

Servicing & Infrastructure Report



Planning Proposal Macarthur Grange Golf Course

Prepared for: Tescuz Investments
Date: May 2020
Our Reference: 057-20

CRAIG & RHODES

02 9869 1855

Suite 7.01 Level 7, 3 Rider Boulevard
Rhodes NSW 2138

PO Box 3220, Rhodes NSW 2138

ABN 77 050 209 991

www.craigandrhodes.com.au

Contents

1	Executive Summary	3
2	Site Overview	4
2.1	Site Description	4
2.2	Utilities	5
2.3	Proposed development	6
2.4	Methodology	6
3	Potable Water	6
3.1	Current	6
3.2	Proposed	6
4	Wastewater	7
4.1	Current	7
4.2	Proposed	7
5	Electrical	7
5.1	Current	7
5.2	Proposed	7
6	Telecommunications	8
6.1	Current	8
6.2	Proposed	8
7	Natural Gas	8
7.1	Current	8
7.2	Proposed	8
7.3	Gas easement	9
7.3.1	Prohibitions	9
7.3.2	Interim conclusions	10
8	Conclusion	12

Annexures:

- A. Sydney Water Feasibility Letter, 2020
- B. Endeavour Energy Report, 2020

Issue	Date	Author	Approved
A	25/05/20	Belinda Elogious	Adrian Miller

1 Executive Summary

Craig & Rhodes Pty Ltd has been engaged by Toscu Investments to prepare an Infrastructure Report for Lot 3900 DP1170905, known as Macarthur Grange Golf Course and Function Centre. The Site is approximately 129.5 hectares (ha) with a frontage to Raby Road, Macarthur Grange.

The project involves the creation of 63 environmental living lots (ranging from 0.5ha to 2.75ha) with a 6 ha lot for a hotel / function centre use including the existing club house.

This Site was subject to a Planning Proposal lodged 21 December 2015 to amend the Campbelltown Local Environmental Plan (LEP) 2015 for the rezoning of the land. The Proposal was not supported by Council for a range of reasons including the failure to adequately protect the views of Scenic Hills and impacts on fauna.

Cardno prepared a Service Infrastructure Plan (Ref: 80515019-UI-RP001) dated 16 December 2015 to support the previous Planning Proposal for Macarthur Grange Golf Course, addressing existing utilities, portable water, wastewater, recycled water, electricity, telecommunications and gas.

This Infrastructure Report, prepared by Craig & Rhodes, updates Cardno's earlier report to support a new Planning Proposal to be submitted to Campbelltown Council by File Planning & Development Services on behalf of Toscu Investments.

The Report provides information regarding the current and proposed capacity of utilities to service the Site and adjacent land, including water and wastewater, electricity, gas and telecommunications.

The broad conclusion is that subject to the completion of utility capacity upgrades, together with specific utility requirements being met, the site can be adequately serviced.

2 Site Overview

2.1 Site Description

The Site is legally identified as Lot 3900 DP 1170905 and is known as the Macarthur Grange Golf Course and Function Centre with an area of 129.5ha. The Site is entered via Raby Road, and is bound by Gledswood Hill Drive to the west, Gregory Hills Drive to the south, and Eagle Vale Drive and Epping Forest Drive to the East. Refer to **Figure 1**.

