TRAFFIC AND PARKING IMPACT ASSESSMENT OF THE PROPOSED REHABILITATION GYMNASIUM AT 39 CABBAGE TREE ROAD, BAYVIEW

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Development Type: **Rehabilitation Gymnasium**

Site Address: **39 Cabbage Tree Road, Bayview**

Prepared for: **Turnbull Planning International**

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1 INTRODUCTION

McLaren Traffic Engineering (MTE) was commissioned by *Turnbull Planning International* to provide a Traffic and Parking Impact Assessment of the proposed Rehabilitation Gymnasium at 39 Cabbage Tree Road, Bayview.

1.1 Description and Scale of Development

The proposed indoor recreation facility, as depicted in **Annexure A**, has the following scale relevant to this traffic and parking impact assessment:

- Rehabilitation Gymnasium with a total of 371m^2 Gross Floor Area (GFA);
- Maximum patronage of up to 30 patrons;
- Operational hours of 8:00 am to 6:30 pm from Monday to Saturday (inclusive);
- Ten (**10**) car parking spaces, including one disabled;
- Vehicular access to the car park is provided via a proposed two-way driveway from Cabbage Tree Road, with entry and exit from the northern boundary of the site.

1.2 State Environmental Planning Policy (Infrastructure) 2007

The proposed development does not qualify as a development with relevant size and/or capacity under *Clause 104* of the *SEPP (Infrastructure) 2007*. Accordingly, formal referral to the Roads and Maritime Services (RMS) is not necessary and Northern Beaches Council officers can determine this proposal accordingly.

1.3 Site Description

The subject site is currently unoccupied and is surrounded by a golf course operated by Bayview Golf Club to the south and by low to medium density residential buildings to the north.

1.4 Site Context

The location of the site is shown on aerial imagery and a map in **Figure 1** & **Figure 2** respectively.

Site Location

FIGURE 1: SITE CONTEXT – AERIAL PHOTO

Site Location

FIGURE 2: SITE CONTEXT – STREET MAP

2 EXISTING TRAFFIC AND PARKING CONDITIONS

2.1 Road Hierarchy

The public roads surrounding the site have the following characteristics:

2.1.1 Cabbage Tree Road

- Unclassified LOCAL Road;
- Approximately 7m in width facilitating one lane in each direction;
- Signposted 50km/h speed limit;
- No parking permitted on either side of the road.

2.1.2 Annam Road

- Unclassified LOCAL road;
- Approximately 7.5m in width facilitating one traffic flow lane in each direction and kerbside parking;
- No speed limit signposted - 50km/h applies;
- Unrestricted kerbside parking permitted along both sides of the road.

2.2 Existing Traffic and Pedestrian Management

- "STOP" sign controlled T-intersection of Annam Road/Cabbage Tree Road;
- Pedestrian refuge located on Cabbage Tree Road approximately 30m west of the subject site.

2.3 Public Transport

The subject site is located within approximately 250m walking distance of a bus stop (ID: 210431) located on Annam Road which provides access to existing bus route 155 provided by Transport NSW. It is important to note that this bus stop is located on the opposite side of Cabbage Tree Road and that the existing pedestrian refuge is located approximately 30m west of the site, facilitating safe crossing of the road.

2.4 Future Road and Infrastructure Upgrades

From the Northern Beaches Council's Development Projects tracker and website, it appears that there are no future planned road or public transport changes that will affect traffic conditions within the immediate vicinity of the subject site.

3 PARKING ASSESSMENT

3.1 Council Parking Requirement

Reference is made to the Northern Beaches Council's *Pittwater 21 Development Control Plan* (DCP), *Section B Access and Parking* which provides the following car parking requirements for the most applicable land use for the subject proposal:

Business Premises and Office Premises

2.5 car parking spaces per 100m^2 Gross Lettable Area (GLA)

The resulting parking requirements are summarised in **Table 1**

TABLE 1: DCP PARKING REQUIREMENTS

Land Use	Scale	Rate	Spaces Required(2)	Spaces Provided
Gymnasium	371m^2 GFA	2.5 per 100m^2 GLA(1)	9.3 (**9**)	10
Total	**-**	**-**	**9**	**10**

NOTES:
(1) As a sensitivity assessment, the GFA of the proposed development has been used for this assessment rather than GLA;
(2) As the DCP does not specify rounding requirements, rounding to the nearest integer has been undertaken.

As shown in **Table 1,** the development requires a minimum of nine (**9**) car parking spaces. The proposed development provides a total of ten (**10**) spaces, exceeding Northern Beaches Councils requirements with a numerical excess of one (**1**) car parking space.

