Pre 1850 archaeology in the original western foreshore (limited potential);
- Seawall, drains and reclamation (possibly not the seawall) (c1865);
- Open stormwater drain in the eastern area (c1865 - location uncertain);
- Ultimo Power House inlet and outlet pipes (c1899) which terminated at the edge of the Iron Wharf.

Piles associated with the existing building already exist in this location. The potential remains may be penetrated by additional piling work which is predicted to have a limited impact on surviving archaeological resources.

Public Domain
The proposed design is not expected to have any impacts on potential archaeological remains.

General Impacts
The proposed design does not require bulk excavation; therefore most of the surviving archaeology will survive the proposed construction. In addition, the proposed piling is typically intermittent and will have some limited impacts on potential archaeological resource within the subject areas.
Moreover, the Statement finds that the burial of the potential archaeology under fill in areas with a reduction of levels will assist with its survival.

In conclusion, the Statement finds that, in general, the proposal will have limited impacts on the potential archaeological resources.

Mitigation Measures

In order to minimise impacts to potential archaeological resources the following mitigation measures are proposed by Casey and Lowe:

- In the event that new heritage/archaeological items are discovered, the items are to be managed in an appropriate manner and in accordance with the specific measures detailed in the Statement.
- Communication and education material on heritage management and conservation will be prepared as part of the Site Environmental Awareness Program and incorporated into the site induction.
- Any archaeological program will be targeted and strategic and in accordance with Heritage Council guidelines. Limited recording may be appropriate for more extensive deposits, and excavation and recording may be appropriate where the archaeology is more concentrated and impacts more extensive.
- A Research Design and Management Strategy will be prepared in accordance with best practice archaeological methodologies.
- A public interpretation plan will be prepared outlining key themes for interpretation of Darling Harbour and surrounds.
- The owner of the SICEEP Site will provide storage in perpetuity for artefacts recovered from the site.

5.11 Geotechnical

The soil and geotechnical conditions of the site are summarised in **Section 2.2.6** of this report, and detailed in the Douglas Partners Geotechnical Assessment Report included as **Appendix P**.

The following issues have been identified as the key geotechnical challenges on the PPP site:

- Sandstone boulders and building rubble in the fill may be difficult to penetrate using conventional piling methods. The presence of a high groundwater table, sands and very soft to soft clays may result in collapsing ground conditions for open hole piles.
- Fill may settle at different rates due to variable materials and compaction.
- Fill may not be of sufficient strength to support large piling rigs.
- Re-use of fill materials may require significant moisture conditioning and sieving of suitable and unsuitable materials into separate stockpiles prior to re-use.
- The alluvial and estuarine sediments include very soft and soft clays as well as very loose and loose sands and will need to be considered in the piling method selection.
- The presence of a high groundwater table will impact any proposed basements.

- The significant variation in rock levels across the site will result in large differences in piling depths over relatively short distances.
- Large building loads cannot be supported by the highly weathered dyke and will need to be supported on piles founded outside the dyke and dyke affected areas.
- The presence of the sheared zone may require increased founding depths of piles.

Mitigation Measures

Douglas Partners have determined that the proposed development is feasible from a geotechnical perspective, subject to the adoption of a number of recommendations addressing foundations, earthworks, the proposed filled embankment, retaining walls, pavements, floor slabs, and drainage.

These recommendations are detailed in the Geotechnical Assessment Report and **Section 6** of this report. The recommendations have been incorporated into the design and will continue to be refined throughout the detailed design process.

5.12 Contamination

As outlined in **Section 2.2.7** of this EIS, and detailed in the Site Auditor's Statement at **Appendix E** based on previous site investigations, the site is subject to low concentrations of polycyclic hydrocarbons, aromatic hydrocarbons and total petroleum hydrocarbons in the historical fill material present within the site.

Clause 7 of *State Environmental Planning Policy No.55 – Remediation of Land* (SEPP 55) specifies that a consent authority must not consent to the carrying out of any development on land unless it has considered whether land is contaminated and if the land is contaminated, it is satisfied that the land is/ can be suitable for the proposed development.

Whilst the Site Auditor's Statement prepared by Environ Australia (**Appendix E**) confirms that, based on the nature and extent of contamination, the site can be made suitable for the proposed uses subject to the implementation of the Remedial Works Plan, prepared by AECOM (**Appendix Q**), during the redevelopment works.

The Remedial Works Plan (RWP) has been prepared for the proposed development to ensure that potentially contaminated materials if identified are managed and disposed of in an appropriate manner. This plan outlines construction management measures for site soil and groundwater works to ensure appropriate characterisation of excavated materials and monitoring of groundwater. This plan has been reviewed by the Site Auditor.

It should be noted, however, that remedial works are not required to make the site suitable for the proposed land uses and that the RWP describes contingency protocols for the management of potentially contaminated materials if encountered during redevelopment works. Therefore this DA does not require consent for remediation.

This Development Application does not contemplate remediation of the PPP Site. However, if there is a requirement to carry out any remediation works the Remedial Work Plan prepared by AECOM (**Appendix Q**) outlines the procedures that will be put in place should this occur.

A total of 26,000m^3 of spoil comprised largely of existing fill material may potentially require disposal from the site. Classification of this material will be undertaken during the construction period in accordance with the RWP to determine whether this material is appropriate for on-site reuse or identify an appropriate off-site disposal facility in accordance with the Sampling, Analysis and Quality Plan prepared by AECOM (**Appendix Q**).

Contamination Migration Potential

The Site Auditor's Statement finds that the risk of migration of contamination from the site as leachate in groundwater (and potentially to nearby active water bodies) is considered to be generally low, however, further monitoring is required to address existing data gaps. The RWP and Sampling Analysis and Quality Plan (contained within RWP) provides for initial groundwater monitoring from the 13 existing wells, then on an annual basis throughout the construction phase and following the completion of works, with the location of monitoring wells to be determined by the site auditor. In the event that groundwater contaminant concentrations are statistically/significantly increasing, the following contingency measures will be considered in consultation with the site auditor:

- conducting more detailed and frequent groundwater monitoring, with additional monitoring wells;
- undertaking a quantitative ecological risk assessment to assess the significance of any exceedances of the relevant groundwater site assessment criteria; and/or
- active groundwater remediation works.

Human Health Risk

The Human Health and Ecological Risk Assessment prepared by AECOM (**Appendix R**) considers the potential impact of site contamination on future recreational users of the PPP core facilities and Tumbalong Park, future commercial workers and future intrusive maintenance workers. Based on conservative estimates and existing knowledge of potential site contamination, and the nature of the proposed development, this assessment finds that the potential future health risks to users of the proposed development are low and acceptable.

The Site Auditor's Statement prepared by Graeme Nyland agrees with the conclusions contained within the Human Health and Ecological Risk Assessment prepared by AECOM.

Ecological Risk

The Human Health and Ecological Risk Assessment prepared by AECOM (**Appendix R**) considers the potential impact of site contamination to terrestrial flora within Tumbalong Park and to marine receptors within Cockle Bay. Based on existing knowledge of site contamination and the condition of existing mature vegetation within Tumbalong Park, the assessment finds that existing site conditions will have minimal ecological impact to new flora within the PPP Site.

Whilst groundwater concentrations of fluoroanthene, pyrene, copper and zinc exceeded the screening criteria, these exceedances were found to be minor. Potential leachate from existing fill on the site has been migrating from the PPP Site to Cockle Bay for over 20 years and there is existing potential for the dilution of groundwater from the site prior to entering the active waterway. The assessment therefore considers the potential ecological risks from site-derived groundwater to Cockle Bay to be low and acceptable.

The Site Auditor's Statement prepared by Graeme Nyland finds that the conclusions made within the Human Health and Ecological Risk Assessment prepared by AECOM are reasonable and can be further confirmed as part of the RWP through additional groundwater testing.

Acid Sulphate Soils

Previous site investigations have identified potential acid sulphate soils and actual acid sulphate soils within natural soils beneath the PPP Site. An Acid Soils Management Plan (ASSMP) has been prepared by AECOM and is included within the RWP at **Appendix Q**. Whilst excavation and earthworks within the PPP Site have been minimised through the retention of the existing slab, it is likely that acid sulphate soils will be encountered during the construction period. Under this strategy acid sulphate soils will be generally be treated on-site, with an appropriate off-site disposal strategy outlined for instances where on-site treatment is not practical or appropriate.

Mitigation Measures

- The measures outlined in the Remedial Works Plan prepared by AECOM dated 11 March 2013 will be incorporated into a detailed Site-Wide Construction Environmental Management Plan (CEMP) and implemented during the construction phase.
- Comments on the Remedial Works Plan by the site auditor which are contained within Table 11.1 of the Site Audit Report prepared by Environ dated March 2013 will be implemented within the CEMP.
- Acid sulphate soils and potential acid sulphate soils will be identified and treated in accordance with the Acid Sulphate Soils Management Plan prepared by AECOM dated 11 March 2013.

5.13 Reflectivity

A Solar Reflectivity Assessment has been prepared by Cermak Petera Petersen (**Appendix S**) which analyses the potential solar glare from the proposed development on pedestrians and motorists. All exterior facade elements within the PPP Site will have a reflectivity coefficient of 20% or less, which is consistent with the requirements of the Sydney DCP 2012.

The Solar Reflectivity Assessment considers potential views to the PPP buildings from key motorist routes (Western Distributor, Pier Street, Goulburn Street, Liverpool Street, Bathurst Street and Harbour Street) and key pedestrian locations (Tumbalong Park, Darling Quarter, Chinese Garden of Friendship). This assessment concludes that on the basis of the proposed materials and glazing, the proposed development will not result in any driver hazards or pedestrian discomfort.