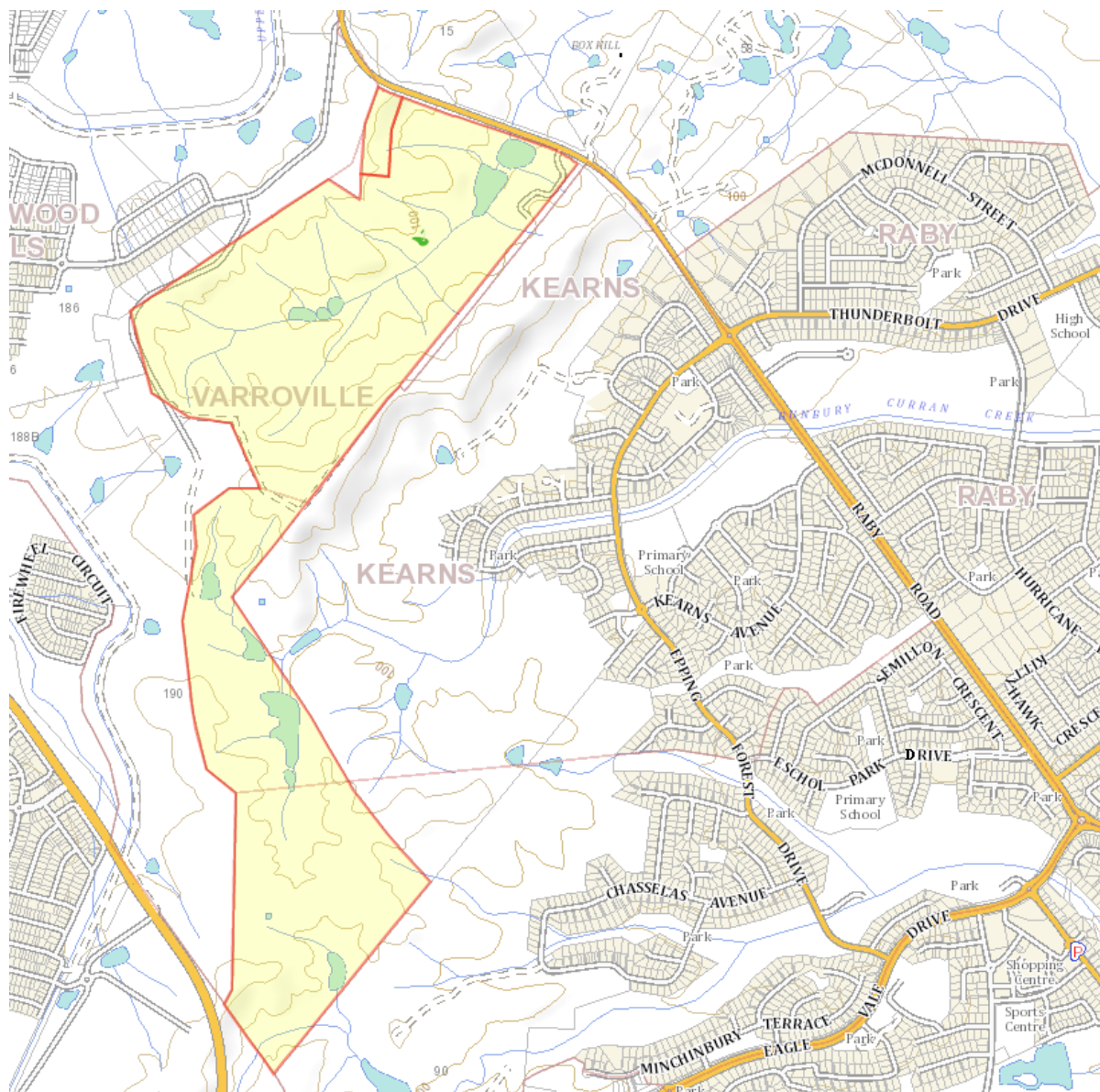


Figure 1: Cadastral Map of Macarthur Grange Golf Course (SIX Maps 2020)

The northern section is located within Varroville, and is currently used as a golf course. The southern section of the Site is located within Kearns, and is used for rural land uses and pasture.

The Site is currently zoned E3 Environmental Living and has a minimum lot size control of 100m² under the Campbelltown LEP 2015.

2.2 Utilities

There are significant utilities that traverse the Site (Figure 2) that include:

- Three high pressure gas pipelines that transect the western portion of the Site;
- Transgrid's 132kV overhead transmission cables within a 60-metre-wide easement that transect the centre of the Site;
- Endeavour Energy's 66KV overhead transmission cable that transects the southern boundary of the Site; and
- Telstra network cables to the north of the Site.

