Ref: 0185r01v05

16/09/2021

Construct By Design Pty Ltd
74 Powderworks Road
North Narrabeen NSW 2101

Attention: Stephen Thompson

RE: 27 BELLEVUE AVENUE, AVALON BEACH
DEVELOPMENT APPLICATION FOR A PROPOSED SENIORS LIVING DEVELOPMENT
UPDATED TRAFFIC & PARKING IMPACT ASSESSMENT

Dear Stephen,

PDC Consultants has been commissioned by Construct By Design Pty Ltd to undertake a Traffic & Parking Impact Assessment for the Development Application (DA) relating to a proposed seniors housing development at 27 Bellevue Avenue, Avalon Beach. Specifically, the DA proposes the demolition of the existing dwelling and the construction of a two-storey seniors living development having the following attributes:

- Three (3) seniors independent living units (ILUs);
- Two (2) car parking areas with a total of six (6) car spaces;
- Two (2) entry / exit driveways located on Sanders Lane and Wickham Lane respectively.

The site is located in the Northern Beaches local government area (LGA) and accordingly, the proposed development has been assessed in accordance with the Pittwater Local Environmental Plan 2014 (Pittwater LEP 2014) and the Pittwater Development Control Plan 2014 (Pittwater DCP 2014). In addition to Council's planning controls, the proposed development has been assessed in accordance with the State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (SEPP 2004).

ABN: 70 615 064 670
info@pdcconsultants.com.au | www.pdcconsultants.com.au
+61 2 7900 6514 | Level 14, 100 William Street, Woolloomooloo, NSW 2011

1.0 LOCATION AND SITE

The subject site is located at 27 Bellevue Avenue, Avalon Beach, being approximately 28 kilometres north-east of Sydney CBD and 450 metres south-west of the Avalon Beach. More specifically, the site is bound by Bellevue Avenue to the west, Wickham Lane to the east and Sanders Lane to the south.

The site is comprised of a single lot, formally identified as Lot 33, DP 11462. The site is rectangular in configuration with a total area of 1,244m^2. As discussed above, it has three street frontages including a southern frontage to Sanders Lane of length 60 metres, a western frontage to Bellevue Avenue and an eastern frontage to Wickham Lane both having a length of 20 metres. The northern property boundary borders a neighbouring residential dwelling having lengths of 60 metres.

The site currently accommodates a single residential dwelling which benefits from two (2) vehicle access driveways located on Sanders Lane. The vehicle access driveways both have a width of 3.5 metres.

Figure 1 provides an appreciation of the site in a local context.

Figure 1: Site Plan

2.0 ROAD NETWORK

The road network in the vicinity of the site is shown in **Figure 2** overleaf with the following roads considered noteworthy:

- Barrenjoey Road: forms part of a TfNSW Main Road (MR 164). Barrenjoey Road runs primarily in a north-south direction between Beach Road in the north and Pittwater Road in the south. Near the site, Barrenjoey Road is subject to 50km/h speed zoning restrictions and accommodates a single lane of traffic in each direction within a 10 metre wide undivided carriageway.
- Avalon Parade: a local road that runs in a north-west to south-east direction between Surfside Avenue in the south-east and intersecting with Hudson Parade and Central Road in the north-west. Near the site, it is subject to 40-50km/h speed zoning restrictions and carries a single lane of traffic in both directions within a 12.0 metre wide undivided carriageway. Avalon Parade permits timed '1P' parking along both kerbsides between 8:30am-6:00pm Monday-Saturday and 8:30am-12:30pm Sunday at its north-western end, while unrestricted parallel parking along both kerbsides at its south-eastern end is permitted.
- Bellevue Avenue: a local road that generally runs in a north-east to south-west direction between Avalon Parade in the north-east and Dress Cir Road in the south-west. It is subject to 50km/h speed zoning restrictions, however 40km/h School Zone restrictions apply between the hours of 8:00-9:30am and 2:30-4:00pm on school days only. Bellevue Avenue carries a single lane of traffic in both directions within a 10 metre wide undivided carriageway and permits unrestricted parking along both kerbsides at its south-western end. At its north-eastern end it permits unrestricted parking along the western kerbside and 'No Stopping' along the eastern kerbside.
- Sanders Lane: a local road that runs in a north-west to south-east direction between Bellevue Avenue in the north-west and Old Barrenjoey Road in the south-east. It is subject to 50km/h speed zoning restrictions; however 40 km/h School Zone restrictions apply between the hours of 8:00-9:30am and 2:30-4:00pm on school days only. Sanders Lane accommodates a single lane of one-way traffic within a 6.0 metre carriageway, travelling north-west towards Bellevue Avenue. To the south-west of the site it is subject to unrestricted parking along a small section of the southern kerbside. South-east of the site, close to the intersection with Wickham Lane, 'No Stopping' between 9:00am-10:00am and 3:00pm-4:00pm on school days applies along the southern kerbside. The northern kerbside and remainder of the southern kerbside is subject to 'No Stopping' restrictions which operate at all times.
- Wickham Lane: a local road that generally runs in a north-east to south-west direction between Avalon Parade in the north-east and Sanders Lane in the south-west. It is subject to 50km/h speed zoning restrictions and accommodates a single lane of traffic in each direction within a 5.0 metre undivided carriageway. In the vicinity of the site Wickham Lane is subject to 'No Stopping' restrictions along the western kerbside, and 'No Parking' and 'No Stopping' restrictions along the eastern kerbside.

