

Lot 201 Gnangara Road, Landsdale

Transport Impact Statement

CW1042900

Prepared for
VV Nominees Pty Ltd

17 May 2022



Contact Information

Cardno (WA) Pty Ltd

ABN 77 009 119 000

11 Harvest Terrace
West Perth WA 6005
Australia

www.cardno.com

www.stantec.com

Phone +61 8 9273 3888

Fax +61 8 9486 8664

Author(s):



Edmond Hoang

Traffic Engineer

Approved By:



Ray Cook

Senior Principal/Manager, Traffic & Transport WA

Document Information

Prepared for	VV Nominees Pty Ltd
Project Name	Transport Impact Statement
File Reference	CW1042900_TR_RP_F
Job Reference	CW1042900
Date	17 May 2022
Version Number	F

Effective Date 17/05/2022

Date Approved 17/05/2022

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
A	17/08/2018	For Issue	EH	SJL
B	29/08/2018	For Issue	EH	SJL
C	19/03/2021	For Issue	EH	SJL
D	25/03/2021	For Issue	EH	SJL
E	31/03/2021	For Issue	EH	SJL
F	17/05/2022	For Issue	DR	SJL

© Cardno. Copyright in the whole and every part of this document belongs to Cardno and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person other than by agreement with Cardno.

This document is produced by Cardno solely for the benefit and use by the client in accordance with the terms of the engagement. Cardno does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by any third party on the content of this document.

Table of Contents

1	Introduction	1
	1.1 Background	1
	1.2 Existing Site	1
	1.3 Surrounding Land Uses	2
	1.4 Existing Road Network	3
	1.5 Traffic Volumes	4
2	Public Transport Facilities	5
	2.1 Existing Public Transport Facilities	5
	2.2 Future Public Transport Facilities	6
3	Pedestrian/Cycle Networks and Facilities	7
	3.1 Existing Pedestrian/Cycle Network Facilities	7
	3.2 Future Pedestrian/Cycle Network Facilities	8
4	Proposed Development	9
	4.1 Proposed Land Uses	9
	4.2 Access Arrangements	9
	4.3 Waste Collection	10
	4.4 Swept Paths	12
	4.5 Development Traffic Generation	15
	4.6 Development Trip Distribution	15
5	Parking	17
	5.1 Parking Requirements	17
	5.2 Parking Management	18
6	Site-Specific Issues	21
	6.1 Crash Data	21
7	Summary	23

Appendices

Appendix A WAPC TRANSPORT STATEMENT CHECKLIST FOR DEVELOPMENT

Appendix B PROPOSED DEVELOPMENT LAYOUT PLANS

Tables

Table 1-1	Road Network Description	3
Table 1-2	Existing Traffic Volumes (two-way)	4
Table 4-1	Trip Generation Rate – Peak hour of Generator	15
Table 4-2	Directional Distribution	15
Table 4-3	Total Trip Generation of the Proposed Development	15
Table 4-4	Peak Hour Trip Distribution	15
Table 5-1	Car Parking Requirements	17
Table 5-2	Car Parking Requirements and Provision	17
Table 6-1	Total Crashes	21
Table 6-2	Intersection Crashes	21
Table 6-3	Midblock Crashes	21

Figures

Figure 1-1	Site Location	1
Figure 1-2	Zoning Map	2
Figure 1-3	East Wanneroo Cell 5 – Agreed Structure Plan No. 7	3
Figure 2-1	Bus Routes 355 and 376	5
Figure 2-2	Bus Stop Locations	6
Figure 3-1	Cycling Network Within the Vicinity of the Site	7
Figure 4-1	Vehicle Access	9
Figure 4-2	Waste Collection Point	10
Figure 4-3	Swept Path Diagram for the Waste Truck	11
Figure 4-4	Swept path for a B99 Vehicle (Basement)	12
Figure 4-5	Swept path for a B99 Vehicle (Basement)	13
Figure 4-6	Swept path for a B99 Vehicle (Ground Floor)	14
Figure 4-7	External Peak Hour Trip Distribution (Excludes residential area)	16
Figure 5-1	Estimated Parking Demand (Total)	18
Figure 5-2	Indicative Parking Allocation Basement	19
Figure 5-3	Indicative Parking Allocation – Ground Floor	20
Figure 6-1	Crash Locations	22

1 Introduction

1.1 Background

Cardno (now Stantec) was commissioned by Urbis, on behalf of VV Nominees Pty Ltd ('the Client'), to prepare a Transport Impact Statement (TIS) to support the proposed development of Lot 3 ('the Site') with uses of Medical Centre and Child Care.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Development (2016)* and the checklist is included at **Appendix A**.

1.2 Existing Site

The Site is at Lot 201 Gngangara Road, Landsdale, as shown in **Figure 1-1**. On the corner of Pollino Gardens, Priest Road and Gngangara Road within the City of Wanneroo.

Figure 1-1 Site Location



Source: Metromap (2022)

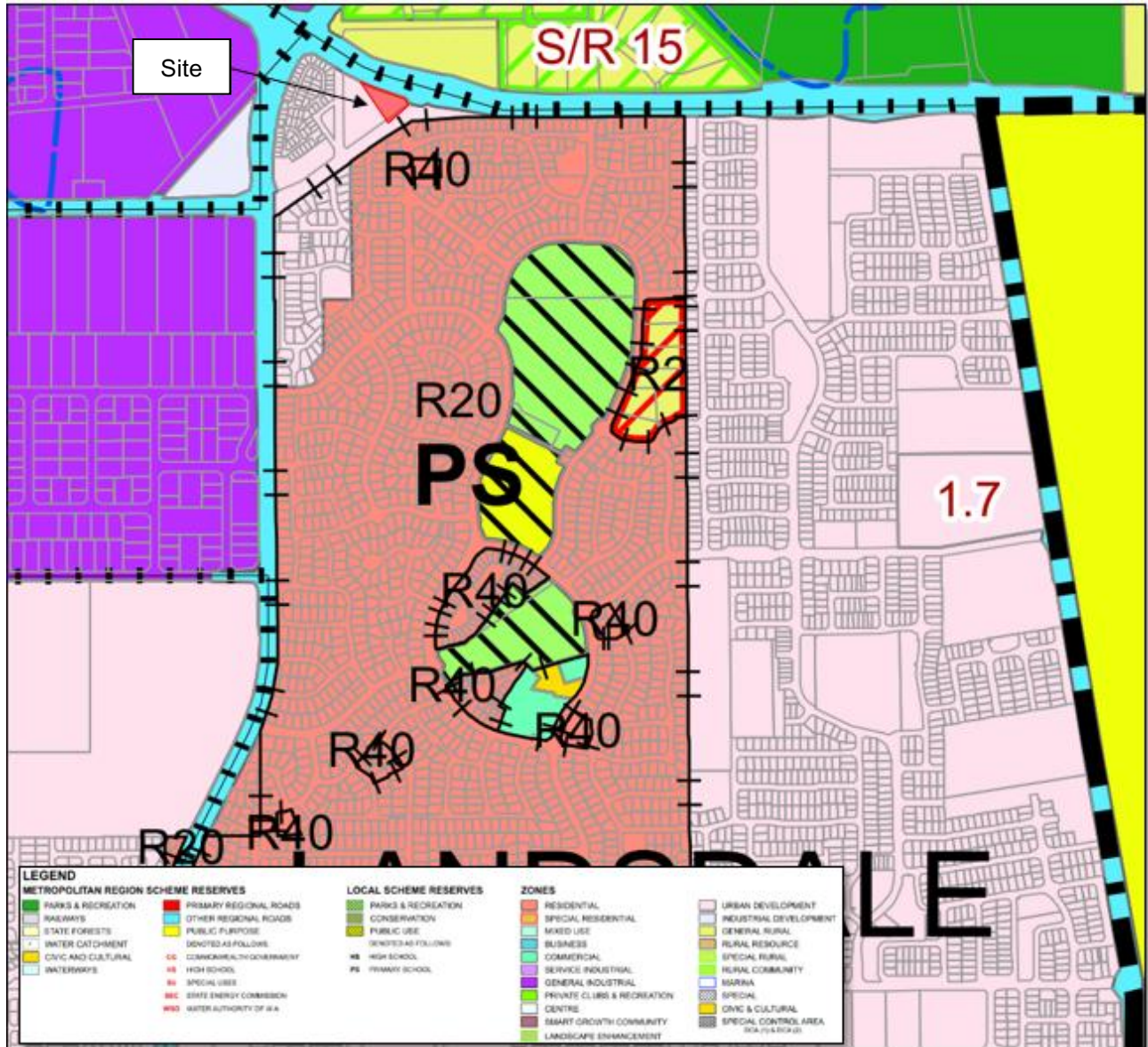
The Site currently consists of vacant land. The surrounding area currently consists of residential developments and some vacant land.

1.3 Surrounding Land Uses

Pursuant to the provision of the City of Wanneroo *District Planning Scheme No. 2 (DPS2)*, the Site is zoned “Urban Development” as shown in **Figure 1-2**. The Site is surrounded by residential land uses to the south, public purpose to the north and urban development to the west.

Additionally, the existing structure plan, *East Wanneroo Cell 5 – Agreed Structure Plan No.7*, classifies the area as ‘R40 Residential’ as shown in **Figure 1-3**.

Figure 1-2 Zoning Map



Source: City of Wanneroo District Planning Scheme Map No. 2

Figure 1-3 East Wanneroo Cell 5 – Agreed Structure Plan No. 7



Source: City of Wanneroo

1.4 Existing Road Network

The surrounding road network is summarised in **Table 1-1**.