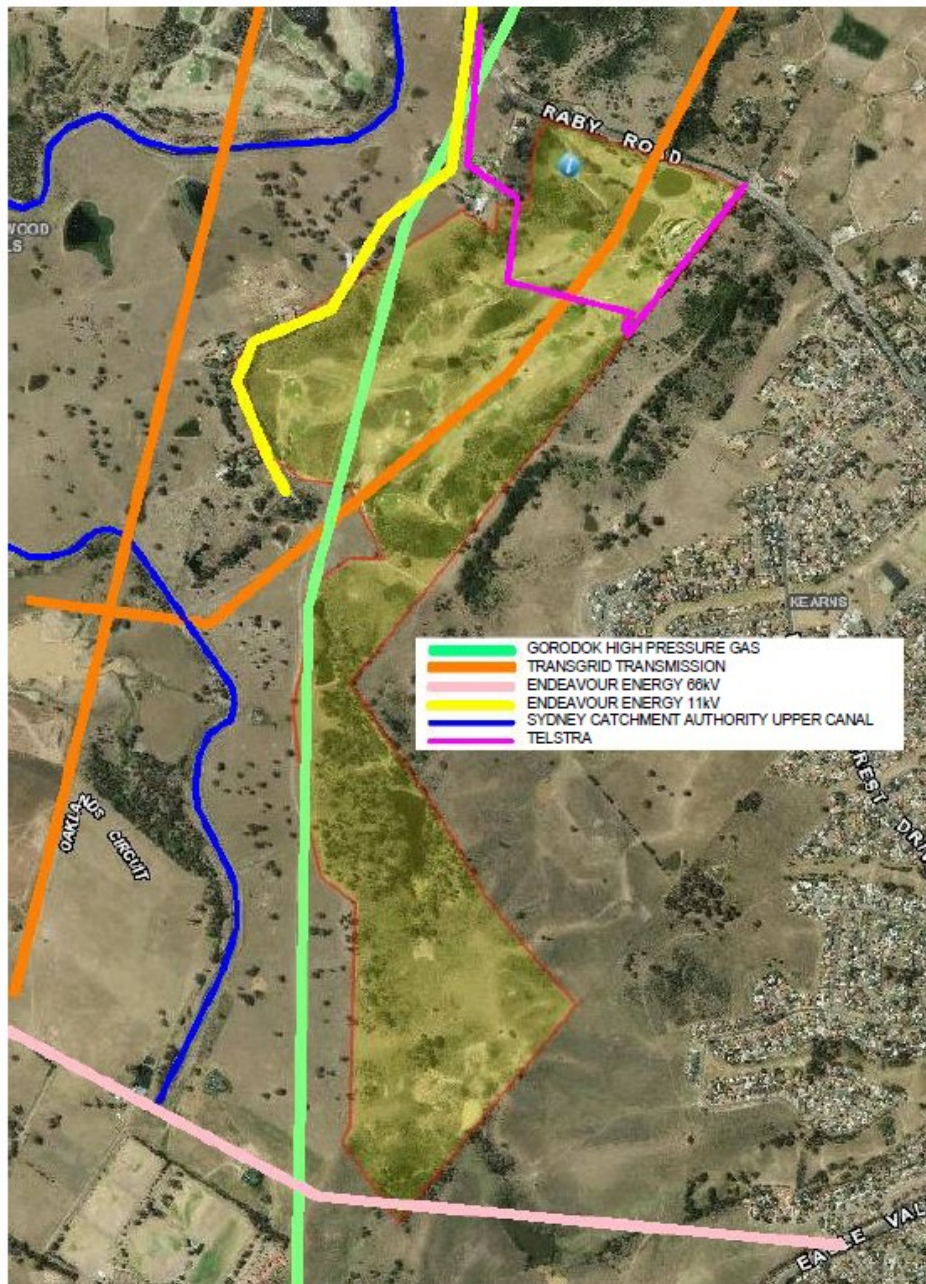


Figure 2: Existing Utilities Map (Services Infrastructure Report, Cardno 2015)

2.3 Proposed development

The Master Plan for the Site has been prepared by Architectus, which proposes the creation of 63 environmental living lots (ranging from 0.5ha to 2.75ha) with a 6 ha lot for a hotel / function centre use including the existing club house fronting Raby Road.

2.4 Methodology

This report has been prepared following review of the:

- Macarthur Grange Golf Course and Function Centre Planning Proposal report (Ref: 80515019) dated 21 December 2015, prepared by Cardno;
- Macarthur Grange Golf Course Strategic Planning Analysis and Master Plan dated 17 July 2019, prepared by File Planning & Development Services;
- Feasibility Letter from Sydney Water regarding potable water and wastewater servicing scenarios for the Site;
- Sydney Water's Growth Servicing Plan;
- Advice from Endeavour Energy to obtain possible electrical supply scenarios for the Site;
- Advice from APA, the owner of the Gorodok gas pipeline; and
- Advice from Jemena to obtain possible natural gas supply scenarios for the Site.

3 Potable Water

3.1 Current

Advice from Sydney Water in a Feasibility Letter dated 22 May 2020 (Attachment A) states that there is no bulk water capacity to service the site.

3.2 Proposed

A new reservoir (Currans Hill) is scheduled for delivery in approximately 2 years time that will provide bulk water capacity to service the site. There are some high areas of the site that may require an in-line booster station to provide adequate water supply.

The developer will be required to perform hydraulic modelling to determine the need for an in-line booster to service the higher ground, and also the extent of adjacent main extensions and amplifications (Gregory Hills Drive in the south and Gledswood Hills Drive in the north) to service the site.

It is most likely that this work will need to be funded and delivered by the developer. Exact specifications will be articulated by Sydney Water in its Notice of Requirements when the developer makes an application for a Section 73 Certificate as part of the DA process.

4 Wastewater

4.1 Current

The above feasibility letter states that at this time the site is outside Sydney Water's existing wastewater catchments.

4.2 Proposed

There is bulk wastewater capacity in the West Camden trunk network to service the development. Hydraulic modelling will need to be performed to determine which points in the adjacent networks have capacity to receive wastewater flows from the site, and the extent of their extension and required capacity upgrades.

It is most likely that this work will need to be funded and delivered by the developer. Exact specifications will be articulated by Sydney Water in its Notice of Requirements when the developer makes an application for a Section 73 Certificate as part of the DA process.

