60-78 REGENT STREET

REDFERN NSW

DA SERVICES INFRASTRUCTURE REPORT

IGLU

Client

EMF GRIFFITHS

Consulting Engineers

'ISSUE A'

PROJECT NO. s214666

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SECTION 1 INTRODUCTION

EMF Griffiths have been engaged by Iglu Pty Ltd to undertake the design and documentation for the building services engineering for the new Iglu Student Accommodation facility at 60-78 Regent Street, Redfern.

This report summarises the outcome of the findings and requirements to accompany the DA submission.

SECTION 2 ELECTRICAL

2.1 SUMMARY

From the investigation of the Supply Authority infrastructure drawing, it has been found that the proposed site is supplied by existing low voltage electricity and telecommunication infrastructure serving the individual lots which would become redundant when considering the proposed development.

A preliminary investigation has found that there is limited capacity within the existing Ausgrid network and the network augmentation shall be required to cater for the proposed development's electrical requirement.

Furthermore the investigation has found that the major telecommunication carriers are running along the building side of Regents Street supplying lead-in by pit and conduit arrangement to the existing lots.

There is no NBN lead-in available to the proposed development area at the time of writing.

2.2 LIMITATION

- This report is based on a review of supply authority drawings their network assets.
- This report is limited to electrical and communication scope of services.
- We have not received supply a authority design brief for the scope of upgrade and costing purpose.

2.3 ELECTRICAL SERVICES

The report is based on the asset drawings provided by various supply authority drawings in conjunction with the architectural drawings provided by the client.

2.4 POWER

The supply authority for this site is Augrid. Underground Ausgrid drawings have been used for investigation purposes. A preliminary Network Advice application has been lodged with Ausgrid.

2.4.1 **Existing Arrangement**

The existing arrangement of the power supply to the site is via Ausgrid underground LV network. Low voltage supplies to the individual lots are tapped from Augrid Pits 5507 and 5509.

Ausgrid have advised that there is very limited capacity on the current existing network and has to be augmented to cater the proposed development requirement.

2.4.2 **Proposed Arrangement**

The indicative maximum demand for the development based on the Bates Smart concept architectural drawings is 1000 kVA. It is envisaged that an Ausgrid urban Mini-Chamber substation shall be required to cater for the building loads. At this stage we recommend to allow 30m^2 on the ground floor subject to Ausgrid specific commentary on the space, funding and other details. Exact location, sizes, orientation and other details of the chamber shall be fine-tuned during design development stage.

The indicative cost of the proposed substation shall be in order of $150 k- $180 K excluding construction of the substation chamber. It is to be noted that Ausgrid has not issued any Design Information Package for this project and the final sum may deviate depending on customer contributions, network upgrade on Ausgrid HV side and surrounding capacity requirements.

It is anticipated that, once the existing lots' electrical loads are redundant, the existing capacity can be utilised for temporary builders' electrical loads. However Ausgrid has declined to confirm the temporary builders loads until the application has been submitted.

2.5 COMMUNICATION

The major telecommunication cabling reticulates via underground communication ducts along Regents Street. The existing underground telecommunication services is via pit and pipe arrangement providing lead in to existing different lots on the site.

There is no NBN lead-in available at the time of writing.

2.5.1 **Proposed Arrangement**

For the proposed site a separate air conditioned room shall be required on the ground level where all carriers lead-in and fibres shall be terminated. The location and size of the communication room shall be determined after specific requirements for communication services have been established including House Pay TV, security and fibre requirements.

A development registration shall be lodged to NBN during design development stage to confirm and finalise the fibre infrastructure details to the client requirements. Furthermore Telstra – Intent to Develop shall be lodged to Telstra for Incoming lead-in so a Telstra pit and Pipe arrangement can be designed to Authority requirement.

SECTION 3 HYDRAULICS / FIRE SERVICES

3.1 WATER SUPPLY

Sydney Water are the supply authority for the area, and they currently have a 150mm diameter PVC watermain on the western side of Regent Street, serving the property.

