Engineering a better future for over 20 years!

Proposed Childcare Centre

Lot 341 Rathmines Street, Clarkson

Transport Impact Statement

PREPARED FOR:
Accord Property

September 2023

Document history and status

Author	Revision	Approved by	Date approved	Revision type
A Navarro	r01	R White	18/09/23	Draft
A Navarro	r01a	B Bordbar	21/09/23	Final

File name: t23.029.an.r01a

Author: Alvira Illana Navarro

Project manager: Behnam Bordbar

Client: Accord Property

Project: Lot 341 Rathmines Street, Clarkson

Document revision: r01a

Project number: t23.029

TABLE OF CONTENTS

REPORT FIGURES

REPORT TABLES

1 Introduction

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Accord Property with regard to the proposed childcare centre development to be located at Lot 341 Rathmines Street, Clarkson in the City of Wanneroo.

The proposed development is located at the northwest corner of the Connolly Drive/Aviator Boulevard roundabout intersection as shown in **Figure 1**. The subject site is presently vacant.

The proposed childcare centre is proposed to cater for 116 children and 22 staff members.

The development plan presented in **Appendix A** shows that the childcare centre is proposed to have two crossovers on Rathmines Street, one crossover for entry only and one crossover for exit only.

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) states: *"A Transport Impact Statement is required for those developments that would be likely to generate moderate volumes of traffic*[1] *and therefore would have a moderate overall impact on the surrounding land uses and transport networks"*. **Section 6.2** of Transcore's report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a Transport Impact Statement is deemed appropriate for this development.

Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a Transport Impact Statement is deemed appropriate for this development.

Key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access and egress movement patterns, parking demand and supply.

The location of the subject site within the *Metropolitan Region Scheme* context is illustrated in **Figure 2**. The *Metropolitan Region Scheme (MRS)* identifies Connolly Drive as an *"Other Regional Road"* while Rathmines Street and Aviator Boulevard are local roads under the care and control of the local authority. The subject site is zoned as *"Urban"* in the MRS.

[1] *Between 10 and 100 vehicular trips per hour*

Figure 1: Location of the subject site

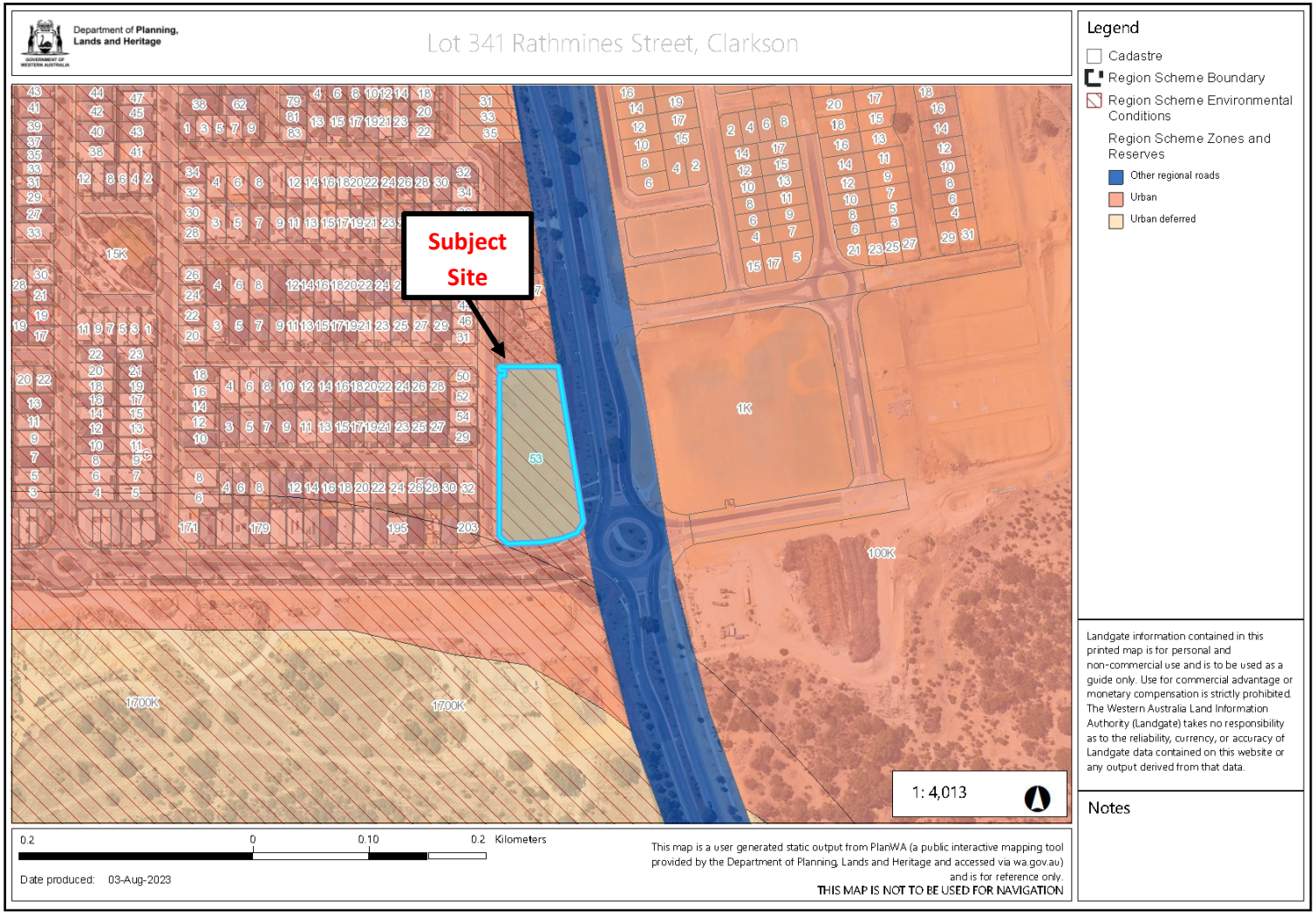


Figure 2: Location of subject site within MRS

2 Development Proposal

The development proposal is for a childcare centre to be located at Lot 341 Rathmines Street, Clarkson in the City of Wanneroo.

