



Traffic Engineering

103 Yagers Lane, Skinners Shoot

On Behalf of M. Schreiber



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Revision Record

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1 Introduction

1.1 Background

TTM Consulting Pty Ltd has been engaged by M. Schreiber to provide a traffic engineering assessment of a proposed mixed-use development at 103 Yagers Lane, Skinners Shoot. The proposed land uses include:

- Food & Drink (Restaurant)
- Food & Drink (Artisan)
- Artisan Sale area

The site is identified as Lot 7 & 8 on DP8385 and under the jurisdiction of Byron Shire Council. Zoning for the site is currently RU2 (rural landscape).

1.2 Scope

This report investigates the transport aspects associated with the proposed development. The scope of the transport aspects investigated includes:

- Parking supply required to cater for development demand
- Parking layout to provide efficient and safe internal manoeuvring
- Identification of likely traffic volumes and traffic distribution from the future development
- Identification of likely traffic impact of development on the public road network
- Access configuration to provide efficient and safe manoeuvring between the site and the public road network
- Existing Road Layout and Mitigation Works
- Active Transport requirements

To assess the proposed transport arrangements, the development plans have been assessed against the following guidelines and planning documents:

- Byron Shire Council Development Control Plan, specifically:
- Australian Standard 2890
- Austroads Guide to Road Design Parts 3 and 4.

1.3 Site Location

The site is located at 103 Yagers Lane, accessed via the Yagers Lane and Skinners Shoot Road intersection, as shown in Figure 1.1. The property description is Lot 7 & 8 on DP8385. The site has road frontage to Yagers

Lane only via a shared access arrangement and is currently occupied by a disused farming operation (piggery). Access is currently from a single 3.3m driveway onto the shared access part of Yagers Lane.

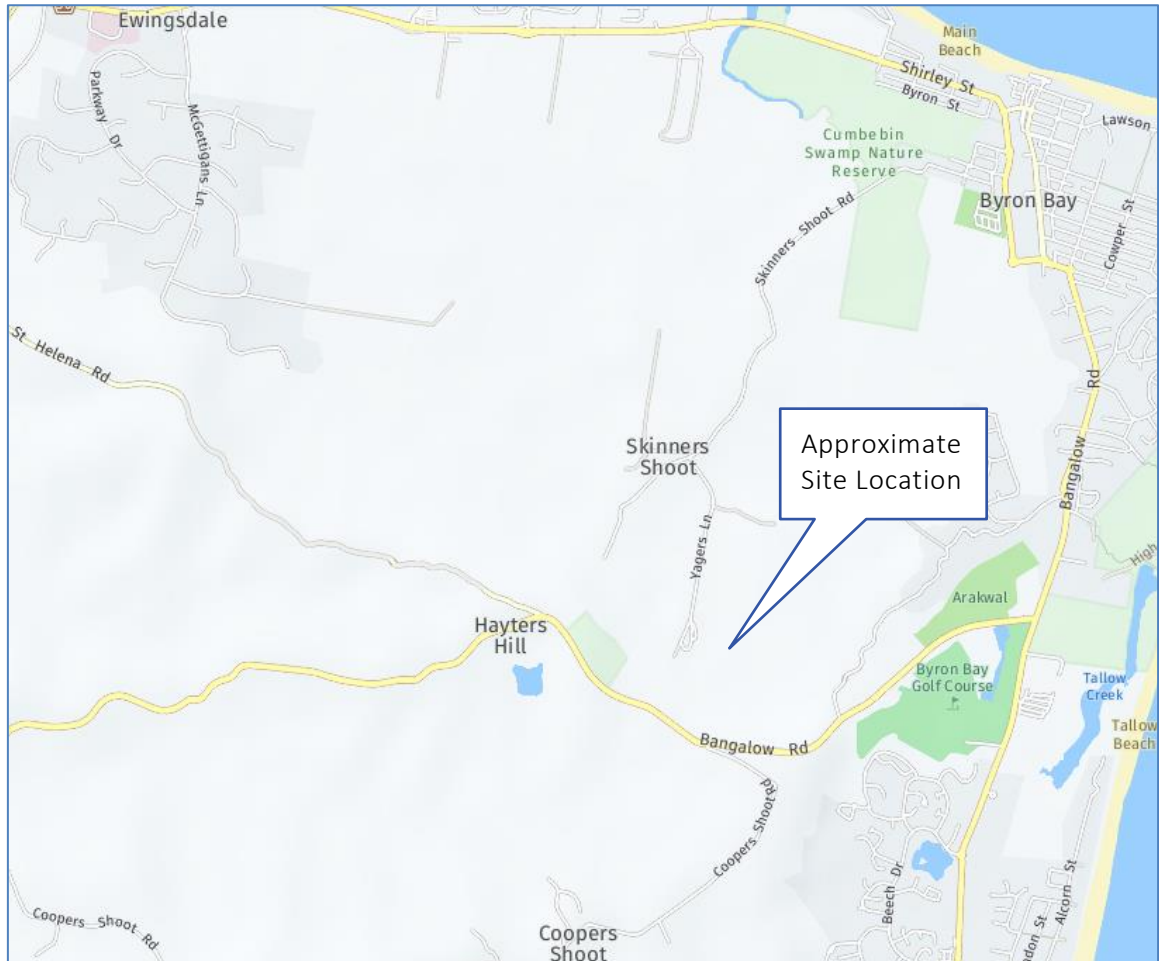


Figure 1.1: Site location



Figure 1.2: Site area

1.4 Development Profile

The proposed land uses for the development is summarised in Table 1.1. The pre-existing piggery use has been out of service for a significant period of time and as such has been excluded from the development profile and subsequent assessment.

The Food & Drink (Artisan) and Artisan Sale area are tied operations, with staff shared between the two.

Table 1.1: Proposed land uses

Use	Area/Qty	Open Hours
Food & Drink (Restaurant)	Approx 900m ² GFA Capacity of 45 seating. Capacity of 15 in lounge/waiting room	<u>Wednesday - Saturday</u> 12noon to 11:00pm <u>Sunday</u> 12noon to 10pm
Food & Drink (Artisan)	Approx 72m ² GFA Capacity of 15 outdoor seating	<u>Monday to Sunday</u> 10am to 3pm – Sales hours
Artisan Sale area	Approx 38m ² GFA	<u>5 days Weekly</u> 10am to 3pm

Proposed operation of the Restaurant Facilities.

The following is a description/statement of anticipated operations provided by the applicant and operators (chefs) of the site.

Restaurant operations are proposed to be of a high end/exclusive nature. Bookings will only be accepted at 15-minute intervals to ensure a personal style of greeting guests and catering to the kitchen capacity. Based on the table sizes, it is anticipated that this will be a maximum of 4 people each 15 minutes (2 or 4 person groups).

It is intended as a small scale and intimate fine dining experience. The restaurant lounge is for the service of restaurant guests waiting for service.

The restaurant is proposed to cater for a maximum seated capacity of 45 guests, with an additional 15 guests accommodated by a waiting room/lounge prior to and after their booking.

A second seating is limited to the capacity of the lounge/waiting room of 15 guests (33% of seated capacity).

The proposed hours of operation are listed in the prior Table 1.1: Proposed land uses from Wednesday to Saturday the restaurant is open from midday through to 11pm. On Sunday the restaurant operates from midday to 10pm. The capacity of operation in these time periods does not exceed the maximum seatings listed above.

There are 25 staff required to travel to the site for work.