Mitigation Measures

Proposed external glazing and facade materials used within the PPP Site will be consistent with or lower than the solar reflectivity levels identified in the Solar Reflectivity Assessment prepared by Cermak Petera Petersen dated February 2013.

5.14 Wind Impact

A Wind Report has been prepared by Cermak Peterka Petersen (**Appendix T**) to consider the impact of the proposed development on the pedestrian wind environment. This report is based on the results of wind tunnel testing based on the following development assumptions:

- Configuration A – PPP Site development only (i.e. core facilities) with existing surrounding development; and
- Configuration B – PPP Site development and indicative building envelopes for The Haymarket and ICC Hotel with existing surrounding development.

Both configurations were assessed against Lawson's Criteria for pedestrian comfort and pedestrian distress. Wind tunnel testing did not take into account any landscaping, which can reduce wind speeds by up to 10%.

In general, wind tunnel tests for Configuration A find that the proposed development will achieve a high standard of pedestrian comfort, with comfort levels for pedestrians typically conducive to sitting and standing throughout the site. These pedestrian comfort levels are consistent with the proposed uses for these spaces and will ensure a comfortable pedestrian environment that promotes pedestrian activity.

All tested locations for Configuration A achieved pass ratings for pedestrian distress (during infrequent, gusty wind conditions) with the exception of one location within the public domain immediately to the east of The Theatre, which was considered suitable for able-bodied persons only. It is noted that wind conditions at this location achieve a 'pass' rating under Configuration B (post-development of The Haymarket Precinct). The Wind Report recommends that The Theatre and surrounding public domain considers the incorporation of mitigation measures to ensure that wind speeds at this location achieve a 'pass' rating for pedestrian distress. Additional wind tunnel testing of the affected location will be undertaken incorporating the proposed public domain treatments in order to ascertain whether the mitigating impacts of provide the required wind attenuation, and this is included as a mitigation measure at **Section 6.0**.

Figure 41 illustrates the wind comfort levels experienced in a post-development scenario for Configuration A.

Wind tunnel testing of Configuration B was undertaken based on indicative maximum building envelopes for the ICC Hotel and The Haymarket Precinct, and therefore is less reliable than testing of the detailed design of the PPP development and surrounding existing development. Notwithstanding this, testing of Configuration B found that the pedestrian wind environment is largely unaffected by these future developments, with impacts on pedestrian wind comfort largely confined to the immediate surrounds of these adjoining precincts. It is anticipated that detailed design of buildings within The Haymarket and the ICC Hotel will be capable of incorporating appropriate wind mitigation measures to ensure appropriate levels of pedestrian comfort, and therefore these future developments will not result in any adverse impact on pedestrian amenity within the PPP Site.

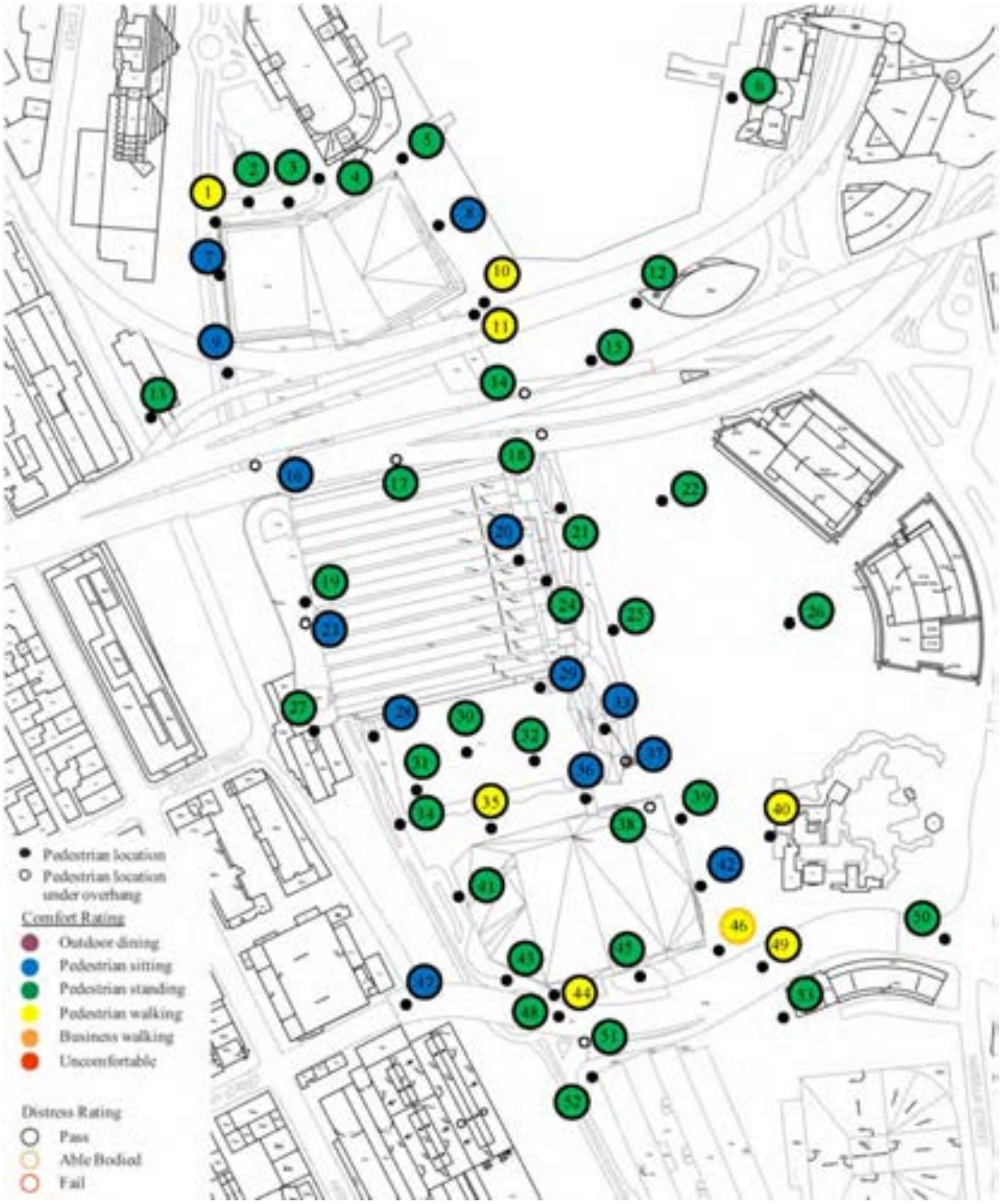

Figure 41 – Post-development pedestrian wind comfort conditions

Mitigation Measures

- Additional wind tunnel testing of The Theatre and adjoining landscaping/public domain will be conducted prior to the issue of a Construction Certificate to ascertain whether the proposed public domain treatments result in pedestrian wind conditions immediately to the east of The Theatre that achieve a 'pass' distress rating under Lawson's Criteria. If a 'pass' rating is still not achieved then additional wind mitigation measures such as landscaping or building facade treatments will be provided.

5.15 Water Cycle Management

5.15.1 Flooding

A Flood Study has been prepared by Hyder Consulting (included at **Appendix U**) and presents a comprehensive technical investigation of flood behaviour of the SICEEP Project area under proposed development conditions. In preparing the study Hyder have followed the processes set out in the 'Floodplain Development Manual: the management of flood liable land' (April 2005) prepared by the NSW Government, and the Director General Requirements.
In particular, the Flood Study:

- Quantifies flows, water levels and hydraulic hazard categories to facilitate the setting of flood planning levels in accordance with those set by the Infrastructure NSW project brief;
- Identifies overland flow paths, underground conduit systems, and waterway works necessary to mitigate potential adverse flood impacts that may otherwise result from the proposed development; and
- Considers sensitivities in its analysis, including in relation to climate change.

The flood study acknowledges that there are a number of large Sydney Water underground culvert systems that convey the Darling Harbour catchment runoff through the SICEEP Site and into Darling Harbour and that these existing systems do not presently convey all runoff up to the 100 year ARI flood event (resulting in a number of significant overland flow paths that run through the site. On this basis, Hyder have accordingly adopted a flood assessment and design approach that retains the existing Sydney Water box culvert system and mitigate flood impacts of the SICEEP Project on overland flows based on an amplification option of the underground culvert system. Alternative options to such amplification works will be investigated as part of future project design stages.

The results from the extensive modelling undertaken by Hyder reveal that under post-development flood conditions the flood results for the proposed SICEEP Project will be as follows:

- Maximum overland flows within the site would be along the Boulevard, being up to 0.5m^3/s and 3.9m^3/s in the 20 year and 100 year respectively.
- The hydraulic hazard throughout the site would be low hazard up to the 100 year ARI, except locally over the existing large inlet pit under Pier Street (within the SHFA workshop).
- The proposed culvert amplification option effectively captures and conveys sufficient overland flows that would otherwise be impeded by the proposed development and accordingly results in no adverse flood impacts on neighbouring property. For a scenario of no culvert amplification, 100 year ARI flood levels in Hay Street and Harbour Street, adjacent to The Haymarket precinct, would increase by up to 100mm (in comparison to existing conditions). Flood modelling of detailed building footprints and public domain as part of Stage 2 DAs for this precinct will confirm the need for culvert amplification or identify other options to mitigate impacts.
- There are significant areas where flood levels are reduced by 20mm to 50mm (in comparison to existing conditions), although with a few very local increases of typically less than 10mm, which are considered to be within the tolerance of model accuracy.
- The Sydney Harbour water level sensitivity analysis indicates that for the 100 year ARI event, increasing the coincident water level from 0.9mAHD to 1.435m AHD resulted in flood level increases within the SICEEP site of up to 0.2m to the south of Pier Street, and 0.1m north of Pier Street.