The childcare centre is proposed to be located at the south of the subject lot, with the balance of the lot to remain vacant.

The proposal is for a childcare centre compromising the following elements:

- Seven activity rooms (two for 0-2 years old, three for 2-3year olds, and two for 3-5 year olds);
- Reception area;
- Staff room and courtyard;
- Office;
- Kitchen;
- Cot Room;
- Nappy and preparation room;
- Laundry;
- Four store rooms (inclusive of pram store room);
- Amenities;
- Outdoor play area; and,
- On-site car park with 34 bays (inclusive of one ACROD bay)

The childcare centre is planned to accommodate up to 116 children and 22 staff.

Two crossovers on Rathmines Street are proposed to service the childcare centre. One crossover is allocated for entry only (northern crossover) and the other crossover is for exit only (southern crossover).

The enclosed bin store area is proposed to be located at the southern end of the centre, adjacent to the car park.

Pedestrian access to the childcare centre is facilitated via the existing pedestrian path along Aviator Boulevard and the shared path along the western side of Connolly Drive within the vicinity of the site.

The proposed development plans are included for reference in **Appendix A**.

3 Vehicle Access and Parking

3.1 Access

The proposed development will be served by two proposed crossovers on Rathmines Street: one for entry only and one for exit only, resulting in a one-way clockwise circulation system within the car park as shown in **Figure 3**. Appropriate lane marking of the crossover and parking area (with arrows) communicating and showing the one-way system will be implemented during the detailed design stage of the project.

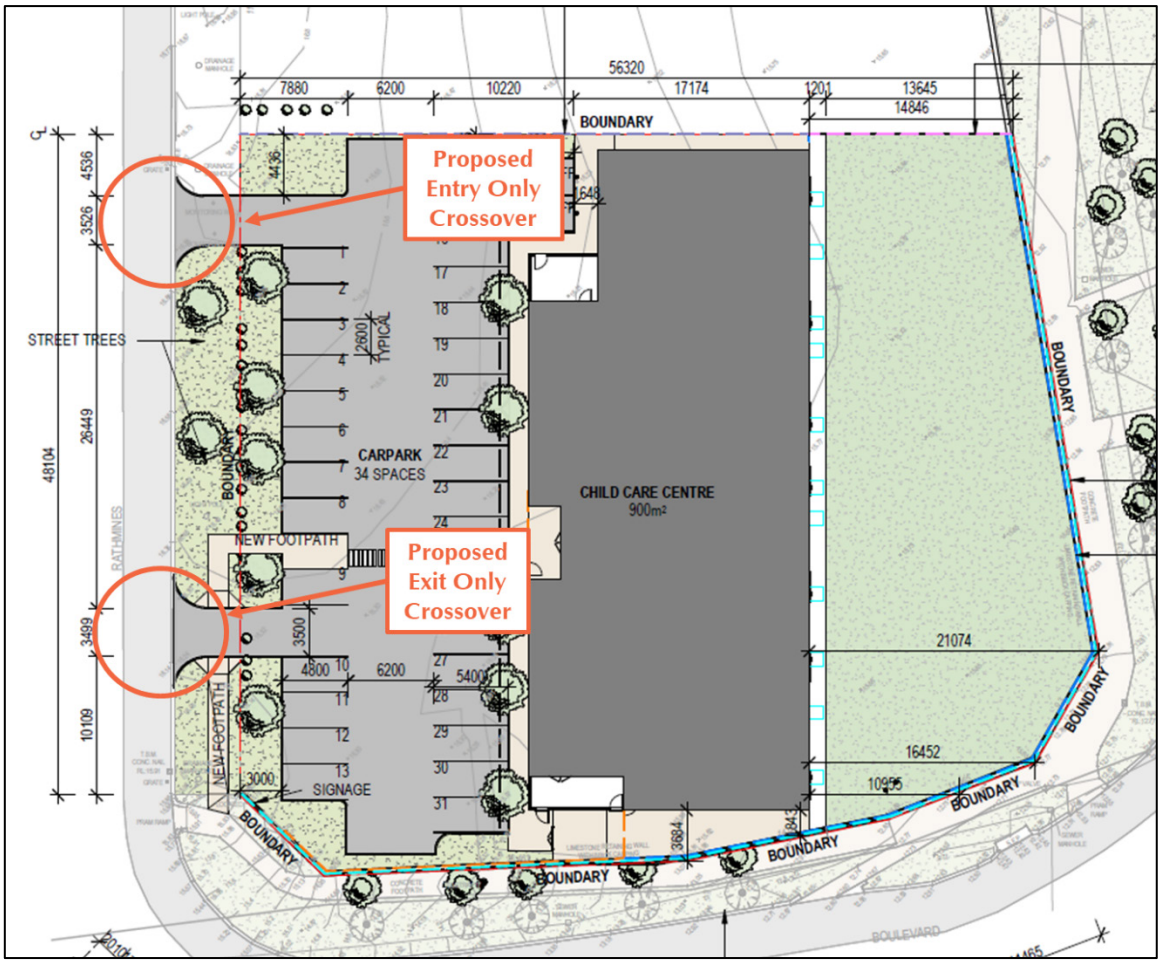


Figure 3: Location of proposed crossovers for the childcare centre

3.2 Parking

The proposed childcare centre has a provision of 34 parking bays (including one ACROD bay). The parking provision is allocated as follows:

- 1 ACROD bay
- 4 designated staff bays

- 19 parking bays for staff and visitors

The City of Wanneroo DPS2 provides the parking requirements for the various land uses. The parking provision applicable to the proposed childcare centre is:

- 1 per employee; and
- 9 bays plus 1 bay per 8 children accommodated in excess of 54 children.