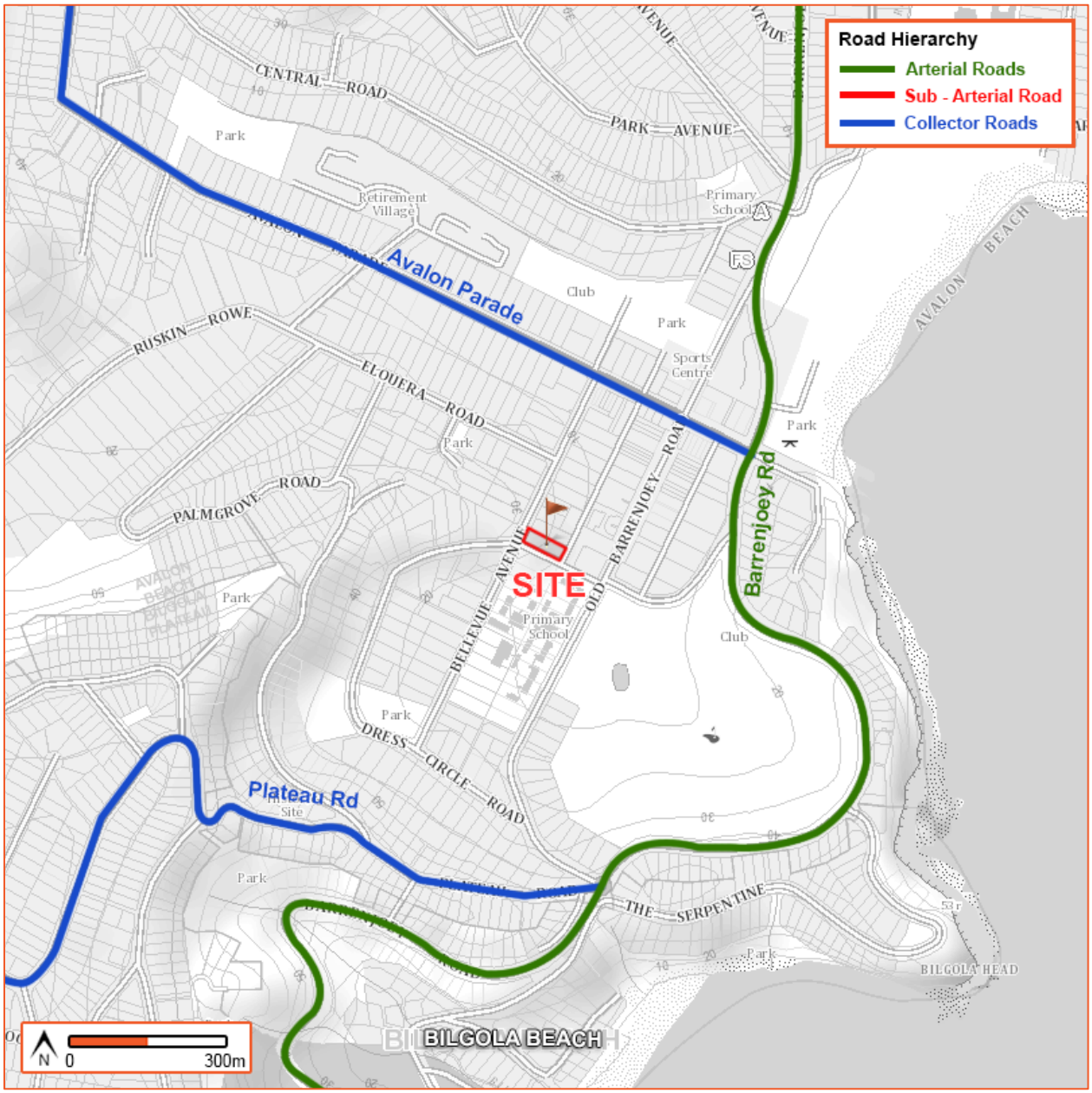


Figure 2: Existing Road Hierarchy

3.0 ACTIVE & PUBLIC TRANSPORT SERVICES

Figure 3 shows the public bus services that operate in the vicinity of the site. The site is situated within 400 metres of bus stops located along Avalon Parade, Bellevue Avenue, Barrenjoey Road and Old Barrenjoey Road, which between them are serviced by six (6) bus routes including the 191, 192, 199, E88, E89 and L90 services. Additional bus stops can also be accessed within 800 metres of the site.

The Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area, states that the walking catchment for metropolitan railway stations includes all areas within an 800 metre radius of the station. The subject site is situated well outside the walking catchment area, with the nearest station being Gordon Railway Station located some 28 kilometres south-west of the site. With this in mind, there is expected to be limited reliance on the use of rail services by residents and visitors of the proposed development although these services may be used for journeys to / from the Greater Sydney area.

Access to bicycle routes in the area is limited, however this is not expected to be a primary mode of travel for those in a seniors living development.

4.0 EXISTING TRAFFIC GENERATION

The existing site currently encompasses a single (1) residential dwelling, which generates 0.95 trips / hour during the 7-9am (AM) peak period and 0.99 trips / dwelling / hour during the 4-6pm (PM) peak period, under the RMS[1] Guide to Traffic Generating Developments Update 2013 (RMS Guide Update). Application of these rates to the existing residential dwelling results in the following traffic generation:

- 1 vehicle trips / hour (0 in, 1 out) during the AM peak period;
- 1 vehicle trips / hour (1 in, 0 out) during the PM peak period.

[1] Roads and Maritime Services (RMS) has joined with TfNSW, with reference to Roads and Maritime now taken legally to automatically mean TfNSW

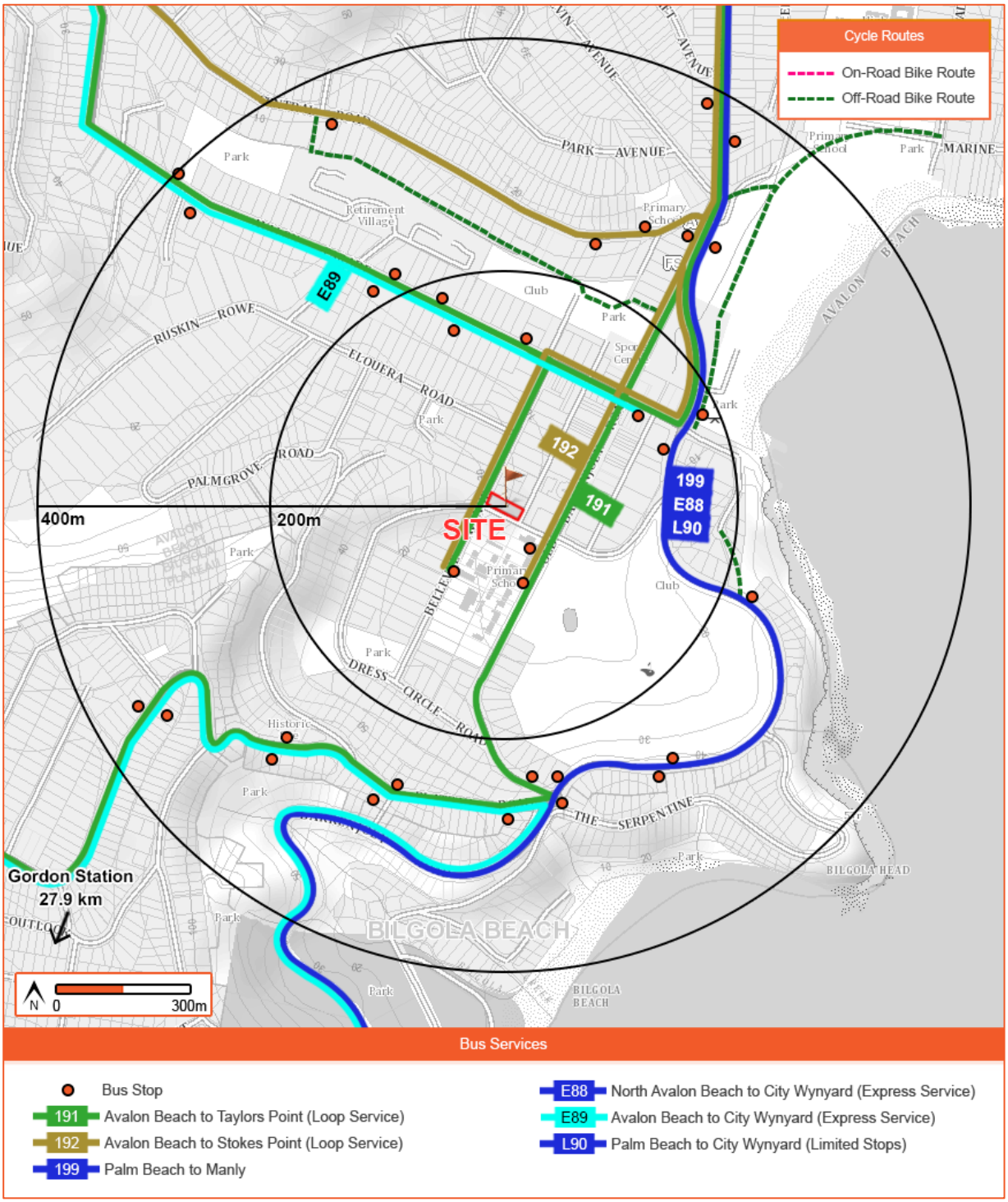


Figure 3: Public and Active Transport Services

5.0 PROPOSED DEVELOPMENT

A detailed description of the proposed development for which approval is sought is outlined in the Statement of Environmental Effects prepared separately by Planning Ingenuity. In summary, the DA proposes the demolition of the existing dwelling and the construction of a seniors living development, incorporating:

- Three (3) three-bedroom seniors ILUs;
- Two (2) car parking areas with a total of six (6) car spaces, incorporating:
    - Four (4) car spaces within tandem parking on Ground Floor level;
    - Two (2) standard car parking spaces on Lower Parking level;
- A 5.5 metre wide entry / exit driveway onto Sanders Lane for the four (4) spaces on Ground Floor level;
- A 4.1 metre wide entry / exit driveway onto Wickham Lane for the two (2) spaces on Lower Parking level.

A copy of the relevant architectural drawings, prepared by Shed Design Studio are provided with this application, for reference.