1.5 Access

The development plan includes the following access arrangements:

- Yagers Lane Carpark Access located at the Western side of the subject site and at the road reserve boundary of Yagers Lane. A site visit shows that this location was an access in the past, however it is not possible to determine if/how it was used. The characteristics of this access include:
 - 6.2m wide at the property boundary
 - Priority control
 - Inbound/outbound, all turns permitted
- Internal Yagers Lane Access located at the western side of the subject site. This is within the shared section of the road and the same as the existing main access. The characteristics of this access include:
 - 4.9m wide at the property boundary
 - Priority control
 - Inbound/outbound, all turns permitted
 - Service vehicles only

1.6 Parking

The development proposal includes the following parking supply:

- 51 visitor carpark
- 29 staff spaces
- Short Term Drop Off / Pick up Courtyard
- 2 PWD spaces

2 Existing Transport Infrastructure

2.1 The Road Network

The majority of roads in the immediate vicinity of the site are administered by Byron Shire Council.

Skinners Shoot Road and Yagers Lane are currently typical minor rural type roads which have relatively low traffic usage.

Skinners Shoot Road is subject to a 50kph speed limit at the interface with Gordon Street. Further speed signage (50kph) has been provided by the client along Skinners Shoot Road. The road extends from the southern edge of Byron Bay to the suburb of Byron Bay known as Suffolk Park and runs generally in a north-south direction where it intersects Yagers Lane near the end of its current formation.

Yagers Lane runs in a generally east-west direction before leading onto the property and has a 4.0m surfaced carriage way. Client provided signage indicates a 40kph speed limit along Yagers Lane, however TfNSW and BSC still note the road at a speed limit of 100kph.

2.2 Road Planning

An Engineering Design Summary was carried out on Skinners Shoot Road / Yagers Lane in December 2008. By MWH regarding the Country energy Suffolk Park Substation and Line Route EA.

The study reviewed the existing road design and safety characteristics of Skinners Shoot Road and Yagers Lane to handle larger service vehicles for the substation.

The findings of the report outlined minor design improvements that were undertaken to improve the design and capacity of both Skinners Shoot Road and Yagers Lane. Including widening of shoulders and resurfacing. There were no significant reworks/upgrades proposed.

At the time of the report, Skinners Shoot Road was servicing approximately 30 dwellings. According to Australian Standards, the width of the carriageway and capacity of the road formations, would not meet requirements. The mediation measures undertaken as a part of the assessment aimed to improve these conditions.

Byron Shire Council states that the access way widths should reflect the function and volume of use as a performance criterion.

2.3 Public Transport and Pedestrian Facilities

There are no existing cyclist, pedestrian, or public transport facilities provided within the Yagers Lane/Skinners Shoot area due to its rural classification.

3 Car Parking Arrangements

3.1 Council Parking Supply Requirement

Council parking requirements for this type of development are identified in Table 3.1.

Application of Council parking rates to the Food & Drink (Restaurant) is considered a poor fit as the demand would be approximately 160 carpark spaces. Based on the operation characteristics highlighted within Section 1.4 of this assessment, TTM provide the following performance estimates for the parking demand.

The maximum parking demand of the restaurant assumes that seating is at full capacity, i.e., 45 dining and 15 in the lounge for a total of 60 people.

Provided the exclusivity of the site and the average table sizes (2 to 4), it is anticipated that 1 in 3 patrons will employ car share to travel to the site. TTM have travel mode data collected from a Gold Coast restaurant that identifies 32% of all the patrons travelling by car were a passenger in the vehicle – in the case of the restaurant accommodating 60 persons, the travel by car as passenger equates to 20 persons.

Furthermore, the same survey data showed that 21% of patrons utilised a Ride Share or Taxi service. Although this data is from a highly built-up area (Palm Beach), it would be a reasonable extrapolation to apply a similar ride share/taxi percentage to the subject site. Both sites consist of smaller/intimate restaurants and service. Given the rural location of the subject site, while also considering the intended operation and alcohol service, TTM has applied a conservative 10% ride share/taxi rate to the restaurant patrons on site – which equates to 6 persons.

Table 3.1: Parking Supply Requirement

Land Use	Council Requirement	Extent	Requirement	Provision
Food & Drink (Restaurant)	First Principles Assessment	Approx 900m ² GFA Capacity of 45 seating. Capacity of 15 in lounge/waiting room	34 20 staff	53 Visitor Spaces (including 2 PWD spaces) Drop off / Pick up area 29 dedicated staff spaces
Food & Drink (Inc. Artisan Sale Area)	1 per 7.5m ² of GFA	Approx 110m ² GFA Capacity of 15 outdoor seating	15 5 Staff	
Total			74 spaces	82 spaces

To meet the council's requirements, the development site shall allocate a minimum of 49 spaces for visitors. However, the proposed site is providing a total of 53 visitor spaces (including 2 PWD spaces), offering an additional four spots for visitors. The parking provision maximises visitor parking – whilst maintain suitable staff allocation. TTM consider the site to provide sufficient carparking to meet the anticipated demands.

3.2 Car Park Layout

Table 3.2 identifies the characteristics of the proposed parking area with respect to the Council requirements. The last column identifies the compliance of each design aspect. Where compliance with

Council is not achieved, further information is provided below. This outlines the number and dimension of carparks required, while the layout is indicative based on the architectural plans.

Table 3.2: Parking Design Requirements

Design Aspect	Minimum AS2890.1 Standard	Proposed Provision	Compliance
Parking space length: – Visitor bay (90°) – Staff bay (60°) – PWD Bay	5.4m 5.4m 5.4m	5.4m 5.4m 5.4m	Compliant Compliant Compliant
Parking space width: – Visitor bay (90°) – Staff bay (60°) – PWD Bay	2.5m (Class 3) 2.4m (Class 1/1A) 2.4m + 2.4m shared area	2.5m 2.5m 2.4m + 2.4m shared area	Compliant Compliant Compliant
Aisle Width: – Parking aisle (90° & Class 3) – Parking aisle (60°) – Circulation aisle/ramp	6.1m 4.9m 6.2m	6.7m 4.9m 6.2m	Compliant Compliant Compliant
Parking envelope clearance – space adjacent to wall or obstruction	Space 0.3m clear of wall	Space 0.3m clear of wall	Compliant
Maximum Gradient: – PWD parking – Parking bay – Parking aisle – Ramp – Service Area	1:40 (2.5%) 1:20 (5.0%) 1:16 (6.25%) 1:5 (20%) 1:20 (5%) standing and 1:6.5 (15.4%) circulation	See following discussion and enclosed plans.	Shall Comply Shall Comply Shall Comply Shall Comply Shall Comply
Maximum Change in Grade – General aisles & ramps – Service vehicle routes	1:8 (12.5%) summit 1:6.67 (15.0%) sag 1:16 (6.25%) over 7m	See following discussion and enclosed plans.	Shall Comply
Height Clearance – PWD Space – Service Area	2.2m (2.3m PWD) 4.5m	Open air Open air	Compliant Compliant
Parking Aisle Extension	1m beyond last bay	5m beyond last bay	Compliant

3.2.1 Parking Space Widths

The AS2890.1 requires a wider carpark width than provided for a user class three. However, the site provides a significantly wider aisle at 6.7m.

TTM consider this to be an appropriate arrangement for parking on the site that will facilitate visitor parking and egress.

3.2.2 Maximum Gradients

Parking Area

TTM have provided an analysis of the circulation ramp into the proposed carpark area. There is sufficient space for a vehicle to stand on-grade prior to entering the roadway. The figure below shows the driveway profile and the existing surface level with compliant grades and transitions.

