

Sector	Building	Scope	Area / Size	GFA	Apts	Commssioning
	Number			m2		Date
North PDA	FIRE FIGHTING					
	CONV	Existing Convention Centre	DEMOLITION (DECOMMISSIONING)			Dec-2013
	1	Hotel - Holiday Inn				
	1.1	Hotel Rooms	315 keys, 3-4 Star	20,336	315	Jun-2016
	2	Hotel - Crowne Plaza				
PPP	2.1	Hotel Rooms	600 keys, 5 star	38,734	600	Jun-2016
	EXHIB	Existing Exhibition Centre	DEMOLITION (DECOMMISSIONING)			Dec-2013
	4	Convention Bayside				
	4.1	Convention	X,XXX delegates			Dec-2014
	5	Convention Parkside				
	5.1	Convention	X,XXX delegates			Dec-2014
	6	Exhibition				
	6.1	Exhibition	XX,000m ²			Jan-2015
	6.2	Car parking	738 parking spots			Jan-2015
	8	Public Realm (boulevard, Tumbalong etc.)				
	8.1	Public Domain	X,XXXm ²			Jul-2015
	9	Theatre + parking				
South PDA	9.1	Theatre	8,000 patrons			Sep-2014
	9.2	Car parking	88 parking spots			Dec-2015
	SEC CP	Exist Ent' Centre car park	DEMOLITION (DECOMMISSIONING)			Dec-2013
	SEC	Existing Entertainment Centre	DEMOLITION (DECOMMISSIONING)			Dec-2015
	10a	Student Accommodation North				
	10a.1	Residential apartments	West 1; 170 Apartments, 431 EP, (9,605m ²)	9,605	170	Sep-2015
	10b	Student Accommodation South				
	10b.1	Residential apartments	West 2; 252 Apartments, 600 EP, (13,693m ²)	13,693	252	Sep-2016
	11	Commercial Offices	North West			
	11.1	Commercial offices	North West 2; 15,001m ² GFA	15,001		Jun-2016
	11.2	Retail (sleeved)				
	11.3	Car parking	46 parking spots			
	12	Residential Tower	South West			
	12.1	Residential apartments	South West 1; 306 Apartments	27,642	306	Jun-2016
	12.2	Retail (sleeved)	1,739m ² GFA	1739		Jun-2016
	12.3	Car parking	223 parking spots			
	12.4	Residential apartments	South West 2, 140 Apartments	12,672	140	Jan-2017
	12.5	Car parking	102 parking spots			
	13	Residential Tower	South East			
	13.1	Residential apartments	South East 1; 234 Apartments	21133	234	Jan-2020
	13.2	Retail (sleeved)	1,921m ² GFA	1921		Jan-2020
	13.3	Car parking	171 parking spots			
	13.4	Residential apartments	South East 2; 157 Apartments	10685	157	Jan-2020
	13.5	Car parking	115 parking spots			
	14	Residential Tower	North East			
	14.1	Residential apartments	North East 1; 58 Apartments	4540	58	Jun-2017
	14.2	Car parking	42 parking spots			
	14.3	Residential apartments	North East 2; 157 Apartments	10685	157	Sep-2018
	14.4	Car parking	115 parking spots			
	14.5	Residential apartments	North East 3; 264 Apartments	24102	264	Jan-2018
	14.6	Retail (sleeved)	3,613m ² GFA	3631		Jan-2018
	14.7	Car parking	193 parking spots			
	16	Retail & Creative Industries				
	14.1	Retail	398m ² GFA	398		May-2016
	14.2	Creative Industries				
	14.3	Car parking	400 parking spots			
	14.4	Residential apartments	North; 44 Apartments	2976	44	May-2019
	14.5	Car parking	32 parking spots			
TOTAL UTILITY LOAD			Commercial	15,001	-	
			Residential	114,435	1,360	
			Student Accomodation	23,298	422	
			Retail	7,689	-	
			Hotel	59,070	915	

'ICC Hotels' PDA - Application 3

SICEEP PPP - Application 1

'The Haymarket' PDA - Application 2

ACCUMULATIVE

Dated 8/01/2013

Sector	Building	Scope	Area / Size	GFA	Apts	Commssioning
	Number			m2		Date
PPP	9.1	Theatre	8,000 patrons			Sep-14
PPP	4.1	Convention	X,XXX delegates			Dec-14
PPP	5.1	Convention	X,XXX delegates			Dec-14
PPP	6.1	Exhibition	XX,000m2			Jan-15
South PDA	10a	Residential apartments	West 1; 170 Apartments, 431 EP, (9,605m ²)	9,605	170	Jun-15
North PDA	1	Hotel Rooms - Holiday Inn	315 keys, 3-4 Star	20,336		Oct-15
South PDA	16	Retail	398m ² GFA	398		May-16
North PDA	2	Hotel Rooms - Crowne Plaza	600 keys, 5 star	38,734		May-16
South PDA	10b	Residential apartments	West 2; 252 Apartments, 600 EP, (13,693m ²)	13,693	252	Jun-16
South PDA	11	Commercial offices	North West 2; 15,001m ² GFA	15,001		Jun-16
South PDA	12	Residential apartments	South West 1; 306 Apartments	27,642	306	Jun-16
South PDA	12.1	Retail (sleeved)	1,739m ² GFA	1739		Jun-16
South PDA	12.3	Residential apartments	South West 2, 140 Apartments	12,672	140	Jan-17
South PDA	14	Residential apartments	North East 1; 58 Apartments	4540	58	Jun-17
South PDA	14.4	Residential apartments	North East 3; 264 Apartments	24102	264	Jan-18
South PDA	14.5	Retail (sleeved)	3,613m ² GFA	3631		Jan-18
South PDA	14.2	Residential apartments	North East 2; 157 Apartments	10685	157	Sep-18
South PDA	14.3	Residential apartments	North; 44 Apartments	2976	44	May-19
South PDA	13	Residential apartments	South East 1; 234 Apartments	21133	234	Jan-20
South PDA	13.1	Retail (sleeved)	1,921m ² GFA	1921		Jan-20
South PDA	13.3	Residential apartments	South East 2; 157 Apartments	10685	157	Jan-20

From: Heath Mallen [<mailto:Heath.Mallen@hyderconsulting.com>]
Sent: Tuesday, 22 May 2012 2:44 PM
To: WICKHAM, ROBERT
Cc: Ron Meyer (ron.meyer@lendlease.com); Greg Ives; daryl.forster@sydneywater.com.au
Subject: SICEEP redevelopment of Darling Harbour - Sewer and Water supply requirements

Good afternoon Robert,

As discussed at our meeting in your office on the 8th May, please see attached for the masterplan sewer and water supply requirements and connection locations. The site has been split into three sectors – North, Center and South with the relevant kL/day loads and supply locations provided for each of these sectors respectively.

As discussed, It would be appreciated if Sydney Water could review and provide feedback on the feasibility of connecting to the existing Sydney Water assets in the vicinity.

It would also be very much appreciated if you could provide any further information that may assist in understanding the capacity of existing infrastructure, amplification requirements, infrastructure costs and any other issues Sydney Water deem important.

Please note also that as discussed, we have not considered sewer mining, on site reuse or any other water reduction schemes in assessing the demands as shown.

It would assist us greatly if you could also confirm when we might be able to expect a response so that we can plan accordingly. Thankyou in advance for your assistance.

Regards,
Heath

Heath Mallen
Civil Engineer
MEEM, BE, DipEngPrac
Hyder Consulting Pty Ltd
Locked Bag 6503 North Sydney NSW 2060 Australia
Level 5, 141 Walker Street North Sydney NSW 2060 Australia
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International advisory and design consultancy

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Our Ref: NA50613027_SICEEP
Contact: Sombath Lam

14 January 2012

Sydney Water
PO Box 399
PARRAMATTA NSW 2124

Dear Sir/Madam

**SYDNEY INTERNATIONAL CONVENTION, EXHIBITION AND ENTERTAINMENT
PRECINCT**

This letter has been prepared in support of the Feasibility Applications associated with the redevelopment of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) and is provided to assist Sydney Water in determining the requirements for the respective sites within the development.

The redevelopment of SICEEP will be comprised of three separate and distinct areas:

- PDA North;
- PPP; and
- PDA South.

These sites are subject to separate contractual agreements entered by the proponents of the respective development areas.

The requirements for the sites will necessarily require a holistic view of the SICEEP development. However we request, due to the contractual requirements, that servicing requirements for water and sewer services for each site be formulated individually for each application.

For stormwater services, due to its site wide nature, we propose that the requirements be assessed for the entirety of the SICEEP under a single feasibility application.

We note due to project deadlines associated with the PPP, we request response to all applications by 15 February 2013.