The proposed childcare centre will accommodate 116 children and 22 staff members. According to the City's policy, the proposed childcare centre requires a parking provision of 39 parking bays. It is proposed to provide a total of 34 car parking bays (inclusive of an ACROD bay) which represents a theoretical potential shortfall of 5 bays.

The parking supply and demand for the childcare centre are further discussed in the following section of the report.

3.3 Estimated Actual Parking Demand Based on Trip Generation

Transcore has undertaken a parking analysis based on the anticipated peak hour traffic generation of the proposed childcare centre, to estimate the actual peak parking demand of the centre.

Section 6.2 of this report details the anticipated peak hour traffic generation of the proposed childcare centre. It was established that the calculated morning peak hour trip generation of the proposed childcare centre is 49 vehicles in and 43 vehicles out of the car park (the afternoon peak hour is expected to generate less trips).

This represents a potential 49 vehicles using the childcare centre car park during the peak hour.

The RTA NSW *"Guide to Traffic Generating Developments"* section on childcare centres provides commentary on childcare centre mode share, parking utilisation and parking length of stay. It should be noted that the commentary provided in the RTA guide is based on surveys of actual parking activity undertaken in New South Wales. The RTA guide indicates the highest parking demand of 0.23 cars per child and the average recorded length of stay for all surveyed childcare centres of 6.8 minutes.

Conservatively assuming that the length of stay for pick-up/drop-off parking for the proposed childcare centre is 10 minutes, it is calculated that each parking bay can accommodate a turnover of up to 6 vehicles per hour.

It is therefore established that 9 bays (49/6 =8.17 say 9) should be reserved for pick-up and drop-off activities during peak hour periods which results in an actual parking demand of 31 bays (9 bays for drop off/pick up + 22 bays for staff). Further, in accordance with the RTA guide parking demand ratio, the parking demand for the proposed centre is established to be 27 bays (116 x 0.23 = 26.68 say 27).

The proposed development provides a total of 34 bays which satisfies and exceeds the estimated actual parking demand of the proposed childcare centre. Therefore, it is recommended that 12 bays should be allocated to drop off and pick up activities and 22 bays to staff.

4 Provision for Service Vehicles

Based on the advice provided to Transcore, the waste collection for the proposed development will be undertaken by a private contractor. The bin storage area is located at the south end of the building as shown in the development plan in **Appendix A**.

Waste collection and deliveries will take place within the site. A private contractor will collect waste using an 8.8m service vehicle. The waste collection truck will be able to enter the site via the proposed northern crossover on Rathmines Street, park in a suitable position adjacent to the bin store for rubbish collection and exit via the southern crossover on Rathmines Street in forward gear.

It is proposed that servicing will be conducted outside of the peak or operating hours of the proposed childcare centre. It is recommended that smaller vehicles such as vans should be used for deliveries.

Turn path analysis has been undertaken for an 8.8m service vehicle and is included in **Appendix B**. It shows that upon entry and exit, two bays adjacent to the crossovers will be impacted. However, as the collection will be via a private contractor, this can be managed by the centre operator and/or management.

The turn path also shows that minor modifications to the crossovers are required which can be addressed during the detailed design stage of the project.

5 Hours of Operation

Based on the advice provided by the operator, the anticipated hours of operation of the proposed childcare centre will be during weekdays between 6:30 AM to 6:30 PM.

6 Daily Traffic Volumes and Vehicle Types

6.1 Existing Development Trip Generation

The subject site is presently vacant and does not generate any traffic.

6.2 Proposed Development Trip Generation

The traffic volumes likely to be generated by the proposed childcare centre can be estimated using trip generation rates as follows:

Source: RTA NSW "Guide to Traffic Generating Developments"
Child Care Centres (Long-day care)

- Weekday, AM peak hour: 0.8vph per child; and,
- Weekday, PM peak hour: 0.7vph per child

Source: ITE Trip Generation Manual 11th Edition
Day Care Centre (565)

- Weekday, daily: 4.09vpd per student;
- Weekday, AM peak hour generator: 0.79vph per student; and,
- Weekday, PM peak hour generator: 0.81vph per student.

For a robust assessment, the trip generation from the ITE trip rates is adopted. Accordingly, the following number of trips was estimated for the proposed childcare centre, assuming a maximum scenario of 116 children being present (i.e., centre at full capacity):

- Daily traffic generation: 474 trips generated (237 in / 237 out).
- AM peak hour: 92 trips generated (49 in / 43 out);
- PM peak hour: 94 trips generated (44 in / 50 out); and,

6.3 Traffic Flow

Considering all access to the site is available via the crossovers on Rathmines Street, it is concluded that all of the estimated development-generated traffic would arrive and depart to and from the site via Rathmines Street and then disperse throughout the local road network.

Based on the general spatial distribution of existing residential developments in the immediate area and the permeability of the local road network, the traffic distribution adopted for this analysis is as follows:

- 70% from/to the residential area to the west (40% along Aviator Boulevard, 15% along Rathmines Street, and 15% along Cansos Street); and,
- 30% from/to the residential area to the north (along Connolly Drive)

Figure 4 illustrates trip generation and distribution over the local road network for the proposed development.