5 Electrical

A network enquiry report was prepared by Endeavour Energy (Ref: ENL3668 – Attachment B) dated 24 February 2020 for the potential development of the Site into 63 environmental living lots with a 6 ha lot for a hotel / function centre use including the existing club.

This advice was used to inform the current and proposed electrical infrastructure for the area.

5.1 Current

The Site is currently supplied by a 11kV feeder SV1142B which originates from South Leppington Zone Substation (ZS). It currently does not have sufficient capacity to serve the proposed development. Other 11kV feeders in the Site's surroundings, originating from Narellan ZS and Minto ZS, are also utilised to their full capacity.

5.2 Proposed

The South Leppington ZS is planned for upgrade works that are scheduled to be commissioned in Fiscal Year 2021 and will result in network capacity being available near the development site. This is subject to change based on detailed maximum demand confirmation.

Consideration must be made that many new urban residential developments have been planned for the area which may quickly occupy South Leppington ZS's future upgraded capacity. Capacity on the network for a development is not reserved unless a formal application for connection of load is submitted to Endeavour Energy.

Endeavour Energy has advised this is preliminary advice and subject to change based on network conditions at time of application submission.

6 Telecommunications

6.1 Current

A general enquiry with National Broadband Network (NBN) reveals there are currently no services available, refer to (Figure 3). There are adequate services for telecommunication currently surrounding the Site. A Development Application can be lodged with NBN for the proposed development to ensure adequate telecommunication servicing.

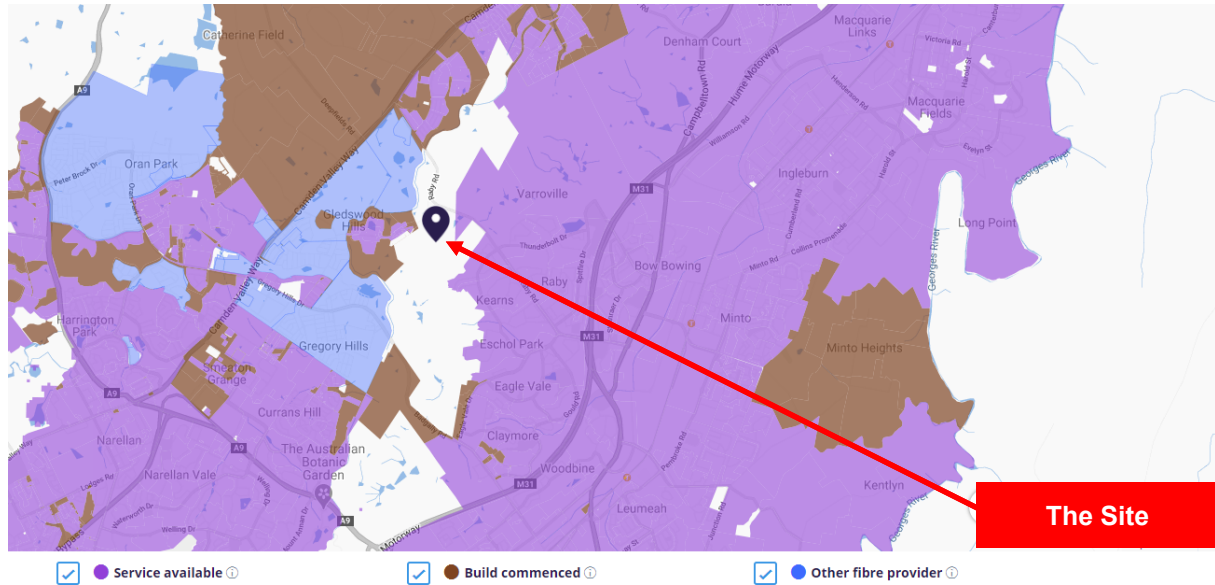


Figure 3: NBN rollout Map (NBN 2020)

6.2 Proposed

The National Broadband Network is a possible telecommunications provider for this development. If the developer chooses to obtain supply from the National Broadband Network an application and contribution to the lead-in infrastructure will be required.

7 Natural Gas

7.1 Current

There is currently no suitable residential Jemena Natural Gas network at this location.

7.2 Proposed

From our correspondence with Jemena Natural Gas network, there is a suitable gas main for the development at Epping Forest Drive and Elbe Place that would need to be extended to Raby Road.

Based on similar developments, Jemena estimates a \$320,792 contribution would be required to supply this site. This feasibility does not include any internal reticulation should there be council dedicated roads within the estate. Once the development is approved and construction certificates gained, Jemena would be in a position to make a formal offer.

7.3 Gas easement

There are three gas pipelines that transect the western portion of the Site, as shown in Figure 4. The blue line is the Eastern Gas Pipeline (EPG) and orange line is the Jemena Gas Network pipeline (JGN), under the ownership of Jemena. The pink line is the Moomba to Sydney Ethane Pipeline runs parallel to JGN and under the ownership of Gorodok Pty Ltd (APA Group).