A summary of the applications to be considered is presented on the following table:

Cardno (NSW/ACT) Pty Ltd
ABN 95 001 145 035

Level 9
The Forum
203 Pacific Highway
St. Leonards NSW 2065

P.O. Box 19
St Leonards NSW 1590
Australia

Phone: +61 2 9496 7700
Fax: +61 2 9439 5170

www.cardno.com.au

Table 1: Feasibility Applications

Case Number	Site	Proposed Development Description	Proponent
131520	PDA North	Hotel - Holiday Inn	Lend Lease Development Pty Ltd
		Hotel - Crowne Plaza	
131522	PPP	Convention Centre	Lend Lease Project Management & Construction (Australia) Pty Ltd
		Exhibition Centre	
		Public Domain	
		Theatre and Parking	
131523	PDA South	Student Accommodation North	Lend Lease Development Pty Ltd
		Student Accommodation South	
		Commercial Offices	
		Residential Tower	
131525	SICEEP	Stormwater drainage for entire site	Lend Lease Project Management & Construction (Australia) Pty Ltd

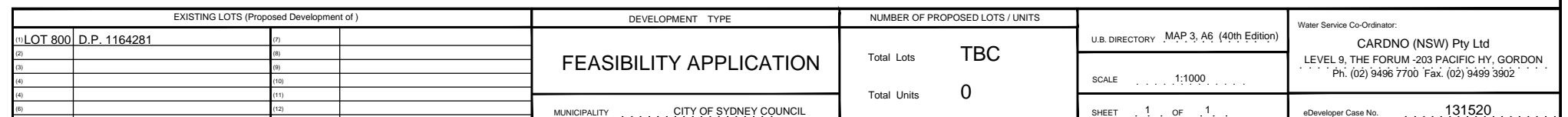
Should you require any additional information please do not hesitate to contact either David Williamson or Sombath Lam on 02 9496 7700.

Yours sincerely



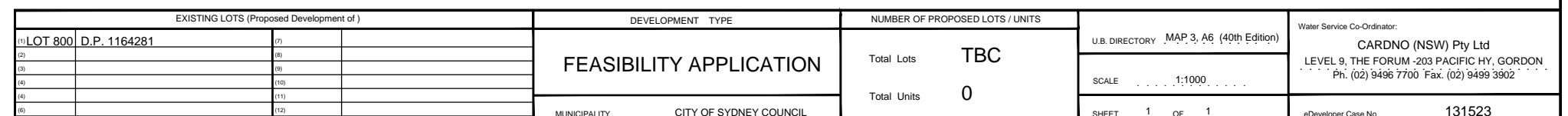
Sombath Lam
 Civil Engineer
 For Cardno

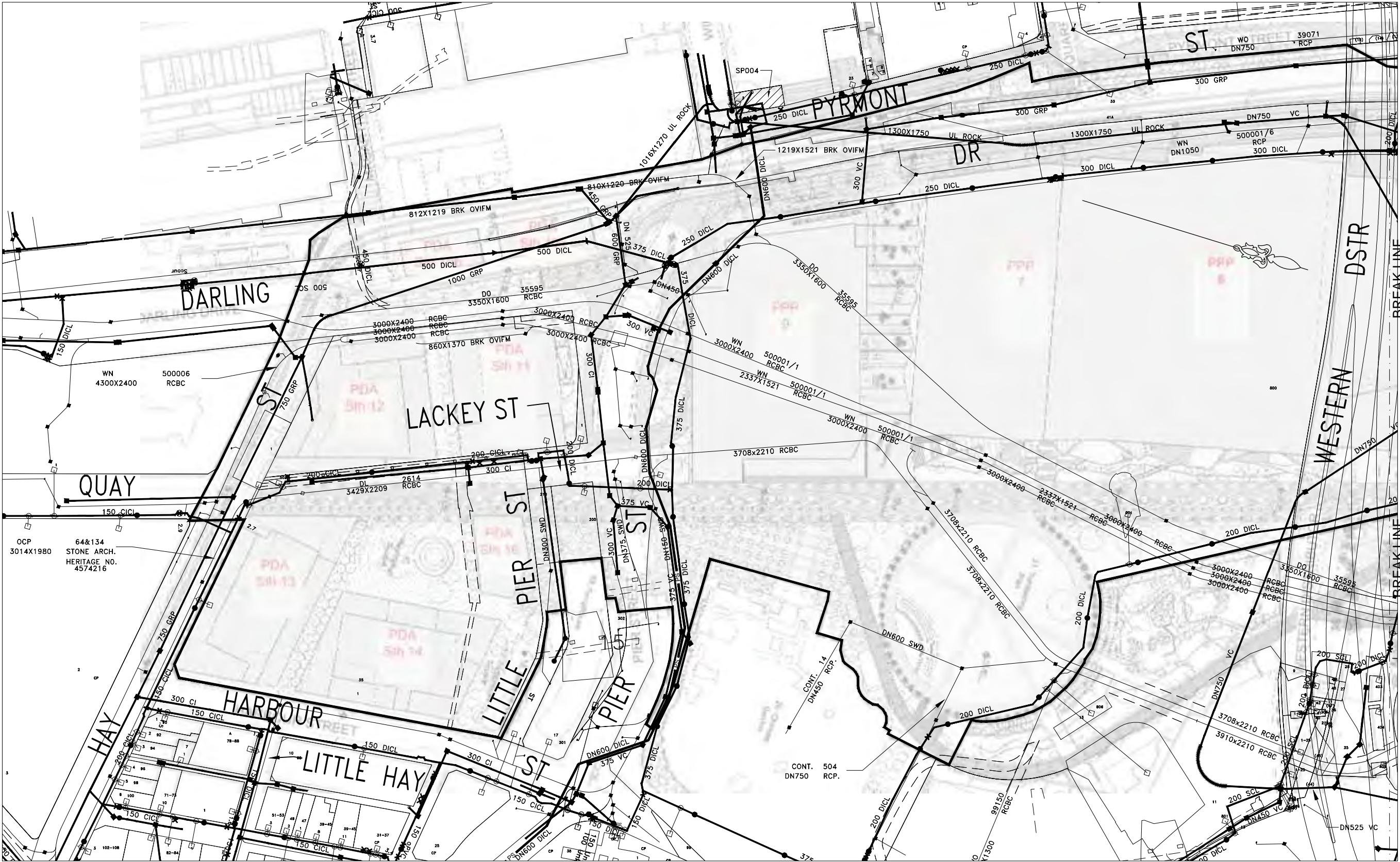
Encl. CN131520 Application; CN1231522 Application; 131523 Application; CN131525 Application; SICEEP Master Plan; Preliminary Utility Demands and Sewer Discharge Figures.





EXISTING LOTS (Proposed Development of)				DEVELOPMENT TYPE	NUMBER OF PROPOSED LOTS / UNITS		U.B. DIRECTORY MAP 3, A6 (40th Edition)	Water Service Co-Ordinator:	
(1) LOT 800	D.P. 1164281	(7)		FEASIBILITY APPLICATION	Total Lots	TBC		CARDNO (NSW) Pty Ltd	
(2)		(8)			Total Units	0	SCALE 1:1000	LEVEL 9, THE FORUM - 203 PACIFIC HY, GORDON	
(3)		(9)					SHEET 1 OF 1	Ph: (02) 9496 7700 Fax: (02) 9499 3902	
(4)		(10)						eDeveloper Case No. 131522	
(5)		(11)							
(6)		(12)		MUNICIPALITY CITY OF SYDNEY COUNCIL					





BREAKLINE
REFER PAGE 2

BREAKLINE
REFER PAGE 2

EXISTING LOTS (Proposed Development of)			DEVELOPMENT TYPE	NUMBER OF PROPOSED LOTS / UNITS		U.B. DIRECTORY MAP 3, A6 (40th Edition)	Water Service Co-Ordinator:
(1) LOT 800 D.P. 1164281	(2)	(3)	STORMWATER FEASIBILITY	Total Lots	TBC	SCALE 1:1000	CARDNO (NSW) Pty Ltd
(4)	(5)	(6)		Total Units	0	SHEET 1 OF 2	LEVEL 9, THE FORUM -203 PACIFIC HY, GORDON Ph. (02) 9496 7700 Fax. (02) 9499 3902
(7)	(8)	(9)		MUNICIPALITY CITY OF SYDNEY COUNCIL			eDeveloper Case No. 131525
(10)	(11)	(12)					
(13)	(14)	(15)					



EXISTING LOTS (Proposed Development of)				DEVELOPMENT TYPE	NUMBER OF PROPOSED LOTS / UNITS		U.B. DIRECTORY MAP 3, A6 (40th Edition)	Water Service Co-Ordinator:	
(1) LOT 800	D.P. 1164281	(7)		STORMWATER FEASIBILITY	Total Lots	TBC		CARDNO (NSW) Pty Ltd	
(2)		(8)			Total Units	0	SCALE 1:1000	LEVEL 9, THE FORUM -203 PACIFIC HY, GORDON	
(3)		(9)						Ph: (02) 9496 7700 Fax: (02) 9499 3902	
(4)		(10)							
(5)		(11)							
(6)		(12)		MUNICIPALITY CITY OF SYDNEY COUNCIL			SHEET . 2 . OF . 2 .	eDeveloper Case No. 131525	

