



SYDNEY INTERNATIONAL CONVENTION, EXHIBITION AND ENTERTAINMENT PRECINCT
THE DARLING SQUARE PRECINCT – NORTH PLOT & THE SQUARE

SERVICES INFRASTRUCTURE REPORT

FOR SSDA 10

DARLING HARBOUR LIVE

SICEEP – THE DARLING SQUARE (NORTH PLOT & THE SQUARE)

SERVICES INFRASTRUCTURE REPORT FOR SSDA10

Sewer, Water, Gas, Telecommunications and Electrical Infrastructure

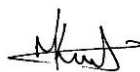
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Report No DN00352

Date 02/02/2016

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Appendix A: Combined Services Plan

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1 EXECUTIVE SUMMARY

Hyder Consulting has been engaged by Lend Lease to provide civil infrastructure advice to support a Stage 2 Development Application, to be submitted in relation to the North Plot and The Square in The Darling Square precinct to be developed on part of the Darling Harbour area known as the Sydney International Convention, Exhibition & Entertainment Precinct (SICEEP).

Lend Lease are a part of the successful consortium, chosen by the NSW government, to undertake the redevelopment of the site. This consortium is known as Darling Harbour Live (DHL).

Following a desk top study of the existing services in the vicinity of the site undertaken during a Dial Before You Dig (DBYD) exercise, Hyder Consulting and Lend Lease have consulted utility providers for sewer, water, gas, electricity, communications and stormwater. It is apparent from the findings of this consultation exercise that these utility providers can cater for the needs of the proposed development either through the utilisation of existing utility networks or through the local augmentation of existing networks. Consultation with the utility authorities is ongoing as the scope of the development is further refined.

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) application number SSD 7021 that have been issued for this project. This report details the investigation of existing utilities in the vicinity of the development in the context of the proposed development scheme, the likely points of future connection to the utilities and the associated potential upgrades or augmentation works that may be required.

2 INTRODUCTION

This report supports a State Significant Development (SSD) Development Application (DA) submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Application (referred to as SSDA 10) follows the approval of a staged SSD DA (SSDA 2) in December 2013. SSDA 2 sets out a Concept Proposal for a new mixed use neighbourhood at Haymarket, now called Darling Square. Darling Square forms part of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP).

More specifically this subsequent DA seeks approval for the construction and use of a mixed use development within the North development plot of Darling Square and public domain works for the new 'Square'.

3 OVERVIEW OF PROPOSED DEVELOPMENT

The proposal relates to a detailed ('Stage 2') DA for a mixed use development in the North Plot of Darling Square together with domain works for the new Square. The Darling Square Site more broadly is to be developed for a mix of residential and non-residential uses, including but not limited to residential buildings, commercial, retail, community and public space. The North Plot is one of six development plots identified within the approved Concept Proposal.

Under the Concept Proposal, the North Plot is planned to accommodate a small scaled mixed use building. More specifically, this SSD DA seeks approval for the following components of the development:

- Construction and use of a mixed use building including retail, commercial, food and beverage offerings and community uses;
- Public domain and landscaping improvements comprising the creation of a new Square which links with new pedestrian connections, including laneways and the Boulevard; and
- Extension and augmentation of physical infrastructure / utilities as required.

4 BACKGROUND

The NSW Government considers that a precinct-wide renewal and expansion of the existing convention, exhibition and entertainment centre facilities at Darling Harbour is required, and is committed to Sydney reclaiming its position on centre stage for hosting world-class events with the creation of SICEEP.

In December 2012, following an extensive and rigorous Expressions of Interest and Request for Proposals process, Darling Harbour Live (a consortium comprising Lend Lease, Hostplus, Capella Capital, AEG Ogden and Spotless) and Lend Lease were announced by the NSW Government as the preferred proponent to transform Darling Harbour and create SICEEP.

Key features of the Preferred Plan include:

- Delivering world-class convention, exhibition and entertainment facilities, including:
 - Up to 40,000m² exhibition space;
 - Over 8,000m² of meeting rooms space, across 40 rooms;
 - Overall convention space capacity for more than 12,000 people;
 - A ballroom capable of accommodating 2,000 people; and
 - A premium, red-carpet entertainment facility with a capacity of 8,000 persons.
- Providing a hotel complex at the northern end of the precinct.
- A vibrant and authentic new neighbourhood at the southern end of the precinct, now called 'Darling Square', 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; and
- Improved pedestrian connections linking to the proposed Ultimo Pedestrian Network (now The Goods Line) drawing people between Central, Chinatown and Cockle Bay Wharf as well as east-west between Ultimo/Pymont and the City.

