

Appendix 6 – Infrastructure Assessment



Rydalmere Development Precinct

Utilities Investigation Report

Government Property NSW

November, 2016

Document Control

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1 INTRODUCTION

J. Wyndham Prince were engaged by Elton Consulting to prepare a Utilities Servicing investigation report for the proposed development site located at 266 Victoria Road, Rydalmere.

This report is a review of the availability of existing utility services including new and upgrades of existing utility infrastructure to support the proposed development of 19.4 hectares mixed use development that will yield approximately 2,770 residential apartments and 40,000m² of commercial space.

The existing services capacities and the likely future servicing requirements have been investigated through consultation with the relevant authorities. The key utility services investigated as part of this report are as follows:

- Potable Water
- Recycled Water
- Waste Water
- Electricity
- Gas
- Telecommunications

The scope of this report does not include investigations regarding stormwater drainage, traffic and transport planning as these investigations will be undertaken separately for Government Property NSW (GPNSW) by Elton Consulting.

1.1 Site Location

The subject site is located within Parramatta Local Government Area and is bounded by Kissing Point Road to the north, Victoria Road to the south, Vineyard Creek to the east and James Ruse drive to the west. See Plate 1 below:

Plate 1-Locality Plan



1.2 Site Description

The subject site is 19.4 hectares' land area and comprises of:

- Department of Education (DOE) site, a 5.2Ha of formerly Macquarie Boys High School located to the northern part of the site. The area has abandoned buildings with surrounding dense vegetation adjacent to Kissing Point Road.
- Family and Community Services (FACS) site, a 14.2Ha of currently accommodation for an Ageing Disability & Home Care (ADHC) facility covers the balance of the site. The area is predominantly covered by number of single level housing and administration buildings, utility services, vegetation scattered across the site and denser vegetation surrounding the perimeter.

1.3 Assumptions

The utilities infrastructure servicing information within this report is typically presented as the highest level of infrastructure only. These are the servicing lead-ins required from nearby available points of connection to site boundary.

The information provided within this report is based on verbal and written advice received from servicing authorities at the time of this report was made and should be treated as high level utilities servicing advice. Further assessment and confirmation of details provided will be necessary during planning and design stages to ensure that the information is up to date and accurate.

The locations and sizing of existing and proposed services are approximate only based on supplied sketches mark-ups and verbal advice that will need to be confirmed with relevant servicing authority in the subsequent stages of investigation and design.

A high level costing and a preliminary staging information has also been provided where available from utilities authorities, however in many cases this information was not available from the relevant authorities.

2 SERVICING INVESTIGATION

In order to produce this report, information from various sources were included such as meetings, email correspondence and telephone discussions with relevant authorities to discuss the various responses and information provided and to bring further clarity to the information where necessary.

2.1 Electricity

Endeavour Energy (EE) is the servicing authority responsible in ensuring electricity services to the Parramatta LGA hence will provide the electricity supply to the proposed development.

A Dial Before You Dig (DBYD) inquiry has been undertaken to identify existing electrical assets within the immediate vicinity of the site.

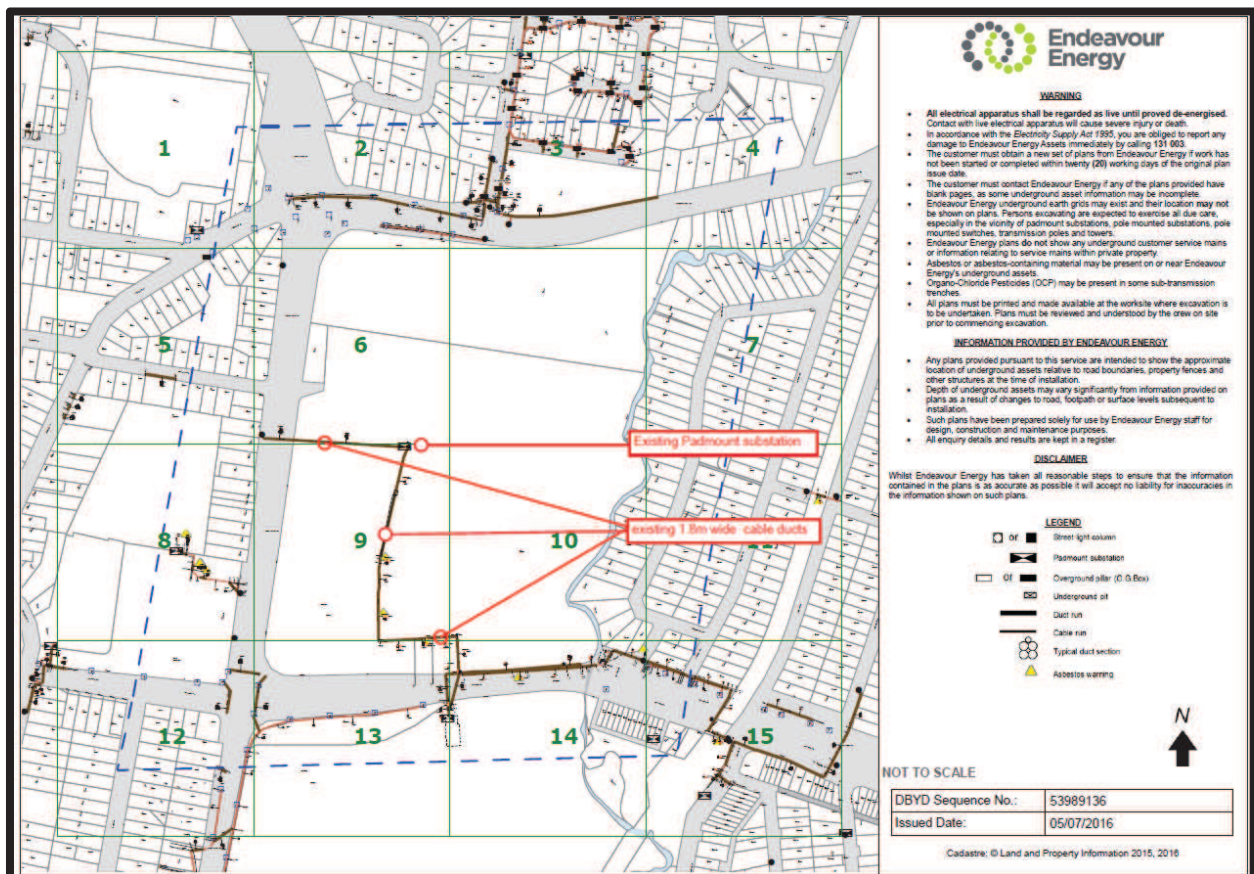
In addition to DBYD inquiry, a Technical Review Request was lodged to EE to assess the capacity of nearby electricity assets and seek advice as to likely servicing strategy to support the proposed development.

2.1.1 Existing Infrastructure

Findings from Dial Before You Dig inquiry indicates several streetlights and underground electricity assets present along the footpath of Kissing Point Road, Victoria Road and James Ruse Drive immediately adjacent to the site.

There is also an existing pad-mount substation and associated 1.8m wide easement for 11kv HV underground cable ducts within the FACS site(refer Plate no 2) . This existing infrastructure will need to be removed and/or relocated to avoid conflict with the proposed building structures. A Level 3 Accredited Services Provider (ASP) for electrical services would determine the locations at detailed design stage. See Plate 2 below:

Plate 2-Existing Electrical Infrastructure



2.1.2 Electricity Servicing Strategy

The proposed development of 2,770 residential apartments (as per the preferred Concept plan) and 40,000m² of commercial space has been preliminary assessed by Endeavour Energy as having a peak summer load of 8.6MV at 6.00pm. To adequately provision for electricity supply to the proposed development it is necessary to install at least two new 11kV underground feeders with a minimum two additional backup external 11kV ties, a total of 4 connections. The existing two HV cable connections to the site at Sub 22232 can be utilised as the external tie feeders.