APPENDIX B

FUTURE UTILITY LOAD DEMANDS



SICEEP Development Staging - Hydraulic Infrastructure

Dated 9/01/2013

Sector	Building	Number	Scope	Area / Size	PRELIM GFA (+/- 100m2)	PRELIM Apts	Commsioning Date	Potable water			Sewer			Gas	
								kl/ day MAX	kl/ day AVG	L/sec MAX	kl/day MAX	kl/day AVG	L/sec MAX	MJ/h MAX	GJ/year total
South PDA	SEC CP		Exist Ent' Centre car park	DEMOLITION (DECOMMISSIONING)			Dec-2013								
	SEC		Existing Entertainment Centre	DEMOLITION (DECOMMISSIONING)			Dec-2015								
	10a		Student Accommodation North												
	10a.1		Residential apartments	West 1; 170 Apartments, 431 EP, (9,600m ²)	9,600	170	Sep-2015	85 kl/day	38 kl/day	4.4 L/s	77 kl/day	34 kl/day	4 kLs	4,569 MJ/hour	3,024 GJ/year
	10b		Student Accommodation South												
	10b.1		Residential apartments	West 2; 252 Apartments, 600 EP, (13,700m ²)	13,700	252	Sep-2016	122 kl/day	54 kl/day	6.3 L/s	109 kl/day	49 kl/day	6 kLs	6,520 MJ/hour	4,316 GJ/year
	11		Commercial Offices	North West											
	11.1		Commercial offices	North West 2; 15,000m ² GFA	15,000		Jun-2016	38 kl/day	17 kl/day	3.1 L/s	34 kl/day	15 kl/day	3 kLs	4,176 MJ/hour	1,350 GJ/year
	11.2		Retail (sleeved)						0 kl/day						
	11.3		Car parking	46 parking spots											
	12		Residential Tower	South West											
	12.1		Residential apartments	South West 1; 306 Apartments	27,600	306	Jun-2016	163 kl/day	73 kl/day	8.5 L/s	147 kl/day	65 kl/day	8 kLs	8,757 MJ/hour	5,796 GJ/year
	12.2		Retail (sleeved)	1,739m ² GFA	1,700		Jun-2016	12 kl/day	5 kl/day	2.7 L/s	10 kl/day	5 kl/day	2 kLs	1,012 MJ/hour	1,190 GJ/year
	12.3		Car parking	223 parking spots											
	12.4		Residential apartments	South West 2, 140 Apartments	12,700	140	Jan-2017	75 kl/day	33 kl/day	3.9 L/s	68 kl/day	30 kl/day	4 kLs	4,029 MJ/hour	2,667 GJ/year
	12.5		Car parking	102 parking spots											
	13		Residential Tower	South East											
	13.1		Residential apartments	South East 1; 234 Apartments	21,100	234	Jan-2020	125 kl/day	55 kl/day	6.5 L/s	112 kl/day	50 kl/day	6 kLs	6,694 MJ/hour	4,431 GJ/year
	13.2		Retail (sleeved)	1,900m ² GFA	1,900		Jan-2020	13 kl/day	6 kl/day	3.0 L/s	12 kl/day	5 kl/day	3 kLs	1,131 MJ/hour	1,330 GJ/year
	13.3		Car parking	171 parking spots											
	13.4		Residential apartments	South East 2; 157 Apartments	10,700	157	Jan-2020	63 kl/day	28 kl/day	3.3 L/s	57 kl/day	25 kl/day	3 kLs	3,395 MJ/hour	2,247 GJ/year
	13.5		Car parking	115 parking spots											
	14		Residential Tower	North East											
	14.1		Residential apartments	North East 1; 58 Apartments	4,500	58	Jun-2017	27 kl/day	12 kl/day	2.2 L/s	24 kl/day	11 kl/day	2 kLs	1,428 MJ/hour	945 GJ/year
	14.2		Car parking	42 parking spots											
	14.3		Residential apartments	North East 2; 157 Apartments	10,700	157	Sep-2018	63 kl/day	28 kl/day	3.3 L/s	57 kl/day	25 kl/day	3 kLs	3,395 MJ/hour	2,247 GJ/year
	14.4		Car parking	115 parking spots											
	14.5		Residential apartments	North East 3; 264 Apartments	24,100	264	Jan-2018	143 kl/day	63 kl/day	7.4 L/s	128 kl/day	57 kl/day	7 kLs	7,646 MJ/hour	5,061 GJ/year
	14.6		Retail (sleeved)	3,600m ² GFA	3,600		Jan-2018	24 kl/day	11 kl/day	2.0 L/s	22 kl/day	10 kl/day	2 kLs	2,142 MJ/hour	2,520 GJ/year
	14.7		Car parking	193 parking spots											
	16		Retail & Creative Industries												
	14.1		Retail	400m ² GFA	400		May-2016	3 kl/day	1 kl/day	0.6 L/s	2 kl/day	1 kl/day	1 kLs	238 MJ/hour	280 GJ/year
	14.2		Creative Industries												
	14.3		Car parking	400 parking spots											
	14.4		Residential apartments	North, 44 Apartments	3,000	44	May-2019	18 kl/day	8 kl/day	4.1 L/s	16 kl/day	7 kl/day	4 kLs	952 MJ/hour	630 GJ/year
	14.5		Car parking	32 parking spots											

TOTAL UTILITY LOAD		2,177 kL/day	1,225 kL/day	1,859 kL/day	1,033 kL/day	122,513 MJ/hour	90,204 GJ/year
Commercial	15,000	-					
Residential	114,400	1,360					
Student Accomodation	23,300	422					
Retail	7,600	-					
Hotel	59,000	915					

CUMULATIVE HYDRAULIC DEMAND

Dated9/01/2013

Sector	Building	Scope	Area / Size	GFA	Apts	Commissioning	Potable water			Sewer			Gas	
							kl/ day MAX	kl/ day AVG	L/sec MAX	kl/day MAX	kl/day AVG	L/sec MAX	MJ/h MAX	GI/year total
PPP	9.1	Theatre	8,000 patrons	57,500		Sep-14								
PPP	4.1	Convention		73,000		Dec-14	1005	704	23.3	804	564	18.6	44,500	44,500
PPP	6.1	Exhibition		55,000		Jan-15								
South PDA	10a	Residential apartments	West 1; 170 Apartments, 431 EP, (9,600m ²)	9,600	170	Jun-15	1090	742	69.6	881	598	56.1	49,069	47,524
North PDA	1	Hotel Rooms - Holiday Inn	315 keys, 3-4 Star	20,300		Oct-15	1158	772	72.4	942	625	58.6	56,614	50,163
South PDA	16	Retail	400m ² GFA	400		May-16	1161	773	72.5	945	626	58.7	56,852	50,443
North PDA	2	Hotel Rooms - Crowne Plaza	600 keys, 5 star	38,700		May-16	1291	831	77.9	1062	678	63.6	71,237	55,474
South PDA	10b	Residential apartments	West 2; 252 Apartments, 600 EP, (13,700m ²)	13,700	252	Jun-16	1413	885	83.0	1171	727	68.2	77,757	59,790
South PDA	11	Commercial offices	North West 2; 15,000m ² GFA	15,000		Jun-16	1451	902	84.6	1205	742	69.6	81,933	61,140
South PDA	12	Residential apartments	South West 1; 306 Apartments	27,600	306	Jun-16	1614	975	91.4	1352	808	75.7	90,690	66,936
South PDA	12.1	Retail (sleeved)	1,739m ² GFA	1,700		Jun-16	1626	980	91.9	1363	812	76.2	91,701	68,126
South PDA	12.3	Residential apartments	South West 2, 140 Apartments	12,700	140	Jan-17	1701	1013	95.0	1430	842	79.0	95,731	70,793
South PDA	14	Residential apartments	North East 1; 58 Apartments	4,500	58	Jun-17	1728	1025	96.1	1454	853	80.0	97,158	71,738
South PDA	14.4	Residential apartments	North East 3; 264 Apartments	24,100	264	Jan-18	1870	1089	102.1	1583	910	85.3	104,805	76,799
South PDA	14.5	Retail (sleeved)	3,600m ² GFA	3,600		Jan-18	1895	1099	103.1	1605	920	86.2	106,947	79,319
South PDA	14.2	Residential apartments	North East 2; 157 Apartments	10,700	157	Sep-18	1958	1128	105.7	1662	945	88.6	110,342	81,566
South PDA	14.3	Residential apartments	North; 44 Apartments	3,000	44	May-19	1976	1135	106.4	1678	952	89.3	111,293	82,196
South PDA	13	Residential apartments	South East 1; 234 Apartments	21,100	234	Jan-20	2101	1191	111.7	1790	1002	94.0	117,988	86,627
South PDA	13.1	Retail (sleeved)	1,900m ² GFA	1,900		Jan-20	2114	1197	112.2	1802	1007	94.4	119,119	87,957
South PDA	13.3	Residential apartments	South East 2; 157 Apartments	10,700	157	Jan-20	2177	1225	114.8	1859	1033	96.8	122,513	90,204

APPENDIX C

UTILITY CORRESPONDENCE



11kV FEASABILITY STUDY

SYDNEY INTERNATIONAL CONVENTION EXHIBITION AND ENTERTAINMENT PRECINCT

This feasibility study has been conducted to allow for SICEEP representatives to undertake indicative cost analysis for the development proposal.

The following data was used to form the basis of the power supply investigation.

Attachment 1: Development proposal – Lend lease 21st Jan 2013

Attachment 2: Map of Proposed Substations & Application for connection

This feasibility study does not investigate the anticipated service relocations that will be required as part of the development.

Summary of development application

The study is based on three separate development areas, each with individual load and staging requirements, anticipated augmentation works to facilitate connection are based on these individual requirements.

Application 1: SICEEP PPP

Required load 13.4 MVA, across 4 distribution substations, with an anticipated operational date of 4th Quarter 2016.

Application 2: 'The Haymarket' PDA

Required load 9.5 MVA, across five distribution substations, with an anticipated operational date between 2017-20.

Application 3: 'ICC Hotels' PDA

Required load 4.8 MVA, across two distribution substations, with an anticipated operational date of 4th quarter 2016.