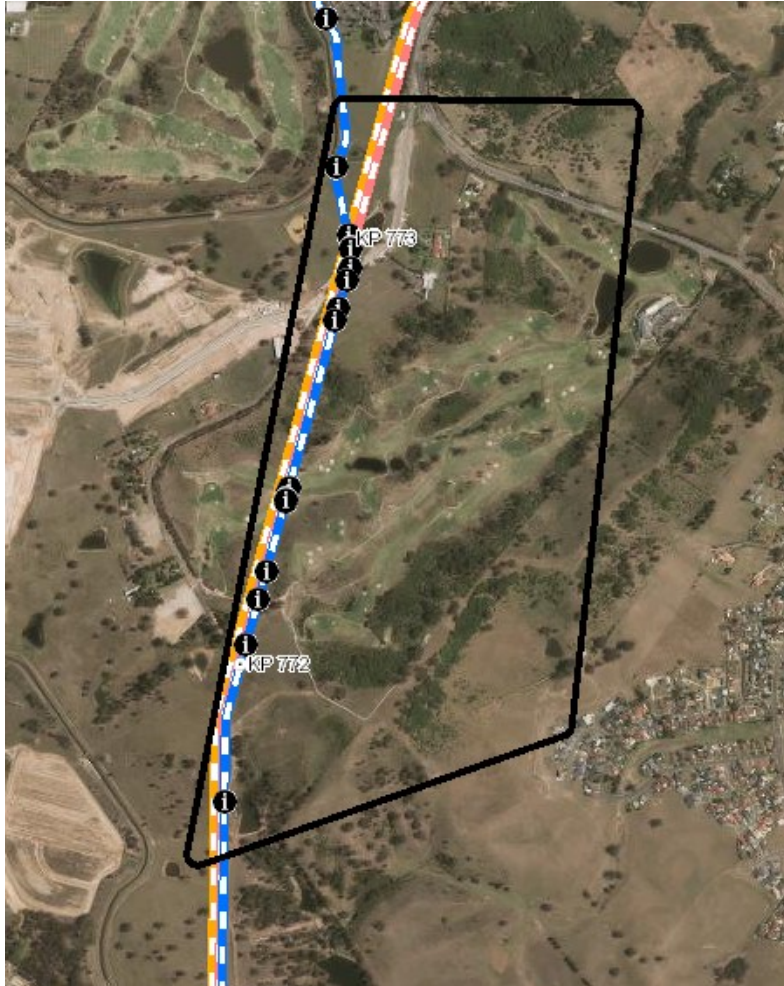


Figure 4: Gas Pipelines traversing the Site (Jemena 2020)

7.3.1 Prohibitions

Planning Circular PS 18-010, published 26 October 2018, advises the parameters for development adjacent to high pressure pipelines under clause 66C of the State Environmental Planning Policy (Infrastructure) 2007 (known as the Infrastructure SEPP). Clause 66C requires a risk assessment to be carried out regarding potential safety risks or risks to the integrity of the pipeline related to the development.

Advice from APA, the owner of the Gorodok gas pipeline, states that the construction of houses, buildings or other substantial structures near transmission lines and its easement must be approved by Jemena and APA. A Planning Application for the proposed development must be submitted, where a Safety Management Study will be undertaken for specific restrictions regarding developing near the easement. This can be done at the DA stage.

In general, no buildings or structures can be built on the easement, and any vegetation planted or proposed earthworks are subject to approval. A clear line of site must be maintained along the easement, and no physical barriers should be erected that impede physical controls.

All sensitive land uses, including schools, child care facilities, aged care facilities, prisons, health hubs, community health centres, primary health care clinics and ambulance stations must be built outside a determined Measurement Length of 600 metres. The proposed development of low density housing near the easement is not classified as a sensitive land use, and is therefore not subject to this Measurement Length.

7.3.2 Interim conclusions

As low density housing is not classified as a sensitive use, the measurement length of 600 metres does not apply, and construction of housing adjacent to the easement is permitted. The crossing of the pipeline and easement by driveways or services required for the development should be done at right angles where possible, and must be approved through APA's 'Third Party Works Authorisation Process'. This will be managed during the DA process.

Analysis of housing located directly south of the Site, fronting Gregory Hills Drive reveals a building setback of approximately 25 metres from the same gas pipeline identified on the Site. (Figure 5). Yellow markers adjacent to the dwelling reveal the gas pipeline and have been identified with red on Figure 6.

The approved planning proposal on Gregory Hills Drive, bound by the Upper Canal and the western side of the gas easement, shows residential lots abutting the easement.

It can therefore be concluded that the proposed development as articulated would not be prohibited by APA.