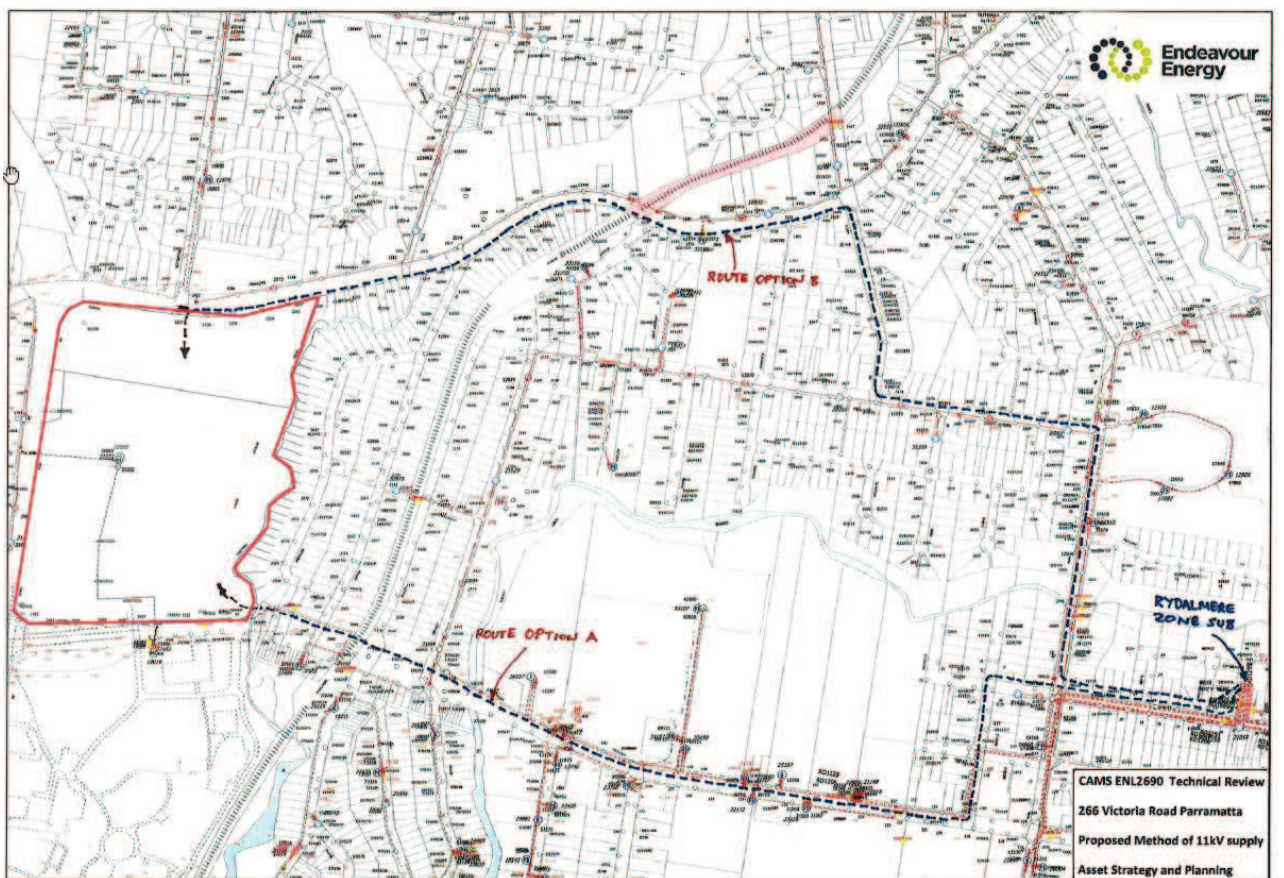
Endeavour Energy have also advised that these feeders can also supply 2770 apartments if the amount of apartments is increased to this amount.

Preliminary analysis indicates that Rydalmere Zone Substation is capable of supplying this proposed development. There is an adequate capacity of the Zone Substation which has a firm capacity of 58 MVA. The forecast summer load at Rydalmere Zone Substation in 2025 is 35.4 MVA. There are sufficient spare 11kV circuit breakers to allow two new underground feeders to be allocated to the proposed development of the site.

There are two possible routes to the site from Rydalmere Zone Substation located in Wattle Street Rydalmere to the east of this proposed development. See Plate 3 below.

- The route option "A" would utilise the existing corridor of Victoria Road. (1.9km route)
- The route option "B" would utilise the existing corridor of Kissing Point Road. (2.55km route)

Plate 3-Proposed 11kV Underground Electrical Lead in routes



Either Option may be used install a new underground circuit to the proposed development, however it is likely a new rail crossing along Victoria Road would be needed with route Option "A", while Option "B" would utilise the existing road underpass of the rail crossing along Kissing Point Road. A

minimum size of 240 mm² Copper XLPE 11kV cable will be required for each new circuit from Rydalmere Zone Substation. At the detail design stage, it may be possible to utilise part of the existing HV infrastructure within the vicinity rather than provide 2 complete new lines. This will be further investigated with Endeavour Energy at the time.

The existing 11kV cables on site to pad mounted substation 22232 can be retained to form the new back up ties required for this development. A number of new substations would be required on the proposed development site.

In addition to the above it is possible that existing electrical services in the surrounding road verges might need to be relocated/adjusted to align with any new road changes such as left in left out intersections should such intersections be accepted by RMS.

2.1.3 Estimated Electricity High Level Costs

A preliminary assessment of the costs of providing the feeders is set out below:

Option	Length (km)	Rate (\$/m)	Cost (per feeder)	Total Cost (including 20% contingency)
A	1.9	\$1,000	\$1.9M	\$4.6M
B	2.55	\$1,000	\$2.6M	\$6.1M

There may be a reduction in the cost of the second feeder in each case if installed at the same time as the first feeder, due to potential significant savings/reduction in the (otherwise) duplication of management and traffic control.

2.2 Potable Water

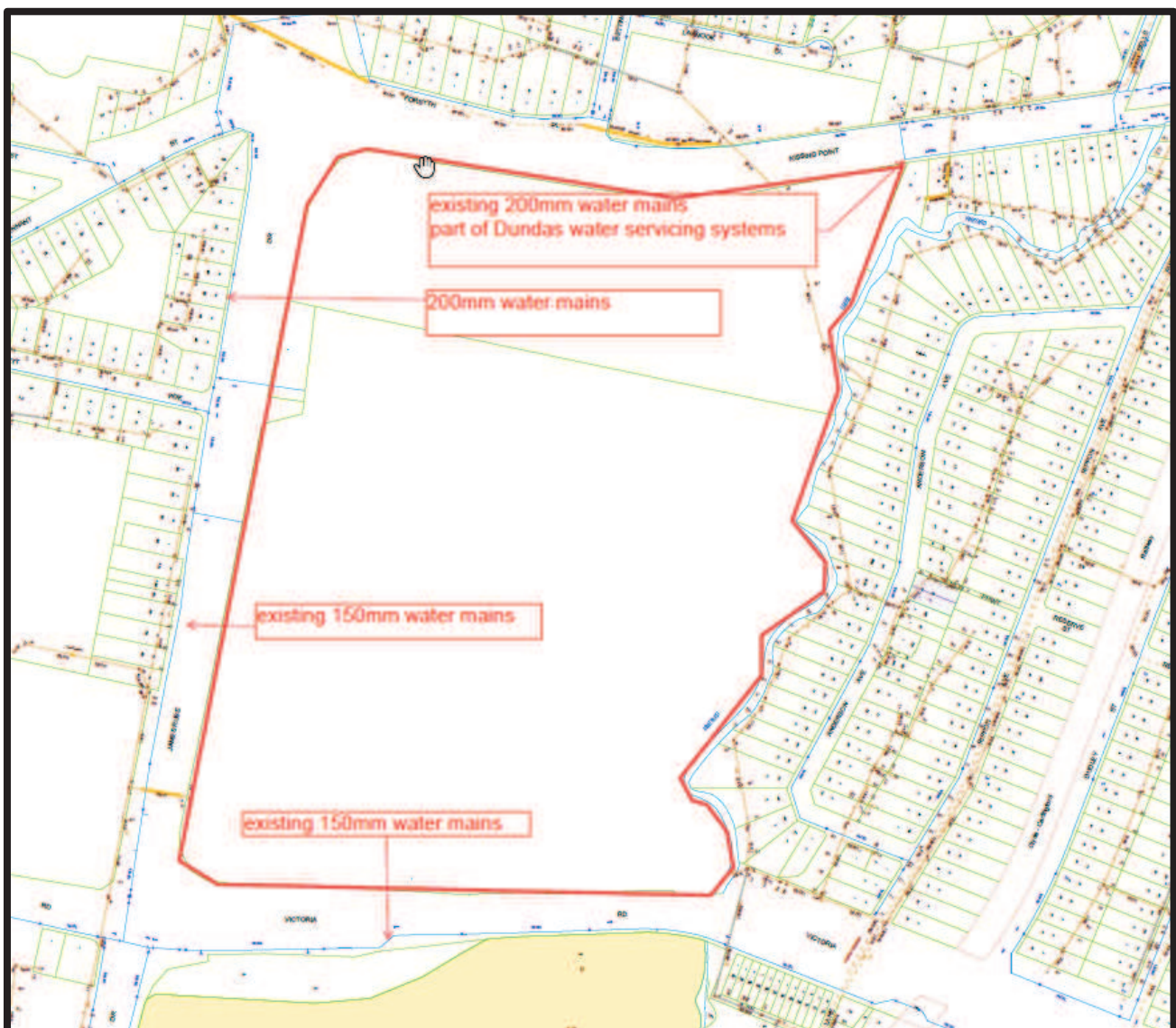
Sydney Water is the responsible authority for the supply of water within Parramatta LGA hence will supply the proposed development.