Application 1 SICEEP PPP

It is proposed that the four distribution substations associated with the SICEEP PPP development will be supplied via four existing 11kV feeders supplied from Darling Harbour 132/11 kV zone substation.

Due to the large size of the proposed substations, ranging from 3.0 to 3.6 MVA, minor feeder augmentation works will be required to consolidate existing capacity on the feeders.

Currently the feeders supplying the Darling Harbour area are capacity limited by a heavily congested egress from the Darling Harbour 132/11kV – 132/33kV substation. The close proximity of numerous 11/33 and 132kV cables may limit our ability to supply the required load on these existing 11kV feeders.

Prior to the completion of a detailed connection application a ratings investigation is required to determine the maximum capacity available from the 11kV network and identify if it is sufficient to meet the development requirements.

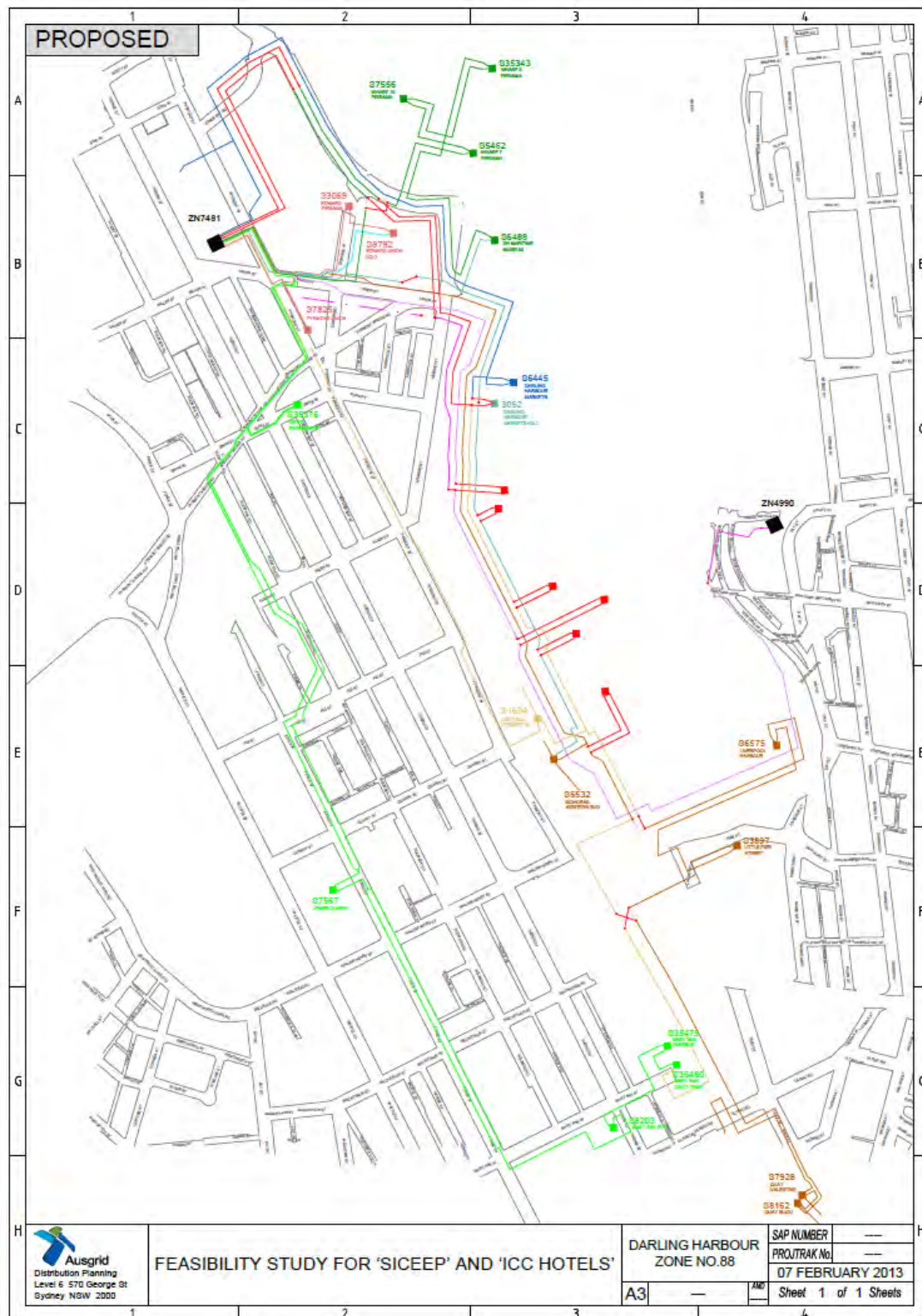
In the circumstance that the required capacity is not available, an alternative would be to re-route the 11kV feeders in question around the congested area into another Darling Harbour Zone Substation egress. This option is technically challenging given the geography and numerous other services in the area but is likely achievable. We estimate the scope of such works could involve several hundred metres of cable installation, see attached map.

Due to Darling Harbour 132/11kV zone substation been capacity constrained there are a number of prerequisite projects that need to be completed prior to the connection of the proposed development. The completion of Camperdown Zone 33/11kV substation (4th quarter 2013) and a 15 MVA load transfer from Darling Harbour to Camperdown (Approx completion 4th quarter 2014) are required to free up capacity at Darling Harbour Zone Substation. Although the risk is low that these projects would not be completed in the required timeframe, mitigation could be provided by potentially operating Darling Harbour Zone non firm for period of peak load until such time as the load relief projects are completed.

A summary of the anticipated scope of works are as follows.

1. 1000 meters of cable installation (6 x 150mm conduit bank – TSB Bedding) to redirect capacity constrained 11kV assets in the vicinity of Darling Harbour Zone Substation.
2. Approximately \$100,000 joints and connection works associated with consolidation of existing 11kV assets.
3. Potential pre decommissioning works required to facilitate the decommissioning of the existing substations on site. The existing network comprises pilot protected teed off transformers at circuit breaker equipped substations.
4. Cable installation and connection works associated with the connection of the proposed substations onto the existing Darling Harbour feeders.

Geo-schematic 1; proposed augmentation works (in RED) for Application 1 SICEEP



Application 2 ‘The Haymarket’ PDA

The proposed development site currently houses the Exhibition Centre which is supplied from Ausgrid’s City Triplex network. It is proposed that the southern portion of the site, fed from two distribution substations located on Harbour St, remain connected to the triplex network. This 4 MVA of load can not be supplied from the existing feeder alone and will require approximately 200 meters of pit and duct installation to facilitate the connection to two city Triplex circuits. Included in this are associated jointing costs. Ausgrid’s estimate for construction would be around \$500,000.

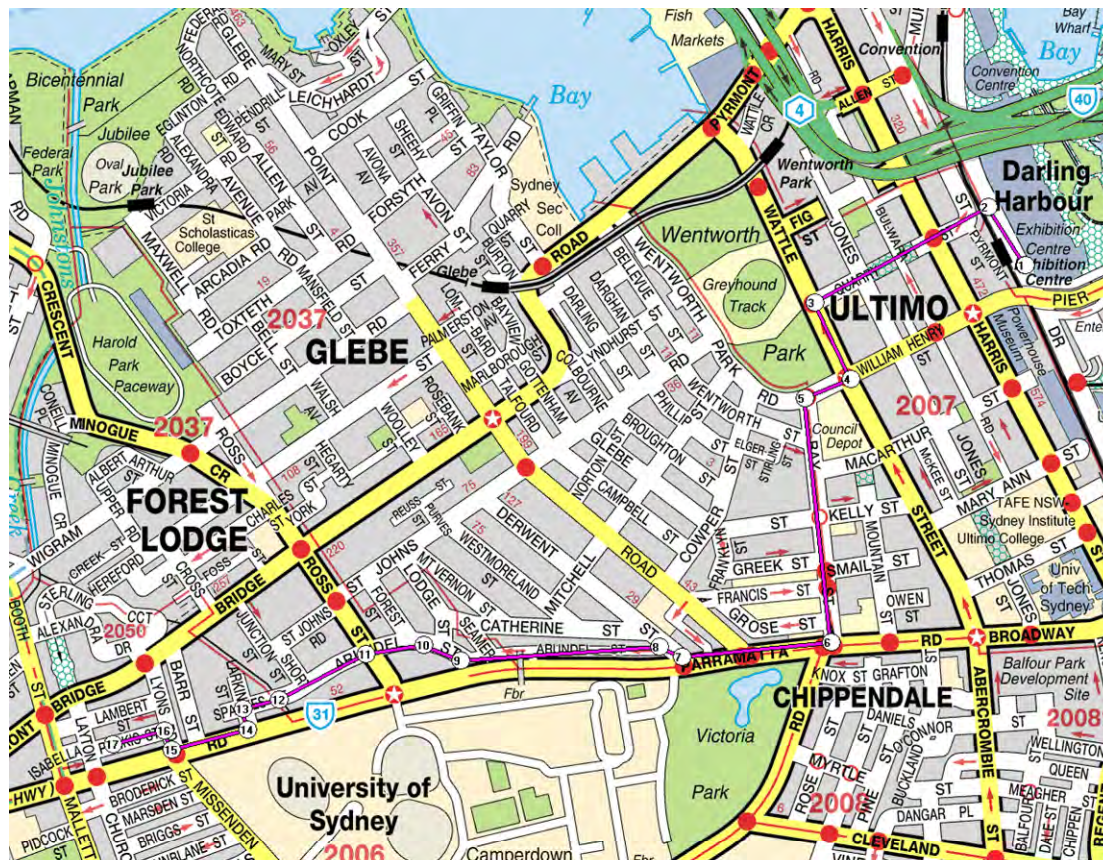
The northern portion of the site, 5.5 MVA across three distribution substations, would require significant network development works to accommodate. With virtually all of the existing 11kV capacity in the area already allocated to the Application 1 & 3 development areas, additional 11kV capacity must be installed into the area.

