TO:	Turner Studio	**PAGE:**	1 of 5
ATTENTION:	Nick Turner	**DATE:**	23/02/2024
PROJECT:	Avondale Escarpment	**PROJECT NO.:**	5840.003
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TRANSMITTED BY:	Mail ☐ Hand ☐ Email ☒		
SUBJECT:	Electrical Services Infrastructure		

1. INTRODUCTION

COVA have been engaged to provide preliminary engineering input regarding the proposed Avondale Escarpment development. We provide the following commentary pursuant to the NSW regulation entitled Wollongong Local Environmental Plan, Part 7 Local provisions – general, specifically part 7.1 Public Utility Infrastructure regarding (b) the supply of electricity.

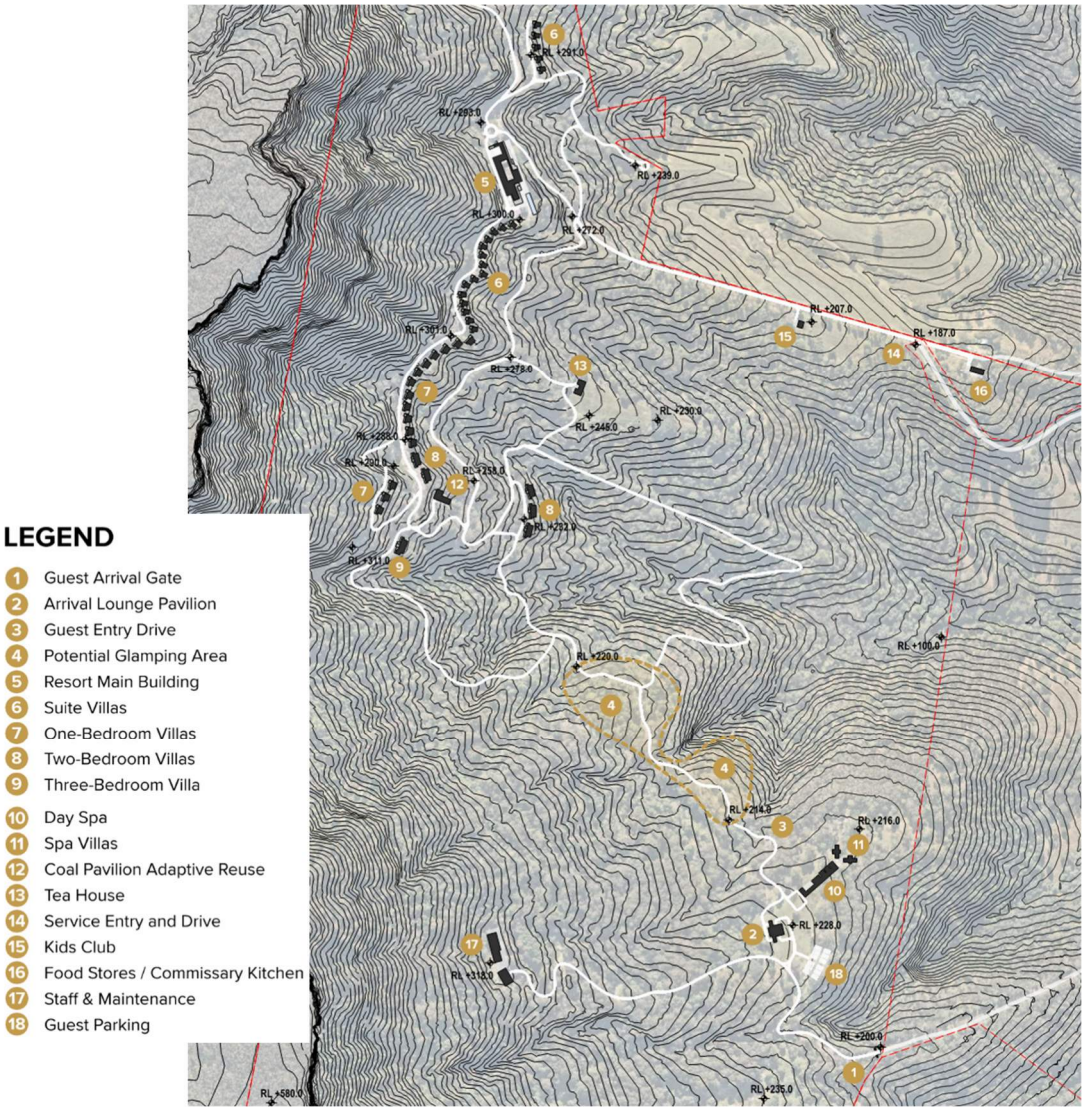

Figure 1: Proposed site plan

2. SITE ELECTRICAL REQUIREMENTS

It is understood the development is proposed to accommodate 126 guests, and approximately 45 staff members. Based on the building usage and area schedule provided, COVA have estimated the site demand at approximately 2MVA, with approximately 2/3 of the load required at the northern end of the site, and the remaining load at the southern.

Given the very large distance between northern and southern potions of the development, a combination of overhead (over larger runs) and underground reticulation (where aesthetically important) will be distributed as required across the site. For the same reason it is likely that separate mains power connections will be made for each portion, and appropriately sized Kiosk substations installed where appropriate.

3. EXISTING MAINS INFRASTRUCTURE

The site is located within Endeavour Energy's coverage. Preliminary liaison has commenced with Endeavour, however significantly more electrical design work be required before a formal application can be lodged.

Note that Dial Before You Dig Power Reticulation data is unavailable for this site.

Existing High Voltage overman mains reticulation exists in the general vicinity of both entrance gates, as well as diagonally through the site to service the Summit Tank on Fire Trail No 15.

We understand that the titles will likely be amalgamated as part of the works, or re-aligned to align with infrastructure separation.

To provide context, the following plan highlights all overhead HV reticulation in the immediate vicinity of the proposed site (imagery courtesy of Nearmap).