3.2 RMS Parking Requirement

For a comparative assessment of the Council's DCP car parking requirement, reference is made to Road and Maritime Services' (RMS) "*Guide to Traffic Generating Developments* (Guide)- *section 5.9.2"* which provide the following parking rates for gymnasiums.

Gymnasiums

Metropolitan sub-regional areas:

Minimum provision

4.5 spaces per 100m^2

Desirable provision

7.5 spaces per 100m^2

The resulting RMS parking requirements for the subject gymnasium are summarised in **Table 2**.

TABLE 2: RMS PARKING REQUIREMENTS

Land Use	Category	Scale	Rate	Spaces Required(1)	Spaces Provided
Gymnasium	Minimum	371m^2	4.5 per 100m^2	16.7 (**17**)	10
	Desirable		7.5 per 100m^2	27.8 (**28**)	
Total	**-**	**-**	**-**	**17(2) or 28(3)**	**10**

NOTES:
(1) As the DCP does not specify rounding requirements, rounding to the nearest integer has been undertaken;
(2) Required spaces for the minimum RMS gymnasium rate;
(3) Required spaces for the desirable RMS gymnasium rate.

As shown in **Table 2,** the development requires a minimum of **17** spaces, or a desirable requirement of **28** car parking spaces in accordance with the RMS rates. The proposed development provides a total of ten (**10**) spaces, representing a shortfall of **7** spaces from the minimum RMS requirement, or **18** from the desirable rate. Justification for this parking shortfall from the RMS rates is provided in **Section 3.2.1.**

3.2.1 Justification for Parking Shortfall from RMS requirements

3.2.1.1 Use of Private Shuttle Bus

It is understood that the gymnasium will provide a private shuttle bus for the collection and transport of customers from nearby retirement villages or private homes by prior arrangement. The vehicle used will consist of a “van type people mover” vehicle able to transport up to 10 people such as a Toyota Hiace (B99 vehicle).

The use of a shuttle bus will reduce the parking demand of the proposed gymnasium from that of a typical gymnasium’s operation. The extent of this reduction is dependent on the operation of the private shuttle bus which, it is understood, will vary subject to demand in accordance with the Plan of Management (PoM) for the subject proposal.

3.2.1.2 On-Street Carparking

Based on a visit to the subject site, it was noted that there was a large availability of on-street kerbside parking available within Annam Road within close proximity of the subject site. To provide for safe access to the kerbside parking in Annam Road, a pedestrian path is provided from the site to within the road verge of Cabbage Tree Road. In accordance with Council’s Pre DA comments and the *Draft Pittwater Bike Plan 2016*, it is understood that consideration has been given toward a future active transport corridor that is proposed to run adjacent to the site along Cabbage Tree Road, including an expected 2.5m shared path along the frontage of the site.

Though the Plan remains in draft form, the plans provided in **Annexure A** indicate how the site and the proposed driveway could accommodate a possible shared path within the road verge in the future at Council’s discretion. It is presumed that a shared path along the frontage of the site would connect to the proposed internal pedestrian path and the existing

pedestrian refuge located to the west of the site. As the provision of a 2.5m shared path by Council is expected, it is considered that this path will provide suitable pedestrian access to the existing pedestrian refuge, and consequently Annam Road.

As such, it is considered that in the unlikely event that the site demands more than 10 car parking spaces, any overflow parking demand can be suitably accommodated within the available on-street parking available within Annam Road with pedestrian connection via a 2.5m wide shared path.

3.3 Bicycle & Motorcycle Parking Requirements

Reference is made to Council's DCP which does not provide a rate for bicycle or motorcycle parking and hence, the development does not require bicycle or motorcycle parking. Regardless, a bicycle storage area able to facilitate three (3) bicycle parking spaces is provided to encourage alternative transport options.

3.4 Servicing & Loading

Council's DCP Section C5.8 provides general comments regarding waste collection. The proposed development must include a waste storage room, of which an adequate vehicular provision is to be provided to removed waste and located for convenient access for collection.

Considering the narrow carriageway width of Cabbage Tree Road, kerbside waste collection would be unacceptable from a traffic safety perspective. As such, it is proposed that an indented kerbside waste collection bay at the proposed driveway location will be constructed to accommodate the Council waste collection vehicle.