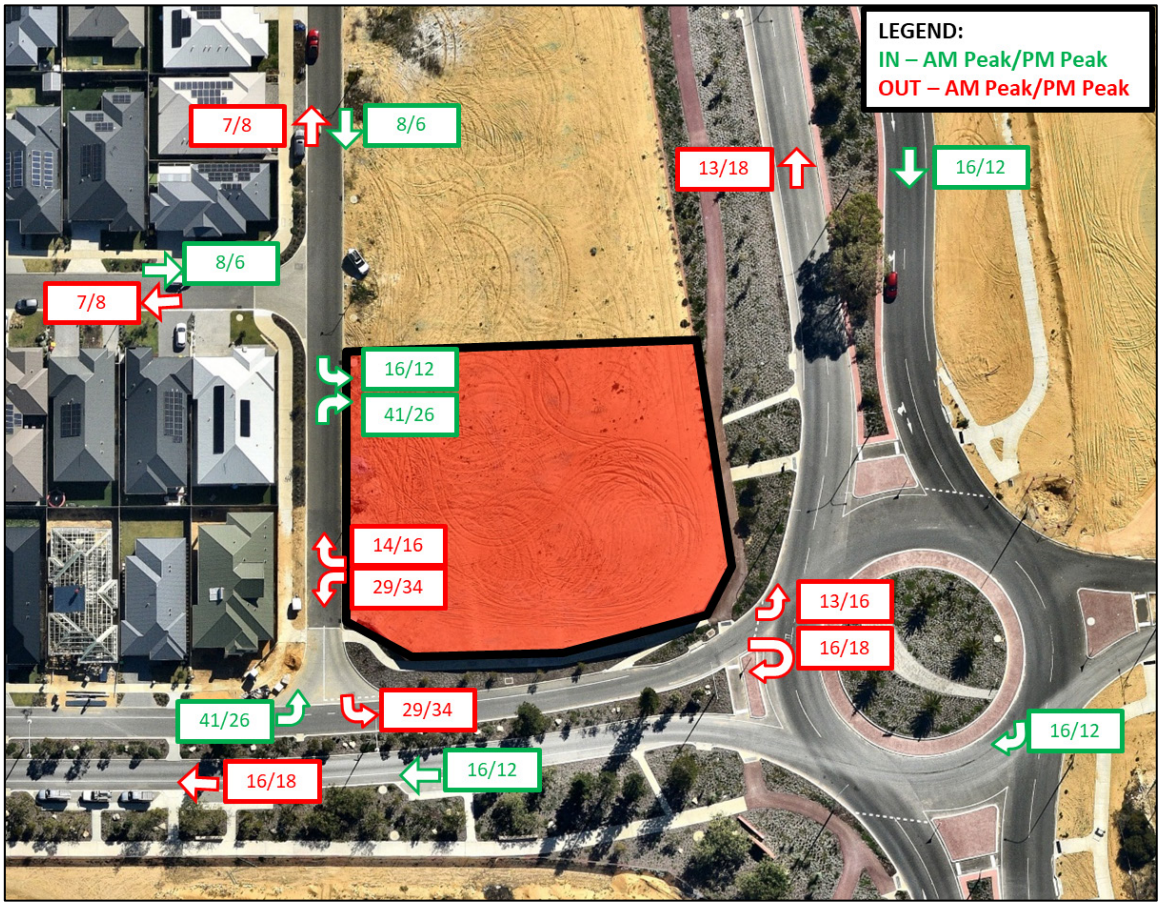


Figure 4: Estimated traffic movements for the proposed childcare centre

6.4 Impact on Surrounding Roads

The WAPC *Transport Impact Assessment Guidelines* (2016) provides the following guidance on the assessment of traffic impacts:

"As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 percent may. All sections of road with an increase greater than 10 percent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 percent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis."

The proposed development will not increase traffic flows on any roads adjacent to the site by the quoted WAPC threshold of +100vph to warrant further analysis. Therefore, the impact of development traffic on the surrounding road network will not be significant.

7 Traffic Management on the Frontage Streets

Connolly Drive, east of the subject site, is constructed as a 25m-wide dual-carriageway four-lane divided road. It is divided by a solid median in the vicinity of the site. A shared path is provided on the western side of the road. It has a posted speed limit of 70km/h.

Connolly Drive is classified as a *Distributor A* road in the Main Roads WA *Functional Road Hierarchy*. It is covered by an *Other Regional Road* reservation (i.e. *Blue Road)* in the MRS. Connolly Drive forms a roundabout intersection with Aviator Boulevard. Refer to **Figure 5** and **Figure 6** for more details.

According to traffic counts obtained from the Main Roads WA traffic map, Connolly Drive, south of Neerabup Road, carried 6,454 vehicles per day (vpd) on a typical weekday in 2020/21.

Figure 5: Northbound view of Connolly Drive

Figure 6: Southbound view of Connolly Drive

Aviator Boulevard, south of the subject site, is constructed as a 14m-wide dual-carriageway two-lane divided road. It is divided by a solid median in the vicinity of the site. Pedestrian path is provided on both sides of the road. Parallel parking bays are also provided on the south side of the road. It operates under the default built-up area speed limit of 50km/h.

Aviator Boulevard is classified as an *Access Road* in the Main Roads WA *Functional Road Hierarchy*. Aviator Boulevard forms a roundabout intersection with Connolly Drive. Refer to **Figure 7** and **Figure 8** for more details.

According to traffic counts obtained from the City of Wanneroo, Aviator Boulevard, west of Elsbury Approach, carried 1,171vpd on a typical weekday on June 2023.