On 21 March 2013 a critical step in realising the NSW Government's vision for the SICEEP Project was made, with the lodgement of the first two SSD DAs with the (now) Department of Planning and Environment. The key components of these proposals are outlined below.

Public Private Partnership SSD DA (SSD 12_5752)

The Public-Private Partnership (PPP) SSD DA (SSDA 1) includes the core facilities of the SICEEP Project, comprising the new, integrated and world-class convention, exhibition and entertainment facilities along with ancillary commercial premises and public domain upgrades. SSDA1 was approved on 22 August 2013.

Concept Proposal (SSD 13_5878)

The Concept Proposal SSD DA (SSDA 2) establishes the vision and planning and development framework which will be the basis for the consent authority to assess detailed development proposals within the Darling Square Site. SSDA2 was approved on 5 December 2013. The Stage 1 Concept Proposal approved the following key components and development parameters:

- Indicative staging of demolition and development of future development plots;
- Land uses across the site including residential and non-residential uses;
- Street and laneway layouts and pedestrian routes;
- Open spaces and through-site links;
- Six separate development plots, development plot sizes and separation, building envelopes, building separation, building depths, building alignments, and benchmarks for natural ventilation and solar access provisions;
- A maximum total gross floor area (non-residential and residential GFA);
- Above ground car parking including public car parking;
- Residential car parking rates;
- Design Guidelines to guide future development and the public domain; and
- A remediation strategy.

The Concept Proposal was modified on 26 November 2015 to increase the amount of non-residential GFA. This minor increase in GFA was allocated to the approved North-West Plot building to meet tenant requirements. In addition to the approval of SSDA2, the following approvals have been granted for various stages of Darling Square site:

- Darling Drive (part) development plot (SSDA3) for the construction and use of a residential building (student accommodation) and the provision of associated public domain works approved on 7 May 2014;
- North-West development plot (SSDA4) for the construction and use of a mixed use commercial development and public car park building and associated public domain works approved on 7 May 2014; and
- South-West development plot (SSDA5) – construction and use of a mixed use residential development and associated public domain works approved on 21 May 2014.
- North-East development plot (SSDA7) – construction and use of a mixed use residential development and associated public domain works approved on 16 April 2015.

Approval was also granted on 15 June 2014 for SSDA6 which includes the construction and use of the International Convention Centre (ICC) Sydney Hotel and provision of public domain works. Approval was also granted for SSDA8 on 16 October 2015 which comprised the ICC Hotel fitout, external lighting and subdivision.

This report has been prepared to support a detailed Stage 2 SSD DA for the mixed use development and public domain works within Darling Square (SSDA 10), consistent with the Concept Proposal (SSDA 2).

5 SITE DESCRIPTION

The SICEEP Site is located within Darling Harbour. 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.

With an area of approximately 20 hectares, the SICEEP Site 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 and Harbour Street to the east, and Hay Street to the south (refer to **Figure 1**). The Darling Square Site is:

- located in the south of the SICEEP Site, within the northern portion of the suburb of Haymarket;
- bounded by the Powerhouse Museum to the west, the Pier Street overpass and Little Pier Street to the north, Harbour Street to the east, and Hay Street to the south; and
- irregular in shape and occupies an area of approximately 37,700m².