It is likely that two new 11kV feeders will need to be run from the development site to Camperdown Zone Substation or two feeders run to Darling Harbour Zone Substation with an accompanying load transfer to free up capacity at Darling Harbour.

An alternative, more cost effective method of supply may be 33kV distribution from Pyrmont, however there are uncertainties associated with the feasibility of this option. See section below detailing investigation works associated with a 33kV solution.

For the purposes of cost estimation it would be prudent to assume that two new feeders would be required from the development site to Camperdown Zone Substation (approximately 3.2 km route). Given the long lead time until anticipated commissioning it is likely that the network will vary significantly from its current configuration and limitations and alternative options may be possible.

**Geo-schematic 3; proposed augmentation works for Application 2 ‘The Haymarket’ PDA
(northern precinct – 5.5MVA, route length ~ 3.2km)**



Application 3 ‘ICC Hotels’ PDA

To be build and commissioned in conjunction with Application 1, the ICC Hotels PDA requires very little augmentation works to facilitate connection.

The network augmentation works associated with Application 1 SICEEP result in sufficient network capacity to supply to two proposed distribution substation (4.7 MVA)

If Application 1 did not proceed, then augmentation works to supply this site would be required. The scope of such works would be minor network rearrangement to make use of existing capacity in the 11kV network.

See Application 1 details for connection proposal.

Summary

Whilst 11kV feeder solutions for Application 1 and 3 are technically possible and relatively economic the Darling Harbour and Camperdown Zone capacity constraints would need to be resolved prior to implementation.

It is possible that alternative methods of supply, such as 33kV distribution from Pyrmont or Surry Hills STS and potential triplex supplies from City Zone Substations, would be more economic to Ausgrid and the development proponents.

Application 2 will require significant augmentation works to supply the development site, unless synergies can be formed through the potential use of methods of supply such as 33kV distribution.

As such a detailed feasibility study to resolve the Zone capacity constraints and investigate alternative supply methods needs to be carried out prior to an offer to connect can be made.

Author

Karl Ghest – Senior Planner, East / Inner West

Technical contributors

David Barker – Distribution Planner, Darling Harbour area

Abbas Reslan – Distribution Planner, City

Brad Eagle – Sub-transmission Planning Sydney



20/4/12

AECOM
Attention: Scott Martin
Po Box Q410, QVB PO
Sydney, NSW 1230

Address all relevant correspondence to:
Ausgrid Contestability Section
33-45 Judd Street
Oatley NSW 2223

F: 02 95855797
E: Contestability@ausgrid.com.au

Email: Scott.Martin@aecom.com

Project Number: SC03910

Dear Scott,

Electricity Network Connection at: Sydney Entertainment Centre - Feasibility Study

Further to your application dated 15/5/12 and the meeting held onsite, the determination requested is to assess the availability of an electricity connection for the Sydney Convention Centre. The power supply requested is in the order of 12-14MVA.

The fee to carry out this feasibility study is \$3,942.40, including GST. This fee covers the feasibility study only, some of which includes assessing supply options, site investigation, contingency study, preparing reports and seeking internal approvals. This investigation will contribute to the production of a Design Information, however additional fees may be required. These fees will be determined following confirmation from you regarding progress of the project.

Ausgrid will require a minimum of 4 weeks to complete the feasibility study, once the additional information requested below has been provided to Ausgrid's satisfaction.

What to Do Next

To advance the arrangements you need to

- ☐ Pay the fees and charges detailed on the enclosed *Summary of Charges* and return the form with your payment.

Should you require any further information please contact me on the phone number or email address detailed below.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "Dane Davis", is written over a light blue circular stamp.

Dane Davis
Contestability Project Coordinator
Ausgrid

Direct Telephone Number: 02 9585 5923

Facsimile: 02 9585 5797

Email: ddavis@ausgrid.com.au

Summary of Charges

Ausgrid Reference: **SC03910** Date Issued: 21/05/2012 Last Date for Acceptance: 20/07/2012
 Project Description: Sydney Convention Centre - Feasibility Study
 Project Address: Sydney Convention Centre, Darling Harbour

Ausgrid Contact: **Dane Davis**
 Telephone: 02 95855923 Email: ddavis@ausgrid.com.au
 Fax: 02 95855797 Mailing Address: Building 1A, 33-45 Judd St Oatley NSW 2223

PAYMENT NOTIFICATION				
ITEM	DETAILS	FEE / QUOTATION		
		GST Exclusive	GST	GST Inclusive
1	∞ Design Information fee	\$3,200.00	\$320.00	\$3,520.00
2				
3				
4				
5				
6				
7				
8	∞ Administration fee	\$384.00	\$38.40	\$422.40
9				
10				
11				
12				
13				
14				
TOTALS		\$3,584.00	\$358.40	\$3,942.40

THE FOLLOWING PAYER DETAILS MUST BE COMPLETED FOR AUSGRID TO PROCESS THE ABOVE PAYMENT	
Payer Name:	_____
Payer Address:	_____ _____ _____
ABN: (if applicable):	_____
Contact Name:	_____
Contact Number:	_____

METHOD OF PAYMENT	
Tax Invoice: The Payer detailed above requests that a Tax Invoice be issued for immediate payment by the Payer	
Signature:	_____
Date:	_____
Cheque: Make cheque payable to Ausgrid and forward to the Ausgrid representative for the project.	
Credit Card:	
Card Holder Name:	_____
Card Number:	_____
Card Type:	<input type="checkbox"/> Visa <input type="checkbox"/> Mastercard Expiry: _____
Signature:	_____
Date:	_____
Debit an Ausgrid Account: may be an ASP's Ausgrid Operations Account or Customer's Account	
Account Name:	_____
Electricity Account No:	_____
Signature:	_____
Date:	_____

THIS SECTION IS FOR SECURITY DEPOSITS & WARRANTY BONDS ONLY		
1		\$0.00
2		\$0.00
SECURITY DEPOSIT & WARRANTY BOND - METHOD OF PAYMENT		
A Security Deposit and/or Warranty Bond is a separate payment to any Payment Notification detailed above.		
Ausgrid will only accept a Security Deposit and /or Warranty Bond payment in the form of a Cheque or Bank Guarantee		
Cheque: make cheque payable to Ausgrid		
Bank Guarantee: present an unconditional Financial Institution prepared document that is in favour of Ausgrid		



Address all relevant correspondence to:
Ausgrid Contestability Section
33-45 Judd Street
Oatley NSW 2223

F: 02 95855797
E: Contestability@ausgrid.com.au

4/7/12

Lend Lease
Attention: Graeme Atkinson
30 The Bond, 30 Hickson Road
Millers Point NSW 2000

Email: Graeme.Atkinson2@lendlease.com

Project Number: SC03910

Dear Graeme,

Electricity Network Connection at: Darling Harbour Convention Centre - Feasibility Study

Further to your application, Ausgrid has completed the feasibility study in regards to the supply arrangements for the Darling Harbour Convention Centre. This study has addressed the supply options requested by you to supply the ultimate load required by the site based on your maximum demand calculations supplied to Ausgrid on 5/06/12.

As advised at the application stage of this study, this study does not constitute a Design Information package, this will be prepared under a separate contestable project. It is Lend Lease's responsibility to submit a new application for connection form for the project when supply is required and to engage the services of an ASP 3 designer and ASP 1 Constructor. It should be noted that additional fees will be required for this design information package. These fees will be determined upon receipt of the application.

This study includes Ausgrid's preliminary response to each of the supply options requested, an extract from Ausgrid's records indicating the location of our existing feeders and a copy of the site plan provided with the application.

Should you require any further information please contact me on the phone number or email address detailed below.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "Dane Davis", is positioned above the printed name.

Dane Davis
Contestability Project Coordinator
Ausgrid

Direct Telephone Number: 02 9585 5923

Facsimile: 02 9585 5797

Email: ddavis@ausgrid.com.au



Project Number: SC03910

Darling Harbour Convention Centre

Feasibility Study

Feasibility Study

Date: 4/7/12



Darling Harbour Precinct - Feasibility Study

23 April 2012

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1 INTRODUCTION

The Feasibility Study outlines the preliminary supply arrangements for the site.

The advice provided is based on loads and information currently available and is subject to change, depending on the timing of a formal submission.

2 OBJECTIVES

The objectives of this Design Information are:

To allow the determination of any network augmentation works required to supply the development.

To provide the customer with a concept plan of the required electrical network to base each contestable project on.

3 SITE SPECIFIC REQUIREMENTS

3.1 Ausgrid Contact Details

Ausgrid Contact	Dane Davis
Postal Address	Building 1A, 33-45 Judd Street, Oatley NSW 2223 AUSTRALIA
Telephone No	02 9585 5923
Facsimile No	02 9585 5797
Email Address	ddavis@ausgrid.com.au

3.2 Loads

Based on the loads submitted on 22/6/12.

