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Proposed Childcare Centre

Lot 9031 (104) Kingsbridge Boulevard,
Butler

Transport Impact Statement

PREPARED FOR:
Butler Early Learning Pty Ltd
C/- Apex Planning

August 2023

Document history and status

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Author: Alvira Illana Navarro

Project manager: Behnam Bordbar

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1 Introduction

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Butler Early Learning Pty Ltd with regard to the proposed childcare centre development to be located at Lot 9031 (104) Kingsbridge Boulevard, Butler in the City of Wanneroo.

The subject site is located at the southwest corner of the Kingsbridge Boulevard/Landbeach Boulevard/Connolly Drive roundabout intersection as shown in **Figure 1**. The subject site contains an existing shopping centre development. As part of this proposed development, an existing retail building is subject to a partial change of use and repurposed into a childcare centre, with the balance to retain the existing/approved “Shop”/retail land use.



Figure 1: Location of the subject site

The proposed childcare centre is proposed to cater for 102 children and 16 staff members.

The subject site currently entails one full-movement crossover on Woodstock Way and a left-in/left-out crossover on Kingsbridge Boulevard. No changes to the left-in/left-out crossover on Kingsbridge Boulevard are proposed. The full-movement crossover on Woodstock Way is to be removed as part of this proposal.

The development plan is presented in **Appendix A** for reference.

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 traffic¹ 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.

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**. Review of the *Metropolitan Region Scheme (MRS)* identifies Connolly Drive as an “*Other Regional Road*” while Kingsbridge Boulevard and Woodstock Way are all 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