Pressures in area are low to moderate, and will require boosting by way of pumps for both domestic and fire water supplies.

The 150mm watermain should be sufficient for this development, pending a formal section 73 submission, which takes into consideration other applicants in the immediate area that have applied for development / expansion.

3.2 SEWER DRAINAGE

Sydney Water have an existing 225mm diameter VCP (clay) sewer line located in William Lane to the rear of the site. This line is very close to capacity limits, and it would be expected upon a section 73 application, that Sydney Water would impose discharge conditions on sewer from the site, or require an upgrade of the sewer main.

Upgrading of the sewer main would not be feasible due to the distance of line to the nearest upgrade point, and passing through private properties. The most likely scenario is the provision of site storage tanks with pumped discharge at times of low flow (e.g. between 10pm and 6am).

The cost impact of this on the project would be in the order of $250,000.

3.3 NATURAL GAS

Jemena is the supply authority for the area, and they have a 75mm diameter high pressure natural gas main on the western side of Regent Street in the footpath allotment.

This existing gas main will be sufficient for the proposed development.

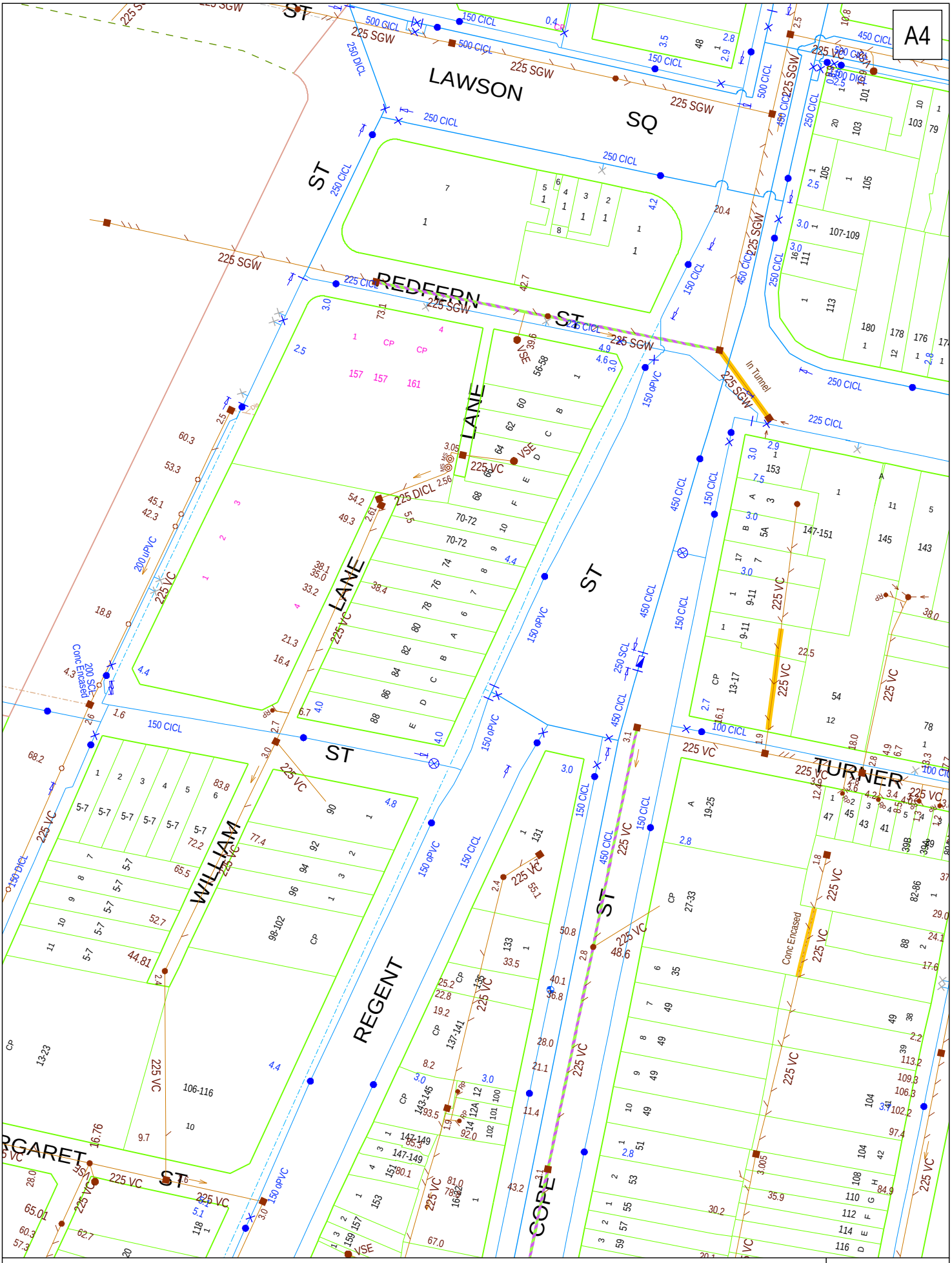
3.4 SUMMARY

All of the supply infrastructure is subject to confirmation from the relevant authority at the time of application, when master planning has been completed.

Both water and natural gas services should be sufficient for the development. Sewer discharge from the site will most likely require storage and out of hours pumping.