Figure 7: Westbound view of Aviator Boulevard

Figure 8: Eastbound view of Aviator Boulevard

Rathmines Street, east of the subject site, is constructed as a 6.5m-wide single-carriageway two-lane road. It operates under the default built-up area speed limit of 50km/h.

Rathmines Street is classified as an *Access Road* in the Main Roads WA *Functional Road Hierarchy*. It forms a left-in/left-out only T-intersection with Aviator Boulevard. Refer to **Figure 9** and **Figure 10** for more details.

No traffic counts are available for this road.

Figure 9: Northbound view of Rathmines Street

Figure 10: Southbound view of Rathmines Street

8 Public Transport Access

Nearby public transport services are shown in Figure 11 to Figure 14. The subject site has access to the bus services tabulated in Table 1. At this stage, the nearest bus/train stops are located approximately 1 – 1.5km away from the site.

Table 1: Bus services available (Transperth)

Bus Services	Days of Service	Service
471	Monday to Saturday	Joondalup – Burns Beach via Currambine
474	Monday to Friday	Joondalup – Clarkson via Kinross
480	Monday to Sunday (inc Public Holidays)	Clarkson Stn – Butler Stn via Marmion Av
481	Monday to Sunday (inc Public Holidays)	Clarkson Stn – Quinns Rocks via Mindarie
482	Monday to Sunday (inc Public Holidays)	Clarkson Stn – Butler Stn via Marmion Av & Santa Barbara Pde
483	Monday to Sunday (inc Public Holidays)	Clarkson Stn – Alkimos via Merriwa & Butler Stn
484	Monday to Sunday (inc Public Holidays)	Clarkson Stn – Alkimos via Ridgewood & Butler Stn
Rail Services	**Days of Service**	**Service**
Joondalup Line	Monday to Sunday (inc Public Holidays)	Elizabeth Quay Stn – Butler Stn

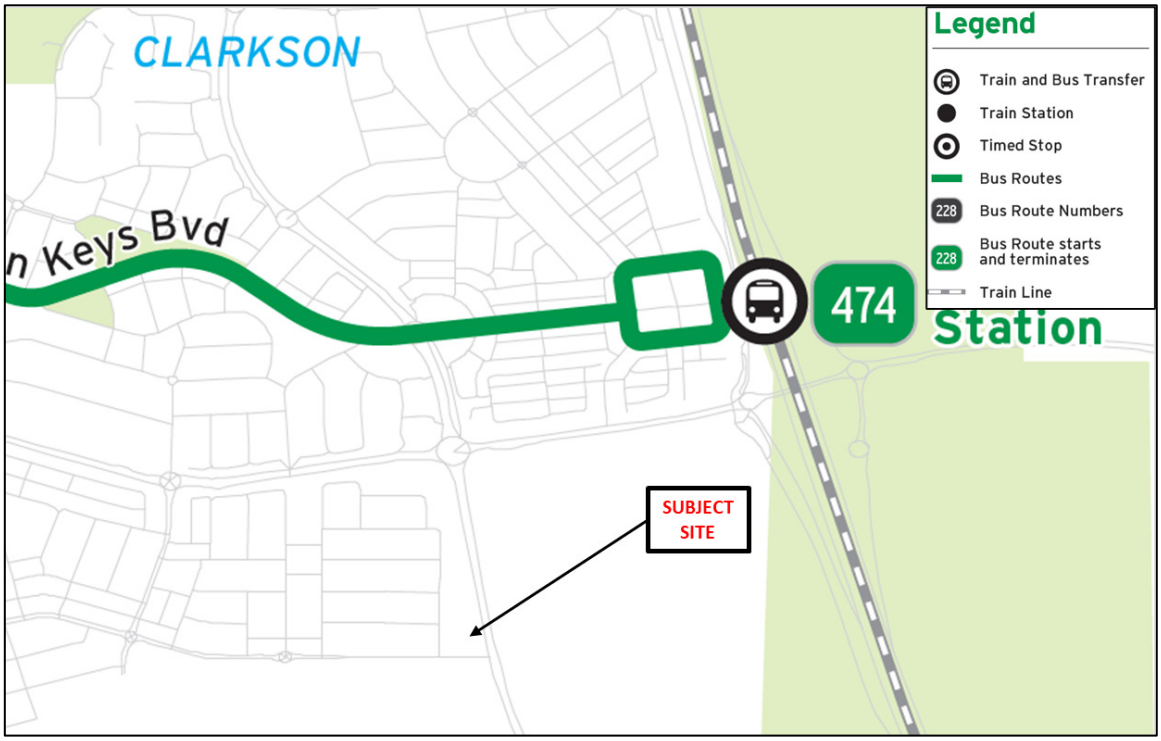


Figure 11: Bus Services 471 & 474 (Transperth Maps)