Table 3.3. Grades and Transitions for the Parking Area

Horizontal Length (m)	Ratio		Vert. Cum. Height (m)	Transition Grade (Ratio)	
14	1:	200	23.01	N/A	
8	1:	8	22.01	1:	8.33
6.7	1:	40	21.8425	1:	10
2.5	1:	8	21.53	1:	10
8	1:	6.5	20.299231	1:	34.7
2.5	1:	8	19.986731	1:	34.7
6.7	1:	40	19.819231	1:	10

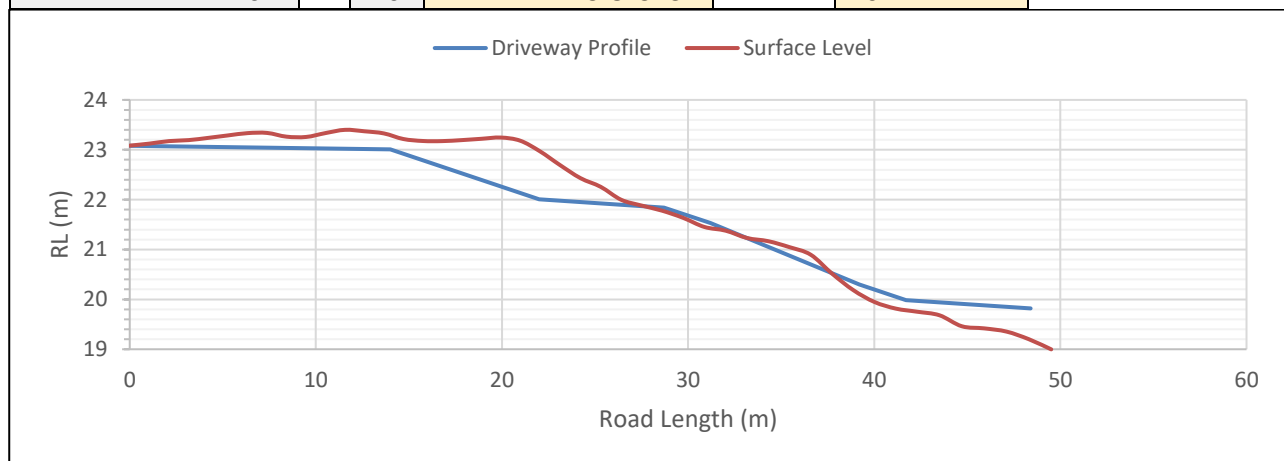


Figure 3.1. Visitor Parking Area AS2890.1 Compliance and Existing Surface.



Figure 3.2. Path (red line) of Driveway and Existing Grades from Figure 3.1

Staff and Service Area

TTM have provided an analysis of the circulation ramp into the proposed staff carpark and servicing area. There is sufficient space for a vehicle to stand on-grade prior to entering the roadway. The figure below shows the driveway profile and the existing surface level with compliant grades and transitions.

See Section 7 for Service Vehicle Arrangements.

The site anticipates an SRV being the largest design vehicle to require full circulation to the restaurant loading area. AS2890.2 outlines the grades allowable as 1:12 in 4.0m of travel and a maximum of 1:6.5. All service vehicle standing areas must be 1:20 and parking aisles are a maximum of 1:16 perpendicular to the carpark.

With this in mind, TTM have verified that the existing surface grades are within accuracy tolerances to compliance based on 1.0m DEM data from E.L.V.I.S.

Table 3.4. Staff Parking and Servicing Route Grades

Horizontal Length (m)	Ratio		Vert. Cum. Height (m)	Transition Grade (Ratio)	
18	1:	200	27.02	N/A	
7	1:	14	26.52	1:	15.1
7	1:	6.5	25.443077	1:	12.1
7	1:	12.5	24.883077	1:	13.5
10	1:	80	24.758077	1:	14.8
7	1:	14	24.258077	1:	17
25	1:	6.5	20.411923	1:	12.1
18	1:	12.5	18.971923	1:	13.5
20	1:	200	18.871923	1:	13.3

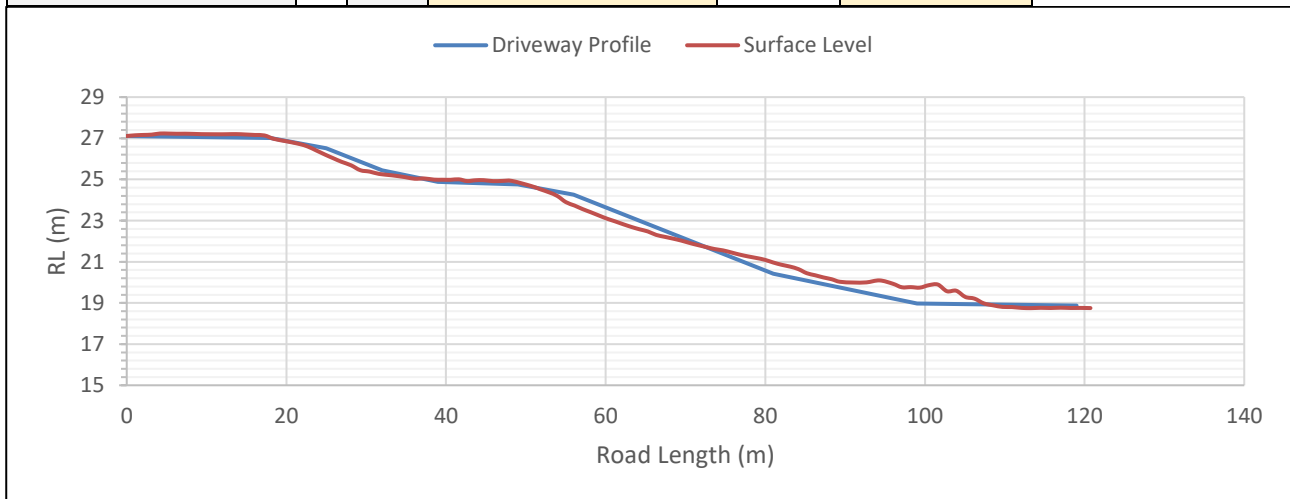


Figure 3.3. Staff Parking and Servicing area AS2890.2 Compliance and Existing Surface.

4 Estimated Future Transport Demands

4.1 Estimated Development Traffic Generation

The RTA 'Guide to Traffic Generating Developments' (2002) recommends using specific generation rates for planning purposes and for different development types. Application of these rates to the proposed development results in the estimate of development site traffic generation. Each land use is detailed below with the overall summary in .

- For the Food & Drink Facility (Artisan), this establishment is expected to function as a small café/takeaway for the occasional visitor to the area, a *"sharing space between maker and visitor to taste artisan products and enjoy an accompanying coffee"* .

The RTA's recommend trip rate is for high turnover establishments (KFC & McDonalds), while the restaurant rate is for indoor dining. Neither of which are representative of operations proposed. TTM have therefore adopted the Food & Drink facility's traffic generation as the rate identified within the Queensland Road Planning and Design Manual (RPDM) Chapter 3, Table 3.6 of 12 trips/100m² GFA for small food outlets.

- Staff have been excluded from the peak trip generation rates. This is because staff are anticipated to arrive prior to opening and depart after the last guest. The highest concentration of traffic is due to the operations, not the staff.
- There are two services provided by the restaurant, lunchtime and dinner service. TTM assumes the peak trips to occur at the opening hour. Realistically, as outlined within the Development Profile in Section 1.2, the bookings are managed to stagger arrivals for service.
- The restaurant bookings are staggered by 15-minute increments and up to 4 people per increment, a total of 16 people per hour. It is assumed for the purpose of this assessment that the duration of stay at the dining area is 3 hours. Therefore,
 - 16 people with 1 in 3 using car share = 11 vehicles in the hour (see Section 3.1).

The realistic traffic generation is summarised in Table 4.1 and Figure 4.1 below. TTM have assumed a directional split of 50% in and 50% out for vehicles during the peak hour for the artisan café and artisan sale area.