Table 1-1 Road Network Description

	Road Hierarchy			Road Network		
	Road Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Width (m)	Posted Speed (km/h)
Gnangara Road	Distributor A	Local Govt.	4	1	31 divided	80
Priest Road	Access Road	Local Govt.	2	1	8.2	50
Pollino Gardens	Access Road	Local Govt.	2	1	6	50
Bakana Loop	Access Road	Local Govt.	2	1	6	50

1.5 Traffic Volumes

Existing traffic volumes were sourced from the City of Wanneroo ("the City") and Main Roads WA (MRWA) Traffic Map. Recent traffic flow data on the local road network is shown in **Table 1-2** below.

Table 1-2 Existing Traffic Volumes (two-way)

Road Name	Date	Average Daily Two-way Traffic Volume	Vehicles per AM Peak Hour	Vehicles per PM Peak Hour
Gngangara Road (west of Alexander Drive)	2021/22	34,432	2,759	3,021
Gngangara Road (west of Mirrabooka Avenue)	2021	37,084	3,393	3,398
Priest Road (South of Valley Views)	2015	400	36 Northbound = 21 Southbound = 15	38 Northbound = 24 Southbound = 14

Source: City of Wanneroo and Main Roads WA

There are no recorded traffic volumes for Pollino Gardens and Bakana Loop available from the City or MRWA; however, it can be expected that existing volumes on these roads would be very low as these roads only provide access to approximately 40 dwellings.

2 Public Transport Facilities

2.1 Existing Public Transport Facilities

The nearest available public transport stops are the bus stops located along Gngangara Road at the frontage of the Site which provides services from Ellenbrook Transfer Station to Whitfords Station. The frequencies of the bus services are as follows:

- > Peak period: 10-15 minutes (Bus 376) and 30 minutes (Bus 355).
- > Off-peak period: 1 hour (Bus 376) and 1 hour (Bus 355).

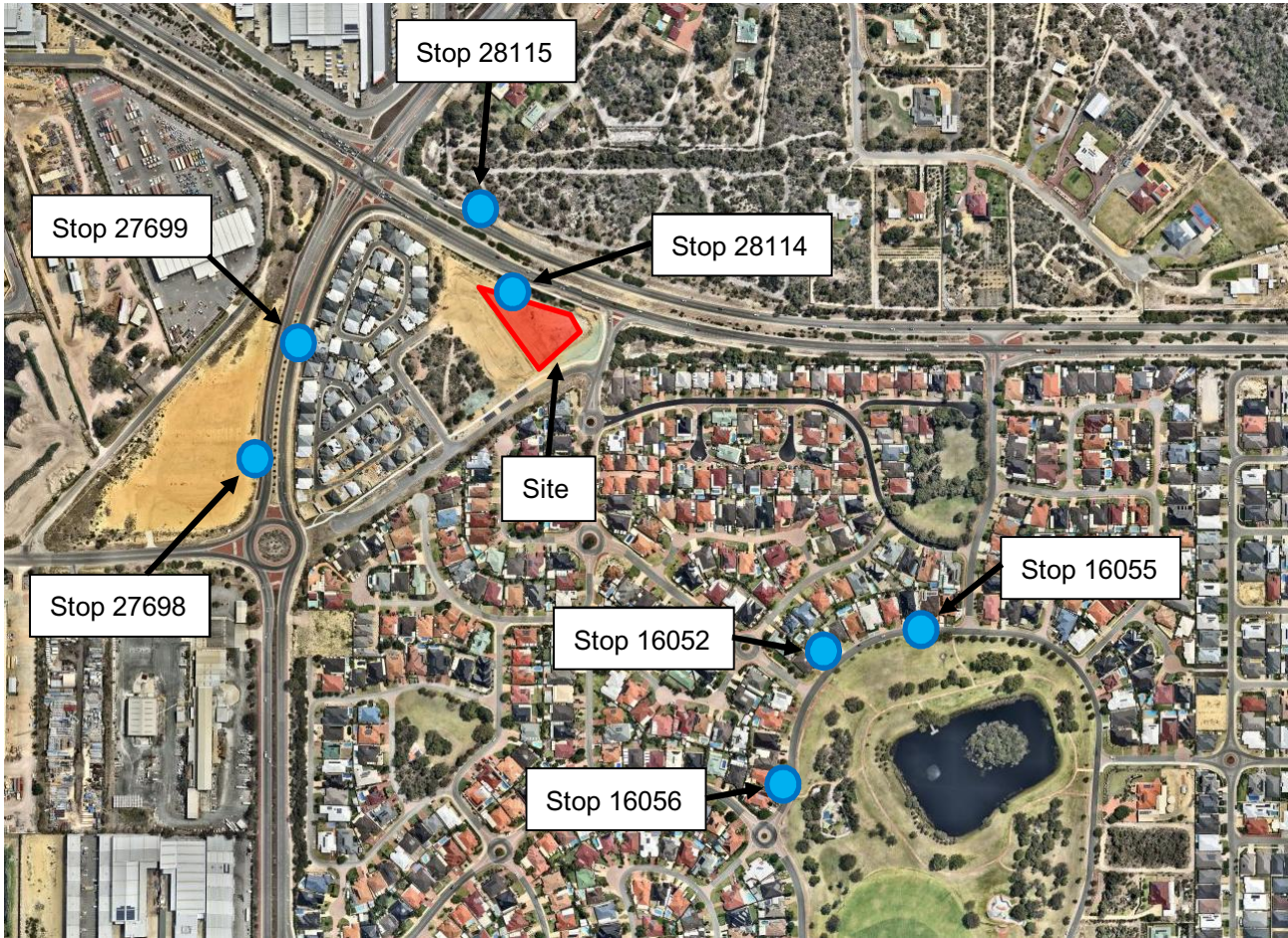
Figure 2-1 shows the bus service routes and **Figure 2-2** shows the location of bus stops near the Site.

Figure 2-1 Bus Routes 355 and 376



Source: Transperth (2022)

Figure 2-2 Bus Stop Locations



Source: Metromap (2022)

2.2 Future Public Transport Facilities

There are currently no new planned changes to the public transport within the area.

3 Pedestrian/Cycle Networks and Facilities

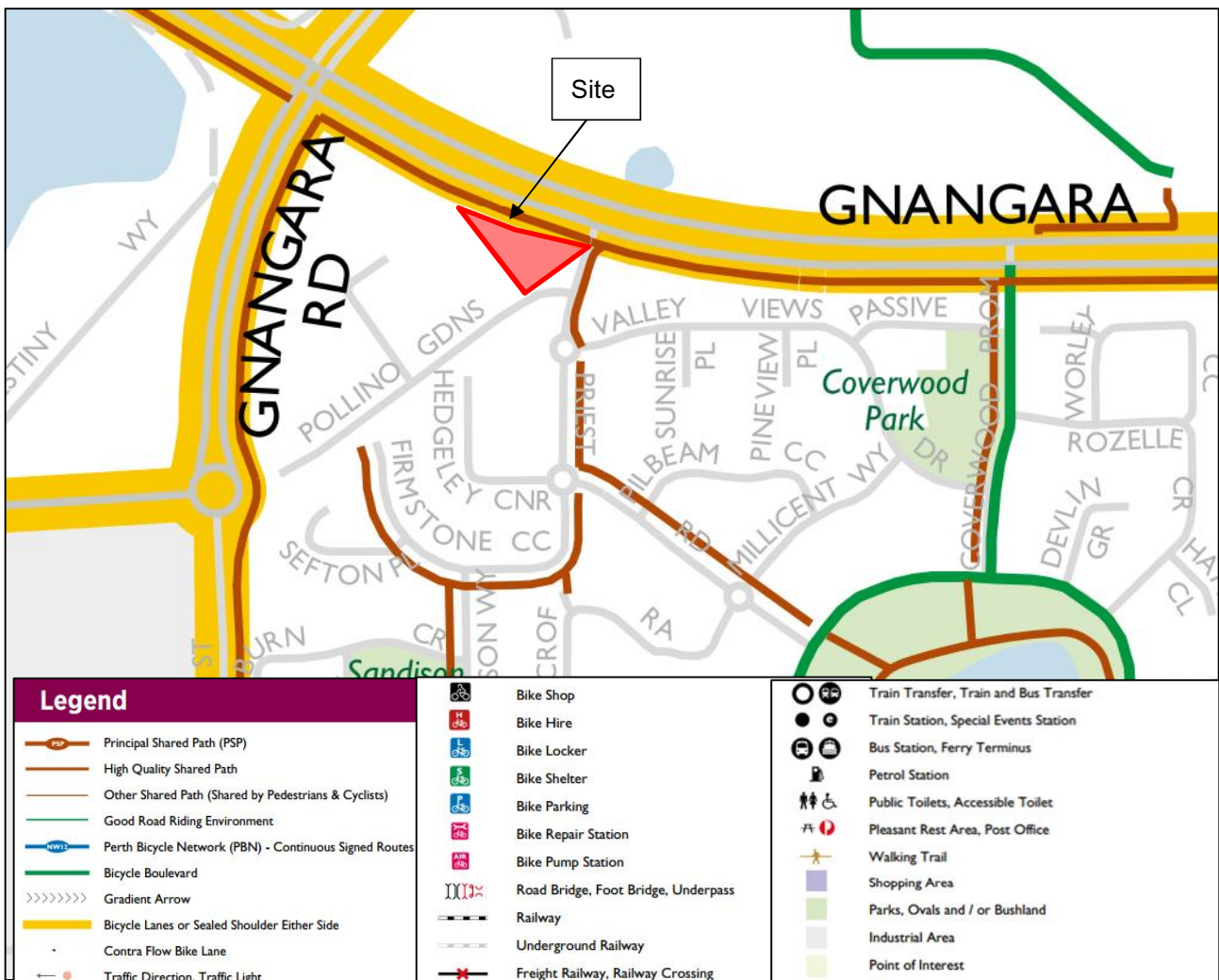
3.1 Existing Pedestrian/Cycle Network Facilities

High quality shared paths are provided on the southern side of Gnangara Road, north side of Pollino Gardens and eastern side of Priest Road as shown on the Department of Transport’s “Joondalup and Stirling Bike Map” (refer **Figure 3-1**). Along Bakana Loop, a wide footpath (approximately 1.8 metres) is present on the eastern side of the road; although this is not shown in the Joondalup Bike Map, it is nevertheless sufficient for shared pedestrian and cyclist usage according to the descriptions in “Liveable Neighbourhoods”, 2009.