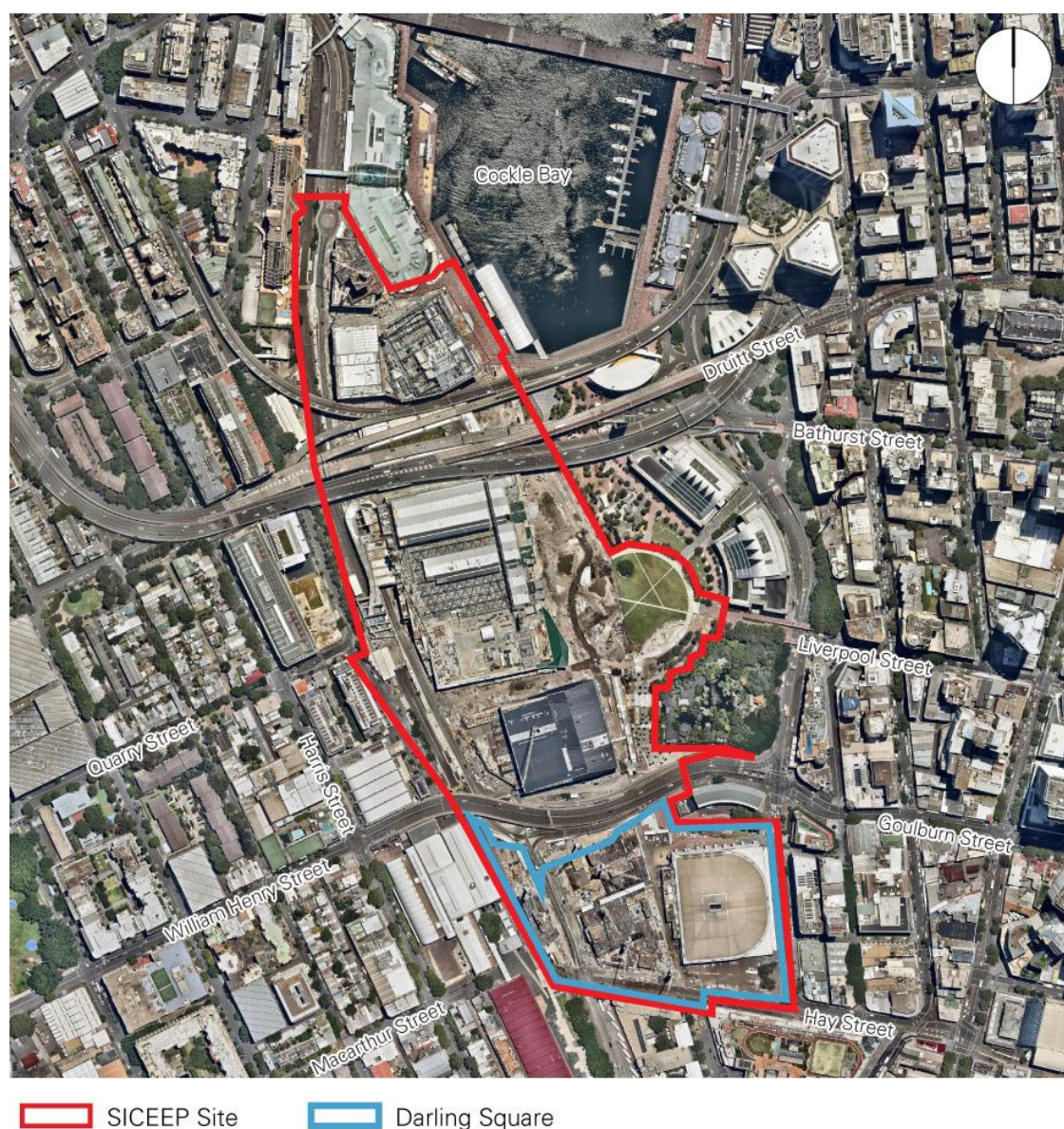


Figure 1 – Aerial Photograph of the SICEEP Site

The Concept Proposal DA provides for six (6) separate development plots across the Darling Square Site (refer to **Figure 2**):

1. North Plot;
2. North East Plot;
3. South East Plot;
4. South West Plot;
5. North West Plot; and
6. Western Plot (Darling Drive).

The Application Site area relates to the North Plot and adjoining 'Square' as detailed within the architectural and landscape plans submitted in support of the DA.