It has been advised that there is no other location available to the site for an indented waste collection bay if trees within the council verge are to be retained. Whilst a waste collection vehicle may temporarily block access to/from the site, it is important to note that waste will be collected once weekly and any blockage will only occur for 1-2 minutes whilst waste is collected. This is considered a minimal timeframe such that any impacts of driveway obstruction will be quite rare and of minimal duration. All other servicing and loading for the site will be undertaken by vehicles of size up to an including B99 vehicles (a small van) on-site. Therefore, the proposal for an indented waste collection bay at the driveway location is considered acceptable.

To assess the ability of waste collection vehicles to access the proposed indented waste collection bay, swept path testing has been undertaken. The swept path testing has been undertaken with AutoCAD's Vehicle Tracking 2019 software package. The design vehicle used for this assessment is a 9.7m length heavy vehicle which is understood to be the specifications of the Northern Beaches Council's waste collection vehicle. The specifications used and swept paths results are reproduced in **Annexure B**. The results indicate that Councils waste collection vehicle can successfully undertake loading within the indented bay, whilst a B99 vehicle (equivalent to a small van) travels westbound along Cabbage Tree

Road. Therefore, waste collection vehicle access to and from the proposed indented waste collection bay is considered acceptable.

3.5 Disabled Parking

Council's DCP does not provide a rate for disabled parking relevant to the proposed development, and hence, reference is made to the *Building Code of Australia*. The BCA classes the proposed development as Class 5, which therefore requires:

> *1 space for every 100 car parking spaces or part thereof.*

The development requires a total of one (**1**) disabled parking space. The proposed plans detail one (**1**) disabled parking space, meeting disabled parking requirements. An additional disabled car parking space could be accommodated on-site with no impact on the function of the site if desired by Council.

3.6 Car Park Design & Compliance

The car parking layouts of the ground floor car park have been assessed and found to be generally compliant with the relevant clauses of AS2890.1, AS2890.3 and AS2890.6, with any minor non-compliance listed and justified below, including the following notable features and any recommendations made in **Section 3.5.1**:

- Ten (10) 2.4m width x 5.4m length 90-degree parking spaces (including one disabled space);
- One (1) 2.4m width x 5.4m length shared space located adjacent to disabled space;
- 6.4m width two-way driveway;
- 6.6m width parking aisles
- Area for bicycle parking to accommodate three (3) bicycles.

While the proposed layout has been assessed to meet or exceed the requirements of the designated Standards, it is usual and expected that a design certificate be required at the Construction Certificate Stage to account for any dimensional changes during or after the DA process.

4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

4.1 Traffic Generation

Traffic generation rates for the relevant land uses are provided in the *Road and Maritime Services* (RMS) *Guide to Traffic Generating Developments October 2002* (Guide) and recent supplements and are as follows:

> ***3.8.2 Gymnasiums.***
>
> *Metropolitan Sub Regional Areas.*
>
> *Evening Peak Hour Vehicle Trips = 9 trips per 100m^2 GFA.*

The resulting traffic generation is summarised in **Table 3**.

TABLE 3: PEAK TRAFFIC GENERATION OF SITE

Use	Scale	Rate	Traffic Generation	Direction
Gymnasium	371m^2	9 trips / 100m^2 GFA	33.4 (34)	17 in; 17 out
Total			**34 trips**	**17 in; 17 out**

As shown above, during the peak hour period the traffic generated by the site has been estimated at **34** vehicles trips (17 IN, 17 OUT) during the peak periods of operation. This equates to one vehicle entering or leaving Cabbage Tree Road approximately every 1 minute 45 seconds.

This is considered to be a low volume of extra traffic that will have no adverse effect on any nearby intersections and can be readily accommodated within the existing road network with minimal impact in terms of traffic flow efficiency and road safety considerations.

Indeed, the computer models that are available to assess these impacts are not sensitive to such small changes and it may be concluded that the road network will operate with no change in the existing levels of service. In this regard, the proposed development is supportable in terms of its traffic impacts.

It is relevant to note that the traffic generation assessed above does not take into consideration of any reduction in traffic generation that is likely to result from the use of the private shuttle bus. As such, it is considered that the traffic generation assessed above represents a worst-case scenario.

5 CONCLUSION

The traffic and parking impacts of the proposed Rehabilitation Gymnasium at 39 Cabbage Tree Road, Bayview, as depicted in **Annexure A**, have been assessed.

The proposed development includes a total of ten (**10**) car parking spaces on-site, where a minimum of nine (**9**) spaces are required in accordance with Northern Beaches Council's requirements. This provision represents a numerical excess of one (**1**) space above the Council's DCP minimum requirements.