Figure 5: Location of development south of Site (Near Map Jan 2020)



Figure 6: View of development from Badgally Road from west (Google Maps 2020)

8 Conclusion

Based on the investigations undertaken in this Report, there is existing or planned bulk capacity in utility services for the intended development of residential housing and a function centre. As long as the provisions of APA are complied with, the development is not incompatible with the existence of the gas easement.

To service the development the following works will be required;

- Extension of the water networks from Gregory Hills Drive in the south and Gledswood Hills Drive in the north, and possible in-line booster stations to service the higher parts of the site (subject to modelling) after the Currans Hill reservoir has been delivered;
- Extension and amplification of the wastewater networks from the west, pending assessment of the capacity of those networks (subject to modelling);
- Electrical power from the future upgraded capacity of the South Leppington Zone Substation;
- Application with the National Broadband Network for lead-in telecommunications infrastructure; and
- Extension of the natural gas main from the Corner of Epping Forest Drive and Elbe Place.

Appendix A

Case Number: 182779

22 May 2020

TOSCUZ INVESTMENTS PTY LTD
c/- METROWATER MANAGEMENT

FEASIBILITY LETTER

Applicant: TOSCUZ INVESTMENTS PTY LTD
Your reference: 057/20 Feaso
Property location: RABY RD, Raby
Development Description: Current: Golf Course
Proposed: Proposed 69 Residential lots with an average lot size of 1 hectare to 3.7 hectares and Recreational, Entertainment & Community use over an 8 hectare lot
Your application date: 11 March 2020

Note: Level 1 water restrictions are now in place, which limits how and when water can be used outdoors. This can impact you and your contractors in the activities they need to undertake for this proposal.

Using water to suppress dust is not restricted, but this does mean that you/your contractors will need to apply for an exemption permit to use water for most outdoor uses including:

- Cleaning equipment and the exterior of new buildings
- Drilling and boring, and
- Batching concrete on-site

Fines for deliberate breaches of restriction rules apply from 1 September 2019.

For more information on the restrictions and for applying for an exemption, visit our web site at <http://www.sydneywater.com.au/SW/water-the-environment/what-we-re-doing/water-restrictions/index.htm>

The more water everyone saves, the longer we can stave off the progression to stricter restrictions or emergency measures.

Please provide this information to your contractors and delivery partners to inform them of their obligations.

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 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.

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 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. Water and Sewer Works

The existing water and wastewater systems are not designed to easily accommodate rezoning of the development site.

More specific advice is laid out below.

3.1 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 is located within the proposed future Currans Hill reservoir zone.
- There are no existing Sydney Water water services to the development site.
- Sydney Water's investigation has determined that this site cannot be serviced prior to the Currans Hill reservoir being operational. The reservoir may not be operational for up to two years.

- The following information is subject to the proposed extension of the Currans Hill reservoir zone and the reservoir being operational.
- The local drinking water networks and potential locations for connection of water main extensions are shown in the attached water plan.
- The high ground levels within the subdivision cannot be serviced via the proposed future Currans Hill reservoir zone.
- The developer will need to undertake hydraulic modelling to assess the capacity of the local network, investigate options for extending the reticulation network and identify any amplifications needed to the existing system as a result of the development. If the high ground levels within the site are to be developed, these investigations should also consider assessing the viability of servicing these areas via a booster pumping station.

3.2 Sewer

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 is located outside of Sydney Water's existing wastewater catchments.
- There are no existing Sydney Water wastewater services to the development site.
- There is capacity in the adjacent West Camden Wastewater System (trunk network) to service the development.
- The local wastewater networks and a potential location for connection to the West Camden network is shown on the attached wastewater plan.
- The developer will need to undertake hydraulic modelling to assess the capacity of the receiving wastewater network, investigate options for extending the reticulation network and identify any amplifications needed to the existing system as a result of the development.

As part of these investigations, the developer may wish to consider alternate connection points to the network.

4. Ancillary Matters

4.1 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.

4.2 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.

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 the building plans must be approved when each lot is developed. This can be done at Sydney Water Tap inTM. Visit www.sydneywater.com.au > Plumbing, building & developing > Building > Sydney Water Tap inTM.

This is not a requirement for the Certificate but the approval is needed because the construction/building works may affect Sydney Water's assets (e.g. water, sewer and stormwater mains).

Where a Sydney Water stormwater channel, pipe or culvert is located within ten (10) metres of your development site it must be referred to Sydney Water for further assessment.

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. 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 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.

