TRAFFIC IMPACT ASSESSMENT

433 Pittwater Road, North Manly

PREPARED FOR:
Warringah Golf Club Limited

REFERENCE:
0623r01v4

DATE:
15/11/2022

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PDC Consultants

info@pdcconsultants.com.au | www.pdcconsultants.com.au

+61 2 7900 6514 | Level 14, 100 William Street, Woolloomooloo NSW 2011

Table of Contents

1. Introduction 3
   - 1.1. Overview 3
   - 1.2. Background 4
   - 1.3. Structure of this Report 6
   - 1.4. References 6
2. Existing Conditions 7
   - 2.1. Location and Site 7
   - 2.2. Road Network 9
   - 2.3. Public and Active Transport 11
   - 2.4. Existing Club House Traffic Generation 14
   - 2.5. Existing Parking Demand Near the Site 14
3. Proposed Development 20
   - 3.1. Overview 20
   - 3.2. Proposed Operations & Patronage Numbers 20
4. Parking Requirements 22
   - 4.1. Car Parking 22
   - 4.2. Bicycle & Motorcycle Parking 25
   - 4.3. Service Vehicle Parking & Waste Collection 25
5. Traffic Impacts 26
   - 5.1. Trip Generation 26
   - 5.2. Traffic Distribution & Impacts 26
6. Design Aspects 27
   - 6.1. Overview 27
   - 6.2. Internal Design 27
7. Conclusions 28

List of Figures

Figure 1: Site Plan 5

Figure 2: Location and Road Hierarchy 10

Figure 3: Public & Active Transport Services 13

Figure 4: On-Street and Car Park Survey Locations 15

List of Tables

Table 1: Bus Services 11

Table 2: Proposed Hours of Operation 21

Table 3: Expected Parking Demand During Typical Operation of the Club House 23

Table 4: Expected Parking Demand During a Function Event in the Club House 24

Appendices

Appendix A: Raw Survey Data

Appendix B: Architectural Drawings

Appendix C: Swept Path Analysis Drawings

1. Introduction

1.1. Overview

PDC Consultants has been commissioned by Warringah Golf Club Limited to prepare a traffic impact assessment (TIA) of a Development Application (DA) relating to a proposed golf course club house (club house) located at 433 Pittwater Road, North Manly. Specifically, the DA seeks consent for the construction of a two-storey club house consisting of:

- Internal gross floor area (GFA) of 1,265m^2 incorporating:
    - 134m^2 GFA of retail.
    - 129m^2 GFA of garden lounge.
    - 122m^2 GFA of commercial office / meeting space.
    - 292m^2 GFA of dining and function rooms.
    - 213m^2 GFA of licensed bar.
    - 375m^2 GFA of terrace area.
- Pick-up & drop-off at the port-cochere building access via a turning head.
- Vehicle access onto Kentwell Road via a neighbouring car park and internal access road serving adjacent Council facilities.

Having regard for the above, it is evident that the development is not of a scale that requires referral of the DA to Transport for NSW (TfNSW) under the provisions of the State Environmental Planning Policy (Transport & Infrastructure) 2021.

The site is located within the newly formed Northern Beaches local government area (LGA); however, a consolidated Development Control Plan (DCP) is yet to be enacted. As such, the DA has been assessed in accordance with the Warringah DCP 2011 and Warringah Local Environmental Plan 2011.

1.2. Background

Warringah Golf Club is planning to construct a new club house adjacent to the existing golf course and sited on land which is currently occupied by the existing Warringah Recreation Centre, located on the corner of Pittwater Road and Kentwell Road, North Manly.

This site is owned and operated by Northern Beaches Council (Council) and a masterplan is currently being devised by Council to regenerate this site. This proposal seeks to redevelop a portion of the site to accommodate the proposed club house, while the remainder of the site will be redeveloped by Council.

The existing club house is located at 397 Condamine Street, North Manly, and will be decommissioned and closed as part of the works.

The proposed club house will provide a new, modern two-storey community-based club house that is intended to be utilised by golfers, local sporting clubs and the public, providing ancillary golf facilities, bar and function services.

It is understood that as part of the overall redevelopment of the site, Council will deliver two off-street car parks which will jointly serve the proposed club house and the proposed adjacent Council facilities which will be delivered separately by Council.

The two (2) proposed car parks will provide approximately 50 and 70 off-street car parking spaces respectively and will each be accessed via combined entry and exit access driveways onto Kentwell Road, at the locations of the existing vehicular driveway crossings. The existing driveway that will be used to access the western carpark will also be used by golf course greens staff to enter the northern half of the course. These driveways, and all internal circulation roadways, will also be delivered by Council.

The existing club house site, proposed club house site, and adjacent land for Council redevelopment are shown on **Figure 1** and within the architectural drawings included as **Appendix A**.

Figure 1: Site Plan

1.3. Structure of this Report

This report documents the findings of our investigations in relation to the anticipated traffic and parking impacts of the proposed development and should be read in the context of the Statement of Environmental Effects (SEE) prepared separately by Willowtree Planning. The remainder of this report is structured as follows:

- Section 2: Describes the site and existing traffic and parking conditions in the locality.
- Section 3: Describes the Proposal.
- Section 4: Assesses the parking requirements of the Proposal.
- Section 5: Assesses the traffic impacts of the Proposal.
- Section 6: Discusses the proposed access and internal design arrangements.
- Section 7: Presents the overall study conclusions.

1.4. References

In preparing this report, reference has been made to the following guidelines / standards:

- Warringah Local Environmental Plan 2011 (WLEP 2011).
- Warringah Development Control Plan 2011 (WDCP 2011).
- State Environmental Planning Policy (Transport & Infrastructure) 2021 (SEPP Transport &Infrastructure 2021).
- Disability (Access to Premises – Buildings) Standards 2010 (Disability Standard 2010).
- Australian Standard AS 2890.1-2004, Part 1: Off-Street Car Parking (AS 2890.1).
- Australian Standard AS 2890.2-2018, Part 2: Off-Street Commercial Vehicle Facilities (AS 2890.2).
- RMS Guide to Traffic Generating Development 2002 (RMS Guide).
- RMS Technical Direction TDT 2013/04a – Guide to Traffic Generating Developments, Updated Traffic Surveys (RMS Guide Update).

2. Existing Conditions

2.1. Location and Site

2.1.1. Existing Club House

Warringah Golf Club currently has an existing club house which is located at 397 Condamine Street, North Manly, being approximately 11.6 kilometres north-east of Sydney CBD and 2.5 kilometres north-west of Manly Beach. More specifically, the site is located adjacent to the Warringah Golf Course between James Street to the north and Kentwell Road to the south.

The existing club house currently facilitates the following characteristics and land uses:

- Indoor gross floor area (GFA) of approximately 600m^2 incorporating:
    - Dining and function room.
    - Licensed bar.
- Approximately 65 on-site car parking spaces.
- Vehicle access onto James Street.

As confirmed by the client, the existing land uses are very underutilised, with the licensed bar and dining / function room only being used infrequently and on rare occasions. It is therefore considered appropriate to assume the existing club house does not generate much additional user demand in and of itself, above and beyond patrons attending the golf course.

Once the proposed club house has been constructed, the existing club house will cease to operate.

2.1.2. Existing Golf Course

The existing golf course is an 18 hole course with an approximate area of 29 hectares and is located to the north, east and south of the existing club house, between Pittwater Road and Condamine Street and on either side (north and south) of Kentwell Road. The golf course is in operation during daylight hours and typically accommodates a peak of 150 patrons per day during summer periods. There is no on-site parking, and as such all golf course users park on-street, primarily along Kentwell Road.

There are no proposed changes to the existing golf course as part of the subject DA, and therefore it is anticipated its current use, patronage numbers and operation will remain unchanged.

2.1.3. Existing Pro-shop / Buggy Store

Warringah Golf Club also has an existing pro-shop / buggy store which is located adjacent to the golf course on the corner of Condamine Street and Kentwell Road.

The existing club house currently facilitates the following characteristics and land uses:

- Retail golf shop and buggy storage area.
- Two (2) on-site car parking spaces.
- Vehicle access onto Kentwell Road.

There are no proposed changes to the existing pro-shop / buggy store as part of the subject DA, and therefore it is anticipated its current use, patronage numbers and operation will remain unchanged.

2.1.4. Existing Warringah Recreation Centre

Warringah Recreation Centre is an existing sporting facility on land owned by Council, on the north-western corner of Pittwater Road and Kentwell Road. The existing sporting facility currently has the following characteristics:

- Seven (7) outdoor tennis courts.
- Two (2) outdoor futsal courts.
- Three (3) indoor squash courts.
- Approximately 36 on-site car parking spaces.
- Two (2) combined entry / exit vehicle access onto Kentwell Road.

Warringah Recreation Centre will be redeveloped in the future by Council to provide upgraded sporting facilities. As indicated on the architectural plans included as **Attachment 1**, the proposed upgraded sporting facilities will be located immediately adjacent to the proposed club house and will share the same off-street car parking facilities.

Given the subject DA pertains solely to the proposed club house, no further discussion on the proposed redevelopment of Warringah Recreation Centre is provided herein.

2.2. Road Network

The road hierarchy in the vicinity of the site is shown by **Figure 2**, with the following roads considered noteworthy:

- Pittwater Road: forms part of a TfNSW Main Road, MR 159 & MR 164. Pittwater Road generally runs in a north-south direction between Barrenjoey Road, Mona Vale in the north and Belgrave Street, Manly in the south. Near the site, Pittwater Road is subject to 60km/h speed zoning restrictions and accommodates two (2) northbound traffic lanes and three (3) southbound traffic lanes, within a 21-metre-wide divided carriageway.

- Condamine Street: forms part of a TfNSW Main Road, MR 164. Condamine Street generally runs in a north-south direction between Pittwater Road in the north and Burnt Bridge Creek Deviation in the south. Near the site, it is subject to 60km/h speed zoning restrictions and accommodates two (2) traffic lanes and one (1) bus lane in each direction, within a 21-metre-wide divided carriageway.

- Kentwell Road: a local road that typically runs in an east-west direction intersecting Binalong Avenue in the west and Pittwater Road in the east. It is subject to 60km/h speed zoning restrictions and carries a single lane of traffic in each direction within a 15-metre-wide undivided carriageway. Unrestricted parallel parking is permitted along the northern kerbside and unrestricted 90-degree angled parking is permitted along the southern kerbside.

Figure 2: Location and Road Hierarchy

2.3. Public and Active Transport

2.3.1. Bus Services

The Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area, states that the walking catchment for metropolitan bus services includes all areas within a 400-metre radius of a bus stop. As can be seen from **Figure 3**, the proposed site is situated within 400 metres of several bus stops located along Pittwater Road and Condamine Street, servicing 10 bus routes. Accordingly, the proposed site falls within the typical walking catchment area, with staff and visitors expected to utilise these services for journeys to and from the proposed development. Additional bus stops are also available within 800 metres from the site as shown by **Figure 3.**

Table 1 below shows the notable town centres that are accessible via these bus services, and the average service headways during peak and off-peak periods.