A total of 13.4MVA will be required.

Loadings for each point of supply (including details of loads for each building) – Loads are broken up into requirements of each individual LV substation;

- LV Substation 1 = 3.6 MVA
- LV Substation 2 = 3.6 MVA
- LV Substation 3 = 3.2 MVA
- LV Substation 4 = 3.0 MVA

3.3 Supply Proposal & Network Augmentation Work

The following options are your proposed supply arrangements for the development site, Ausgrid's response as to the feasibility of each option and any augmentation works required.

- If the Centre can be supplied from the existing 11kV system

The proposed substations can be connected to the existing 11kV network supplying the existing substations. These feeders are currently installed along the western edge of the Darling Harbour Precinct. However based on the loads supplied it will be necessary to carry out some augmentation works. This would involve installing an additional feeder from the convention centre site to the corner of Lyons Rd and Parramatta Rd. Where possible existing ducts will be made available for use (Depending on your construction timing and the construction of other Ausgrid projects this may apply to the majority of the route). These Augmentation works would be funded and constructed as a standard contestable project and may be completed as a separate project or incorporated into one of the substation projects.

- Obtaining a 33kV supply off the Barangaroo supply.
- Obtaining a 33kV supply from the Pyrmont Zone Sub-station

Ausgrid does not currently have any formal policy for expansion of the 33kV distribution system. A decision on this arrangement would not be able to be made until a formal application for supply is made.

The 11kV option will require a contestable project(s), consisting of a design by an Accredited ASP3 and construction to be carried out by an Accredited ASP1. Please see Appendix D for a flowchart of the contestable process.

These could be staged to suit construction requirements.

All design and construction works must comply with Ausgrid's network standards.

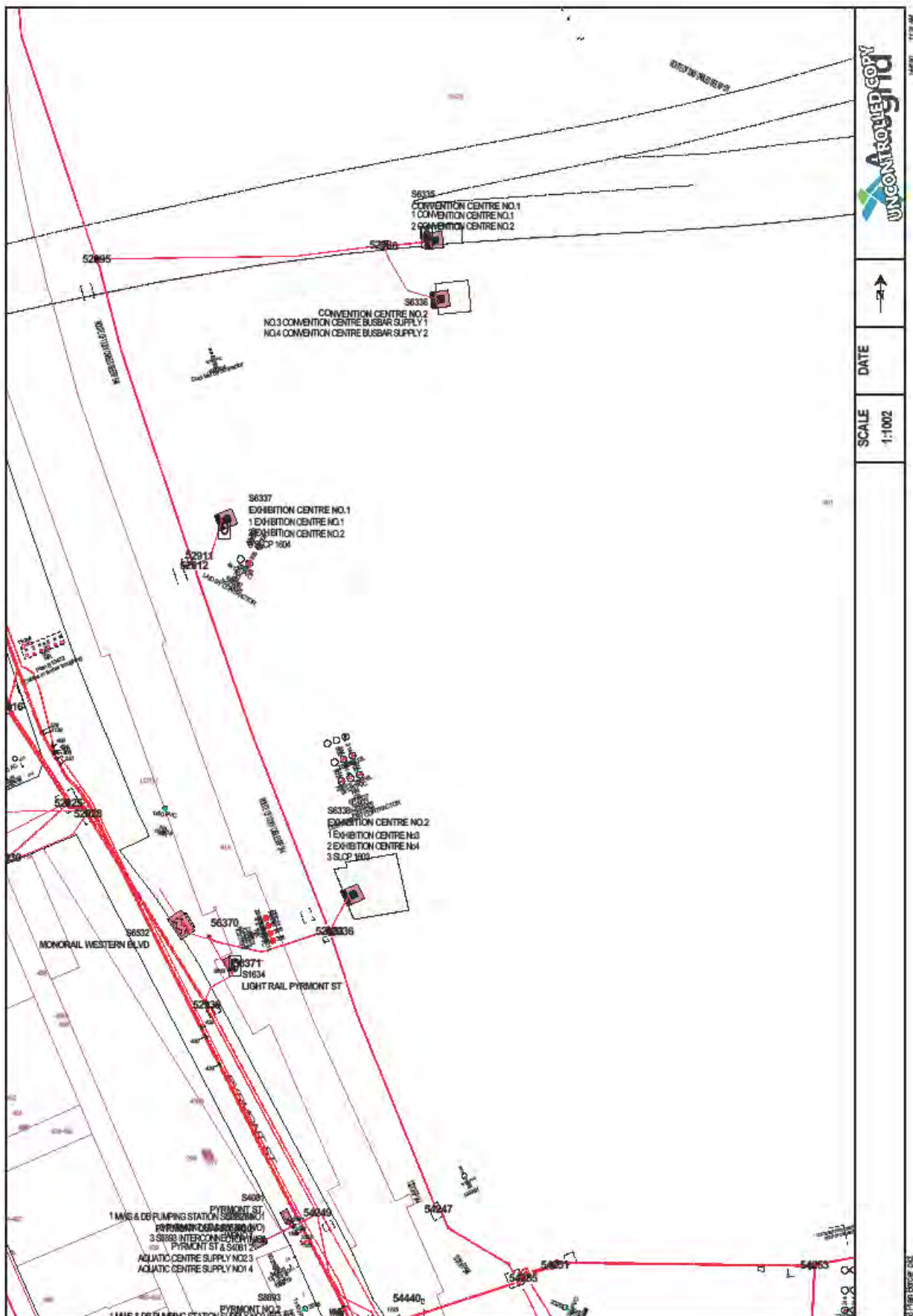
To progress to the next stage, Ausgrid will require the submission of a formal Application for Connection. The appropriate forms are available in our ES1-Customer Connection Information document on Ausgrids' website.

The 33kV option would be handled by our Major Connections group.