The DGRs also require the EIS to consider the potential impact of climate change and sea level rise on the proposed development. When the impact of climate change was factored into the flood modelling (0.9m sea level rise by 2100 and 15% increase in rainfall intensity), the results for the proposed SICEPP Project will be as follows:

- Maximum overland flows within The Haymarket Site would be along the Boulevard (south of the Chinese Gardens), being up to 4.4m^3/s and 12.9m^3/s in the 20 year and 100 year respectively. Within the PPP Site, the maximum overland flows are 0.7m^3/s and 4.4m^3/s in the 20 year and 100 year respectively.
- The proposed culvert amplification option effectively captures and conveys sufficient overland flows that would otherwise be impeded by the proposed development and result in no adverse flood impacts on neighbouring property. For a scenario of no culvert amplification, 100 year ARI flood levels in Hay Street and Harbour Street, adjacent to The Haymarket precinct, would increase by up to 100mm (in comparison to existing conditions with climate change). Flood modelling of detailed building footprints and public domain as part of Stage 2 DAs for this precinct will confirm the need for culvert amplification or identify other options to mitigate impacts.
- The hydraulic hazard throughout the site would be low hazard up to the 20 year climate change, except locally over the existing large inlet pit under Pier Street (within the SHFA workshop on the boundary of the PPP Site and The Haymarket). Under the 100 year climate change flood condition there would be high hydraulic hazard along the Boulevard upstream of Pier Street within The Haymarket Site, similar to what would be experienced if the existing site improvements remained in place.
- 100 year ARI flood levels would increase by up to approximately 0.2m along the southern Hay Street site boundary of The Haymarket site in comparison to existing conditions with climate change, with a maximum increase within the site of up to 0.4m under Pier Street on the boundary of the PPP Site and The Haymarket.
- There are significant areas where flood levels are reduced by 20mm to 50mm (in comparison to existing conditions with climate change), although with a few very local increases of typically less than 10mm, which are considered to be within the tolerance of model accuracy.

Flood Planning Levels

Hyder have undertaken flood mapping in order to set concept design planning levels. In accordance with the Floodplain Development Manual 2005 and the INSW Project Brief, Flood Planning Levels have been set as 1% AEP Plus 0.5m freeboard. In instances where Flood Planning Levels cannot be practically achieved across the PPP site for core facilities, determination of appropriate levels (and mitigation) will be the subject of a risk based assessment carried out during the detail design stage.

Flood Evacuation

Hyder advise that under the Probable Maximum Flood (PMF) conditions much of the PPP Site would be high hazard. This situation reflects both existing and future conditions post development. Due to the small catchment size flood warning would not be adequate and there would be no response time for the short duration storms that would potentially produce significant flows. Therefore Hyder consider the only realistic safe option in extreme flood events is for occupants of the site to seek refuge within the proposed buildings and elevated public domain areas for the duration of the flood event.

Due to the short flood dispersal times within the catchment, this management strategy would not inhibit evacuation of the site following the storm event.

Summary and Mitigation Measures

Hyder advise that:

- The flood mapping prepared is adequate to set concept design planning levels;
- Model results indicate the impact of the proposed development, with the modelled culvert amplification option, would result in negligible flood impacts;
- All overland flow paths are to remain unobstructed and ground levels are to be consistent with the proposed flood modelling.
- A formal floodplain risk management plan with respect to evacuation and refuge is to be developed.
- Buildings and structures are to be designed for hydraulic loadings up to the PMF event.

5.15.2 Stormwater

Stormwater Drainage Plans are included within the Civil Infrastructure Drawings for the PPP area provided at **Appendix DD**. These plans detail new internal site stormwater infrastructure and connection (discharge) points to the existing stormwater drainage infrastructure generally located along Darling Drive north of Pier Street. Stormwater Drainage Plans for The Haymarket precinct will be provided with the Stage 2 DA(s) for this precinct. Modelling of the proposed stormwater infrastructure has been undertaken using TUFLOW which has determined that the proposed and existing stormwater system is generally capable of accommodating the anticipated rainfall events up to and including the 20 year ARI rainfall event.

Detailed investigation of opportunities will be undertaken during the detailed design phase to improve drainage of surface water for 20 year ARI conditions along Darling Drive, particularly at the northern end and within the sag located to the north of Tumbalong Place, will occur as part of detailed design prior to the issue of the relevant Construction Certificate.

5.15.3 Water Quality

The proposed development incorporates water sensitive urban design (WSUD) measures to reduce potable water consumption, minimise wastewater generation and treat urban stormwater. Deep soil and soft landscaping are provided throughout the site where practical to allow stormwater infiltration and natural filtering of urban runoff, with overall coverage of site coverage of impervious surfaces within the PPP Site being reduced from 89% to 85%. Stormwater from core facility roofs will be captured within integrated rainwater storage tanks for reuse in toilet flushing, with capture and reuse of stormwater from the roofs of the core facilities, thereby avoiding direct discharge of water from these surfaces from the site.
Overall the implementation of proposed practical and feasible WSUD and stormwater quality treatment measures throughout the PPP Site demonstrates:

- The achievement of pollution reduction targets for gross pollutants and Total Nitrogen;
- The achievement of the pollution reduction targets for Total Suspended Solids and Total Phosphorous will be largely met;

Stormwater quality during the construction phase will be safeguarded through the implementation of measures detailed in the Erosion and Sediment Control Plan included within the Civil Infrastructure Drawings prepared by Hyder Consulting (**Appendix DD**). These plans have been prepared in accordance with the 'Blue Book' which is considered to be industry best-practice for construction-phase stormwater control.

5.16 Air Quality

An Air Quality Assessment has been prepared by AECOM Australia to assess the impact of emissions from the Cross City Tunnel ventilation stack located to the south of the IMAX theatre between the Western Distributor westbound viaducts. The Air Quality Assessment considers existing monitoring data of air quality in the vicinity of the site, including monitoring undertaken in Tumbalong Park as part of post-commissioning testing following the opening of the Cross City Tunnel in 2005/06.

Ambient air quality is most affected within a 100 metre radius of tunnel ventilation stacks, with the impact of increased pollutant concentrations between 100 metres and 1 kilometre of these stacks being generally negligible. This affects only a small portion of the SICEEP site, being existing areas of public domain which are proposed to be upgraded as part of the overall SICEEP project. The proposed ICC and ICC Exhibition are located 130-150 metres west of the tunnel ventilation stack at the nearest point.

Existing Air Quality Conditions

Monitoring of air quality in the vicinity of the SICEEP site (within Tumbalong Park) was undertaken for a period of 12 months between September 2005 and August 2006. The monitoring results from the Cross City Tunnel post-commissioning tests are taken to be an accurate reflection of air quality impacts of the tunnel ventilation stack within the broader SICEEP precinct. During this time period, the relevant criteria for Nitrogen Oxides and Carbon Monoxide were not exceeded. Particulate Matter criteria were exceeded on a total of five (5) occasions, however these exceedances were found to be related to external events unrelated to the ventilation of the Cross City Tunnel (e.g. Sydney Basin-wide events including bushfires and localised effects of fireworks).

Mitigation Measures

No mitigation measures are required as occupants of development within the SICEEP precinct will not be subject to air pollution in exceedance of the NSW EPA *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* as a result of the site's proximity to the Cross City Tunnel ventilation stack.

5.17 Noise & Vibration

An Environmental Noise and Vibration Assessment has been prepared for the proposed development by AECOM and is provided at **Appendix W**. This assessment establishes noise and vibration criteria for the PPP site based on existing monitored conditions in accordance with the relevant policies, including:

- NSW Industrial Noise Policy (EPA 2000);
- Noise Guide for Local Government (EPA 2010);
- Current Noise Condition Guidelines (OLGR);
- Environmental Criteria for Road Traffic Noise (EPA 1999); and
- Interim Construction Noise Guideline (DECCW 2009); and
- Assessing Vibration: A Technical Guidelines (DEC 2006).

There are four general noise catchments in the vicinity of the PPP Site comprised predominately of residential and commercial sensitive receivers. Noise monitoring and modelling was undertaken for the four key sensitive noise catchments located in the vicinity of the PPP Site, being to the north-west, the west, the south-west and the east.

5.17.1 Construction Noise Impact Assessment

Construction phase noise has been assessed on the basis of predicted noise generation throughout the key stages of the construction process, from internal strip-out and demolition through until post-construction commissioning.

Construction impacts will occur to varying degrees throughout the anticipated 32-month construction program, with works anticipated to commence in late-2013 and cease upon project completion in late-2016 as detailed in **Table 5**. Based on modelling of the worst-case noise generation scenarios for each stage of development, where all equipment is operating for a full 15-minute period, it is anticipated that noise management levels (NMLs) established for the site are likely to be exceeded at some residential and commercial receivers throughout the construction process.

Maximum exceedances of the standard construction hours noise criteria during each stage of the proposed works are summarised in **Table 17** below.