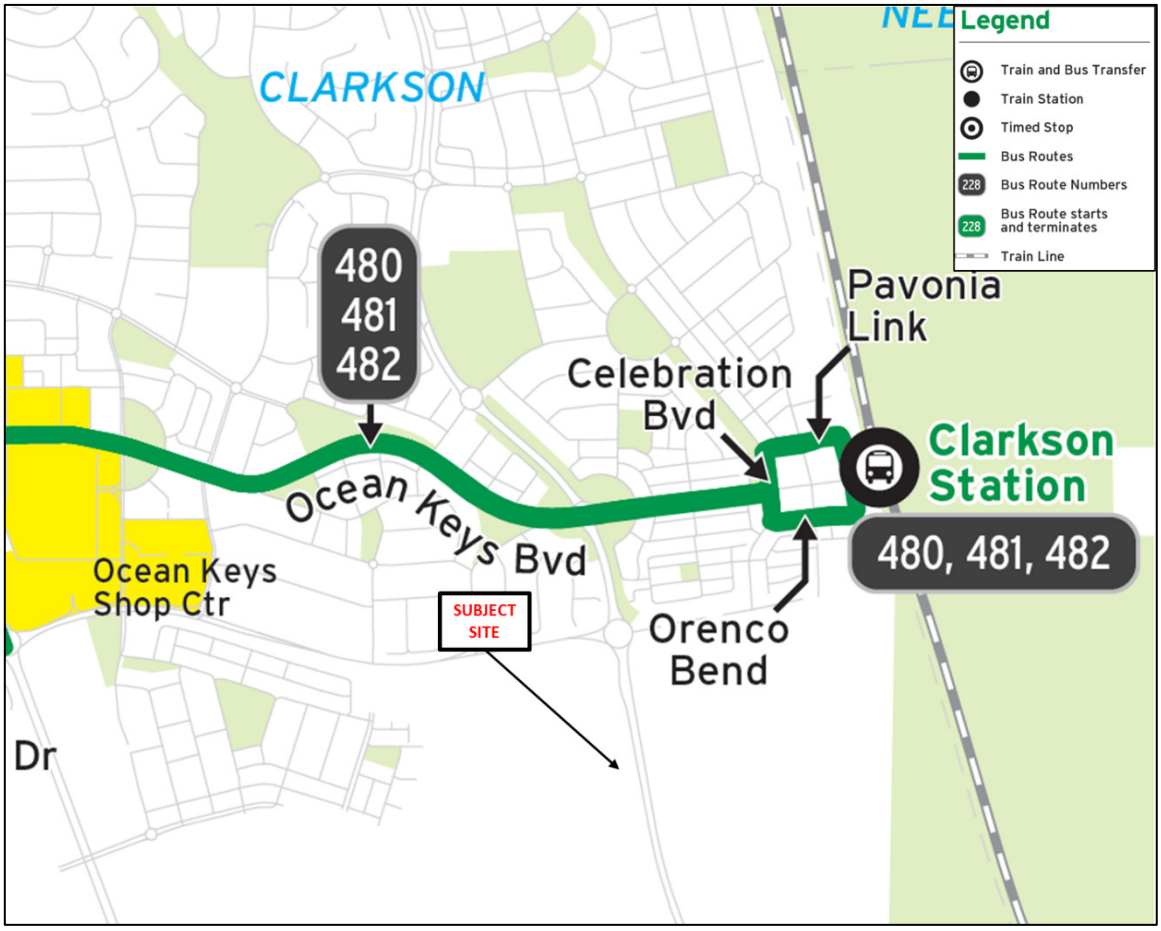


Figure 12: Bus Services 480, 481 & 482 (Transperth Maps)

Figure 13: Bus Services 483 & 484 (Transperth Maps)

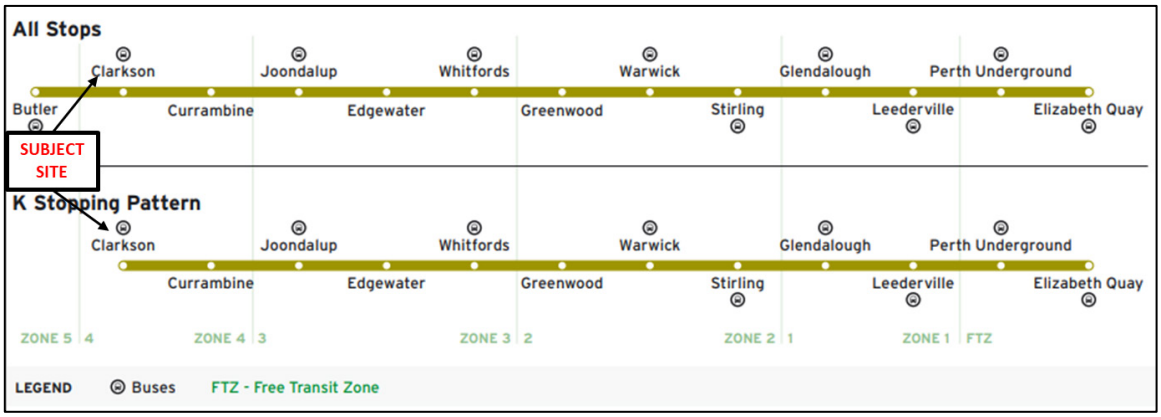


Figure 14: Joondalup Railway Line (Transperth Maps)

9 Pedestrian Access

Pedestrian access to the subject site is available directly from the existing footpath network on both sides of Aviator Boulevard and the shared path along the western side of Connolly Drive.

10 Cycle Access

The Perth Bicycle Network Map illustrated in **Figure 15** shows the existing cyclist connectivity to the subject site. Connolly Drive fronting the subject site is shown to have bicycle lanes or sealed shoulders on either side and a high-quality shared path. This provides further links to the network of other cycle facilities in the surrounding area.