“Liveable Neighbourhoods” gives a standard footpath width of 1.5 metres, stating that this “enables two pedestrians to pass with comfort, and enables ease of use by people with prams, wheelchairs and other mobility aids”. As this path is of sufficient width for “ease of use by people with prams, wheelchairs and other mobility aids”, this suggests that cyclists would also be able to use this path, albeit at low speed.

As shown in **Figure 3-1**, the pedestrian and cycle networks provide good connectivity to the surrounding areas around the Site.

Figure 3-1 Cycling Network Within the Vicinity of the Site



Source: Department of Transport WA (2017)

3.2 Future Pedestrian/Cycle Network Facilities

The City of Wanneroo *Cycle Plan 2018/19 – 2021/22* aims to provide a strategic framework in developing recreational, sport and commuter cycling facilities in the future. The following proposed infrastructure improvements are proposed in the Bike Plan:

- > Construct 3m red asphalt shared path along Mirrabooka Avenue from Hepburn Avenue to Gnangara Road (completed)
- > Construct 3m red asphalt shared path along Mirrabooka Avenue from Ocean Reef Road to Gnangara Road (completed).

4 Proposed Development

4.1 Proposed Land Uses

The amended Site proposal consists of mixed-use development which include the following land uses:

- > Child Care (Level 1);
- > Medical Centre (Ground floor);
- > Café (Ground floor); and
- > 40 car parking bays (Basement + 1 ground floor).

Importantly, an additional 20 car parking bays will be proposed along the currently existing verge area of the Site as part of a future development. The concept layout plans for the Site are provided in **Appendix B**.

4.2 Access Arrangements

Pedestrian access will be via the shared path along Pollino Gardens which will connect to the existing shared path at Priest Road and Gngara Road.

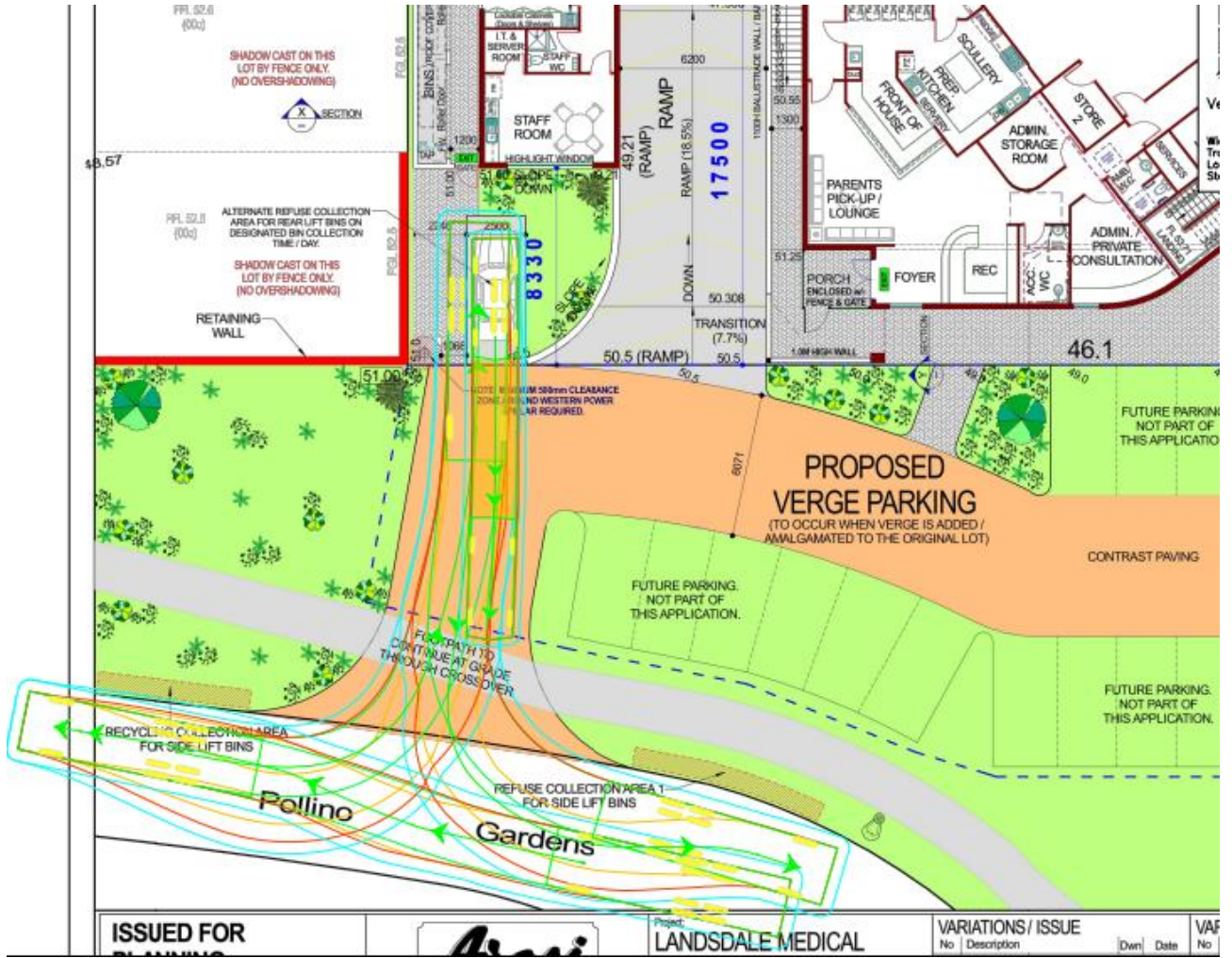
Vehicular access to the Site will also be along Pollino Gardens. **Figure 4-1** shows the location of the Site access.

Figure 4-1 Vehicle Access



Source of base: VV Investments Pty Ltd

Figure 4-3 Swept Path Diagram for the Waste Truck



4.4 Swept Paths

A swept path assessment was conducted for the Site car park at key junctures to ensure that vehicles are capable of manoeuvring in and out of the car park without issues. A standard B99 vehicle was used for the swept path movements shown in **Figure 4-4**, **Figure 4-5** and **Figure 4-6**.

Figure 4-4 Swept path for a B99 Vehicle (Basement)

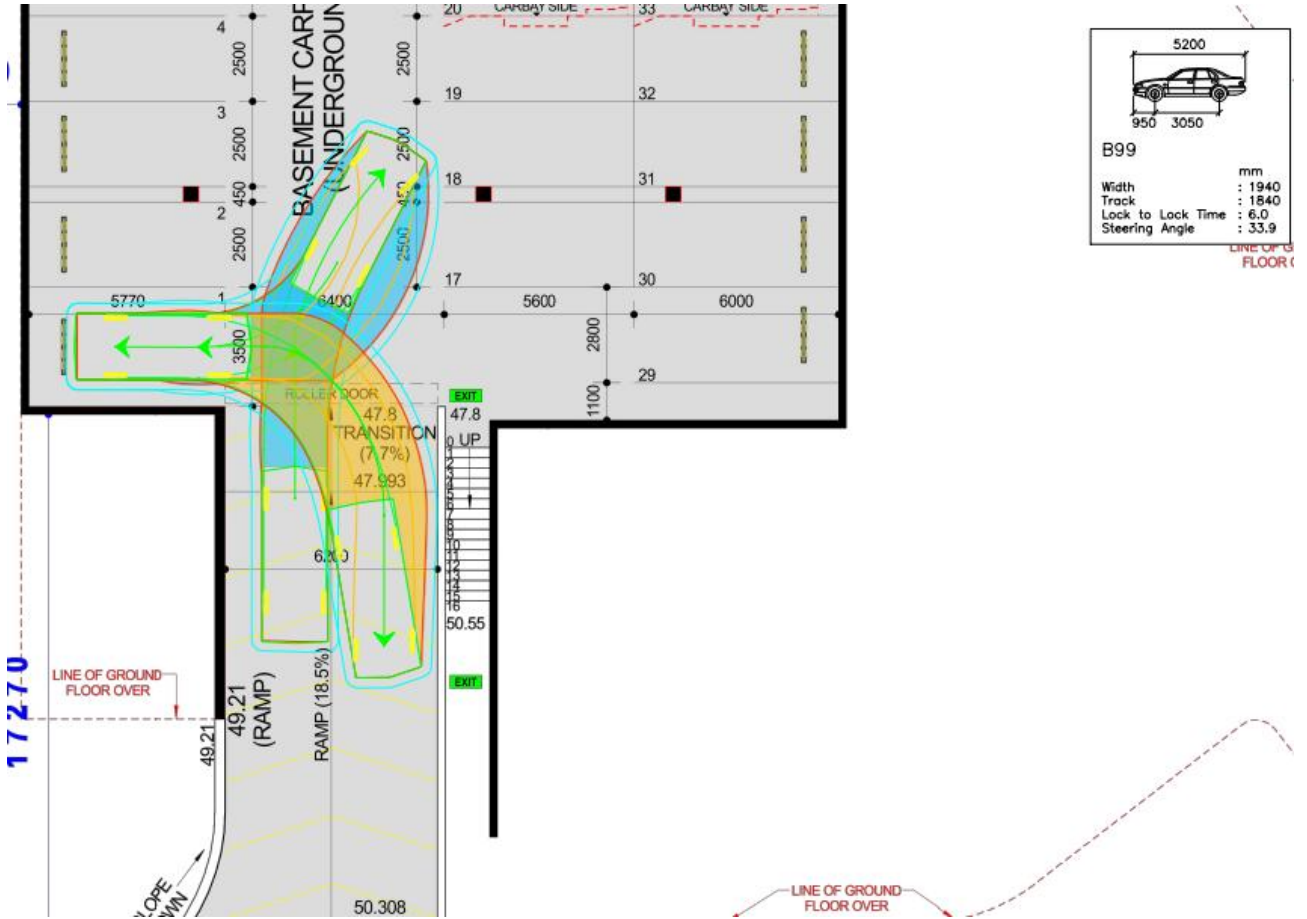


Figure 4-5 Swept path for a B99 Vehicle (Basement)

