



Ref: 0536r03v03

24/05/2024

Rob Miller  
20 The Serpentine  
Bilgola Beach NSW 2107

**RE: 18 – 20 THE SERPENTINE, BILGOLA BEACH  
MODIFICATION APPLICATION FOR THE CONSTRUCTION OF A STUDIO AND CAR PARKING STRUCTURE  
PARKING DESIGN STATEMENT**

Dear Rob,

PDC Consultants has been commissioned to provide traffic consultancy advice for a Section 4.55 Modification Application (S4.55 Application) relating to the construction of a car parking structure (the Proposal) at an existing residential dwelling at 18 – 20 The Serpentine, Bilgola Beach. The S4.55 Application relates to the approved PAN 319081 issued by Northern Beaches Council (Council).

#### Sight Distance Assessment

PDC has previously assessed the car parking access and design and made the following sight distance assessment along The Serpentine:

- The Serpentine is sign posted as a 40 km/h carriageway and therefore requires a stopping sight distance (SSD) of 35 metres.
- Sight distance to the northeast: The Proposal achieves a sight distance of 35 metres, measured to the kerbside of The Serpentine
- Sight distance to the southwest: The Proposal achieves a sight distance in excess of 35 metres, measured to the centreline of The Serpentine.

As demonstrated by the architectural drawings included as **Attachment 1**, and the S4.55 Application will include pruning of the underside of the trees and removal of shrubs and any other visual obstacles to the northeast of the driveway along the site frontage, resulting in improved sight lines along The Serpentine to the northeast of the proposed vehicle access.

#### Access Design

- With two User Class 1A car parking spaces, the proposal requires a Category 1 Driveway under Table 3.1 of AS 2890.1, being an entry / exit driveway of width 3.0 metres to 5.5 metres. In response, the development proposes a combined entry / exit driveway with a width of 5.5 metres onto The Serpentine, which satisfies the requirements of AS 2890.1.
- Swept path analysis was undertaken of the proposed driveway access in accordance with AS 2890.1, using a B85 Design Vehicle. The results of the analysis are provided in **Attachment 2** demonstrate that the width of the driveway access ensures that left in / left out movements, being the most critical turns, can be performed adequately.

**PDC Consultants**

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- Vehicle manoeuvring requires at least one out of the double garage car parking space onto The Serpentine. Council's Development Control Plan (DCP) does not strictly prohibit this and further, the RTA Guide to Traffic Generating Developments (RTA Guide) provides guidance that reverse movements into or out of public streets can be permitted for individual dwelling houses.
- By way of design, the curved road alignment of The Serpentine and presence of multiple driveways and garages fronting the road would result in slower travel speeds and alert drivers anticipating emerging vehicles from driveways. There are numerous other examples along The Serpentine (examples listed below) where reverse manoeuvring to or from a garage is being permitted, which is in part a reflection of the low volume of movements from low density dwellings and low risk of delay or incident along The Serpentine
  - Number 2, The Serpentine
  - Number 14, The Serpentine
  - Number 15, The Serpentine
  - Number 16, The Serpentine
  - Number 23, The Serpentine
  - Number 28, The Serpentine
  - Number 32, The Serpentine
  - Number 44, The Serpentine

#### Internal Design

The proposed internal parking arrangements comply with the relevant requirements of AS 2890.1, with the following design aspects considered noteworthy:

- The driveway has a maximum grade of 7.5 % to 12.5 % designed in accordance with Council's standard driveway profiles. The profile has been reviewed using the B85 Design Vehicle, as per Figure C1 of AS 2890.1, and is deemed to be satisfactory.
- The car parking spaces are provided in the form of a double vehicle carport, having an opening width of 5.7 metres, an internal width of 5.7 metres and internal length of 6.5 metres, therefore complying with the relevant requirements of Clause 5.4 of AS 2890.1.
- The proposed double carport is provided with a minimum clear head height of 2.4 metres with satisfies the requirements of Clause 5.3.1 of AS 2890.1.
- All walls are located outside of the space design envelope, as required under Figure 5.2 of AS 2890.1.
- Swept path analysis was undertaken of the proposed carport arrangements using a B99 Design Vehicle as defined under AS 2890.1 and requested by Council. The results are provided as **Attachment 2** and the following movements were tested:
  - Forward entry movements from The Serpentine.
  - Reverse exit movements to The Serpentine.
- It is evident from the swept path analysis that the forward entry and reverse exit movements to / from the proposed double carport can be achieved with satisfactory clearance provided on both sides of the vehicle.

In summary, the proposed car parking platform have been designed in accordance with AS 2890.1. Any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.



Please contact the undersigned should you have any queries or require anything further.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'H. Calvey'.

Hayden Calvey  
Principal Traffic Engineer, PDC Consultants

Email: [hayden@pdcconsultants.com.au](mailto:hayden@pdcconsultants.com.au)

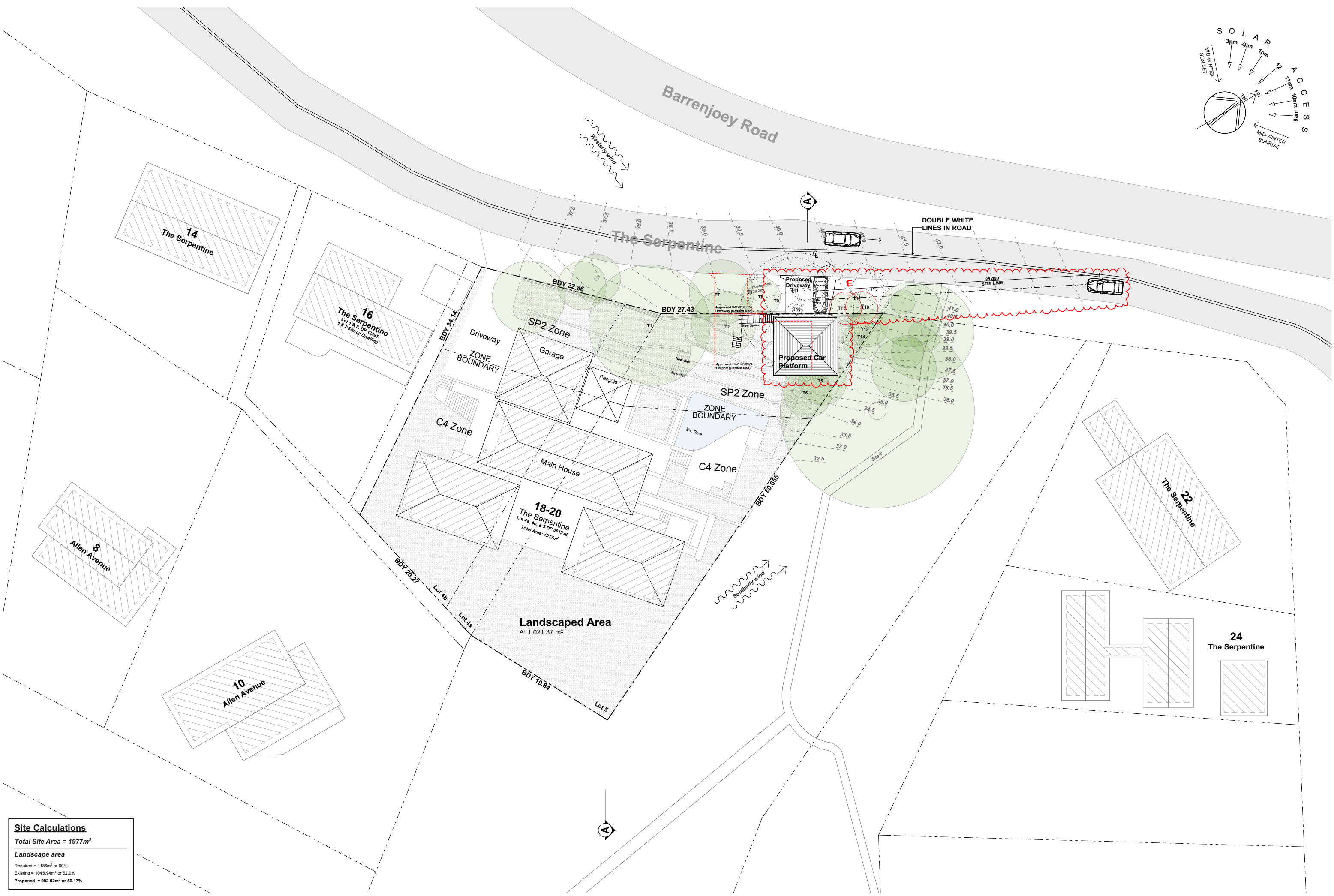
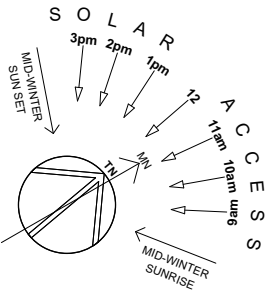
*Attachments:*