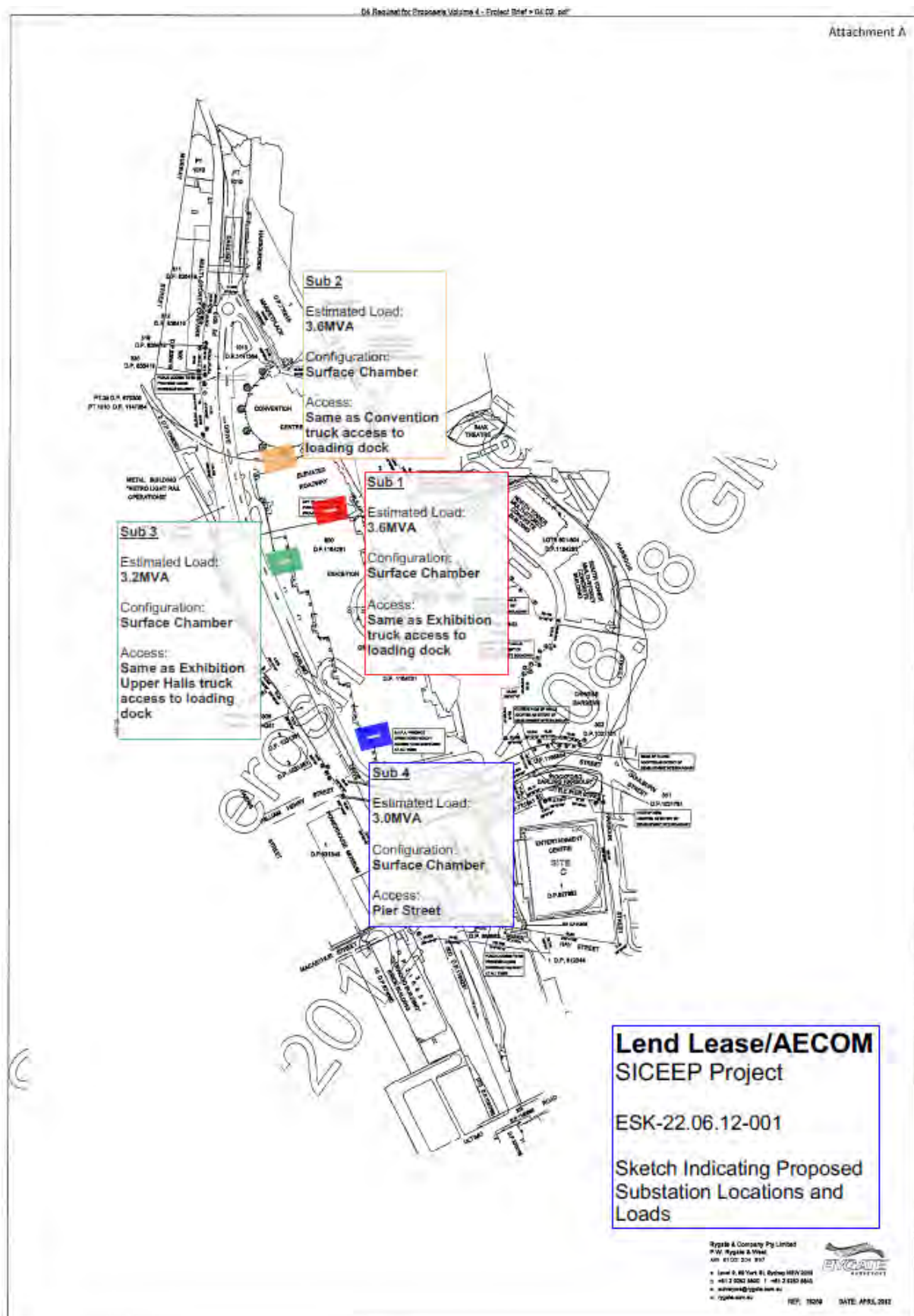
3.4 Relocation Works

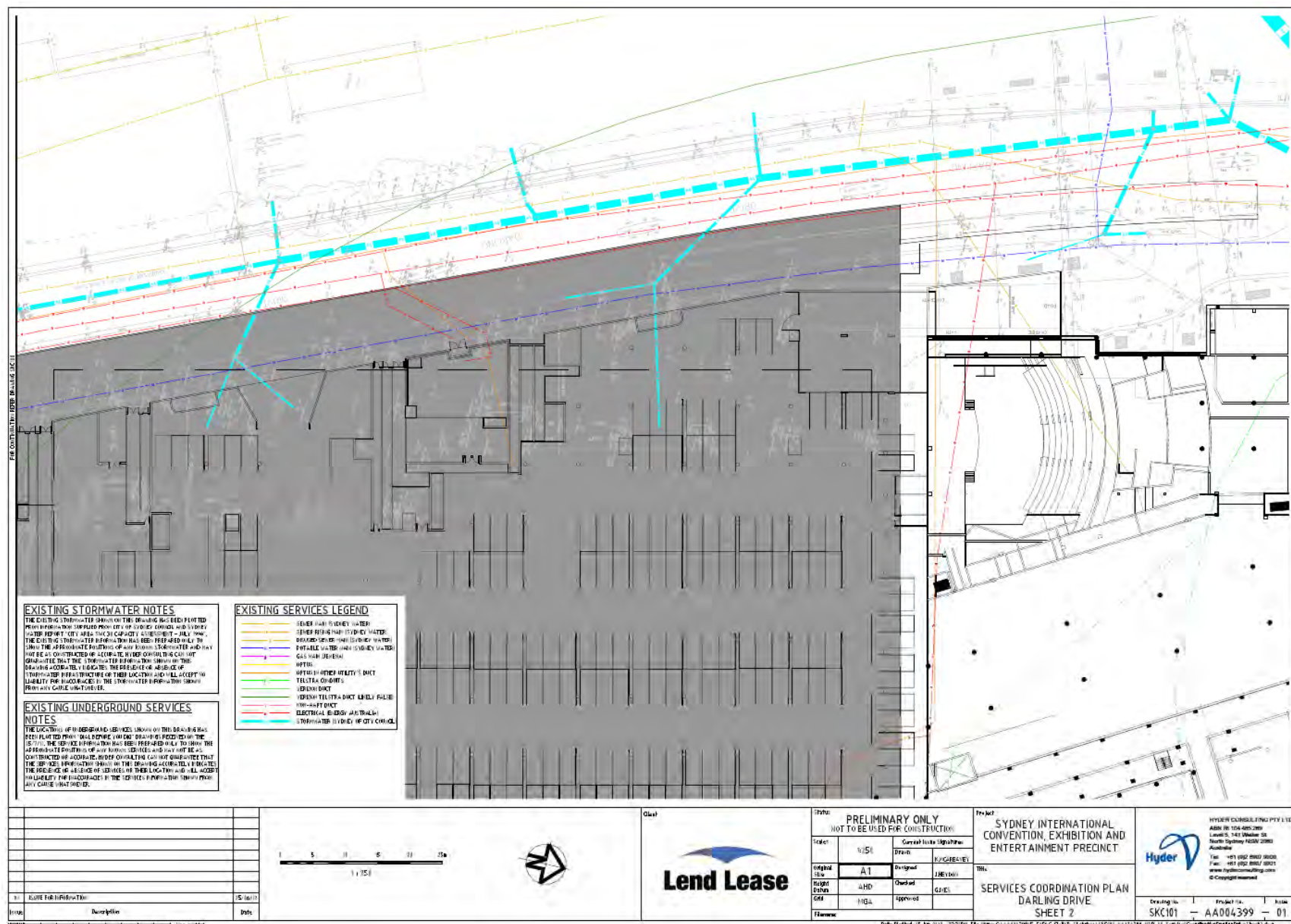
As per your email 3/7/12 regarding the existing assets along Darling Dr, our records indicate that the affected assets are the existing streetlights and associated cabling. These assets can be relocated via the standard contestable process. This may be completed as a separate project or incorporated into one of the substation projects.

UNCONTROLLED COPY

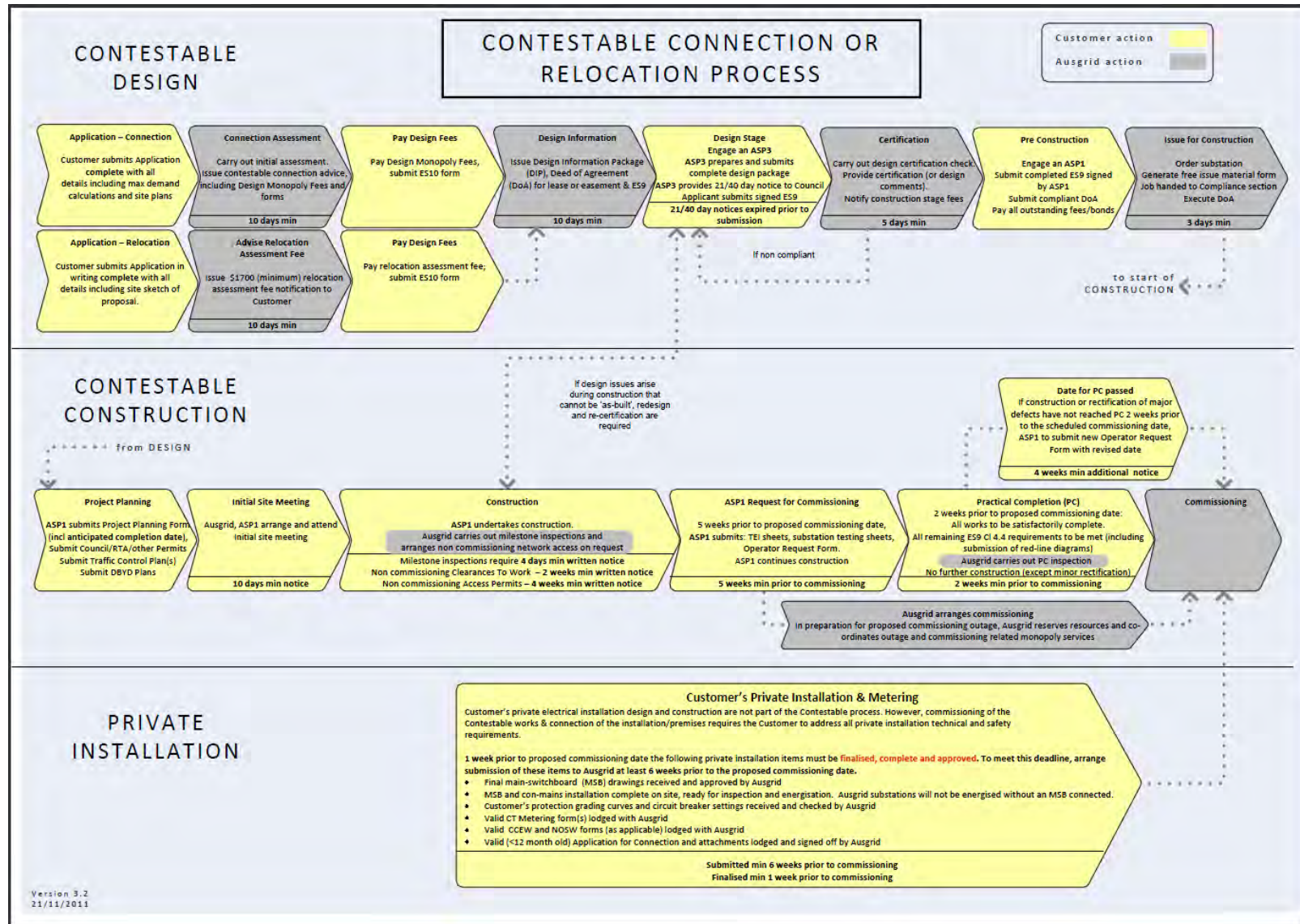


Appendix B – Site Plan provided with application





Appendix D – Contestable Connection Or Relocation Process Flow Chart



Friday 11 January 2013

Gregg Charalambous
AECOM
Gregg.Charalambous@aecom.com

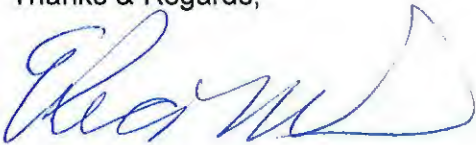
Dear Mr Charalambous,

You have contacted NBN Co in relation to the possible installation of fibre infrastructure at **Redevelopment of Darling Harbour Project**.

NBN Co has determined that your new development is within the NBN fibre footprint.

Once **AECOM** has submitted a formal application and we have concluded an agreement on NBN Co's terms and conditions (including in relation to the construction of pit and pipe infrastructure at the development), then provided you comply with the terms and conditions of that agreement, NBN Co will agree to procure the installation of fibre infrastructure at the development.