The design of parking on site generally complies with the relevant Australian Standards, namely AS 2890.1- 2004 and AS 2890.6-2009.

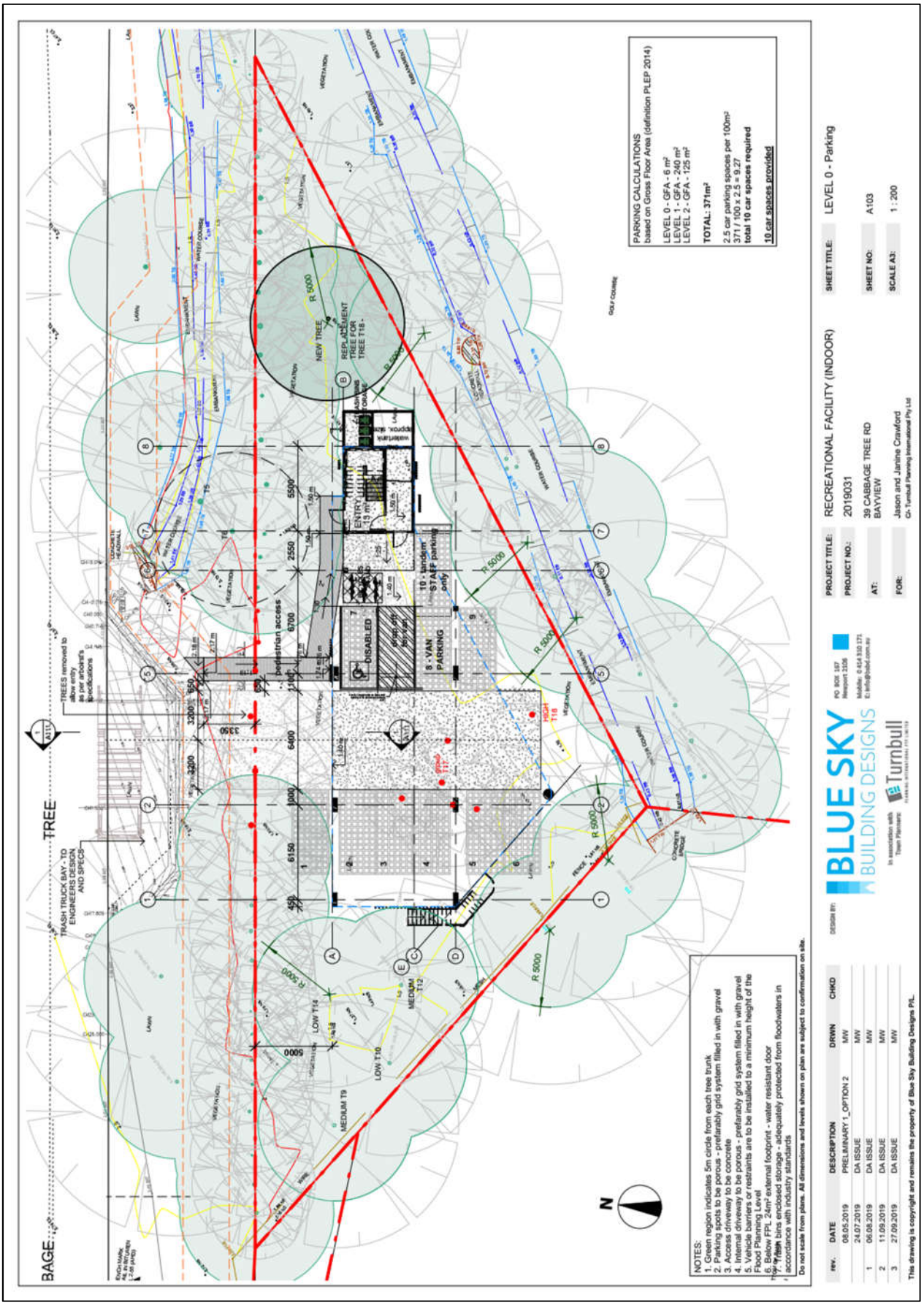
Waste collection from the site can be accommodated by the proposed construction of an indented kerbside bay from Cabbage Tree Road which can accommodate the collection of waste by the Council waste collection vehicle.

The generation of traffic is expected to be approximately 34 vehicle trips in the peak hours of operation. This equates to one vehicle entering or leaving Cabbage Tree Road approximately every 1 minute 45 seconds. The traffic generated by the development is minimal and will not adversely affect the performance of nearby intersections or the existing road network, particularly in terms of Level of Service, traffic flow efficiency, residential amenity and road safety considerations.