- 1) Architectural Drawing*
- 2) Swept Path Drawings*



## Attachment 1





**Site Calculations**

Total Site Area = 1977m<sup>2</sup>

**Landscape area**

Required = 1198m<sup>2</sup> or 60%

Existing = 1045.94m<sup>2</sup> or 52.9%

Proposed = 992.02m<sup>2</sup> or 50.17%



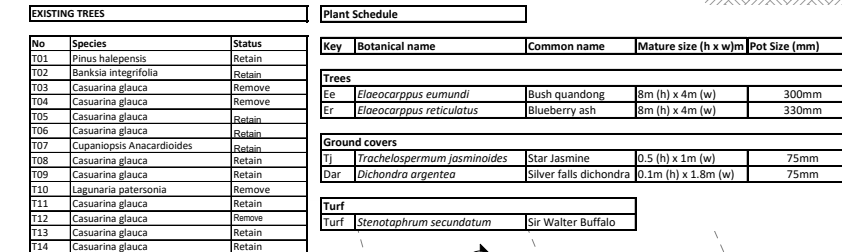
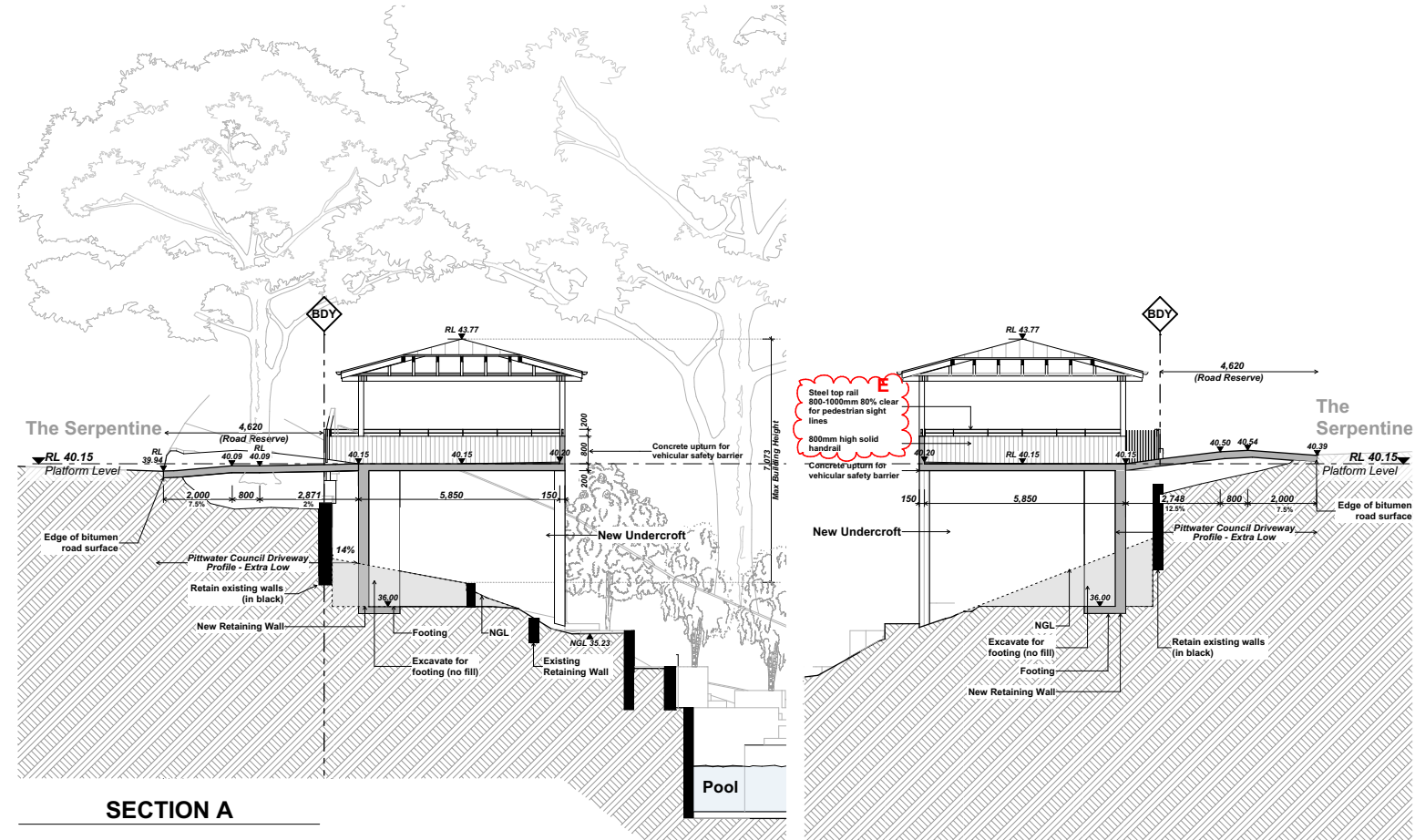
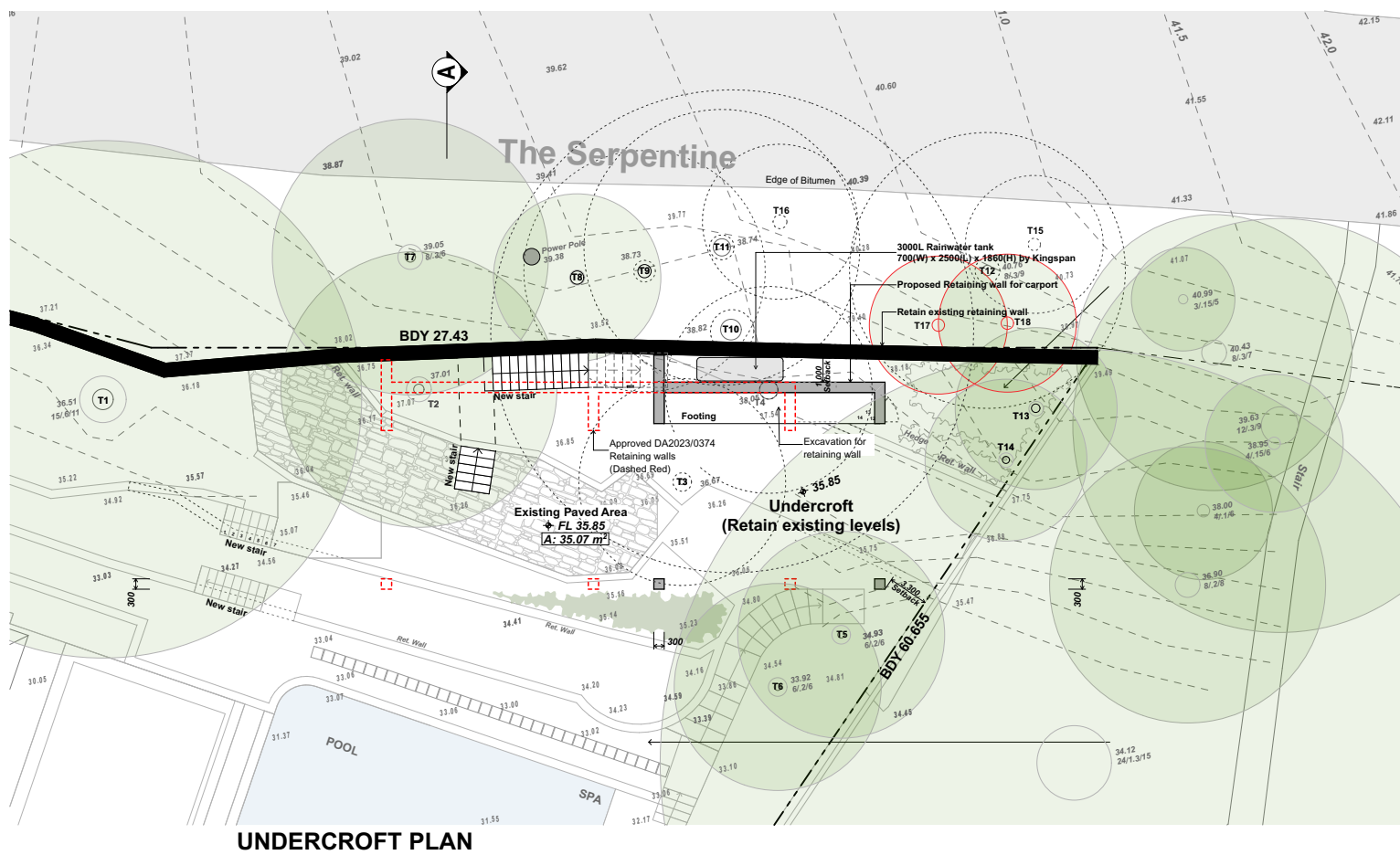
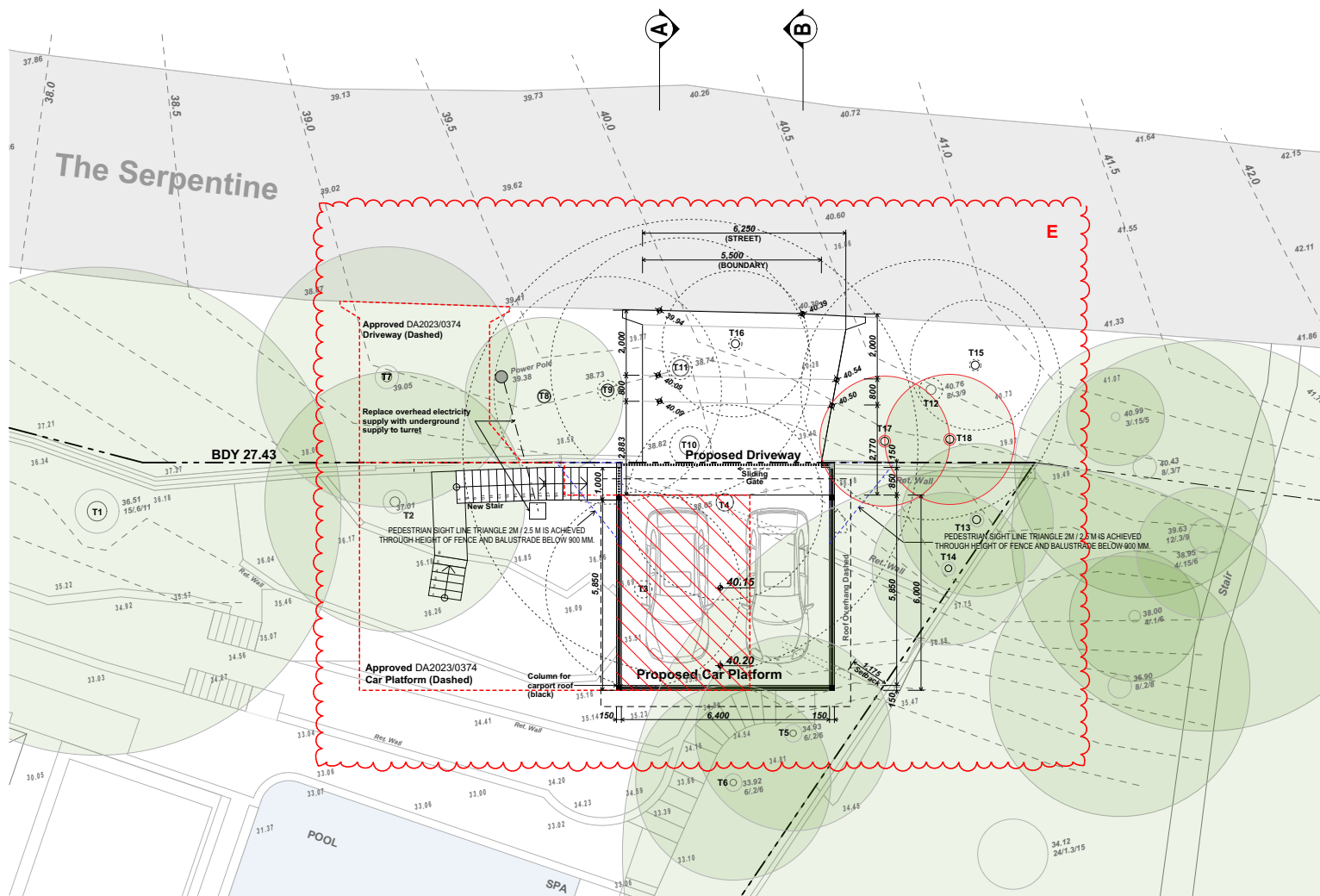
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28/07/2023	B	ADDITIONAL INFORMATION
08/11/2023	C	AMENDED DA
22/01/2024	D	AMENDED DA
13/05/2024	E	AMENDED DA

