

Infrastructure Report

230 Sixth Avenue, 50 & 60-80 Edmondson
Avenue, Austral

04 November 2016

383 Kent Street
Sydney NSW 2000
PO Box Q1678, QVB
Sydney, NSW 1230
Australia

T +61 (0)2 9098 6800
F +61 (0)2 9098 6810
mottmac.com

Suite 205, 12 O'Connell
Street
Sydney NSW 2000

Infrastructure Report

230 Sixth Avenue, 50 & 60-80 Edmondson
Avenue, Austral

04 November 2016

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	24/10/16	R. Higginson	J. Taylor	C. Avis	DRAFT for Coordination
B	04/11/16	R. Higginson	J. Taylor	C. Avis	For DA submission

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

1	Introduction	1
1.1	Documentation	1
2	Site Description	2
3	Existing Services	3
3.1	Water	3
3.2	Sewer	3
3.3	Electricity	3
3.4	Gas	3
3.5	Telecommunications	3
4	Proposed Services	4
4.1	Water	4
4.1.1	Fire Services	4
4.2	Sewer	4
4.3	Electricity	4
4.4	Gas	4
4.5	Telecommunications	4
5	Other Servicing Considerations	5
5.1	Roads and Transport	5
5.2	Stormwater Management and Flooding	5
6	Conclusions and Recommendations	6
	Appendices	7
A.	Correspondence	8

1 Introduction

Mott MacDonald has been commissioned to undertake an infrastructure services investigation for the proposed residential subdivision at 230 Sixth Avenue, 50 and 60-80 Edmondson Avenue, Austral.

This report has been prepared to support the Development Application for the site which consists of: -

- Demolition of the existing 5 rural residential dwellings and ancillary structures on site;
- Creation of 125 new residential lots, consisting of 137 new dwellings;
- Creation of new local access road network linking the development to Fifth and Sixth Avenues.

The prime purpose of this investigation is to review the existing services infrastructure with respect to the project site, and identify the potential servicing requirements to facilitate the proposed development.

Following a review of the available documentation, Mott MacDonald has prepared this report to summarise the findings as below: -

- Identify the existing infrastructure in the vicinity of the site;
- Consultation with Service Authorities to develop the strategy for servicing the development; and
- Confirmation that the development can be serviced and develop the strategy for future detailed design.

1.1 Documentation

The following documentation has been resourced:

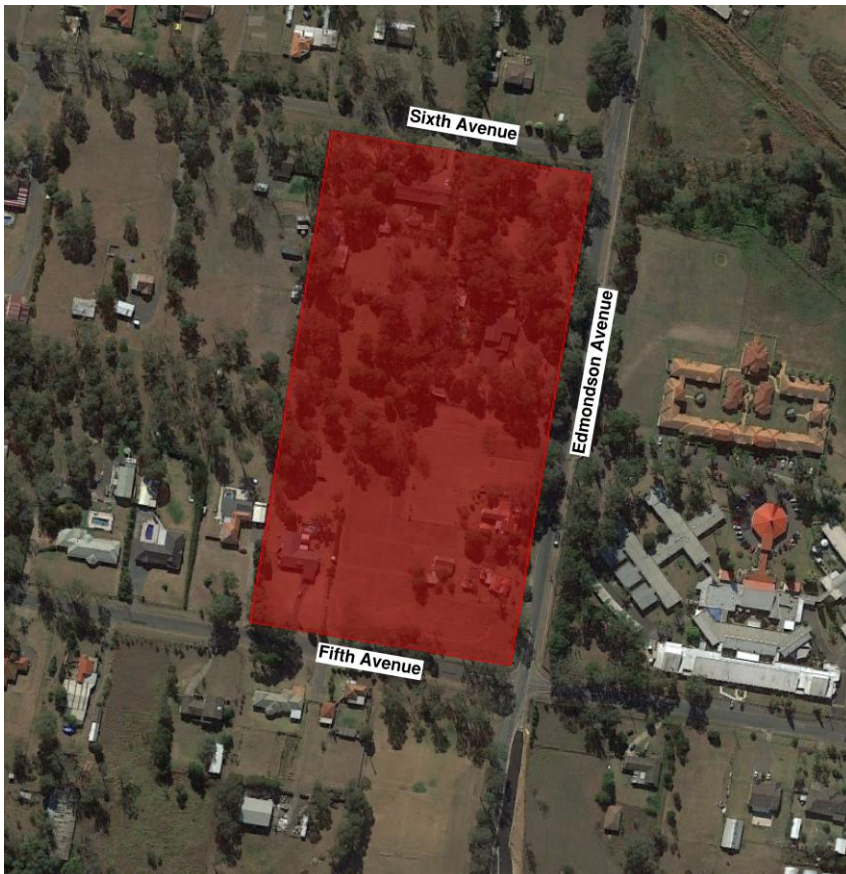
- A Dial Before You Dig (DBYD) submitted on 18/3/16;
- Site survey conducted by Apex Surveying dated 8/6/16;
- Sydney Water Feasibility Application;
- Written correspondence from relevant authorities and service providers (refer Appendix A).