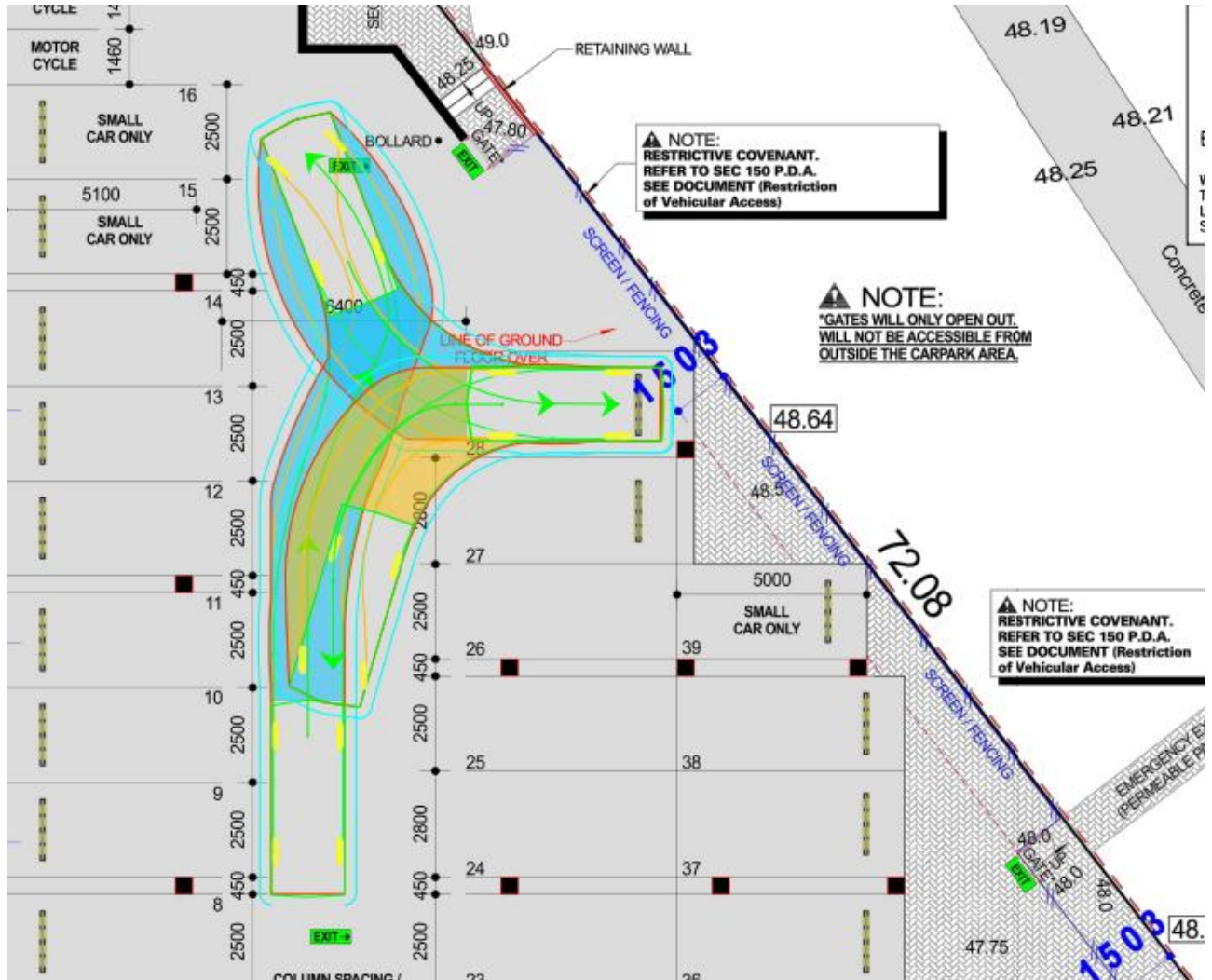
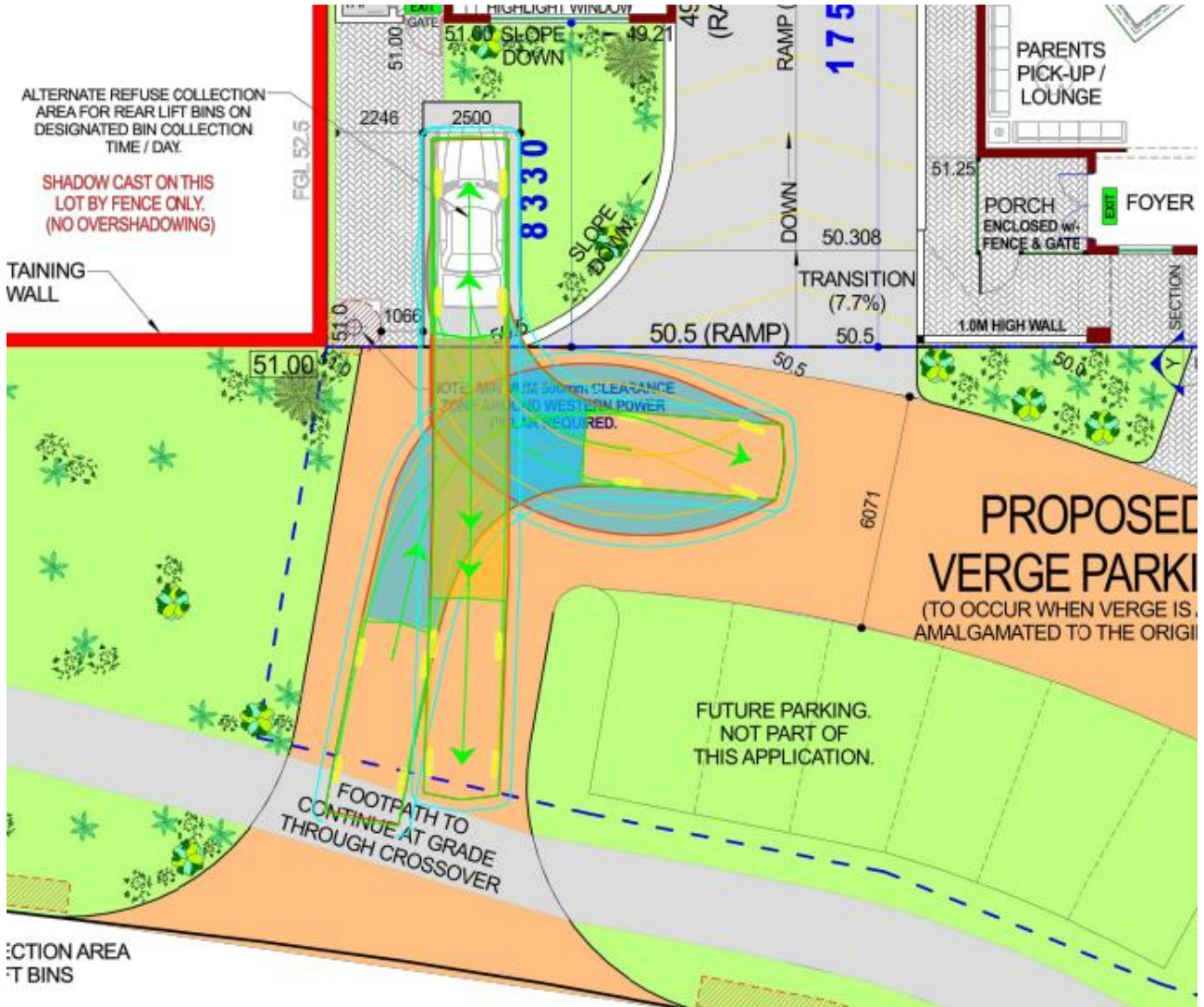


Figure 4-6 Swept path for a B99 Vehicle (Ground Floor)



4.5 Development Traffic Generation

Trip generation has been calculated for the Site, utilising trip generation rates from the *Institute of Transportation Engineers (ITE) "Trip Generation" 10th Ed* and the *RTA Guide to Traffic Generating Developments*. **Table 4-1** shows the trip generation rates, **Table 4-2** shows the directional distribution and **Table 4-3** presents the resultant potential trip generation of the proposed development.

Table 4-1 Trip Generation Rate – Peak hour of Generator

Land Use	ITE Code/Source	AM Peak	PM Peak
Child Care	RTA	0.8 trips per child	0.3 trips per child
Medical Centre	ITE	5.62 trips per 100m ²	4.99 trips per 100m ²
Café	WAPC	2.5 trips per 100m ²	10 trips per 100m ²

Table 4-2 Directional Distribution

Land Use	AM Peak		PM Peak	
	In	Out	In	Out
Child Care	50%	50%	50%	50%
Medical Centre	58%	42%	46%	54%
Cafe	80%	20%	50%	50%

Table 4-3 Total Trip Generation of the Proposed Development

Land Use	AM Peak		PM Peak	
	In	Out	In	Out
Child Care	40	40	14	14
Medical Centre	8	6	6	7
Café	2	1	5	5
Total	50	47	25	26

The proposed development represents a trip generation of approximately 97 vehicles in the AM peak and 51 vehicles in the PM peak hour. It should be noted that this trip generation is considered to be conservative and actual trip generation could be lower. Walking trips from the surrounding residential catchment will also be common for both the medical centre and childcare, which will lower the number of car trips even more.