Table 17 – Preliminary maximum exceedance (dB) at key sensitive receivers during standard construction hours *(Source: AECOM, 2013)*

Construction Stage	Demolition (Dec 2013 – August 2014)					Construction (Sep 2014 – Sep 2016)				
	1	2	3	4	5	6	7	8	9	10
Harbourside Shopping Centre	4	17	17	17	1	8	8	8	5	5
Metro Light Rail and Monorail Operations	-	2	2	4	4	4	4	4	6	6
Oaks Goldsborough Apartments	-	3	3	3	3	1	1	1		-
Bullecourt Apartments	-	-	2	3	3	-	-	-	-	-
Hotel Ibis	-	-	-	-	-	-	-	-	-	-
Novotel Rockford	-	-	-	-	-	-	-	-	8	-
Novotel Sydney	-	7	7	7	2	3	3	3	1	1
Powerhouse Museum	-	-	4	-	-	2		2	-	-
Commonwealth Bank, North Building	-	-	-	-	-	-	3	1	-	-
Commonwealth Bank, South Building	-	-	-	-	-	-	1	13	-	-
IMAX Building	-	-	-	-	-	-	1	-	-	-
Pump House	-	-	-	-	-	-	2		8	-
1 Dixon Street, Sydney	-	-	-	-	-	-	-	2		-

Commercial Premises

Due to the proximity of the proposed works to the Harbourside Shopping Centre, this commercial premise will be subject to noise criteria exceedances throughout the construction process. Noise exceedances will be most intense during the demolition stages involving the Sydney Convention Centre. The exceedances identified in **Table 15** are based on preliminary modelling only, and the implementation of construction noise mitigation measures are expected to reduce, but not eliminate, these exceedances. Given the proximity of the Harbourside Shopping Centre to the site, noise exceedances are considered to be unavoidable,

and therefore with the implementation of reasonable and feasible management measures these impacts are acceptable and necessary in order to permit redevelopment. On balance, it is considered that any short-term impacts on these premises will be outweighed by significant improvements to the amenity and patronage of the shopping centre in the long-term as a result of the SICEEP development.

There will be short-term noise impacts upon the Darling Quarter commercial buildings during the construction period, however these will be temporary in nature, confined to relatively short construction stages and these premises will benefit directly from the improved public domain facilities in Tumbalong Park. As such it is considered that subject to implementation of reasonable and feasible management measures the construction noise impacts on these premises are acceptable.

Hotel and Serviced Apartments
A number of hotel and serviced-apartment properties will be affected by noise throughout the construction program, with exceedances of the noise management levels during construction hours. The proposed noise impacts will occur during daylight hours (i.e. 7am to 7pm) when hotel rooms are generally not occupied, and will not impact upon the amenity of these premises during key occupancy periods (i.e. evenings and nights).

In particular, the Novotel Rockford (17 Little Pier St, Haymarket) will be 'highly noise affected' during the final stage of construction (Stage 9) for a period of approximately 2 months. The most noise-affected portion of this building has small non-openable windows and is expected to have a high performing acoustic facade given the proximity to Pier Street, and as such the noise impact on internal spaces within the Novotel is likely to be significantly less than modelled at the external facade.

On balance, given the short duration of this stage of construction, and the significant economic benefits provided to the local tourism and hotel sector by the SICEEP development in the long-term, it is considered that these impacts are acceptable with standard construction noise mitigation measures.

Residential Receivers
Noise levels at sensitive residential receivers within the immediate vicinity of the site, being the Oaks Goldsborough Apartments and the Bullecourt Apartments, will exceed the noise management levels by 2-3dB during the external demolition stages of the project. Based on the proposed construction program, these exceedances will affect the Oaks Goldsborough Apartments for a total of 7 months during 2014 and the Bullecourt Apartments for 6 months. The forecast exceedances are minor, are based on worst-case predictions and will be limited to normal construction hours for a relatively short period within the overall construction period. Noise management levels at the Oaks Goldsborough Apartments will also be exceeded at a lower level of approximately 1dB during later stages of the proposed construction program, however given the minor nature of these exceedances, which are based on worst-case predictions, they are considered to be acceptable.

5.17.2 Construction Vibration Impact Assessment

Vibration impacts on the amenity of nearby buildings will be minimised through the selection of less vibration-intensive equipment, consultation with the community to determine the most appropriate times to undertake vibration-intensive works and if required the incorporation of respite periods into the construction program. Vibration monitoring will be conducted during use of vibration-intensive equipment to ensure safe working distances are maintained.

Vibration impacts will be temporary in nature and restricted to short periods within the overall construction program. Subject to the implementation of mitigation measures, it is therefore considered that construction vibration impacts from the proposed development will be acceptable.

Dilapidation surveys of buildings and structures within the immediate vicinity of the site will be undertaken to ensure any potential damage as a result of vibration or other works is identified and rectified.

5.17.3 Operational Noise Impact Assessment

Loading Dock
Noise generation from loading facilities for the SICEEP core facilities will be significantly improved from existing loading dock activities for the SCEC through an increase in the proportion of loading activities occurring within enclosed and partially-enclosed loading areas. Loading for the Lower Exhibition Halls will be undertaken from the east, with only loading activity for the Upper Exhibition Halls taking place along the western facade in the vicinity of sensitive residential receivers (i.e. the Bullecourt Apartments and Oaks Goldsborough Apartments). The quantum of exhibition floorspace being serviced from the western facade is therefore reduced by approximately half under the SICEEP proposal, which will result in a corresponding reduction in noise-generating loading activities occurring along this interface.

The Environmental Noise and Vibration Impact Assessment makes recommendations as to appropriate acoustic absorptive treatments to ensure that enclosing walls and barriers achieve the required noise reduction criteria and ensure the amenity of nearby sensitive receivers, and these are included as mitigation measures at **Section 6.0**.

Building Plant and Services
Whilst the selection of specific building plant equipment will be finalised as part of construction design, AECOM have considered the potential impact of plant noise based on preliminary equipment selections and previous experience. The Environmental Noise and Vibration Impact Assessment includes minimum insertion losses for recommended acoustic treatments to plant equipment which are included as a mitigation measure at **Section 6.0** which will ensure that the acoustic performance of building plant does not adversely impact on nearby sensitive receivers.

Event Deck and Oxygen Bar
The Environmental Noise and Vibration Impact Assessment considers the acoustic impact of a range of outdoor events within the Event Deck, including conference dinners with and without live amplified entertainment and for large celebratory events (such as a New Years Eve event). Under each of these scenarios the use of the Event Deck complies with the day and evening criteria for noise under the *Industrial Noise Policy*, with the exception of some noise exceedances to Tumbalong Park. Night time noise criteria would not be applicable during normal operation of the deck as patron use of this space would cease by 11pm.

The only occasions upon which night noise criteria would apply will be limited to large-scale celebratory events (up to 6 per year) during which occupancy of the Event Deck would continue after 11pm. On these occasions, night time noise criteria may be exceeded by approximately 4dB at one residential receiver (Bullecourt Apartments). Given that these occasions would generally coincide with a range of other late-night celebratory activities throughout the city, including within the affected residential premises, it is considered that this noise exceedance is acceptable.

Darling Harbour is a recognised and well-established entertainment precinct, and as such it is reasonable that during some occasions noise will be emitted to surrounding areas including residential and commercial receivers. As such, it is considered that limited noise impacts are acceptable where appropriate noise control and event management protocols are in place to ensure disturbances are minimised.

A detailed Noise Management Plan will be developed with SHFA and submitted to the EPA for all outdoor entertainment areas in Darling Harbour prior to the issue of an Occupation Certificate which addresses, amongst other things, the following:

- **Preventative noise management** - detailing how noise impact will be mitigated prior to the event such as stage orientation, barriers, sound limitation devices and effective community consultation before the event;
- **Reactive noise management** - detailing protocols for noise monitoring in real time, noise monitors in fixed locations, noise mitigation in real time, complaints handling in real time and communication modes between complaints handling and operators; and
- **Noise Assessment** – detailing protocols to assess the performance of noise management before, during and after the event.

5.17.4 Road Traffic Noise Impact Assessment

Existing road traffic noise levels at sensitive receivers surrounding the site already exceed the relevant road traffic noise assessment criteria due to the presence of elevated arterial roads in close proximity to the site (i.e. the Western Distributor). Generally, increases in average traffic noise of less than 2dB are considered to be imperceptible to the average person.

It is anticipated that there will be some minor increases in road noise (between 2.0 and 2.5dB) in some sections of Darling Drive, Hay Street and Pyrmont Bridge Road during peak periods as a result of increased traffic generation from the PPP site core facilities above the existing SCEC and Entertainment Centre. This increase is considered to be acceptable as the proposed increases in traffic noise will typically only occur during peak event periods.

Proposed construction traffic is anticipated to result in an average increase in traffic noise of less than 1dB, which are not perceptible to the average person and are therefore considered to be acceptable.

5.17.5 Mitigation Measures

- A Construction Noise and Vibration Management Plan detailing measures to limit and control construction noise will be prepared and incorporated within the Construction Environmental Management Plan prior to the issue of a Construction Certificate.
- Dilapidation surveys of buildings and structures within the immediate vicinity of the site will be undertaken to ensure any potential damage as a result of vibration or other works is identified and rectified.
- The minimum insertion losses for acoustic treatments to plant equipment detailed in the Environmental Noise and Vibration Impact Assessment prepared by AECOM dated March 2013 will be provided and detailed in Construction Certificate drawings.
- A Noise Management Plan will be developed with SHFA and submitted to the EPA for all outdoor entertainment areas in Darling Harbour prior to the issue of an Occupation Certificate which addresses preventative noise management, reactive noise management and noise assessment measures.

- Acoustic absorptive treatments will be applied to loading dock enclosing walls and barriers to achieve the noise mitigation specifications contained within the Environmental Noise and Vibration Impact Assessment prepared by AECOM dated March 2013.

5.18 Access

An Access Review has been prepared by Morris Goding Accessibility Consulting (**Appendix X**) which reviews the design of the proposed facilities and public domain against the provisions of the Australian Standard 1428 'Design for Access and Mobility' series, the Building Code of Australia, Disability Discrimination Act (Access to Premises – Buildings) Standards 2010 and the *Disability Discrimination Act 1992 (Cwth)*.