Table 4.1. Realistic Traffic Generation based on operations

Restaurant	Artisan Food & Drink Industry (Inc. Artisan Sale area)	Total
11vph IN: 11 vehicles Out: 1 vehicle	14 vph IN: 7 vehicles Out: 7 Vehicles	25 vph IN: 18 vph Out: 7 vph

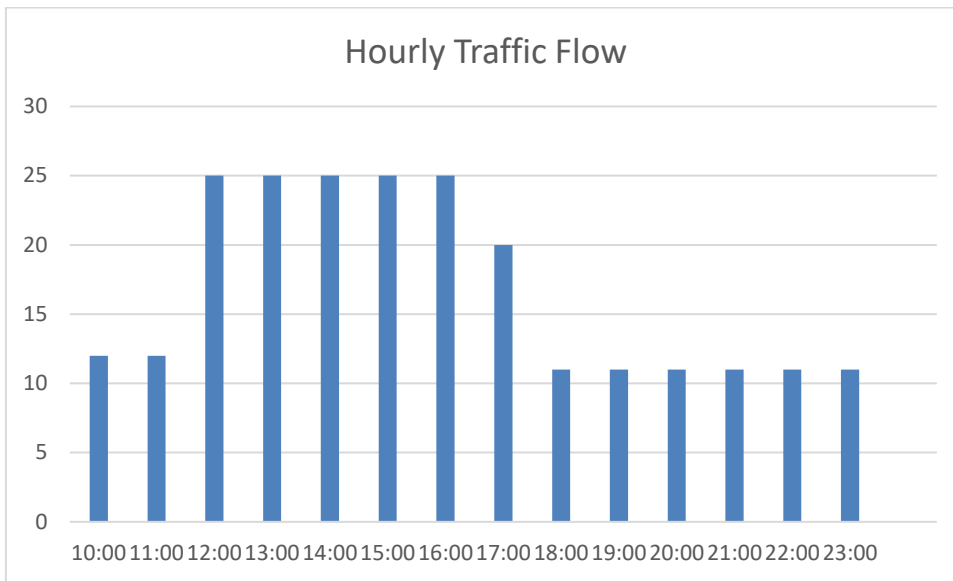


Figure 4.1 Hourly vehicle flow of realistic traffic generation

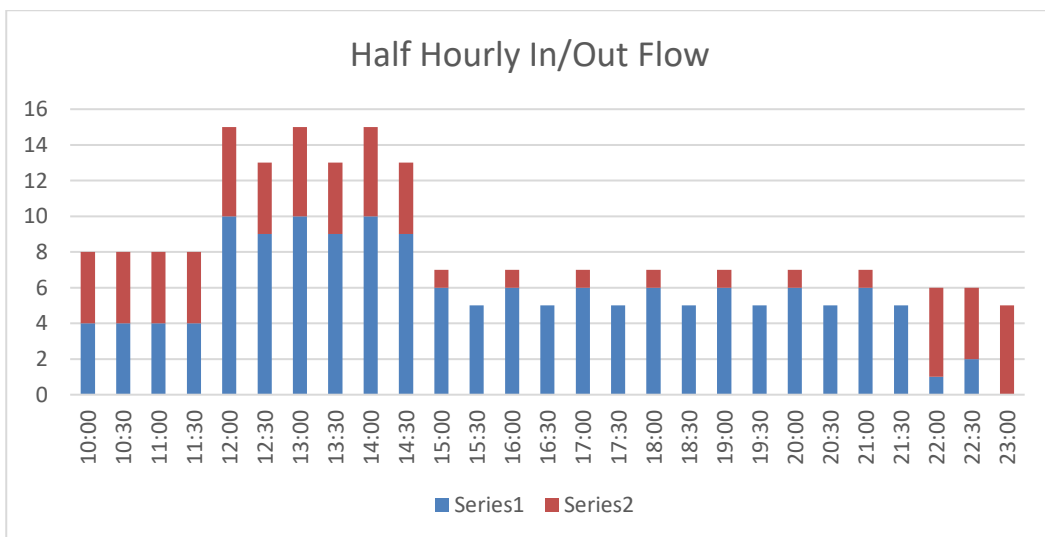


Figure 4.2 Half Hourly IN/OUT flows - Based on Figure 4.1 above

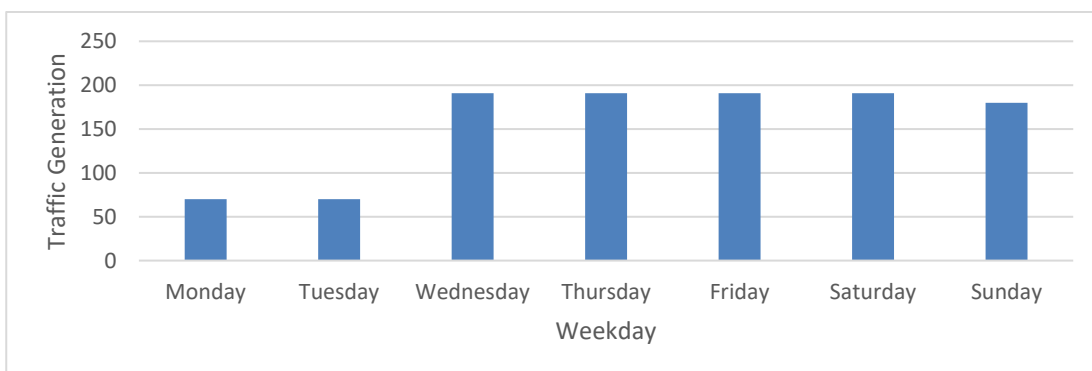


Figure 4.3. Weekly Traffic Generation (Daily Totals)

4.2 Estimated Development Traffic Distribution

The estimated distribution of development generated traffic (peak hour) is shown in Figure 4.4.



Figure 4.4. Traffic Distributions from Site to distribution point @ Peak Operation (midday)

4.3 Traffic Generation Impacts

As per the traffic distributions, the peak hour traffic generation volumes are low and should not significantly impact the safety or operations of the distribution points. Furthermore, the Butler Street / Burns Street intersection has been recently upgraded with a channelised right turn lane, and the Butler Street / Somerset Street roundabout has also been subject to a recent upgrade in conjunction with the new public transport interchange facility.

Overall daily volumes are anticipated by the following assumptions:

- Two Main Restaurant Services (Lunch/Dinner) (34 vehicles x 2)
- Artisan Café & sale area peak hour trip rates represent 20% of overall daily traffic by these land uses. (8vph = 40vpd)

The resultant daily traffic generation for the site is estimated at 191 vehicles per day from Wednesday to Saturday (Table 1.1 operating times).

This will put Skinners Shoot Road and Yagers lane above the design capacity of 150vpd. See Section 5 for mitigation measures.

5 Local Road Impacts & Mitigation

5.1 Road Crash Data

A review of the conditions of the roads impacted by the site highlights that in the past 5 years there have been 9 crashes along Skinners Shoot Road.