2 Site Description

The subject site is bound by Sixth Avenue to the north, Edmondson Avenue to the east, Fifth Avenue to the south and rural residential properties to the west. The site is located in the Austral and Leppington North Growth Centre Precinct and covers an area of approximately 4.8 hectares. The proposed development comprises of the following lots:

- Lot 1067 DP 2475
- Lot A and Lot B, DP 416093

Figure 1: Site Location



Source: Google Earth 2016

The existing site is occupied by five (5) rural residential dwellings, numerous farm sheds and open space. The site also includes five (5) asphalt/gravel driveways servicing the existing dwellings. The site slopes at a reasonably consistent grade towards the north east, with surface levels ranging between 78m AHD at Fifth Avenue and 69m AHD at Sixth Avenue.

3 Existing Services

3.1 Water

Fifth and Sixth Avenue are both serviced by 100mm CICIL water mains located within the road reserve. These mains connect to two 300mm CICIL water mains traversing Edmondson Avenue. As these mains supply the adjacent sites, service disruptions should be avoided during construction works.

3.2 Sewer

There are no existing sewer services identified in the vicinity of the site.

3.3 Electricity

Existing electrical supply consists of overhead reticulation along Edmondson, Fifth and Sixth Avenues. As these services also supply adjacent sites, service disruptions should be avoided during any future construction works and connection of proposed services.

Discussions with the project electrical consultant have indicated that there is existing high voltage supply in Sixth Avenue and Edmondson Avenue originating from separate 11kV feeders from the local zone substation.

3.4 Gas

The existing gas network in the surrounding area is supplied by Jemena. The DBYD search indicates a 200mm (1,050 kPa) high pressure secondary gas main traverses Bringelly Road and extends along Edmondson Avenue, terminating at Fifth Avenue.

3.5 Telecommunications

The DBYD service plans indicate that Telstra telecommunications aerial cables are located on Edmondson, Fifth and Sixth Avenues.

4 Proposed Services

4.1 Water

New water mains will be constructed across the full road frontage of each lot in the development. Sydney Water have indicated that upgrades may be required to the existing supply network to support the increase in demand generated by the development. Upgrade works required will likely include the existing 100mm water main in Sixth Avenue.

Once the Development Application has been lodged (and a DA number obtained), a Section 73 Compliance Certificate will be lodged with Sydney Water to obtain a formal Anticipated Notice of Requirements.

4.1.1 Fire Services

This will be determined in the Notice of Requirements as above.

4.2 Sewer

Sydney Water is currently delivering wastewater to the surrounding area via a Bringelly Road Carrier draining to SPS1183. This work was due to be completed by mid-2016.

The subject site is located within the future Bonds Creek Carrier Section 2, which is planned to be delivered by the end of 2018. Sydney Water have advised that there may be capacity for SPS1183 to accommodate additional development outside the committed Bringelly Road Carrier Catchment.

Once the Development Application has been lodged (and a DA number obtained), a Section 73 Compliance Certificate will be lodged with Sydney Water to obtain a formal Anticipated Notice of Requirements.

4.3 Electricity

Underground electrical supply will be provided to all dwellings in the proposed development, with preliminary design indicating two (2) padmount substations will be required to service the development. Where existing overhead power fronts the site and road upgrade works are proposed, the overhead network will require undergrounding to accommodate the road upgrades. Any lead in works required will be confirmed by network planners at Endeavour Energy through an application for a Design Brief.