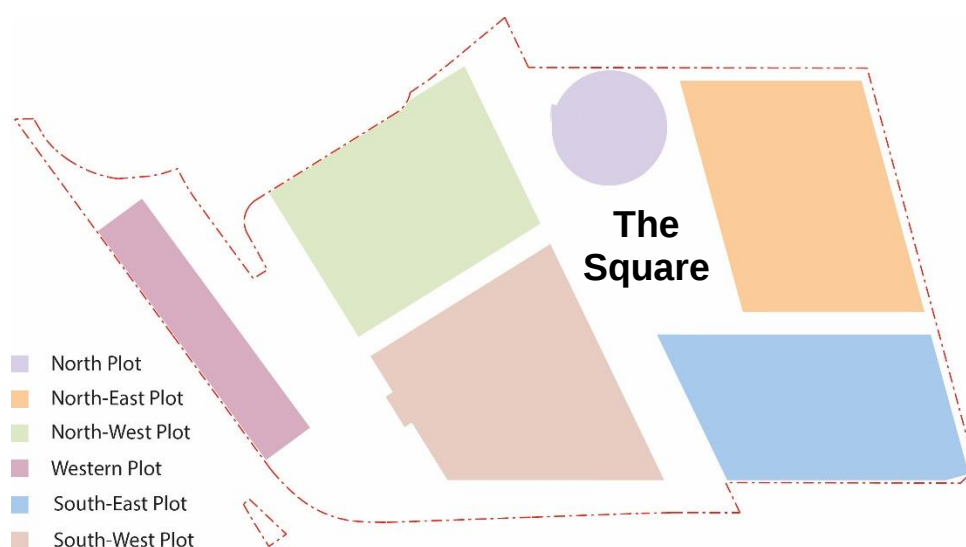


Figure 2 – Concept Proposal Development Plots

6 PLANNING APPROVALS STRATEGY

The SICEEP Project has resulted in the lodgement of numerous SSD DAs for the various components of the redevelopment project. Future applications will continue to be lodged in accordance with the Concept Proposal SSD DA for the remaining development plots of the Darling Square Site.

7 PURPOSE OF THIS REPORT

This report has been prepared to accompany the DA for the North Plot and The Square component of the Darling Square. It addresses the relevant requirements of the SEARs for the project, Requirement 11: Utilities states:

- *“In consultation with relevant agencies, identify the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure; and*
- *Provide details of how infrastructure assets of various utility stakeholders will be protected during the demolition and construction phase of the project.”*

This report details the investigation of existing utilities in the vicinity of the development, the likely points of future connection to the utilities, associated potential upgrades or augmentation that may be required.

The basis for the investigation of the existing utilities in the vicinity of the site was a ‘Dial Before You Dig’ enquiry that was undertaken on 5th July 2011. Subsequent to this initial DBYD, Hyder has undertaken a number of additional DBYD investigations to incorporate any updates or changes to this services information. Figure 3 depicts the area subject to the DBYD enquiry. This report does not consider any utility infrastructure outside the enquiry boundary and its’ potential relationship to, or impact on the supply of utility services to the site.

For greater clarity, this report relates only to the portion of the site south of Pier Street on the eastern side of the existing Harbour St. (refer to Figures 2 & 3).

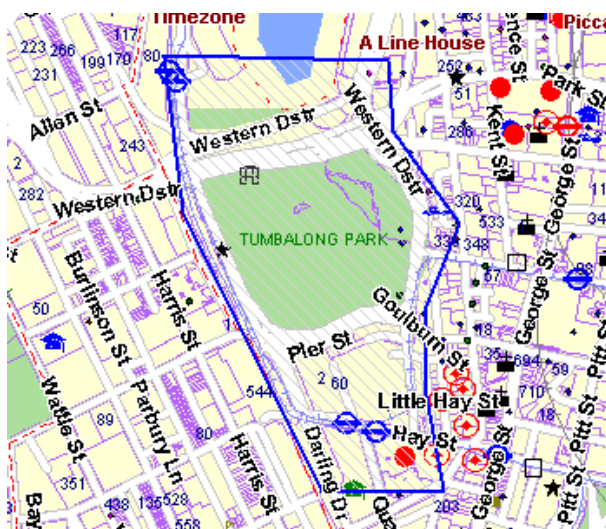


Figure 3 – DBYD Enquiry Area (DBYD, 2011)

The following entities were identified as having an interest in the DBYD enquiry area:

Roads and Maritime Services (RMS), (formerly RTA)	Verizon Business
RailCorp	Visionstream
PIPE Networks	AAPT / PowerTel
Ausgrid	Telstra
Jemena	Optus and/or Uecomm
Sydney Water	AARNet Pty Ltd
NBNCo	Primus Telecom

This report only details the investigations undertaken in relation to the services infrastructure belonging to Ausgrid, Telstra, NBNCo/Telstra, Jemena, Sydney Water and RailCorp as required to supply the North Plot and The Square.

8 UTILITIES INFRASTRUCTURE

Reference shall be made to the Services Infrastructure Report in Appendix B [Report No. DN00339, dated 12/03/2013, Rev 04] submitted in support of The Haymarket Concept Proposal SSD DA (SSDA 2).