The proposed development incorporates numerous access upgrades throughout the PPP Site, including within the public domain, which will improve public access to areas such as the outdoor concourse along the eastern edge of the ICC Exhibition. In general, the Access Review finds that the proposed development is capable of complying with the relevant standards subject to the implementation of recommendations relating to accessible paths of travel, facilities and fixtures at the detailed design stage.

Mitigation Measures

The design recommendations contained within the Access Review prepared by Morris Goding Accessibility Consulting dated 1 March 2013 will be adopted in the detailed design documentation prior to the issue of a Construction Certificate for new works.

5.19 Ecologically Sustainable Development

The principles of ecologically sustainable development are set out in section 6(2) of the *Protection of the Environment Administration Act 1991* (NSW). The principles of ESD include intergenerational equity, the precautionary principle, conservation of biological diversity and ecological integrity and improved valuation, pricing and incentive mechanisms. The principles of ESD have informed the design, construction and proposed operation of Commercial Building C3.

It is appropriate for decisions made under the EP&A Act to have regard to the objects of the Act, as set out in Section 5 of the Act, including ESD.

The EP&A Act adopts the definition of ESD found in the *Protection of the Environment Administration Act 1991*. 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 - 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.

Importantly, the PPP Site proposed development is consistent with the principles of ESD as it meets the needs of the present without compromising the ability of future generations to meet their own needs. ESD design measures have been integrated into the design of the core facilities as detailed in the Ecologically Sustainable Development Report prepared by AECOM at **Appendix I** and summarised at **Section 4.8** of this report. Each principle of ESD as relevant to the proposed development is addressed below.

5.19.1 Precautionary principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides 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.

The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment. Measures included within the proposed development to mitigate against possible future risks include:

- Development of the largest solar PV array within the Sydney CBD (400kW), which will generate renewable energy onsite and reduce reliance on other carbon-intensive offsite sources of electricity generation;
- Include stormwater treatment measures to eliminate present or future impacts on water quality;
- Incorporate groundwater quality monitoring and soil handling and classification procedures to ensure the early identification and management of any potential contaminated material within the site (noting that the proposal has been deliberately designed to minimise disturbance of existing soils and fill within the site);
- Incorporate rainwater capture and storage to use within core facilities, water features and landscape irrigation to reduce reliance on mains potable water; and
- Establishing waste diversion targets which reduce reliance of ICC Sydney's operations on landfill facilities.

When taking into account the above ESD measures, this EIS has not identified any serious threat of irreversible damage to the environment and therefore the precautionary principle is not relevant to the proposal.

5.19.2 Integration principle

The integration principle holds that decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations. The proposed development for the PPP Site within the overall SICEEP project arises from a series of long-term strategic plans including NSW 2021 and the Metropolitan Plan for Sydney 2036 which specifically identify the need for on-site redevelopment of Sydney's premier convention and exhibition facilities. The design of the development has been developed to with due consideration the short and long term effects of economic, environmental and social impacts to the Site, Darling Harbour, and the wider region which are considered in this EIS and supporting documentation.

5.19.3 Inter-generational equity

Inter-generational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposal has been designed to benefit both the existing and future generations by:

- securing Sydney's position as the premier business tourism destination in Australia, thereby providing ongoing economic and employment benefits to residents and the State of NSW;
- maintaining State heritage listed items for future generations to appreciate and enjoy;
- providing lasting benefits in terms of urban structure and connectivity within Darling Harbour to promote walking, cycling and pedestrian connectivity;
- providing a safe and enjoyable public realm for future generations to enjoy within the Sydney CBD;
- implementing safeguards and management measures to protect environmental values.

The proposal has integrated short and long-term social, financial and environmental considerations so that any foreseeable impacts are not left to be addressed by future generations. Issues with potential long term implications such as waste disposal would be avoided and/or minimised through construction planning and the application of safeguards and management measures described in this EIS and the appended technical reports.

5.19.4 Conservation of biological diversity and ecological integrity

The principle of biological diversity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration. The proposal would not have any significant effect on the biological diversity and ecological integrity of the study area. Design and management measures to reduce excavation within the site, monitor groundwater and reduce the export' of gross pollutants into the waterway all contribute directly the conservation of biological diversity and ecological integrity within Sydney Harbour.

5.19.5 Improved valuation, pricing and incentive mechanisms

The Darling Harbour Live team was selected by Infrastructure NSW to deliver the SICEEP project based on the economic, environmental and social merits of the proposed masterplan. This plan has now been refined and has undergone additional detailed design to ensure that the proposed development ultimately achieves the best development outcome for the across all evaluation criteria.

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources which may be affected by a proposal, including air, water, land and living things. Mitigation measures for avoiding, reusing, recycling and managing waste during construction and operation would be implemented to ensure resources are used responsibly in the first instance in order to divert resources from landfill.

5.20 Operational Waste Management

A Waste Management Plan has been prepared by Waste Audit and Consultancy Services (**Appendix L**) which details the proposed methods for waste disposal to meet the waste objectives for the project, being:

- overall reduction in waster generation;
- maximisation of resource recovery with an inspirational target of 80% diversion from landfill;
- separate waste streams to promote reuse and recycling; and
- ensure front-of-house and back-of-house waste facilities are well designed and appropriate to the requirements of site operations.

Waste storage and compaction facilities have been provided at the required rates based on the predicted waste volumes contained within the Waste Management Plan. Waste collection will occur via the loading dock facility of each venue with collection frequencies to be coordinated to reflect venue usage.

5.21 BCA

A BCA Assessment Report has been prepared by Steve Watson and Partners (**Appendix Y**) which considers the ability of the proposed development to comply with the provisions of the Building Code of Australia (BCA). Subject to detailed design resolution, this assessment finds that the proposed development will be capable of complying with the BCA through either Deemed-to-Satisfy performance or Alternate Solutions.

In accordance with Clause 2(1)(o) of Part 1 of Schedule 1 of the *Environmental Planning and Assessment Regulation* 2000), a Statement of Building Occupancy Levels has been prepared by AEG Ogden and is provided within the BCA Assessment Report at **Appendix Y**. The potential for increased population in The Theatre and/or the ICC Convex space in the order of 2500 persons overall above those capacities included within the AEG Ogden (the venue operator) statement will be investigated by Darling Harbour Live and are to be considered for the purpose of this application. This is based upon the potential for an additional 1000 persons to be accommodated in The Theatre and 1500 in the ICC.

5.22 Social and Economic Issues

Economy and Employment

The NSW Government's number one priority is to restore economic growth and establish NSW as the first place in Australia to do business. The SICEEP Project forms a central part of achieving this ambition of "making NSW number one again" and reinforcing Sydney's status as Australia's global city.

Sydney's ability to attract and host international and national business and industry leaders is a key driver of economic value to the state, with national and international delegate expenditure generating significant direct and indirect economic benefits. For example, every international delegate spends around $6,000 during their stay in Sydney.

With the delivery of new world class convention, exhibition and entertainment facilities, re-positioning Sydney as the major events and business venue in the Asia Pacific, it will alone generate $200 million annual economic benefit for NSW, equating to more than $5 billion over the course of the 25-year operation (contractual) period of the new facilities.

Business, education and industry also benefit from knowledge sharing that is often a result of conventions, exhibitions and business events.

Tourism spending is also significant in the Sydney and NSW economy. The Darling Harbour area already receives over 25 million visitors per annum and is one of the most visited and popular precincts of Sydney.

The SICEEP Project supports the NSW Government's policy to double the NSW visitor economy by 2020 and will serve to strengthen Sydney's image as a premium tourist destination for local, interstate and international visitors. For example:

- By improving connectivity to surrounding areas and making visitors experience of Sydney more enjoyable and accessible.
- Through a significant investment in expanding and re-invigorating the public domain, making Darling Harbour (and Sydney) a more appealing destination — encouraging Sydney visitors to stay longer.
- Establishing a new Hotel Complex (subject of a separate future DA) providing up to 900 hotel rooms with a selection of price points – offering a broad market appeal and attracting many new visitors.

The SICEEP Project will deliver a significant boost in employment for Sydney and NSW, creating jobs for an estimated 1,600 people during construction and provide ongoing employment for 4,000 people across the PPP Site.

The new residential population to be established within The Haymarket along with the new workers will also generate direct expenditure on retail within the vicinity of their place of residence and work.

While some of this expenditure would be captured by the new retail to be provided across the SICEEP Site (in particular The Haymarket), the SICEEP Site is not expected to provide a full range of comparison goods or dining/entertainment. This means that the new population would increase the expenditure available for retail tenancies elsewhere in the locality.

Housing Supply and Choice

The redevelopment of the core facilities within the PPP Site, and including The Theatre, will allow the transformation of The Haymarket precinct into a vibrant mixed use precinct which supports urban growth within the existing city footprint. Once fully developed The Haymarket (based on the indicative design scheme) is expected to accommodate approximately 2,360 dwellings (comprising 1,360 residential apartments and 1,000 student beds) with a resident population in the order of 3,400 – 3,700.

The Haymarket will accommodate a mix of housing types, including as noted options for student housing accommodation. By providing several residential typologies and a range of apartment sizes (details of which are to be the subject of detailed Stage 2 DAs), the proposal seeks to meet the City of Sydney's vision for a diverse and vibrant community. Underpinning the type and size of dwellings to be provided is supporting attainable city apartment living, targeted at young professionals and students.

Located on the edge of the City Centre, with a high level of public transport accessibility, proximity to employment and activity centres, and access to extensive areas of open space, The Haymarket supports key Local and State Government strategic planning objectives and contributes towards achieving housing targets.