6.0 PARKING REQUIREMENTS

Car Parking

Clause 50(h) of the SEPP 2004 outlines the following car parking rates for seniors living developments:

A consent authority must not refuse consent to a development application made pursuant to this Chapter for the carrying out of development for the purpose of a self-contained dwelling (including in-fill self-care housing and serviced self-care housing) on any of the following grounds:
(h) parking

(i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider, or
(ii) 1 car space for each 5 dwellings where the development application is made by, or is made by a person jointly with, a social housing provider.

The DA has not been made by a social housing provider and accordingly, the parking provisions are required to be assessed in accordance with the rate outlined under Clause 50(h)(i) of the SEPP 2004.

In addition, the Pittwater DCP 2014 does not stipulate a car parking rate for seniors housing developments and instead, states the following under Clause B6.3:

Development not included in Table 1

The minimum number of vehicle parking requirements must be determined using the appropriate guidelines for parking generation and servicing facilities based on development type comparison based on the RMS[1] Guide to Traffic Generating Development (RMS Guide) *or analysis drawn from surveyed data for similar development uses. Provision must be made within the development site for access and parking of all service vehicles servicing the site, visitor parking and parking for people with disabilities.*

Having regard for Clause B6.3 of the Pittwater DCP 2014, reference was made to the RMS[1] Guide to further assess the car parking requirements of the proposed development. This review found that the RMS[1] Guide recommends application of the below rates for resident funded seniors living developments with self-contained units:

- 2 spaces per 3 units for residents; and
- 1 space per 5 units for visitors.

An assessment against both the SEPP 2004 and Pittwater DCP 2014 (RMS[1] Guide) controls was therefore undertaken to determine the minimum parking requirement for the development. The applicable parking rates and requirements are shown by **Table 1** below.

Table 1: Car Parking Requirement & Provision

TYPE	NO.	SEPP PARKING RATE	DCP PARKING RATE	SEPP REQUIREMENT	DCP REQUIREMENT	PARKING PROVISION
Residents	9 bedrooms / 3 units	0.5 spaces / bedroom	0.67 spaces / unit	5	2	5
Visitors	3 units	-	0.2 spaces / unit	-	1	1
			TOTAL	***5***	***3***	***6***

It is evident from **Table 1** that under the SEPP 2004, the development requires a minimum of five (5) resident car parking spaces, whilst the Pittwater DCP 2014 requires a minimum of two (2) resident car parking spaces and one (1) visitor car parking space. In response, the development provides a total of six (6) car parking spaces comprising of five (5) resident car spaces and one (1) visitor car space, and therefore satisfies the total provision and allocation requirements of both the SEPP 2004 and the Pittwater DCP 2014. It is considered all car parking demands will be accommodated on-site, with no reliance on on-street parking. The proposed parking provision is therefore considered acceptable.

Accessible Car Parking

Clause 5(b) of the SEPP 2004 - Schedule 3 states: *"5% of the total number of car parking spaces (or at least one space if there are fewer than 20 spaces) must be designed to enable the width of the spaces to be increased to 3.8 metres."*

It is evident that application of the abovementioned accessible parking rate results in the requirement for one (1) car parking space to be able to be increased in width to 3.8 metres in accordance with the SEPP 2004.

In response, the architectural plans indicate that Car Space Nos. 3 & 4, located a on the Ground Floor Plan with vehicle access onto Sanders Lane, are able to be increased to a width of 3.8 metres if required. This arrangement is acceptable and complies with Clause 5(b) of the SEPP 2004 - Schedule 3.

Motorcycle & Bicycle Parking

Neither the SEPP 2004 or Pittwater DCP 2014 stipulate a rate for the provision of motorcycle or bicycle parking and in any event, it is considered that the seniors housing development would generate a negligible demand for motorcycle and bicycle parking. Accordingly, the development does not provide any on-site motorcycle or bicycle parking facilities, and this is considered acceptable.

Service Vehicle Parking & Waste Collection

Neither the SEPP 2004 or Pittwater DCP 2014 stipulate a rate for the provision of service vehicle parking. In any event, given the residential use and moderate scale of the proposed development, it is expected that the development would generate a minimal demand for service vehicle parking. Accordingly, it is considered acceptable that the development does not provide any on-site service vehicle parking, with any minor and infrequent demands to be accommodated along Sanders Lane. Notwithstanding this, it is however noted that smaller service vehicles such as tradesman utes / vans will be able to utilise the vacant on-site visitor parking space, given that these servicing demands will typically occur during weekday daylight hours, when visitor parking demands are negligible.

Additionally, given the constrained width of the site, it is considered appropriate that waste collection of the development be undertaken on-street along Sanders Lane. To facilitate this, a caretaker will be responsible for transferring bins from the holding room to the kerbside prior to collection being undertaken by Council's contractors, and for promptly returning the bins to the holding room following collection. This arrangement is considered acceptable and will ensure that waste can be collected safety and efficiently, whilst also being consistent with numerous other comparable developments in the area.

7.0 TRAFFIC GENERATION & IMPACTS

The trip generation rate for seniors living developments in the RMS[1] Guide Update was derived from surveys of ten (10) seniors living developments across the Sydney metropolitan area and regional areas of NSW. In this regard it is noted the RMS[1] Guide Update recommends a peak period traffic generation rate of 0.4 trips / dwelling for seniors living developments. Application of this rate to the proposed three (3) ILUs, results in the following peak period traffic generation:

- 1 vehicle trips / hour (0 in, 1 out), during the AM peak period;
- 1 vehicle trips / hour (1 in, 0 out), during the PM peak period.

As presented above, it is evident that both the existing and proposed developments will generate a single vehicle trip during both the AM and PM peak periods and as such, there will be no net change in traffic generation under the proposal. The traffic impacts of the proposed development are therefore considered acceptable.

8.0 DESIGN ASPECTS

The proposed access and car parking arrangements comply with the relevant requirements of AS 2890.1 with the following comments considered noteworthy:

Vehicle Access

- With six (6) car parking spaces of User Class 1A, the proposed development requires a Category 1 Driveway under Table 3.1 of AS 2890.1, being combined entry / exit driveway with a driveway width of 3.0 metres to 5.5 metres. In response the development provides two (2) access driveways, including a combined entry / exit driveway onto Sanders Lane with a width of 5.5 metres and a combined entry / exit driveway onto Wickham Lane with a width of 4.2 metres, therefore satisfying the Category 1 Driveway requirements of AS 2890.1.
- The proposed vehicle access arrangements have been assessed using swept path analysis with the use of a B99 Design Vehicle. The results included in **Attachment 1**, confirm compliance is achieved with AS 2890.1, and that the proposed access arrangements will operate safely and efficiently.

Driveway

- The driveway onto Wickham Lane has a maximum grade of 5% (1 in 20) for the first 6 metres inside the property boundary and this complies with the requirements of Clause 3.3 of AS 2890.1.
- The driveway onto Sanders Lane is a downgrade for traffic leaving the property and entering the frontage road, therefore it has a maximum grade of 12.5% (1 in 8) for the first 6 metres inside the property boundary and satisfies the requirements of Clause 3.3 of AS 2890.1.

Parking Arrangements

- Car parking spaces 1-4, located on the Ground Floor level are provided in a tandem arrangement with the following parking characteristics:
    - Minimum space width of 3.2 metres and length of 5.4 metres, with a minimum aisle width of 6.4 metres.
    - Both car space 3 or 4 has the ability to be increased to a width of 3.8 metres, if required, ensuring compliance with Clause 5(b) of the Seniors SEPP 2004 – Schedule 3 is achieved.
- Car parking space 5, located on the Lower Parking level is provided with the following parking arrangements:
    - Width of 3.2 metres, length of 5.4 metres and aisle width of 6.1 metres;
- Car parking spaces 6 will be designated to visitors, located on the Lower Parking level are provided with the following parking arrangements:
    - Width of 2.4 metres, length of 5.4 metres and aisle width of 6.1 metres.
- All car parking spaces are provided in accordance with the User Class 1A requirements of AS 2890.1.
- Swept path analysis has been undertaken of all car parking spaces with the use of a B85 Design Vehicle to confirm that satisfactory access will be achieved. The swept path results are provided in **Attachment 1** and confirm that drivers will be able to satisfactorily enter and exit all car spaces and importantly, that all entry / exit movements to the site will occur in a forward direction. It is therefore clear that the proposed parking arrangements will operate satisfactorily and comply with Appendix B of AS 2890.1.