A DBYD inquiry was made and preliminary advice requested from Water Servicing Coordinator (WSC) Qalchek to identify existing water infrastructure, capacity and servicing strategy for the proposed development.

2.2.1 Existing infrastructure

A DBYD inquiry indicates 200mm diameter potable water mains are present across Victoria Road, James Ruse Drive and Kissing Point Road. However, verbal advice from WSC Qalchek highlights that the water mains capacities are not sufficient to supply the proposed development. See Plate 4 below:

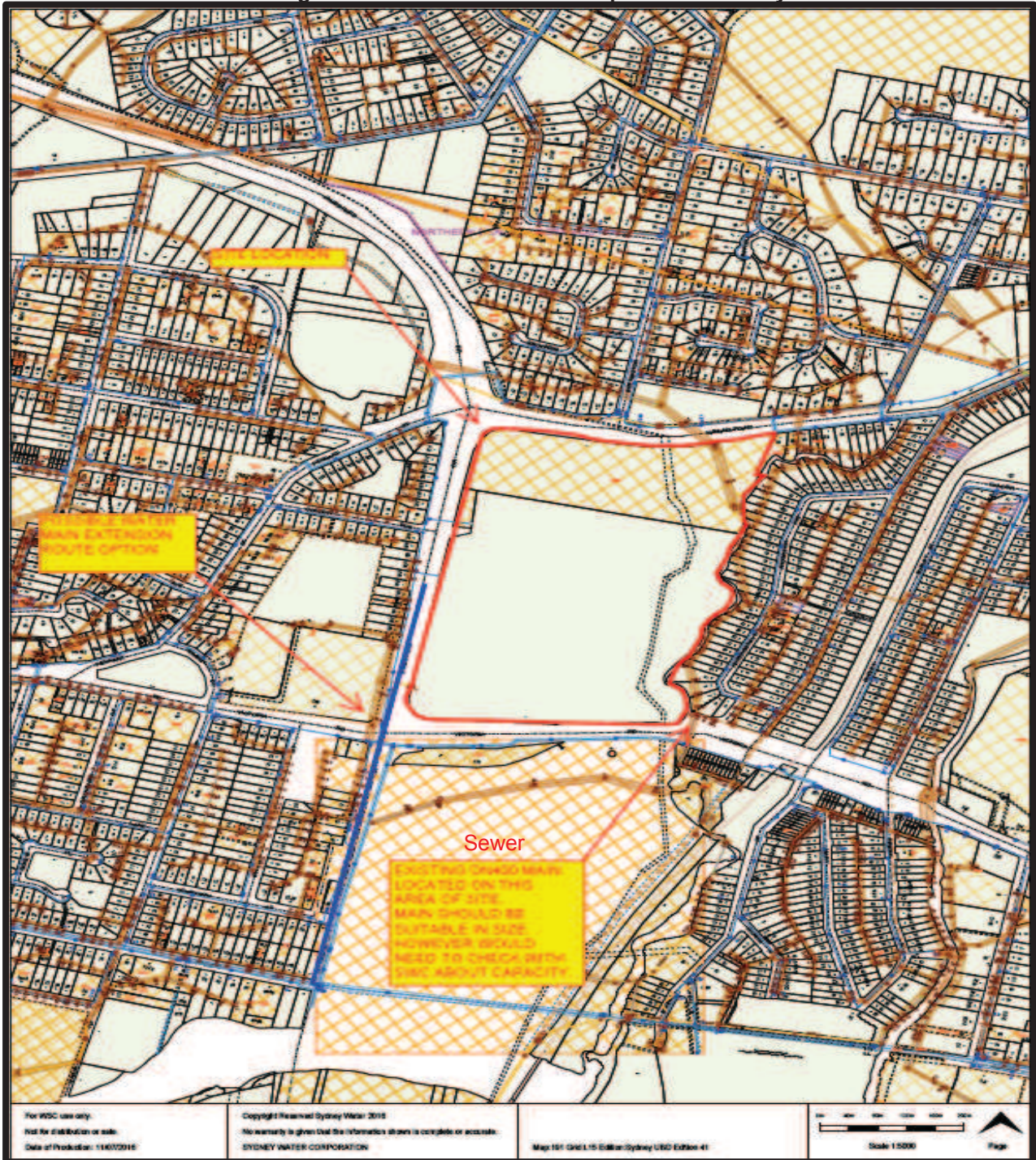
Plate 4-Existing Potable Water Infrastructure



2.2.2 Potable Water Servicing Strategy

Based on WSC Qalchek preliminary advice, to service the proposed development it would require construction of a DN250-300 water main to be brought to the site. The nearest point of connection is located at corner Thomas Street and James Ruse Drive, approximately 600m south of the site. The indicative water lead-in route is illustrated in Plate 5 below.

Plate 5-Existing Water Infrastructure and Proposed Lead in by Qalchek



To confirm the preliminary advice provided by Qalchek, a feasibility assessment has been lodged to Sydney Water.