In view of the foregoing, the subject development is fully supported in terms of its traffic and parking impacts.

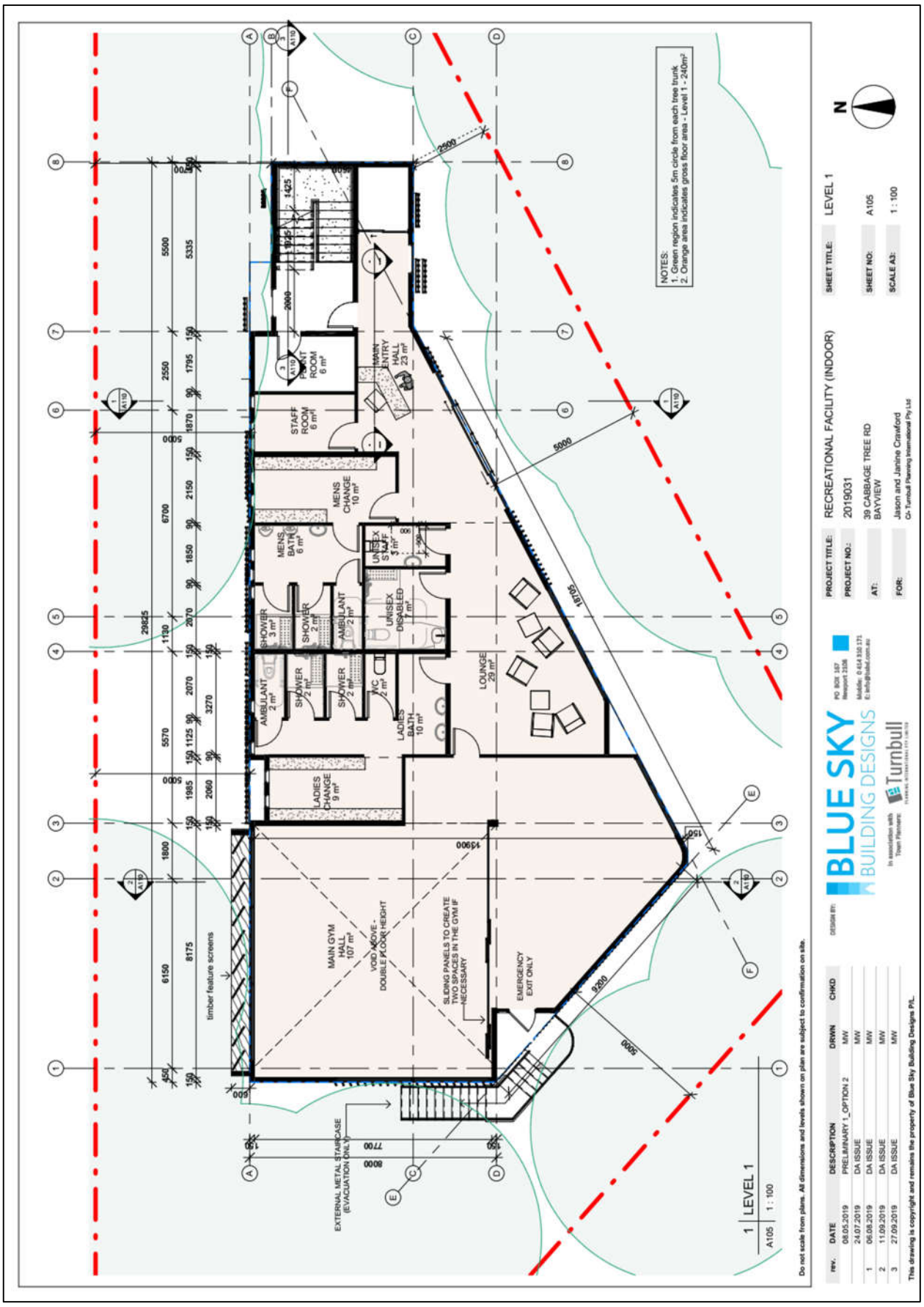
ANNEXURE A: PROPOSED PLAN

(SHEET 1 OF 3)



