

Infrastructure Concept Plan

Barangaroo South – MOD8 Planning
Submission (MP06_0162 MOD8)

NA50613044

Prepared for
Lend Lease Building Pty Ltd

March 2015



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1 Project Appreciation

1.1 Introduction

This report supports a modification to Concept Plan (MP06_0162) submitted to the Minister for Planning and Infrastructure pursuant to Section 75W of Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The proposed application is the outcome of negotiations between Lend Lease and the NSW Government, including the Barangaroo Delivery Authority, to relocate the approved landmark hotel building site from a pier over Sydney Harbour to a location on land elsewhere on the Barangaroo South site. It also incorporates a number of consequent and related changes to the urban design guidelines that are required to maintain an appropriate built form and public domain outcome for the Barangaroo South site.

1.2 Background

The 22 hectare Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – Headland Park, Barangaroo Stage 2 (also known as Barangaroo Central) and Barangaroo Stage 1 (herein after referred to as Barangaroo South).

Lend Lease was successfully appointed as the preferred proponent to develop Barangaroo South on 20 December 2009.

1.3 Overview of Proposed Modification

The proposed modification to the Concept Plan seeks to:

- Relocate the landmark building (Block Y) from the harbour onto the land in the Barangaroo South site in front of the existing Blocks 4A, B and C;
- Revise the layout of Blocks 4A-C;
- Amend the size and location of the Southern Cove and public domain;
- Redistribute the GFA, public domain and land uses across development blocks 1-3, 4A-C, X and Y;
- Increase the maximum GFA on the site to provide for additional GFA within the hotel building and redistribution of land uses;
- Increase the height of the buildings within modified 'Block 4' and the relocated Block Y; and
- Amend the conditions of the Concept Approval to reflect the modifications to development.

It is also proposed to amend Part 12 of Schedule 3 of the Major Development SEPP to reconcile the SEPP with the modifications to the Concept Plan, including amending the location of the RE1 and B4 Mixed Use zone boundaries. Refer to **Appendix B** for Modification No. 8 block plan.

1.4 Purpose of this Report

This report has been prepared to accompany the Project Application for the MOD8 planning submission at Barangaroo South.

This document should be used as reference during the detailed design development of utilities provision to the Barangaroo South development including buildings and public domain. Future and separate project applications will be required to address service provision to each building or development area.

The following general comments apply:

- a. A desktop services investigation (Dial Before You Dig), survey and Ground Penetrating Radar (GPR) have been used as source data for the information contained in this document, and
- b. The attached plans, refer **Appendix A**, are to be developed through consultation with the appropriate utilities providers.

1.5 Planning History & Framework

On 9 February 2007 the Minister approved a Concept Plan for the site and on 12 October 2007 the land was rezoned to facilitate its redevelopment. The Approved Concept Plan allowed for a mixed use development involving a maximum of 388,300m² of gross floor area (GFA) contained within 8 blocks on a total site area of 22 hectares.

Modification No. 1 was approved in September 2007 which corrected a number of minor typographical errors.

On 25 February 2009 the Minister approved Modification No. 2 to the Concept Plan. The Approved Concept Plan as modified allowed for a mixed use development involving a maximum of 508,300m² of gross floor area (GFA) contained within 8 blocks on a total site area of 22 hectares.

On 11 November 2009 the Minister approved Modification No. 3 to the Concept Plan to allow for a modified design for the Headland Park and Northern Cove. The Approved Concept Plan as modified allows for a mixed use development involving a maximum of 489,500m² of gross floor area (GFA) across Barangaroo as a whole.

On 16 December 2010 the Minister approved Modification No. 4 to the Barangaroo Concept Plan. The Approved Concept Plan as modified allows for approximately 563,965m² gross floor area (GFA) of mixed use development across the entire Barangaroo site.

MOD5 amendment to the approved concept plan was submitted and withdrawn.

On 25 March 2014 the Minister approved Modification No. 6 to the Concept Plan to allow an adjustment to the alignment of Globe Street.

On 14 April 2014 the Minister approved Modification No. 7 to allow a concrete batching plant to operate on the site for the construction of Barangaroo South.

The approved Concept Plan (Mod 7) is for a mixed use development involving a maximum of 563,965sqm gross floor area (GFA), and approximately 11 hectares of new public open space/public domain, including an approximate 2.2km public foreshore promenade. The Concept Plan includes built form design principles, maximum building heights and GFA for each development block.

1.6 Site Location

Barangaroo is located on the north western edge of the Sydney Central Business District. It is bounded by Sydney Harbour to the west and north, the historic precinct of Millers Point (for the northern half), The Rocks and the Sydney Harbour Bridge approach to the east and a range of development dominated by large CBD commercial tenants to the south.

The Barangaroo site has been divided into three distinct redevelopment areas (from north to south) - the Headland Park, Barangaroo Central and Barangaroo South. Concept Plan (Mod 8) relates to Barangaroo South only as shown in **Figure 1-1**.

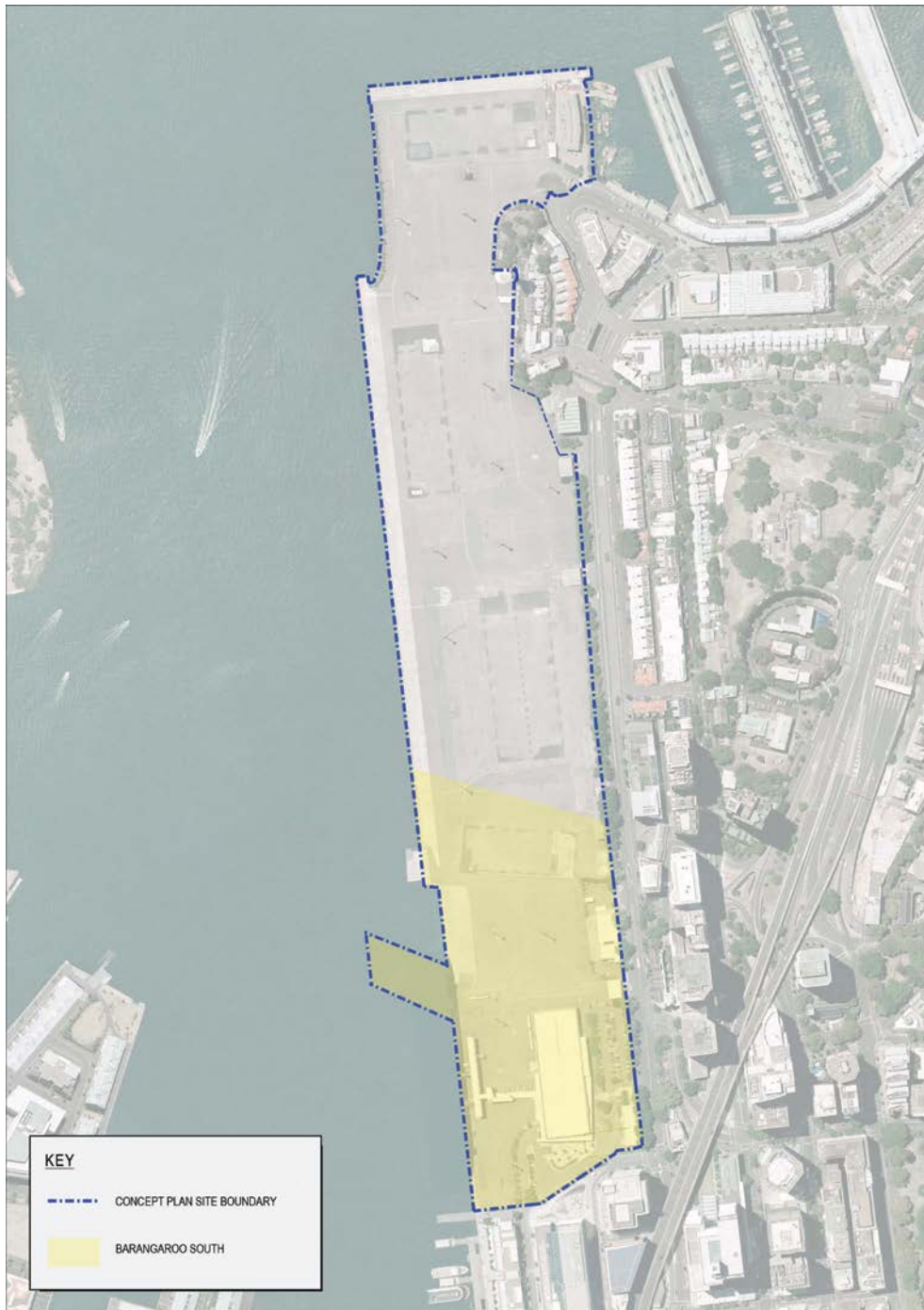


Figure 1-1 Indicative Site Boundary for Barangaroo South

2 Stormwater services

2.1 Supplementary Data

This report should be read in conjunction with the “Stormwater Concept Report, Barangaroo South – MOD8 Planning Submission (MP06_0162 MOD8), September 2014, prepared by Cardno.

2.2 Existing stormwater services

The existing stormwater network is characterised by a series of in ground piped stormwater systems (typically between 300mm to 1200mm in diameter) draining Hickson Road and other external catchments through the Barangaroo site directly to the Harbour. Refer **Figure 2-1** for details.

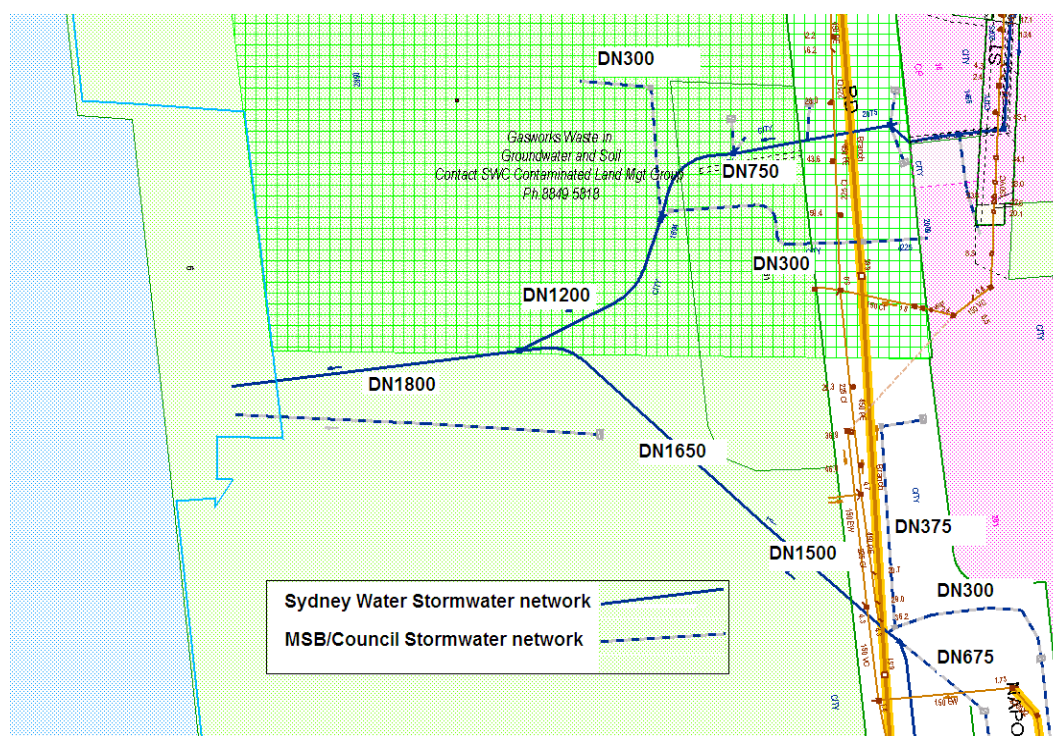


Figure 2-1 Existing Stormwater Network Before Development Work

2.3 Proposed stormwater services

Diversion of the existing stormwater assets traversing the Barangaroo South site has been considered and is currently under discussion with Sydney Water Corporation and the Barangaroo Delivery Authority (acting as the Roads Authority for Hickson Road). These works include the following main components:

- a. Stage 1A Deviation Works: A concrete pipe and box culvert diversion to the south with 100 year ARI capacity to improve existing flooding to Hickson Road in the vicinity of the Sussex Hotel. This has been completed.
- b. Stage 1B Deviation Works to be designed to allow progress of proposed remediation and basement construction works. The design to be coordinated with Sydney Water and the City of Sydney Council

At the date of this report, the Stage 1A permanent diversion is complete. Concept design for Stage 1B diversion has been submitted to BDA and Sydney Water Corporation (Sydney Water). As part of the requirements from Sydney Water, a Gross Pollutant Trap will be installed to provide primary stormwater treatment to enhance the water quality.

The design for Stage 1A permanent and concept design for Stage 1B permanent diversions are shown on SK015 in **Appendix A**.

3 Potable water services

3.1 Existing potable water services

A Sydney Water owned 300mm watermain is located on the western side of Hickson Road and extends for the full frontage of the Barangaroo South development. Sydney Water has confirmed, through approval of the “Site Servicing Strategy – Barangaroo South” prepared by Cardno and dated March 2013, this main has adequate capacity to provide potable water to the development.

All existing supplies to the development site, serving buildings and other structures that have been demolished, are to be capped off and disused or removed.

3.2 Proposed potable water services

Supply of potable water to the development has been addressed through the Site Servicing Strategy as agreed with Sydney Water.

Connections will be made to the existing 300mm watermain described above. From these connections in Stage 1A, a 250mm potable water main will be constructed along Shelley St, Lime Street, and Globe Street to provide potable water supply to the Barangaroo South development. The new potable water main will be laid above the podium level structural slab. It is intended Sydney Water will own and maintain the new assets.

Stage 1B will be subject to design and design approval by Sydney Water. Final details, routing and location of assets are to be agreed with Sydney Water during detailed design.

Refer to SK110 in **Appendix A** for preliminary potable water infrastructure plan.

3.3 Changes to proposed potable water services from MOD 4

Changes to the Concept Plan from approved Modification No. 4 have resulted in adjustments to the proposed potable water reticulation network horizontal alignment; however the intent of the potable water servicing strategy for the development remains unchanged.

Subsequent Modifications No. 6 and 7 did not alter the proposed potable water servicing strategy.

4 Recycled water services

4.1 Existing recycled water services

There are no existing recycled water systems serving the Barangaroo South precinct.

City of Sydney Council is investigating potential for a recycled water main to service the Sydney CBD. This main is a potential future “customer” for recycled water from the Barangaroo South Recycled Water Treatment Plant (RWP); however is excluded from this assessment.

4.2 Proposed recycled water services

The recycled water sources for Barangaroo South are supplied from a central Recycled Water Treatment Plant (RWP) treating waste water from Barangaroo and waste water sourced through mining Sydney Water sewer in Hickson Road. The water will be treated in compliance with Australian Recycled Water guidelines and reticulated through Barangaroo for non-potable use.

The system is to be provided with a backup water supply connected to the Sydney Water potable water supply system serving Barangaroo South. At Barangaroo South, the recycled water mains are generally to be located within the Barangaroo South Basements; reticulating to customer recycled water meters located within the basement and extending to a termination point at the northern boundary of the Stage 1B site for future extension to service the Barangaroo Central development to a maximum of 60,000m² GFA.

Refer to SK115 in **Appendix A** for preliminary proposed recycled water infrastructure plan.

4.3 Changes to proposed recycled water services from MOD 4

Changes to the Concept Plan from approved Modification No. 4 have resulted in adjustments to the proposed recycled water reticulation network horizontal alignment; however the intent of the recycled water servicing strategy for the development remains unchanged.

Subsequent Modifications No. 6 and 7 did not alter the proposed recycled water servicing strategy.

5 Wastewater services

5.1 Existing wastewater services

The local sewerage network is owned by Sydney Water and consists of 225mm and 450mm gravity drainage in Hickson Road. This network drains to existing Sydney Water owned Sewage Pump Station SP1129 located north of Barangaroo South.

The existing pump station serves catchments extending to Sussex Street, Kent Street and includes the catchment served by SP0014 located at Headland Park. SP0014 will be disused as part of the approved Headland Park works with flows diverted to SP1129.

All existing supplies to the development site, serving buildings and other structures that have been demolished, are to be capped off and disused or removed.

5.2 Proposed wastewater services

Provision of wastewater services to the development has been addressed through the Site Servicing Strategy as agreed with Sydney Water. Internal sewerage reticulation within Barangaroo South will be privately owned.

A RWP will be installed within the Barangaroo South development. The RWP will be owned and operated under the Water Industry Competition Act. The RWP will provide recycled water to the Barangaroo South development and, through sewer mining, will be designed to provide sufficient recycled product for export to external customers.

Additional storage within the local sewerage network is required to offset the peak load from the development if the RWP is offline. This will be achieved through re-use of the Stage 1A temporary stormwater diversion pipework. Sydney Water is currently assessing the design for the proposed emergency wastewater storage.

Overflow from the RWP will be required and has been approved in principal by Sydney Water through the “Site Servicing Strategy”. Refer to SK111 in **Appendix A** for preliminary proposed wastewater infrastructure plan.

5.3 Changes to proposed wastewater services from MOD 4

Changes to the Concept Plan from approved Modification No. 4 have resulted in adjustments to the proposed wastewater reticulation network horizontal alignments; however the intent of the wastewater servicing strategy for the development remains unchanged.

Subsequent Modifications No. 6 and 7 did not alter the proposed wastewater servicing strategy.

6 Electrical services

6.1 Existing electrical services

Existing electrical services in Hickson Road include:

- Disused Railcorp 33KV feeder 746 and 745. Lend Lease have received advice confirming these assets “...are old gas cables and no longer required for Railcorp’s rail network purposes and are to be de commissioned”. Railcorp have advised that these assets are to be treated as live. This service is located in close proximity to the eastern kerb alignment of Hickson Road;
- Existing HV supply and concrete encased bank of conduits feeding “The Bond”. The bank of conduits is believed to consist of 150mm conduits laid in 4 rows of 4 conduits generally between 0.8m and 1.2m depth;
- Existing HV supplies to substations serving the previous site use which are to be disused and removed;
- Existing temporary HV supplies to temporary substations providing construction supply; and
- Various LV services for street lighting, parking ticket machines and other purposes.

6.2 Proposed electrical services

In 2008, Ausgrid (then Energy Australia) advised that the Barangaroo South development would be serviced from their City North Zone substation at 11kV and fed from their CBD Triplex grid.

Subsequent to this, Ausgrid determined that the site would instead be serviced at 33kV from their Pyrmont Switching Station. Lend Lease has since decided to own and operate the 33kV network and substations on the Barangaroo South site as a private embedded network. This will be configured in a triplex configuration and will provide a similar level of redundancy to the 11kV CBD system.

The feeders from Pyrmont Switching Station will be a combination of new and existing feeders. New Ausgrid feeders will be run from Slip St to the Barangaroo South development where they will terminate on switchgear which demarcates the Ausgrid network from the private embedded network. At Slip Street the new feeders will be jointed to existing feeders which run to Pyrmont. These feeders were recently in service but were decommissioned when the new City North Zone substation was brought on line. These arrangements are subject to ongoing negotiations with Ausgrid.

On site, private embedded network cabling and substations will be established to service the building and other site loads. Refer to SK114 in **Appendix A** for preliminary proposed electrical infrastructure plan.

6.3 Changes to proposed electrical services from MOD 4

Changes to the Concept Plan from approved Modification No. 4 have resulted in adjustments to the proposed electrical reticulation network horizontal alignment and the inclusion of a private embedded network.

Subsequent Modifications No. 6 and 7 did not alter the proposed electrical servicing strategy.

7 Telecommunications services

7.1 Existing telecommunications services

The Kent Street telephone exchange is located relatively close to the site. A number of telecommunications carriers have existing cables in the vicinity of the site.

All telecommunications infrastructure previously existing within the basement footprint has now been capped off at the boundary and removed.

7.2 Proposed telecommunications services

Future development under the Concept Plan will be provided with telecommunications services through a pit and pipe network to allow multiple carriers to access the site at two diverse entry points; from Shelley Street at the south and from Hickson Road at the north. This may be via NBN Co services or those of another telecommunications network provider. Connection point(s) will be the subject of detailed design, which will be covered by future applications and approvals under the Concept Plan.

Reticulation within the site will generally be in dedicated carrier cable trays at a high level in the basements and will provide diverse paths from site entry points to individual building node rooms to allow for a high level of network resilience. Cable tray and conduit zones are subject to detailed design.

Refer to SK113 in **Appendix A** for preliminary proposed telecommunications infrastructure plan. Final routing and locations are to be agreed with the telecommunications provider(s) and developed during detailed design.

7.3 Changes to proposed telecommunications services from MOD 4

Changes to the Concept Plan from approved Modification No. 4 have resulted in adjustments to the proposed telecommunications reticulation network horizontal alignment; however the intent of the telecommunications servicing strategy for the development remains unchanged.

Subsequent Modifications No. 6 and 7 did not alter the proposed telecommunications servicing strategy.

8 Natural gas services

8.1 Existing natural gas services

There is an existing 110mm low pressure 7kPa nylon gas main along Hickson Road and a high pressure gas main located at the corner of Sussex and Napoleon Streets. There is no existing high pressure main connection serving the Barangaroo site, however there are small low pressure connections. The existing gas network from the low pressure main shall be decommissioned and capped off at the site footprint boundary and removed.

8.2 Proposed natural gas services

Natural gas service is provided by Jemena, who have deemed it suitable to offer a low pressure (maximum 7kPa) service to Barangaroo South. Subject to a separate application and approval by Jemena, there is also potential to connect the site or part of the site to a high pressure service should it be required. This could be delivered throughout the site via services within existing and proposed roads.