PROJECT
New Studio + Car Parking Structure
18-20 The Serpentine, Bilgola Beach
NSW 2107
Lots 4a, 4b, & 5 DP 361236
FOR Rob & Cheryl Miller

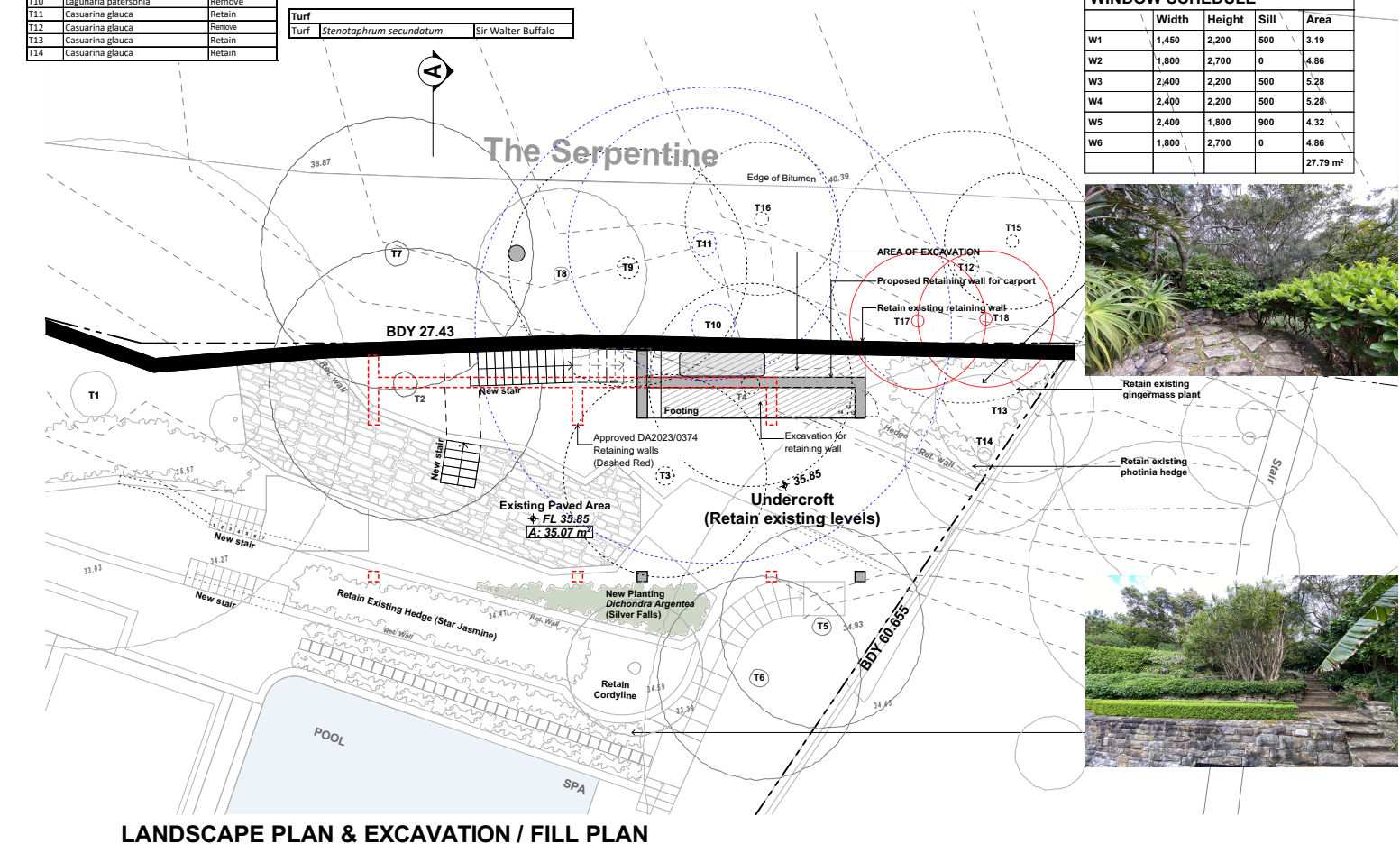
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DRAWING NO. A.01