4.4 Gas

Jemena have indicated that the existing gas network can be extended to service the development. The proposed gas reticulation layout will be confirmed upon receipt of the DA.

4.5 Telecommunications

A feasibility application has been lodged with NBN Co. to determine servicing options for the site. The application is currently under assessment and the response is awaited from NBN Co.

5 Other Servicing Considerations

5.1 Roads and Transport

Refer Traffic Impact Assessment by Transport & Traffic Planning Associates included in the DA documentation.

Edmondson Avenue has been identified as a SIC road which forms part of the regional transport strategy. It is to be upgraded by RMS in the future to a transit boulevard, and as such will not be upgraded as part of this development.

5.2 Stormwater Management and Flooding

Refer Water-Cycle Management Report by Mott MacDonald included in the DA documentation.

6 Conclusions and Recommendations

Following initial consultation with the relevant service authorities, it is evident that opportunities exist to service the proposed development.

Detailed requirements from the service authorities will be obtained as the project progresses and incorporated into relevant design documentation for service authority approval. It is noted that relevant service authority approvals are generally a requirement of obtaining a Subdivision Certificate.

Appendices

A.	Correspondence	8
----	----------------	---

A. Correspondence

Case Number: 153510

2 June 2016

KELLY STREET 1 PTY LTD
c/- MOTT MACDONALD AUSTRALIA

FEASIBILITY LETTER

Developer: KELLY STREET 1 PTY LTD
Your reference: 369954
Development: No.230 Sixth Avenue, Austral
Lot 1067 of DP2475
Development Description: Subdivision to create 28 residential lots
Your application date: 1 April 2016

Dear Applicant

This Feasibility Letter (Letter) is a guide only. It provides general information about what Sydney Water's requirements could be if you applied to us for a Section 73 Certificate (Certificate) for your proposed subdivision. **The information is accurate at today's date only.**

If you obtain development consent for that subdivision from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator (Coordinator).

Sydney Water will then send you either a:

- Notice of Requirements (Notice) and Developer Works Deed (Deed) or
- Certificate.

These documents will be the definitive statement of Sydney Water's requirements.

There may be changes in Sydney Water's requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

- if you change your proposed development eg the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit your new application; and

- if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

You have made an application for specific information. Sydney Water's possible requirements are:

What You Must Do To Get A Section 73 Certificate In The Future.

To get a Section 73 Certificate you must do the following things. You can also find out about this process by visiting www.sydneywater.com.au > Plumbing, building & developing > Developing > Land development.

1. **Obtain Development Consent from the consent authority for your subdivision proposal.**
2. **Engage a Water Servicing Coordinator (Coordinator).**

You must engage your current or another authorised Coordinator to manage the design and construction of works that you must provide, at your cost, to service your subdivision. If you wish to engage another Coordinator (at any point in this process) you must write and tell Sydney Water.

For a list of authorised Coordinators, either visit www.sydneywater.com.au > Plumbing, building & developing > Developing > Providers > Lists or call **13 20 92**.

The Coordinator will be your point of contact with Sydney Water. They can answer most questions that you might have about the process and developer charges and can give you a quote or information about costs for services/works (including Sydney Water costs).

3. **Developer Works Deed**

After the Coordinator has submitted your new application, they will receive the Sydney Water Notice and Developer Works Deed. You and your accredited Developer Infrastructure Providers (Providers) will need to sign and lodge both copies of the Deed with your nominated Coordinator. After Sydney Water has signed the documents, one copy will be returned to the Coordinator.

The Deed sets out for this project:

- your responsibilities;
- Sydney Water's responsibilities; and
- the Provider's responsibilities.

You must do all the things that we ask you to do in that Deed. This is because lots in your subdivision do not have water and sewer services and you must construct and pay for the following works extensions under this Deed to provide these services.

Note: The Coordinator must be fully authorised by us for the whole time of the agreement.

4. **Water and Sewer Works**

- 4.1 **Water**

Each lot in your subdivision must have:

- a frontage to a drinking water main that is the right size and can be used for connection; and
- its own connection to that water main and a property service (main to meter) that is available for the fitting of a meter.