Table 1: Bus Services

ROUTE NO.	ROUTE (TO / FROM)	ROUTE DESCRIPTION	AVERAGE HEADWAY
142	Allambie Heights to Manly	Via Manly Vale, Fairlight	Weekdays: 1 hour Weekends: 1 hour
145	Warringah Mall to Seaforth	Via North Manly, Manly Vale, Balgowlah	Weekdays: 5 Services only Weekends: No Services
167	Warringah Mall to Manly	Via Brookvale, North Manly, Freshwater, Curl Curl, Queenscliff	Weekdays: 20 minutes Weekends: 30-60 minutes
172X	Warringah Mall to City Wynyard	Via North Manly, Manly Vale, North Balgowlah, Seaforth, Cremorne, Neutral Bay, Milsons Point, Dawes Point	Weekdays: 1 hour Weekends: 1 hour on Saturdays & No Services on Sundays
173X	Warringah Mall to City Wynyard	Via North Manly, Manly Vale, Bargowlah, Milsons Point	Weekdays: 15-20 minutes Weekends: 15-30 minutes
174X	Narraweena to City Wynyard (Express Service)	Via Beacon Hill, North Manly, Manly Vale, Balgowlah, Neutral Bay, Milsons Point	Weekdays: 10 minutes Weekends: No Services
176X	Dee Why to City Wynyard	Via Brookvale, North Manly, Manly Vale, Cremorne, Kirribilli, Millers Point	Weekdays: 10-20 minutes Weekends: No Services
177X	Dee Why to City Wynyard	Via Brookvale, North Manly, Manly Vale, Milsons Point, Millers Point	Weekdays: 10-20 minutes Weekends: No Services
199	Palm Beach to Manly	Via Whale Beach, Avalon Beach, Bilgola Beach, Newport, Mona Vale, North Narrabeen, Narrabeen, Collaroy, Dee Why, Brookvale, North Manly, Manly Vale, Queenscliff, Manly	Weekdays: 10 minutes Weekends: 20-30 minutes
280	Warringah Mall to Chatswood	Via North Manly, Allambie Heights, Frenchs Forest, Forestville, Roseville Chase, Roseville	Weekdays: 30 minutes Weekends: 30 minutes on Saturdays & No Services on Sundays

2.3.2. Rail & Ferry Services

The Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area, states that the walking catchment for metropolitan railway stations and ferry wharves includes all areas within an 800-metre radius of a station. The subject site is situated well outside the walking catchment area, with the nearest railway station being Roseville Railway Station located some 8.4 kilometres south-west of the site and the nearest ferry wharf being Manly some 3.0 kilometres to the south-east. With this in mind, there is expected to be little to no reliance on the use of rail or ferry services by staff and visitors of the proposed development, although these services may be used for journeys to and from the Greater Sydney Area as part of a multi-modal trip.

2.3.3. Cycle Network

Figure 3 shows the proposed site has good access to the local bicycle network with off-road cycle paths provided along Pittwater Road, Kentwell Road, Campbell Parade and William Street. On-road cycle paths are also provided along Short Street, Wyadra Avenue, Allambie Road and Campbell Parade. All these cycle paths provide a connection to the wider cycle path network.

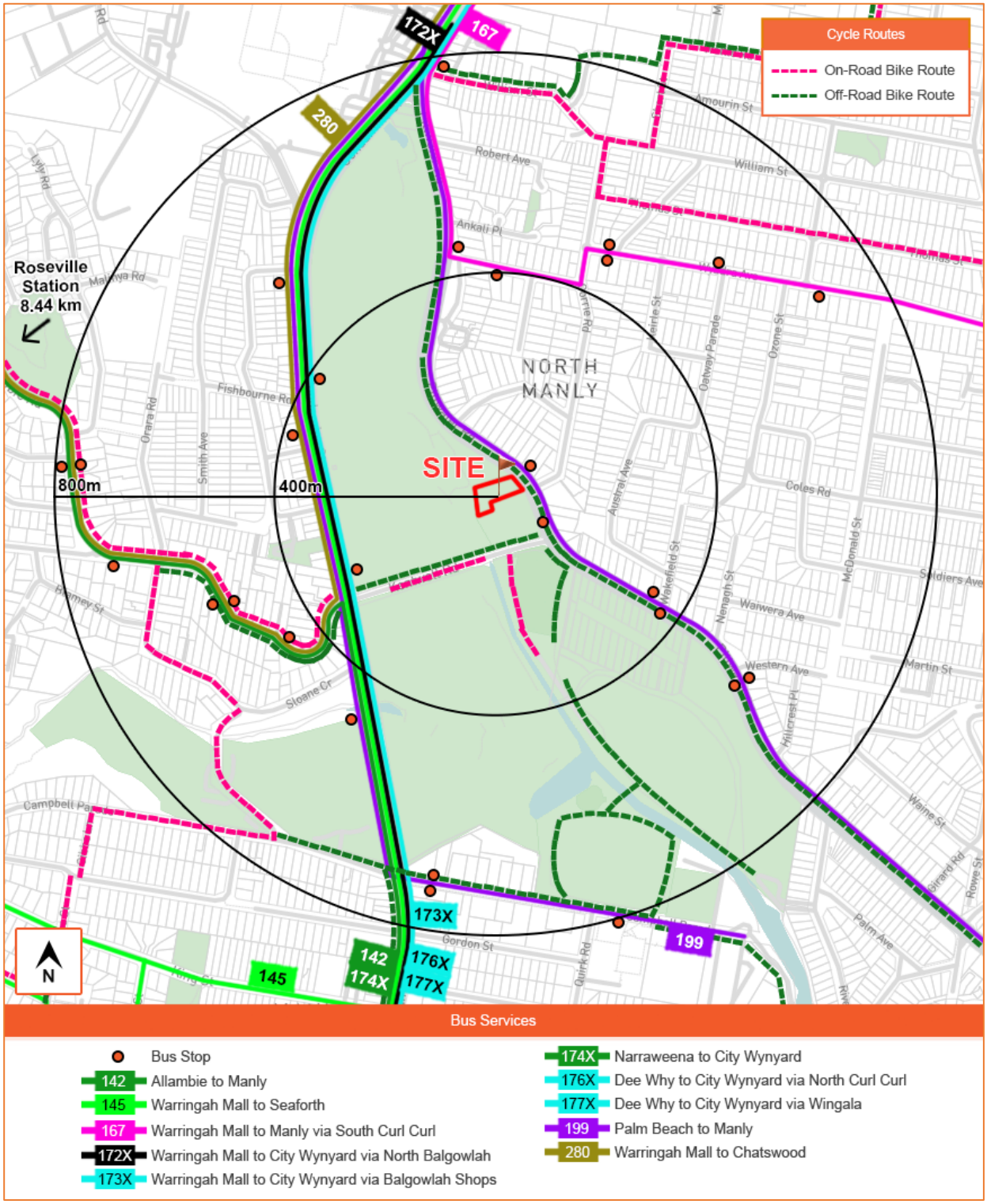


Figure 3: Public & Active Transport Services

2.4. Existing Club House Traffic Generation

The existing club house is underutilised, and its main form of use is by people using the associated golf course. Therefore, to provide a conservative assessment, it is considered appropriate to assume the existing club house does not generate any additional vehicle trips above and beyond those associated with the golf course.

Notwithstanding, it is considered that the most relevant use of identifying the existing traffic generation is to determine the net change in traffic generation as a result of the proposed development, as is discussed in Section 5.1 of this report.

2.5. Existing Parking Demand Near the Site

To gain an understanding of the existing parking demands within the vicinity of the site, car parking surveys and patronage surveys were undertaken on Thursday 18th and Saturday 20th August 2022. The surveys captured typical weekday and Saturday operations and parking demands in the locality.

The surveys included counts every 90 minutes between 4pm-10pm on Thursday 18th August 2022 and 10:30am-3pm and 6pm-10:30pm on Saturday 20th August 2022. These times were chosen as the times of day that the proposed club house would be expected to generate its peak car parking demand. The car parking survey was undertaken along Kentwell Road, within the Warringah Recreation Centre car park, and at the vacant bowling green / Council's car park, as shown in **Figure 4**.

The patronage survey counted the number of patrons within Warringah Recreation Centre. At the time of the surveys the Bowling Green was vacant, therefore patron counts were excluded for this area.

A total of 279 unrestricted car parking spaces are provided in the three (3) separate locations within the vicinity of the site illustrated by **Figure 4**. The number of car parking spaces in each area is detailed below:

- Kentwell Road 93 car parking spaces.
- Warringah Recreation Centre 36 car parking spaces.
- Bowling Green / Council Car Park 150 car parking spaces.

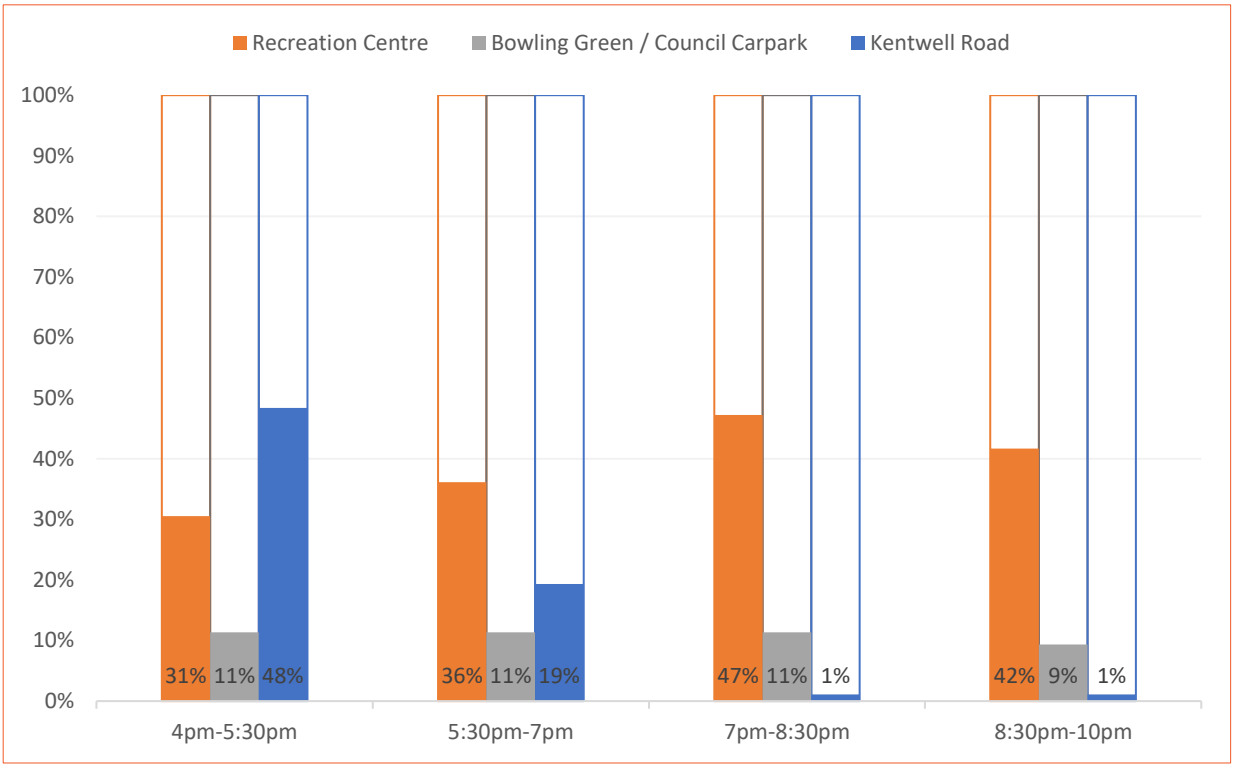
During a site inspection it was observed that Kentwell Road parking was typically occupied by users of the golf course, Warringah Recreation Centre parking was typically occupied by patrons utilising the tennis, futsal and squash courts, and the Bowling Green / Council Car Park was used primarily by dog walkers / sports teams using Council pitches south of Kentwell Road.

Figure 4: On-Street and Car Park Survey Locations

2.5.1. Existing Weekday Parking Demands & Patronage Numbers

Chart 1 Illustrates the existing car parking occupancy and vacancy within the vicinity of the site during a typical weekday.