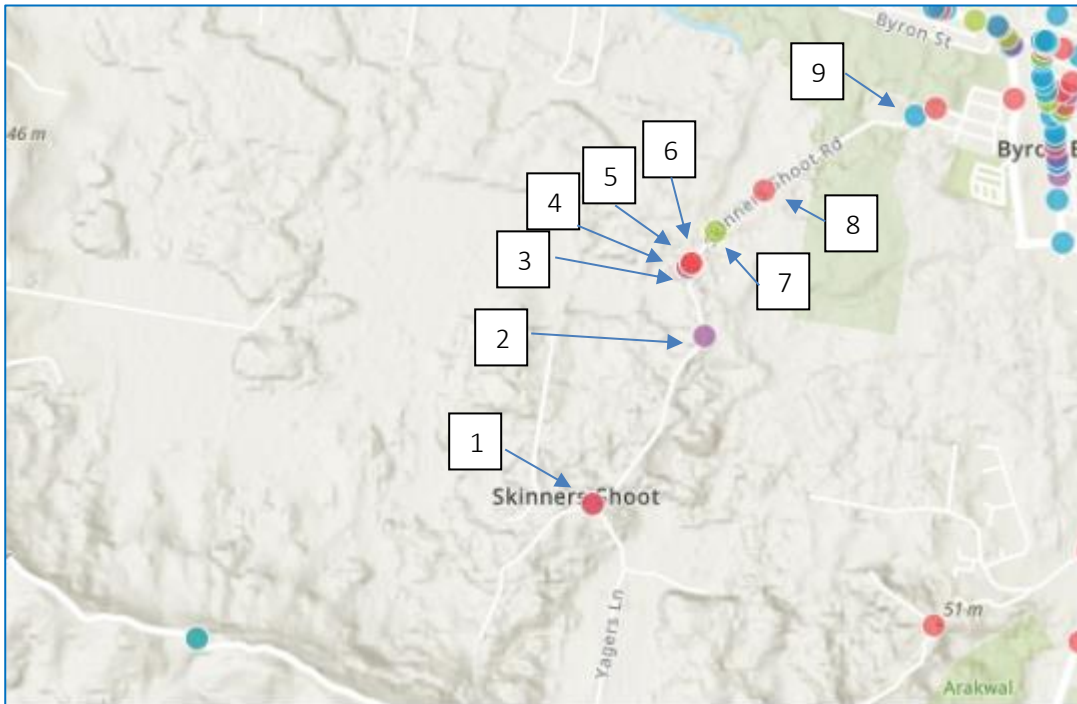


Figure 5.1 Road Crash Data - 2016 to Current

1. Intersection of Skinners Shoot Road & Yagers Lane – Towaway, No fatalities, RUM 20, Head-on, Dusk
2. Minor Injury – RUM 81, Darkness, Off Bend into Object
3. Moderate Injury – RUM 81, Daylight, Off Bend into Object
4. Towaway – RUM 81, Darkness, Off Bend into Object
5. Towaway – RUM 81, Daylight, Off Bend into Object
6. Towaway – RUM 81, Daylight, Off Bend into Object
7. Serious Injury – RUM 83, Darkness, Off Bend into Object
8. Towaway – RUM 79, Darkness, Other Straight
9. Moderate Injury – RUM 0, Dawn, Ped Nearside

An objective analysis of the above details shows there are some road safety concerns with the existing condition of Skinners Shoot Road. 66% of the above crashes occurred in low light conditions. The most frequent occurrence is of a vehicle coming off a bend into an object.

5.2 Skinners Shoot Road

Skinners Shoot Road has been recently improved with the measures listed in the MWH report outlined in Section 2 of this assessment. These provide an improvement to the local road environment, however as highlighted above there are still concerns to the safety of the existing road.

The initial segment of Skinners Shoot Road, from Gordon Street is a posted speed of 50km/h. The remainder of the road to the Yagers Lane intersection however is a rural road with little to no signage at the time of site visit (July 2022). Photos provided by the client in October 2022 indicate that some 50kph signage has been provided along Skinners Shoot Road and 40kph on Yagers Lane.

At the time of site visit TTM's professional opinion was that the conditions and alignment of Skinners Shoot Road were not conducive for a 100km/h speed limit when considering the number of residential dwellings and other commercial developments accessed from the road as identified upon site inspection and review of online imagery (Nearmap & Google Maps).

The reducing of the speed limit of Skinners Shoot Road should provide an improvement to the safety for all road users. This would go a significant way to improve the usability and safety aspects around the increase in traffic generated by the subject site. Continued monitoring should be conducted to review future crash/incident data for mitigation.

As a higher percentage of the crashes on this road occurred in low light conditions, the implementation of street lighting is likely to provide a significant benefit.

TTM's site visit observed a lack of hazard markers (used to outline the curve of the road ahead) or Road Edge Guideposts along sections of the road that would also contribute to the occurrence of vehicles leaving the road and hitting an object – an example of both of these presented below.



5.3 Yagers Lane Design Standard

There are no road crashes recorded on Yagers Lane. However, like Skinners Shoot Road, there is no street lighting and at the time of site visit (July 2022) no posted speed limit. Photo evidence provided by the client indicates recent provision of 40kph signage for Yagers Lane.

The existing configuration of Yagers Lane is for 4.0m paved surface with 1.0m verges for facilitating the occasional passing vehicle. TTM have estimated the probability of two vehicles meeting along the length of Yagers Lane based on the trip distributions above. TTM has applied the design speed (40kph + 10kph) for the purpose of assessment.

Equation 3.5 of Austroads Guide to Traffic Management yields the following:

Table 5.1. Probability of meeting calculations

Length of Road / Ramp / Parking Aisle being assessed	800m
Design Speed	50km/h
Total Travel Time Per Vehicle	58s
Average Arrival Rate (Direction 1)	17
Average Arrival Rate (Direction 2)	5

Probability of Direction 1 vehicle encountering no opposing vehicles from Direction 2	25.7%
Probability of Direction 1 vehicle encountering 1 or less opposing vehicles from Direction 2	34.9%
Probability of Direction 1 vehicle encountering 2 or less opposing vehicles from Direction 2	23.7%
Probability of Direction 1 vehicle encountering 3 or less opposing vehicles from Direction 2	10.8%
Probability of Direction 1 vehicle encountering 4 or less opposing vehicles from Direction 2	4%

There is a 74.3% probability of encountering any opposing vehicles and a 4% chance of encountering 4 or more opposing vehicles.

Due to the increase in traffic as a result of the development, TTM recommend that the development provides for passing bays along Yagers Lane as a minimum. Two passing bays at an approximate distance of 25% length of each end of Yagers lane should be sufficient to accommodate 4 occurrences of vehicles passing.

Passing bays shall be designed to accommodate an MRV sized vehicle (utilities & services to the site and nearby properties) with a B99 passing vehicle. See Figure 5.2 below for an indicative layout.



Figure 5.2. Vehicle Passing Bay with 50km/h design speed

To assist with the dark conditions, Road Edge Guideposts shall be implemented for the length of Yagers Lane, and hazard markers at the two sharp bends where the majority of incidents occurred. The relatively straight alignment beyond makes full street lighting unnecessary, but the edge guides and hazard markers will assist drivers with staying on the travel path and using the passing bays.

6 Site Access Arrangements

The subject site has two accesses, one to the south for service vehicles and staff parking, and another to the north for the main carpark and drop off facilities.

Southern Access

To accommodate the anticipated service vehicle and staff cars, the access shall be widened to a minimum of 4.96m as demonstrated by TTM's swept path analysis.

The sight distance arrangements at this access are adequate for the anticipated traffic to the site. As this is the end of Yagers Lane and beyond the main carpark, the only traffic to this point of the road should be the staff and service vehicles to the site, with the occasional neighbour's vehicle or utility truck.

As demonstrated in Section 3.2.1, the existing grades at this access are within accuracy margins for compliance (based on the data provided). Resurfacing works are recommended.

Northern Access

The northern access requires a 6.2m wide driveway, as shown in TTM's indicative layout plans in Appendix B.