Refer to SK112 in **Appendix A** for preliminary proposed gas infrastructure plan.

8.3 Changes to proposed natural gas services from MOD 4

Changes to the Concept Plan from approved Modification No. 4 have resulted in adjustments to the proposed natural gas reticulation network horizontal alignments; however the intent of the natural gas servicing strategy for the development remains unchanged.

Subsequent Modifications No. 6 and 7 did not alter the proposed natural gas servicing strategy.

9 Chilled water services

9.1 Existing chilled water services

No chilled water supply currently exists in close proximity to the development area.

9.2 Proposed chilled water services

It is proposed to construct a centralised chiller plant and harbour heat rejection system to provide reticulated chilled water to the Barangaroo South development. Chilled water will be reticulated throughout the Barangaroo South development within a privately owned pipework.

The Harbour Heat Rejection plant, and associated reticulation of chilled water, was approved in August 2013 as part of the MP10_0023 MOD5 planning application.

9.3 Changes to proposed chilled water services from MOD 4

Changes to the Concept Plan from approved Modification No. 4 have resulted in adjustments to the proposed chilled water reticulation network horizontal alignment; however the intent of the chilled water servicing strategy for the development remains unchanged.

Subsequent Modifications No. 6 and 7 did not alter the proposed chilled water servicing strategy.

10 Conclusion

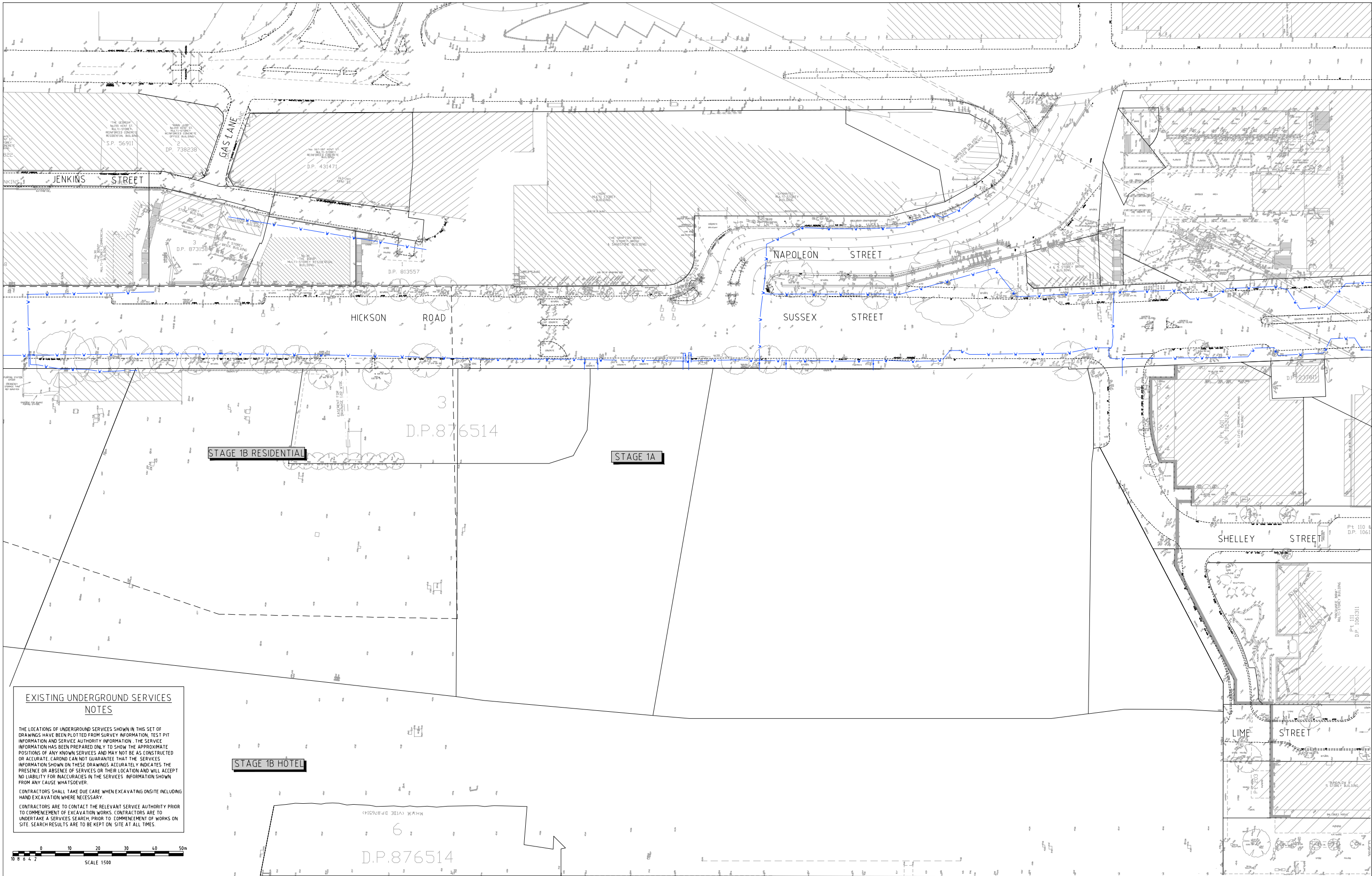
This report has been prepared to describe the infrastructure management strategy for the Barangaroo South development to accompany the Section 75W Modification to the Barangaroo Concept Plan (Modification No. 8). The completed design will ensure adequate infrastructure provisions to the development that are integrated into the ground plane design.

Changes to the Concept Plan from approved Modification No. 4 and No. 6 have resulted in adjustments to the proposed infrastructure network horizontal alignments; however the intent of the servicing strategy for the development remains unchanged.

Lend Lease commits into the necessary arrangements and obtaining approvals for services as required. Relevant external agents, for example a Water Servicing Contractor, will be appointed as required during the detailed design of the development.

A

APPENDIX A – CONCEPT DRAWINGS

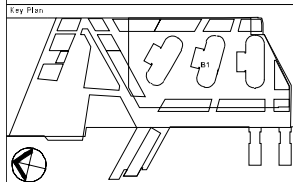
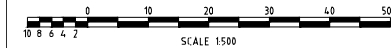


EXISTING UNDERGROUND SERVICES NOTES

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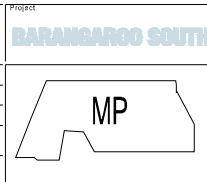
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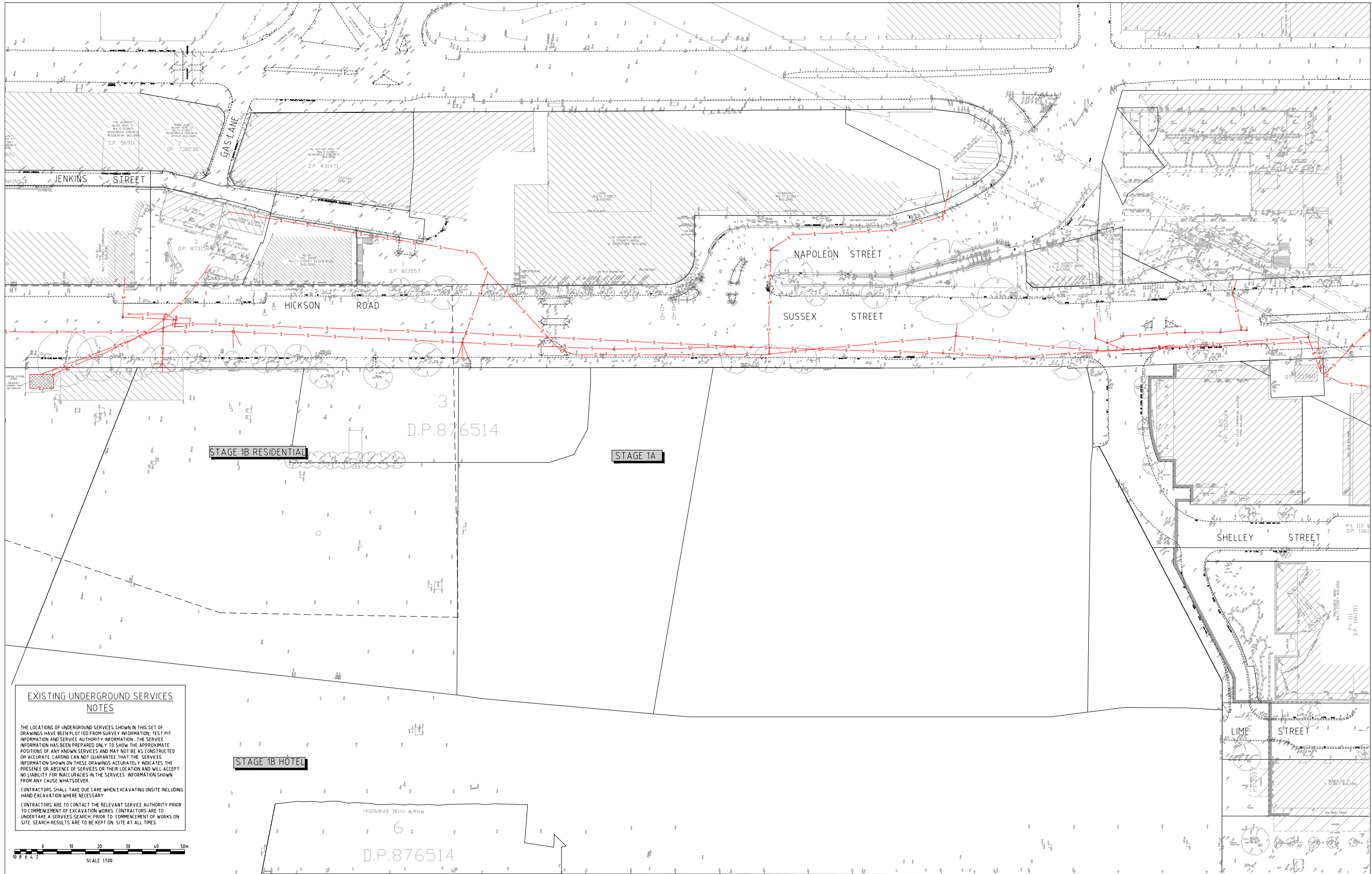


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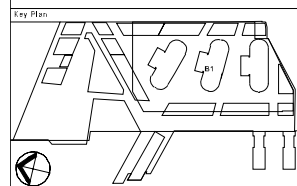