Waste Collection from Wickham Lane

- Swept paths were previously provided to Council demonstrating that a 10.5m waste vehicle is unable to negotiate the right turn from Wickham Lane into Sanders Lane without mounting the kerb. Despite this area being outside our property boundary, to address Council's concern we have proposed to widen the eastern side of Wickham Lane to ensure Council's 10.5 metre waste truck can turn right into Sanders Lane satisfactorily.
- Swept path analysis has been undertaken of a 10.5 metre to confirm that satisfactory access will be achieved. The swept path results are provided in **Attachment 2** and confirm that making minor adjustments to Wickham and Sanders Lane kerbs will ensure a 10.5 metre waste truck will be able to satisfactorily turn right from Wickham Lane onto Sanders Lane without mounting the kerb.

The proposed access and car parking arrangements therefore comply with the relevant requirements of AS 2890.1. Any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate (CC).

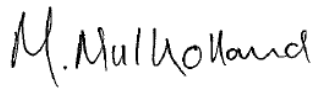
9.0 SUMMARY

In summary:

- PDC Consultants has been commissioned by Construct By Design Pty Ltd to undertake a traffic and parking impact assessment to accompany a DA relating to the site at 27 Bellevue Avenue, Avalon. Specifically, the DA seeks consent for the demolition of all existing structures and construction of a seniors housing development consisting of three (3) seniors ILUs, six (6) car spaces and two (2) entry / exit driveways located on Sanders Lane and Wickham Lane respectively.
- The traffic generation assessment confirms that the existing and proposed development will generate a single vehicle trip during both the AM and PM peak periods and as such, there will be no net change in traffic generation under the proposal. The traffic impacts of the proposal are therefore considered acceptable.
- The SEPP 2004 requires the development to provide a minimum of five (5) resident car parking spaces, whilst the Pittwater DCP 2014 requires a minimum of two (2) resident car parking spaces and one (1) visitor car parking space. In response, the development provides a total of six (6) car parking spaces comprising of five (5) resident car spaces and one (1) visitor car space, and therefore satisfies the total provision and allocation requirements of both the SEPP 2004 and the Pittwater DCP 2014. The proposed car parking provision is therefore considered acceptable and will ensure that all car parking demands are accommodated on-site, with no reliance on on-street parking.
- The proposed access and car parking arrangements comply with the relevant requirements of AS 2890.1. Any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

The proposed development is therefore supportable on traffic planning grounds. Please contact the undersigned should you have any queries or require any further information.

Yours sincerely,

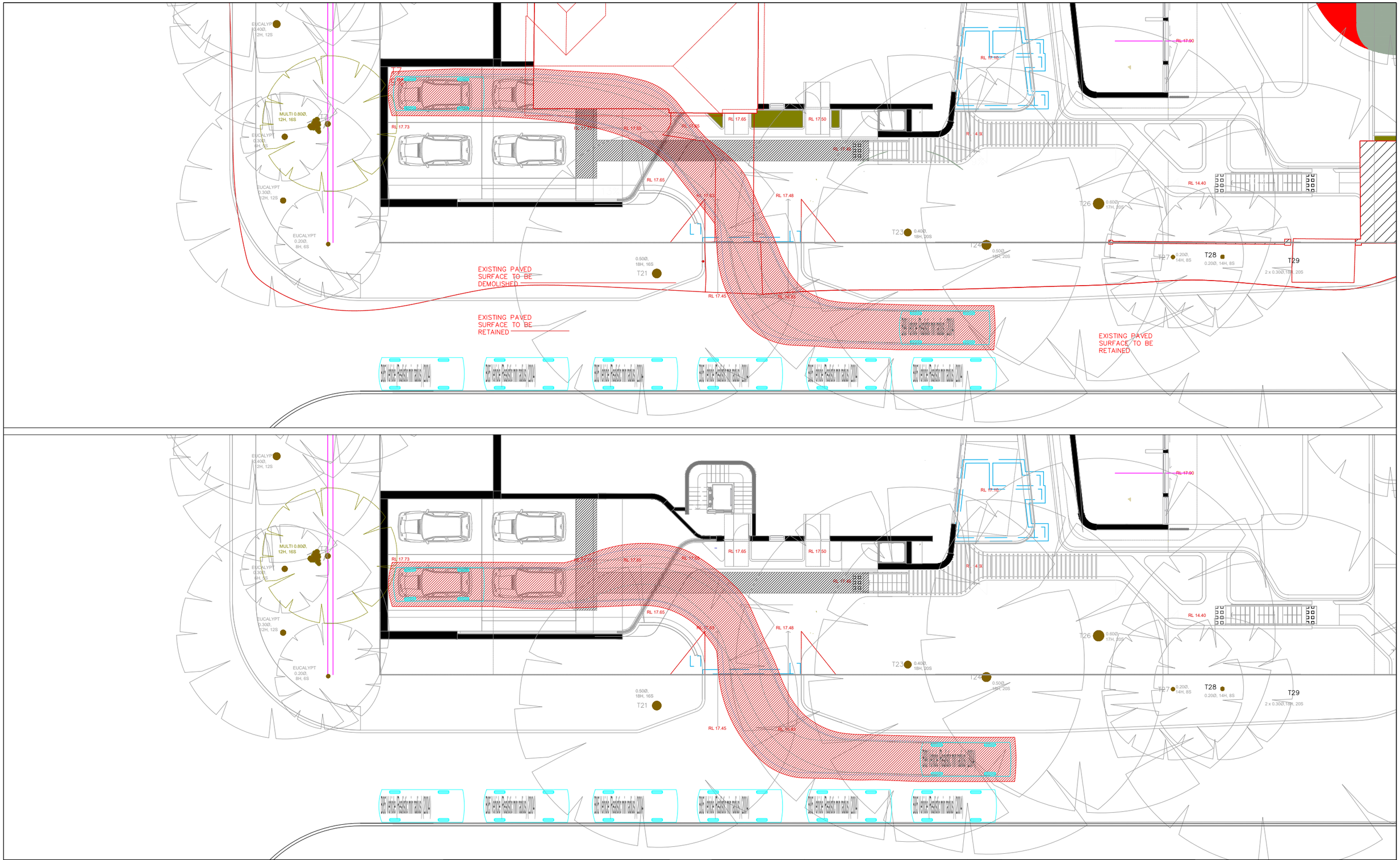


Maria Mulholland
Traffic Engineer, PDC Consultants

Email: maria@pdcconsultants.com.au

Attachments:
1) Swept Path Drawings
2) Council's Waste Truck Drawing

Attachment 1



No.	Date	Description

Swept Path Key
- Vehicle Wheel Path
- Vehicle Body Envelope
- 300mm Vehicle Clearance