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:

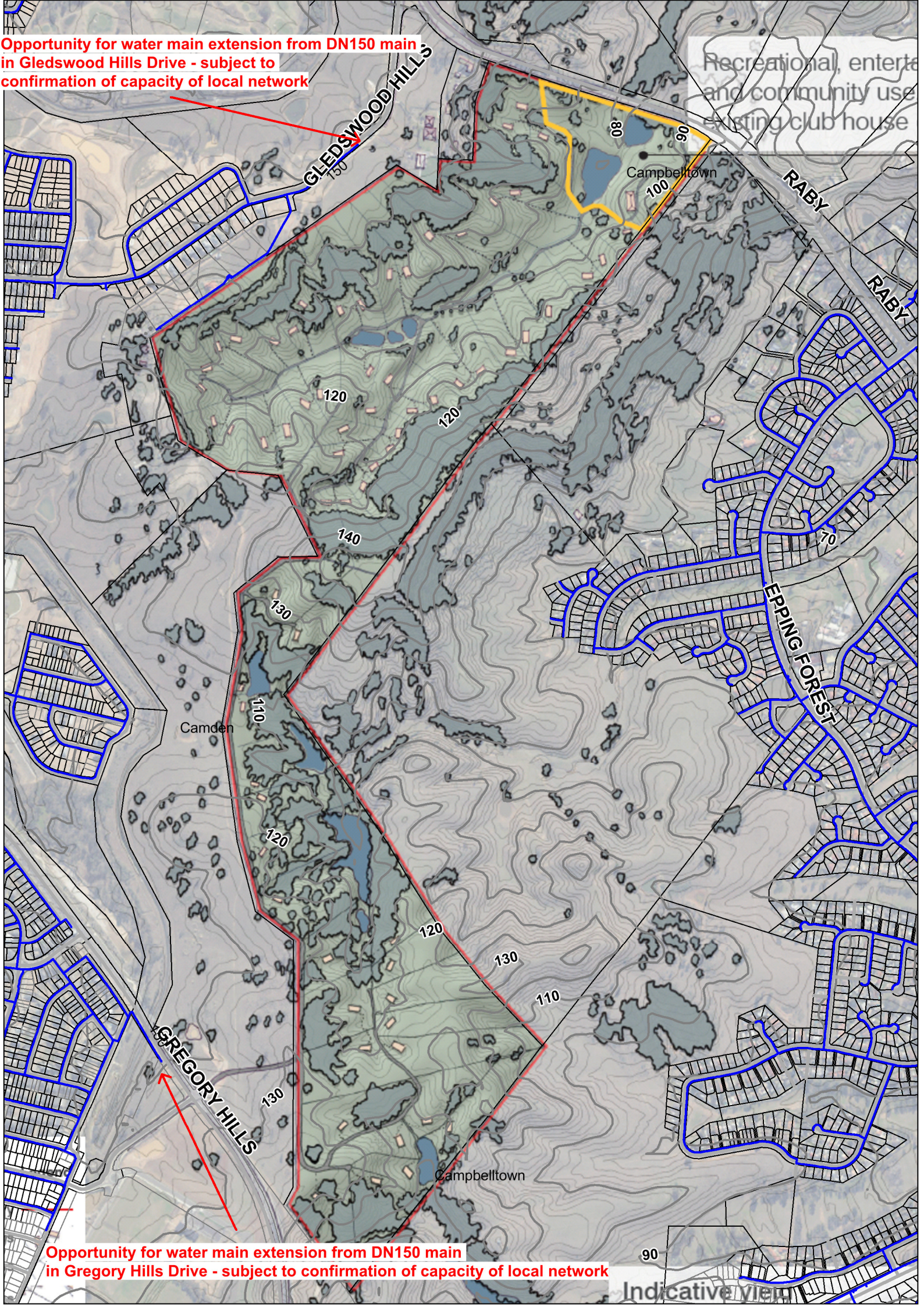
- plumbing and drainage inspection costs;
- the installation of backflow prevention devices; and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here.)

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

**Opportunity for water main extension from DN150 main
in Gledswood Hills Drive - subject to
confirmation of capacity of local network**