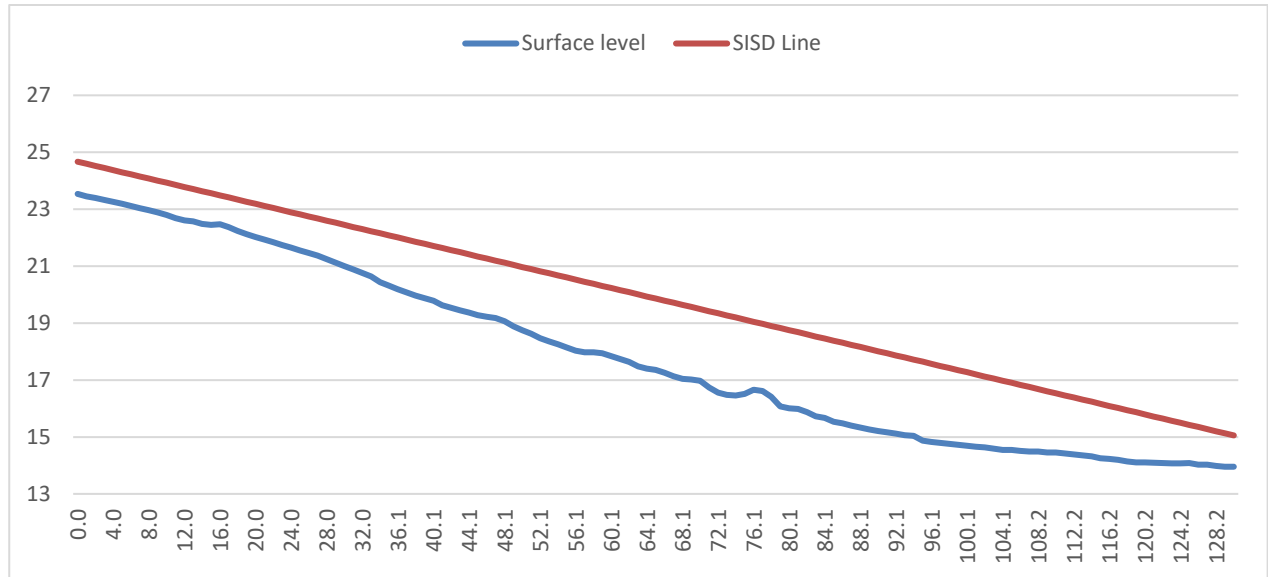
Sight distance requirements at this position will require significant clearing of the vegetation within the property boundary and the verge. See Figure 6.1 below for the existing conditions.



Figure 6.1 Northern Site Access Position

AustRoads SISD for a road with a design speed of 60km/h calls for 123m of clear sight distance. TTM have highlighted the area for clearing within the enclosed plans (yellow hatched area).

Using NSW 1.0m DEM data, TTM have verified that if the vegetation is cleared the sight lines from driver eye height should be compliant to AustRoads requirements. See Figure 6.2 below.



7 Service Vehicle Arrangements

To assess the required number of service bays for the development, TTM has referred to the Byron Shire Council requirements for service vehicles.

The BSC Development Control plan does not specifically list service vehicles for a restaurant. Based on the total GFA of the mixed uses proposed, the site would all under the requirements for a Medium Rigid Vehicle (MRV).

Operations of the site have stipulated that a heavy emphasis is placed upon locally sourced goods. *“It is not in the planning for this restaurant to require these size trucks and if on the rare occasion that this may happen, trucks could pull up on the existing access road or the area indicated for staff parking. deliveries could be trolleyed down to the restaurant, as does happen in many city locations where deliveries cannot be made to the premises.”*

Based on the above, the anticipated typical service vehicle for the site shall be an SRV to VAN. TTM’s drawings in Appendix B have demonstrated circulation of an SRV into the site, service area, and departing the site in a forward gear.

TTM have ensured that the driveway profile to the service area/staff parking from Section 3.2.1 of this report has grades and transitions compliant with the AS2890.2 requirements of an SRV vehicle throughout the entire length.

The top section, adjacent to the Staff Carparking, consists of grades compliant with the MRV requirements of AS2890.2. In the unlikely circumstance that a usual local supplier or similar is unavailable, an MRV would be able to enter the site, stand in this area, and leave in a forward gear, as demonstrated by the swept paths on Drawing 02 in Appendix B. Goods could then be transported by motorised buggy or similar to the required location.

Refuse collection will occur from the same position as is currently provided on Yagers Lane, in line with existing arrangements. The refuse truck is not required to enter the site.

8 Summary and Conclusions

8.1 Development Summary

The site proposes a restaurant with a total capacity of 60 people and two services, dinner and lunch, from 12:00 to 23:00. There is a small artisan food & drink and sales area on site that will operate during the days with some overlap with the main restaurant (10:00-15:00).

8.2 Car Parking Arrangements

Based on the anticipated demands for the site, there is sufficient carparking to accommodate the demands. 74 carparking spaces are required and 82 carparking spaces are provided.

8.3 Impact on Surrounding Road Network

The development traffic is not anticipated to have a significant impact upon the local road network.

A minimum of two passing bays and Road Edge Guideposts shall be provided along the length of Yagers Lane.

Crash data for the prior 5 years highlights there are potential safety concerns with Skinners Shoot Road that should be investigate further. These are not likely to be heightened by the development traffic based on the incident types, but TTM have recommended minor improvements that can be undertaken to improve the road environment.

8.4 Service Vehicle Arrangements

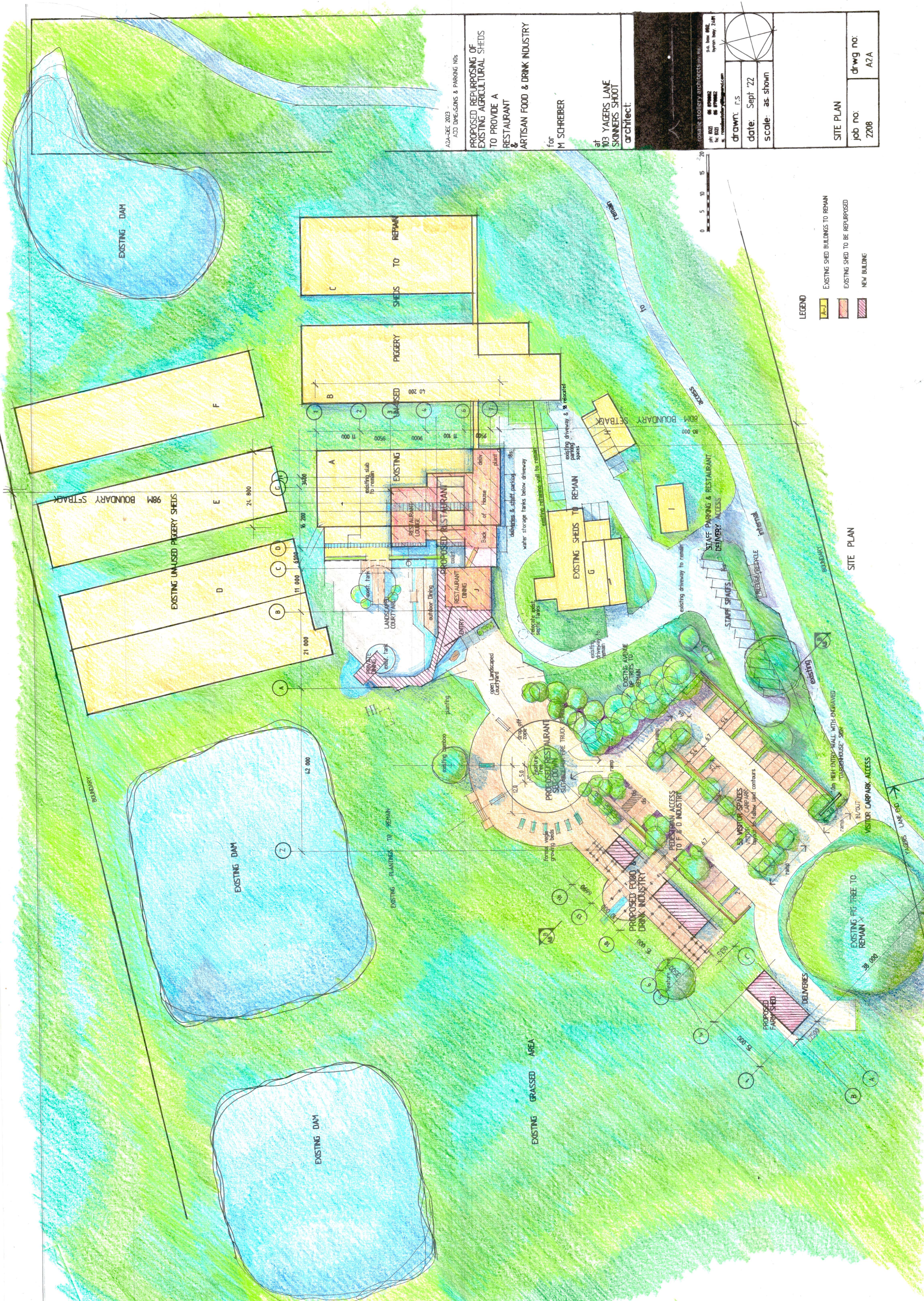
The anticipated service vehicle is typically an SRV or a VAN. TTM have verified that both vehicle types can access and service the site with compliance to AS2890.2. In the unusual event that an MRV may be required, there is sufficient space and compliant grades for it to stand on-site by the staff carparking.