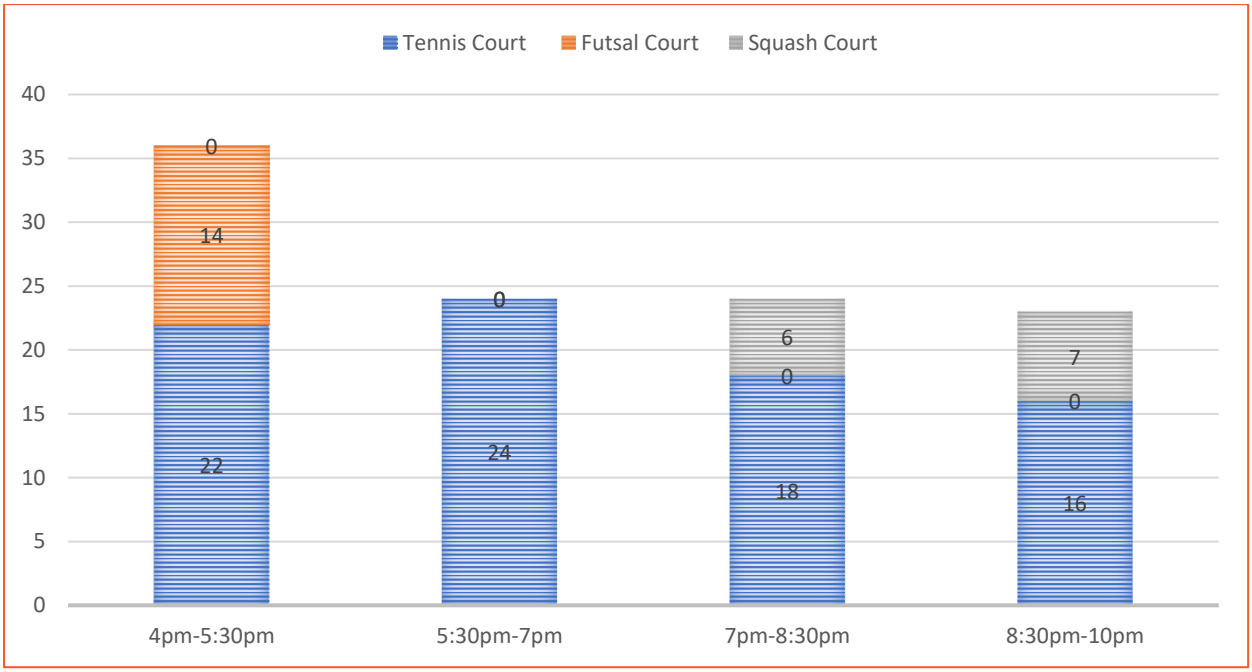
Chart 1: Weekday Existing Parking Demand and Occupancy



It can be seen from **Chart 1** that the existing peak parking demand within Warringah Recreation Centre is 47% capacity (17 cars parked). Along Kentwell Road the existing peak parking demand reached 48% capacity (45 cars parked) and the Bowling Green / Council car park reached 11% capacity (17 cars parked) during a typical weekday evening period, when the proposed club house would be expected to generate its peak car parking demand.

Chart 2 illustrates the existing on-site patronage numbers at Warringah Recreation Centre at the same time the car parking survey was undertaken.

Chart 2: Weekday Existing Patronage Numbers



It can be seen from Chart 2 that the existing peak patronage demand reached 36 occupants between 4pm-5:30pm, with 22 patrons utilising the tennis courts, 14 patrons utilising the futsal courts and nil (0) patrons using the squash courts. Between 5:30pm-10pm the total on-site patronage numbers ranged between 24 and 23 patrons.

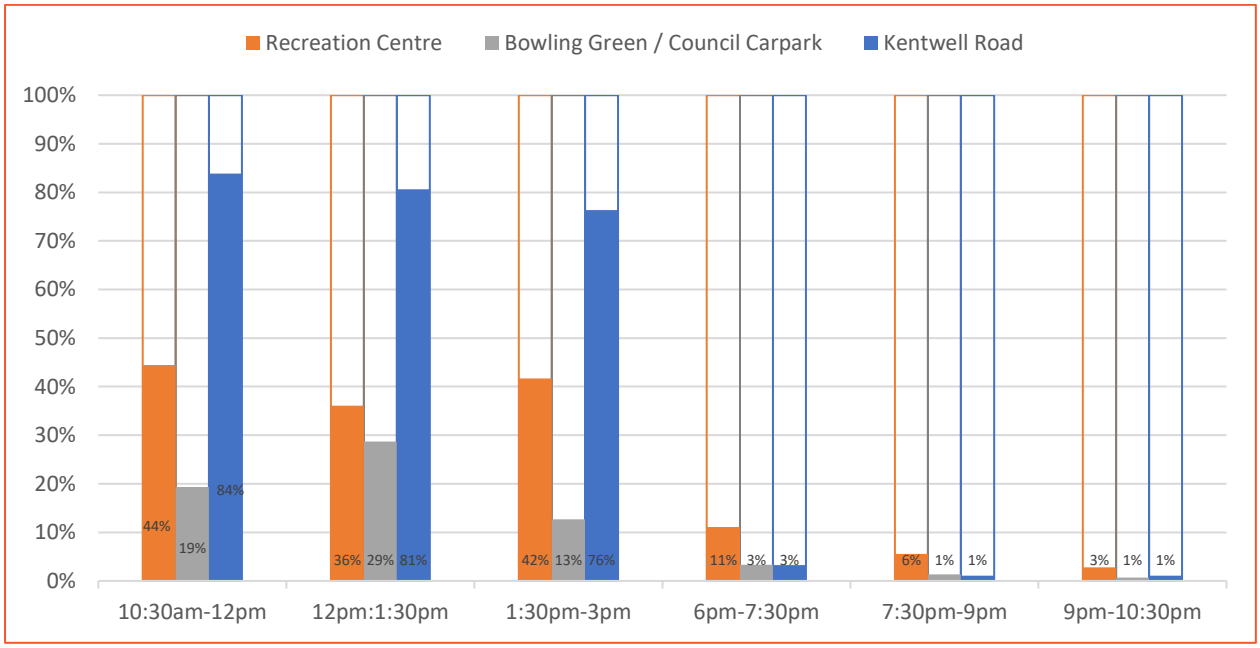
In comparison, between 4pm-5:30pm when the patronage demand reaches a peak of 36 occupants the on-site car parking demand within Warringah Recreation Centre reaches a maximum of 11 cars parked on-site. In addition, between 7pm-8:30pm when the patronage demand reaches a peak of 24 occupants the on-site car parking demand within Warringah Recreation Centre reaches a maximum of 17 cars parked on-site.

These findings are a product of the type of users of the facilities at different times, with a larger proportion of children using the facilities in the early evening who are dropped off and picked up, thereby not generating longer term car parking demand, and more adults using the facilities later into the evening who are more likely to drive private cars to the site.

2.5.2. Existing Saturday Parking Demands & Patronage Numbers

Chart 3 Illustrates the existing car parking occupancy and vacancy within the vicinity of the site during a typical Saturday.

Chart 3: Weekend Existing Parking Demand and Occupancy

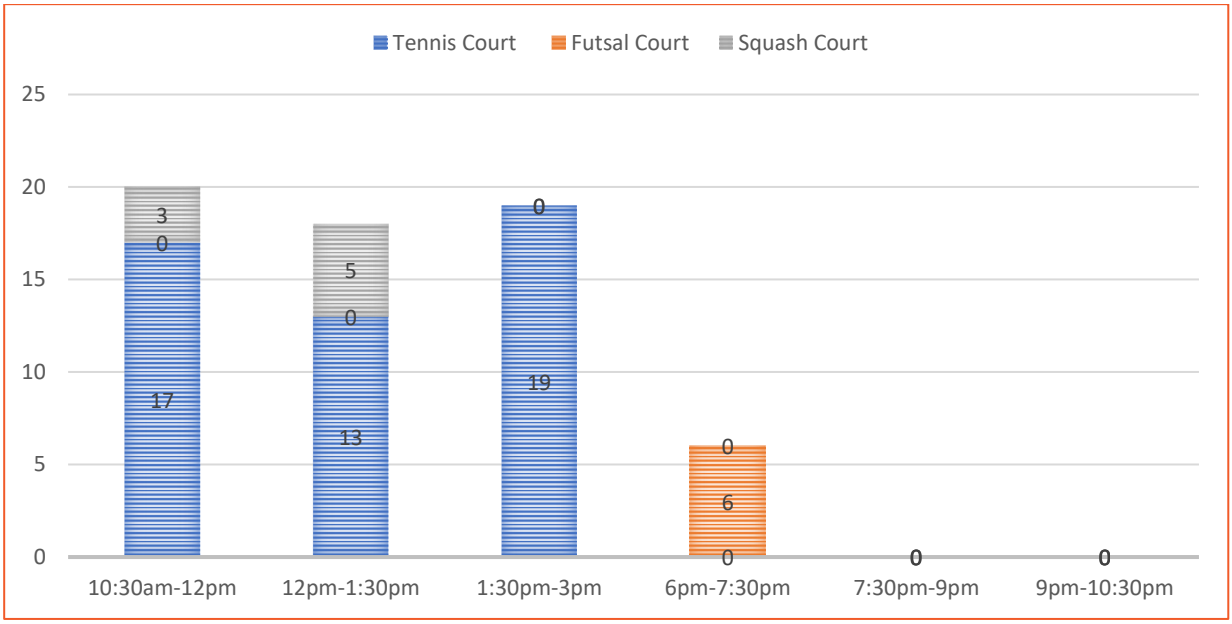


It can be seen from **Chart 3** that the existing peak parking demand within Warringah Recreation Centre reaches 44% capacity (16 cars parked) on a typical Saturday. The Bowling Green / Council car park reaches 29% capacity (43 cars parked), while the existing peak parking demand along Kentwell Road reaches 84% capacity (78 cars parked) and is generally high throughout hours of daylight when the golf course is open.

Car parking demand at all three locations is significantly lower on the Saturday evening after 6pm, when the proposed club house would likely be experiencing its peak car parking demand, with car space occupancy ranging 1 – 11% of all available car spaces.

Chart 4 Illustrates the existing on-site patronage numbers at Warringah Recreation Centre at the same time the car parking survey was undertaken.

Chart 4: Weekend Existing Patronage Numbers



It can be seen from **Chart 4** that the existing peak patronage demand reached 20 occupants between 10:30am-12pm, with 17 patrons utilising the tennis courts, three (3) patrons utilising the squash courts and nil (0) patrons using futsal courts. No patrons attended the site after 7:30pm.

In comparison, between 10:30am-12pm when the patronage demand reaches a peak of 20 occupants the on-site car parking demand within Warringah Recreation Centre reaches a maximum of 16 cars parked on-site. In addition, between 6pm-7:30pm when the patronage demand reaches a peak of six (6) occupants the on-site car parking demand within Warringah Recreation Centre reaches a maximum of four (4) cars parked on-site.

2.5.3. Summary

In summary, it is evident that in the vicinity of the site there is an abundance of spare car parking spaces on both a typical weekday and Saturday, noting that the parking demand does not exceed 48% along Kentwell Road and 11% within the bowling club during a typical weekday, while during the weekend, the parking demand did not exceed 84% along Kentwell Road and 29% within the bowling club car park during a typical weekday.

Users of the proposed club house would therefore likely be able to park at any of these locations, should demand exceed that provided by the proposed off-street car parks to be delivered by Council.

3. Proposed Development

3.1. Overview

A detailed description of the proposed development for which approval is now sought, is outlined in the SEE prepared separately by Willowtree Planning. In summary, the DA seeks consent for the construction of a club house comprising of the following:

- Indoor GFA of 1,265m^2 incorporating:
    - 134m^2 GFA of retail.
    - 129m^2 GFA of garden lounge.
    - 122m^2 GFA of commercial office / meeting space.
    - 292m^2 GFA of dining and function rooms.
    - 213m2 GFA of licensed bar.
    - 375m2 GFA of terrace area.
- Pick-up & drop-off at the port-cochere building access via a turning head.
- Vehicle access onto Kentwell Road via a neighbouring car park and internal access road serving adjacent Council facilities.