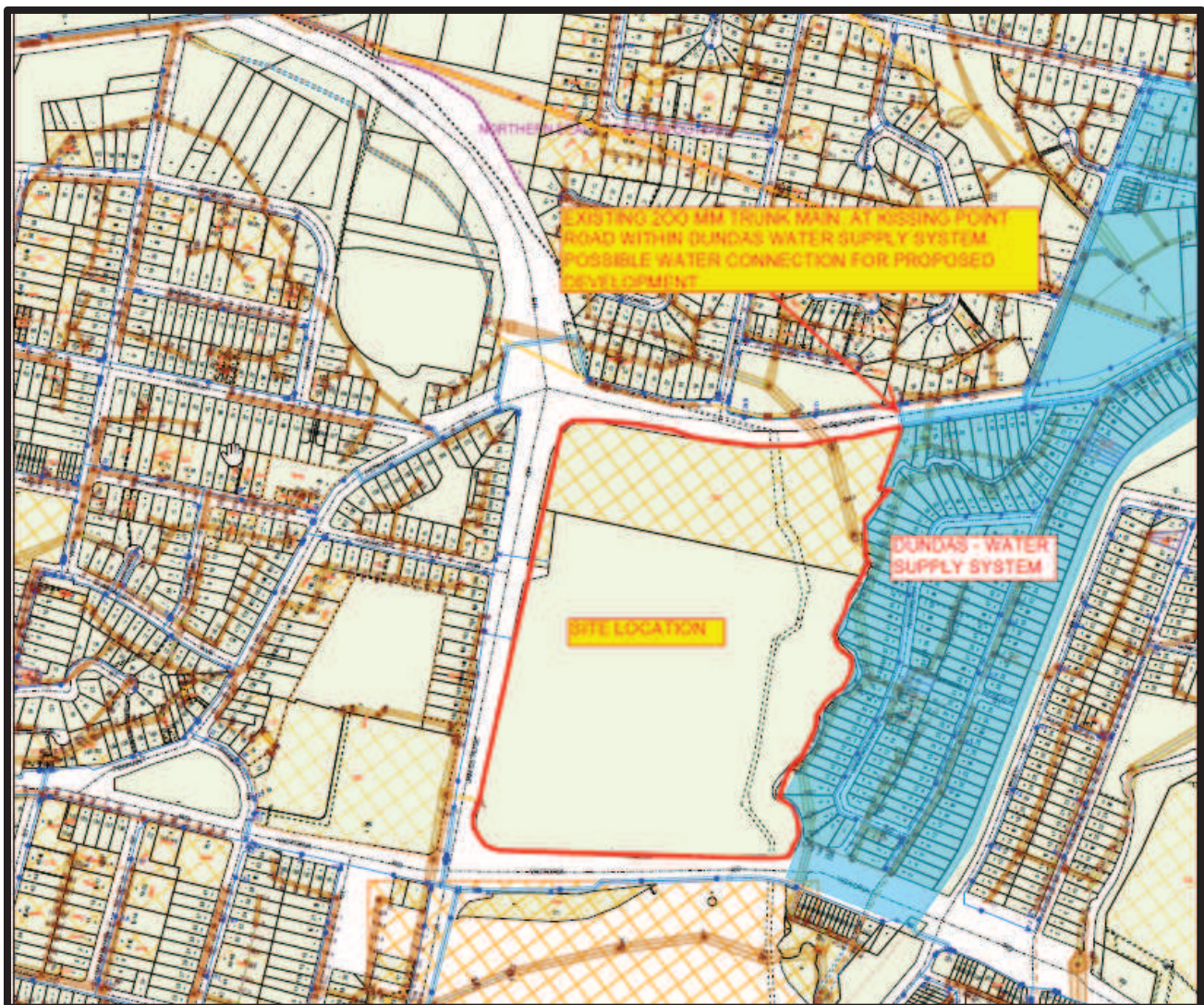
A Letter of Advice (LOA) has been received and confirmed that the site is currently fronted by water mains from Dundas and Ryde Gravity water supply systems.

The submitted concept plan by Qalchek indicates a possible network extension from Ryde Gravity water supply network.

Sydney Water advise that there is a significant level of growth proposed within Ryde Gravity water supply network, however the Dundas water supply system has relatively less growth and available trunk capacity which would be the ideal supply system to service the proposed development. See Plate 6 below.

Sydney water recommended to arrange a meeting between the developer and Sydney Water Growth Strategy representative, Greg Joblin to discuss the water servicing strategy for this site.

Plate 6-Existing Water Infrastructure and possible potable water connection point



2.2.3 Estimated Potable Water High Level Costs

No lead in costs has been provided based on Sydney Water advice that the ideal supply will be from Dundas water supply system. Dundas 200mm main trunk is located at north-east corner of site, Refer Plate 6 above.

2.3 Sewer

Sydney Water is the responsible authority for the supply of sewer services to Parramatta LGA hence will provide sewer services to the proposed development.

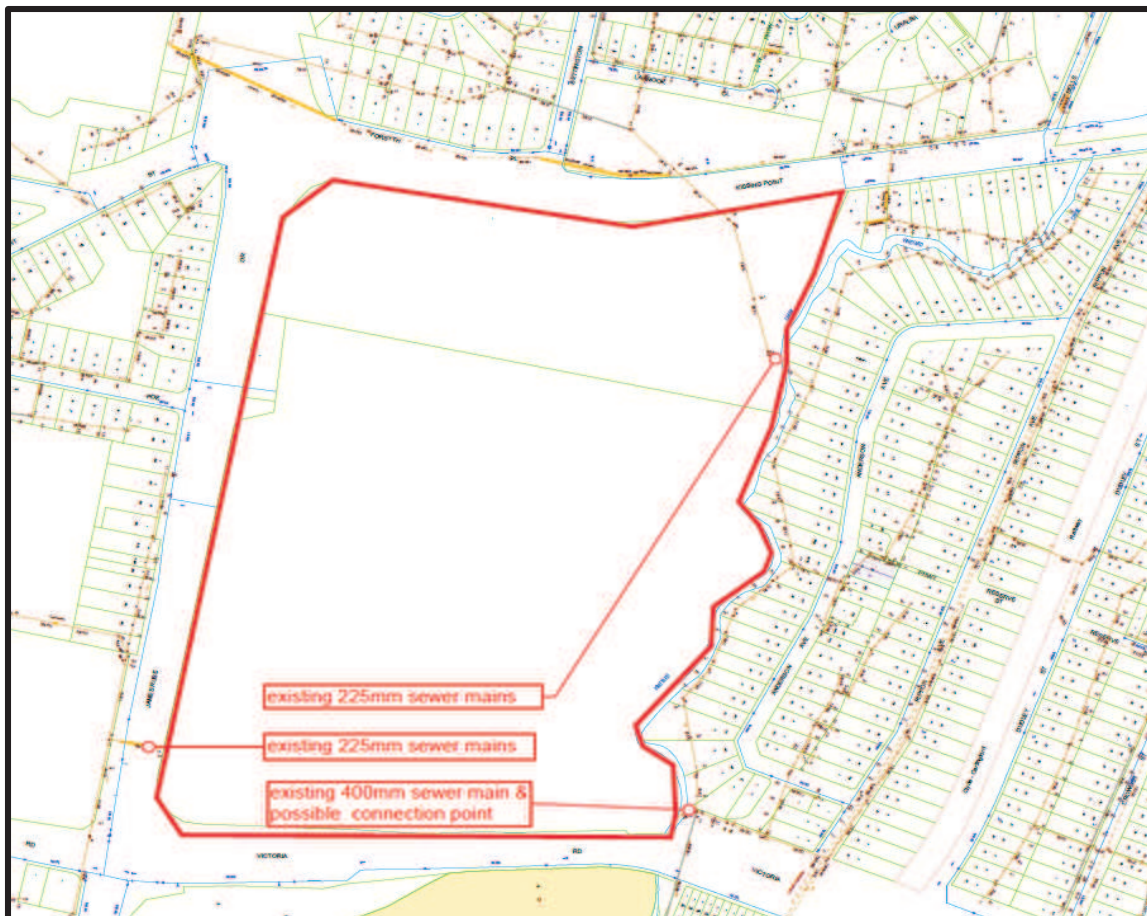
A DBYD inquiry has been made and an initial discussion with WSC Qalchek undertaken to determine if the existing infrastructure will have enough capacity to service the proposed development. The outcomes are presented below:

2.3.1 Existing Infrastructure

The result of DBYD inquiry indicates that there are existing sewer assets within the proposed site shown in Plate 7 and listed below:

- 225mm main on the eastern corner of DoE site
- 225mm main south west of the site along James Ruse Drive
- 400mm main sewer carrier on the south east corner of the site near Victoria Road. There also appears to be an existing 450mm dia connection to the site though this may be an incorrect label and the size is 400mm. The flow direction is also marked incorrectly (refer Plate 5 below).

Plate 7-Existing Sewer Infrastructure



2.3.2 Sewer Servicing Strategy

Qalchek has advised that the proposed site would require a DN375 to DN400 sewer main to service the proposed development yield. The nearest point of connection would be the existing DN400 located south east corner of the site adjacent to Victoria Road. The sewer lead in would need to be extended approximately 30m to the site boundary. The proposed sewer lead in is illustrated in Plate 7.

A feasibility assessment has been lodged to Sydney Water to determine if the nominated mains actually have spare capacity to supply the development.

A Letter of Advice (LOA) from Sydney Water has been received and stated as follows:

The development is located within Vineyard Creek Carrier catchment (400mm sewer located near the South East corner of the site), which discharges to sewer pumping station 184 (SPS184).

SPS 184 does not have capacity to service the proposed development. Detailed planning investigation will be required to determine the preferred servicing option.

Sydney Water has identified the future need to undertake strategic planning investigation for the surrounding area, however there is currently no committed timeframe for this work to be carried out.

It is recommended that the WSC arranges a meeting between the developer and Sydney Water Growth Strategy Representative, Greg Joblin to discuss the way forward.