Community Services and Facilities

In additional to delivering world-class facilities, the SICEEP Project is also a major urban renewal project that will deliver significant benefits for the entire City.

Key benefits to the community of the SICEEP Project include:

- Providing an enhanced, enlarged and dynamic public domain to be enjoyed by residents and visitors alike.
- Providing improved permeability and better connections to surrounding areas (including overcoming existing poor east-west connections between Pyrmont and the CBD).
- Creating a vibrant and activated precinct for Sydneysiders and visitors to enjoy, with a mix of retail shops, public spaces, dining areas, a hotel and other accommodation.
- Investigate establishing an 'IQ Hub' within The Haymarket — providing low-cost rental studio and collaborative spaces to support tech-industry start-ups.
- Investigate the opportunity for a new child care facility within The Haymarket where possible.
- Providing for a new Library within The Haymarket (subject to Council agreement and funding).
- Providing free Wifi throughout the SICEEP Site.
- Offering local community groups' access to meetings rooms within the Convention/Exhibition Centre free of charge for 200 hours.
- Prioritising employment requests from suitably qualifies and experienced applicants who are residents of the local community and surrounding areas.
- Establishing working relationships and ongoing support to selected local schools (e.g. providing the opportunity for students to attend appropriate events within conferences/exhibitions that have educational benefits, assisting with fundraising initiatives).
- Offering community cooking initiatives (e.g. providing lessons in basic nutrition, healthy eating, and affordable meals for those in the local community most in need).
- Increased safety and security in the surrounding public domain.

Community Use of Facilities and Community Social Responsibility

The Plan of Management prepared by AEG Ogden (**Appendix J**) outlines the community use and community social responsibility initiatives which will be implemented by the venue operator.
200 hours of meeting rooms use annually will be allocated free of charge to approved community organisations selected in consultation with SHFA and the City of Sydney. In addition, a small meeting room within the ICC will be made available to community groups at a discounted rate subject to availability. Bookings for these facilities will be coordinated by the venue operator.

The provision of these facilities at no-cost and discounted rates will provide direct community benefits by facilitating community organisation and gathering within and international-standard facility.

The ICC Sydney venue operator will also contribute to the welfare of the local community by implementing measures such as:

- prioritised employment opportunities for residents of the local community and surrounding areas;
- engagement opportunities for local school students to attend selected events/conferences/exhibitions;
- engagement opportunities for local school cultural groups to be represented at ICC Sydney events;
- donation of tickets to select ICC Sydney events to assist in local community fundraising initiatives; and
- facilitation of community cooking classes to provide basic information on nutrition, healthy eating, food preparation, shopping and affordable meals.

Mitigation Measures

- ICC Sydney venue operator to make meeting rooms available free of charge for a total of 200 hours annually to community groups approved by the City of Sydney Council and Sydney Harbour Foreshore Authority subject to availability.
- A small meeting room must be identified by the ICC Sydney venue operator and be made available at discounted rates to community groups approved by the City of Sydney Council and Sydney Harbour Foreshore Authority subject to availability.

5.23 Crime Prevention through Environmental Design

A Crime Prevention through Environmental Design (CPTED) Report has been prepared for the proposed development by Harris Crime Prevention Services (**Appendix Z**) which considers the safety and perceived safety of the public domain within the overall SICEEP site.

Natural Surveillance

The proposed development generally incorporates good natural surveillance throughout the precinct. The design of Tumbalong Green and the Boulevard is conducive to long, clear sight-lines which assists in casual surveillance and provides users of these spaces with spatial certainty in exploring these spaces. The improvement of pedestrian connectivity to surrounding areas, and the introduction of additional active uses within the PPP Site and The Haymarket, will increase utilisation of these spaces and thereby increase surveillance further.

Clear legibility between the core facilities and the public domain will enhance surveillance of these interfaces. The internal building design of the core facilities places significant emphasis on orienting circulation and foyer spaces towards the public domain with clear sight-lines for casual surveillance of the public domain from users of these buildings.

In addition to the above, active surveillance features including CCTV and lighting designs will be implemented throughout the SICEEP site in consultation with SHFA and the NSW Police in order to ensure that active monitoring occurs of key public areas.

Access Control

The CPTED Report finds that the key public access routes and entry/exit points to the core facilities and within the public domain are well defined and support the control of movements into the facility. The location of the central north-south activity spine, with clear connectivity and interfaces to core facilities and public domain spaces to each side, will promote clear and well-observed paths of access between activity nodes and circulation spaces.

Access to core facilities will generally be controlled through well-defined pedestrian access points located in areas which are subject to constant casual and active surveillance from venue staff and which interface with safe and active public spaces. Staff access points to the core facilities will incorporate appropriate control measures (such as key and electronic locks) to prevent illegitimate access to the facilities.

On-site security personnel will employed on an ongoing basis by venue management to in order to ensure that access to facilities occurs in a legitimate manner, with additional security staff to be provided by venue management/event organisers during peak events.

Territorial Definition

The design of the core facilities provides for a clear definition between public spaces and private spaces. Clearly defined entrance points to the core facilities will control access to internal spaces where required. A clear design principle within the PPP Site is that external spaces to the core facilities are within the public domain, with the inclusion of ground-level uses within the core facilities such as retail to promote activity at these interfaces.

Activity Support

The creation of an active space with strong public usage throughout the day will increase perceived and actual safety throughout the site and lower the potential for covert illegitimate activity occurring. Through promoting a well-used space with a range of uses within the PPP Site and The Haymarket, the overall SICEEP development will create an environment in which perceived ability to conduct illegitimate activity is riskier to potential offenders and therefore promotes a safer environment with lower crime.

Target Hardening

The public domain and core facilities will be incorporate active security measures to deter illegitimate activity and increase the risk of apprehension to potential offenders through the provision of lighting in accordance with the relevant Australian Standards, the incorporation of CCTV and the employment of physical security personnel to actively monitor and prevent illegitimate activities within the site. External building facades and materials, public domain treatments and public furniture will be designed and installed to be vandal-resistant, thereby lowering the potential 'reward' of illegitimate activities.

Mitigation Measures

The CPTED Report concludes that *"CPTED principles have been incorporated into the Public Domain, ICC, ICC Exhibition and The Theatre design"* and therefore no further mitigation measures are required in respect to the proposed works within the PPP Site.

5.24 Environmental and Construction Management

A Construction Management Plan (CMP) has been prepared by Lend Lease Project Management and Construction (**Appendix M**) which details the site construction and environmental management principles for the proposed development. The CMP details management principles which seek to manage the impact of construction activities in terms of public and employee safety, noise, vibration, air and water quality and construction traffic.

Traffic, Parking and Pedestrian Management (Construction)

The Construction Management Plan prepared by Lend Lease Project Management and Construction included at **Appendix M** provides details relating to traffic, parking and pedestrian management during the demolition and construction phase of the development. More specifically it outlines planned mitigation arrangements demonstrating how, during demolition and construction of the development, the pedestrian and vehicular movements will be addressed to minimise impact.

An overview of the key elements of traffic and parking management is provided below:

- Primary construction heavy vehicle egress will be via the established Darling Drive network.
- All vehicles entering through advised gates in a forward direction with a speed limit of 10kmh.
- After delivery, vehicles will exit through designated gates, whenever possible in a forward direction.
- On site construction access routes will be established, within the construction boundary, along the east.
- Truck movements to and from the site to be restricted to specified routes.
- Truck movements to be scheduled to minimise disruption to site operations, the local community, and the road network.
- It is anticipated that there will generally only be 3-4 truck movements per hour accessing the site for the duration of the development. In instances where this volume increases, e.g. for concrete pours, it will be controlled to alleviate any congestion to the surrounding traffic network.
- There is to be no construction parking provided on site, with use of public transport to be promoted (through the tendering process and site inductions etc) and utilised.
- Maintain a controlled permit system for vehicles at access points, using only certified traffic controllers.
- Traffic movements and vehicles will conform to current RMS requirements.
- Appropriate directional signage and traffic control will be provided.
- Temporary road closures, single lane access and relocations during construction to be subject to coordination with appropriate authorities, and involve consultation with stakeholders.

In terms of pedestrian access and management, key measures include:

- Hoardings will be located around the periphery of the development site to protect pedestrian traffic from entering the site boundaries.
- Careful planning of hoarding locations, types and staging will aim to ensure access through and around the site is maintained, with only minor diversions expected so that the level of access is generally reflective of what is currently available.
- Maintaining the existing Harbourside drop off and pick up area, ensuring stakeholders of Harbourside, bus and taxi companies are least impacts by the proposed works.
- Public access to Darling Harbour will be provided to the south of the existing Harbourside building.
- Maintaining in the interim current pedestrian movements from the Novotel to Darling Drive.
- Maintaining the existing Western Distributor pedestrian access to ground level (lift) in the initial development phases, until such time as the new access arrangements are complete.
- Maintaining the existing Western Distributor pedestrian access to ground level (stairs) in the initial development phases, with temporary stairs to be provided when relocation is required to allow the progress of construction activity. Final access arrangements will include provision of new stairs together with the new lift.
- Making the existing pedestrian path along the eastern side of Darling Drive redundant, in order to accommodate construction of the new Exhibition centre, construction access and egress for vehicle movements, materials handling and alterations and realignment to Darling Drive.
- Facilitating movement through and around the site from the west by redirecting and relocating existing pedestrian access from Quarry Street, Pyrmont Street and the light rail station.
- Making available the public walkways around and through Tumbalong Park during construction of the core facilities (i.e. until staging of the public realm works).
- Altering the exhibition light rail station passenger ramp so that passengers are directed south of the site via a new zebra crossing over Darling Drive.