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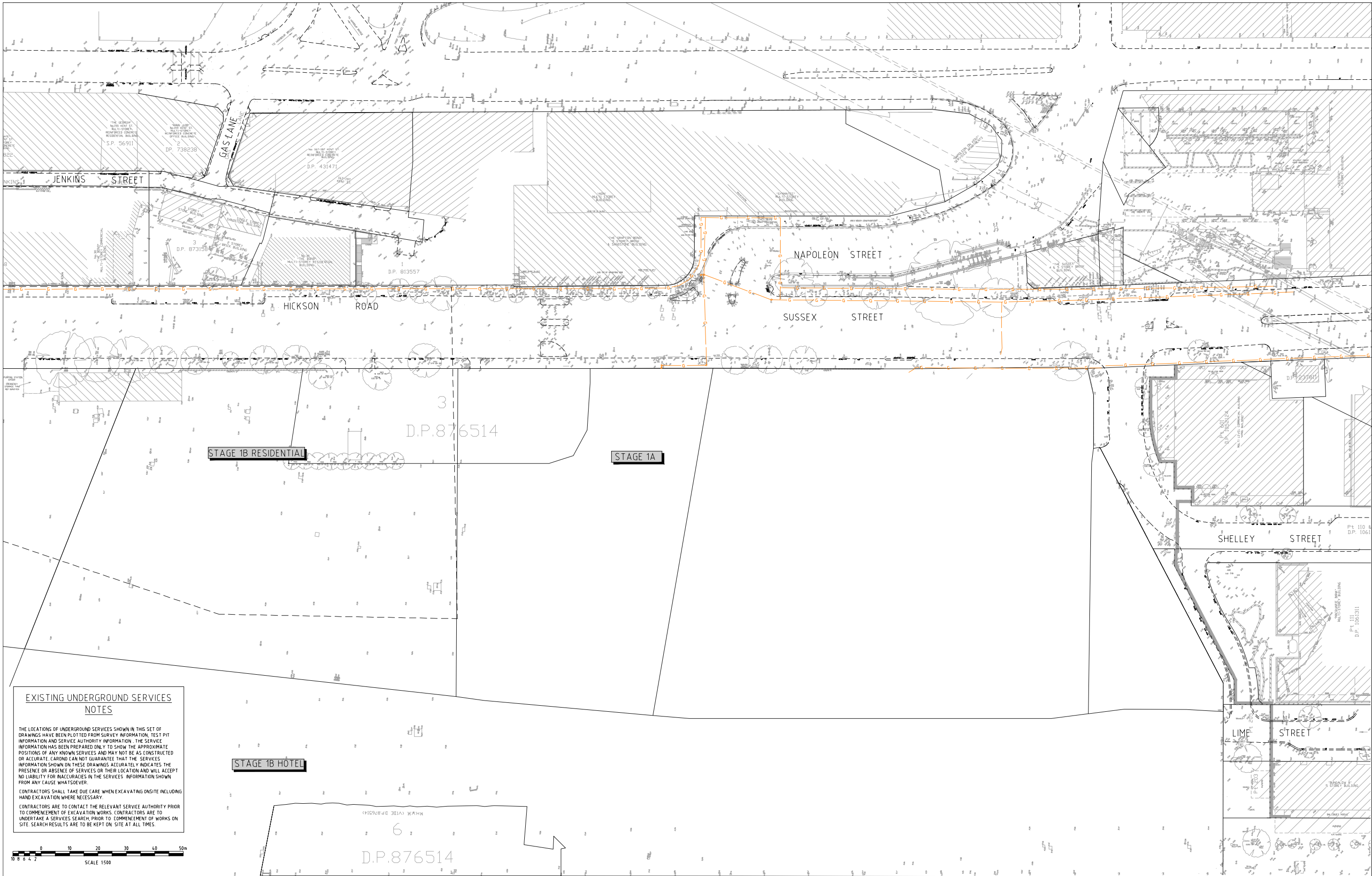


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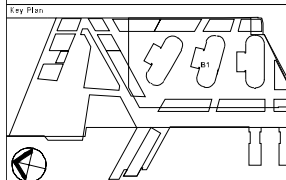


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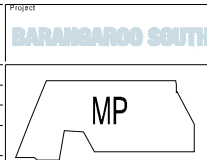


Lead Architects
RSHP Australia Pty Ltd
Ian Harbour, Principal Architect
RMA NSW AAS 8484
Sydney NSW 2000

Collaborating Architects
Lend Lease
Charmie M. Jones, Principal Architect
FMAA NSW AAS 4089
AAS 87 000 098 182

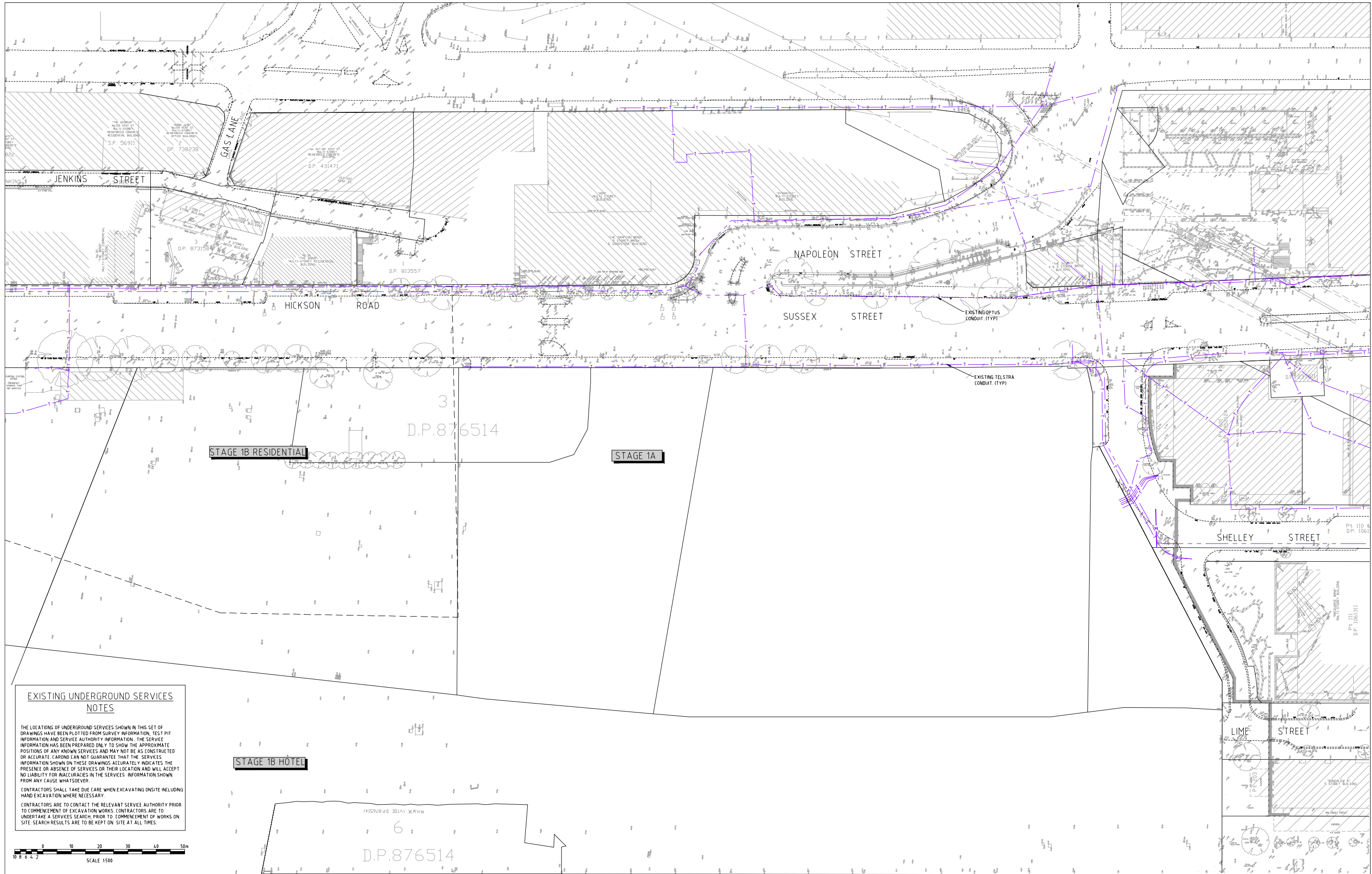
Consultant

Principal
Lend Lease
Developer
Project Management & Construction
Design
30 The Bond 30 Hickson Road
Marrickville NSW 2204
www.lendlease.com



EXISTING GAS SERVICES

Drawn By: JB, DW, MKH, MKH, SEP'13
Scale: 1500 FOR INFORMATION ONLY
Project No: 161939, Site No: NA50613044 - SK102, Revision: 01

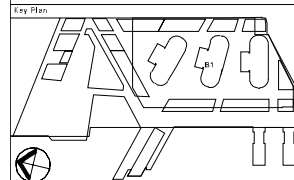
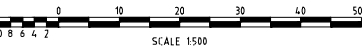


EXISTING UNDERGROUND SERVICES NOTES

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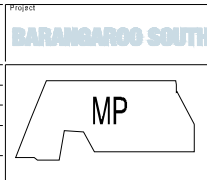
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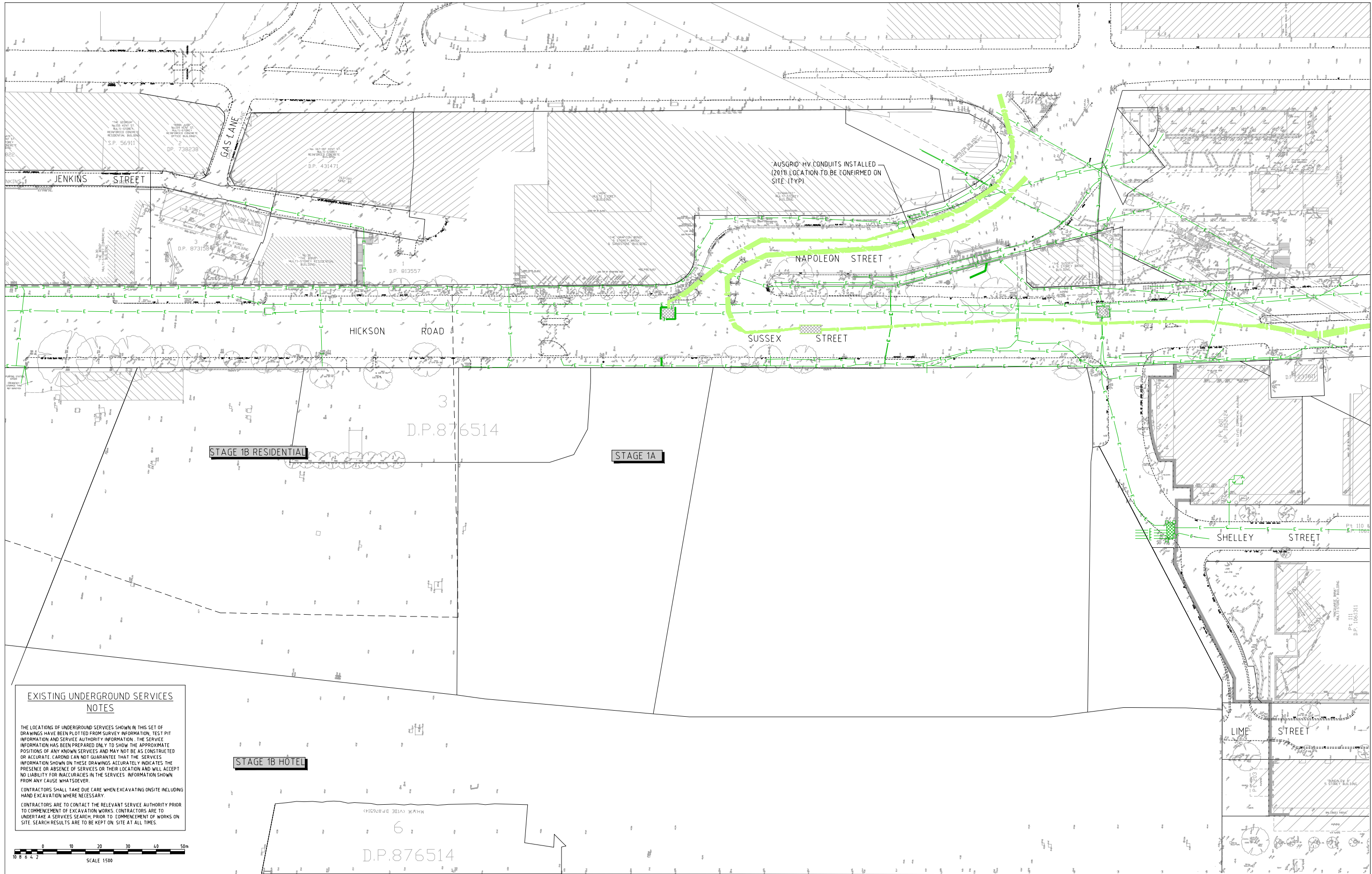