The parking and traffic implications arising from the proposed development are discussed in Sections 4 and 5, respectively. The architectural drawings prepared by Group Architects are included in **Appendix A**.

3.2. Proposed Operations & Patronage Numbers

A detailed description of the operational characteristics of the proposed development are outlined in the Plan of Management (POM) prepared by the Client. The following characteristics derived from the POM are considered noteworthy.

To ensure a conservative assessment, two (2) scenarios have been assessed based on the proposed operations of the club house. These scenarios are detailed below:

Typical Operations	When the proposed club house operates under typical day to day activities and accommodates up to a maximum of 182 patrons on-site.
Function Events	When the proposed club house operates under typical day to day activities plus holds a function event at the same time and accommodates up to a maximum of 302 patrons on-site.

Table 2*:* Proposed Hours of Operation

LAND USE	HOURS OF OPERATION	DAYS OF OPERATION	TYPICAL OPERATION MAXIMUM CAPACITY	FUNCTION EVENT MAXIMUM CAPACITY
Golf Retail	6:30am-6pm Winter 6:00am-7pm Summer	Monday-Sunday	12 patrons	No Change
Commercial Office / Meeting Space	9am-5pm	Monday-Friday	10 patrons	No Change
Garden Lounge	9am-5pm Winter 9am-7pm Summer	Monday-Sunday	50 patrons	No Change
Dining Rooms	12pm-10pm	Monday-Sunday	50 patrons dining only	No Change
Function Rooms	12pm-10pm	Booking Required	-	120 patrons
Licensed Bar	10am-10pm	Monday-Sunday	60 patrons	No Change
		TOTAL	***182***	***302***

Table 2 identifies the proposed club house will typically operate between 6:30am-10pm Monday to Sunday, with various uses therein opening and closing at different times. At full capacity without a function, it will accommodate a maximum of 182 patrons, and if a function is occurring concurrently the club house can accommodate a maximum of 302 patrons.

It is not expected that the club house will operate at maximum capacity frequently, or that 'typical operations' of the club house would be at maximum capacity while a function event is on. For example, the dining room and licenced bar peak occupancy would likely occur during evenings, when the commercial office and pro-shop are closed.

However, the patron maximum capacity of each individual land use proposed within the club house has been considered as a worst case scenario to ensure a conservative assessment is undertaken when assessing the traffic and parking impacts within Sections 4 and 5 of this report.

4. Parking Requirements

4.1. Car Parking

4.1.1. Car Occupancy Rate

Neither the WDCP 2011 nor RMS Guide stipulate car parking rates for golf club houses. Accordingly, it is considered appropriate to adopt a 'first principles' approach to determine car parking requirements in this instance.

The 'first principles' approach involves the adoption of an average car occupancy rate for patrons attending the site. In this regard, an average car occupancy rate of 2.0 persons per car is recommended for adoption, which has been derived from surveys undertaken for similar developments.

4.1.2. Modal Split

Due to the locality and characteristics of the proposed development, the following modal spilt is considered appropriate to determine how people will travel to and from the site:

Typical Operations

- 80% of all patrons will travel to the site by private car (driver or passenger).
- 20% of all patrons will travel to the site via other forms of transport (public or active).

Function Event

- 30% of all patrons will travel to the site by private car (driver or passenger).
- 60% of all patrons will travel to the site via taxi or Uber.
- 10% of all patrons will travel to the site via other forms of transport (public, active).

The above modal splits have been provided by the client and it is understood a large proportion of patrons (80%) will drive to the site during 'typical operations', while during a function event a smaller proportion of patrons (30%) will drive to the site. This is considered accurate as the function events will be more associated with the consumption of alcohol, therefore fewer patrons will drive to the site but rather arrive and depart via taxi or Uber or other forms of transport.

The proposed car occupancy rate and modal split are considered robust, noting that a large proportion of patrons would travel to and from the site in a private car. Given the proposed development is to facilitate the local community living within surrounding areas, these rates are considered conservative.

4.1.3. Parking Demand During Typical Operations

To determine the peak parking demands of the proposed club house during 'typical operations' an assessment of the parking generated by each land-use has been undertaken.

It is noteworthy to mention, the retail golf store is considered an ancillary use to the golf course and therefore will not generate any additional demand, beyond patrons attending the golf course. In this regard, the retail golf store has been excluded from the assessment. This is a similar methodology adopted for the existing retail golf store and is therefore considered acceptable.

As identified in **Table 2**, during 'typical operation' the club house has a maximum capacity of 182 patrons. The land uses on site are akin to restaurant facilities which are associated with a recreational golf club facility. As such, the RMS Guide was reviewed, which recommends that these sites should not be assessed at maximum capacity, and rather use a lower site occupancy rate, as follows:

> *3.7.2 Restaurants*
>
> *It is not advisable to assume 100% seat occupancy, when assessing traffic generation. Ideally, the 85-percentile occupancy should be used.*
>
> *3.8.1 Recreation Facilities*
>
> *Analysis should be based on the predicted 85 percentile usage rather than usage at capacity, taking into account weekly and seasonal variations.*

Table 3 shows the expected car parking demand during 'typical operation' when the proposed club house has an 85-percentile occupancy of 146 patrons.

Table 3*:* Expected Parking Demand During Typical Operation of the Club House

LAND-USE	HOURS OF OPERATION	85th PERCENTILE PATRON NUMBER	% BY CAR	CAR OCCUPANCY RATE	EXPECTED PARKING DEMAND
Golf Retail	6:30am-6pm Winter 6:30am-7pm Summer	-	80%	2 patrons per car	-
Commercial Office / Meeting Space	9am-5pm	9			4
Garden Lounge	9am-5pm Winter 9am-7pm Summer	43			17
Dining	12pm-10pm	43			17
Licensed Bar	10am-10pm	51			20
	Total	***146***			***58***

From **Table 3**, it can be seen that during 'typical operation', the proposed club house would generate a maximum parking demand of approximately 58 car spaces.

It is reiterated that this is a conservative assessment, in that it considers all 'typical operation' land-uses on the site have an 85-percentile occupancy, which will occur infrequently. It is also noteworthy to highlight, an expected parking demand of 58 car spaces is not expected daily and that most of this demand is likely to occur during weekend lunchtime and afternoon periods, when golfers have a meal or drink after a game of golf.

4.1.4. Parking Demand During a Function Event

The RMS Guide recommends that the 85th percentile peak demand can be assessed for recreation and restaurant facilities. It is expected a function event would only occur once a fortnight. Therefore, it is deemed appropriate that the associated parking demand for function events should not warrant assessment, and that assessment of an 85-percentile typical occupancy is appropriate in assessing car parking requirements for the site.

Nevertheless, to determine an approximate on-site parking demand when a function event is occurring, an assessment has been conducted based on peak parking demands. **Table 4** shows the expected car parking demand when a function event is on, accommodating 85-percentile occupancy (102 patrons). Plus, when 'typical operations' are concurrently occurring with an occupancy of 146 patrons.

Table 4*: Expected Parking Demand During a Function Event in the Club House

TYPE	85th PERCENTILE NO. PATRONS ON-SITE AT ANY ONE TIME	% BY CAR	CAR OCCUPANCY RATE	EXPECTED PARKING DEMAND
Typical Operations	146	80%	2 patrons per car	58
Function Event	102	30%		15
			TOTAL	***73***

It can be seen from **Table 4** when 'typical operations' and a function event are occurring concurrently with an 85-percentile occupancy rate, the proposed club house would generate a parking demand of approximately 73 car spaces.

It is reiterated that this is considered a very conservative assessment in that it considers 'typical operations' are occurring with an 85-percentile occupancy rate, plus a function event is occurring concurrently, also with an 85-percentile occupancy rate. As previously mentioned, the proposed club house will incorporate different land uses which will have varying hours of operation and generate peak parking demands at different times and days of the week. In this regard, the assessment within **Table 3** and **Table 4** has assessed the parking demand as a conservative scenario.

In addition, function events will occur infrequently and only when a booking has been made, therefore it is important to acknowledge an expected parking demand of 72 car spaces will be infrequent.

4.1.5. Car Parking Summary

In summary, the proposed club house will generate the demand for the following number of car parking spaces:

- 58 car parking spaces during 'typical operations'.
- 73 car parking spaces during a function event.

In response, Council will provide nine (9) on-site car parking spaces as part of this proposal. The remaining parking provision will be facilitated by Council within the two (2) proposed car parks which will be constructed under Council's masterplan. No further parking provision analysis has been undertaken for these areas under the Proposal.

4.2. Bicycle & Motorcycle Parking

The WDCP 2011 does not stipulate bicycle or motorcycle parking rates for clubs and so the subject DA would not need to provide any bicycle or motorcycle parking spaces. Notwithstanding, Council is invited to propose a minimum bicycle and motorcycle parking provision the club house is required to provide to promote sustainable transport mode options for journeys to and from the site.

4.3. Service Vehicle Parking & Waste Collection

Neither of the WDCP 2011 nor RMS Guide policies stipulate a service vehicle parking rate for club houses. Nevertheless, the proposed development provides a single loading bay located on the north-east corner of the building which will accommodate service vehicles up to and including an 8.8-metre-long Medium Rigid Vehicle (MRV). This level of provision is considered acceptable noting that the development would generate a minimal demand for service vehicle parking with only 1-2 deliveries expected per day.

Swept path analysis has been undertaken of the proposed service vehicle parking arrangements, with the use of an 8.8 metre MRV, as defined within AS 2890.2. The results are provided as **Appendix C** and confirm that satisfactory entry and exit manoeuvres will be achieved to the loading bay.

Waste collection services will be undertaken on-site within the service vehicle bay with a vehicle no larger than an 8.8 metre MRV. The proposed service vehicle parking and waste collection arrangements are therefore considered acceptable and ensure all vehicle will enter and exit the site in a forward direction.

5. Traffic Impacts

5.1. Trip Generation

Neither the RMS Guide nor RMS Guide Update include traffic generation rates for club house developments. Accordingly, the traffic generation of the proposed club house has been determined by considering the 'first principles' approach and modal split during 'typical operations'.

As previously mentioned, the RMS Guide recommends that the 85th percentile peak demand can be assessed for recreation and restaurant facilities. In the case of the subject DA, this is an assessment of the 'typical operations' trip generations and traffic impacts. Given the infrequency of function events and the uncertainty of the exact days and times these would occur, it is considered appropriate to adopt the RMS Guide methodology and only assess the proposed club house during 'typical operations' to determine the 85th percentile traffic impacts.

The 'first principles' approach and modal split methodology assume 80% of patrons will drive to and from the site via private car during 'typical operations'.

5.1.1. Typical Operations

Given the type of land-uses within the proposed club house an average length of stay of 90 minutes is considered appropriate. For 'typical operations' a maximum of 146 patrons will be on-site at any one time, with 80% (117 patrons) of these patrons traveling to the site by car. Application of an average car occupancy rate of 2.0 patrons per car, results in the following traffic generation during a one-hour period:

- 39 car trips / hour (20 in, 19 out), during 85-percentile 'typical operation'.

To reiterate, the above traffic generation is a conservative assessment, in that it considers all 'typical operations' land-uses have an 85-percentile occupancy, which is occurs infrequently. The above trip generation does not account for any seasonal variations or multi-purpose trips that are associated with the existing golf course.

5.2. Traffic Distribution & Impacts

The proposed club house will result in a net increase in traffic generation of 39 vehicle trips / hour during peak 'typical operation' which is expected to be a early afternoon or weekend lunchtime.

These trips will be distributed to the west and east of Kentwell Road as motorists seek to access Pittwater Road and Condamine Street and split in both directions due to the inbound and outbound movements. Given current trip generation of the existing club house is zero trips, the above distribution results in approximately 39 additional vehicles per hour along Kentwell Road during 'typical operations.' This level of traffic generation is considered low.

The traffic impacts of the proposed development are therefore considered acceptable, and no external improvements will be required to facilitate the proposed development.