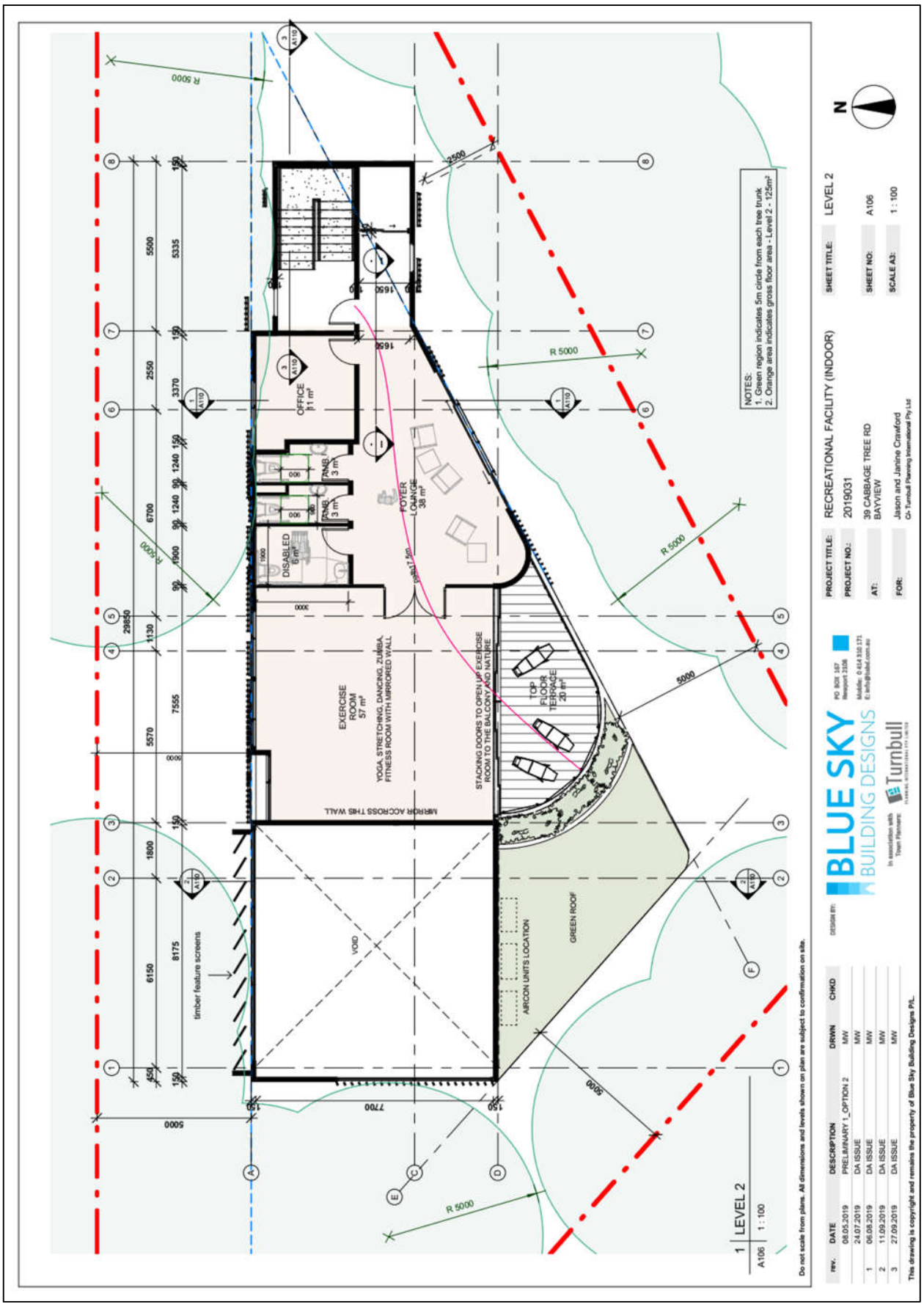
ANNEXURE A: PROPOSED PLAN

(SHEET 2 OF 3)



ANNEXURE A: PROPOSED PLAN

(SHEET 3 OF 3)



ANNEXURE B: SWEPT PATH TESTING

(SHEET 1 OF 3)

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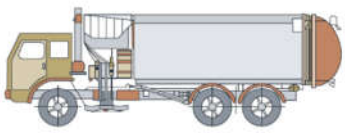
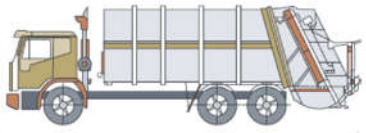
APPENDIX B

