power solutions

Quality Design Specialists

Thursday, 17 April 2025

Subject Electrical Servicing Advice for the Proposed Development Site
Project Name Anambah Road, Gosforth
Site Address Anambah Road, Gosforth

To whom it may concern,

Power Solutions, a local ASP3 design company with more than 30 years of experience, has reviewed the Ausgrid response to the Preliminary Application to determine whether the existing electrical infrastructure is suitable. This letter is in response to Item 5b (page 4) of the RFI from Council:

b) Ausgrid have advised that a preliminary enquiry to Ausgrid to obtain advice for the connection of the proposed development to the adjacent electricity network infrastructure, is required.
Ausgrid need to consider whether the existing network can support the expected electrical load of the development, the requirement for a substation on-site (either a pad mount kiosk or chamber style) and site conditions or other issues that may impact on the method of supply.

Ausgrid's response states that the Rutherford ZS has one spare 11kV CB which means that an 11kV connection to the existing Zone substation can be made and that existing capacity is available to supply the development. From Ausgrid Network Standard NS112 Section 4.1.1 a standard 11kV feeder has a capacity of 6MVA. Assuming each home has a standard 3.5kVA supply, then the feeder can supply approximately 1,700 lots.

Due to the size of the development, multiple kiosk substations will be required. The number and location of these substations has been estimated, but will need t be confirmed in detailed design. Kiosk substations will need to be placed in accordance with Ausgrid Network Standards and Environmental requirements.

In regards to Clause 7.2 of the LEP:

Development consent must not be granted for development on land in an urban release area unless the Council is satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when it is required.

The response from Ausgrid to the Preliminary Enquiry confirms that essential infrastructure is available for the proposed development.

Yours faithfully,

Steve Goman – Senior Electrical Engineer
Power Solutions (NSW) Pty Ltd

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Preliminary Enquiry – Response Letter

22/10/24 Webform ref: 1945049

POWER SOLUTIONS (NSW) PTY LTD
Attention: Steven Goman
Via email: sgoman@powersol.com.au

Premises address: **ANAMBAH ROAD, GOSFORTH**

Ausgrid AE Reference: **700009396**

Dear Steven

I refer to your preliminary enquiry regarding the electricity connection at the above address and provide the following information.

Load Requirements

The load requirement is estimated on a basis of an ADMD of 3.5kVA per lot. The total load requirement for each request is shown below:

Stage	Lots	ADMD	Total load (kW)	Total Load (HV Amps)
Overall Development	1000	3.5kW	3500	190A

No detailed information has been provided regarding the staging of the development. It is assumed the development will be staggered over a number of stages. Each stage will likely require a number of 400kVA kiosk substations to be determined at the connection application.