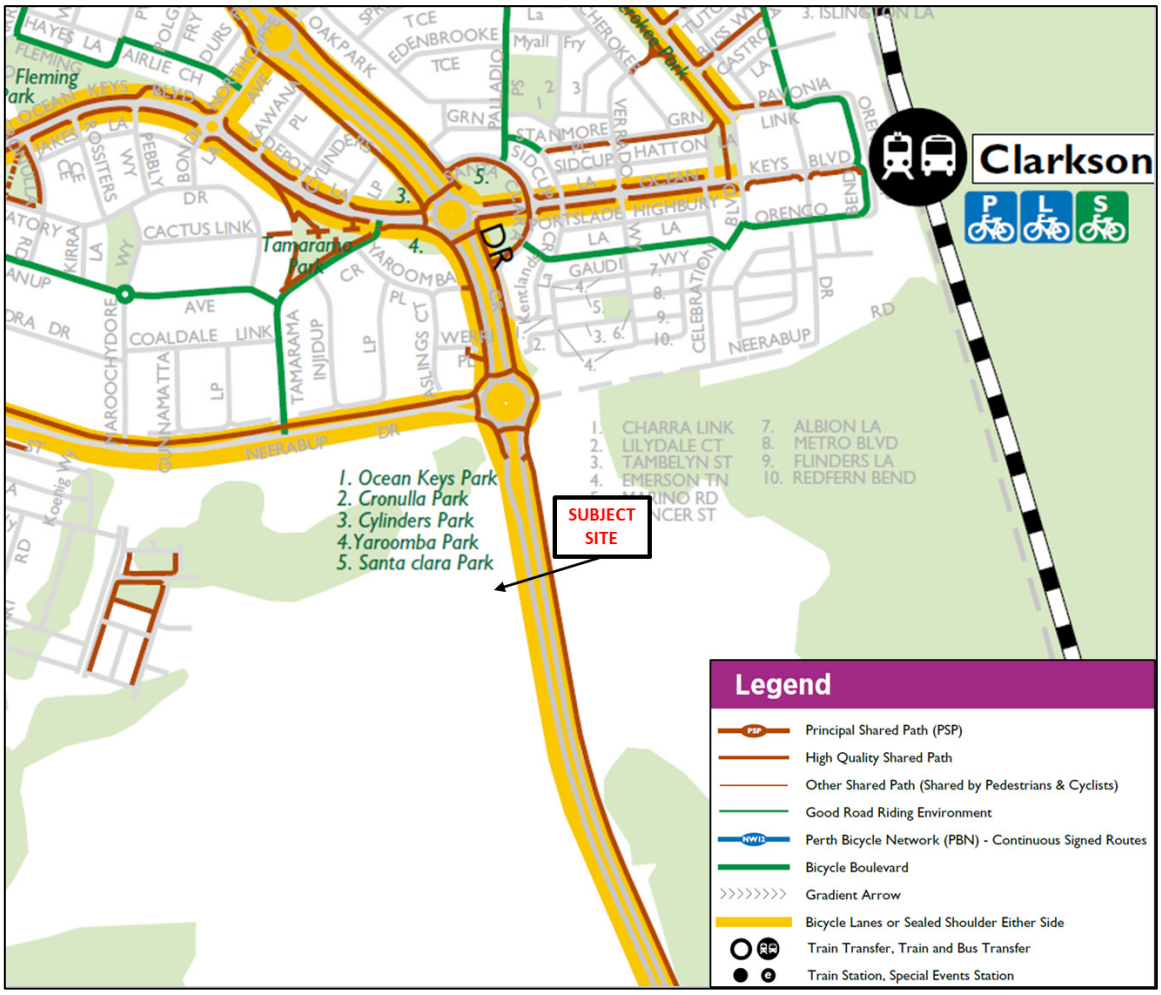


Figure 15: Extract from Perth Bicycle Network (Department of Transport)

11 Site Specific Issues

The line marking for the one-way system and adjustment to the crossovers' design will be addressed during the detailed design stage of the project.

The proposed parking supply entails a theoretical shortfall of 5 bays in accordance with the City's DPS2. However, the parking analysis undertaken in this TIS demonstrates that the parking supply satisfies the anticipated actual parking demand.

No other site-specific issues were identified within the scope of this assessment.

12 Safety Issues

No safety issues were identified within the scope of this assessment.

13 Conclusions

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Accord Property. The subject of this report is the proposed childcare centre to be located at Lot 341 Rathmines Street, Clarkson in the City of Wanneroo. The subject site is presently vacant land.

The proposed childcare centre is to cater for 116 children and 22 staff.

The proposed development will be served by two proposed crossovers on Rathmines Street: one for entry only and one for exit only, resulting in a one-way clockwise circulation system within the car park. The proposed parking supply will satisfy the anticipated actual parking demand.

It is recommended that line/arrow markings showing the one-way crossover and circulation system and minor design adjustments to the crossovers be addressed during the detailed design stage of the project.

The traffic analysis undertaken in this report shows that the anticipated daily trip generation for the proposed childcare centre is below the critical threshold and as such, would not have any significant impact on the surrounding road network.

The waste collection will be undertaken outside the peak or operating hours of the centre and will be managed by the centre's operator and/or management.

The site features good connectivity with the existing road and cyclist network in the proximity of the site.

No transport or safety issues have been identified for the proposed development.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed development.

Appendix A

PROPOSED DEVELOPMENT PLANS

transcore

Engineering a better future for over 20 years!

SITE PLAN

1 : 400

DA ISSUE

ISSUED FOR DEVELOPMENT APPROVAL

19/09/2023 11:46:02 AM

Rev	Amendment	Date
1	DA ISSUE	09/08/23
2	ISSUED FOR COMMENT	06/09/23
3	ISSUE FOR INFORMATION	19/09/23

NUMBER OF PLACES	**116**
NUMBER OF STAFF	22
DEVELOPMENT AREA	6907m²
SITE AREA	2907m²
SITE AREA PER PLACE	25m²
TOTAL LANDSCAPING AREA	170m²
NUMBER OF TREES	10
BUILDING AREA	900m²
BUILDING AREA PER PLACE	7.75m²
OUTDOOR PLAY AREA	830m²
NUMBER OF CARPARKS	33

FENCES

FENCING HEIGHT AND MATERIAL SUBJECT TO ACOUSTIC AND DEVELOPER DESIGN REQUIREMENTS

FT01 FENCE TYPE 01
COLORBOND METAL 'GOOD NEIGHBOUR' TYPE FENCE
ON TOP OF RETAINING WALL
1800 MINIMUM HEIGHT
COLOUR: MONUMENT