| | |
|--------------------------|---|
| Lead Architects | RSHF Australia Pty Ltd RSHF Australia Pty Ltd Sydney NSW 2000 |
| Collaborating Architects | Lend Lease Lend Lease Sydney NSW 2000 |
| Consultant | 30 The Bond 30 Hickson Road Marrickville NSW 2204 |

| | |
|-----------------------------------|---|
| Principal | Lend Lease Lend Lease Sydney NSW 2000 |
| Developer | Lend Lease Lend Lease Sydney NSW 2000 |
| Project Management & Construction | Lend Lease Lend Lease Sydney NSW 2000 |



| | |
|-------------|---------------------------------|
| Project | EXISTING COMMUNICATION SERVICES |
| Drawn By | JB |
| Designed | DW |
| Checked | MKH |
| Approved By | MKH |
| Date | SEP'13 |
| Scale | 1:500 FOR INFORMATION ONLY |
| Project No. | 161939 |
| Site No. | NA50613044 - SK103 |
| Revision | 01 |

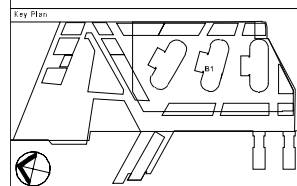


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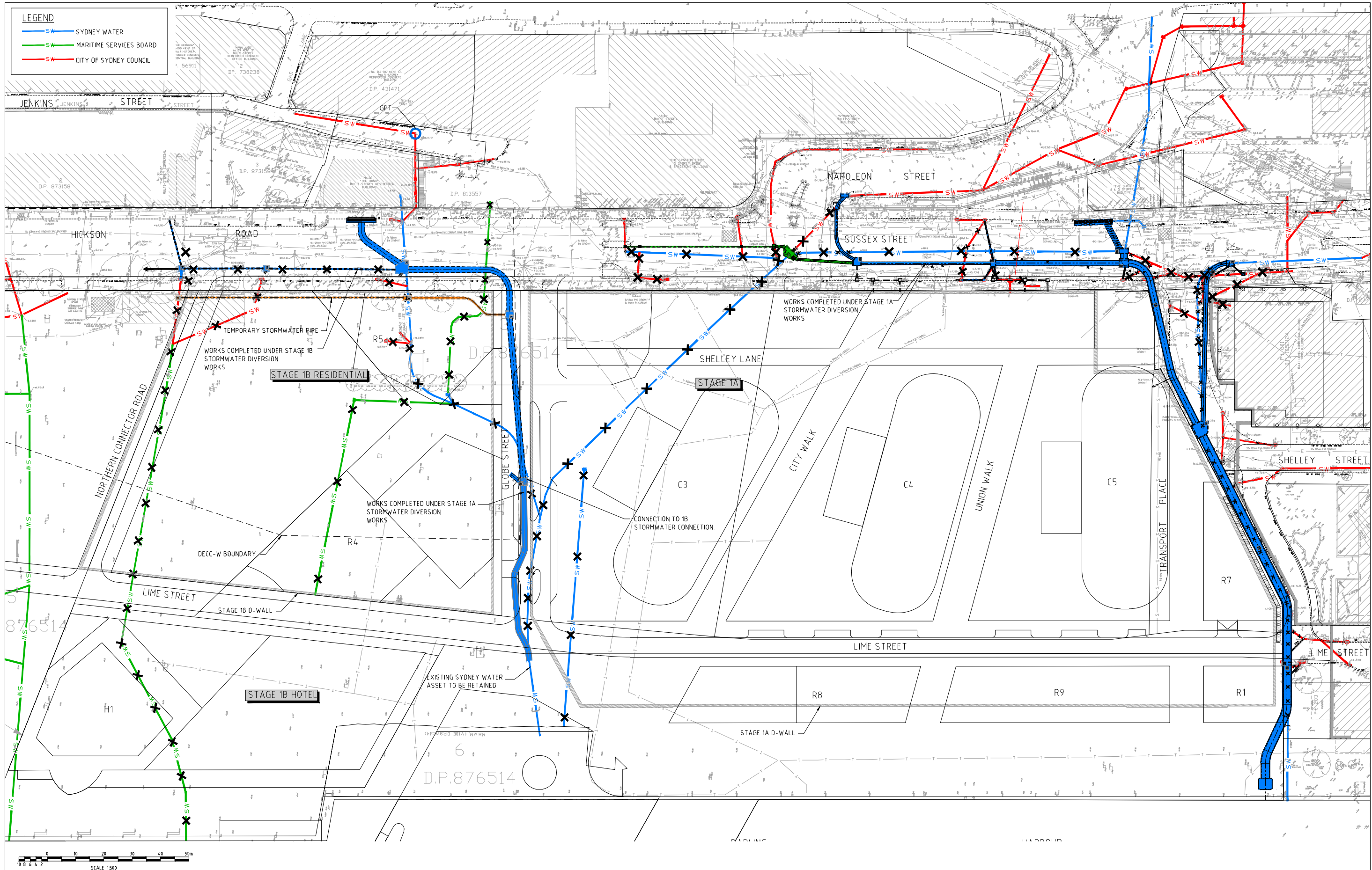


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| | | | |
|--|---|---|---|
| Lead Architects RSHP RSH Australia Pty Ltd Ian Harbour (Principal Architect) RSH NSW A/S 8484 Sydney NSW 2000 | Principal Land Lease Developer Project Management & Construction Design | Project BARRAMAROO SOUTH MP | EXISTING ELECTRICAL SERVICES Drawn By: JB Designed: DW Checked: MKH Approved By: MKH Date: SEP'13 Scale: 1500 FOR INFORMATION ONLY Project No: 161939 Site No: NA50613044 - SK104 Revision: 01 |
|--|---|---|---|



Key Plan

| Rev. | Item | Revision Description | Date |
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| 4 | ISSUED FOR INFORMATION ONLY | | 12/09/12 |
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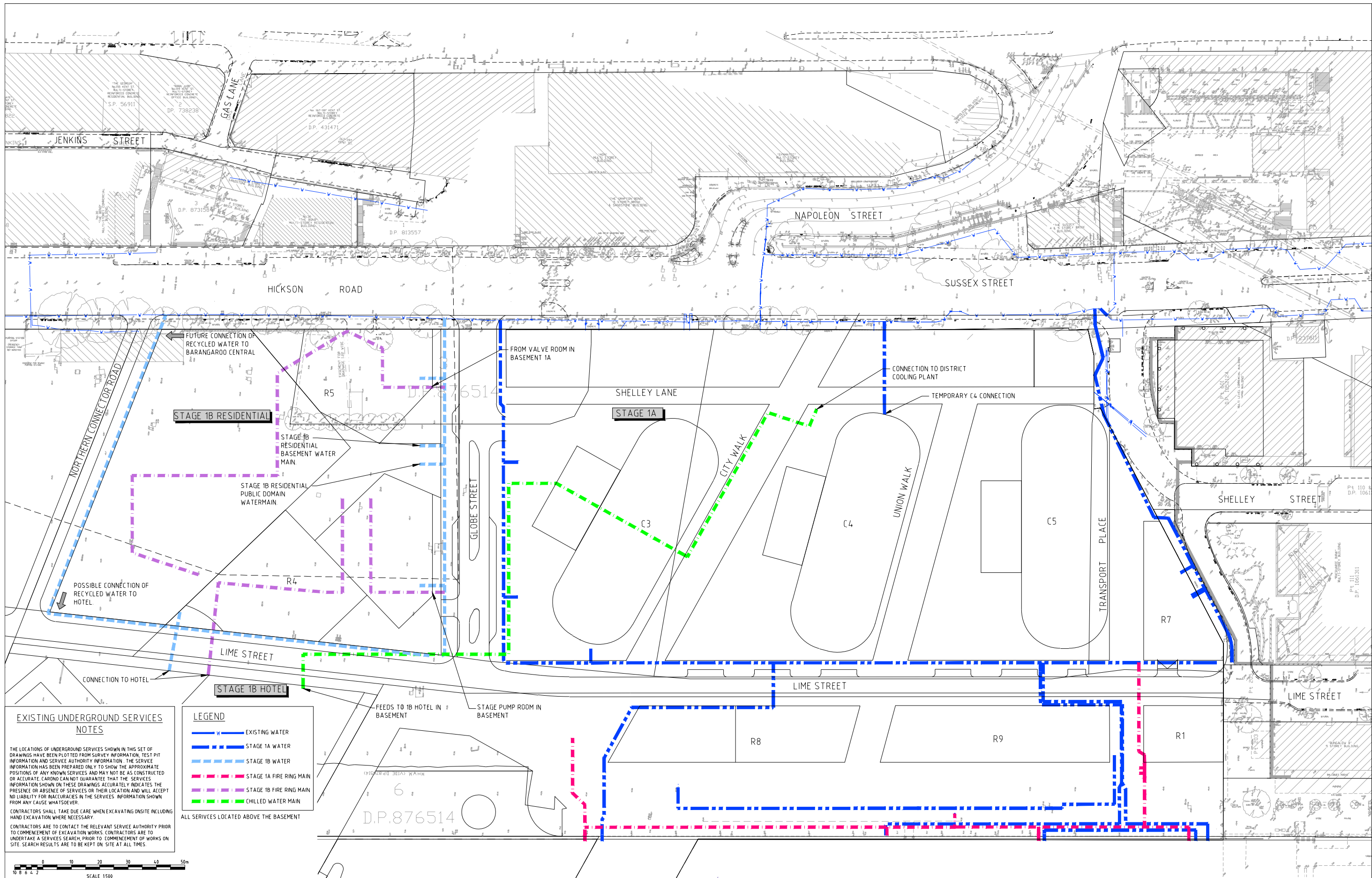
ABN: 95 001 145 035
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Phone: +61 21 946 7700 Fax: +61 21 949 5170
Email: Sydney@cardno.com.au Web: www.cardno.com.au

| Lead Architects | RSHF Australia Pty Ltd 4th Floor, Principal Architect RSHF NSW ABN 6484 Sydney NSW 2000 |
|--------------------------|--|
| Collaborating Architects | Land Lease Charles W. Jones (Principal Architect) RSHF NSW ABN 6484 ABN 67 000 098 182 |
| Consultant | |

| Principal | Land Lease |
|-----------------------------------|------------|
| Developer | Land Lease |
| Project Management & Construction | Land Lease |
| Design | Land Lease |

| Project | BARANGAROO SOUTH |
|---------|------------------|
| MP | |

| Stage | STAGES 1A CONSTRUCTED AND 1B CONCEPT STORMWATER DIVERSIONS |
|-------------|--|
| Drawn By | JB |
| Designed By | DW |
| Checked By | MKH |
| Approved By | MKH |
| Date | SEP'13 |
| Scale | 1:1500 FOR INFORMATION ONLY |
| Project No. | 161939 |
| Site No. | NA50613044 - SK015 |
| Drawing No. | 05 |