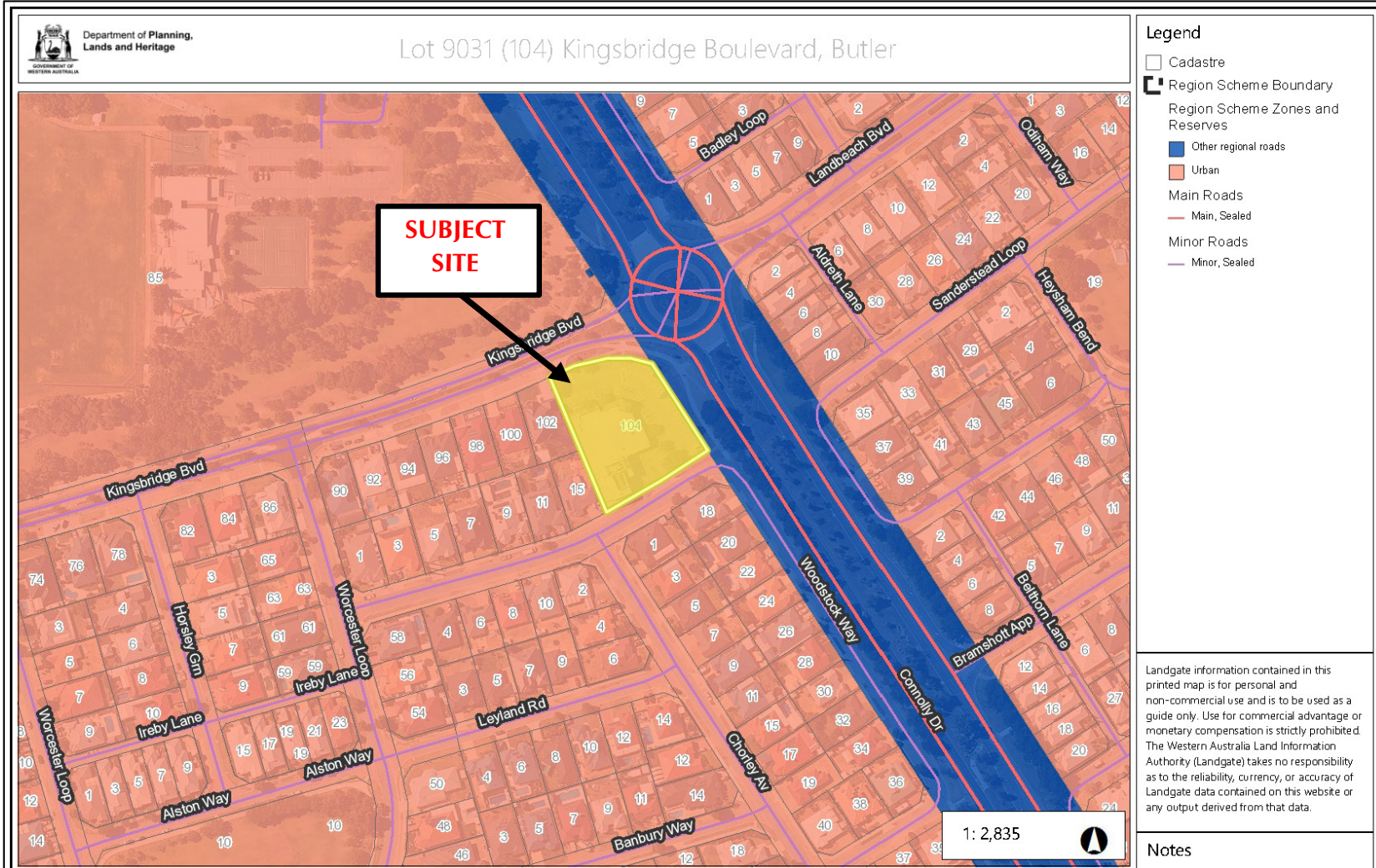


Figure 2: Location of subject site within MRS

2 Development Proposal

The development proposal is for a childcare centre to be located at Lot 9031 (104) Kingsbridge Boulevard, Butler in the City of Wanneroo.

The existing shopping centre building will be subject to a partial change of use whereby a childcare centre will be established with associated external works and 400m² of existing/approved shop area will remain.

The proposed childcare centre comprises the following elements:

- Childcare centre building with five playrooms;
- Reception/Sitting Room area;
- Community room;
- Two Dining/Art room;
- One dining room;
- Two cot rooms;
- Five store rooms;
- Library/nook;
- Kitchen/Pantry;
- Nappy and preparation rooms;
- Amenities;
- Outdoor play areas;
- On-site bicycle parking for 6 bicycles; and,
- On-site car parking for 43 car bays (inclusive of two ACROD bays).

The childcare centre is planned to accommodate up to 102 children and 16 staff.

The existing left-in/left-out crossover on Kingsbridge Boulevard will service the subject site. The proposal includes the removal of the existing full-movement crossover on Woodstock Way and the reduction of the existing parking bays to accommodate the outdoor play area of the childcare centre.

The bin storage is proposed to be located at the southeast corner of the lot adjacent to the existing transformer and the proposed bicycle parking.

Pedestrian access to the childcare centre is facilitated via the existing pedestrian paths along the western side of Connolly Drive and both sides of Kingsbridge Boulevard and Woodstock Way. An existing pedestrian path on the northern side of the car park area of the development leads to the entrance to the childcare centre building.

The proposed development plans are included for reference in [Appendix A](#).

3 Access Arrangements

The proposed development will be served by the existing left-in/left-out crossover on Kingsbridge Boulevard. The existing full-movement crossover on Woodstock Way will be removed, with the path and kerb to be reinstated as part of this proposal. Refer to **Figure 3** for the location of the crossovers.