As the Site is proposed to be “mixed use”, the traffic generated will be higher when compared to the potential traffic generated by residential uses. However, despite higher volumes, the traffic impact on the surrounding road network will be minimal.

The Site will also have reasonable access to public transport, as well as access to shared paths.

4.6 Development Trip Distribution

As Pollino Gardens is the only road connected to the wider surrounding road network, it is expected that all inbound and outbound traffic will be through this road. From Pollino Garden, a majority of the Site generated trips are most likely to travel north to Gngara Road.

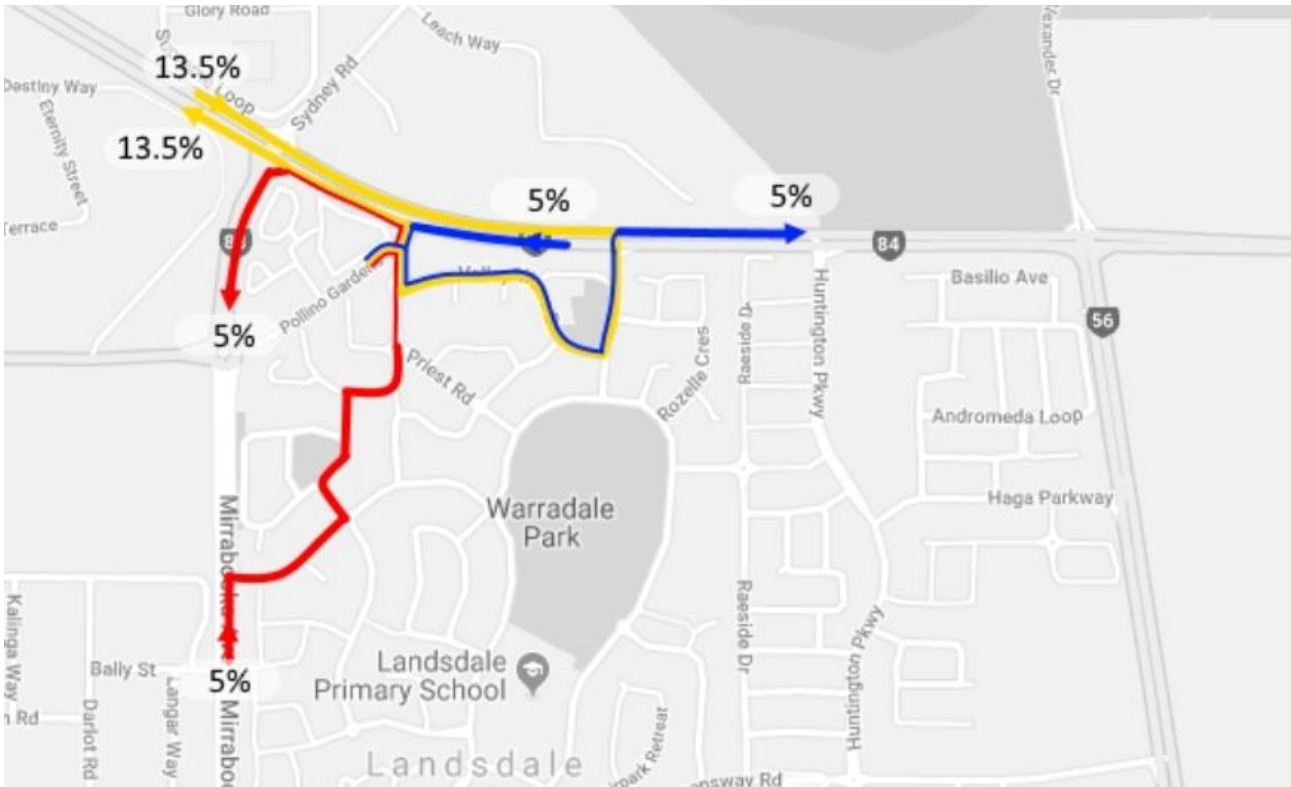
A peak hour distribution has been determined, based on an economic needs assessment of the surrounding catchment as detailed in **Table 4-4**.

Table 4-4 Peak Hour Trip Distribution

Origin/Destination	Proportion of Demand
Residential Area	53%
Wangara Industrial Estate	27%
Ocean Reef Road passing trade	10%
Gngara Road passing trade	10%

This trip distribution is graphically illustrated in **Figure 4-7**.

Figure 4-7 External Peak Hour Trip Distribution (Excludes residential area)



The demand generated from within the residential area (53% of vehicles approaching the site) can be assumed to be redirected from other destinations and therefore does not represent a net increase of traffic on local streets. Therefore, vehicle movements associated with external road network represents only 46 vph (being 25 movements in, and 21 movements out) during the AM peak, and 24vph (being 13 movements in, and 11 movements out) during the PM peak.

Due to the configuration of the local road network (left in, left out onto Gngangara Road), access to and egress from will be distributed asymmetrically (that is, for either the ingress or egress there is no need to pass through the residential area). This will significantly reduce the number of trips on the local road network, as half of vehicle movements do not pass through the residential area.

Based on this assessment, the traffic generated by the development that will pass through the residential area is equivalent to 23 trips in the AM peak and 12 trips during the PM peak.

The existing road network has more than sufficient capacity to accommodate this increase in trips and will have negligible impact on residential amenity. As such, the proposed development is considered to be appropriate from a traffic perspective.

5 Parking

5.1 Parking Requirements

The car parking provision required for the Site is set out in the City of Wanneroo's District Planning Scheme No.2 and the Local Planning Policy 2.3 Child Care Centres which are summarised in **Table 5-1**.

Table 5-1 Car Parking Requirements

Land Use	Car Parking Requirements
Child Care	9 bays plus 1 per 8 children accommodated in excess of 54, including 1 bay per staff member
Medical Centre	5 per practitioner
Restaurant (café)	1 per 4 people accommodated

Table 5-2 summarises the parking provision and requirements for the Site.

Table 5-2 Car Parking Requirements and Provision

Land Use	Car Parking Requirements	Car Parking Provision
Child Care	35 bays	
Medical Centre	25 bays	
Restaurant (café)	8 bays	
Total	68 bays	40 bays

* Assuming 5 medical practitioners

** Assuming a maximum of 100 children and 20 staff

*** Assuming 32 people accommodated

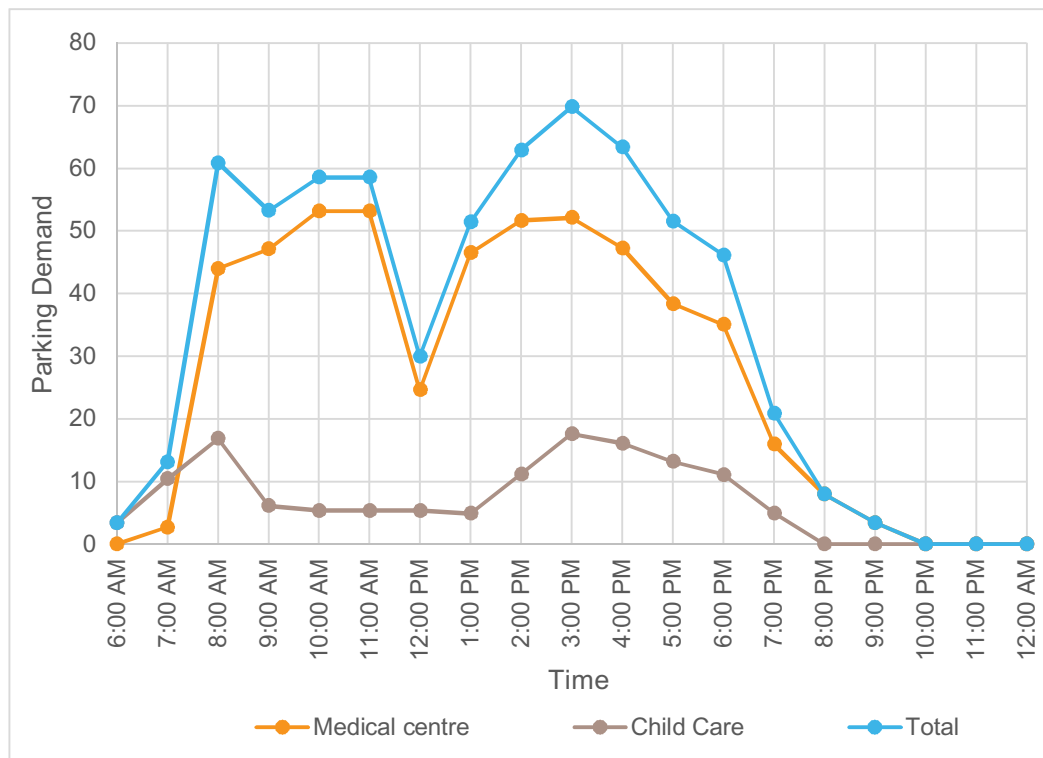
The Site proposes 40 car parking bays and 2 motorcycle bays. Based on the statutory requirements above, there is a 28 car parking bay shortfall.