6. Design Aspects

6.1. Overview

As previously mentioned, as part of the overall redevelopment of the site, Council will deliver two-off street car parks which will jointly serve the proposed club house and the proposed adjacent Council facilities which will be delivered separately by Council.

The two (2) proposed car parks will provide approximately 50 and 70 off-street car parking spaces respectively and will each be accessed via combined entry and exit access driveways onto Kentwell Road, at the locations of the existing vehicular driveway crossings. These driveways all internal circulation roadways and turning heads, will be delivered by Council and no design assessment has been undertaken for these areas under the subject DA.

6.2. Internal Design

The proposed internal parking arrangements of the proposed club house comply with the relevant requirements of AS 2890.1 and AS 2890.2, with the following design aspects considered noteworthy:

6.2.1. Driveway

- The internal driveway has a flat grade (0%), and this complies with Clause 3.3 of AS 2890.1.
- The internal driveway has a minimum width of 6.1 metres between kerbs and will therefore accommodate two-lane, two-way traffic flow.

6.2.2. Parking Modules

- All nine (9) car parking spaces are provided in accordance with the User Class 2 requirements of AS 2890.1, having a minimum space width of 2.5 metres and length of 5.4 metres, with a minimum aisle width of 5.8 metres.
- The loading area will accommodate vehicles up to an 8.8 metre MRV, this area complies with AS 2890.2.
- All walls are located outside of the space design envelope, as required under Figure 5.2 of AS 2890.1.

6.2.3. Head Heights

- There are no overhead obstructions above the car parking areas, roadways or loading area and accordingly, compliant head clearances are achieved in accordance with Clause 5.3.1 of AS 2890.1 and Table 4.1 of AS 2890.2.

7. Conclusions

In summary:

- PDC Consultants has been commissioned by Warringah Golf Club Limited to prepare a TIA of a DA relating to a proposed club house located at 433 Pittwater Road, North Manly. Section 3 of this report provides a summary of which the DA seeks approval for, with a detailed description of the works provided in the SEE prepared by Willowtree Planning.

- Under an 85th percentile assessment, the proposed club house is expected to generate a maximum of 39 vehicle trips / hour during 'typical operations'. The distribution of the development traffic will result in an increase of approximately 39 additional vehicle movements along Kentwell Road during 'typical operations'. This assessment is conservative given all land-uses on-site are assumed to be operating at 85% capacity concurrently, which is unlikely.

  The traffic impacts of the proposed development are therefore acceptable, and no external improvements will be required to facilitate the development.

- Neither the WDCP nor RMS Guide stipulate car parking rates for club houses. Accordingly, it is considered appropriate to adopt a 'first principles' parking assessment, approach to the car parking assessment in this instance.

- Under the 'first principles' approach, the development is expected to generate a demand for 58 car parking spaces during 'typical operations' and 73 car parking spaces during infrequent function events.

  This approach is considered robust, particularly noting that it assumes 'typical operations' and function events will have an 85-percentile occupancy rate occurring concurrently.

- The proposed club house will provide nine (9) on-site car parking spaces within its property boundary. The remaining car parking spaces will be provided by Council within the two-off streetcar parks which will jointly serve the proposed club house and the proposed adjacent Council facilities.

- The proposed access and internal parking arrangements generally comply with the relevant requirements of AS 2890.1 and AS 2890.2. Any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

It is therefore concluded that the proposed development is supportable on traffic planning grounds.

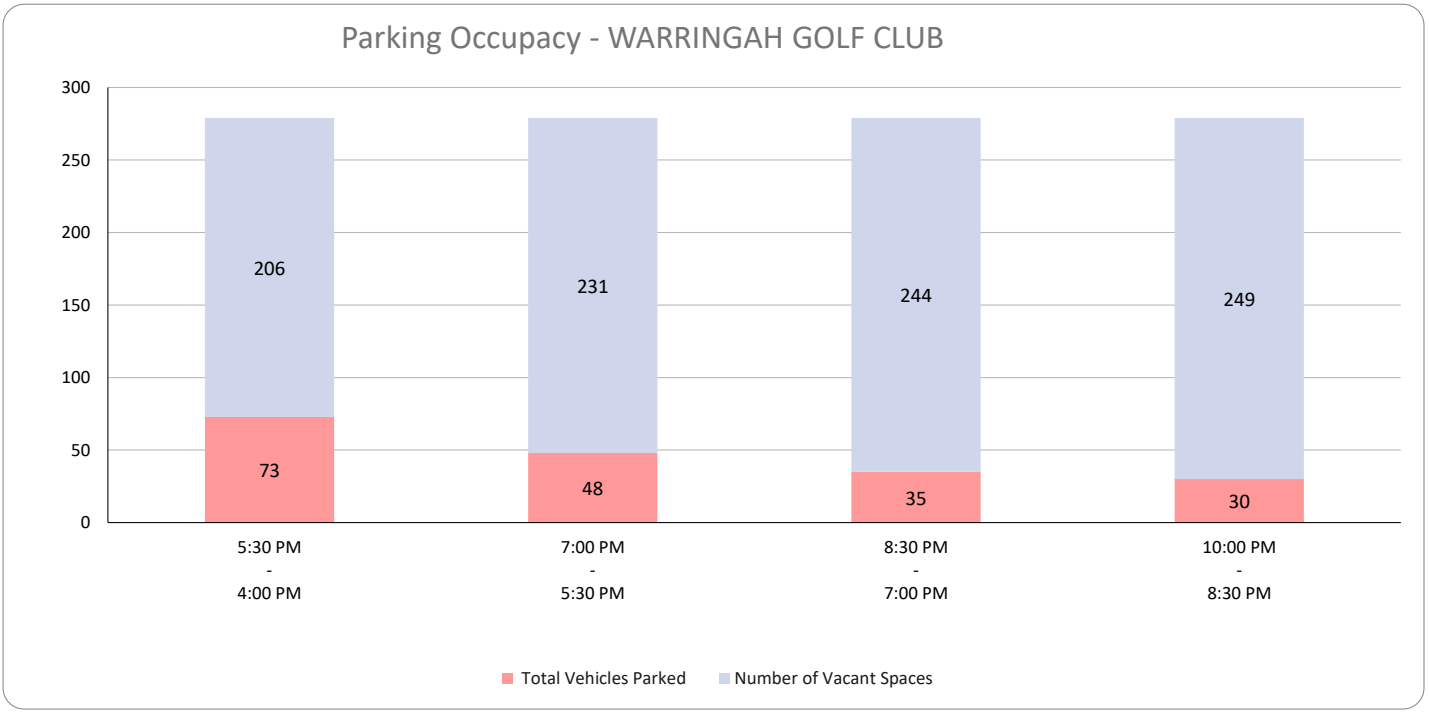
Appendix A

WARRINGAH GOLF CLUB

ZONE	UID	Street Name		Parking Restrictions	No. of Spaces			
A	A1	Tennis Court Carpark		At Grade	6	Bays	2.15%	of Total Capacity
A	A2	Tennis Court Carpark		At Grade	7	Bays	2.51%	of Total Capacity
A	A3	Tennis Court Carpark		At Grade	23	Bays	8.24%	of Total Capacity
B	B1	Bowling Court Carpark		At Grade	34	Bays	12.19%	of Total Capacity
B	B2	Bowling Court Carpark		At Grade	43	Bays	15.41%	of Total Capacity
B	B3	Bowling Court Carpark		At Grade	73	Bays	26.16%	of Total Capacity
C	C1	Kentwell Road		No Restrictions	32	Bays	11.47%	of Total Capacity
C	C2	Kentwell Road		No Restrictions	61	Bays	21.86%	of Total Capacity
		Total Capacity			279	Bays	100.00%	of Total Capacity

Location	WARRINGAH GOLF CLUB
Suburb	NORTH MANLY
Client	PDC
Job No/Name	22106
Survey Duration	4 HOURS
Day/Date	Thursday, 18 August 2022

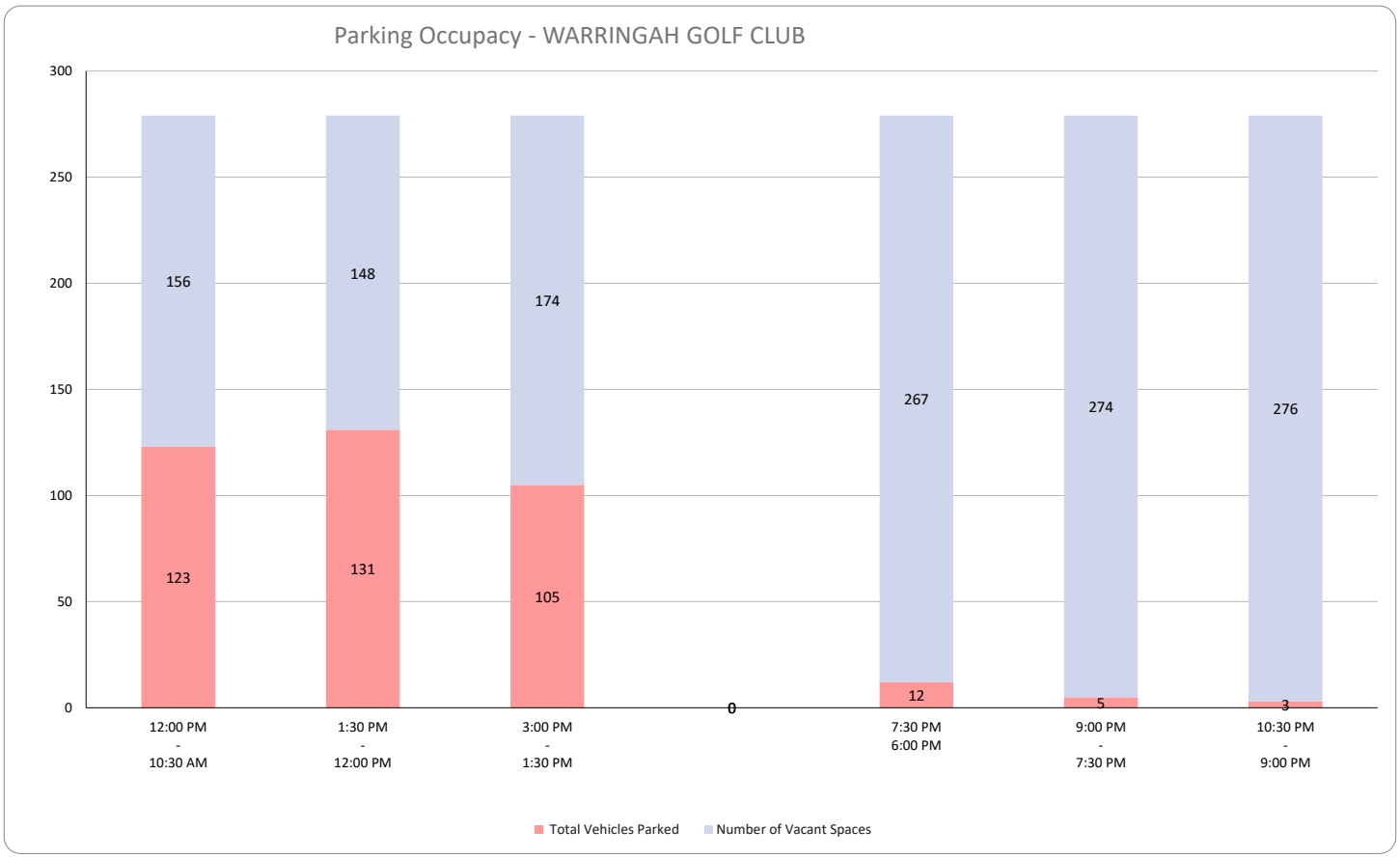
Zone	UID	Street Name	Parking Configuration	Parking Restriction	Capacity	4:00 PM - 5:30 PM	5:30 PM - 7:00 PM	7:00 PM - 8:30 PM	8:30 PM - 10:00 PM
A	A1	Tennis Court Carpark	Perpendicular	At Grade	**6**	2	5	6	4
A	A2	Tennis Court Carpark	Perpendicular	At Grade	**7**	2	7	6	5
A	A3	Tennis Court Carpark	Perpendicular	At Grade	**23**	7	1	5	6
B	B1	Bowling Court Carpark	Perpendicular	At Grade	**34**	0	0	2	1
B	B2	Bowling Court Carpark	Perpendicular	At Grade	**43**	0	0	0	0
B	B3	Bowling Court Carpark	Perpendicular	At Grade	**73**	17	17	15	13
C	C1	Kentwell Road	Parallel	No Restrictions	**32**	15	7	0	0
C	C2	Kentwell Road	Perpendicular	No Restrictions	**61**	30	11	1	1
		Total Vehicles Parked			**279**	**73**	**48**	**35**	**30**
		Number of Vacant Spaces				206	231	244	249
		% of Capacity Used				**26.2%**	**17.2%**	**12.5%**	**10.8%**