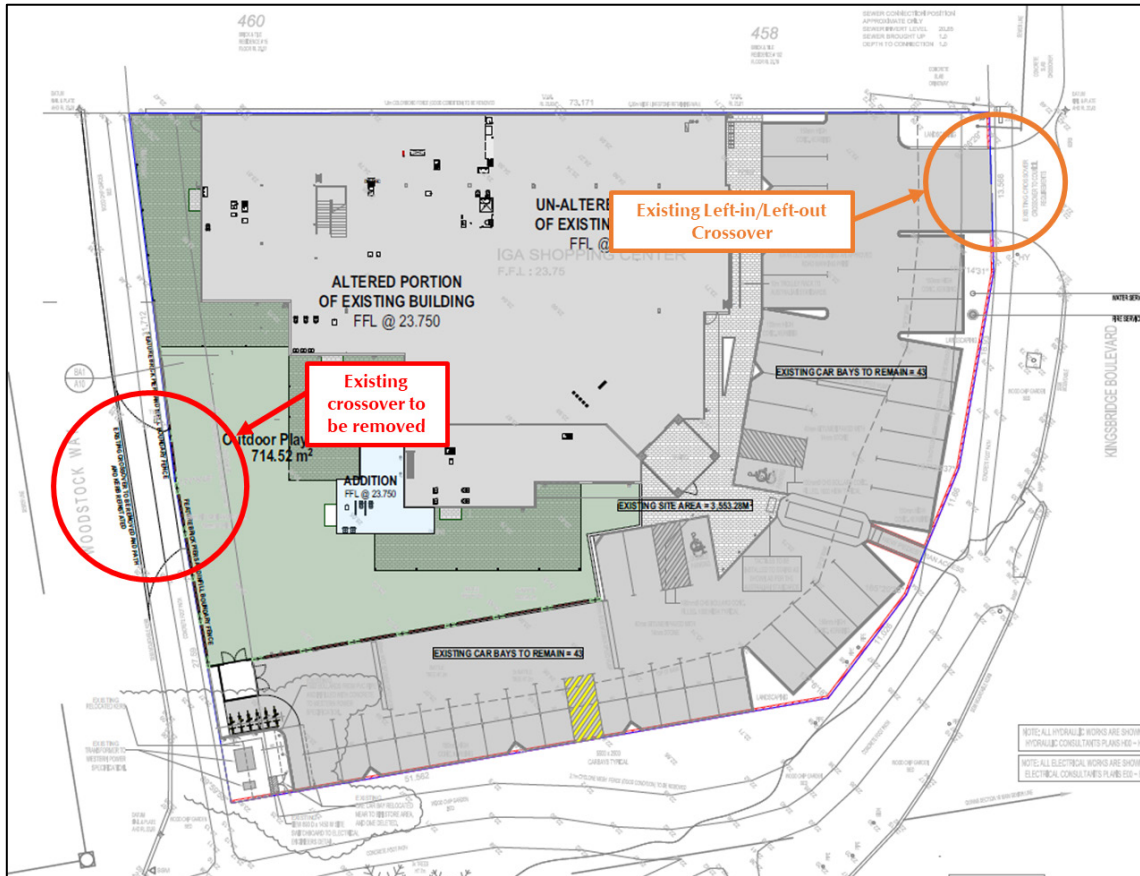


Figure 3: Location of development crossover

4 Parking

The proposed partial change of use of the existing building to accommodate a childcare centre and the proposed physical changes would result in a reduction of parking bays. The net resulting number of car bays will be 43 bays. The parking is allocated as follows:

- 41 90-degree parking bays; and,
- 2 ACROD bays.

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 parking provision applicable to the existing/approved shop area is 7 bays per 100m² NLA.

The proposed childcare centre will accommodate 102 children and 16 staff members. The existing/approved shop area totals 400m² GFA. According to the City's DPS2, the proposed development requires a parking provision of 62 parking bays (28 bays for the shop area + 16 staff bays + 15 visitor/drop-off/pick-up bays). The parking provision to remain after the construction of the proposed childcare centre is a total of 43 parking bays (inclusive of 2 ACROD bays) which represents a theoretical potential shortfall of 16 bays. As advised by the childcare centre operator, the staff schedule is shown in **Table 1**.

As can be seen from **Table 1**, although a maximum of up to 19 staff (16 permanent staff and 3 casual/float staff) may be present on-site from 9:30 AM to 2:00 PM, these hours are outside of the drop-off/pick-up period when the visitor bays are not in use.

Table 1: Childcare Centre Maximum Staff Schedule

Time	Staff Rostered
6:00 AM – 7:00 AM	4
7:00 AM – 7:30 AM	6
7:30 AM – 8:00 AM	9
8:00 AM – 8:30 AM	11
8:30 AM – 9:00 AM	13
9:00 AM – 9:30 AM	16
9:30 AM – 2:30 PM	19
2:30 PM – 3:00 PM	15
3:00 PM – 4:00 PM	13
4:00 PM – 4:30 PM	10
4:30 PM – 5:00 PM	8
5:00 PM – 5:30 PM	6
5:30 PM – 6:30 PM	3

Previously, the existing shopping centre is 1,150m² GFA and contains the approved 'Shop' land use. At the rate of 7 bays per 100m² NLA, the existing shopping centre requires approximately 80.5 bays or 81 bays. With the existing 64 parking bays currently in use for the shopping centre, the existing/approved shortfall is 17 bays.

As a result of the proposed development and based on the City's DPS2, the resulting shortfall of the proposed development is less than the currently existing/approved parking shortfall.

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

4.1 Estimated Actual Parking Demand of Proposed Development

4.1.1 Childcare Centre Bays

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 7.2 of this report details the anticipated peak hour traffic generation of the proposed CCC. It was established that the calculated morning peak hour trip generation of the proposed CCC is 51 vehicles in and 38 vehicles out of the car park (the afternoon peak hour is expected to generate less trips).

This represents a potential 51 vehicles using the childcare centre car park during the peak hour.

The 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 NSW guide is based on surveys of actual parking activity undertaken in New South Wales. The NSW 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 ($51/6 = 8.5$ say 9) should be reserved for pick-up and drop-off activities during peak hour periods which results in actual parking demand of 25 bays (9 bays for drop off/pick up + 16 bays for staff).