PLOT DATE
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REVISION
E

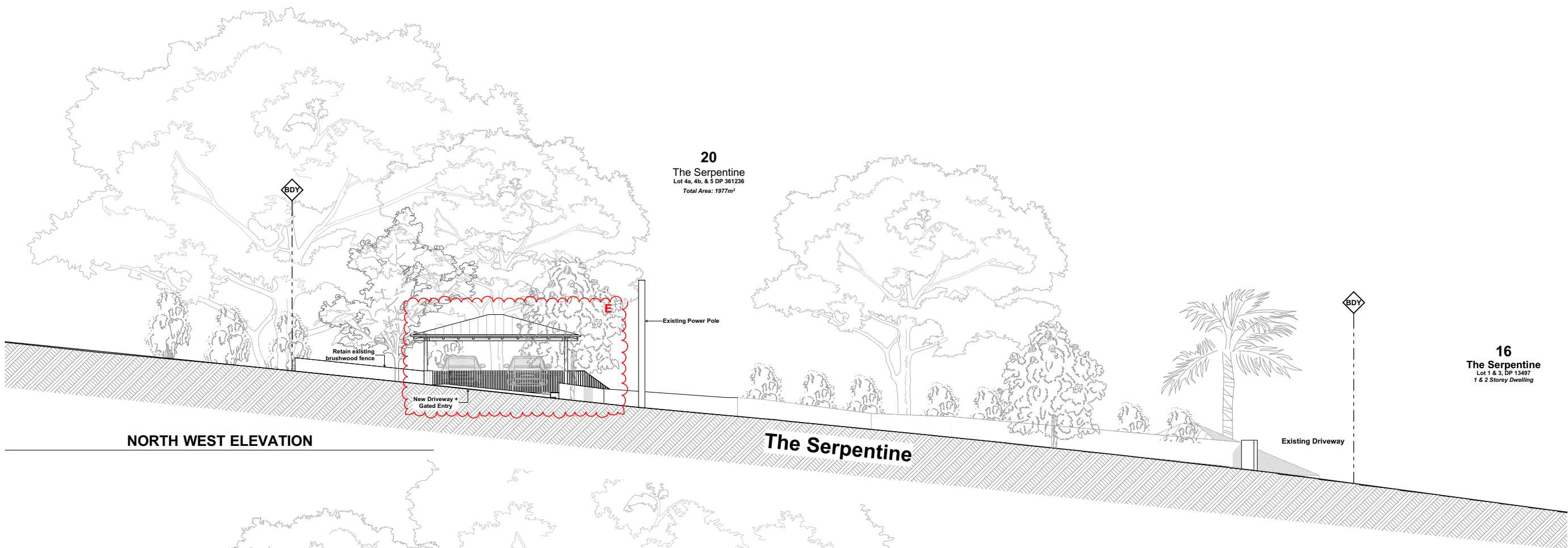




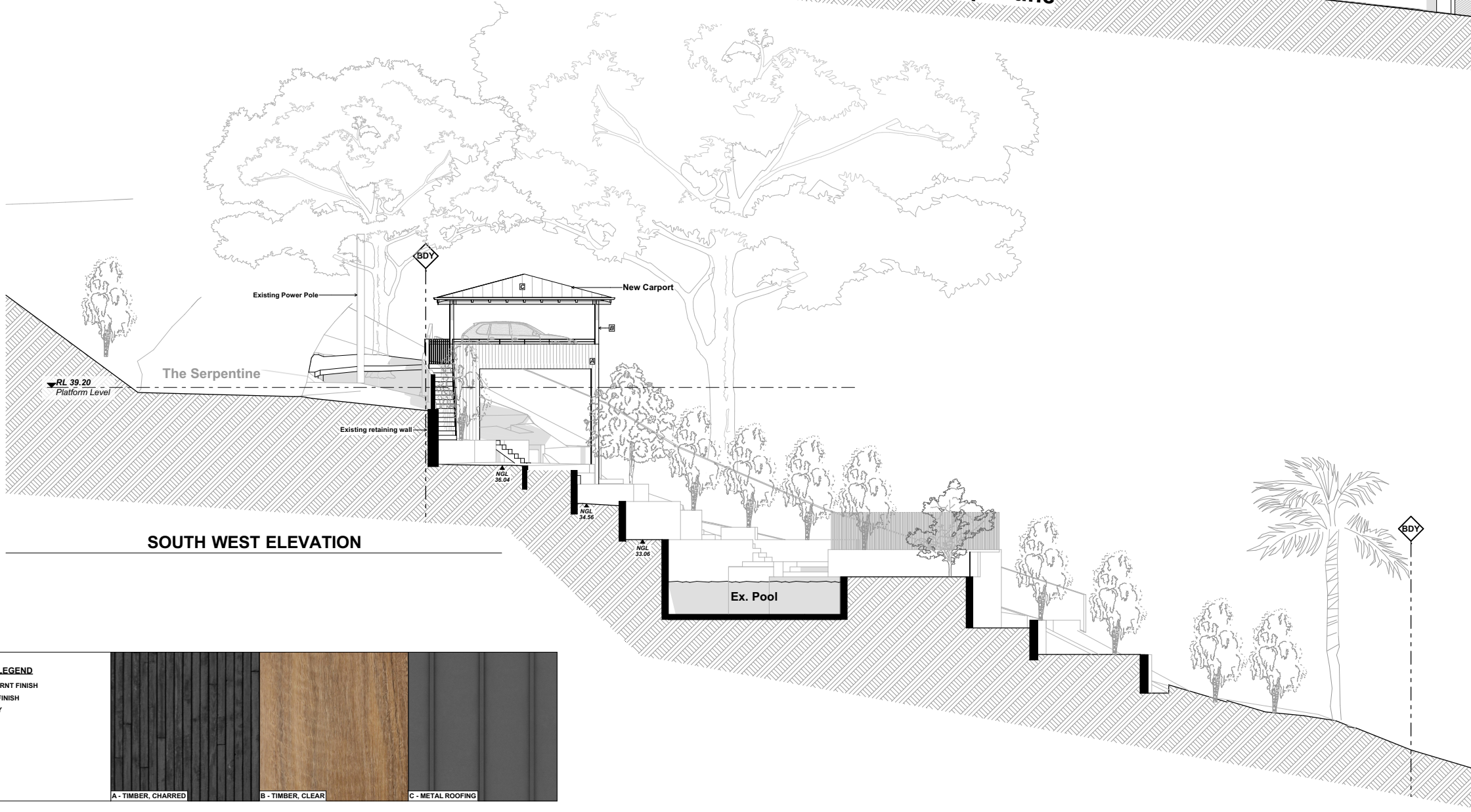
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W2	1,800	2,700	0	4.86
W3	2,400	2,200	500	5.28
W4	2,400	2,200	500	5.28
W5	2,400	1,800	900	4.32
W6	1,800	2,700	0	4.86
				27.79 m <sup>2</sup>







NORTH WEST ELEVATION



SOUTH WEST ELEVATION

EXTERIOR FINISHES LEGEND

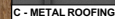
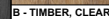
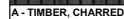
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- B - TIMBER, CLEAR SEAL FINISH
- C - METAL ROOFING, GREY



☐ A TIMBER CLADDING, BURNT FINISH

☐ B TIMBER, CLEAR SEAL FINISH

☐ C METAL ROOFING, GREY



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**PROJECT**  
**New Studio + Car Parking Structure**  
18-20 The Serpentine, Bilgola Beach  
NSW 2107  
Lots 4a, 4b, & 5 DP 361236  
FOR Rob & Cheryl Miller

**DRAWING TITLE**  
**NE + SE ELEVATION**

**DRAWN BY**  
**AB / SG**

**PROJECT NO.**  
**2236**

**DRAWING NO.**  
**A.04**

**SCALE**  
**1:100 @ A1**

PLOT DATE  
21/05/2024  
REVISION  
E





EXISTING LANDSCAPE AREA

A: 1045.94m<sup>2</sup>



PROPOSED LANDSCAPE AREA

A: 1024.36m<sup>2</sup>

Total Site Area = 1977m<sup>2</sup>

Landscape areas:

Required 1186m<sup>2</sup> or 60%  
Existing 1045.94m<sup>2</sup> or 52.9%

Total Proposed Landscape area =  
1024.36m<sup>2</sup> or 51.8%



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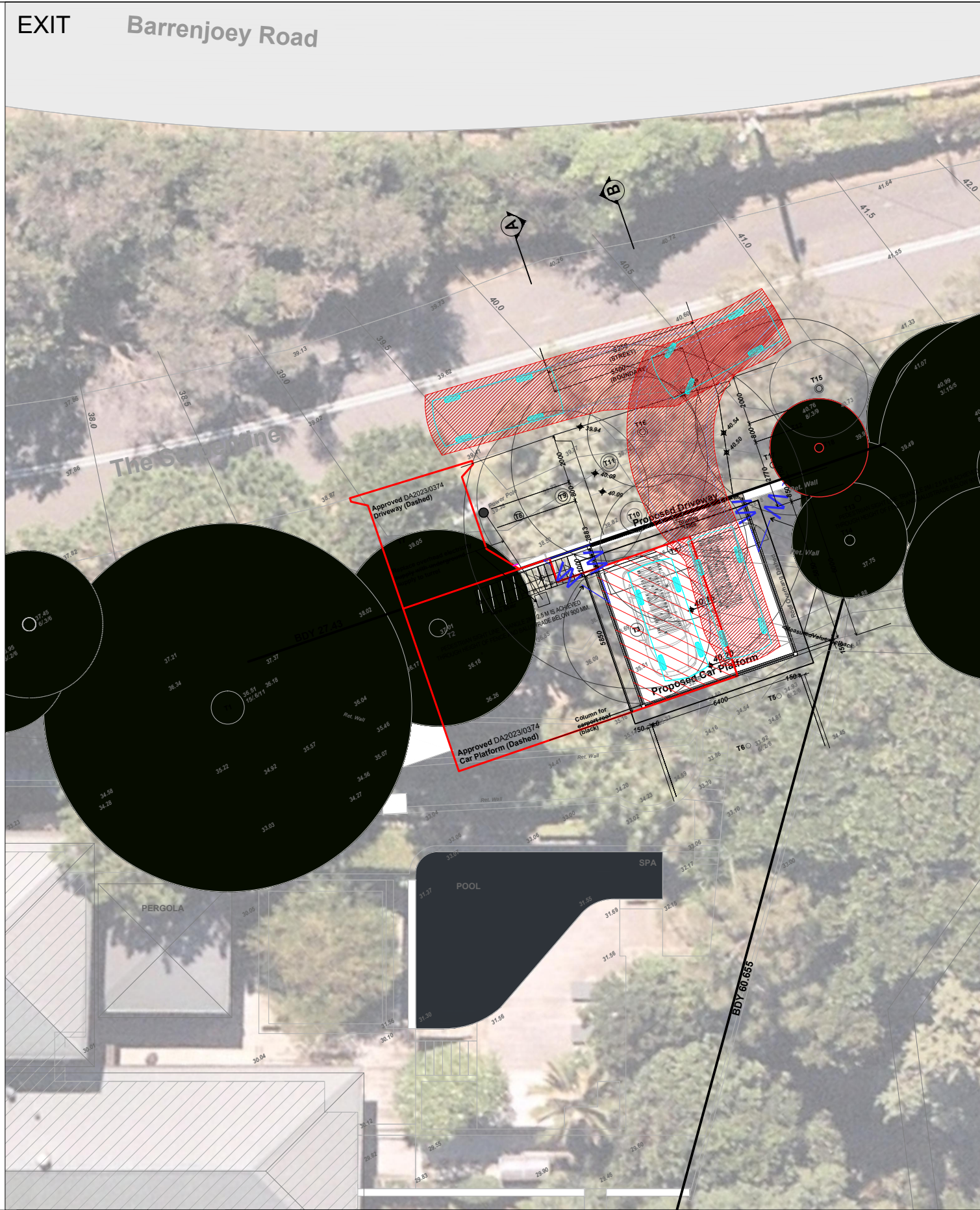