Public Domain Improvements and Construction

During the construction period, sections of Tumbalong Park will be closed to the public for prolonged periods of time to permit the upgrade of these areas as detailed in the Public Domain Plan (**Appendix CC**). These closures will temporarily disrupt community usage of these spaces for both formal and informal community recreational and cultural activities. However, given the temporary nature of the proposed closures and the direct benefit to the community in developing an upgraded public domain which will better accommodate formal and information cultural and recreational activities, it is considered that no mitigation measures are required.

Construction Traffic

Construction traffic routes and access points detailed in the CMP have been established following consultation with the RMS and will be communicated to all contractors throughout the construction process. The primary heavy vehicle egress from the site will be via Darling Drive either via Pyrmont Bridge Road (north) or Ultimo Road/Harris Street (south). Construction traffic movements will be largely consistent throughout the construction program, with typically 3-4 additional truck movements per hour above the exiting traffic volumes.

Vehicular site access points will be from Darling Drive and Exhibition Place. All vehicle access points will include control measures to ensure unauthorised site access is prohibited. Major site entrance points will be manned to provide site security and ensure the safe and efficient operation of vehicle movements into and out of the site.

On-site parking for construction workers will not be provided, with the developer to convey information on local public transport routes and public car parking stations.

Sediment and Erosion Control

A detailed Erosion and Sediment Control plan has been prepared prior to the issue of a Construction Certificate in accordance with the DIPNR *Guidelines for Erosion and Sediment Control on Building Sites* and is included within the Civil Infrastructure Drawings provided at **Appendix DD**.
This plan has been developed in accordance with the principles and site actions identified in the CMP in order to ensure that there are no unacceptable impacts on water quality and volumes within existing watercourses and stormwater drainage systems as a result of the proposed development.

Noise and Vibration

The CMP details noise and vibration management principles and measures which will be formalised in a detailed Noise and Vibration Management Plan prior to the issue of a Construction Certificate as recommended by the Environmental Noise and Vibration Impact Assessment.

Air Quality

An Air Quality Management Plan and Air Quality Monitoring Program will be implemented prior to issue of a Construction Certificate to detail preventative measures to minimise the impact of construction activities, including dust emissions, and monitoring measures to ensure that air quality issues are promptly identified and addressed.

Mitigation Measures

- Construction Traffic Management Plan to be included in tender documents for all works;
- Construction Traffic Management plan to form part of site induction package;
- Subcontractors/suppliers to submit formal delivery booking requests 5 business days prior to delivery;
- Developer to establish holding areas for urgent and emergency vehicles within the development site;
- An Air Quality Management Plan and Air Quality Monitoring Program will be implemented prior to issue of a Construction Certificate detailing preventative and monitoring measures to minimise construction impacts on air quality.

5.25 Site Suitability

The site is considered suitable for the proposed use as:

- Darling Harbour is an established entertainment and tourism precinct with convention, entertainment and exhibition facilities;
- the location of the site on the CBD-edge and in the vicinity of existing transport, tourism and business infrastructure is considered to be the most appropriate location for international-standard convention and exhibition facilities;
- local environmental impacts as a result of development of the subject site are capable of being appropriately managed and mitigated; and
- the proposed redevelopment will facilitate the renewal of the existing site with considerable benefits to the local community.

5.26 Public Interest

The proposed development is considered to be in the public interest as:

- The ICC Sydney facilities will generate $200 million per year in economic benefit for NSW, or some $5 billion over the course of the 25 year concession period for operating the new facilities;
- The redevelopment of Tumbalong Park and the core facilities will create a vibrant and high quality public open space which is commensurate with the central location of the precinct within central Sydney and sustains activity throughout the day;
- The Darling Harbour Live proposal (PPP component) will create 1,600 new jobs during construction with ongoing employment opportunities for 4,000 people across the precinct;
- The PPP Site redevelopment will facilitate the development of The Haymarket which is expected to improve housing supply, choice and affordability by accommodating approximately 2,360 dwellings (comprising 1,360 residential apartments and 1,000 student beds) upon completion with a resident population in the order of 3,400 – 3,700; and
- The provision of material community benefits through the provision of publicly available meeting rooms free of cost, and at discount, to approved community groups and charities.

6.0 Compilation of Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 18** below. These measures have been derived from the previous assessment in Section 5.0 and those detailed in appended consultants' reports.

Table 18 – Mitigation Measures to be implemented

Mitigation Measures
Transport
▪ The following improvement measures should be considered in order to achieve satisfactory intersection performance: – Pyrmont Bridge Road eastbound right turning bay extension at intersection with Darling Drive and Murray Street. – Darling Drive westbound right turning bay extension at intersection with Murray Street and Pyrmont Bridge Road. – Goulburn St westbound right turning bay extension at intersection with Harbour Street. ▪ Liaison with the Roads and Maritime Services to be undertaken to ensure that future traffic forecasted for the SICEEP Project are considered and measures can be put in place to aid in minimising intersection delays during specific time periods and on special days. ▪ Light rail interface mitigation measures are to be implemented by Transport for NSW generally in accordance with Table 14 of this EIS.
Geotechnical
▪ The existing piles on site may be able to be re-used for the proposed development if they are located in positions that can be used. ▪ Care should be taken during demolition to ensure that the Frankipiles are not damaged. Consideration of the remaining design life of the piles should be carried out if proposed for re-use. Integrity testing would need to be undertaken on each pile proposed to be reused to confirm their suitability for re-use. ▪ A geotechnical reduction factor (Φg) of 0.6 be adopted at this stage. This value (Φg) may be increased dependent on the amount of additional investigation as well as pile testing and geotechnical supervision during construction. ▪ Where piles are designed in tension the design values in Table 1 of the Geotechnical Assessment Report should be reduced by 50% in addition to the geotechnical reduction factor. Piles designed in tension should also be checked for cone-pullout failure. ▪ It is recommended that all load bearing foundations be inspected by an experienced geotechnical engineer or engineering geologist. ▪ It is recommended that, for lateral deformations, the design is based on the rock socket only with deformations calculated assuming fixity about 0.5 m below the top of the rock surface. ▪ Piles should be socketed at least three pile diameters into sandstone of at least low strength. To cope with strength variability and fractured zones as encountered in the bores, it is suggested that the actual socket length be at least 0.5 m longer than the minimum required socket. ▪ A more rigorous analysis of lateral pile deflection modelling of the piles using the PYGMY computer program should be carried out during detailed design. ▪ It is recommended that the piling contractor be consulted prior to engagement and made aware of the potential difficulties during construction. ▪ Piles should be positioned so that there is at least 5 m of high strength sandstone bedrock between the base of the pile and the possible edge of the GSD. ▪ In accordance with the Earthquake Loading Standard, AS1170.4- 2007, most of the site can probably assessed to have a Site Sub-Soil Class of "Ce", however, the foundations beneath individual structures should be reassessed during detailed design. ▪ Remove all vegetation-affected filling, deleterious materials and any topsoil. ▪ Proof roll the exposed surface using a minimum 10 tonne smooth drum roller in non-vibration mode. The surface should be rolled a minimum of six times with the last two passes observed by an experienced engineer to detect any 'soft spots'.

- Any heaving materials identified during proof rolling should be removed, or otherwise treated (e.g. with geosynthetics or bridging layers), as directed by the engineer.
- Any new filling should be placed in layers of 300 mm maximum loose thickness and compacted to a dry density ratio of between 100% and 103% Standard compaction and with moisture contents maintained within 2% of Standard optimum moisture content.
- Imported fill material should preferably be free of oversize particles (>1 00 mm) and deleterious material and be non-saline to slightly-saline, non-dispersive, have a plasticity index of less than 25% and a California bearing ratio of greater than 5%.
- Excavated filling on-site may be suitable for re-use as filling on site, from a geotechnical perspective, provided it does not contain peaty clays, excessively silty material, vegetation or deleterious materials (e.g. rubbish, building rubble). An environmental consultant should be consulted as to the waste classification of materials on site and its appropriateness for re-use.
- Moisture conditioning of fill materials proposed for re-use may need to be carried out. If excessively wet, moisture conditioning is likely to involve drying using one of the following methods:
    - exposure to sunny and/or windy weather;
    - mixing with drier materials; and,
    - stabilisation using either lime or cement. The choice and amount of stabilising material is dependent on the type of filling proposed for re-use and its moisture content.
- Drying methods that are dependent on exposure to the environment are obviously associated with a risk of being affected by wet weather.
- Density testing of the filling should be carried out in accordance with AS3798 *'Guidelines for Earthworks for Commercial and Residential Developments'*.
- Drainage measures should be included within all earthworks operations carried out on site.
- Where a good quality and uniform filling subgrade is present, this subgrade may be suitable to support some rigs. Where a poor quality and non-uniform subgrade is present preliminary analysis suggests that a working platform approximately 0.8 m to 1.2 m thick of high quality bridging material, such as crushed sandstone or recycled concrete, will be required to support a tracked rig with an applied pressure of 150 kPa. The thickness of this bridging layer can be reduced with the use of a high strength geosynthetic. These recommendations should be reassessed during construction.
- If settlements in the proposed filled embankment can be tolerated then the embankment could be placed on the subgrade prepared as described in Section 8.4.1. If settlements beneath the embankment cannot be tolerated or need to be limited then either bridging layers, piles or a slab suspended on piles could be considered.
- A 2:1 batter would be appropriate where a high quality fill material, such as a crushed sandstone or recycled concrete, is proposed for the filled embankment. However, if a poorer quality fill material is used, such as the clays included in the fill won on site, then a heavy duty geogrid placed at 1 m intervals will probably be required.
- Design for lateral earth pressures for a multi--propped wall system may be based on a uniform rectangular earth pressure distribution over the bottom 80% and triangular distribution over the upper 20% of the wall height. A design horizontal active pressure of 4H (H = height to be retained) or 7H (where lateral movements are to be limited) should be adopted over the bottom 80% of the wall height. Additional lateral pressures due to surcharge loadings behind the wall and hydrostatic pressures (as appropriate) should be allowed for within the structural design.
- If a limit state approach is adopted for the design of the retaining walls, these values should be appropriately factored in accordance with AS4678 "Earth Retaining Structures" (2002).
- If settlements of the pavement cannot be tolerated then the pavement should be supported by suspended slabs supported on piles that are founded on bedrock. If settlement of the pavement can be tolerated then it may be supported by a subgrade prepared in accordance with Section 8.3.1 of the Gotechnical Assessment Report.
- Given the variable subsoil profile including uncontrolled filling of variable compaction as well as the estuarine and alluvial sediments of variable thickness and strength it is recommended that all floor slabs be suspended on piles supported on bedrock.
- Surface and subsurface drainage should be incorporated into the design to protect footings and pavements. All collected stormwater and roof runoff should discharge into the stormwater disposal system.