The peak drop-off/pick-up parking demand is only during the peak AM and PM periods of the childcare centre, as such, those bays will be unused outside of those times.

4.1.2 Shop Area's Bays

The parking demand likely to be generated by the remaining existing/approved shop area has been estimated using the parking supply ratios derived from *ITE Parking Generation* (3rd edition).

The total area for the existing/approved shop area is 400m². As such the parking supply ratio for a Strip Shopping Centre Type is used. Accordingly, the parking supply ratio which was used to estimate the existing/approved shop area's parking demand is as follows:

Shopping Centre (Strip) (820):

- 4.1 bays per 1,000ft² GFA = 4.41bays per 100m² GFA.

The existing/approved shop area entails a GFA of 400m². Therefore, it is estimated that the existing/approved shop area would generate a peak parking demand of approximately 18 parking bays.

4.1.3 Total Estimated Actual Parking Demand

Accordingly, the following are the estimated actual parking demand of the childcare centre and the shop area:

- Childcare centre: 9 visitor bays and 16 staff bays during peak period, a total of 25 parking bays for the peak period.
- Shop area: 18 parking bays.

The peak periods for childcare centre parking and shop parking will not coincide but, assuming that the peaks overlap, the proposed childcare centre and the existing shop area would require a total of 43 parking bays to accommodate that combined peak parking demand. The subject site provides a total of 43 bays, after the construction of the proposed childcare centre, which satisfies that combined peak parking demand.

5 Provision for Service Vehicles

Based on the advice provided by the future childcare centre operator, the largest heavy vehicle that is expected to access the site is an 8.8m service vehicle. The service vehicle will enter and exit via the left-in/left-out crossover on Kingsbridge Boulevard.

Turn path analysis undertaken for the 8.8m service vehicle confirms satisfactory access, circulation, and egress.

Turn path analysis plans are presented in **Appendix B**.

As the service vehicle would need to perform a three-point turn at the widest part of the car park and reverse to the bin store, it is recommended that any on-site servicing take place outside of peak operating periods to ensure the car parking area is available for safe manoeuvring and unloading activities with no disturbance to the operation of the centre.

6 Hours of Operation

Based on the information provided to Transcore, the proposed childcare centre is expected to operate from 6:00 AM to 6:30 PM.

7 Daily Traffic Volumes and Vehicle Types

7.1 Existing Development Trip Generation

The subject site is presently occupied by a shopping centre containing multiple retail activities (i.e. supermarket, liquor store, specialty tenancies, etc.).

To estimate the traffic generation of the existing shopping centre, reference is made to the *ITE Trip Generation Manual (11th edition)*.

Accordingly, the trip rates used to estimate the existing development traffic generation are as follows:

Strip Retail Plaza (<40k) (822):

- Weekday, daily: 58.61vpd per 100m² GFA;
- Weekday, AM peak: 2.54vph per 100m² GFA; and,
- Weekday, PM peak: 7.09vph per 100m² GFA.

The existing development has approximately 1,158.12m² GFA. As such, the estimated trips the existing development generates are as follows:

- Weekday, daily: 679 trips generated (340 in / 339 out);
- Weekday, AM peak hour: 30 trips generated (18 in / 12 out); and,
- Weekday, PM peak hour: 82 trips generated (41 in / 41 out).

7.2 Proposed Development Trip Generation

To establish accurate traffic generation rates for the proposed childcare centre, traffic count surveys undertaken by Transcore at similar centres in the Perth metropolitan area were sourced.

Discussions with the respective centre managers revealed that the peak drop-offs and pick-ups for these centres occur between the hours of 7:30 AM – 9:30 AM and 3:00 PM – 5:00 PM.

From the total number of children at each of the centres on the surveyed days, the following average generation rates were established for the morning and afternoon surveyed periods:

- 7:30AM–9:30AM: 1.25 trips per child (57% in / 43% out); and,
- 3:00PM–5:00PM: 1.10 trips per child (49% in / 51% out).

From this information, the traffic generation rate for the combined period of 07:30AM–09:30AM and 3:00PM–05:00PM was calculated as 2.36 trips per child. To convert this figure to a daily generation rate, this figure was increased to 3.5 trips per

child to account for any trips outside of the surveyed times. It was assumed that the daily in and out split for vehicle trips was 50/50.