FT02 FENCE TYPE 02
VERTICAL SQUARE BALUSTERS
1500 MINIMUM HEIGHT
COLOUR: WHITE

FT03 FENCE TYPE 03
COLORBOND METAL 'GOOD NEIGHBOUR' TYPE FENCE
ON TOP OF RETAINING WALL AS REQUIRED
2100 MINIMUM HEIGHT
COLOUR: MONUMENT

FT04 FENCE TYPE 04
COLORBOND METAL 'GOOD NEIGHBOUR' TYPE FENCE
1800 MINIMUM HEIGHT
COLOUR: MONUMENT

EXISTING RETAINING WALL
LIMESTONE RETAINING WALL WITH BRICK CAPPING

NOTE:
FENCES SEALED AIRTIGHT AT ALL JUNCTIONS, INCLUDING BETWEEN PANELS AND AT THE GROUND

BROWN FALCONER
28 Chesser Street, Adelaide, South Australia 5000
Telephone : 08 8203 5800 Facsimile : 08 8223 2440
ABN 65 007 846 586 brownfalconer.com.au

ACCORD PROPERTY

CLARKSON CCC

SITE PLAN

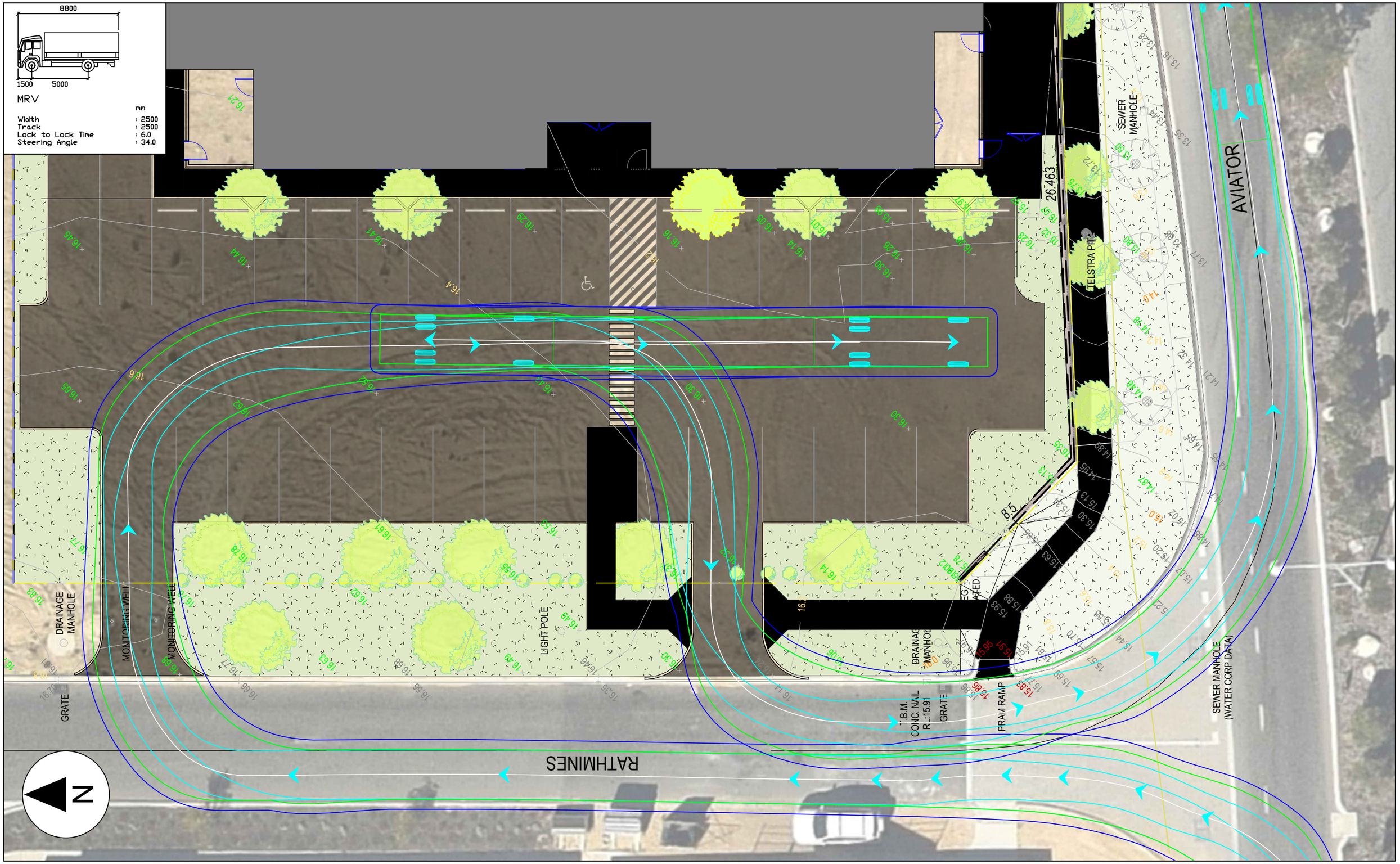
Scale 1 : 400
Drawn Author
Date AUGUST 2023
Job No. 2023066

Dwg No. **DA05** Rev: **3** A3 SHEET

Appendix B

TURN PATH ANALYSIS

Engineering a better future for over 20 years!



Lot 341 Rathmines Street, Clarkson

8.8m Service Vehicle

Service vehicle circulation

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t23.029.sk03

20/09/2023

Scale: 1:175 @ A3

transcore