Noise

- A Construction Noise and Vibration Management Plan detailing measures to limit and control construction noise will be prepared and incorporated within the Construction Environmental Management Plan prior to the issue of a Construction Certificate.
- Dilapidation surveys of buildings and structures within the immediate vicinity of the site will be undertaken to ensure any potential damage as a result of vibration or other works is identified and rectified.
- The minimum insertion losses for acoustic treatments to plant equipment detailed in the Environmental Noise and Vibration Impact Assessment prepared by AECOM dated March 2013 will be provided and detailed in Construction Certificate drawings.
- A Noise Management Plan will be developed with SHFA and submitted to the EPA for all outdoor entertainment areas in Darling Harbour prior to the issue of an Occupation Certificate which addresses preventative noise management, reactive noise management and noise assessment measures.
- Acoustic absorptive treatments will be applied to loading dock enclosing walls and barriers to achieve the noise mitigation specifications contained within the Environmental Noise and Vibration Impact Assessment prepared by AECOM dated March 2013.

Contamination

- The measures outlined in the Remedial Works Plan prepared by AECOM dated 11 March 2013 will be incorporated into a detailed Site-Wide Construction Environmental Management Plan (CEMP) and implemented during the construction phase.
- Comments on the Remedial Works Plan by the site auditor which are contained within Table 11.1 of the Site Audit Report prepared by Environ dated March 2013 will be implemented within the CEMP.
- Acid sulphate soils and potential acid sulphate soils will be identified and treated in accordance with the Acid Sulphate Soils Management Plan prepared by AECOM dated 11 March 2013.

Flooding

- All overland flow paths are to remain unobstructed and ground levels are to be consistent with the proposed flood modelling.
- A formal floodplain risk management plan with respect to evacuation and refuge is to be developed.
- Buildings and structures are to be designed for hydraulic loadings up to the PMF event.

Water Quality

Stormwater quality treatment measures throughout the entire SICEEP Site will reduce baseline annual pollutant loads from existing levels as follows:

- litter and vegetation larger than 5mm (gross pollutants) by 100%;
- Total Suspended Solids (TSS) by 85%;
- Total Phosphorous (TP) by 63%; and
- Total Nitrogen (TN) by 56%.

Heritage

An interpretation Strategy for the entire SICEEP Site is to be prepared in accordance with the NSW Heritage Manual and the OEH's Heritage Interpretation Policy. SHFA's 2008 publication '*Telling the Stories of Darling Harbour'* is an interpretation strategy based on ten distinct themes. Themes relevant to the PPP Site and potential opportunities for their interpretation are reproduced below:

- Gathering Cockles- the first people, and European Settlement.
  - Place in the paving quotes and thoughts describing the original natural landscape.
  - Use installations to showcase the range of traditional lifestyle skills including collecting foods, making tools and raising families.
  - Mark in the paving the outline of the harbour and creek line prior to reclamation.
- Messing about in Boats.
  - Present the Iron Wharf photograph and describe its iron construction technology, size and significance to reinforce Darling Harbour as a key maritime port.

- Getting the goods - how roads, rail and shipping connected Darling Harbour to the world
  - Highlight the great wool stores on the western side of Darling Harbour, i.e. the Goldsborough Mort building and the story of Australia 'riding on the back of the sheep'.
  - Present a plan of the rail system and cuttings around the west side of Darling Harbour. Describe the railway sheds that dominated the centre of Darling Harbour and discuss the connection between railways and agricultural development.
  - Consider using the Western Distributor pylons for large-scale images of the railway yards and the western city industrial edge.
- Decline and rebirth – Darling Harbour's transformation from port and industrial area to leisure tourism precinct.
  - Present chronological images showing the transformation from its early colonial natural state to its shipbuilding and wharf period, its peak industrial period and its conversion to a public landscape.
  - Make this the central orientation storyboard for the precinct, summarising the interpretation themes and providing directions to guide the visitor to the particular sub-theme locations.

The SOHI recommends that the Interpretation Strategy should be incorporated into the detailed design of the SICEEP redevelopment, and that the process should include consultation with relevant stakeholders. The interpretation strategy would be complemented by appropriate interpretative devices, as outlined in *'Telling the Stories of Darling Harbour'*.

Construction

- Construction Traffic Management Plan to be included in tender documents for all works;
- Construction Traffic Management plan to form part of site induction package;
- Subcontractors/suppliers to submit formal delivery booking requests 5 business days prior to delivery;
- Developer to establish holding areas for urgent and emergency vehicles within the development site;
- An Air Quality Management Plan and Air Quality Monitoring Program will be implemented prior to issue of a Construction Certificate detailing preventative and monitoring measures to minimise construction impacts on air quality.

Building Code of Australia (BCA) and Accessibility

- The design recommendations contained within the Access Review prepared by Morris Goding Accessibility Consulting dated 1 March 2013 will be adopted in the detailed design documentation prior to the issue of a Construction Certificate for new works.
- The final development will comply with the provisions of the Building Code of Australia

Indigenous Archaeology

In order to mitigate any impacts to potential aboriginal archaeological deposits, Comber Consultants advise that archaeological testing, recording and salvage should occur in areas where piling or any other ground disturbance that will penetrate the fill is to be undertaken within the area of the original foreshore, and archaeological monitoring should occur in the south western corner of Bayside in the area of the original foreshore.

In addition, the following measures are proposed:

- Prior to commencement of the monitoring and testing, a research design and management strategy should be prepared.
- Monitoring, recording and testing should be undertaken in partnership with the Metropolitan Local Aboriginal Land Council.
- If any Aboriginal "objects" (as defined under the *National Parks & Wildlife Act 1974)* are located during the course of the testing program, the Metropolitan Local Aboriginal Land Council should apply for a Care Agreement with the Department of Environment and Heritage to enable them keep the objects.
- The program of sub-surface testing should be coordinated with Casey & Lowe, the archaeologists undertaking testing/recording in respect of the historical archaeology.
- If any previously undetected Aboriginal "objects", artefacts or sites are uncovered, work must cease in the vicinity of that object, artefact or site and further advice sought from the archaeologist who undertook the program of sub-surface testing.

Non-Indigenous Archaeology

- In the event that new heritage/archaeological items are discovered, the items are to be managed in an appropriate manner and in accordance with the specific measures detailed in the Statement.
- Communication and education material on heritage management and conservation will be prepared as part of the Site Environmental Awareness Program and incorporated into the site induction.
- Any archaeological program will be targeted and strategic and in accordance with Heritage Council guidelines. Limited recording may be appropriate for more extensive deposits, and excavation and recording may be appropriate where the archaeology is more concentrated and impacts more extensive.
- A Research Design and Management Strategy will be prepared in accordance with best practice archaeological methodologies.
- A public interpretation plan will be prepared outlining key themes for interpretation of Darling Harbour and surrounds.
- The owner of the SICEEP Site will provide storage in perpetuity for artefacts recovered from the site.

Social Responsibility

- ICC Sydney venue operator to make meeting rooms available free of charge for a total of 200 hours annually to community groups approved by the City of Sydney Council and Sydney Harbour Foreshore Authority subject to availability.
- A small meeting room must be identified by the ICC Sydney venue operator and be made available at discounted rates to community groups approved by the City of Sydney Council and Sydney Harbour Foreshore Authority subject to availability.

7.0 Conclusion and Justification of the Proposal

This Environmental Impact Statement (EIS) has been prepared to consider the environmental, social and economic impacts of the proposed PPP Site redevelopment within the overall SICEEP Project. The EIS has addressed the issues outlined in the Director-General's Requirements (**Appendix A**) and accords with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* with regards to consideration of relevant environmental planning instruments, built form, social and environmental impacts including traffic, noise, construction impacts and stormwater.

It is considered the project warrants approval for the following reasons:

- The proposal is permissible with consent and meets all requirements of the relevant planning controls for the site;
- The proposal is consistent with the principles of ecological sustainable development as defined by Schedule 2(7)(4) of the *Environmental Planning and Assessment Regulation 2000* (refer to Section 6.7);
- The proposed development meets the venue parameters and special design requirements established by Infrastructure NSW whilst not resulting in any unacceptable adverse impacts on surrounding buildings and uses;
- The proposed development will provide a significant public benefit through the provision of a renewed public domain, the provision of community use of facilities and a significant public benefit to the state;
- The site is adequately serviced with potable water and stormwater infrastructure and electrical and communication services; and
- The provision of a vibrant mixed use precinct will further support and strengthen the liveability of Sydney.

Given the planning merits described above, and the significant public benefits associated with the proposed development, it is recommended that this application be approved.