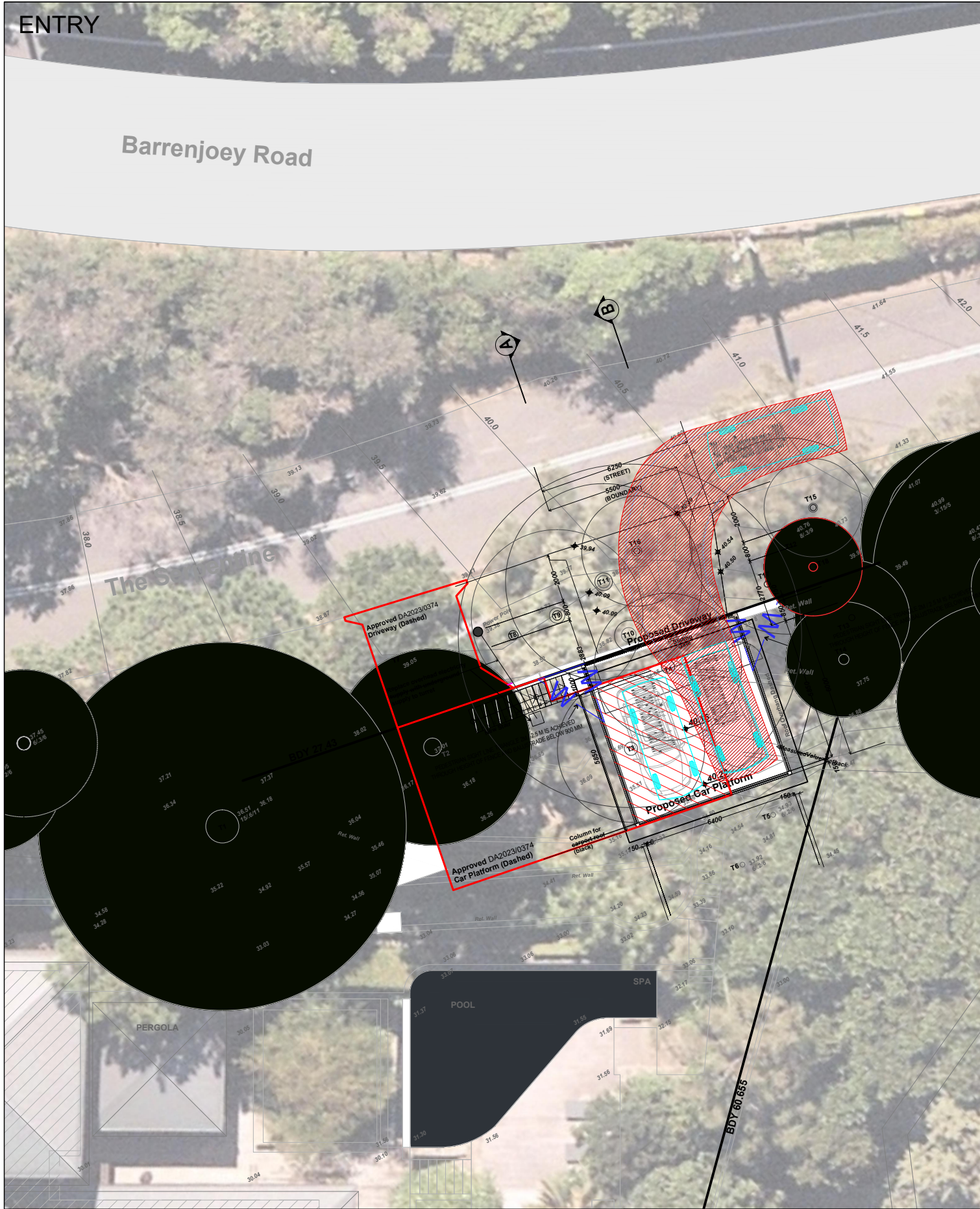
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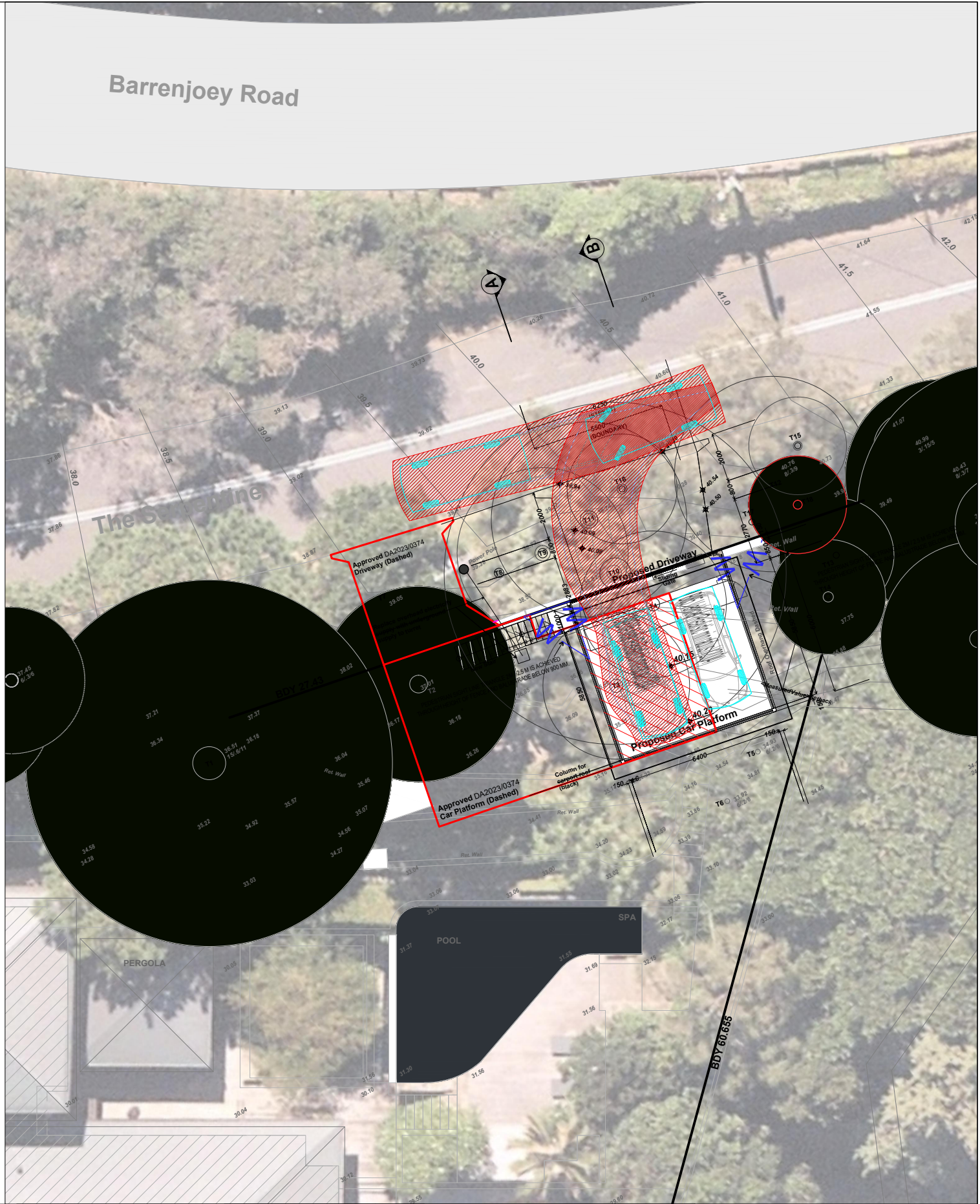
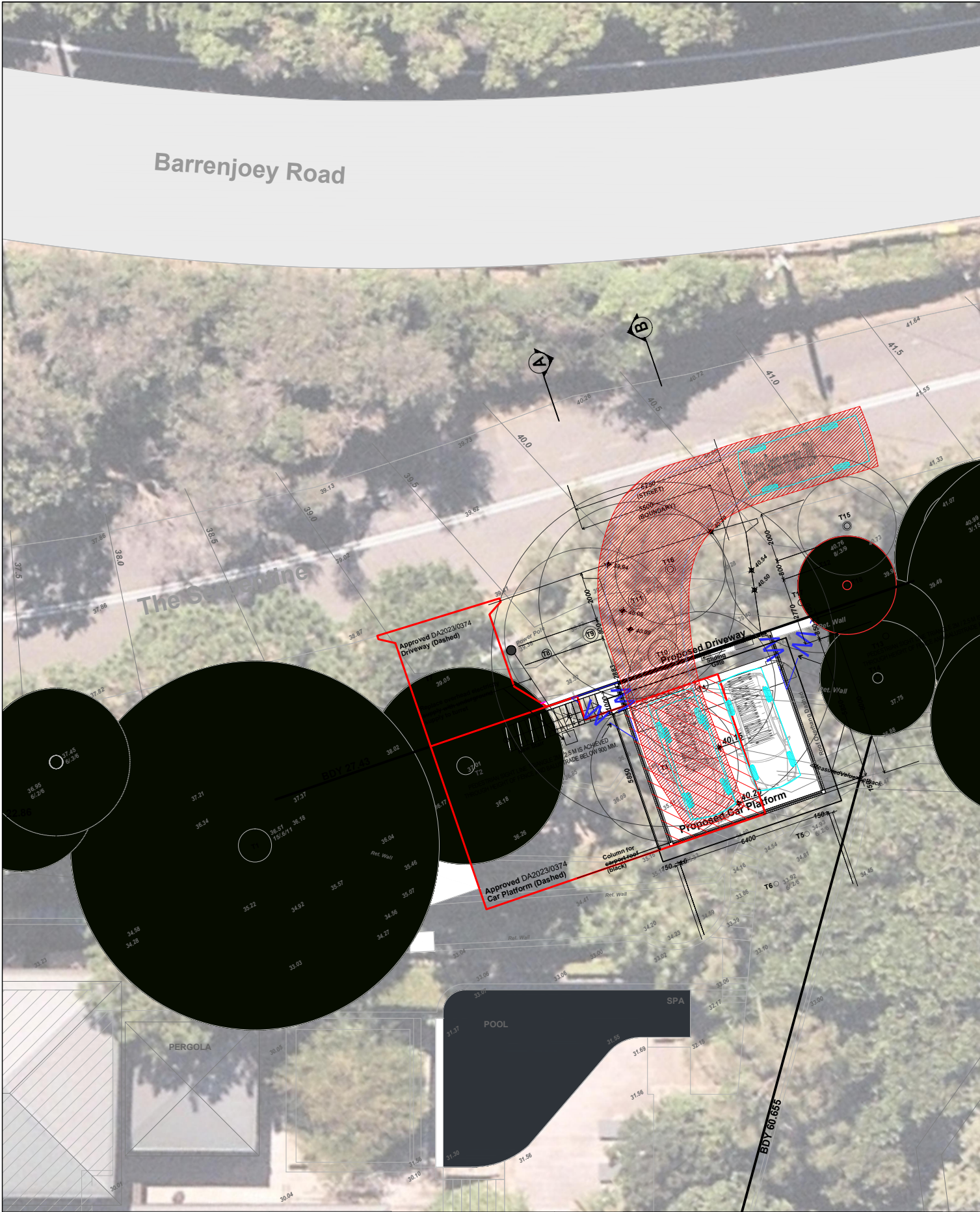
## Attachment 2