That report provides a description of the existing utilities servicing the precinct, the consultation undertaken with relevant utility authorities, the overall servicing concept for The Haymarket now known as Darling Square precinct and confirmation that the existing infrastructure in the vicinity of the site has capacity to supply the proposed development.

Since submission of the Stage 1 DA to the State, consultation with the various utility authorities has progressed with detailed servicing strategies for many of the utilities now being prepared. These servicing strategies and the appropriate authority approvals are not expected to be finalised until after the submission of the Stage 2 DA that this report is written in support of.

Reference should be made to Appendix A for the combined services plan which depicts existing utility infrastructure and that which is proposed to service the new development.

8.1 PROTECTION OF UTILITIES INFRASTRUCTURE

The following process will be followed to ensure existing utilities infrastructure is protected:

- A desk-top investigation of existing services will be undertaken using Dial Before You Dig information and site observations;
- Site survey will be undertaken to accurately locate existing infrastructure assets where practical;
- Site exploration works will be undertaken where considered necessary to more accurately locate existing infrastructure assets and test for unknown services;
- Consultation will be undertaken with utility providers to confirm location of services and to obtain all necessary consents to work in their vicinity;
- Utility technical and hazard requirements will be incorporated into the design and construction documentation;
- Safe work methods statements and inspection and test plans will be prepared by accredited contractors;
- Pre-start work checklists will be implemented and recorded;
- Workshops will be conducted with utility providers where diversion of, connection to or construction close to critical assets is required; and
- Field safety inspectors will be present during critical works as determined by each utility provider.

- Preparation of a 3D services model of existing (prepared by Robert Bird Group) and proposed services.

As design progresses or as new information becomes available, the above process will be adjusted or supplemented as required to ensure existing infrastructure assets are adequately protected.

8.2 SEWER

Existing Infrastructure

A DN300 CL sewer is located to the north of the proposed North Plot. This sewer drains to the west towards Darling Drive.

There are existing sewers identified as disused mains by Sydney Water that currently reside to the west of the North Plot, which are being addressed as part of the PDA Infrastructure works. There are existing private sewers connecting the existing Entertainment Centre that can be terminated without need to relocate, divert or reconnect once the centre is demolished.

Provision of Utilities

A proposed DN225 sewer will be installed along the North Plots northern boundary to service the North East plot and a stub connection provided to the building core of the North Plot. Either of these two proposed sewer pipes will allow connection of the North Plot.

Retail Pods located within The Square shall be serviced via a connection to the proposed DN225 sewer located to the north of the North Plot and will be independent of the North Plot building.

8.3 WATER

Existing Infrastructure

A DN200 CICL water main is located on the western side of North Plot. These mains are fed by a DN375 DICL main to the north of the North Plot. This existing DN200 CICL will be disconnected and a new DN200 PVC water main be installed as part of the infrastructure works.

Provision of Utilities

It is proposed that private water services will be taken off the proposed DN200 PVC watermain along The Boulevard to supply potable water and fire requirements of the North Plot. A DN150 property service and DN150 fire service will be constructed under the PDA Infrastructure works. As part of the development works, potable water and fire service connections for the future North East Plot will be installed across the North Plot as part of this work.

Potable water provision for the Retail Pods located within the Square shall be supplied from a DN200 water main located in The Boulevard.

8.4 GAS

Existing Infrastructure

There is an existing gas main located on the northern side of the North Plot, being a high pressure DN100 main (1050kPa), which connects into the site.

Provision of Utilities

A new high pressure gas regulator pit is proposed to be installed to the north of the North Plot and will reduce the gas pressure from 1050kPa to 7kPa. It is proposed that the North Plot shall be serviced via a connection to this proposed 7kPa gas main. Connection can be made either to the north of the North Plot or via the gas mains within the boulevard.

Gas provision for the Retail Pods located within the Square shall be serviced by the proposed 7kPa mains within the boulevard independent of the North Plot building.

8.5 TELECOMMUNICATIONS

Existing Infrastructure

There is local in-ground communications infrastructure within the development plot that is operated by Telstra and Optus. Investigations by Lend Lease indicate that these utilities do not service any customers other than the existing Entertainment Centre and hence they can be terminated without need to relocate, divert or reconnect any existing customers.

Provision of Utilities

The existing in-ground communications infrastructure will be removed as part of the works. New communications conduits will be provided from existing infrastructure north of the development plot to provide a connection point on the site's northern boundary.