2.3.3 Estimated Sewer High Level Costs

No lead in costs provided at this stage based on Sydney Water advise that the DN 400 located south-east corner of site may not be able to service the proposed development.

2.4 Recycled water

An investigation has been conducted to identify existing recycled water within the proposed development and immediate vicinity.

2.4.1 Existing infrastructure

There is no existing infrastructure for recycled water within the vicinity of the proposed development, thus recycled water will not be supplied to this development.

2.5 Gas

Jemena is responsible for the provisions of Gas services within the proposed development.

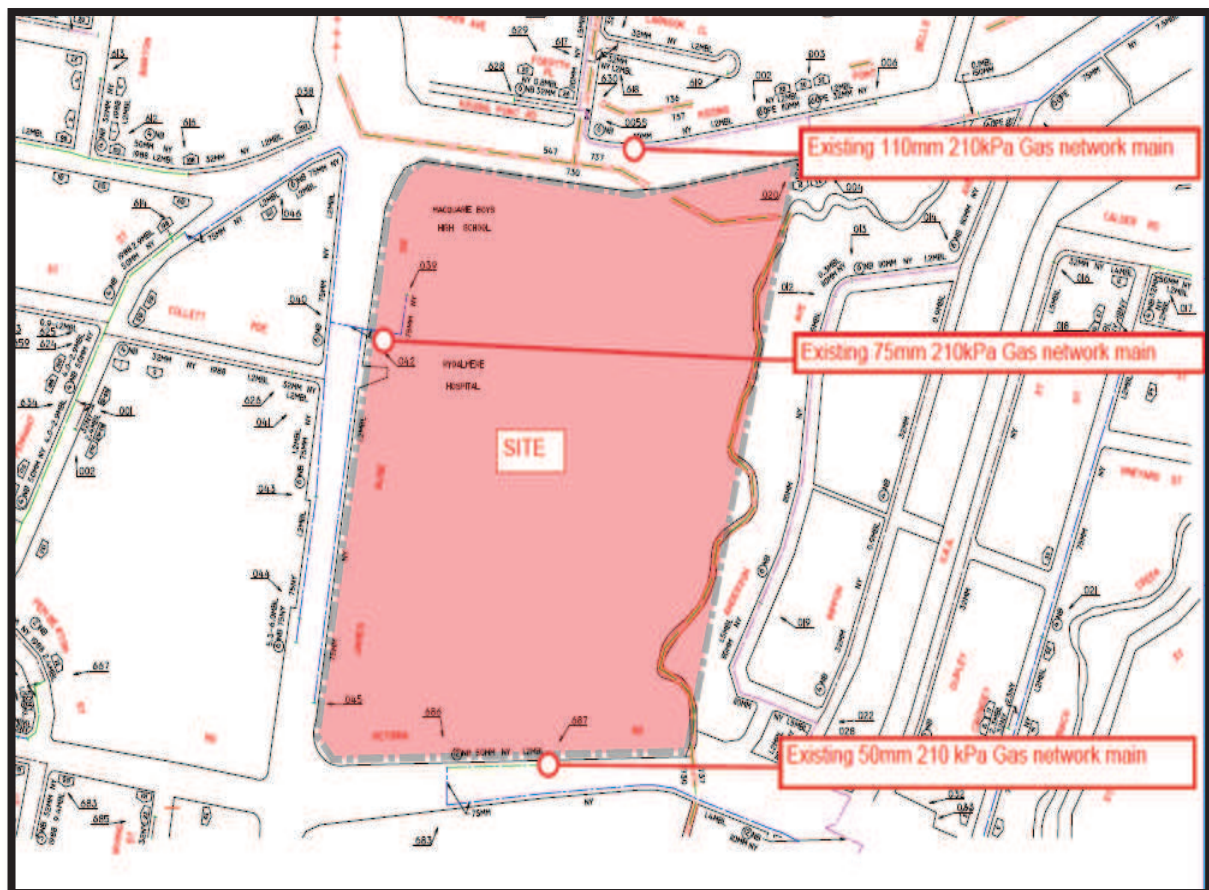
A DBYD enquiry and correspondence with Jemena has been undertaken to identify existing gas infrastructure, capacity and servicing strategy for the proposed development. The result of these inquiries are discussed in the following existing infrastructure and Servicing Strategy section below.

2.5.1 Existing Infrastructure

The Dial Before You Dig inquiry indicates the following existing Gas network mains in the immediate vicinity of the site: Locations of these existing networks as indicated in Plate 8.

1. 110mm 210kPa Gas main located at Kissing Point Road across the site
2. 75mm 210kPa main located at James Ruse Drive immediately adjacent to the site
3. 50mm 210kPa main located at Victoria Road immediately adjacent to the site.

Plate 8 -Existing Gas Networks



The DBYD enquiry also provided evidence of the presence of an existing 5 metre gas easement for multi-purpose high pressure pipelines located within the riparian corridor. The High Pressure Caltex/SMP/Qenos/Vopak High Pressure Multi Products Pipelines are located in this area.

Freyssinet Australia Pty Ltd patrol and monitor High Pressure Multi Products Pipelines on behalf of Caltex Australia Petroleum Pty Ltd, Qenos Pty Ltd, Vopak Terminal Sydney Pty Ltd, Hunter Pipeline Company and Newcastle Pipeline Company.

Works within the 5 metre easement are prohibited without the approval of the pipeline owners. Fresinnet Australia Pty Ltd pipeline patrolman Mr Ryszard Juszczak can be contacted between 8:00AM to 4:00PM on Mobile 0438 168 750 email: rjuszczak@freyssinet.com.au on behalf of pipeline owners and will assist in any information required regarding proposed construction in the close proximity of these gas pipelines.

2.5.2 Gas Servicing Strategy

Based on advice provided by Jemena, at this early stage of planning, the supply must come from the existing 3 locations as indicated in Plate 8. No costs are available at this early stage of development until a formal offer for supply is made. Further collaboration with Jemena is required to ensure supply of gas and to confirm associated cost for this development.

2.6 Telecommunications

NBN Co is the service provider for broadband facilities to the site. A preliminary inquiry with Dial Before You Dig (DBYD) and feasibility assessment have been made to NBN to identify existing telecommunication infrastructure, capacity and servicing strategy for the proposed development.

The results of these inquiries are presented below.

2.6.1 Existing Services

The DBYD report indicates various telecommunication (Optus, Telstra, AAPT and Aarnet) underground assets exist within Victoria Road. It is expected that with any changes for access to the site with Kissing Point Road, Victoria Road and James Ruse Drive would require these existing telecommunication assets to be re-aligned.

2.6.2 Telecoms Servicing Strategy

Meeting and email correspondence with NBN Co., Developer Manager- Jonathan Wood- confirmed that NBN will supply the proposed development. The supply will need to feed from FAN site located at Sorell Street approximately 2km from 266 Victoria Road Rydalmere Site. Refer Plate 9 for the NBN supply route.

Plate 9-NBN supply route



2.6.3 Telecoms Estimated High Level Costs

Considering the 2km proximity of the telephone exchange to the site, NBN advised that a once off backhaul charges will apply for the amount of \$13,300.

3 CONCLUSION

The summary of the status of the available key utility services are summarised in Table 1.