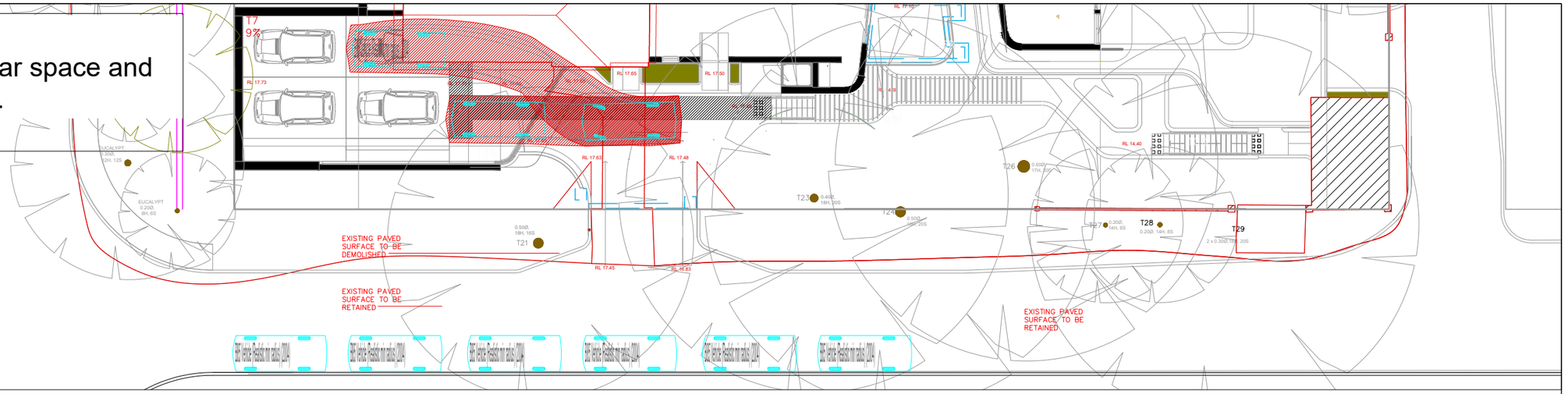
North

Drawing Prepared By

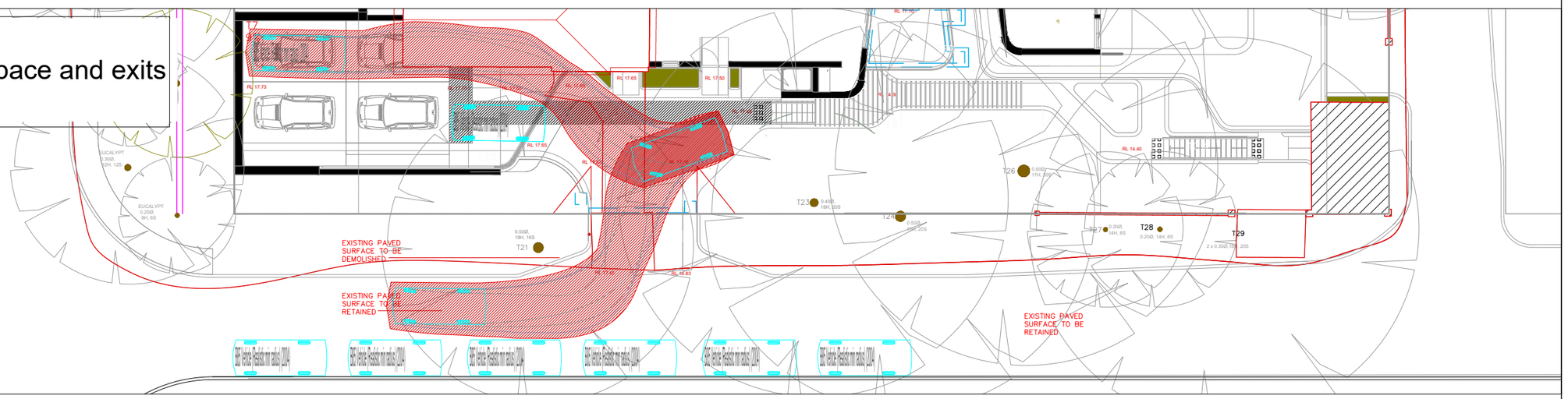
PDC Consultants
Level 14, 100 William St,
Woolloomooloo NSW 2011
t: +61 2 7900 6514
w: www.pdcconsultants.com.au
ABN: 70 615 064 670

Architect SHED	Project 27 Bellevue Avenue Avalon	Drawing Title Ground Floor Plan B85 Design Vehicle Swept Path Analysis Car Space 1 & 2 Entry Parking Manoeuvres	Drawing No. 001 Revision No. D
Client Construct By Design	Project No 0185	Sheet Status NOT FOR CONSTRUCTION	Drawn By MM Date 05/10/2021
			Scale 1:250 @ A3 0m 2 4 6 8 124

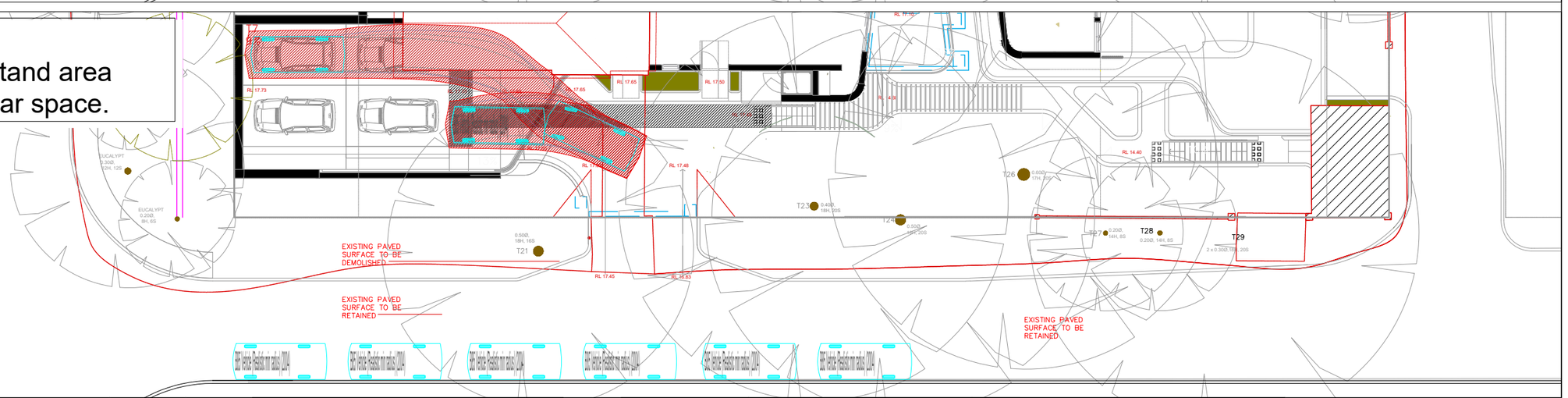
STEP 1:
A car exits the car tandem car space and waits on the hardstand area.



STEP 2:
A car exits the tandem car space and exits the site.



STEP 3:
The car waiting on the hardstand area re-enters the most western car space.



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Drawing Prepared By
PDC Consultants
Level 14, 100 William St,
Woolloomooloo NSW 2011
t: +61 2 7900 6514
w: www.pdcconsultants.com.au
ABN: 70 615 064 670

Architect
SHED

Client
Construct By Design

Project
27 Bellevue Avenue
Avalon

Project No
0185

Drawing Title
Ground Floor Plan
B85 Design Vehicle Swept Path Analysis
Car Space 1 Entry / Exit Parking Manoeuvres