EXISTING UNDERGROUND SERVICES NOTES

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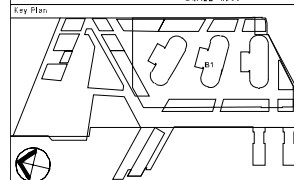
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LEGEND

- EXISTING WATER
- STAGE 1A WATER
- STAGE 1B WATER
- STAGE 1A FIRE RING MAIN
- STAGE 1B FIRE RING MAIN
- CHILLED WATER MAIN

ALL SERVICES LOCATED ABOVE THE BASEMENT

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500



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| 3 | | ISSUED FOR INFORMATION ONLY | 25.09.14 |
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Sydney NSW 2000
www.landlease.com

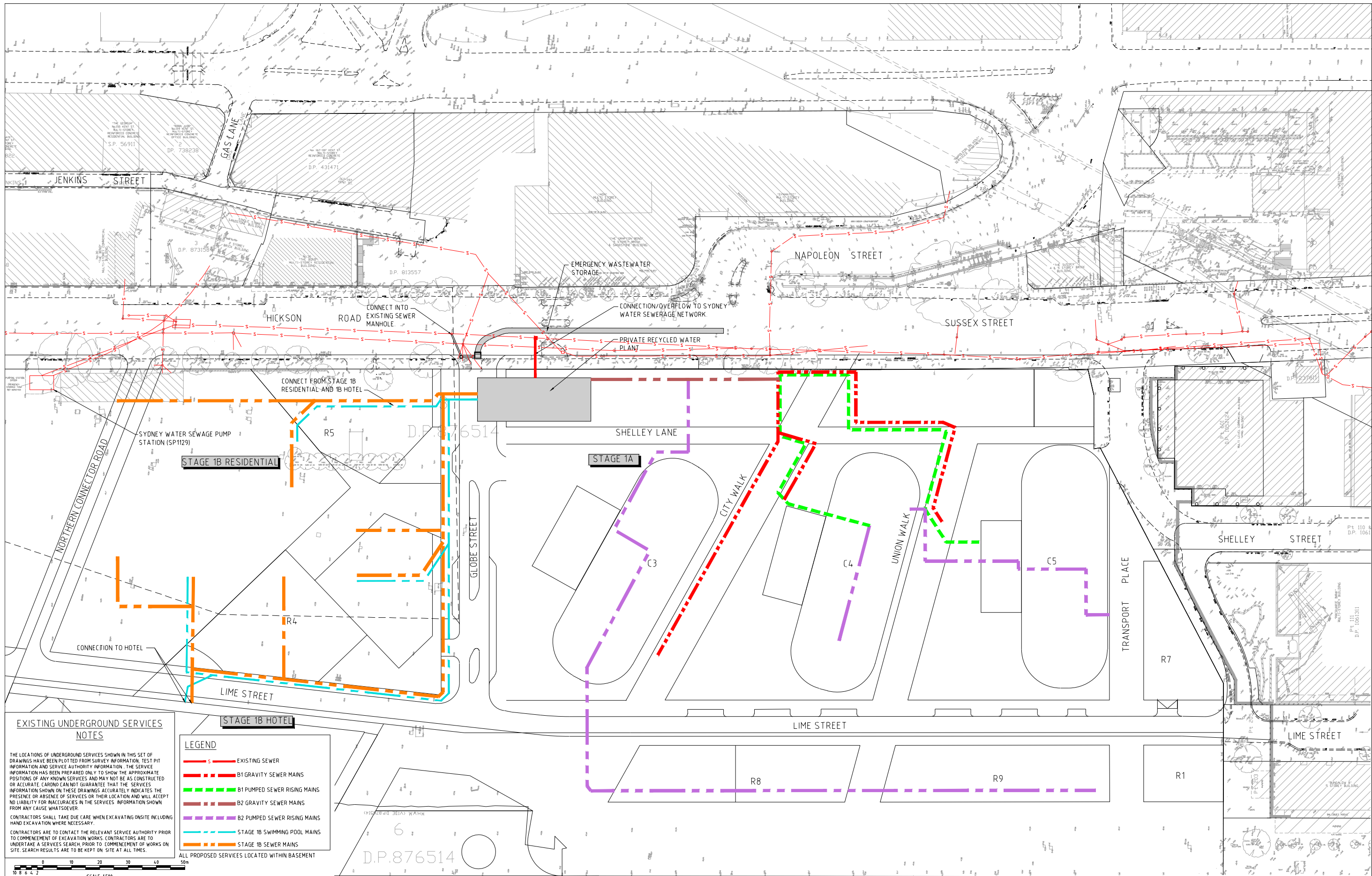
Project
BARANGAROO SOUTH
MP

PROPOSED WATER SERVICES

| | | | | |
|----------|----------|---------|-------------|--------|
| Drawn By | Designed | Checked | Approved By | Date |
| JB | DW | MKH | MKH | SEP'13 |

Scale 1:500 FOR INFORMATION ONLY

Project No. 161939 Site No. NA50613044 - SK110 Revision 03



EXISTING UNDERGROUND SERVICES NOTES

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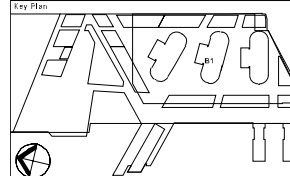
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LEGEND

- EXISTING SEWER
- B1 GRAVITY SEWER MAINS
- B1 PUMPED SEWER RISING MAINS
- B2 GRAVITY SEWER MAINS
- B2 PUMPED SEWER RISING MAINS
- STAGE 1B SWIMMING POOL MAINS
- STAGE 1B SEWER MAINS

ALL PROPOSED SERVICES LOCATED WITHIN BASEMENT

Key Plan

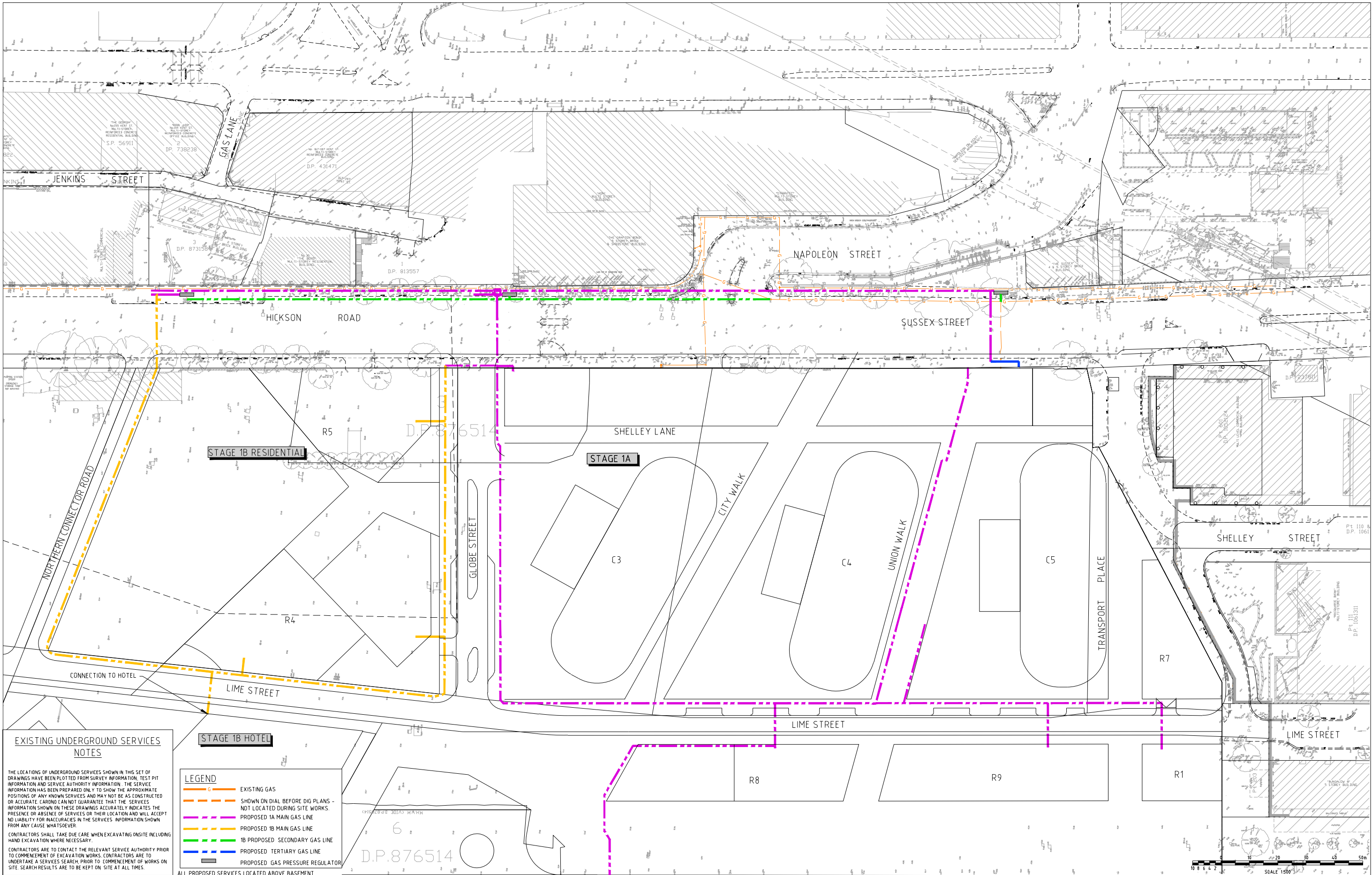


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|---|--|--|---|
| Lead Architects RSHP RSH Australia Pty Ltd Level 10, 100 Market Street Sydney NSW 2000 | Principal Land Lease Developer Project Management & Construction Design | Project BARANGARDO SOUTH MP | PROPOSED SEWER SERVICES Drawn By: JB Designed: DW Checked: MKH Approved By: MKH Date: SEP'13 Scale: 1500 FOR INFORMATION ONLY Project No: 161939 Site No: NA50613044 - SK111 Revision: 03 |
|---|--|--|---|