APPENDIX A

SYDNEY WATER – INFRASTRUCTURE MAINS



DBYD Address:
78 Regent Street
Redfern NSW 2016

DBYD Job No: 8169094
DBYD Sequence No: 40785357

SYDNEY WATER CORPORATION

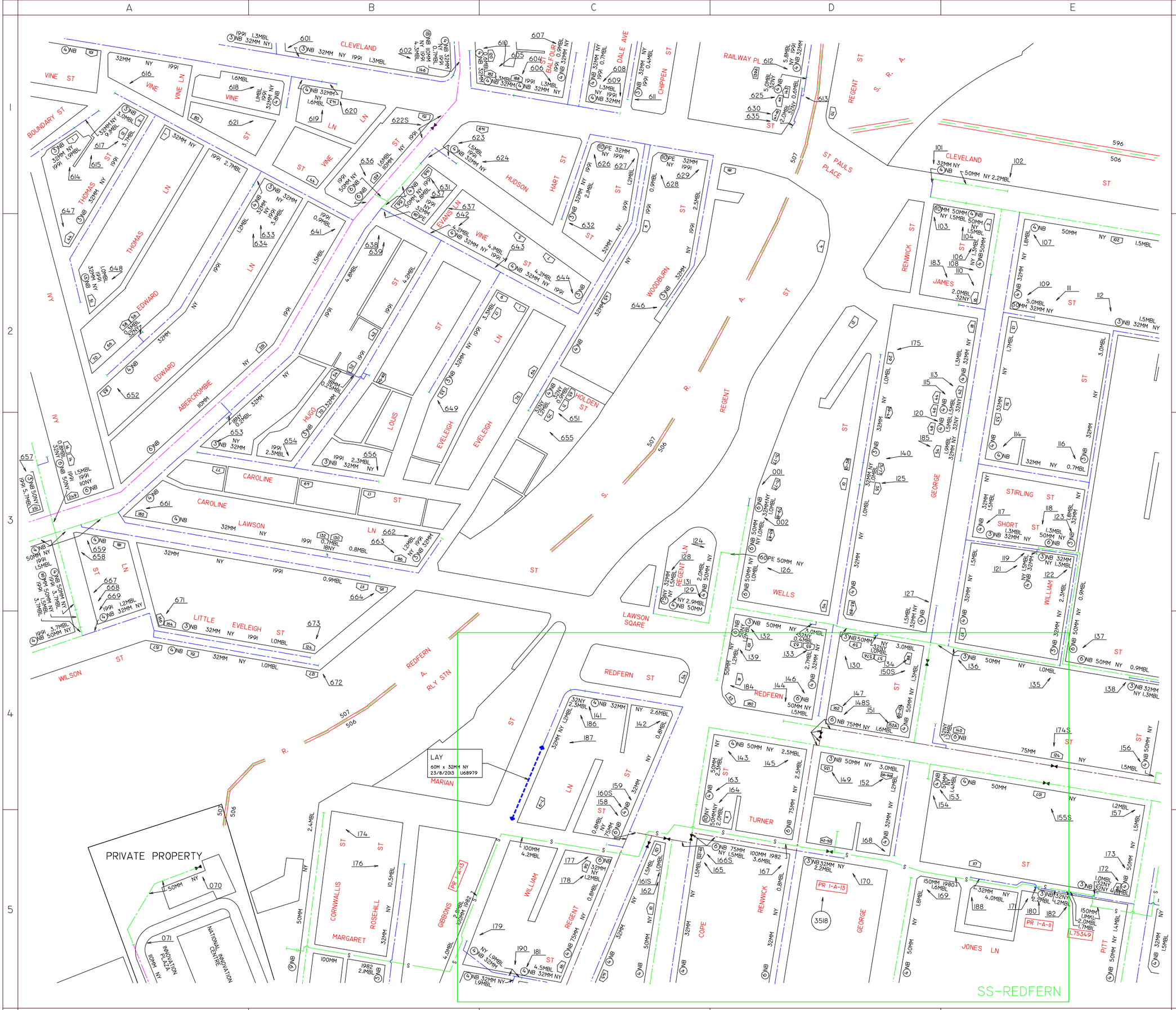
Scale: 1:1000

Date of Production: 31/07/2014

Plan 1 of 1

APPENDIX B

JEMENA – NATURAL GAS INFRASTRUCTURE



SYDNEY 4CA

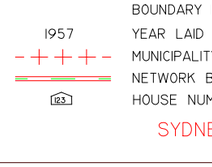
SCALE 1:1000

25 0 25 50 75 100

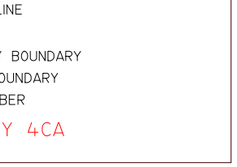
THIS MAP UPDATED ON 21/07/2014
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES SCALED FROM THIS PLAN MAY NOT BE ACCURATE.

LE6BD	S4AC	S4AD
LE6DB	S4CA	S4CB
LE6DD	S4CC	S4CD

ADJOINING MAPS



NETWORK AREA



MUNICIPALITY AREA

Jemena

KEY

MAX ALLOWABLE OPERATING PRESSURE

T	TRUNK PIPELINE	7000 kPa
P	PRIMARY MAIN	3500 kPa
S	SECONDARY MAIN	1050 kPa
400	NETWORK MAIN	400 kPa
	NETWORK MAIN	300 kPa
	NETWORK MAIN	210 kPa
100	NETWORK MAIN	100 kPa
30	NETWORK MAIN	30 kPa
	NETWORK MAIN	7 kPa
	NETWORK MAIN	2 kPa
	PROPOSED MAINS	
PR II-2 3	STEEL MAIN PROJECT NUMBER	
P	PRESSURE MONITORING STATION	
	VALVE	
	SYSTEM PRESSURE REGULATOR	
S	SIPHON	
123	NETWORK NODE	
123S	NETWORK VALVE NODE	
298	VALVE NUMBER	
6NB	6 INCH CAST IRON MAIN	
150MM	150MM STEEL MAIN	
110MM PE/NY	110MM POLYETHYLENE/NYLON MAIN	
6NB 50MM NY	50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN	
1.2MBL	DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE	
1957	YEAR LAID	
	MUNICIPALITY BOUNDARY	
	NETWORK BOUNDARY	
123	HOUSE NUMBER	

SYDNEY 4CA