Sheet Status
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Drawing No.
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Revision No.
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Drawn By
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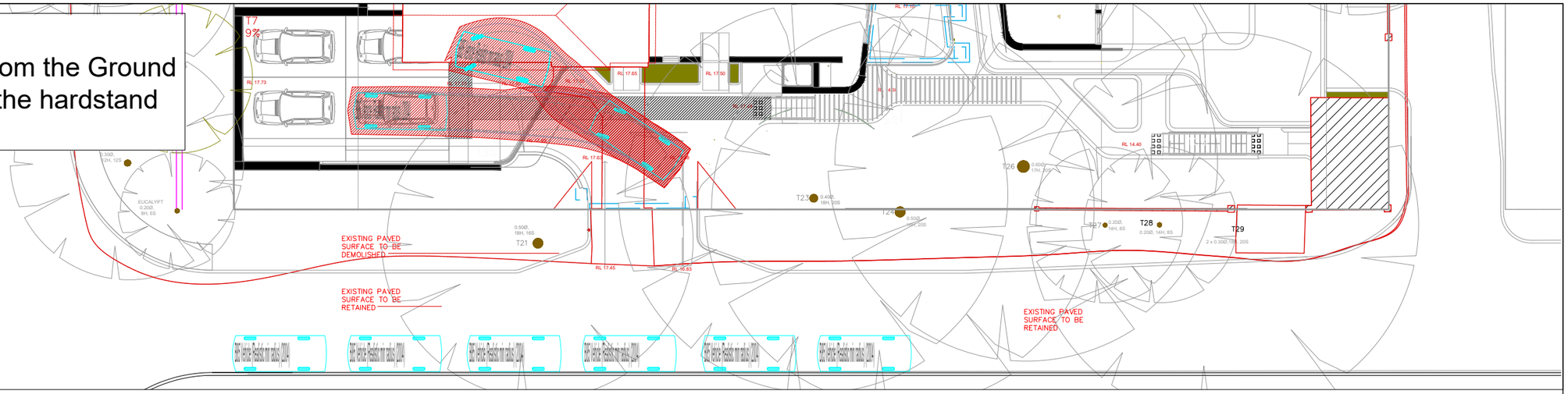
STEP 1:
A car exits the car stacker from the Ground Floor platform and waits on the hardstand area.



STEP 2:
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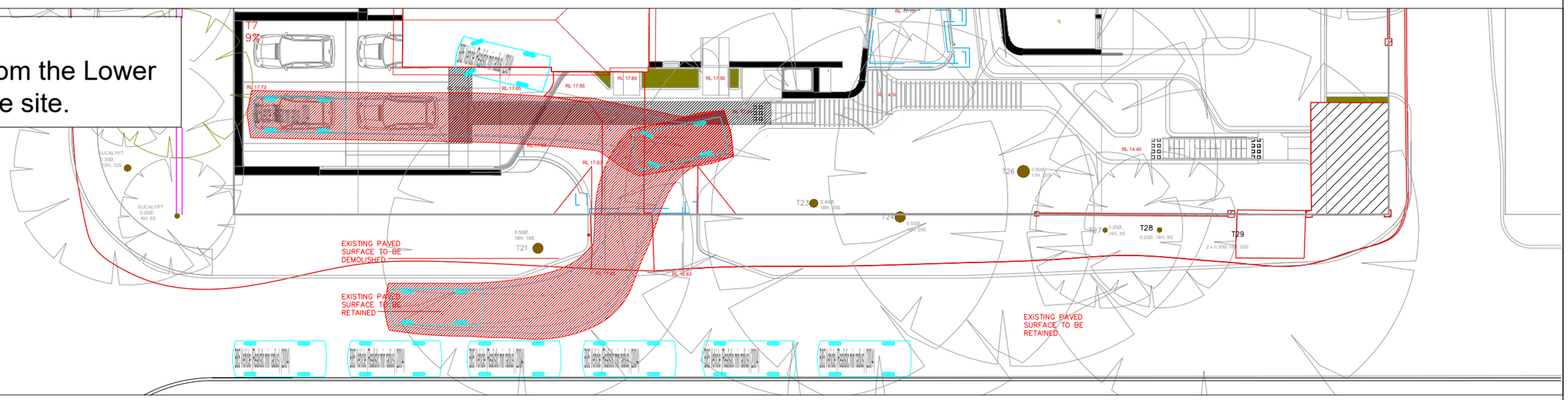
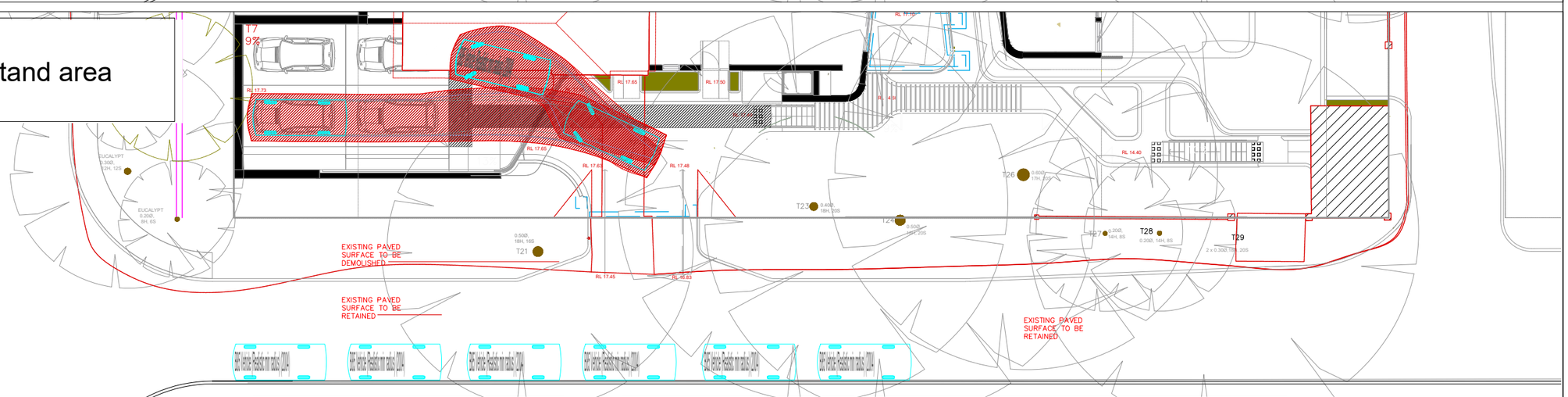


STEP 3:
The car waiting on the hardstand area re-enters the car stacker.



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PDC Consultants
Level 14, 100 William St,
Woolloomooloo NSW 2011
t: +61 2 7900 6514
w: www.pdcconsultants.com.au
ABN: 70 615 064 670

Architect
SHED

Client
Construct By Design

Project
27 Bellevue Avenue
Avalon

Project No
0185

Drawing Title
Ground Floor Plan
B85 Design Vehicle Swept Path Analysis
Car Space 2 Entry / Exit Parking Manoeuvres

Sheet Status
NOT FOR CONSTRUCTION

Drawing No.
004

Revision No.
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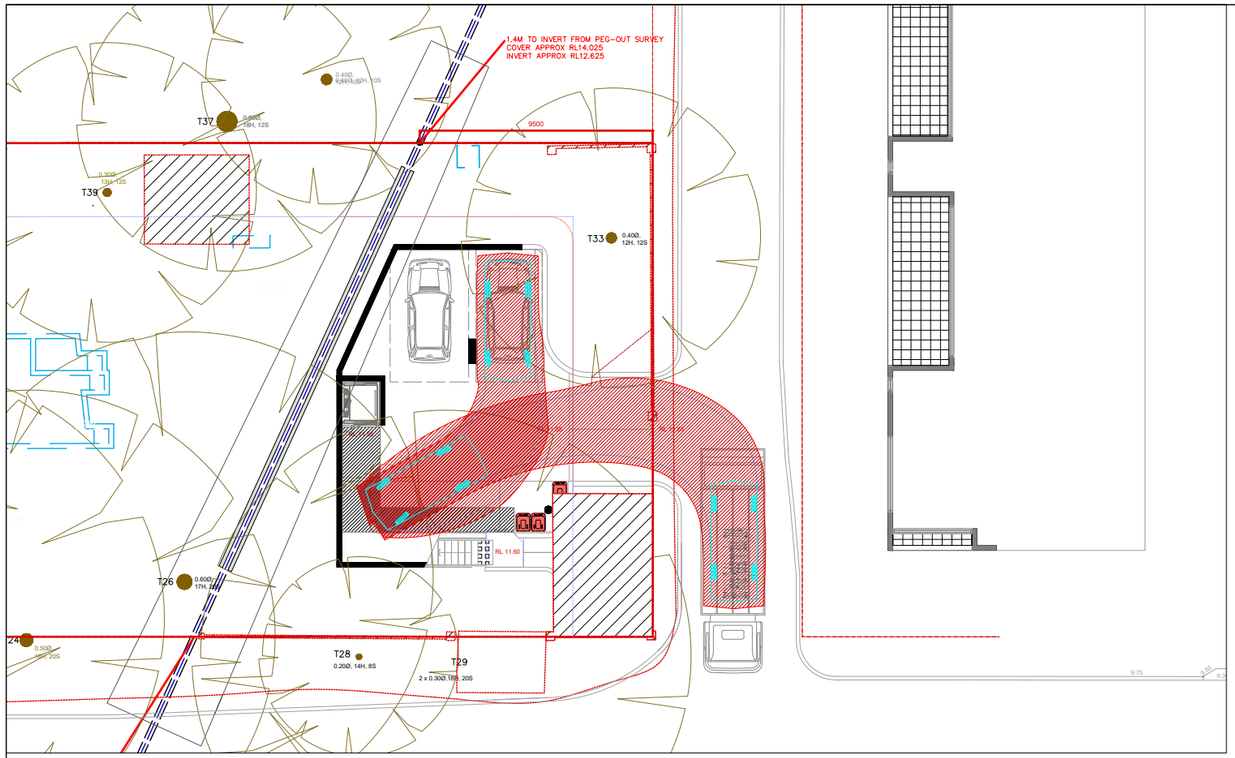