Traffic Information Specialist
ABN: 42 613 389 923
Email info@tistraffic.com.au

Location	WARRINGAH GOLF CLUB
Suburb	NORTH MANLY
Client	PDC
Job No/Name	22106
Survey Duration	9 HOURS
Day/Date	Saturday, 20 August 2022

Zone	UID	Street Name	Parking Configuration	Parking Restriction	Capacity	10:30 AM - 12:00 PM	12:00 PM - 1:30 PM	1:30 PM - 3:00 PM		6:00 PM - 7:30 PM	7:30 PM - 9:00 PM	9:00 PM - 10:30 PM
A	A1	Tennis Court Carpark	Perpendicular	At Grade	**6**	3	3	3		2	1	1
A	A2	Tennis Court Carpark	Perpendicular	At Grade	**7**	5	4	6		2	0	0
A	A3	Tennis Court Carpark	Perpendicular	At Grade	**23**	8	6	6		0	1	0
B	B1	Bowling Court Carpark	Perpendicular	At Grade	**34**	4	6	3		2	1	1
B	B2	Bowling Court Carpark	Perpendicular	At Grade	**43**	25	37	16		0	0	0
B	B3	Bowling Court Carpark	Perpendicular	At Grade	**73**	68/1	48/1	40/1		3	1	0
C	C1	Kentwell Road	Parallel	No Restrictions	**32**	24	23	26		0	0	0
C	C2	Kentwell Road	Perpendicular	No Restrictions	**61**	54	52	45		3	1	1
		Total Vehicles Parked			**279**	**123**	**131**	**105**		**12**	**5**	**3**
		Number of Vacant Spaces				156	148	174		267	274	276
		% of Capacity Used				**44.1%**	**47.0%**	**37.6%**		**4.3%**	**1.8%**	**1.1%**



Location	WARRINGAH GOLF CLUB
Suburb	NORTH MANLY
Client	PDC
Job No/Name	22106
Survey Duration	4 HOURS
Day/Date	Thursday, 18 August 2022

PATRON COUNT

Zone	Street Name	4:00 PM - 5:30 PM	5:30 PM - 7:00 PM	7:00 PM - 8:30 PM	8:30 PM - 10:00 PM	*Total Patronage*
A	Tennis Court	22	24	18	16	***80***
B	Squash Court	0	0	6	7	***13***
C	Bowling Court	0	0	0	0	***0***
D	Futsal Court	14	0	0	0	***14***
	Total Patronage	***36***	***24***	***24***	***23***	

Location	WARRINGAH GOLF CLUB
Suburb	NORTH MANLY
Client	PDC
Job No/Name	22106
Survey Duration	9 HOURS
Day/Date	Saturday, 20 August 2022

PATRON COUNT

Zone	Street Name	10:30 AM - 12:00 PM	12:00 PM - 1:30 PM	1:30 PM - 3:00 PM		6:00 PM - 7:30 PM	7:30 PM - 9:00 PM	9:00 PM - 10:30 PM	*Total Patronage*
A	Tennis Court	17	13	19		0	0	0	***49***
B	Squash Court	3	5	0		0	0	0	***8***
C	Bowling Court	0	0	0		0	0	0	***0***
D	Futsal Court	0	0	0		6	0	0	***0***
	Total Patronage	***20***	***18***	***19***		***6***	***0***	***0***	

Appendix B

DA ISSUE

NOT FOR CONSTRUCTION

COUNCIL FACILITES ARE INDICATIVE ONLY WITH THE FINAL LAYOUT OF SPORTING COURTS AND CAR PARKS TO BE DETERMINED BY NORTHERN BEACHES COUNCIL WITHIN THE FOOTPRINT SHOWN

CARPARK WITH UNDERGROUND DRAINAGE FROM GOLF COURSE TO BE PROVIDED BY COUNCIL

OVERALL SITE PLAN

0 10 20 30 40 50

LEGEND:

LEASE BOUNDARY

LINE OF DESIGNATED WGC SITE

Issue	Amendment	Date
9.	DA ISSUE	11.11.2022
8.	DA ISSUE	12.10.2022
7.	DA ISSUE	27.09.2022
6.	DA ISSUE - PRELIM	02.09.2022
5.	PRELIMINARY DA	18.03.2022
4.	PRELIMINARY	14.02.2022
3.	PRELIMINARY	03.02.2022
2.	PRELIMINARY	JAN 2022
1.	PRELIMINARY	DEC 2021

ALL DIMENSIONS TO BE VERIFIED ON SITE. DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS. ANY DISCREPANCIES TO BE REFERRED TO ARCHITECT BEFORE PROCEEDING IF IN DOUBT, ASK!

GROUP ARCHITECTS

GROUP ARCHITECTS
Nominated Architect Julian Brenchley 6246
Group Architects Pty Limited ABN 82 600 366 069
Suite 3.09/55 Miller Street Pyrmont nsw 2009
T: +612 9660 1055 E: info@grouparchitects.com.au

WARRINGAH GOLF AND COMMUNITY CLUB

address
433 PITTWATER ROAD
NORTH MANLY

drawing
OVERALL SITE PLAN

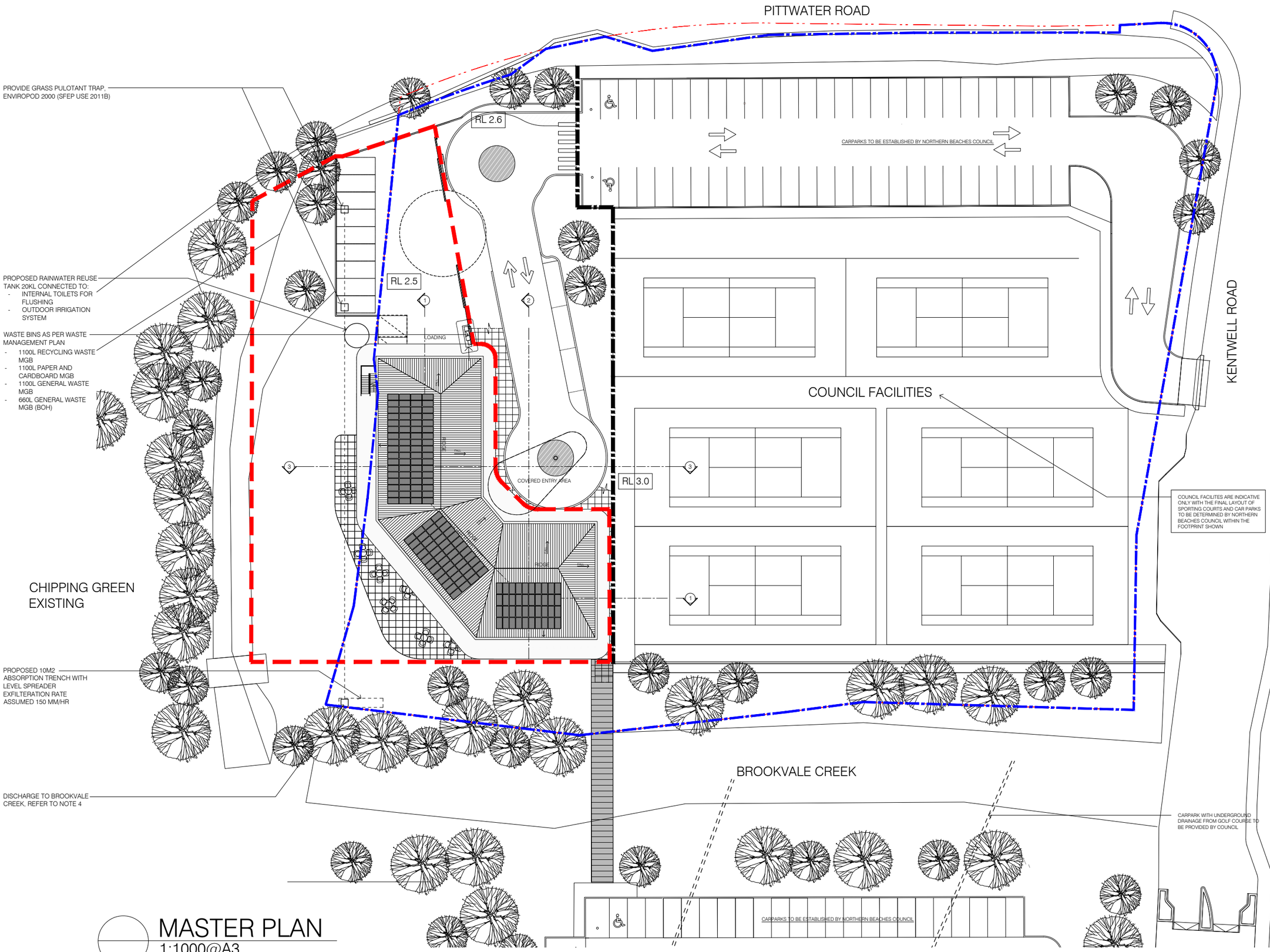
SCALE: NTS

ISSUE: 9. DATE: 11.11.2022

DWG No.: GA2020-023-100

DA ISSUE

NOT FOR CONSTRUCTION



MASTER PLAN
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LEGEND:

- LEASE BOUNDARY
- LINE OF DESIGNATED WGC SITE

Issue	Amendment	Date
9.	DA ISSUE	11.11.2022
8.	DA ISSUE	12.10.2022
7.	DA ISSUE	27.09.2022
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1.	PRELIMINARY	DEC 2021

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Group Architects Pty Limited ABN 82 600 366 069
Suite 3.09/55 Miller Street Pyrmont nsw 2009
T: +612 9660 1055 E: info@grouparchitects.com.au