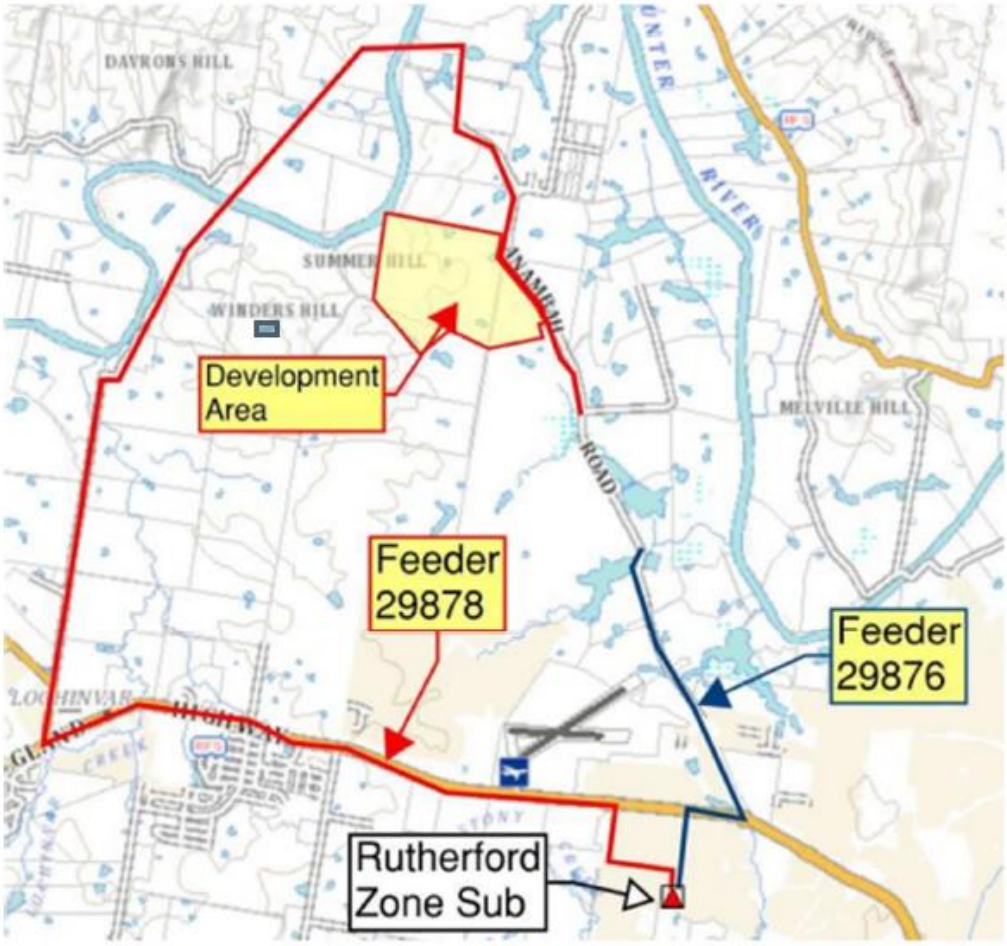

Figure 1 – Proposed 1000 lot Development Area

11kV Supply Capacity – Existing Supply

The proposed URD is located on Anambah Rd. The proposed URD has the existing tail end of the Rutherford 11kV Feeder 29878 (163km long feeder) running past the site. The URD is located to the north of existing Rutherford 11kV feeder 29876 in Anambah Rd. Rutherford Zone is located roughly 3.5km to the south.