Refuse collection shall be generally in line with the existing arrangements with the bins stored in the same position as is current.

8.5 Conclusion

Based on the assessment contained within this report, TTM see no traffic engineering reason why the relevant approvals should not be granted.

Appendix A Proposed Site Plan



- LEGEND
- EXISTING SHED BUILDINGS TO REMAIN
 - EXISTING SHED TO BE REPURPOSED
 - NEW BUILDING

SITE PLAN

A2A-DEC 2023
ADD DIMENSIONS & PARKING NOS

PROPOSED REPURPOSING OF
EXISTING AGRICULTURAL SHEDS
TO PROVIDE A
RESTAURANT
&
ARTISAN FOOD & DRINK INDUSTRY
for
M SCHREIBER

at
103 YAGERS LANE
SKINNERS SHOOT
architect

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D.L. Issue 002
By: M. Schreiber
Date: 12/12/23

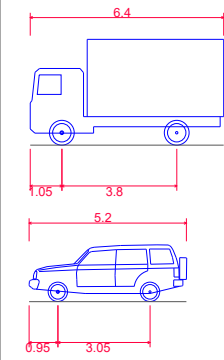
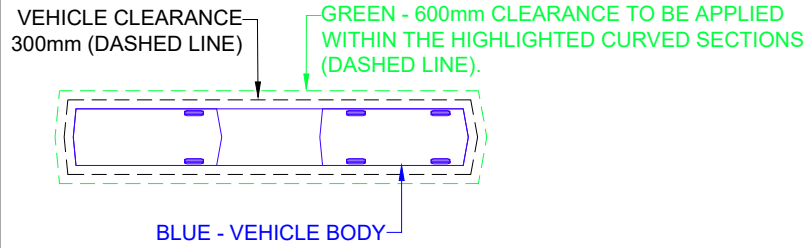
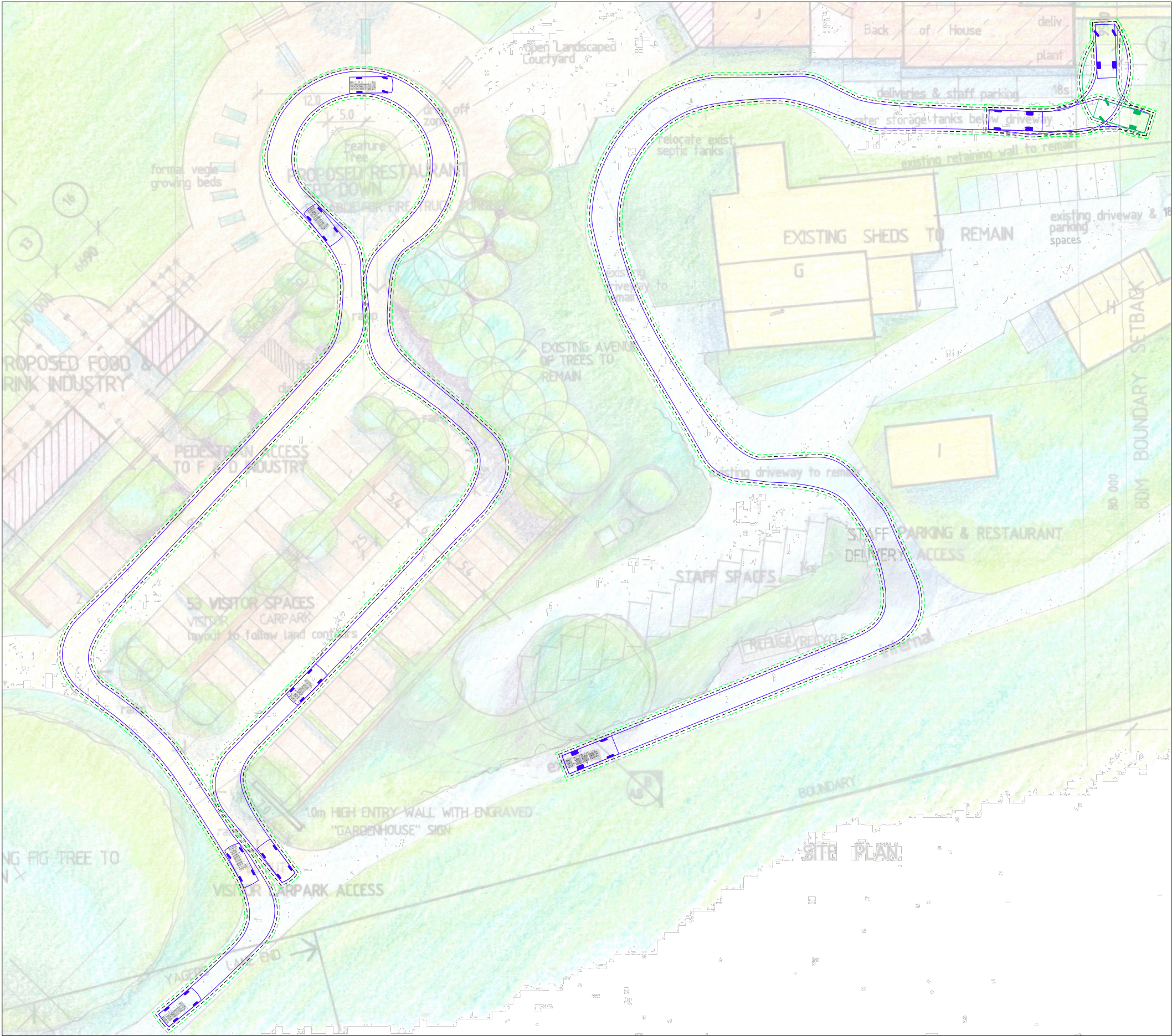
drawn: r.s
date: Sept '22
scale: as shown

SITE PLAN

job no: 2208

dwg no: A2A

Appendix B Service Vehicle Swept Paths



VEHICLE PROFILES

SRV - Small Rigid Vehicle	
Overall Length	6.400m
Overall Width	2.330m
Overall Body Height	3.500m
Min Body Ground Clearance	0.398m
Track Width	2.330m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	7.100m
Design Speed Forward	10.0km/h
Clearance Envelope	0.300m
B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m
Design Speed Forward	10.0km/h in circulation
Clearance Envelope	5.0km/h elsewhere
	0.300m & 0.600m

A	16-01-24	ORIGINAL ISSUE	HY	IB	IB
REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED

SCALE

0

5

10

15

20

25m

SCALE 1:500 AT ORIGINAL SIZE

NORTH

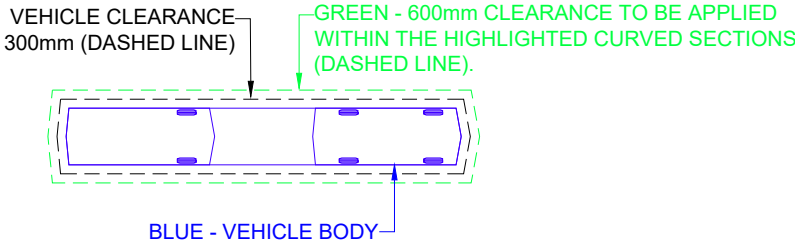
CLIENT

M. SCHREIBER



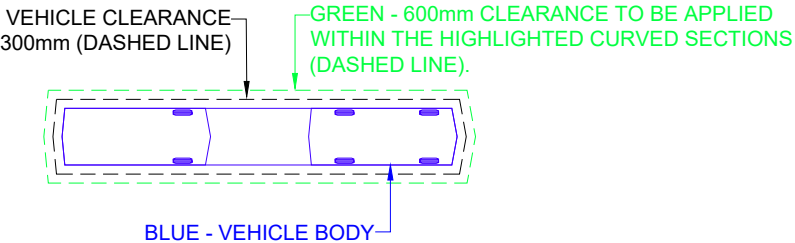
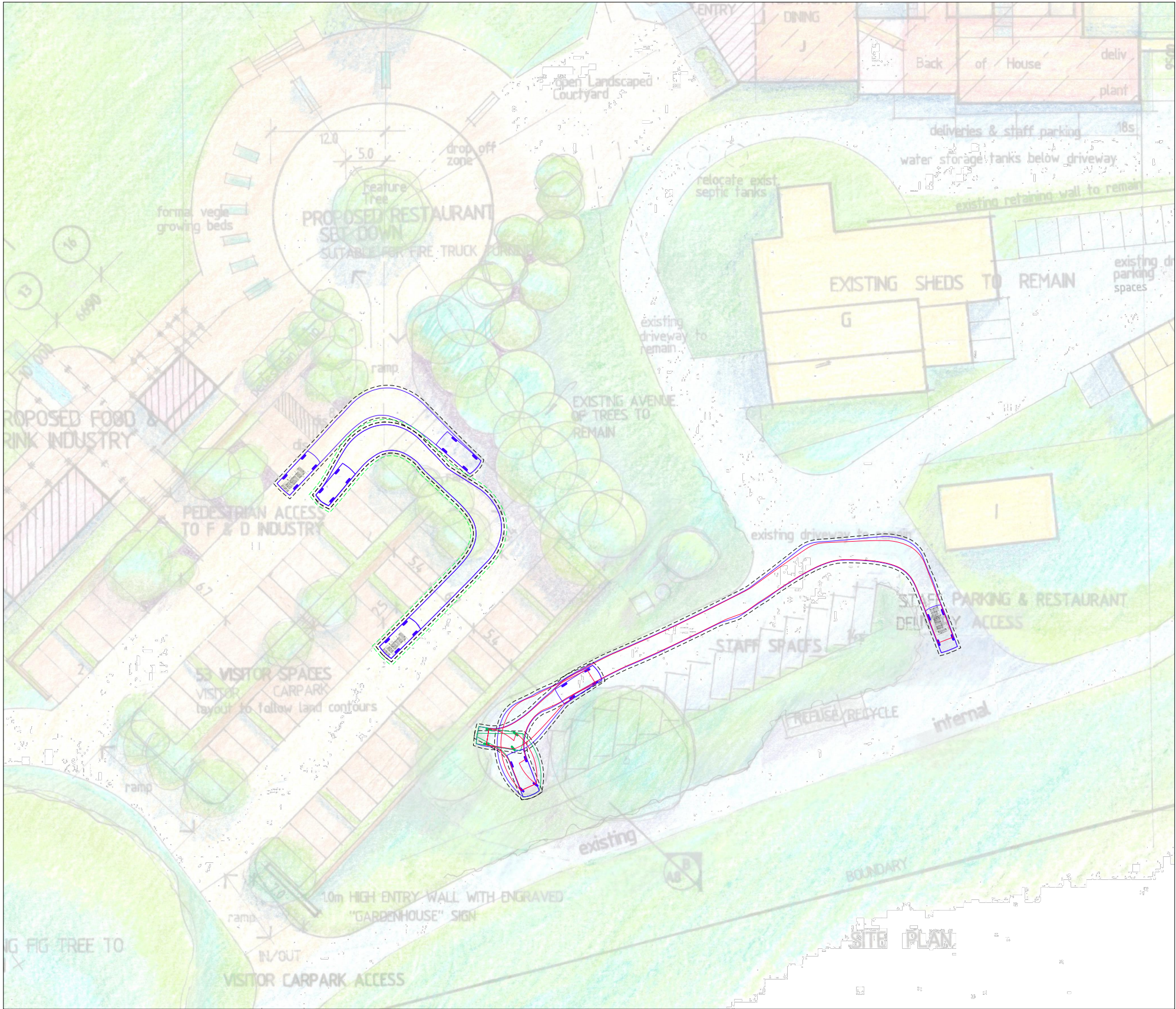
TTM CONSULTING PTY LTD
ABN 65 010 868 621
Seabank Building - Suite 701 (Level 7)
12-14 Marine Parade SOUTHPORT QLD 4215
T: (07) 5514 8000 F: (07) 5514 8144
E: ttmgc@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT	103 YAGERS LANE, SKINNERS SHOOT		PROJECT NUMBER	22GCT0181	ORIGINAL SIZE	A3
DRAWING TITLE	INDICATIVE CARPARK LAYOUT DESIGN VEHICLE B99 CAR & SRV		DRAWING NUMBER	22GCT0181-04	REVISION	A
			DATE	16 Jan 2024	SHEET	1 OF 1

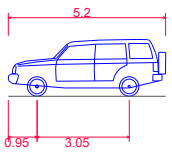


VEHICLE PROFILES

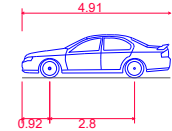
		MRV - Medium Rigid Vehicle Overall Length 8.800m Overall Width 2.500m Overall Body Height 3.633m Min Body Ground Clearance 0.428m Track Width 2.500m Lock-to-lock time 4.00s Curb to Curb Turning Radius 10.000m Design Speed Forward 10.0km/h Clearance Envelope 0.300m
		TOYOTA HiAce 14 Seat Mini Bus Overall Length 5.380m Overall Width 1.880m Overall Body Height 2.993m Min Body Ground Clearance 0.228m Track Width 1.880m Lock-to-lock time 4.00s Curb to Curb Turning Radius 6.200m
		B99 Vehicle (Realistic min radius) (2004) Overall Length 5.200m Overall Width 1.940m Overall Body Height 1.878m Min Body Ground Clearance 0.272m Track Width 1.840m Lock-to-lock time 4.00s Curb to Curb Turning Radius 6.250m Design Speed Forward 10.0km/h in circulation 5.0km/h elsewhere Clearance Envelope 0.300m & 0.600m



VEHICLE PROFILES

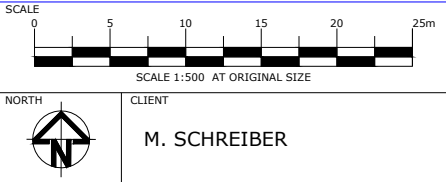


B99 Vehicle (Realistic min radius) (2004)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.878m
Min Body Ground Clearance 0.272m
Track Width 1.840m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 6.250m
Design Speed Forward 10.0km/h in circulation
5.0km/h elsewhere
Clearance Envelope 0.300m & 0.600m



B85 Vehicle (Realistic min radius) (2004)
Overall Length 4.910m
Overall Width 1.870m
Overall Body Height 1.421m
Min Body Ground Clearance 0.159m
Track Width 1.770m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 5.750m
Design Speed Forward 10.0km/h in circulation
5.0km/h elsewhere
Clearance Envelope 0.300m & 0.600m

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	16-01-24	ORIGINAL ISSUE	HY	IB	IB



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PROJECT	103 YAGERS LANE, SKINNERS SHOOT	PROJECT NUMBER	22GCT0181	ORIGINAL SIZE	A3
DRAWING TITLE	INDICATIVE CARPARK LAYOUT DESIGN VEHICLE B99 CAR & B85 CAR	DRAWING NUMBER	22GCT0181-06	REVISION	A
		DATE	16 Jan 2024	SHEET	1 OF 1