Telecommunication provision for the Retail Pods located within the Square shall be supplied separately to the North Plot.

Prior to the submission of the Stage 1 DA, consultation with NBNCo confirmed their intention to supply essential communications infrastructure to the entire SICEEP development precinct including the North Plot.

There is no NBNCo infrastructure in the vicinity of the site however during consultation with NBNCo they confirmed that they would deliver all lead-in infrastructure to precinct. The delivery strategy is currently being developed with NBNCo.

8.6 ELECTRICAL

Existing Infrastructure

There are a number of electrical cables that traverse east-west across the development site, in the northern half of the plot, known as the Macarthur Systrum network

Existing low voltage cables connect the Entertainment Centre from the northern perimeter of the plot. Lend Lease indicate that these utilities do not service any customers other than the existing Entertainment Centre and hence they can be terminated without need to relocate, divert or reconnect any existing customers.

Provision of Utilities

The existing electrical Macarthur Systrum conduits that traverse the Site are proposed to be decommissioned and diverted north along Harbour Street and outside the plot.

The North Plot will be serviced via one of two temporary electrical substations either to the south of the plot or north east of the plot, each of which are supplied from the east and connected to Harbour Street.

Permanent supply will be provided from the North East Plot via an extension of the supply to the North Plot.

Low voltage provision for the Retail Pods located within the Square shall be supplied from the public domain electrical reticulation and be metered at each Retail Pod.

8.7 PUBLIC DOMAIN INFRASTRUCTURE

The Public Domain infrastructure power and lighting shall be supplied from the North West Plot building electrical substation which feeds a meter board under Pier Street.

The following Public Domain infrastructure shall be connected to the SHFA system:

- CCTV & Communications;
- Public Address and Audio Visual.

8.8 STORMWATER, FLOODING AND WSUD

For discussion of all utilities associated with stormwater, flooding and WSUD please refer to Report No. DN00350 accompanying the development application which this report is submitted in support of.

9 CONCLUSION

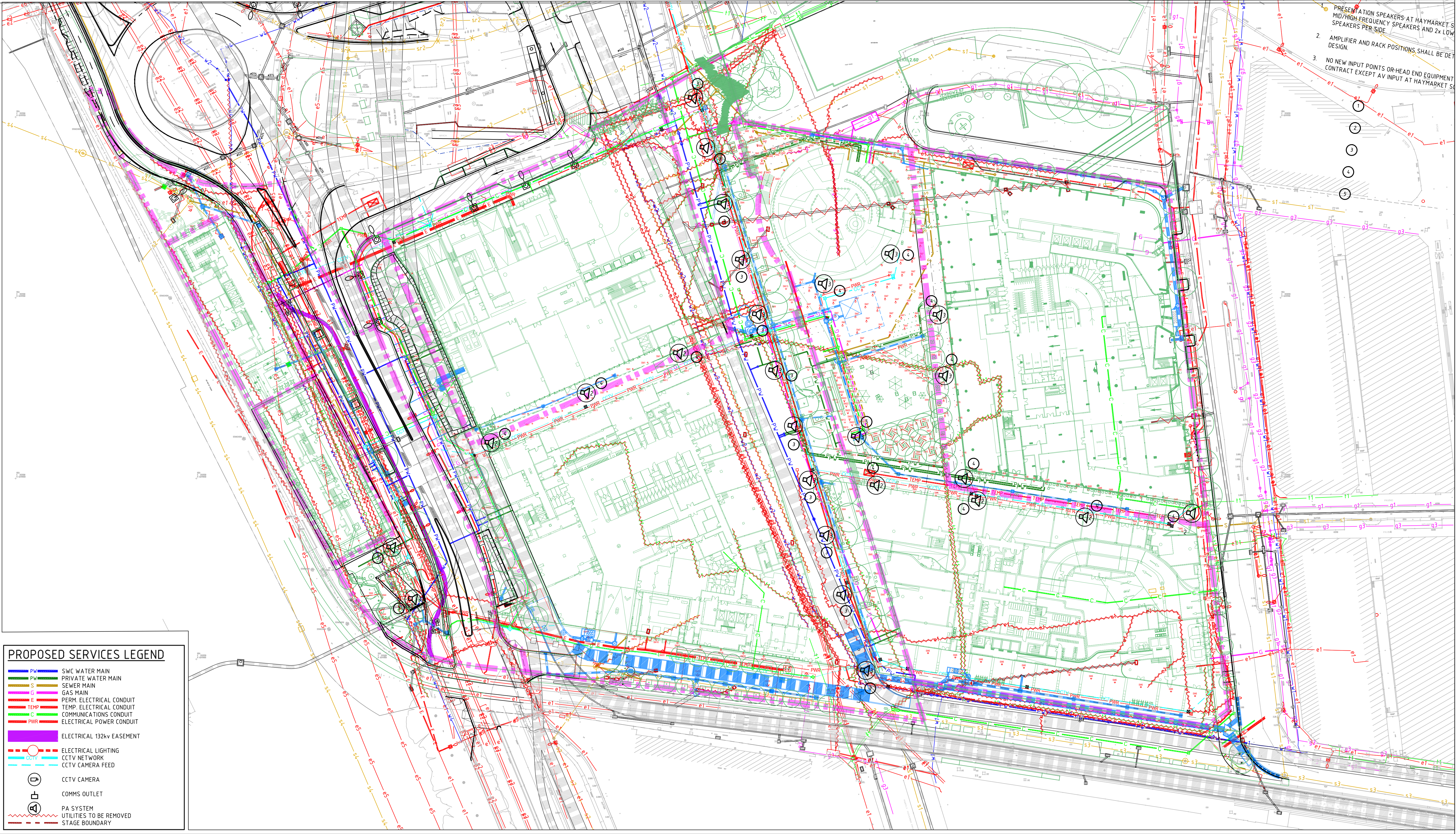
Lend Lease (including Hyder Consulting) will continue to consult with and obtain the necessary approvals from the relevant authorities and utility providers regarding the proposed Darling Square development in the context of:

- Existing utilities and arrangements;
- Forecast demand for utilities required by the proposed Darling Square development; and
- New infrastructure, augmentation and diversion works required to facilitate the proposed Darling Square development.

The consultation to date has indicated that Darling Square can be adequately serviced by utility providers, subject to further detailed investigation, scheme development and design development in consultation with the providers. We are currently contacting utility providers to advise of modifications to the North Plot GFA/NLA to confirm the plot can be adequately serviced.

APPENDIX A

COMBINED SERVICES PLAN



PROPOSED SERVICES LEGEND

- PW SWC WATER MAIN
- PW PRIVATE WATER MAIN
- S SEWER MAIN
- G GAS MAIN
- E PERM. ELECTRICAL CONDUIT
- TEMP TEMP. ELECTRICAL CONDUIT
- C COMMUNICATIONS CONDUIT
- PWR ELECTRICAL POWER CONDUIT
- ELECTRICAL 132kV EASEMENT
- ELECTRICAL LIGHTING
- CCTV NETWORK
- CCTV CAMERA FEED
- CCTV CAMERA
- COMMS OUTLET
- PA SYSTEM
- UTILITIES TO BE REMOVED
- STAGE BOUNDARY

NOTES:

- DO NOT SCALE FROM DRAWINGS. USE WRITTEN DIMENSIONS ONLY.
- ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
- ALL COORDINATES TO MGA. ALL LEVELS TO AHD.
- ALL DIMENSIONS, COORDINATES AND LEVELS TO BE VERIFIED ON SITE BEFORE PROCEEDING WITH WORK. HYDER SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS AND DRAWINGS.
- THIS DRAWING CONTAINS COLOUR AND MUST ONLY BE PRINTED OR COPIED IN COLOUR.

REV	DESCRIPTION	DATE
04	ISSUE FOR INFORMATION	22/10/2015
03	ISSUE FOR INFORMATION	21/07/2015
02	ISSUE FOR INFO.	14/08/2014
01	ISSUE FOR INFORMATION	21/07/2014

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PROJECT

SICEEP - DARLING HARBOUR
THE HAYMARKET PRECINCT (PDA)

DRAWING TITLE

PRECINCT SERVICES
PLAN (RBG)

STATUS

PRELIMINARY ONLY

SCALE @ A1

1 : 500

DRAWN

JSW

DESIGNED

-

REVIEWED

-

APPROVED

-

PROJECT NUMBER

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DRAWING NUMBER

SKCPD460

REV

04

APPENDIX B

SERVICES INFRASTRUCTURE REPORT SUBMITTED IN SUPPORT OF THE HAYMARKET STAGE 1 DA (SSDA 2)