Table 1-Findings Summary

ID	Infrastructure and Responsible Servicing Authority	Findings
1.	Electricity by Endeavour Energy	<p>To adequately provision for electricity supply to the proposed development it is necessary to install at least two new 11kV underground feeders with a minimum two additional backup external 11kV ties.</p> <p>There appears to be two possible routes to the site from Rydalmere Zone Substation which is located in Wattle Street Rydalmere to the east of this proposed development. A preliminary assessment of the costs of providing the feeders is:</p> <p>Option A \$4.6 million Option B \$6.1million</p> <p>The costs would be fully funded by the developer.</p> <p>To program this connection and confirm the detail of works, an application for connection of load and electrical design by a Level 3 ASP is to be submitted to Endeavour Energy.</p>
2.	Potable Water by Sydney Water	Sydney Water confirmed that the Potable water service to the site would be from Dundas water servicing system. A 200m trunk main is located north-east corner of the site.
3.	Recycled Water- N/A	There is no recycled water infrastructure within the immediate vicinity of the site and Sydney Water will not likely to provide recycled water.
4.	Sewer by Sydney Water	<p>The existing DN400 Sewer main previously recommended by Qalchek to connect the site, located at the south-east corner of the site boundary, does not have a capacity to service the development site.</p> <p>Sydney Water recommended that the WSC-Qalchek arranges a meeting between the developer and Sydney Water Strategy representative , Greg Joblin to discuss how to service the proposed development</p>
5.	Gas by: Jemena	<p>Existing network system has capacity. The site will be supplied from various existing network mains located at Kissing Point Road, Victoria Road and James Ruse Drive.</p> <p>No cost is available at this stage until a formal supply agreement is made to Jemena</p>
6.	Caltex/SMP/Qenos/Vopak Pipelines	There are existing High Pressure Caltex/SMP/Qenos/Vopak pipelines on the eastern boundary of the site within the riparian corridor that must be considered when building near or over the existing Caltex pipelines.
7.	Telecommunications <i>Existing by: Telstra, Optus, AAPT and Aarnet</i> <i>Future supply by: NBN</i>	Various telecommunications networks exist along Victoria Road and James Ruse Drive. NBN confirmed supply to the proposed development and the site will be supplied from the nearest telephone exchange approximately 2km from site. A once off backhaul charge of \$13,300 will apply.

4 REFERENCES

Urbis, Preferred Concept Plan, 266 Victoria Road Rydalmere, Final Urban Design Report, December 2016.

Six map 266 Victoria Road Rydalmere locality map, accessed 8 July 2016

Dial Before You Dig, email correspondence, 4 July 2016.

Qalchek servicing advice, Email correspondence, 11 July 2016

Sydney Water Servicing Advice correspondence, 14 November 2016

Endeavour Energy servicing advice, email correspondence, 13 July 2016

Jemena servicing advice, email correspondence, 8 July 2016

NBN servicing advice, meeting discussion, 8 July 2016

Case Number: 156471

10 November 2016

GOVERNMENT PROPERTY NSW
c/- QALCHEK PTY LTD

FEASIBILITY LETTER

Developer: GOVERNMENT PROPERTY NSW
Your reference: PM 17629
Development: Lot 1 DP128413, Lot 1 DP836958, 266 Victoria Rd, Rydalmere.
Development Description: Residential and Commercial buildings between 4 - 20 Storeys consisting of between 1000-1500 Residential Apartments and Commercial use of approximately 35,000sqm with the adjoining DE site yield of about 500 apartments.
Your application date: 22 September 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 development. **The information is accurate at today's date only.**

If you obtain development consent for that development 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, e.g. 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.

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.

What You Must Do To Get A Section 73 Certificate

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 development 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 development. 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 your development does 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. **Potable Water, Wastewater and Stormwater Requirements.**

4.1 Potable Water

Your development must have a frontage to a water main that is the right size and can be used for connection.

Sydney Water has assessed your application and found that:

The proposed development has not been included in any Sydney Water strategic planning investigation undertaken to date for the existing water or wastewater systems servicing the site.

A general capability view of the existing water system is provided below to assist in planning the servicing needs of your development:

Water:

The development site is currently fronted by water mains supplied from the Dundas and Ryde Gravity water supply systems.

The submitted concept plan indicates a possible network extension from the Ryde Gravity water supply network. There is a significant level of growth proposed within Ryde Gravity water supply system which would need to be considered when determining the preferred servicing option for the development site.

The Dundas water supply system has relatively less growth and available trunk capacity which would be the desirable supply system to service the proposed development.

It is recommended that the WSC arranges a meeting between the developer and Sydney Water Growth Strategy representative, Greg Joblin to discuss the way forward.

4.2 **Wastewater**

Your development 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 your development's boundaries.

Sydney Water has assessed your application and found that:

The proposed development has not been included in any Sydney Water strategic planning investigation undertaken to date for the existing water or wastewater systems servicing the site.

A general capability view of the existing wastewater system is provided below to assist in planning the servicing needs of your development:

Wastewater:

The development site is located within the Vineyard Creek Carrier catchment (400mm sewer located near the South East corner of the site), which discharges to sewer pumping station 184 (SPS184).

SPS184 does not have capacity to service the proposed development. Detailed planning investigation will be required to determine the preferred servicing option.

Sydney Water has identified the future need to undertake strategic planning investigation for the surrounding area, however there is currently no committed timeframe for this work to be carried out.

It is recommended that the WSC arranges a meeting between the developer and Sydney Water Growth Strategy representative, Greg Joblin to discuss the way forward.

- You must use Sydney Water's new **Technical Specifications for Leak Tight Sewer Systems** to plan, design and construct the sewer. This specification must be used in conjunction with (and have precedence over) the Sewerage Code of Australia, WSA02-2002 (Sydney Water Edition).

- Because your development requires adjustment/deviation of a "live" wastewater main you must work with your Water Service Coordinator to ensure that:
 - Your Building Plans are approved prior to temporary pipework and excavation,
 - You submit your temporary pipework design (if required) with your permanent wastewater deviation design for approval,
 - Accept in writing to bonding conditions that will be provided in the Bond Agreement,
 - Submit your Bond and signed Bond Agreement,
 - Submit the Construction Commencement Notice for construction of the temporary pipework,
 - Have your temporary pipework constructed by a listed provider, and then
 - Complete your permanent deviation works

4.3 Stormwater

There are no specific Sydney Water's stormwater requirements for this development.

If the proposed development is required to discharge stormwater into Sydney Water's stormwater channel, then a separate application is to be forwarded to Sydney Water.

All stormwater connections should comply with Sydney Water's On-Site Detention policy and connection requirements. For further details please contact Sydney Water's Stormwater Team on (02) 8849 4459 (or fax (02) 8849 3063)

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/stormwater 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.

6. **Approval of your Building Plans**

You must have your building plans approved **before the Certificate can be issued. Building construction work MUST NOT commence until Sydney Water has granted approval**. Approval is needed because construction/building works may affect Sydney Water's assets (e.g. water and sewer mains).

Your Coordinator can tell you about the approval process including:

- Your provision, if required, of a "Services Protection Report" (also known as a "pegout"). This is needed to check whether the building and engineering plans show accurately where Sydney Water's assets are located in relation to your proposed building work. Your Coordinator will then either approve the plans or make requirements to protect those assets before approving the plans;
- Possible requirements;
- Costs; and
- Timeframes.

You can also find information about this process (including technical specifications) if you either:

- visit www.sydneywater.com.au > Plumbing, building & developing > Building > Building over or next to assets. Here you can find Sydney Water's *Technical guidelines - Building over and adjacent to pipe assets*; or
- call 13 20 92.

Notes:

- **The Certificate will not be issued until the plans have been approved and, if required, Sydney Water's assets are altered or deviated;**

- You can only remove, deviate or replace any of Sydney Water's pipes using temporary pipework if you have written approval from Sydney Water's Urban Growth Business. You must engage your Coordinator to arrange this approval; and
- 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*.

7. Special Requirements - Multi-level individual metering requirements

Your development must either allow for or provide individual metering. This means that you must:

1. comply at all times and in all respects with the requirements of Sydney Water's "*Multi-level Individual Metering Guide*" (version 6 dated 1 July 2015);
2. provide and install plumbing and space for individual metering in accordance with Sydney Water's "*Multi-level Individual Metering Guide*";
3. if and when you implement a strata/ stratum plan (or strata/ stratum subdivide) you must:
 - a. engage an Accredited Metering Supplier ("**AMS**") to provide individual metering in accordance with the "*Multi-level Individual Metering Guide*" and meet the cost of the meters and metering system;
 - b. transfer the meters and metering system to Sydney Water once the Testing Certificate has been issued by Sydney Water to the AMS and the AMS has confirmed that payment for the meters and metering system has been paid in full.

Before the Section 73 Certificate can be issued, you will be required to sign an undertaking to show that you understand and accept these metering requirements and associated costs.

Visit www.sydneywater.com.au > Plumbing, Building & Developing > Plumbing > Meters & metered standpipes to see the *Multi-level individual metering guide* and find out more.

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.