Collection Vehicle Specifications



Heavy rigid side arm compaction vehicle

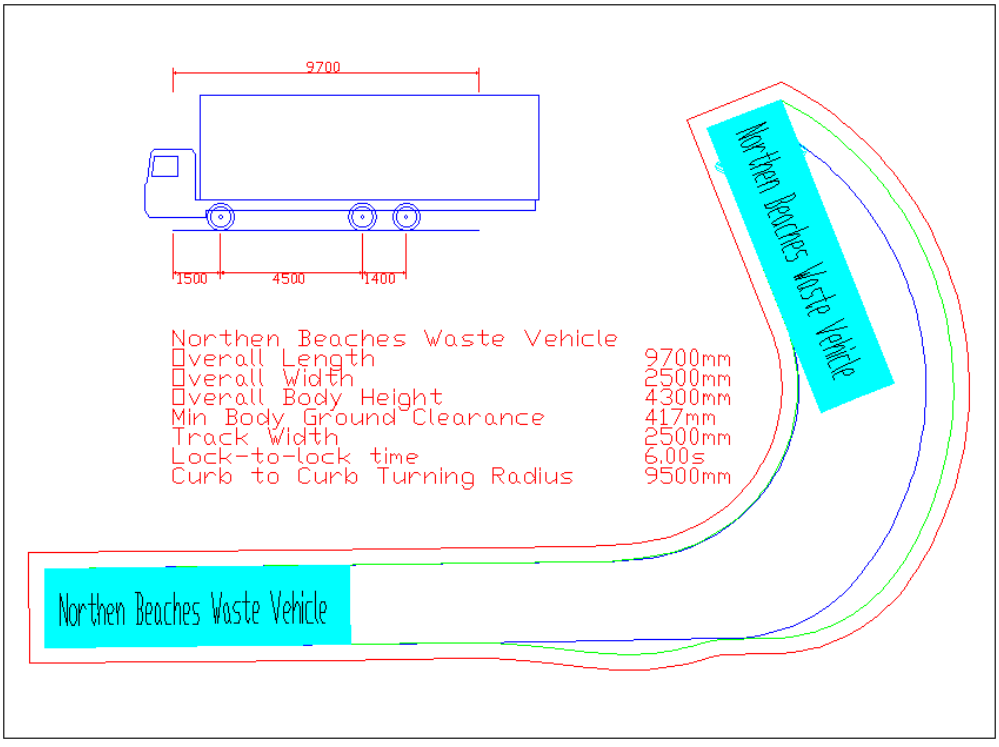


Heavy rigid rear loader compaction vehicle

Photo sourced: from: Better Practice Guide for Waste Management in Multi-unit Dwellings, Department of Environment and Climate Change NSW 2008.

Vehicle	Length	Width	Service height	Travel height	Weight	Turning Circle
Council's waste vehicle	9.7m	2.5m	4.5m	3.9m	22.5t	19m