WARRINGAH GOLF AND COMMUNITY CLUB

address
433 PITTWATER ROAD
NORTH MANLY

drawing
MASTER PLAN

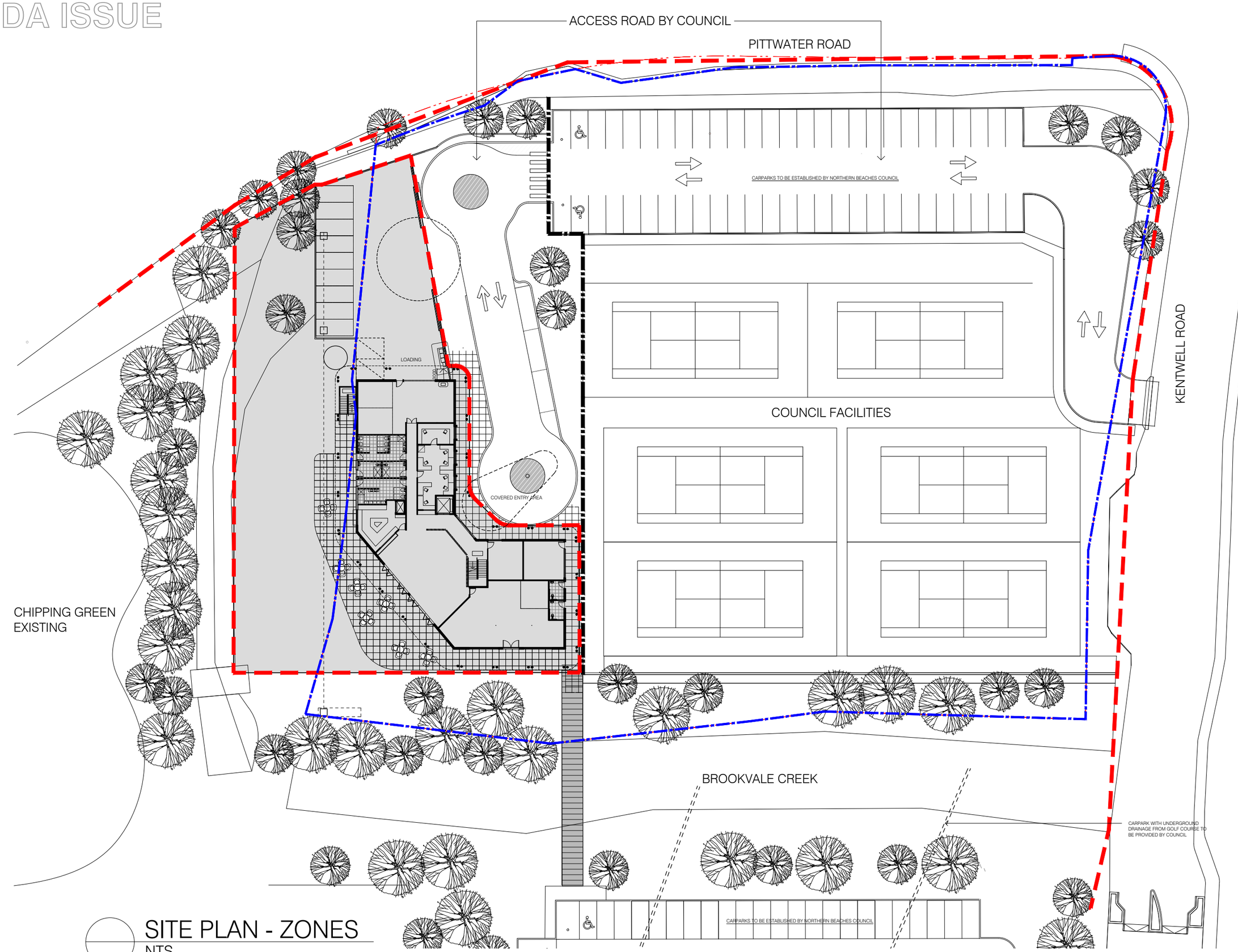
SCALE: 1:500 @ A1

ISSUE: 9. DATE: 11.11.2022

DWG No.: GA2020-023-101

DA ISSUE

NOT FOR CONSTRUCTION



SITE PLAN - ZONES
NTS

LEGEND:

WGC DESIGNATED RESPONSIBILITY ZONE

Issue	Amendment	Date
9.	DA ISSUE	11.11.2022
8.	DA ISSUE	12.10.2022
7.	DA ISSUE	27.09.2022
6.	DA ISSUE - PRELIM	02.09.2022
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3.	PRELIMINARY	03.02.2022
2.	PRELIMINARY	JAN 2022
1.	PRELIMINARY	DEC 2021

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GROUP ARCHITECTS

GROUP ARCHITECTS
Nominated Architect Julian Brenchley 6246
Group Architects Pty Limited ABN 82 600 366 069
Suite 3.09/55 Miller Street Pyrmont nsw 2009
T: +612 9660 1055 E: info@grouparchitects.com.au

WARRINGAH GOLF AND COMMUNITY CLUB

address

433 PITTWATER ROAD
NORTH MANLY

drawing

SITE PLAN - ZONES
LANDSCAPE/BOUNDARY SET OUT

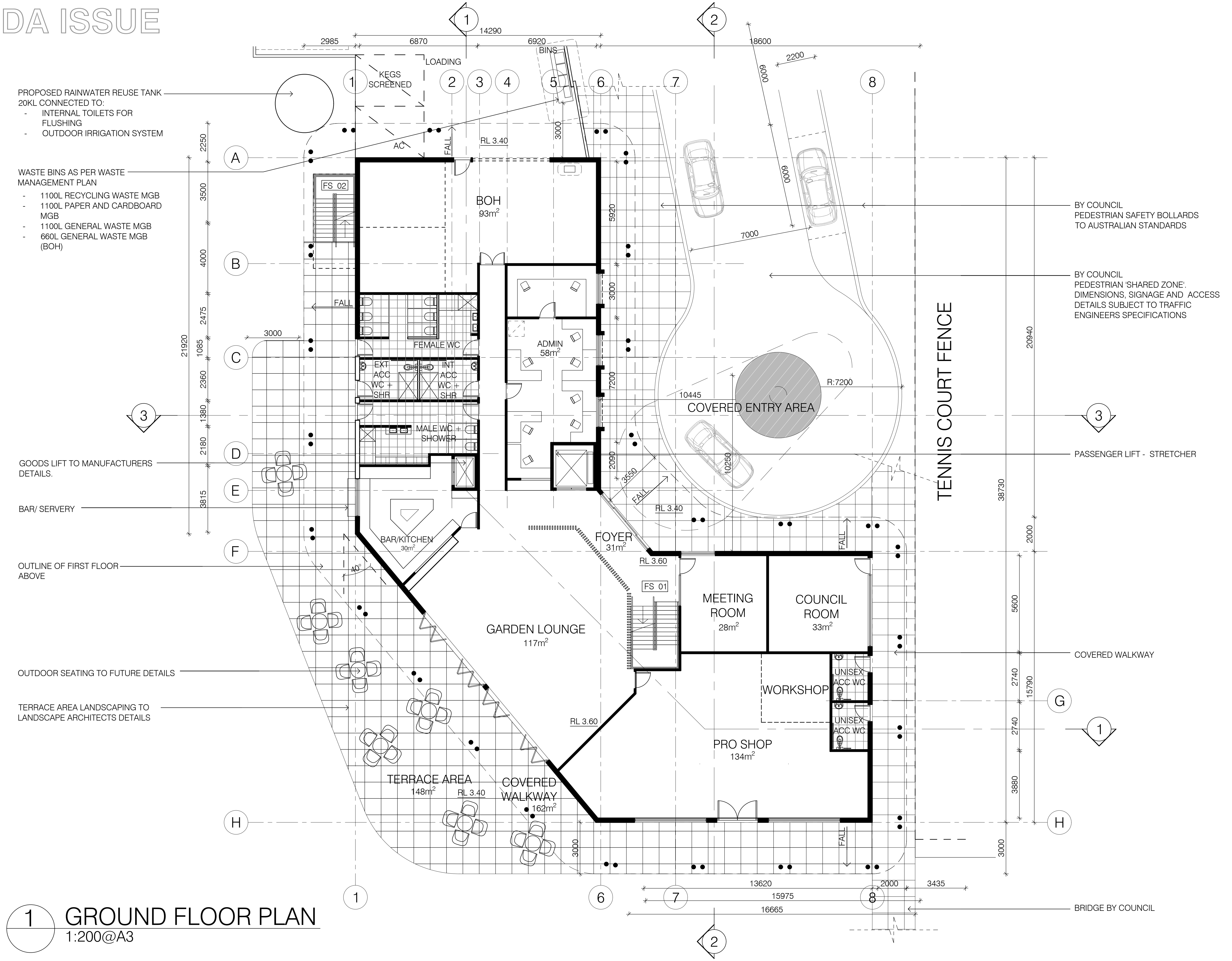
SCALE: 1:500 @ A1

ISSUE: 9. DATE: 11.11.2022

DWG No.: GA2020-023-101c

DA ISSUE

NOT FOR CONSTRUCTION



PROPOSED RAINWATER REUSE TANK
20KL CONNECTED TO:
- INTERNAL TOILETS FOR FLUSHING
- OUTDOOR IRRIGATION SYSTEM
WASTE BINS AS PER WASTE MANAGEMENT PLAN
- 1100L RECYCLING WASTE MGB
- 1100L PAPER AND CARDBOARD MGB
- 1100L GENERAL WASTE MGB
- 660L GENERAL WASTE MGB (BOH)
GOODS LIFT TO MANUFACTURERS DETAILS.
BAR/ SERVERY
OUTLINE OF FIRST FLOOR ABOVE
OUTDOOR SEATING TO FUTURE DETAILS
TERRACE AREA LANDSCAPING TO LANDSCAPE ARCHITECTS DETAILS
LOADING
KEGS SCREENED
BINS
AC
FALL
RL 3.40
BOH
93m2
FS 02
FEMALE WC
EXT ACC WC + SHR
INT ACC WC + SHR
MALE WC + SHOWER
ADMIN
58m2
BAR/KITCHEN
30m2
FOYER
31m2
RL 3.60
FS 01
GARDEN LOUNGE
117m2
MEETING ROOM
28m2
COUNCIL ROOM
33m2
WORKSHOP
UNISEX ACC WC
PRO SHOP
134m2
TERRACE AREA
148m2
COVERED WALKWAY
162m2
COVERED ENTRY AREA
R:7200
TENNIS COURT FENCE
BY COUNCIL
PEDESTRIAN SAFETY BOLLARDS TO AUSTRALIAN STANDARDS
BY COUNCIL
PEDESTRIAN 'SHARED ZONE'.
DIMENSIONS, SIGNAGE AND ACCESS DETAILS SUBJECT TO TRAFFIC ENGINEERS SPECIFICATIONS
PASSENGER LIFT - STRETCHER
COVERED WALKWAY
BRIDGE BY COUNCIL

1 GROUND FLOOR PLAN

1:200@A3

LEGEND:

Issue	Amendment	Date
9.	DA ISSUE	11.11.2022
8.	DA ISSUE	12.10.2022
7.	DA ISSUE	27.09.2022
6.	DA ISSUE - PRELIM	02.09.2022
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GROUP ARCHITECTS
Nominated Architect Julian Brenchley 6246
Group Architects Pty Limited ABN 82 600 366 069
Suite 3.09/55 Miller Street Pyrmont nsw 2009
T: +612 9660 1055 E: info@grouparchitects.com.au