Disused Sewerage Service Sealing

Please do not forget that you must pay to disconnect all disused private sewerage services and

seal them at the point of connection to a Sydney Water sewer main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer 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.

Requirements for Business Customers for Commercial and Industrial Property Developments

If this property is to be developed for Industrial or Commercial operations, it may need to meet the following requirements:

Trade Wastewater Requirements

If this development is going to generate trade wastewater, the property owner must submit an application requesting permission to discharge trade wastewater to Sydney Water's sewerage system. You must wait for approval of this permit before any business activities can commence.

The permit application should be emailed to Sydney Water's [Business Customer Services](mailto:businesscustomers@sydneywater.com.au) at businesscustomers@sydneywater.com.au

It is illegal to discharge Trade Wastewater into the Sydney Water sewerage system without permission.

A **Boundary Trap** is required for all developments that discharge trade wastewater where arrestors and special units are installed for trade wastewater pre-treatment.

If the property development is for Industrial operations, the wastewater may discharge into a sewerage area that is subject to wastewater reuse. Find out from Business Customer Services if this is applicable to your development.

Backflow Prevention Requirements

Backflow is when there is unintentional flow of water in the wrong direction from a potentially polluted source into the drinking water supply.

All properties connected to Sydney Water's supply must install a testable **Backflow Prevention Containment Device** appropriate to the property's hazard rating. Property with a high or medium hazard rating must have the backflow prevention containment device tested annually. Properties identified as having a low hazard rating must install a non-testable device, as a minimum.

Separate hydrant and sprinkler fire services on non-residential properties, require the installation of a testable double check detector assembly. The device is to be located at the boundary of the

property.

Before you install a backflow prevention device:

1. Get your hydraulic consultant or plumber to check the available water pressure versus the property's required pressure and flow requirements.
2. Conduct a site assessment to confirm the hazard rating of the property and its services. Contact PIAS at NSW Fair Trading on **1300 889 099**.

For installation you will need to engage a licensed plumber with backflow accreditation who can be found on the Sydney Water website:

<http://www.sydneywater.com.au/Plumbing/BackflowPrevention/>

Water Efficiency Recommendations

Water is our most precious resource and every customer can play a role in its conservation. By working together with Sydney Water, business customers are able to reduce their water consumption. This will help your business save money, improve productivity and protect the environment.

Some water efficiency measures that can be easily implemented in your business are:

- Install water efficiency fixtures to help increase your water efficiency, refer to WELS (Water Efficiency Labelling and Standards (WELS) Scheme, <http://www.waterrating.gov.au/>
- Consider installing rainwater tanks to capture rainwater runoff, and reusing it, where cost effective. Refer to <http://www.sydneywater.com.au/Water4Life/InYourBusiness/RWTCalculator.cfm>
- Install water-monitoring devices on your meter to identify water usage patterns and leaks.
- Develop a water efficiency plan for your business.

It is cheaper to install water efficiency appliances while you are developing than retrofitting them later.

Contingency Plan Recommendations

Under Sydney Water's [customer contract](#) Sydney Water aims to provide Business Customers with a continuous supply of clean water at a minimum pressure of 15meters head at the main tap. This is equivalent to 146.8kpa or 21.29psi to meet reasonable business usage needs.

Sometimes Sydney Water may need to interrupt, postpone or limit the supply of water services to your property for maintenance or other reasons. These interruptions can be planned or unplanned.

Water supply is critical to some businesses and Sydney Water will treat vulnerable customers, such as hospitals, as a high priority.

Have you thought about a **contingency plan** for your business? Your Business Customer Representative will help you to develop a plan that is tailored to your business and minimises productivity losses in the event of a water service disruption.

For further information please visit the Sydney Water website at: <http://www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/> or contact Business Customer Services on **1300 985 227** or businesscustomers@sydneywater.com.au

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 development 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.

A report supplying modelled pressures called the Statement of Available pressure can be purchased through Sydney Water Tap inTM and may be of some assistance when defining the fire fighting system. The Statement of Available pressure, may advise flow limits that relate to system capacity or diameter of the main and pressure limits according to pressure management initiatives. If mains are required for fire fighting purposes, the mains shall be arranged through the water main extension process and not the Section 73 process.

Large Water Service Connection

A water main will be available, once you have completed your drinking water main construction to provide your development with a domestic supply. The size of your development means that you will need a connection larger than the standard domestic 20 mm size.

To get approval for your connection, you will need to lodge an application with Sydney Water Tap inTM. You, or your hydraulic consultant, may need to supply the following:

- A plan of the hydraulic layout;
- A list of all the fixtures/fittings within the property;
- A copy of the fireflow pressure inquiry issued by Sydney Water;
- A pump application form (if a pump is required);
- All pump details (if a pump is required).

You will have to pay an application fee.

Sydney Water does not consider whether a water main is adequate for fire fighting purposes for your development. We cannot guarantee that this water supply will meet your Council's fire fighting requirements. The Council and your hydraulic consultant can help.

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.

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;
- trade waste requirements;
- large water connections and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your development 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

PM 17629

11 July 2016

Government Property NSW
C/O J Wyndham Prince
ATT: Lydia Deguzman

Re : Proposed Re-development of No. 266 Victoria Road, Rydalmere

Dear Lydia,

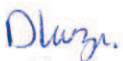
Following your enquiry relating to the above site and based on the proposed development yields we have determined the following sewer main would be required to service the site.

The site would require a DN 375 to DN 400 sewer main. The nearest sewer main of this size or greater is a DN 400 main which is located East of the site near Victoria Road. The Sewer would need to be extended about 30m to the site boundary in order to service the site.

In relation to the water service the development would most likely require a DN 250-300 main to be brought to the site. The nearest possible connection point is located 600m to the South of the site along James Ruse Drive at the Corner of Thomas Street and James Ruse Drive Intersection.

Please refer to the attached plan showing possible connection arrangements. It should be pointed out that a feasibility application has been made to Sydney Water and Sydney Water will need to verify if the nominated mains actually have spare capacity to service the proposed development. This means that additional capacity works may be required subject to Sydney Water investigation.

Yours faithfully



David Loizou

Water Service Coordinator
QALCHEK PTY LIMITED

12 July 2016

Endeavour Energy Ref: ENL2690 – 2016/04247/001
Customer Ref:

J Wyndham Prince Pty Ltd
PO Box 4366
PENRITH
NSW 2750

Attention: Lydia DeGuzman

ENL2690 – Technical Enquiry | 266 Victoria Road and 26 Kissing Point Road
PARRAMATTA

Dear Lydia,

Thank you for your enquiry regarding the proposed residential development at the above address. This enquiry has been registered under our reference numbers – ENL2690. Please quote this number for all future correspondence.

Endeavour Energy acknowledges that Property NSW (PNSW) is working with the Department of Education (DE) and Family and Community Services (FACS) in the rezoning of their combined sites at 26 Kissing Point Road, and 266 Victoria Road, Parramatta.

The Development Site presents a substantial urban infill opportunity within the Parramatta LGA and under the ultimate development scenario will result in significant reinvestment into NSW Government programs

As per development concept plan, the subject site consists of 19.3 hectares of land to be developed for 2,000 residential apartments with 40,000m² of commercial space.



It is advised that the construction work will commence in middle 2018 and there is no firm development staging plans at this early stage.

Load Assessment

This proposed development of 2,000 apartments and 40,000m² of commercial space has been preliminary assessed as having a peak summer load of 8.6 MVA at 6pm. Based on this finding the development will require at least two new 11kV underground feeders with a minimum two additional backup external 11kV ties.

Supply Arrangements and Requirements

Preliminary analysis indicates that Rydalmere Zone Substation is capable of supplying this proposed development. There is adequate capacity of the Zone Substation which has a firm capacity of 58 MVA. The forecast summer load at Rydalmere ZS in 2025 is 35.4 MVA. There are sufficient spare 11kV circuit breakers to allow two new underground feeders to be developed to the proposed development.

There appears to be two possible routes to the site from Rydalmere Zone Substation which is located in Wattle Street Rydalmere to the east of this proposed development.

- The route option "A" would utilise the existing corridor of Victoria Road.
- The route option "B" would utilise the existing corridor of Kissing Point Road.