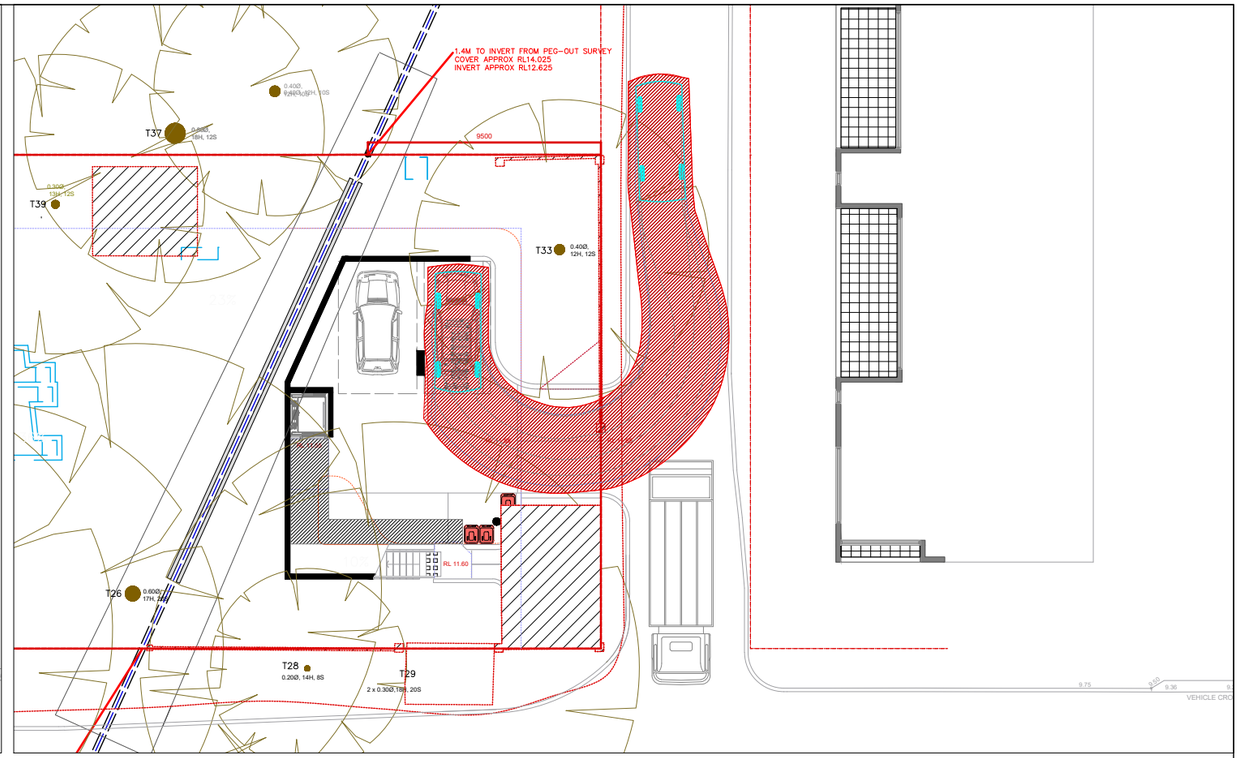

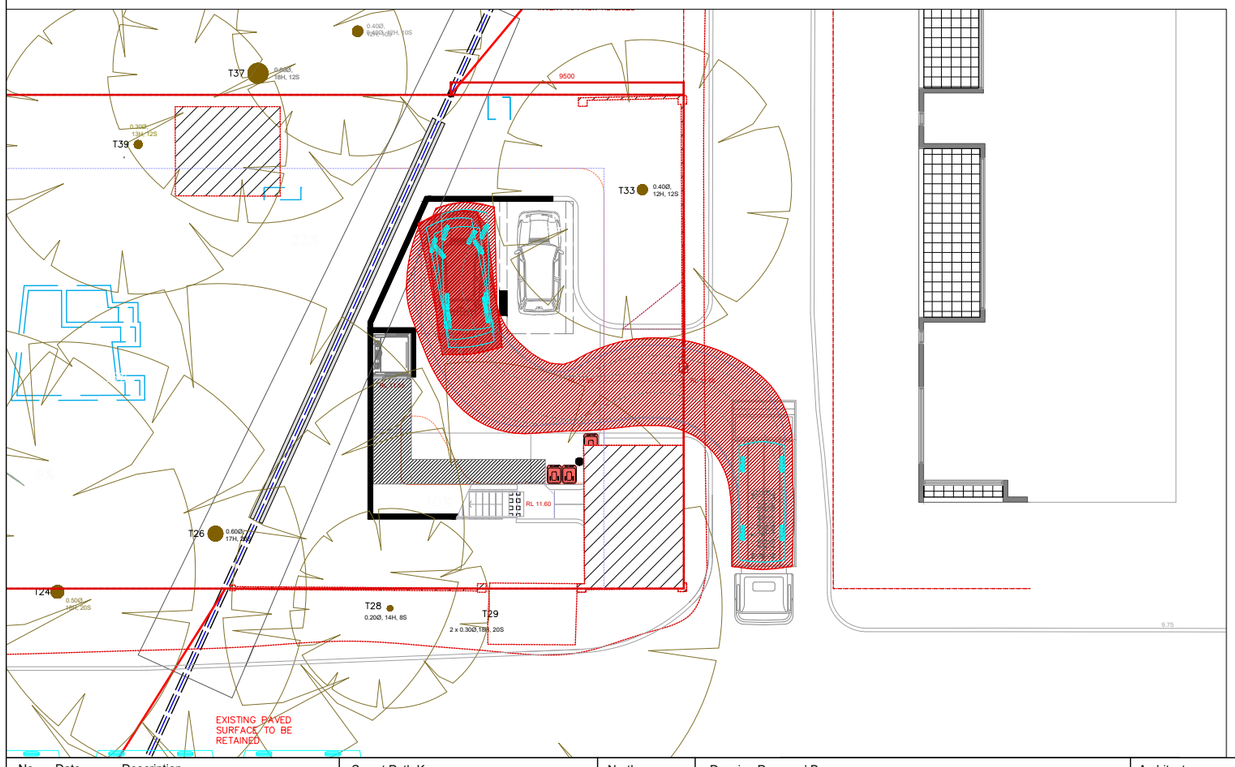

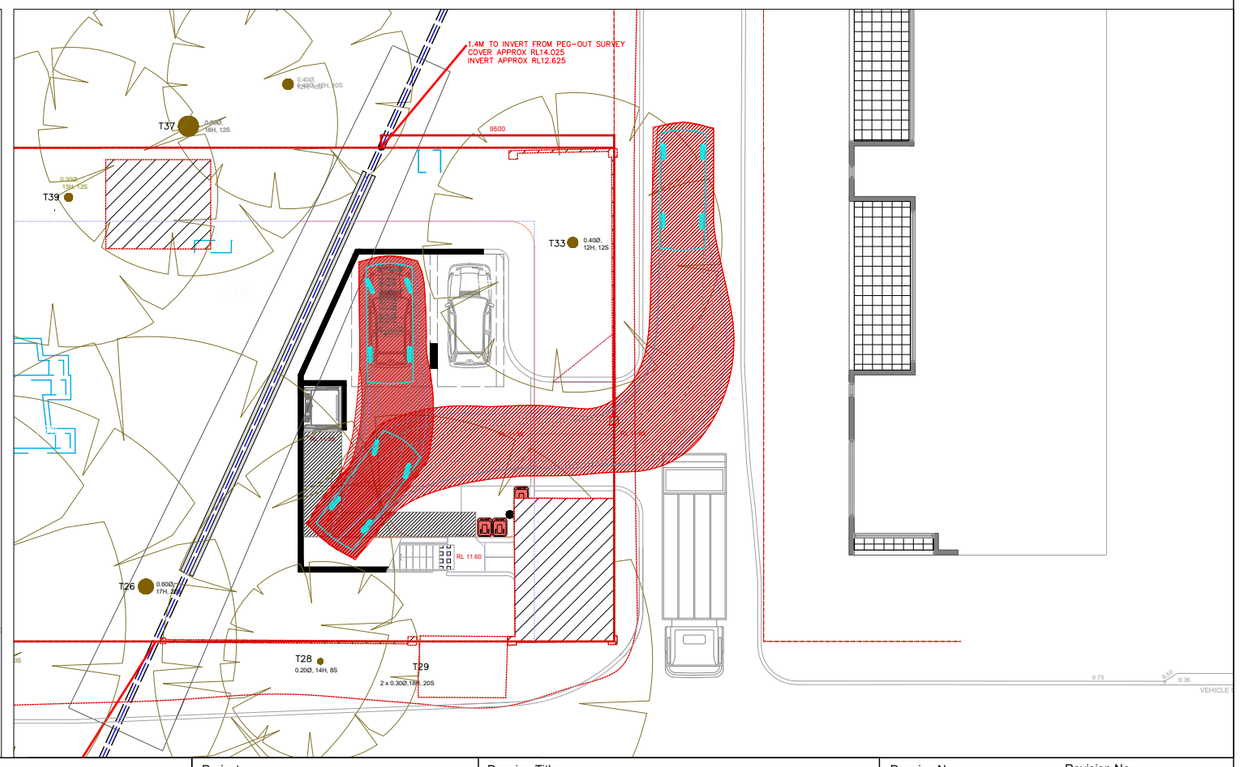

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North

Drawing Prepared By

PDC Consultants
Suite 202 / 27-39 Abercrombie St
Chippendale NSW 2008
t: +61 2 7900 6514
w: www.pdcconsultants.com.au
ABN: 70 615 064 670

Architect
SHED

Client
Construct By Design

Project
27 Bellevue Avenue
Avalon

Project No
0185

Drawing Title
Lower Ground Floor Plan
B85 Design Vehicle Swept Path Analysis
Car Space 5 & 6 Entry / Exit Parking Manoeuvres

Sheet Status
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Drawing No.