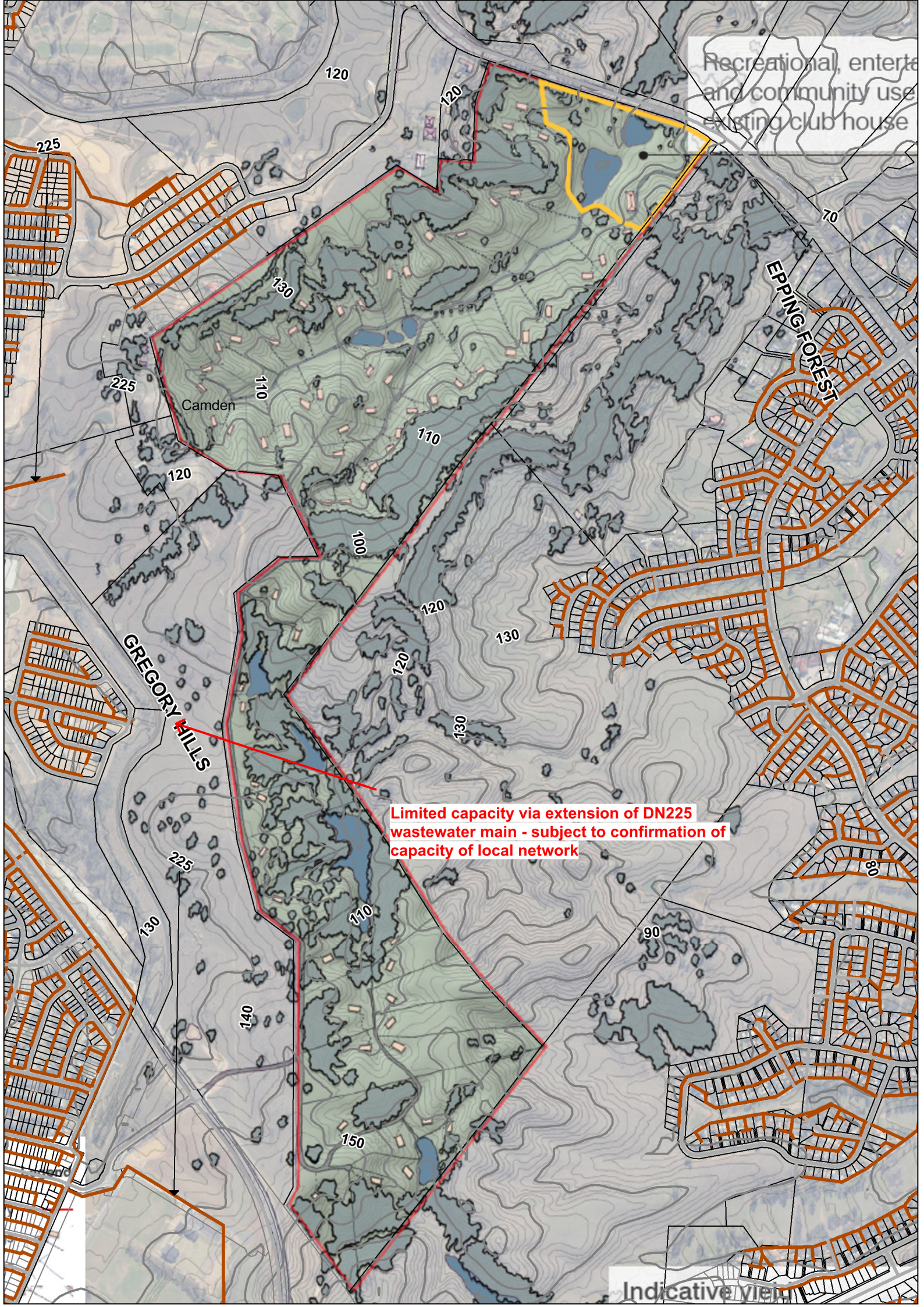
Recreational, entertainment
and community use
existing club house



**Opportunity for water main extension from DN150 main
in Gregory Hills Drive - subject to confirmation of capacity of local network**

Indicative view

Recreational, entertainment and community use
existing club house



Limited capacity via extension of DN225
wastewater main - subject to confirmation of
capacity of local network

Indicative view

Appendix B

24 February 2020

Endeavour Energy Ref: ENL3668

Craig & Rhodes
3 Rider Blvd
RHODES NSW 2138

Attention: Belinda Elogious

ENL3630 – 3900 Raby Road, Varroville NSW 2558

Thank you for your enquiry for the proposed development at the above location. The developer has proposed to re-develop the 129ha Macarthur Grange golf course into 69 Environmental Living lots (ranging from 1ha to 3.7ha). The re-development will also include a function centre, hotel, motel and serviced accommodation (please see below site image).



The site is currently supplied by 11kV feeder SV1142B which originates from South Leppington Zone Substation and does not have sufficient capacity to serve the proposed development's load. Other 11kV feeders in the site's vicinity, originating from Narellan ZS and Minto ZS, are also utilised to their full capacity.

The South Leppington ZS is planned to undergo upgrade works which is scheduled to be commissioned in FY21 and hence will result in network capacity to be available near the development site; this is subject to change based on detailed maximum demand confirmation.

The customer must take into consideration that many new urban residential developments have been planned for the area that may quickly occupy South Leppington Zone Substation's future upgraded capacity.

Note: Capacity on the network is not reserved unless a formal application for connection of load is submitted to cwadmin@endeavourenergy.com.au . The above is a preliminary advice only and is subject to change based on network conditions at the time of application submission.

Should you have any enquiries regarding your application please contact the undersigned.

Yours faithfully,



Ayman Shahalam

Contestable Works Project Manager

Network Connections

T : 02 9853 7803

M: 0439 351 215

490 Hoxton Park Rd, Hoxton Park

<http://www.endeavourenergy.com.au>