Sydney Water has assessed your application and found that:

- While water facilities are available in the area via the existing rural water supply network and the drinking water main in Sixth Avenue, this system is only able to support a limited amount of growth, after which upgrades of the system will be required.
- Detailed planning will need to be carried out before the exact network requirements for the urban growth to take place are known.
- At this stage, to assist us in evaluating the spare capacity and the main laying requirements to service your development we will need the following:
 - § a plan of the proposed subdivision;
 - § an accurate and fixed number of lots/dwellings to be serviced;
 - § your development timeframes ie. the timing for your DA, when lot registration is expected and when dwelling occupancy is expected.
- The capacity of the system to supply your development will need to be gauged against the location and timing of other proposed developments in the Growth Centre.
- As a basic guide, you will need to construct drinking water mains across the full road frontage of each lot in your development, complying with the Water Supply Code of Australia WSA 03-2011-3.1 (Sydney Water edition – 2012) and Sydney Water's water network requirements.
- An assessment of the need for any system upgrade works will be made once we have been able to make a more detailed evaluation of your development proposal.
- The existing 100mm drinking water main in Sixth Avenue may require an upgrade and/or an adjustment

4.2 Sewer

Each lot in your subdivision must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within each lot's boundaries.

Sydney Water has assessed your application and found that:

- Sydney Water is currently delivering trunk wastewater services to part of the Leppington North and Austral Precincts (Bringelly Road Carrier draining to SPS 1183). This work is

due to be completed in mid 2016.

- Your development site is not located within the Bringelly Road Carrier catchment. Your site is located within the catchment of the future Bonds Creek Carrier Section 2. Currently Sydney Water is planning to deliver this carrier by the end of 2018.
- Further servicing advice will be subject to you providing a preliminary development program timetable. This will enable Sydney Water to make an informed review of the capability of SPS1183 to accommodate any additional development outside of the committed Bringelly Road Carrier Catchment.
- The development program should at a minimum include:
 - § a plan of the proposed subdivision;
 - § an accurate and fixed number of lots/dwellings to be serviced;
 - § your development timeframes ie. the timing for your DA, when lot registration is expected and when dwelling occupancy is expected.

Funding of works

Under Sydney Water's 'Funding of infrastructure to service growth' policy we may agree to contribute towards a portion of the cost of the works you are required to build. This is done either by Sydney Waters Schedule of Rates or via the Procurement process. Your Water Service Coordinator can advise you in relation to this policy, the likelihood of Sydney Water sharing a portion of the cost and the process you need to satisfy Sydney Water's probity requirements.

If you do choose to request a quote through the Schedule of Rates for Sydney Water's contribution you will avoid going through the full procurement process. Your WSC can advise you of this option.

The funding assessment will be made at the detailed design stage, prior to any construction works commencing. A firm commitment would not be made by Sydney Water until we:

- Have reviewed the detailed design and;
- Have reviewed the detailed construction quotations needed to meet our probity requirements and;
- Come to an agreement on the amount.

5. Ancillary Matters

5.1 Asset adjustments

After Sydney Water issues this Notice (and more detailed designs are available), Sydney Water may require that the water main/sewer main located in the footway/your property needs to be adjusted/deviated. If this happens, you will need to do this work as well as the extension we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. Sydney Water

will need to see the completed designs for the work and we will require you to lodge a security. The security will be refunded once the work is completed.

5.2 Entry onto neighbouring property

If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use Sydney Water's **Permission to Enter** form(s) for this. You can get copies of these forms from your Coordinator or the Sydney Water website. Your Coordinator can also negotiate on your behalf. Please make sure that you address all the items on the form(s) including payment of compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

5.3 Costs

Construction of these **future** works will require you to pay project management, survey, design and construction costs **directly to your suppliers**. Additional costs payable to Sydney Water may include:

- water main shutdown and disinfection;
- connection of new water mains to Sydney Water system(s);
- design and construction audit fees;
- contract administration, Operations Area Charge & Customer Redress prior to project finalisation;
- creation or alteration of easements etc; and
- water usage charges where water has been supplied for building activity purposes prior to disinfection of a newly constructed water main.