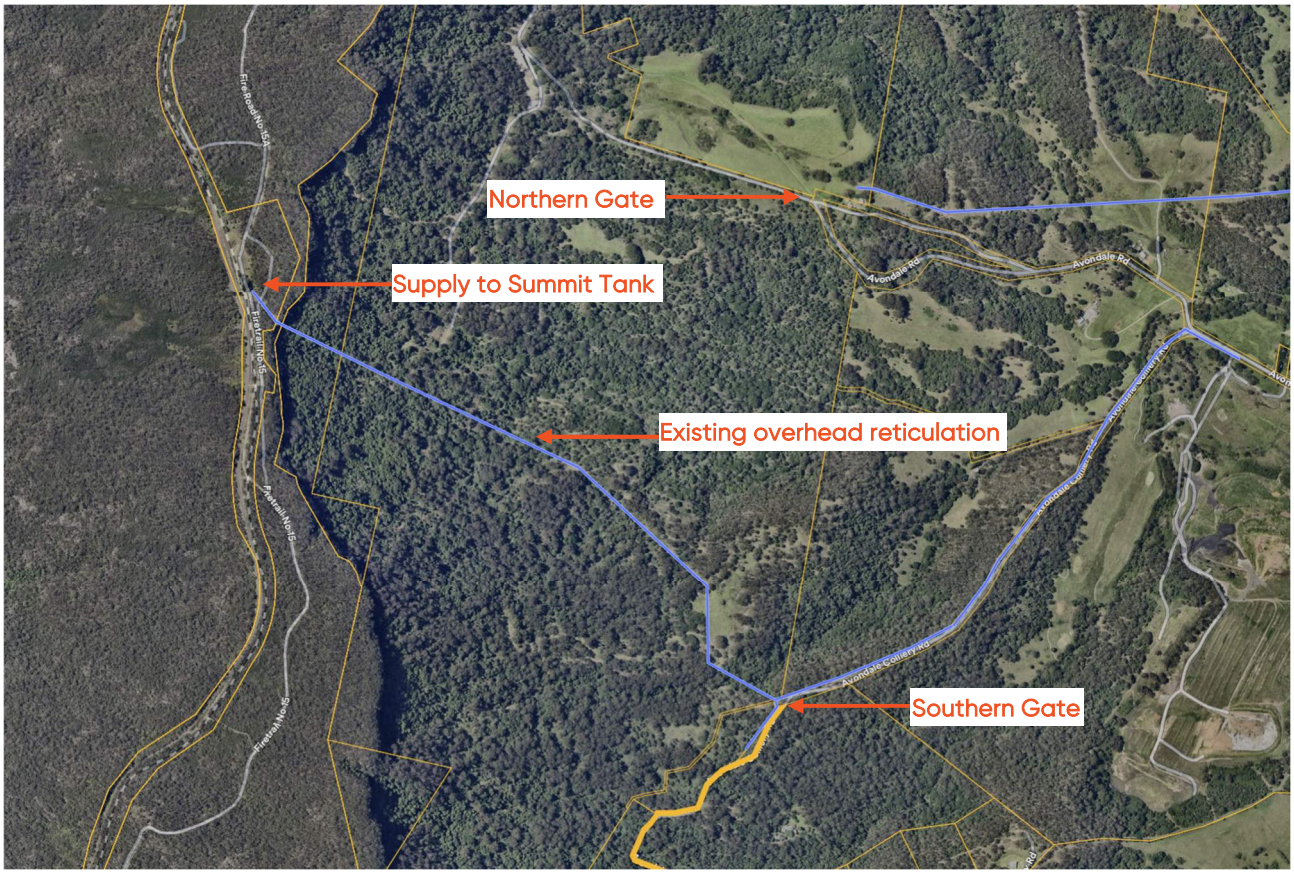

Figure 2: Existing HV overhead reticulation across the site (Nearmaps).

3.1 NORTHERN SUPPLY

Existing overhead HV mains reticulation is located to the rear of the existing residential dwelling located at 662 Avondale Road, approximately 80m north of the proposed Food Stores / Commissary Kitchen (item 16 on the proposed site plan shown in section 1 above).

Overhead supply would be extended North-West up Avondale road to the main Resort Building (item 5 on the proposed site plan) from which point low voltage reticulation would service the remainder of buildings.

Figure 3: Existing HV overhead reticulation adjacent 662 Avondale Rd (Northern Gate location).

3.2 SOUTHERN SUPPLY

Existing overhead HV mains reticulation is also located adjacent the Southern Gate at the point where the feed to the Summit Tank branches off.

It is unlikely resort can be wholly serviced by this branch feed, and as such we are assuming that upgrades will be required back to the site boundary.

Overhead reticulation would be extended from the site boundary North towards the Arrival Pavilion and Day Spa (items 2 and 10 respectively), with the final stretch transition to underground to minimise visual impact. As per the Northern Site a Kiosk substation would be located here with LV distribution fanning out as required.

The Staff and Maintenance Precinct is located a substantial distance away from Arrival Pavilion, and as such it is likely this would be serviced by overhead reticulation to a pole-mounted transfer immediately adjacent.

Figure 4: Existing HV overhead reticulation at southern gate

4. EMERGENCY POWER SUPPLY

The need for Emergency Power will be further investigated during the design phase with respect to Building Importance Levels, Fire Safety Engineering and the Bushfire Management Plan. As a minimum it is expected that core services will be fed from essential power supply feeds, and temporary emergency generator connections provided at each precinct. Even if not required by the National Construction Code or other local legislation, the operator may wish to provide permanent on-site diesel generators.

5. COMMUNICATIONS

The site is located within the NBN Fixed Wireless Region. As such it is expected that either a NBN fixed wireless connection will be made, or a satellite or mobile data connection be established (Star link or 4G/5G).

6. MECHANICAL SERVICES

We understand there is a commitment to avoid Natural Gas or LPG usage, and as such all space heating, pool / spa heating and domestic hot water production will be reverse cycle refrigeration systems, utilising low Global Warming Potential Refrigerants. This will be factored into electrical energy demand.

Location of Mechanical Services equipment will be carefully selected, and where possible, and co-located with other infrastructure and plant to minimise visual and acoustic impact to guests.

We trust this information is useful in understanding the infrastructure requirements for this exciting development.

Please do not hesitate to contact me if you have any questions.

Yours faithfully,

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