A parking demand analysis was conducted using Cardno's in-house parking model with the results shown in **Figure 5-1**. With respect to the model the following calibrations were made:

- > The policy parking rate is indicative of the demand, that is, the peak parking demand determined by the model is set by the statutory requirements summarised in **Table 5-2**.
- > Regarding the demand for the medical centre, a parking occupancy survey previously conducted for the Craigie Medical and Dental Centre was used as a baseline. Based on 12 medical/specialists staff, the peak parking demand for this development was 53 vehicles which is equivalent to a demand rate of 4.42 bays per practitioner.
- > For the purpose of a robust assessment, no walk-ins for the clinic are assumed. Given that the surrounding area of the development consists mostly of residential dwellings, walk-ins are likely to be common by locals who live nearby.
- > It is assumed that there is no shared parking or reciprocity occurring between the medical centre and child care. In reality, there will be a small degree multi-purpose trip chaining (e.g. a parent may drop-off their child at the child care and visit the medical centre afterwards).

Parking demand profiles were generated using the ITE data to show parking requirements for each use throughout the day. The profile were then stacked to show peak demand for parking within the Site.

Figure 5-1 Estimated Parking Demand (Total)



The peak demand (blue line) is approximately 70 vehicles and occurs during the afternoon. Note that this demand is likely to be lower due to the following:

- > Regarding the child care, parents are likely to do a quick drop-off/pick-up resulting in a higher parking turnover during these periods.
- > Walk-in are likely to be common by local residents due its proximity.

Overall, the proposed parking supply should be sufficient to accommodate the estimated demand.

In addition, there are a further 18 existing on street parking bays within 200m west of the site that could provide supplementary parking during peak activity if required. It is our experience through observation in comparable circumstances that some users will develop a preference for using the on-street car bays, as this will provide a convenient access particularly for those who combine the use with the park. On this basis the shortfall of parking on-site will be effectively eliminated.

5.2 Parking Management

Figure 5-2 and Figure 5-3 shows the indicative parking allocation for the Site and summarised as follows:

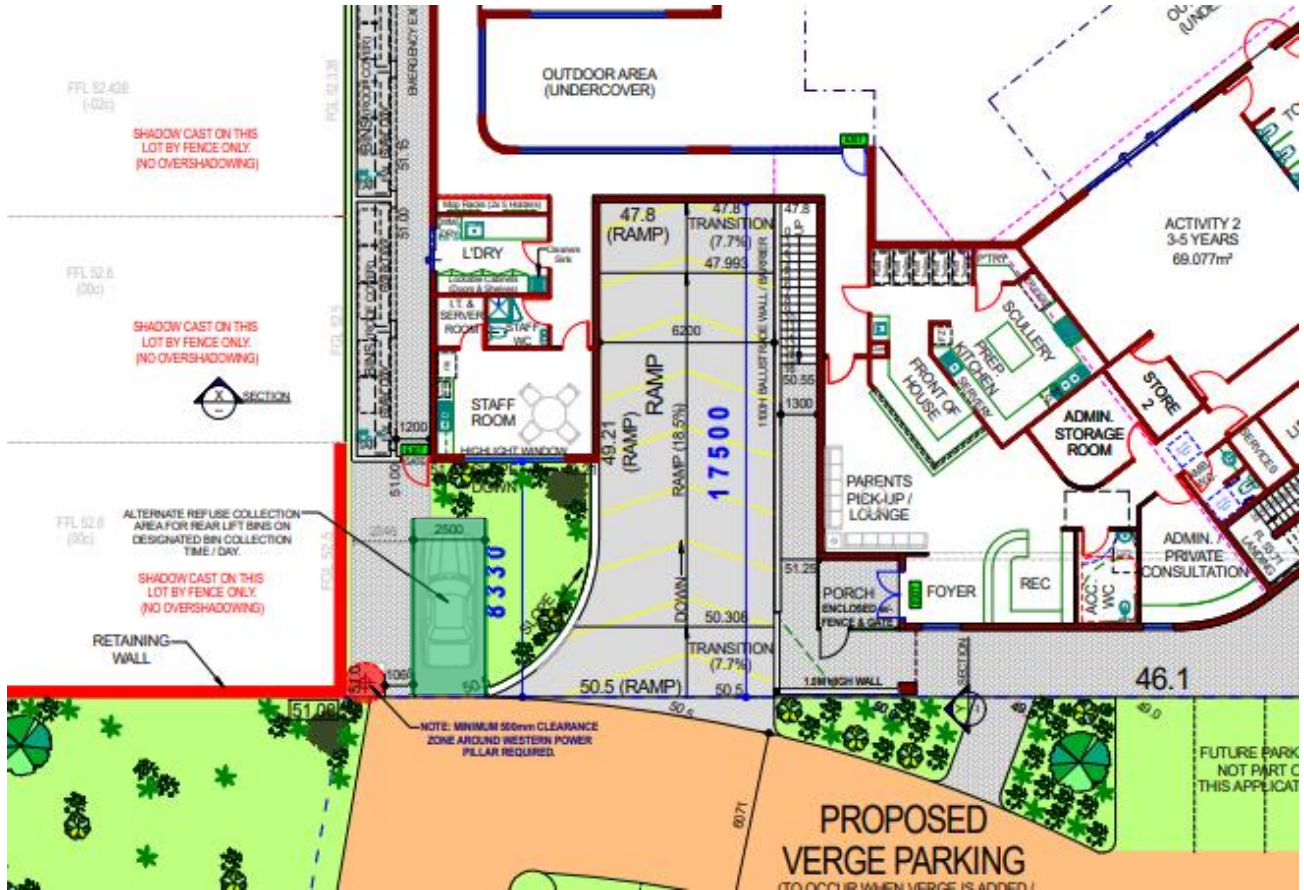
- > 6 bays allocated to the medical centre staff;
- > 20 bays allocated to the child care staff and café staff;
- > 14 bays allocated to visitors shared between the three land uses; and
- > 2 motor cycle bays allocated to visitors shared between the three land uses.

Staff are likely to park for long periods which makes the use of tandem bays ideal for these users. The low turnover rate as well as the knowledge of which staff is parked in each bay ensures that the management of these bays are seamless with a very low chance of vehicles being “blocked in” as the staff member parked on the aisle bay can be sought out and asked to move their vehicle in the rare instance that this would be required.

Parking for the medical centre and child care visitors will be shared. It is expected that the child care will have a high degree of pick-up/drop-offs resulting a short parking duration and a high parking turnover rate.

It is assumed that the café visitors will likely be visitors/staff of the medical centre/child care centre. Therefore, visitor parking will be shared across all three uses.

Figure 5-3 Indicative Parking Allocation – Ground Floor



LEGEND	
BLUE	Medical Centre Staff Parking
GREEN	Child Care Staff Parking/Café Parking
ORANGE	Visitor Parking

6 Site-Specific Issues

6.1 Crash Data

A crash assessment for the surrounding road network of the Site has been conducted using the *Main Roads WA Reporting Centre* information summarised in **Table 6-1**, **Table 6-2** and **Table 6-3**.

Table 6-1 Total Crashes

TOTAL CRASHES						
Type of Crash (RUM Code)	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Rear End	-	-	11	23	9	43
Right Angle	-	2	1	-	2	5
Sideswipe Same Direction	-	-	1	1	2	4
Right Turn Thru	-	-	-	2	-	2
Total	-	2	13	26	13	54

Table 6-2 Intersection Crashes

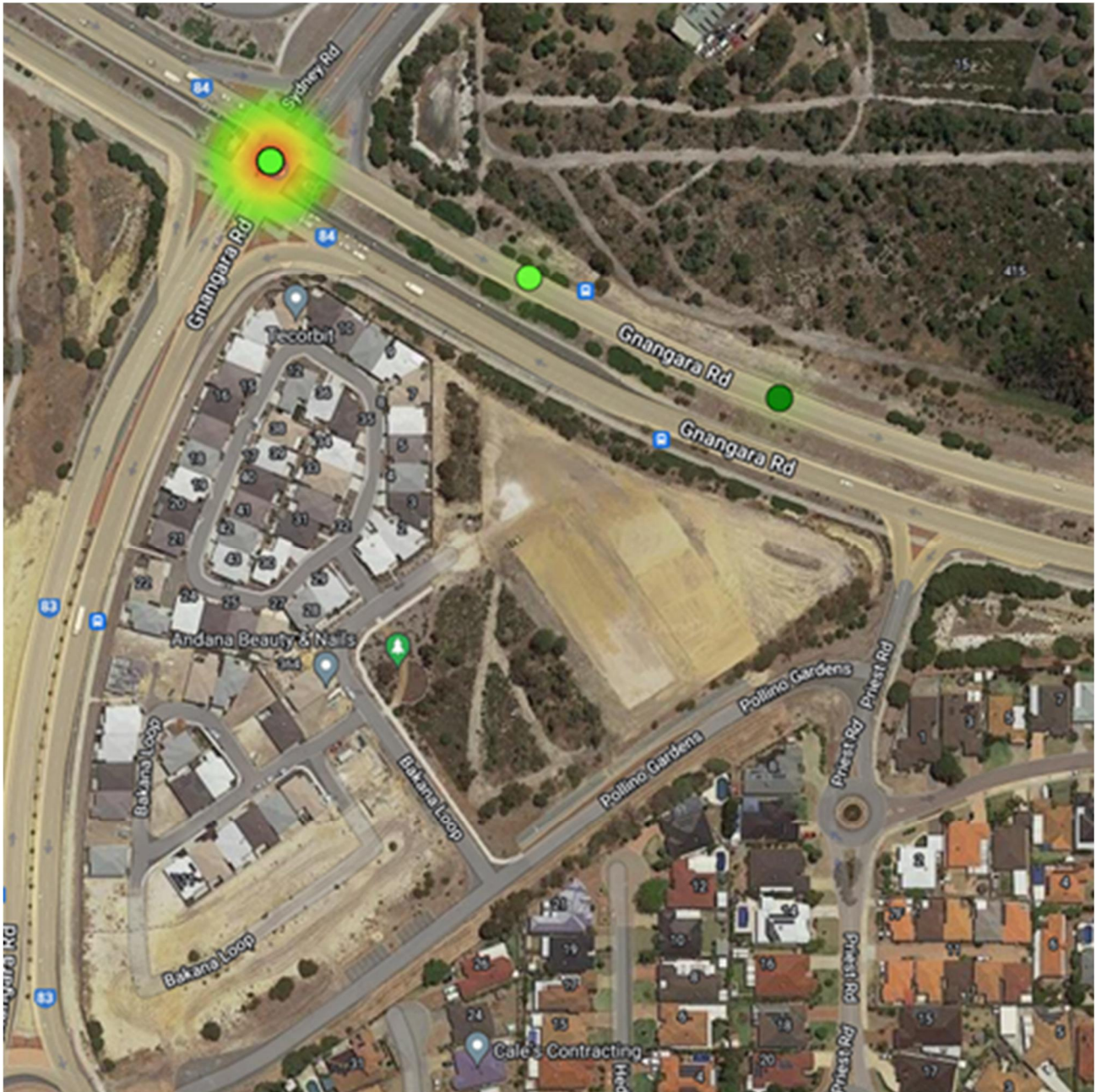
INTERSECTION CRASHES						
Type of Crash (RUM Code)	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Rear End	-	-	11	22	9	42
Right Angle	-	2	1	-	2	5
Sideswipe Same Direction	-	-	1	1	1	3
Right Turn Thru	-	-	-	2	-	2
Total	-	2	13	25	12	52