WASTE COLLECTION VEHICLE SPECIFICATIONS UTILISED



9.7M LENGTH COUNCIL WASTE COLLECTION VEHICLE

Blue – Tyre Path

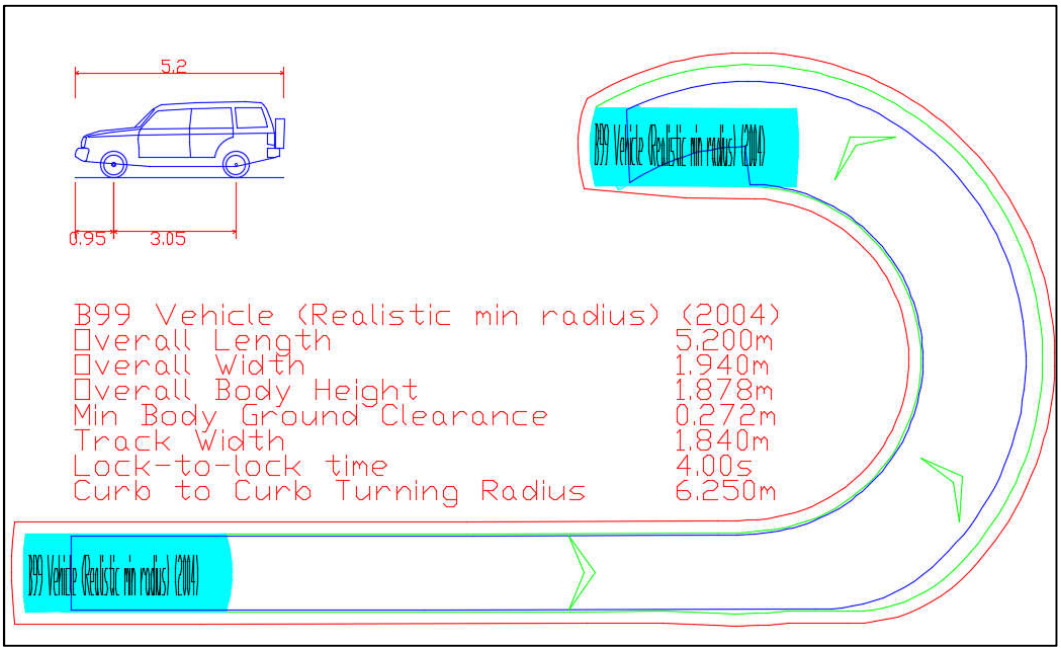
Green – Vehicle Body

Red – 500mm Clearance

All tests performed at 10 km/h forwards on roads and 2.5km/h reverse

ANNEXURE B: SWEPT PATH TESTING

(SHEET 2 OF 3)

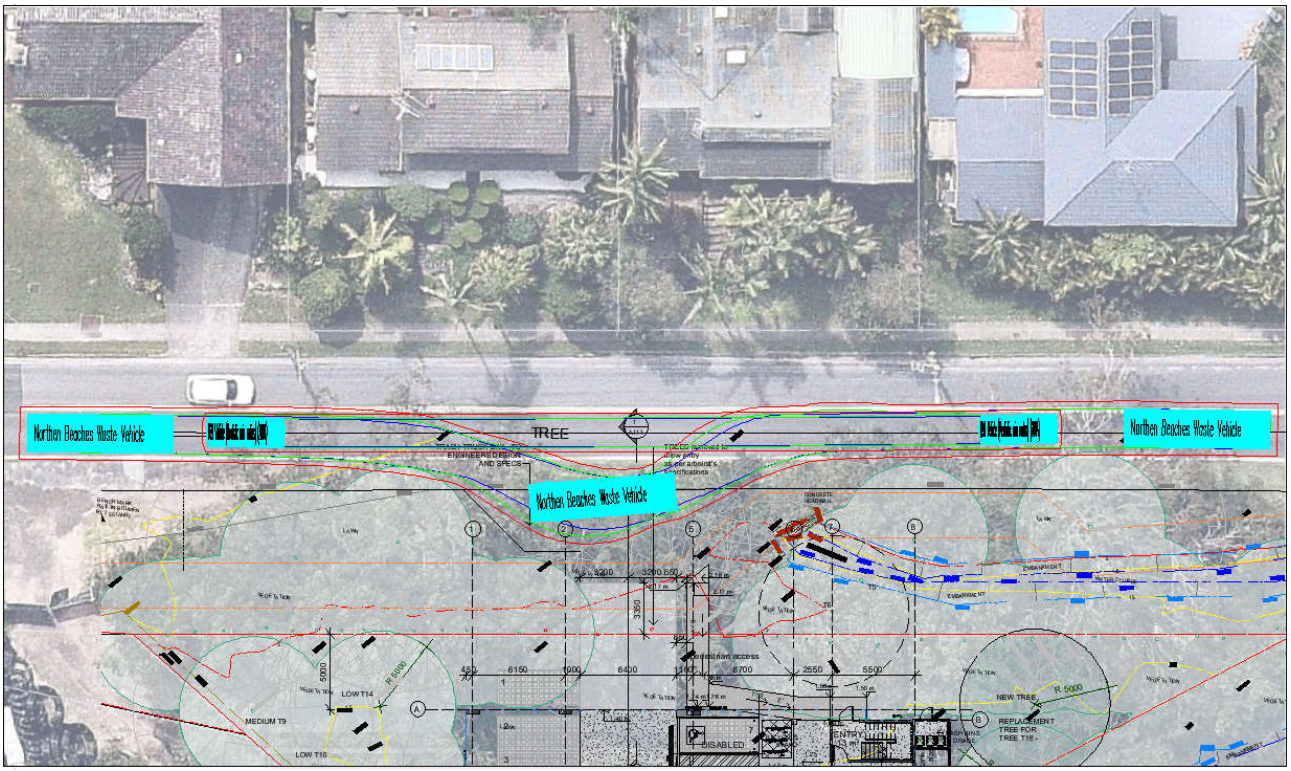


AUSTRALIAN STANDARD 99TH PERCENTILE SIZE VEHICLE (B99)

Blue – Tyre Path
Green – Vehicle Body
Red – 300mm Clearance
All tests performed at 10 km/h forwards on roads and 2.5km/h reverse

ANNEXURE B: SWEPT PATH TESTING

(SHEET 3 OF 3)



WASTE COLLECTION VEHICLE TURNING INTO INDENTED BAY WITH B99 PASSING

Successful