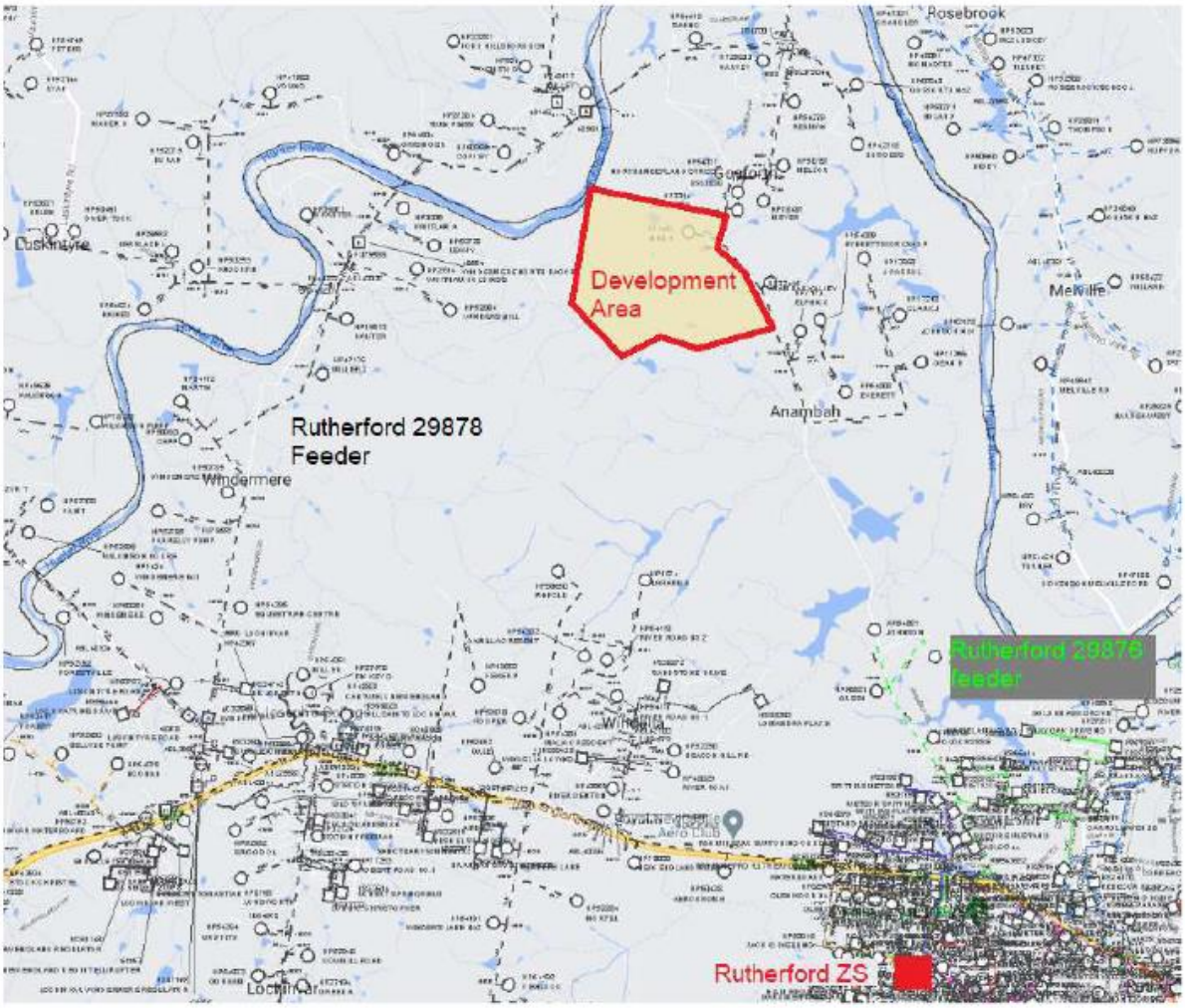

Figure 2 – Existing Supply

Rutherford 29876

The proposed network supplied by feeder 29876 from Rutherford ZS has approximately 150A (3MVA) of available capacity at the closest point of supply assuming the limiting quince are reconductored in Anambah Rd. The feeder is limited by the trunk capacity (400Al3 cable).

Rutherford 29878

The proposed network supplied by feeder 29878 from Rutherford ZS has approximately 0A (0MVA) of available capacity at the closest point of supply. This is due to the influx of recent development applications on this feeder. The feeder is limited by the trunk capacity (400Al3 cable) and voltage constraints at the end of the feeder.

11kV Supply Capacity – Projects affecting capacity

HV Rutherford Zn 511 29878 feeder overload (SM31766)

11kV network project has been issued to rectify overloads on the Rutherford 29878 feeder due to an influx of connections. The project effectively splits the feeder in half,and is due to be completed in late 2025.

Following the project, capacity at closest point of supply from 29881 (Ex 29878) on Anambah Road is approximately 30A HV. This is limited by:

- 800m of Quince conductor in Anambah Rd
- 460m of Apple conductor in Windermere Rd
- 4MVA rating of HC.61149 Lochinvar Windermere Regulator

Options for connection with additional 11kV augmentation

Option 1 – One New feeder from Rutherford ZS to Proposed Development via Anambah Rd

This option would lay one new 11kV feeder from Rutherford ZS to the proposed development. Lay one new 500Al3 cables from Rutherford ZS to the proposed development (5.7km) via Racecourse Rd, Bradmill Ave, Hinkler Ave, Shiply Dr and Anambah Rd. The New England Hwy will need to be crossed. An interconnection with the 29878 feeder will be required. As such, portions of Quince conductor will need to be replaced to achieve redundancy.

Currently, Rutherford ZS has one spare 11kV CB.

The planning estimate for this option is $8.1 Million.

Ausgrid is currently reviewing preliminary plans to build a new zone substation in the Rutherford-Telarah area in approximately 10 years (2030s) to address asset condition issues at Telarah zone substation and increase capacity to supply growth areas to the west. Transferring existing loads/feeder to a new zone substation can also provide feeder panels at Rutherford zone substation.