Table 6-3 Midblock Crashes

MIDBLOCK CRASHES						
Type of Crash (RUM Code)	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Sideswipe Same Direction	-	-	-	-	1	1
Rear End	-	-	-	1	-	1
Total	-	-	-	1	1	2

Figure 6-1 shows the crash locations and their intensity along Gnangara Road and Sydney Road.

Figure 6-1 Crash Locations



Source: Main Roads WA

A summary of the crash data is as follows:

- > A total of 54 crashes were recorded in proximity to the Site;
- > No fatal crashes were recorded;
- > Majority of the crashes recorded resulted in major property damage; and
- > The majority of crashes recorded were as a result of a rear end crash at the intersection of Gngangara Road and Sydney Road.

It is unlikely that the Site will cause any material impact to traffic safety of the surrounding road network.

7 Summary

This Transport Impact Statement outlines the transport aspects of the proposed development focusing on traffic operations, loading vehicle operations, access and car parking. Discussions regarding pedestrian, cycle, and public transport considerations are also provided.

This statement has been prepared in accordance with the WAPC *Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)*.

The following conclusions are made in regards to the proposed development:

- > The nearest bus stop is on the Site frontage on Gngangara Road. Overall the public transport amenity within the area is considered to be satisfactory;
- > The Site benefits from good pedestrian and cycling infrastructure with wide pedestrian footpaths and good shared paths within the surrounding area;
- > The Site will generate approximately 97 vehicles during the peak AM period and 51 vehicles during the peak PM period. This is considered to be a conservative estimate due to the high level of multi-purpose trips expected for the Site. The proposed amendment to include additional uses of Medical Centre and Pharmacy is likely to generate higher traffic volumes when compared to residential uses. However, despite higher volumes, the traffic impact on the surrounding network will be minimal; and
- > The on-site car parking provision falls short of the statutory requirements. However, when considering the parking demand profiles, the total parking demand is likely to be reduced to below the proposed supply within the Site.

Overall, the Site is anticipated to have no material impact on the surrounding road network and no material impact on the surrounding amenity.

Transport Impact Statement

APPENDIX

A

WAPC TRANSPORT STATEMENT
CHECKLIST FOR DEVELOPMENT

WAPC Checklist for a Transport Statement, Individual Development, August 2016

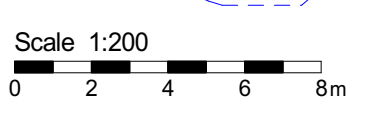
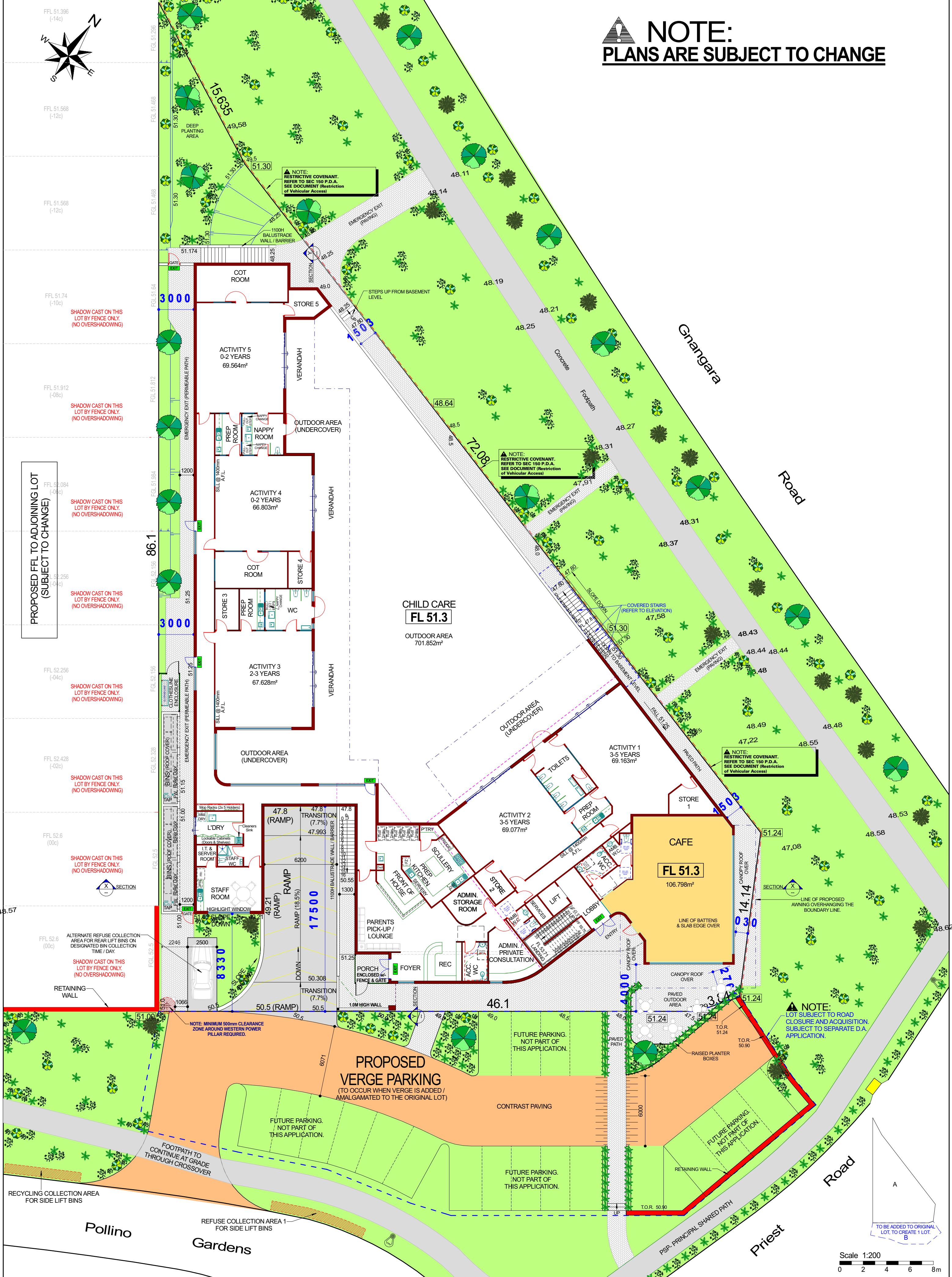
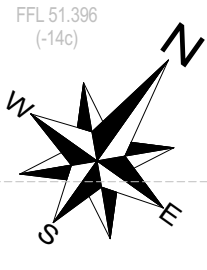
Item	Status	Comments/Proposals
Proposed subdivision		
proposed land use	Section 4	
existing land uses	Section 1	
context with surrounds	Section 1	
Vehicular access and parking		
access arrangements	Section 4	
public, private, disabled parking set down / pick up	N/A	
Service vehicles (non-residential)		
access arrangements	Section 4	
on/off-site loading facilities	N/A	
Service vehicles (residential)		
Rubbish collection and emergency vehicle access	N/A	
Hours of operation (non-residential only)		
	N/A	
Traffic volumes		
daily or peak traffic volumes	Section 1	
type of vehicles (e.g. cars, trucks)	Section 1	
Traffic management on frontage streets		
	Section 1	
Public transport access		
nearest bus/train routes	Section 2	
nearest bus stops/train stations	Section 2	
pedestrian/cycle links to bus stops/train station	Section 2 and 3	
Pedestrian access/facilities		
existing pedestrian facilities within the development (if any)	Section 3	
proposed pedestrian facilities within development	Section 3	
existing pedestrian facilities on surrounding roads	Section 3	
proposals to improve pedestrian access	Section 3	
Cycle access/facilities		
existing cycle facilities within the development (if any)	Section 3	
proposed cycle facilities within the development	Section 3	
existing cycle facilities on surrounding roads	Section 3	
proposals to improve cycle access	Section 3	
Site specific issues		
	Section 6	
Safety issues		
identify issues	Section 6	
remedial measures	N/A	