Note: Payment for any Goods and Services (including Customer Redress) provided by Sydney Water will be required prior to the issue of the Section 73 Certificate or release of the Bank Guarantee or Cash Bond.

Your Coordinator can tell you about these costs.

OTHER THINGS YOU MAY NEED TO DO

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement of Sydney Water in the future because of the impact of your development on our assets. You must read them before you go any further.

Approval of your building plans

Please note that your building plans must be approved. This can be done at Sydney Water Tap inTM. Visit www.sydneywater.com.au > Plumbing, building & developing > Building > Sydney Water Tap inTM or call 13 20 92.

This is not a requirement of the Certificate but the approval is needed because construction/building works may impact on existing Sydney Water assets (e.g. water and sewer mains). In

any case, these works MUST NOT commence until Sydney Water has granted approval.

Your Coordinator can tell you about the approval process including:

- Possible requirements;
- Costs; and
- Timeframes.

Note: You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.

Backflow Prevention Water supply connections

A backflow prevention containment device appropriate to the property's hazard rating must be installed at the property boundary of each lot. The device is to be installed on all water supplies entering the property, regardless of the supply type or metering arrangements. It is needed to reduce the risk of contamination by backflow from these supplies.

A licensed plumber with backflow accreditation can advise you of the correct requirements for your property. To view a copy of Sydney Water's Backflow Prevention Policy and a list of backflow accredited plumbers visit www.sydneywater.com.au > Plumbing, building & developing > Plumbing > Backflow prevention.

Fire Fighting

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the subdivision and the ability of Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that Sydney Water's mains are only required to provide domestic supply at a minimum pressure of 15 m head.

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to a Sydney Water water main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Soffit Requirements

Please be aware that floor levels must be able to meet Sydney Water's soffit requirements for property connection and drainage.

Other fees and requirements

The requirements in this Notice relate to your Certificate application only. Sydney Water may be involved with other aspects of your development and there may be other fees or requirements.

These include:

- plumbing and drainage inspection costs;
- the installation of backflow prevention devices; and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your subdivision as soon as possible. Your hydraulic consultant can help you here.)

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.

END

Jemena Limited
ABN 95 052 167 405

11/10/2016

Mott McDonald
PO Box Q1678
QVB Sydney
NSW 2500

Att: Ms. Rachel Higginson

Dear Rachel:

Greg Knight
Network Development Manager
PO Box 8212
Tumbi Umbi NSW 2261
M: 0402 060 241
E: greg.knight@jemena.com.au
www.jemena.com.au

RE: 230 Sixth Ave, 50 & 60-80 Edmondson Ave Austral

Natural Gas is available in the vicinity and could be extended to supply this proposal.

Our policy is to extend gas mains to all developments wherever possible, depending upon economic viability.

In consideration of our shareholders' interests and under NSW regulation, Jemena Gas Networks (NSW) Ltd is required to ensure that any extension of the natural gas distribution system is commercially viable and therefore must assess each request for supply on an individual basis.

Upon the provision of the final approved layout and gas Load configurations for the development a full economic evaluation can be undertaken to determine the availability of natural gas to the site.

A contribution may be required to assist in the economic viability of the proposal.

To assist in the planning of supply to the development

- I can confirm that the nearest suitable gas main in the vicinity of this proposal will be located on the corner of Fourth Avenue and Seventh Avenue Austral. This main could be extended to supply the proposed development of this site depending upon its commercial viability and sufficient capacity is available at this time to service the site.
- To enable a thorough economic evaluation to be undertaken we will require an accurate breakdown of the dwelling and commercial loads proposed for the site once all approvals and zonings are in place.
- In order to enhance the viability of gas supply to the site the developer should allow for the provision of all trenching required throughout the site at no cost to Jemena.

Jemena Gas Networks looks forward to providing the many benefits of Natural Gas to this proposal; if you could provide planning approval advice and the relevant drawings to me as soon as they are available I can arrange for a full supply assessment to be undertaken.

Thank you for your enquiry. If further information or assistance is required, please do not hesitate to contact me on 0402 060 241.

Yours faithfully

Greg Knight

Greg Knight
Network Development Manager