EXISTING UNDERGROUND SERVICES NOTES

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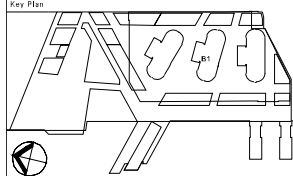
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LEGEND

- EXISTING GAS
- SHOWN ON DIAL BEFORE DIG PLANS - NOT LOCATED DURING SITE WORKS
- PROPOSED 1A MAIN GAS LINE
- PROPOSED 1B MAIN GAS LINE
- 1B PROPOSED SECONDARY GAS LINE
- PROPOSED TERTIARY GAS LINE
- PROPOSED GAS PRESSURE REGULATOR

ALL PROPOSED SERVICES LOCATED ABOVE BASEMENT



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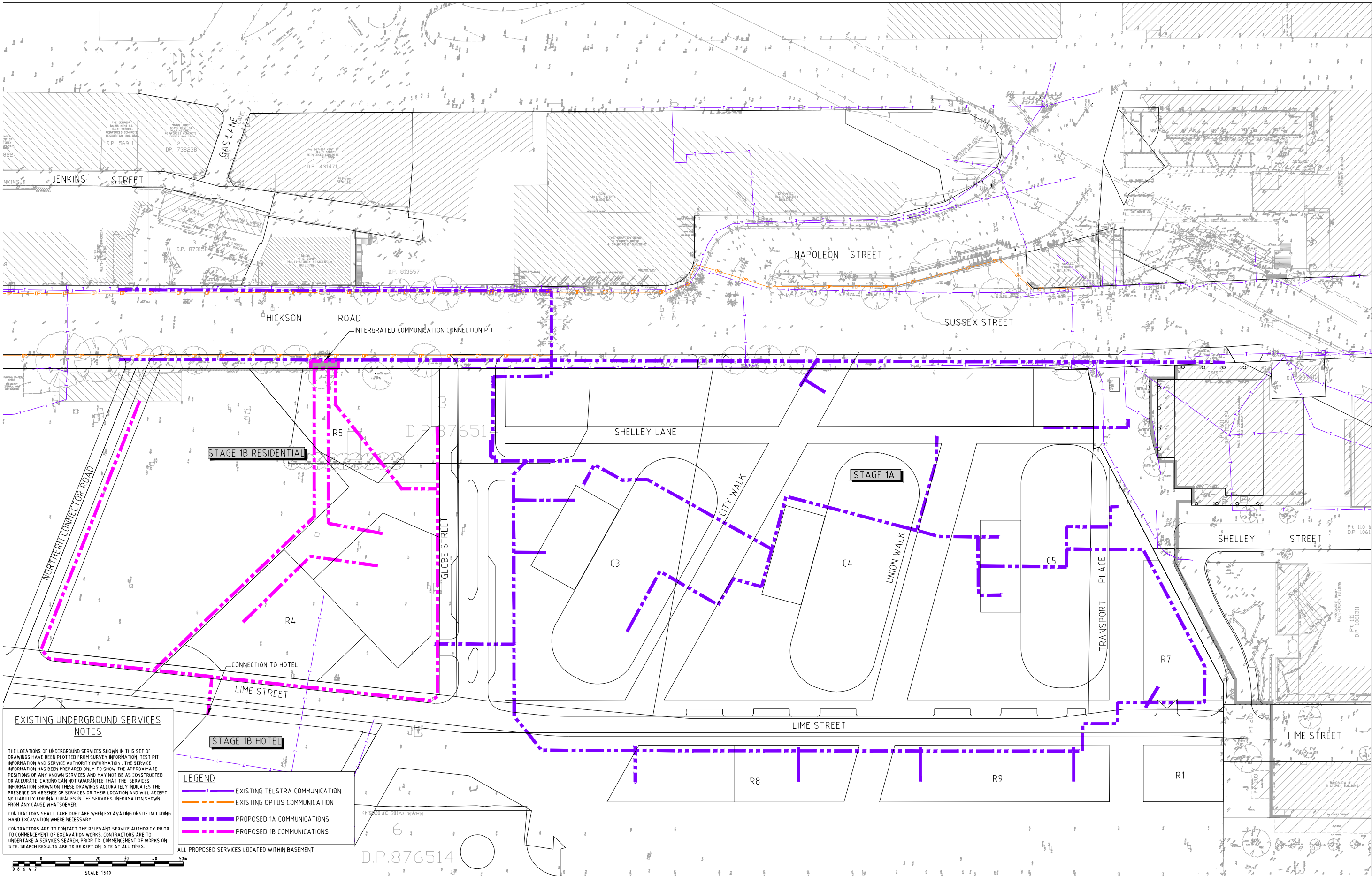
Project
BARANGAROO SOUTH
MP

PROPOSED GAS SERVICES

| | | | | |
|----------|----------|---------|-------------|--------|
| Drawn By | Designed | Checked | Approved By | Date |
| JB | DW | MKH | MKH | SEP'13 |

Scale 1500 FOR INFORMATION ONLY

Project No. 161939 Site No. NA50613044 - SK112 Revision 02



EXISTING UNDERGROUND SERVICES NOTES

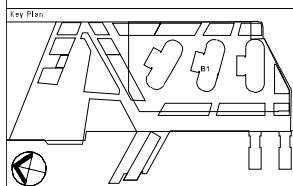
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- LEGEND**
- EXISTING TELSTRA COMMUNICATION
 - EXISTING OPTUS COMMUNICATION
 - PROPOSED 1A COMMUNICATIONS
 - PROPOSED 1B COMMUNICATIONS

ALL PROPOSED SERVICES LOCATED WITHIN BASEMENT



| Rev. | Item | Revision Description | Date |
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| 2 | ISSUED FOR INFORMATION ONLY | 25.09.14 | |
| 2 | ISSUED FOR INFORMATION ONLY | 01.09.15 | |
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|---|---|---|---|---|

EXISTING UNDERGROUND SERVICES
NOTES

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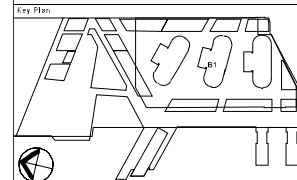
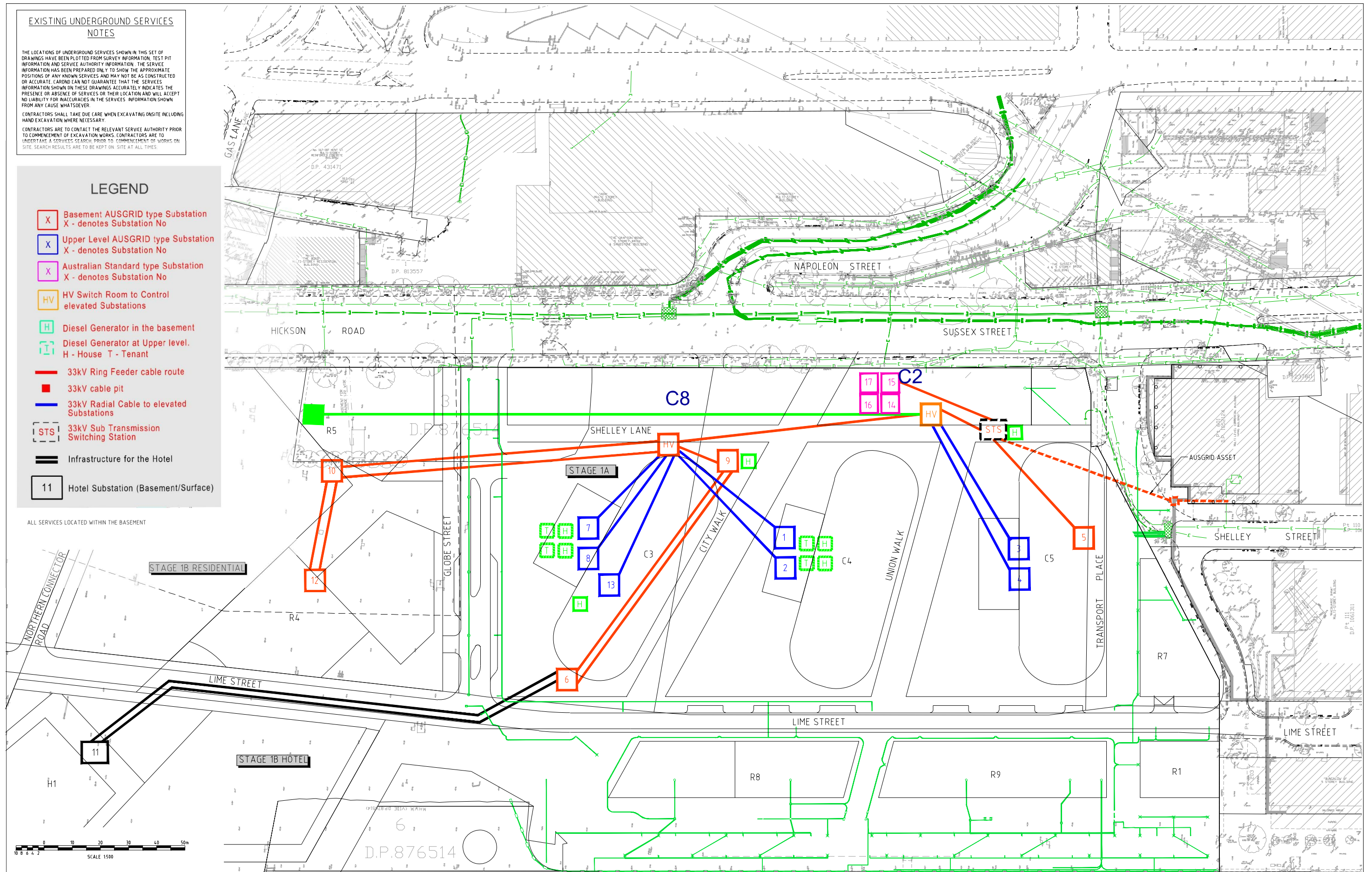
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LEGEND