Thanks & Regards,



Erica Kearnes
Contracts Administrator – New Developments
NBN Co Limited

Joe Heydon

From: Philip Glasscock <Philip.Glasscock@jemena.com.au>
Sent: 18 January 2013 4:47 PM
To: Heath Mallen
Cc: Greg Ives
Subject: RE: Gas requirements for SICEEP Development, Darling harbour

Hi Heath,

In relation to the concept masterplan and schedule of gas demands prepared by the Destination Sydney Consortium and submitted for assessment to Jemena on 10/01/2013, Jemena can confirm that the infrastructure will have the capacity to supply natural gas to the future development as described by Destination Sydney, subject to the following conditions:

- Jemena's understanding is the gas demand figures as provided are preliminary only and are potentially subject to future amendment by Destination Sydney. The loads as they stand seem a little high in hourly rates compared to annual loads. Jemena reserves the right to alter their position if this occurs.
- The preliminary designs for customer pipework shown by Hyderconsulting in a meeting 18 Jan 2013 appear to address all of Jemena's local main requirements.
- The gas demand figures as provided are preliminary only and are potentially subject to future amendment by Destination Sydney. Jemena reserves the right to alter their position if this occurs.
- Augmentation of Jemena's network feeding the Sydney CBD will be required going forward. Timing of these works is dependent on forecast demand. Jemena reserves the right to levy development contributions in conjunction with any agreement to supply natural gas to the SICEEP development .
- Jemena cannot advise the scale of developer contributions that will be required until such time as a formal application is made. Jemena understands that this application will not be made until development approval has been obtained by Destination Sydney.
- The boundary regulator in Little Pier Street will need to be reviewed if the customers downstream are still required and if any works are required to maintain supply

Regards,

Philip Glasscock
Transportation Sales Manager
Commercial Operations
Jemena

Phone: 02 9455 1590, Fax: 02 9455 1673,

Street Address: Level 20, 111 Pacific Highway North Sydney NSW 2060

Heath Mallen

From: WICKHAM, ROBERT <ROBERT.WICKHAM@sydneywater.com.au>
Sent: 7 June 2012 4:36 PM
To: Heath Mallen
Cc: FOSTER, DARRYL
Subject: RE: SICEEP redevelopment of Darling Harbour - Sewer and Water supply requirements

Categories: Red

Hello

To provide a general answer to your request and advised flows

Convention area

- o The water supply is off the 250 mm main along Darling Drive
- o The 200 mm located in the forecourt is off the same system
- o The 250 mm water main has a supply from both sides: the 200 mm main has a single feed
- o Connection to the water or reuse of the existing domestic connections for the advised flows would not pose any significant issues
- o Purchase of a Statement of Available Pressures and Flows through QuickCheck might be prudent to investigate the network ability to react to the use of the fire services
- o The available wastewater main is the 375 mm along Darling Drive that drains to the very large sewage pumping station SP0001
- o A 300 mm inlet in the maintenance hole adjacent to the building is provided for connection
- o The advised flows would not pose significant issues

Exhibition Area

- o The water supply is off the 300mm / 250 mm main along Darling Drive
- o The 300 mm / 250 mm water main has a supply from both sides
- o Connection to the water or reuse of the existing domestic connections for the advised flows would not pose any significant issues
- o Purchase of a Statement of Available Pressures and Flows through QuickCheck might be prudent to investigate the network ability to react to the use of the fire services
- o The available wastewater main is the 300 mm sideline across along Darling Drive (southern end of the area) that drains to the very large sewage pumping station SP0001
- o A 300 mm inlet in the maintenance hole is provided for connection
- o The advised flows would not pose significant issues

The southern area

- The water supply is of the 375 mm main adjacent to Pier St. This is a single feed main from the CBD
- The main available for use is the 200 mm main in Lackey St that links to the 150 mm main in Hay St
- Considering the scope of advised flows, amplification of 120 m of the 150 mm back to a 200 mm main in Hay St may be required
- Purchase of a Statement of Available Pressures and Flows through QuickCheck might be prudent to investigate the network ability to react to the use of the fire services
- Connection to the water or reuse of the existing domestic connections in Lackey St for the advised flows would not pose any significant issues once the amp main is done
- For the advised wastewater flows, the available mains that drain to SP0001
 - o the 750 mm wastewater main in Hay St would be suitable or
 - o the 300 mm main in Lackey St if amplified to 375 mm

Unfortunately costs cannot be advised

thank you for your inquiry

Robert Wickham
Principal Planner

Asset Services
Urban Growth
Ph 88493531
Mob 0409380200

From: Heath Mallen [mailto:Heath.Mallen@hyderconsulting.com]
Sent: Tuesday, 22 May 2012 2:44 PM
To: WICKHAM, ROBERT
Cc: Ron Meyer (ron.meyer@lendlease.com); Greg Ives; daryl.forster@sydneywater.com.au
Subject: SICEEP redevelopment of Darling Harbour - Sewer and Water supply requirements

Good afternoon Robert,

As discussed at our meeting in your office on the 8th May, please see attached for the masterplan sewer and water supply requirements and connection locations. The site has been split into three sectors – North, Center and South with the relevant kL/day loads and supply locations provided for each of these sectors respectively.

As discussed, It would be appreciated if Sydney Water could review and provide feedback on the feasibility of connecting to the existing Sydney Water assets in the vicinity.

It would also be very much appreciated if you could provide any further information that may assist in understanding the capacity of existing infrastructure, amplification requirements, infrastructure costs and any other issues Sydney Water deem important.

Please note also that as discussed, we have not considered sewer mining, on site reuse or any other water reduction schemes in assessing the demands as shown.

It would assist us greatly if you could also confirm when we might be able to expect a response so that we can plan accordingly. Thankyou in advance for your assistance.

Regards,
Heath

Heath Mallen
Civil Engineer
MEEM, BE, DipEngPrac
Hyder Consulting Pty Ltd
Locked Bag 6503 North Sydney NSW 2060 Australia
Level 5, 141 Walker Street North Sydney NSW 2060 Australia
Direct +61 2 8907 9268 Fax +61 2 8907 9001
Mobile +61 438 266 333

Case Numbers: 131520/131522/131523/131525

13 February 2013

LEND LEASE PROJECT MANAGEMENT & CONS.
c/- CARDNO FORBES RIGBY PTY LTD

INTERIM ADVICE LETTER

Developer: LEND LEASE PROJECT MANAGEMENT & CONS.
Your reference: 50613027-131525
Development: DARLING HARBOUR, Sydney
Development Description: Demolition of existing buildings and construction of a new Convention Centre, Exhibition Centre, Theatre and public area. Removal of existing buildings and construction of Student Accommodation, residential towers, commercial office, retail centre and construction of 2 hotel buildings
Your application date: 25 January 2013

Dear Applicant

We confirm that Darling Harbour Live (DHL), the Consortium selected to redevelop the Sydney International Convention Exhibition and Entertainment Precinct (SICEEP) has consulted with Sydney Water and that we have been given the opportunity to review and comment on the proposed **draft concept plan** for the development.

DHL have consulted Sydney Water with reference to existing system capacity and anticipated impact in Sydney Water's existing infrastructure.

Sydney Water confirm that DHL has lodged four (4) applications through their WSC in relation to the proposed works associated with SICEEP. Sydney Water is in the process of reviewing these applications and preparing our advice.

Sydney Water confirms that, based on the hydraulic information provided by the WSC, the development can be serviced through extensions of water and sewer infrastructure including possible amplifications of the water and sewer infrastructure.

The developments impact on Sydney Water's stormwater assets cannot be quantified at the time of the application due to insufficient details on the impact on that system and assets.

The specific impact on our water, sewer and stormwater assets cannot be assessed until the refinement of location, scope and impact on our assets can be reviewed.

The impact on Sydney Water's stormwater assets could not be made with the provided information. This will need to be assessed.

Once formal development approval has been obtained you will be required to submit new applications for specific requirements in relation to the obtained approval.. Our formal response to these future applications will outline our specific requirements and the activities required of DHL in delivering these services to the subject sites to meet Sydney Water's approval.

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

APPENDIX D

PROPOSED CONCEPT UTILITY PLAN

REFERENCE MAP

P.P.P.

NOTES:


1. DO NOT SCALE FROM DRAWINGS. WORK TO WRITTEN DIMENSIONS ONLY.
2. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
3. ALL COORDINATES TO MGA, ALL LEVELS TO AHD.
4. ALL DIMENSIONS, COORDINATES AND LEVELS TO BE VERIFIED ON SITE BEFORE PROCEEDING WITH WORK. HYDER SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.
5. THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS AND DRAWINGS.

1 : 500

DRAFT

02	ISSUE FOR DEVELOPMENT APPLICATION	12/03/2013
01	ISSUE FOR REVIEW	06/03/2013
REV	DESCRIPTION	DATE

CLIENT

 **Lend Lease**

LEVEL 4, THE BOND, 30 HICKSON RD
MILLERS POINT, NSW 2000

CONSULTANTS

**HASSELL +
POPULOUS**

LANDSCAPE ARCHITECT
LEVEL 2, 88 CUMBERLAND STREET,
SYDNEY NSW 2000

DENTON ARCHITECT
CORKER 49 EXHIBITION STREET,
MARSHALL MELBOURNE VICTORIA 3000

CIVIL / TRAFFIC / FACADES
HYDER CONSULTING PTY LTD
ABN 78 104 485 289
LEVEL 5, 141 WALKER ST,
NORTH SYDNEY NSW 2060
AUSTRALIA

Tel: +61 (0)2 8907 8000
Fax: +61 (0)2 8907 8001
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