APPENDIX

B

PROPOSED DEVELOPMENT LAYOUT
PLANS

NOTE:
PLANS ARE SUBJECT TO CHANGE



ISSUED FOR PLANNING AMENDMENT



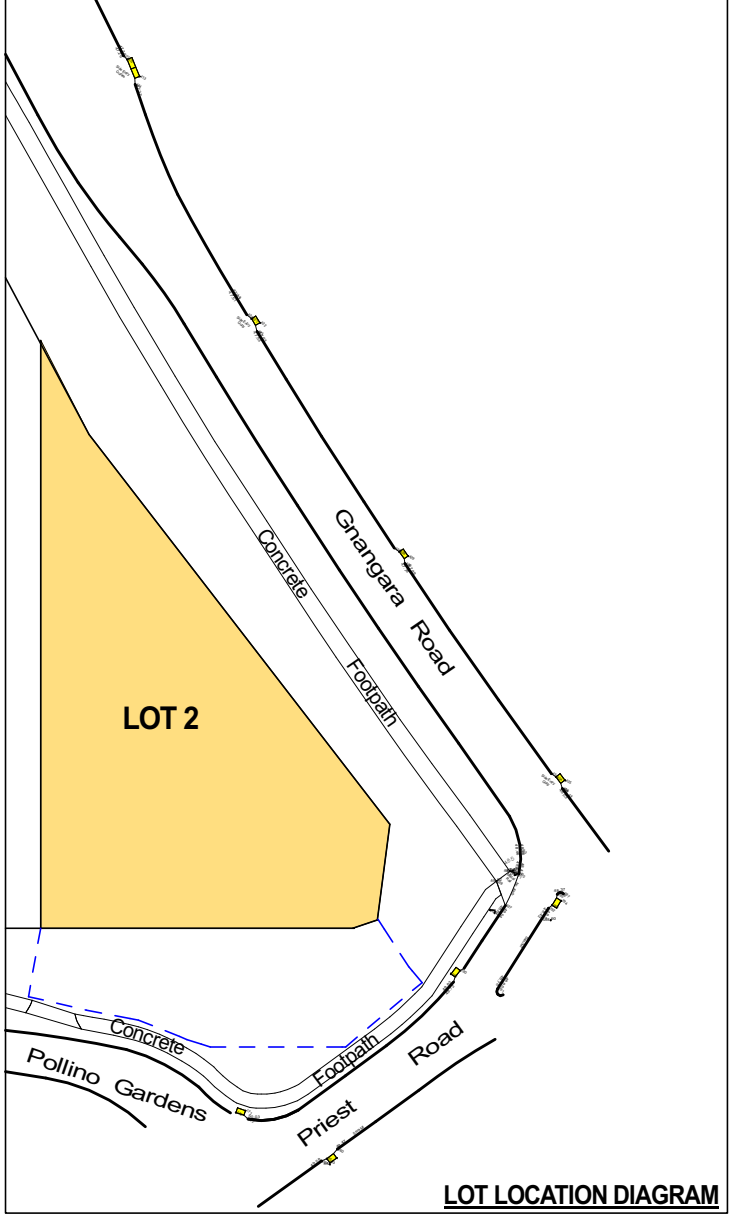
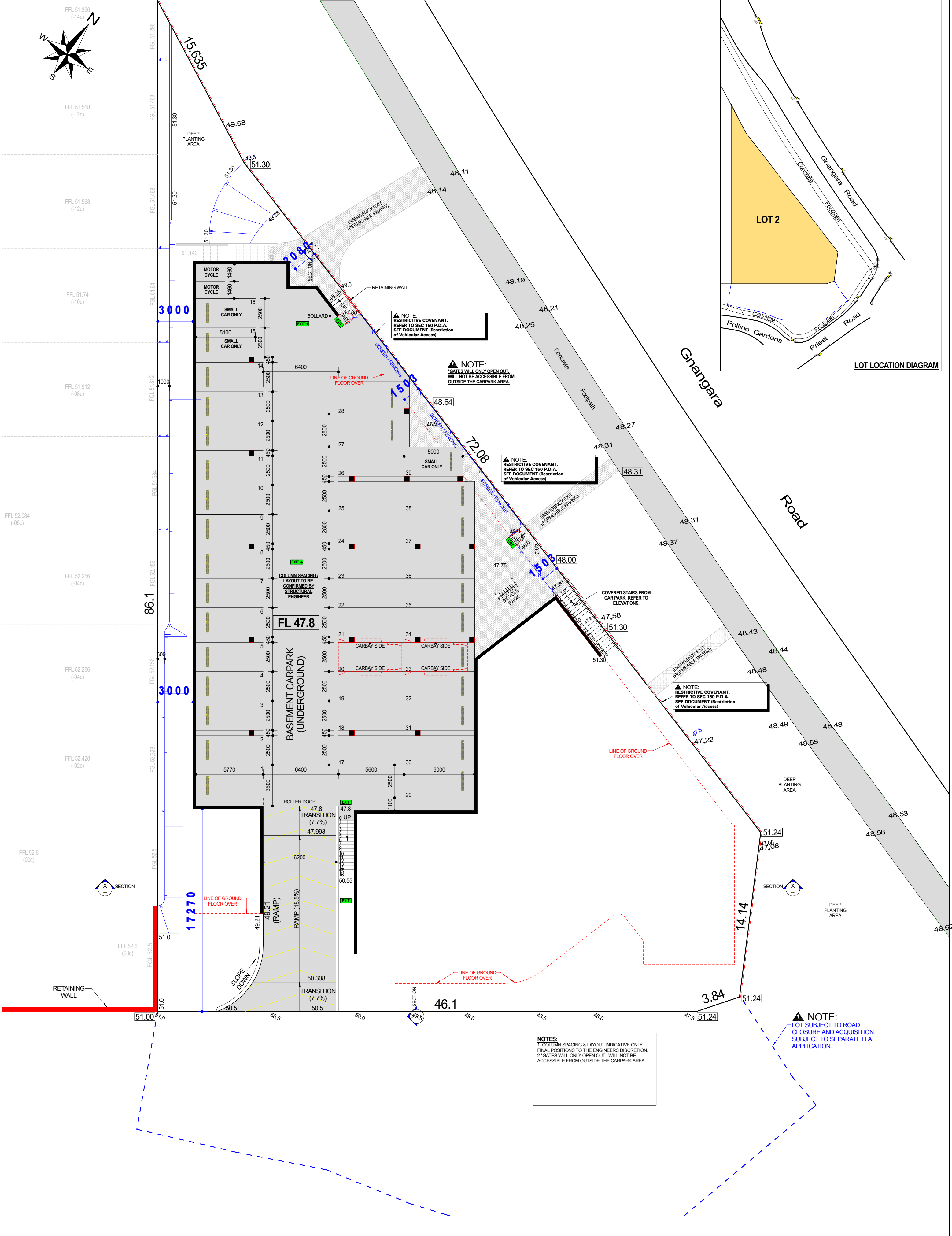
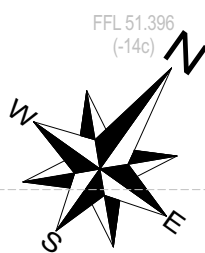
Project: **LANDSDALE MEDICAL**
New residence on: **Lot 2 (#42) POLLINO GARDENS LANDSDALE**

VARIATIONS / ISSUE			
No	Description	Dwn	Date
1	REV 1 - FOR DISCUSSION & FEEDBACK		
2	REV 2 - FOR DISCUSSION & FEEDBACK		
3	REV 3 - APPROVED REVISIONS		
4	ISSUE 1 - PRELIMINARY PLANS 17/12/2021		
5	AMENDED PLANNING 02/02/2022		

VARIATIONS / ISSUE			
No	Description	Dwn	Date

VARIATIONS / ISSUE			
No	Description	Dwn	Date

GROUND FLOOR - CHILD CARE		
JOB No.	SCALE	SHEET SIZE
15039	1:200	A2
SHEET No.	Arasi Constructions Pty Ltd	Rev.
2 of 7	© COPYRIGHT	8



FFL 51.396 (-14c)
 FFL 51.568 (-12c)
 FFL 51.568 (-12c)
 FFL 51.74 (-10c)
 FFL 51.912 (-08c)
 FFL 52.084 (-06c)
 FFL 52.256 (-04c)
 FFL 52.256 (-04c)
 FFL 52.428 (-02c)
 FFL 52.6 (00c)
 FFL 52.6 (00c)

NOTE:
 PLANS ARE SUBJECT TO CHANGE

Scale 1:200
 0 2 4 6 8m

ISSUED FOR PLANNING AMENDMENT



Project: **LANDSDALE MEDICAL**
 New residence on:
Lot 2 (#42) POLLINO GARDENS LANDSDALE

VARIATIONS / ISSUE			
No	Description	Dwn	Date
1	REV 1 - FOR DISCUSSION & FEEDBACK		
2	REV 2 - FOR DISCUSSION & FEEDBACK		
3	REV 3 - APPROVED REVISIONS		
4	ISSUE 1 - PRELIMINARY PLANS 17/12/2021		
5	AMENDED PLANNING 02/02/2022		

VARIATIONS / ISSUE			
No	Description	Dwn	Date

VARIATIONS / ISSUE			
No	Description	Dwn	Date

BASEMENT			SCALE 1:200
JOB No.	15039	COMMERCIAL	SHEET SIZE A2
SHEET No.	1 of 7	Arasi Constructions Pty Ltd	Rev. 8
© COPYRIGHT			

NOTES:
 1. COLUMN SPACING & LAYOUT INDICATIVE ONLY. FINAL POSITIONS TO THE ENGINEER'S DISCRETION.
 2. GATES WILL ONLY OPEN OUT. WILL NOT BE ACCESSIBLE FROM OUTSIDE THE CARPARK AREA.

NOTE:
 LOT SUBJECT TO ROAD CLOSURE AND ACQUISITION. SUBJECT TO SEPARATE D.A. APPLICATION.

About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Contact

11 Harvest Terrace
West Perth WA 6005
Australia

Phone +61 8 9273 3888
Fax +61 8 9486 8664

Web Address
www.cardno.com
www.stantec.com