Either Option may be used install a new underground circuit to the proposed development, however it is likely a new rail crossing along Victoria Road would be needed with route Option "A", while Option "B" would utilise the existing road underpass of the rail crossing along Kissing Point Road.

A minimum size of 240 mm² Copper XLPE 11kV cable will be required for each new circuit from Rydalmere Zone Substation

The existing 11kV cables on site to Sub 22232 can be retained to form the new back up ties required for this development.

A number of new substations would be required on the proposed development site.

A sketch of this arrangement shall refer to Appendix A on next page.

Hope this assists for the meantime and this advice provided is in response to an enquiry only and does not constitute a formal method of supply. An application must be submitted and subsequent designs have been certified or approvals granted will Endeavour Energy reserve capacity on the network.

Should you have any questions regarding this response to your request for technical review, please contact me.

Yours faithfully,

David HO

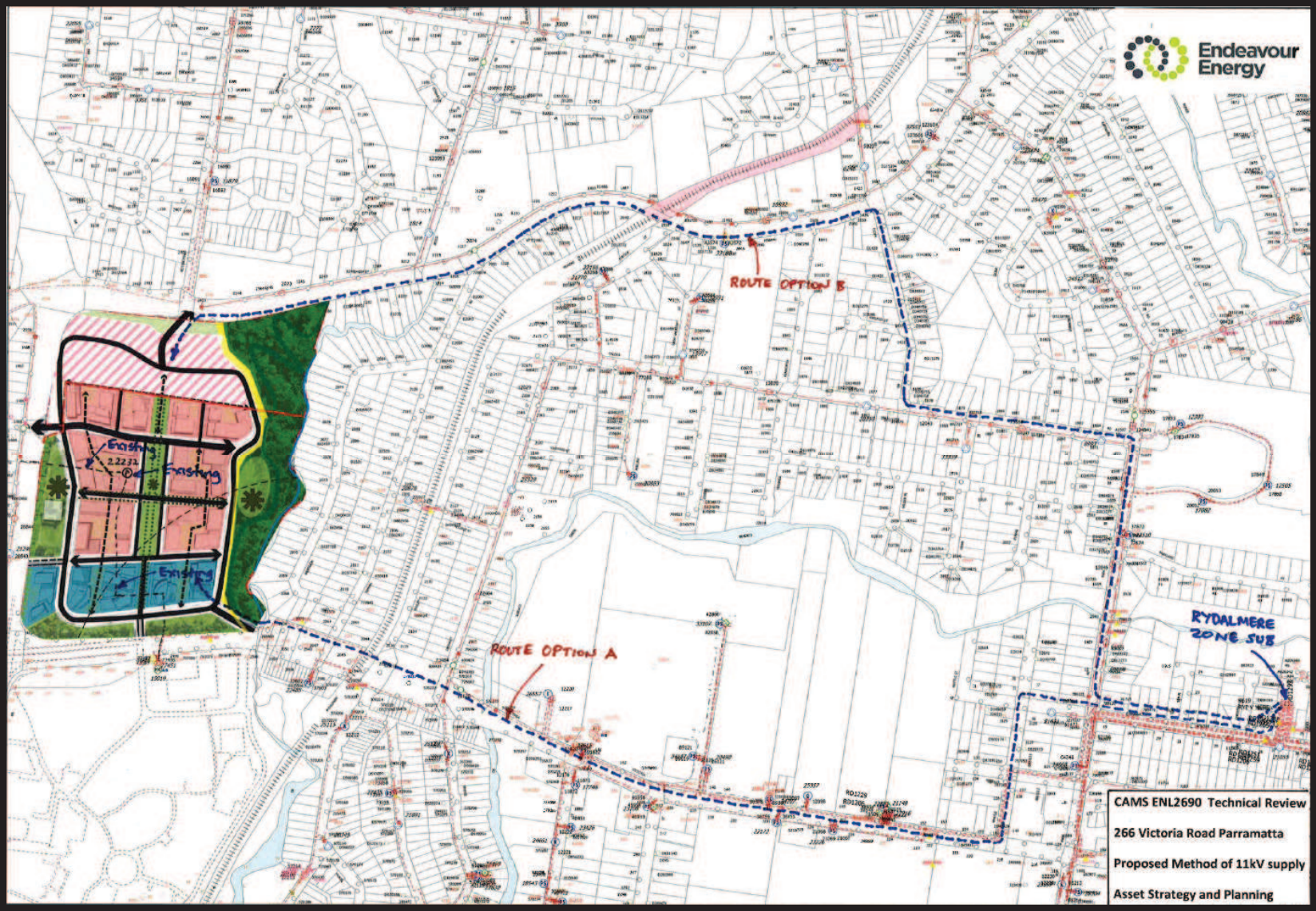
David Ho

Contestable Works Project Manager | Network Connections

☎ Direct: (02) 9853 7901

✉ Email: david.ho@endeavourenergy.com.au

Appendix A – Proposed 11kV Underground Cable Routes



From: [Neale Hilton](#)
To: [Lydia DeGuzman](#)
Subject: RE: 266 Victoria Road Rydalmere- request for gas servicing strategy
Date: Wednesday, 6 July 2016 1:48:39 PM
Attachments: [image003.jpg](#)
[image004.jpg](#)

Lydia

At this early stage Jemena advises the supply must come from various locations, 110mm 210kPa Natural Gas main located in Pennant Hills Rd, 75mm 210kPa main located on James Ruse Drv and 32mm 210kPa main located on Victoria Rd. No costs are available at this point and a formal offer for supply and metering should be made when construction is imminent.

Factors like actual gas loads, metering configurations, connection locations, etc are required to facilitate an offer from Jemena to the marketplace.

Regards

Neale Hilton

Network Development Manager
Jemena
Level 14, 99 Walker Street, North
Sydney, NSW 2060
M 0402 060 151
neale.hilton@jemena.com.au |
www.jemena.com.au

cid:image003.png@01D076AD.A6EA3110



cid:CD1B5F24-1C8F-4830-BF1C-00CF2420C49A@gateway



From: Lydia DeGuzman [<mailto:ldeguzman@jwprince.com.au>]
Sent: Tuesday, 5 July 2016 3:34 PM
To: Neale Hilton
Subject: 266 Victoria Road Rydalmere- request for gas servicing strategy

Hi Neale,

We have been engaged to investigate the utilities servicing strategy for 266 Victoria Road Rydalmere proposed mixed used development consists of approximately 2500 apartments with 40,000m2 commercial spaces. I attached a copy of preliminary concept plans for your information. We also note the project is confidential and that information should not be disclosed to other parties.

The subject site is located north Parramatta, currently accommodates an Ageing Disability and Home care facilities. The northern site is formerly Macquarie Boys High School.

Can you please advise the following:

- Existing readily available gas infrastructure capacities, size and location
- Requirements to adequately support the gas supply to the proposed development
- Any infrastructure augmentation or new infrastructure required and associated cost to the developer.

Please let me know if you need further information.

Regards,

Lydia DeGuzman – Project Manager

J. WYNDHAM PRINCE
CONSULTING CIVIL INFRASTRUCTURE ENGINEERS
& PROJECT MANAGERS

P 02 4720 3374 **M** 0476 843 627 **W** www.jwprince.com.au
580 High Street, Penrith NSW
PO Box 4366 PENRITH WESTFIELD 2750

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Lydia DeGuzman

From: Jonathan Wood <JonathanWood@nbnc.com.au>
Sent: Monday, 11 July 2016 9:53 AM
To: Lydia DeGuzman
Subject: 266 Victoria Road Rydalmere Parramatta

Hi Lydia,

I trust you had a good weekend. I have the results of the feasibility study back. It seems that due to the number of premises within the site discussed **nbn** will need to feed the site directly from the FAN. This then means that the route will be around 2km.



As such there will be a once off backhaul charge of \$13,300.

I trust that this helps,

Regards

Jon

Jonathan Wood

Developer Manager - New Developments

Network Engineering and Deployment

P: 02 9927 4470 | **M:** 0404 481 460 | **E:** jonathanwood@nbnco.com.au

A: Level 11, 100 Arthur Street, NORTH SYDNEY NSW 2060