- X Basement AUSGRID type Substation
X - denotes Substation No
- X Upper Level AUSGRID type Substation
X - denotes Substation No
- X Australian Standard type Substation
X - denotes Substation No
- HV HV Switch Room to Control elevated Substations
- H Diesel Generator in the basement
- T Diesel Generator at Upper level.
H - House T - Tenant
- 33kV Ring Feeder cable route
- 33kV cable pit
- 33kV Radial Cable to elevated Substations
- STS 33kV Sub Transmission Switching Station
- Infrastructure for the Hotel
- 11 Hotel Substation (Basement/Surface)

ALL SERVICES LOCATED WITHIN THE BASEMENT



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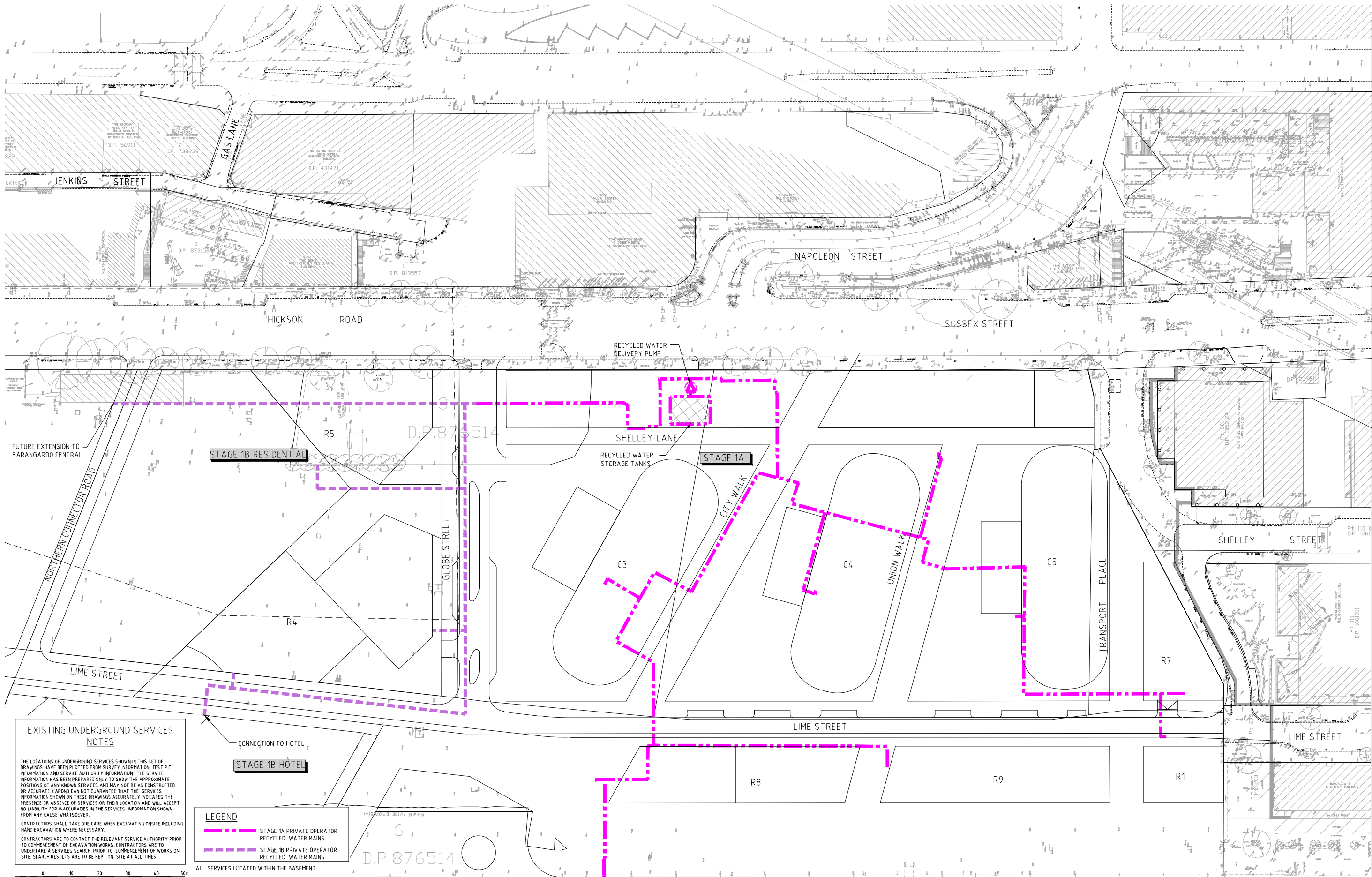
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Collaborating Architects
Lend Lease
Consultant

Principal
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Developer
Project Management & Construction
Design

Project
BARANGAROO SOUTH
MP

PROPOSED ELECTRICAL SERVICES
Drawn By: JB, DW, MKH, MKH, SEP'13
Scale: 1500 FOR INFORMATION ONLY
Project No: 161939, Site No: NA50613044 - SK114, Drawing No: 03



EXISTING UNDERGROUND SERVICES NOTES

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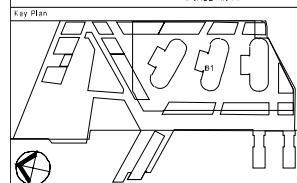
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LEGEND

- STAGE 1A PRIVATE OPERATOR RECYCLED WATER MAINS
- STAGE 1B PRIVATE OPERATOR RECYCLED WATER MAINS

ALL SERVICES LOCATED WITHIN THE BASEMENT



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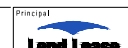


Collaborating Architects

Consultant

RSHP Australia Pty Ltd
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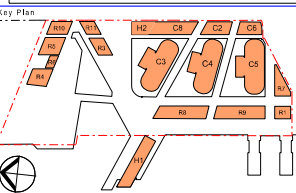
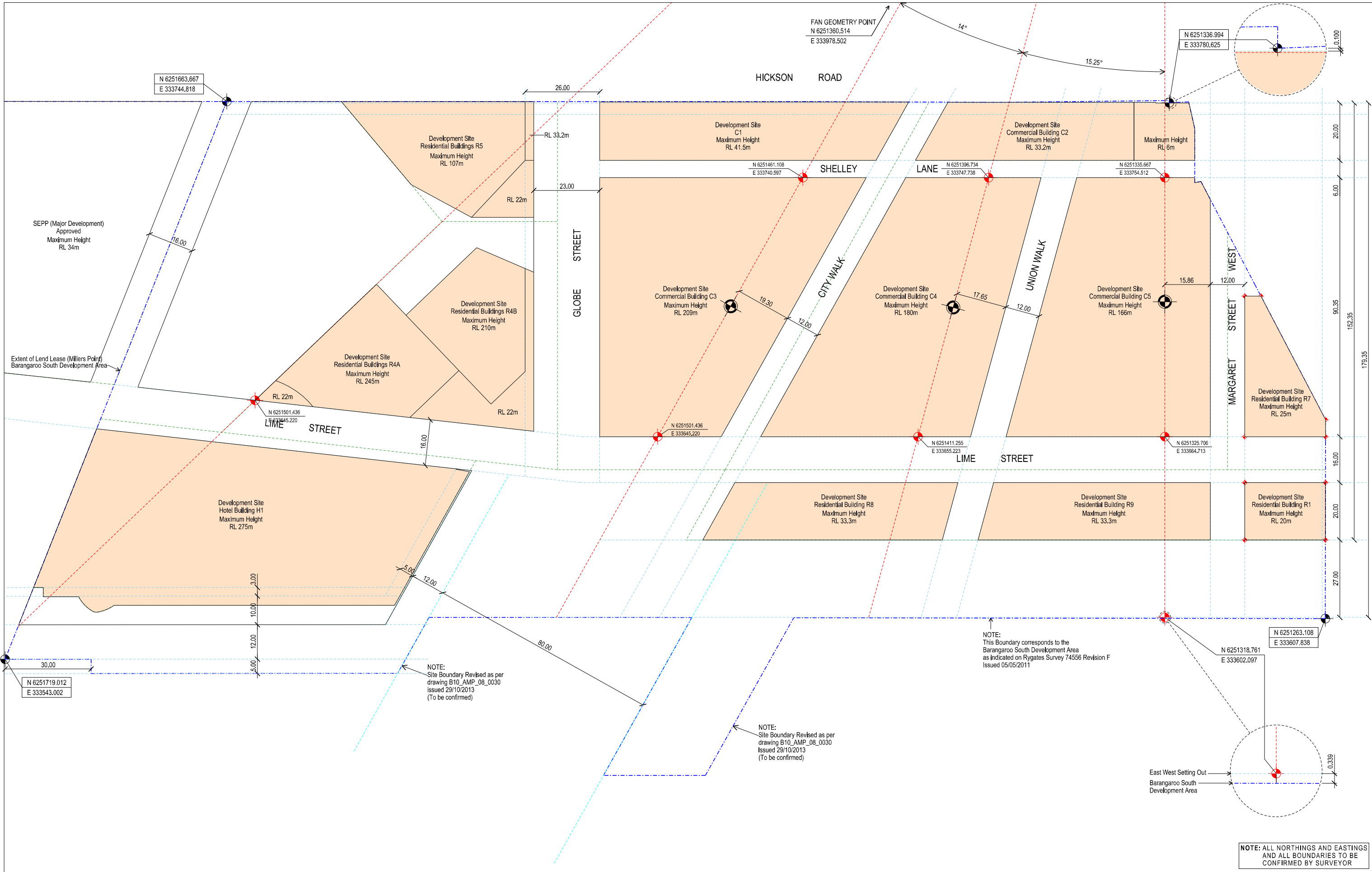


| PROPOSED RECYCLED WATER SERVICES | | | | |
|----------------------------------|--------------------|-------------|-------------|--------|
| Drawn By | Design | Checked | Approved By | Date |
| JB | DW | MKH | MKH | SEP'13 |
| Scale 1500 FOR INFORMATION ONLY | | | | |
| Project No. | Site No. | Drawing No. | Revision | |
| 161939 | NA50613044 - SK115 | | 02 | |

Barangaroo South – MOD8 Planning
Submission (MP06_0162 MOD8)

B

APPENDIX B – MODIFICATION NO. 8
BLOCK PLAN



| Rev. | Item | Revision Description | Date | Rev. | Item | Revision Description | Date |
|------|------|--------------------------|----------|------|------|----------------------|------|
| 04 | | ISSUED FOR INFORMATION | 18.03.14 | | | | |
| 03 | | ISSUED FOR INFORMATION | 16.08.12 | | | | |
| 02 | | ISSUED FOR CONSTRUCTION | 16.12.11 | | | | |
| 01 | | ISSUE FOR REVIEW BY PM&C | 11.11.11 | | | | |
| 00 | | PRELIMINARY ISSUE | 21.06.11 | | | | |

| Rev. | Item | Revision Description | Date | Rev. | Item | Revision Description | Date |
|------|------|--------------------------|----------|------|------|----------------------|------|
| 04 | | ISSUED FOR INFORMATION | 18.03.14 | | | | |
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| 01 | | ISSUE FOR REVIEW BY PM&C | 11.11.11 | | | | |
| 00 | | PRELIMINARY ISSUE | 21.06.11 | | | | |

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