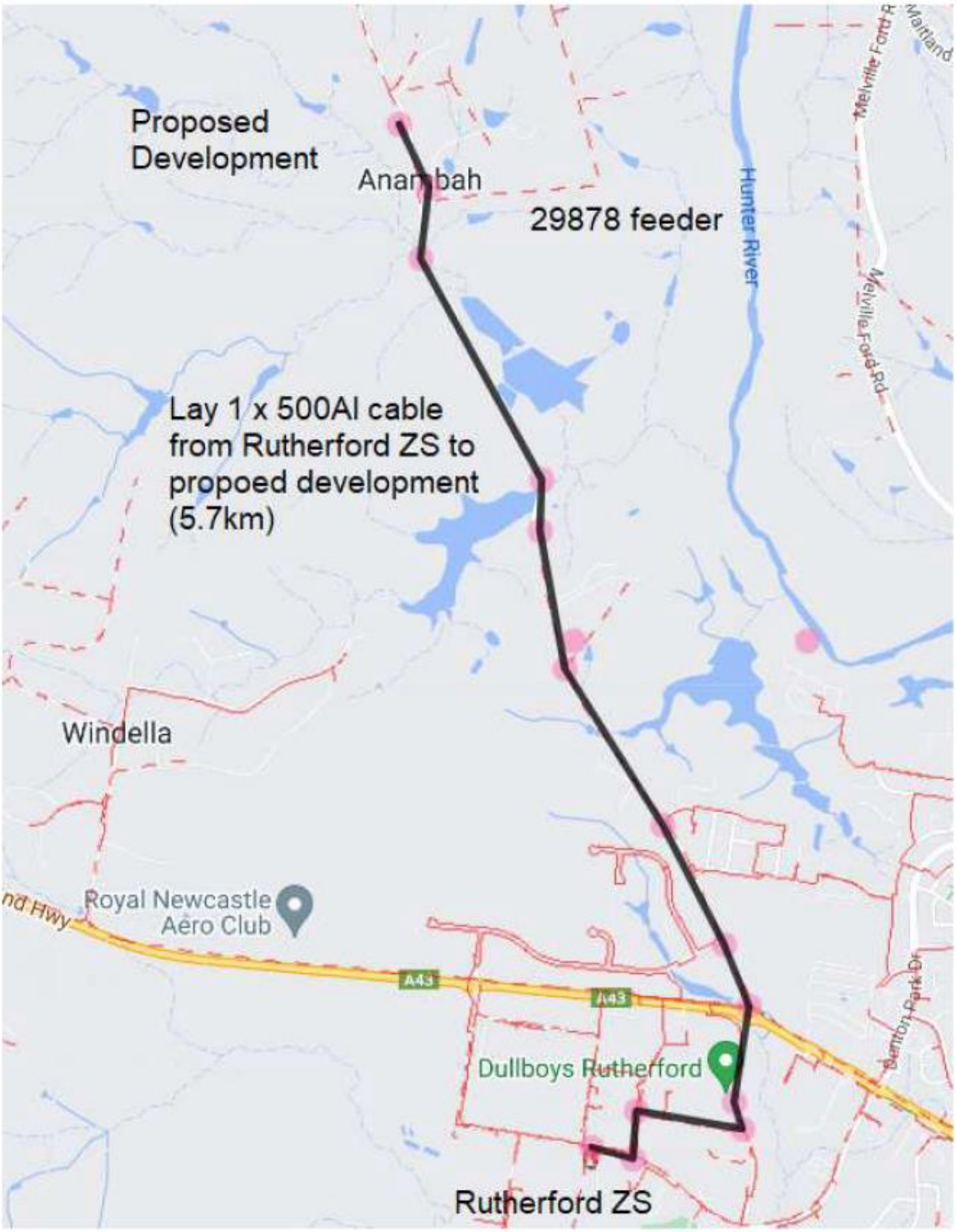

Figure 3 – Option 1 Geographic Works 11kV feeder

- ❑ To proceed further in obtaining a new or altered electrical connection to the property a Connection Application will need to be submitted. The various application forms are available on our website at the following link: https://www.ausgrid.com.au/Connections

It should be noted that the above advise is based on Ausgrid's polices and network status as of today and are subject to change.

Connections to the Ausgrid network are governed by a set of laws and rules referred to as the National Energy Customer Framework (NECF). Included in the NECF is the National Electricity Rules (NER). Under these rules, a binding contract may only be formed after a connection application is lodged and Ausgrid has made a connection offer in response to that application. Accordingly, to make arrangements for the electricity connection of the development to the Ausgrid network you should lodge a completed connection application.

Should you require any further information please contact me.

Yours sincerely,

Philip Moss

Ausgrid

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