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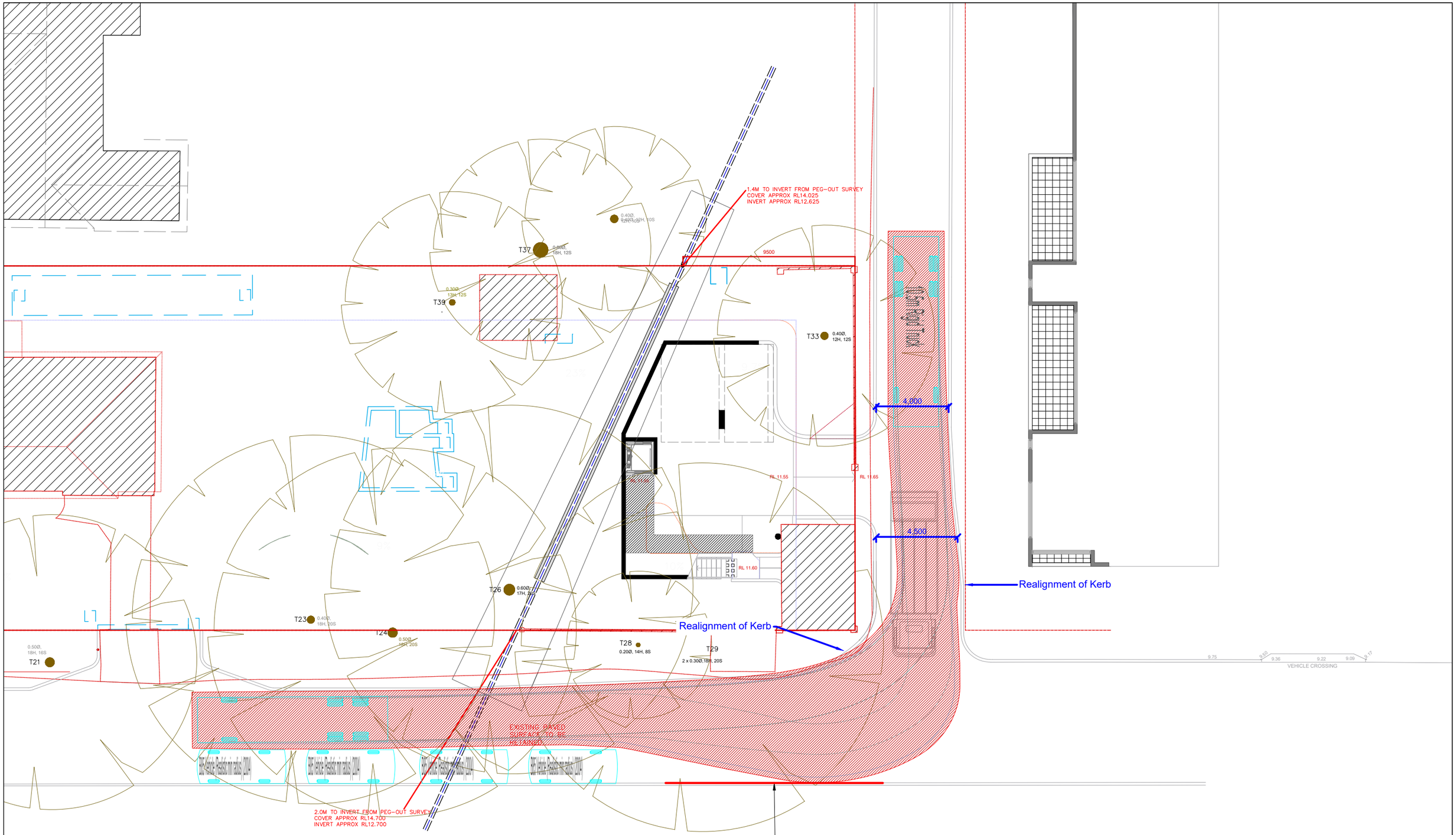
Attachment 2



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PDC Consultants
Level 14, 100 William St
Woolloomooloo NSW 2011
t: +61 2 7900 6514
w: www.pdcconsultants.com.au
ABN: 70 615 064 670

Architect: SHED	Project: 27 Bellevue Avenue, Avalon	Drawing Title: Lower Ground Floor Plan, 10.5m Truck Swept Path Analysis	Drawing No.: 005 / Revision No.: D
Client: Construct By Design	Project No: 0185	Sheet Status: NOT FOR CONSTRUCTION	Drawn By: MM / Date: 05/10/2021
			Scale: 1:200 @ A3 (0m, 2, 4, 6, 8)