WARRINGAH GOLF AND COMMUNITY CLUB

address
433 PITTWATER ROAD NORTH MANLY

drawing
GROUND FLOOR PLAN

SCALE: 1:200 @ A3

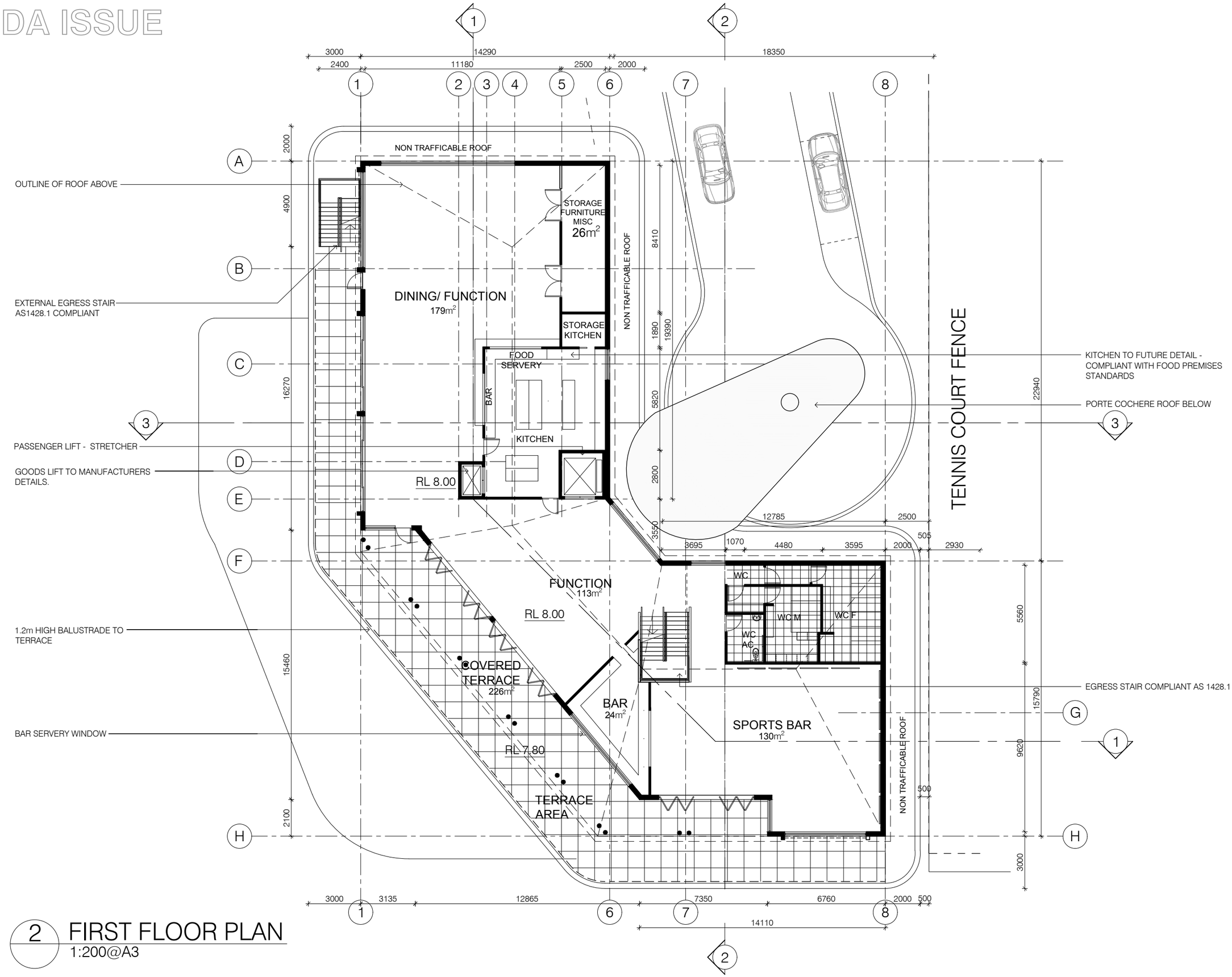
ISSUE: 9. DATE: 11.11.2022

DWG No.: GA2020-023-102

DA ISSUE

NOT FOR CONSTRUCTION

LEGEND:



2 FIRST FLOOR PLAN

1:200@A3

Issue	Amendment	Date
9.	DA ISSUE	11.11.2022
8.	DA ISSUE	12.10.2022
7.	DA ISSUE	27.09.2022
6.	DA ISSUE - PRELIM	02.09.2022
5.	PRELIMINARY DA	18.03.2022
4.	PRELIMINARY	14.02.2022
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2.	PRELIMINARY	JAN 2022
1.	PRELIMINARY	DEC 2021

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Suite 3.09/55 Miller Street Pyrmont nsw 2009
T: +612 9660 1055 E: info@grouparchitects.com.au

WARRINGAH GOLF AND COMMUNITY CLUB

address
433 PITTWATER ROAD
NORTH MANLY

drawing
FIRST FLOOR PLAN

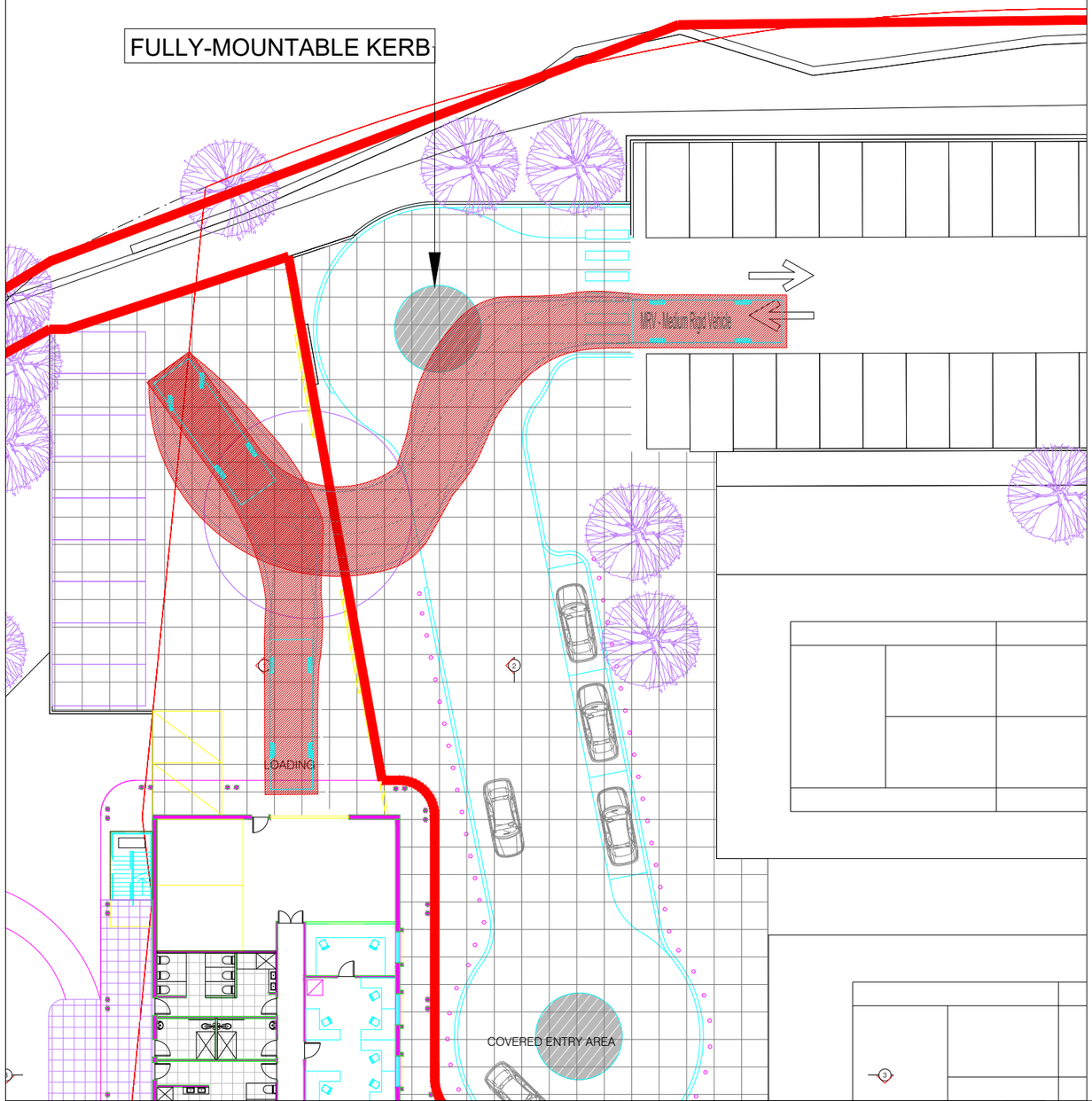
SCALE: 1:200 @ A3

ISSUE: 9. DATE: 11.11.2022

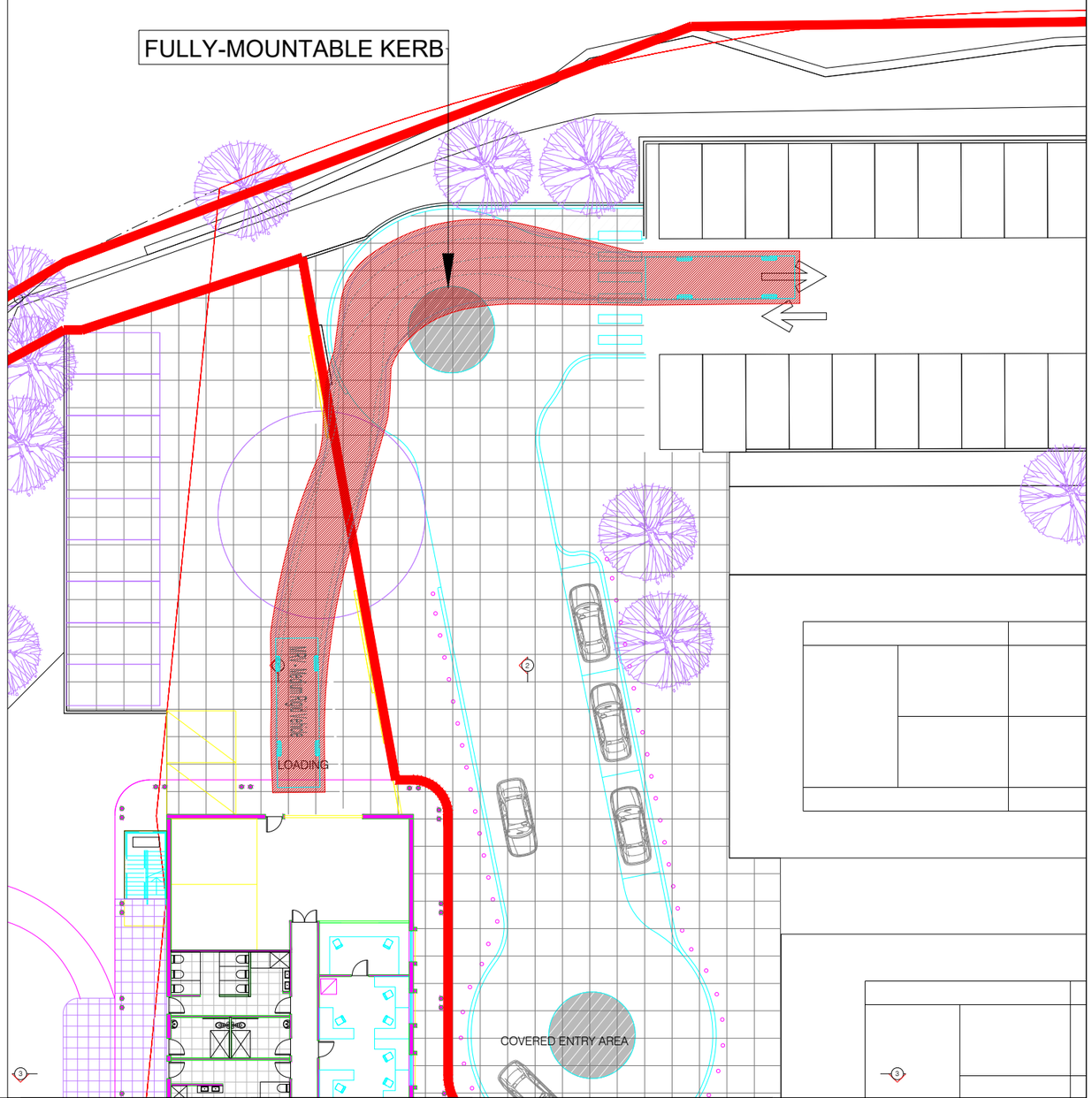
DWG No.: GA2020-023-103

Appendix C

LIMINARY



LIMINARY



No.	Date	Description

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

North

N

Drawing Prepared By

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

Architect
Group Architects

Client
Warringah Golf Club Limited

Project
Warringah Golf Club

Project No
0623

Drawing Title
Ground Floor Plan
8.8m MRV
Entry / Exit Movements

Sheet Status
NOT FOR CONSTRUCTION

Drawing No.
002

Revision No.
-

Drawn By
MM

Date
08/09/2022

Scale
1:200 @ A3

0m 2 4 6 8

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+61 2 7900 6514 | pdcconsultants.com.au