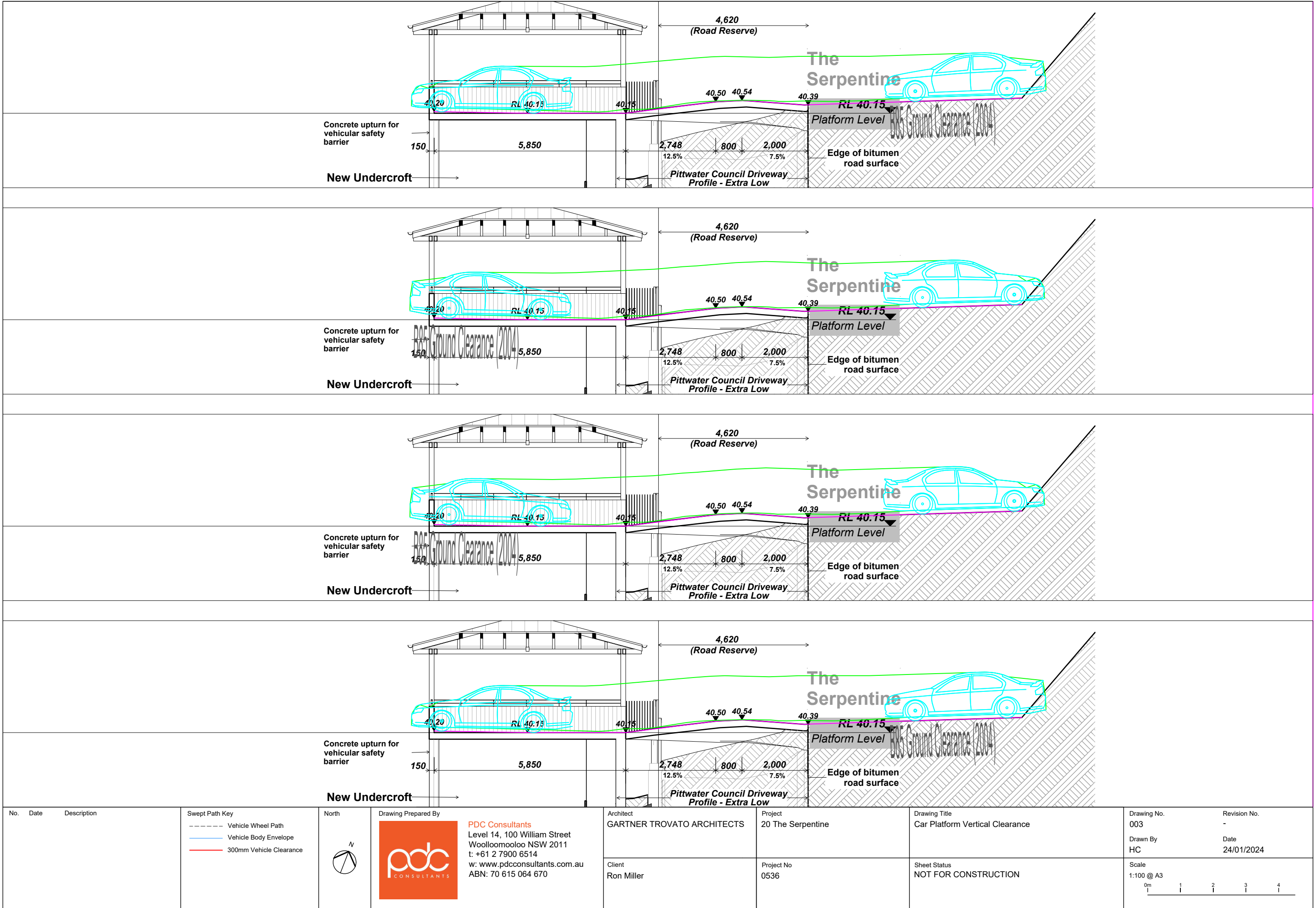
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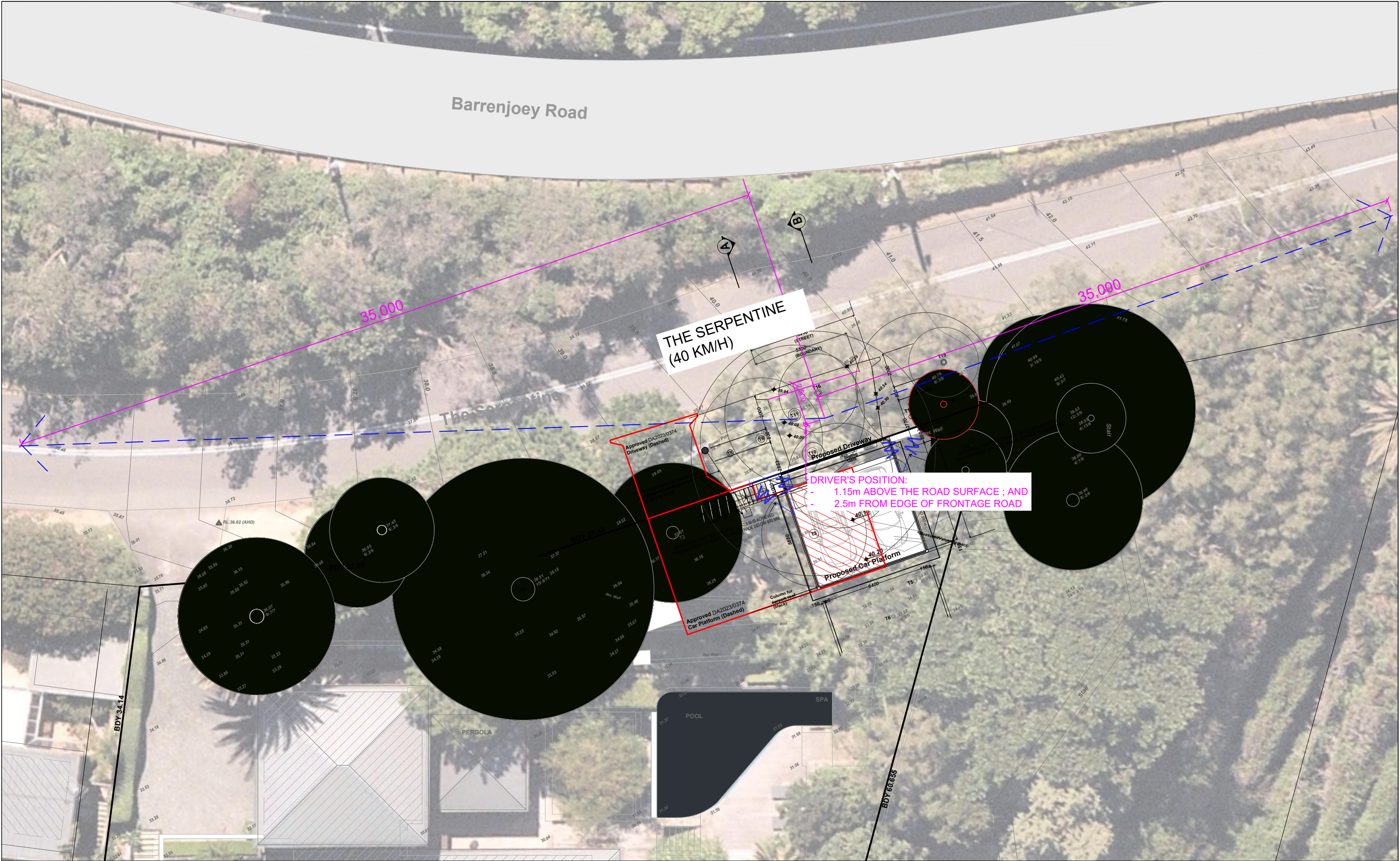




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