Furthermore, the following peak hour generation rates were established from the surveys for the Child Care Centres:

- AM peak hour: 8:00AM – 9:00AM: 0.87 trips per child (57% in / 43% out); and,
- PM peak hour: 04:00PM – 05:00PM: 0.71 trips per child (47% in/ 53% out);

A comparison of the four-hour generation rates and the peak-hour generation rates confirms that the distribution of traffic from these centres is spread over the peak periods and that full concentration of traffic does not occur in the peak hour.

Accordingly, the following number of trips was estimated for the proposed childcare centre, assuming a maximum scenario of 102 children being present (i.e., centre at full capacity):

- AM peak hour: 89 trips generated (51 in / 38 out);
- PM peak hour: 73 trips generated (35 in / 38 out); and,
- Daily traffic generation: 357 trips generated (179 in / 178 out).

The traffic volumes likely to be generated by the remaining existing/approved shop area have been estimated using trip generation rates derived from the *ITE Trip Generation Manual (11th edition)*.

Accordingly, the trip rates that were used to estimate the existing/approved shop area's traffic generation are as follows:

Strip Retail Plaza (<40k) (822):

- Weekday, daily: 58.61vpd per 100m² GFA;
- Weekday, AM peak hour: 2.54vph per 100m² GFA; and
- Weekday, PM peak hour: 7.09vph per 100m² GFA.

The existing/approved shop area entails a GFA of 400m². Therefore, it is estimated trips the shop area would generate are as follows:

- Weekday, daily: 235 trips generated (118 in / 117 out);
- Weekday, AM peak hour: 11 trips generated (7 in / 4 out); and,
- Weekday, PM peak hour: 29 trips generated (14 in / 15 out).

As the existing development is subject to a partial change of use to a childcare centre with the retention of 400m² of existing/approved shop area, the estimated net traffic generation for the proposed development is outlined in **Table 2**.

The directional split assumption for AM and PM peak hour split for the proposed development is based on the provided directional split from the *ITE Trip Generation Manual (11th edition)* and the childcare centre surveys conducted. The directional split of the net traffic increase or decrease is as follows:

- Weekday, AM peak hour: +70vph (42 in / 28 out); and,
- Weekday, PM peak hour: +20vph (10 in / 10 out)

Table 2: Estimated net change of trip generation as a result of the proposed development

	Existing Development	Proposed Development		Net change
	Shop Area	Childcare Centre	Existing/Approved Shop Area	
Weekday, Daily	679vpd	357vpd	235vpd	- 87vpd (decrease)
Weekday, AM peak	30vph	89vph	11vph	+70vph (increase)
Weekday, PM peak	82vph	73vph	29vph	+20vph (increase)

7.3 Traffic Flow

Considering all access to the site is available via the existing left-in/left-out crossover on Kingsbridge Boulevard, it is concluded that all of the estimated development-generated traffic would arrive and depart to and from the site via Kingsbridge Boulevard and then disperse throughout the local road network.

7.4 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.

8 Traffic Management on the Frontage Streets

Connolly Drive, east of the subject site, is constructed as a 27m wide dual carriageway four-lane road divided by a solid median. A pedestrian path is provided on the western side of the road in the vicinity of the subject site.

Connolly Drive is classified as a *Distributor A* road in the *Main Roads WA Metropolitan Functional Road Hierarchy* and operates under the posted speed limit of 60km/h. Connolly Drive is also classified as an *Other Regional Road* under the *Metropolitan Region Scheme*.

According to the traffic count obtained from the Main Roads WA traffic map, Connolly Drive, north of Lukin Road, carried 22,752 vehicles per day (vpd) in 2021/22.

Kingsbridge Boulevard, north of the subject site, is constructed as a 13m wide dual carriageway two-lane road divided by a solid median. Pedestrian paths are provided on both sides of the road. Parallel parking bays are provided on the northern side of the road in the vicinity of the site.

Kingsbridge Boulevard is classified as a *Local Distributor* road in the *Main Roads WA Metropolitan Functional Road Hierarchy* and operates under the default, built-up speed limit of 50km/h. Refer to **Figure 4** and **Figure 5** for more details.



Figure 4: Westbound view of Kingsbridge Boulevard



Figure 5: Eastbound view of Kingsbridge Boulevard

Woodstock Way, south of the subject site, is constructed as an 8m wide single-carriageway two-lane road. Pedestrian path is provided on both sides of the road in the vicinity of the site.

Woodstock Way is classified as an *Access Road* in the *Main Roads WA Metropolitan Functional Road Hierarchy* and operates under the default, built-up speed limit of 50km/h. Refer to **Figure 6** and **Figure 7** for more details.

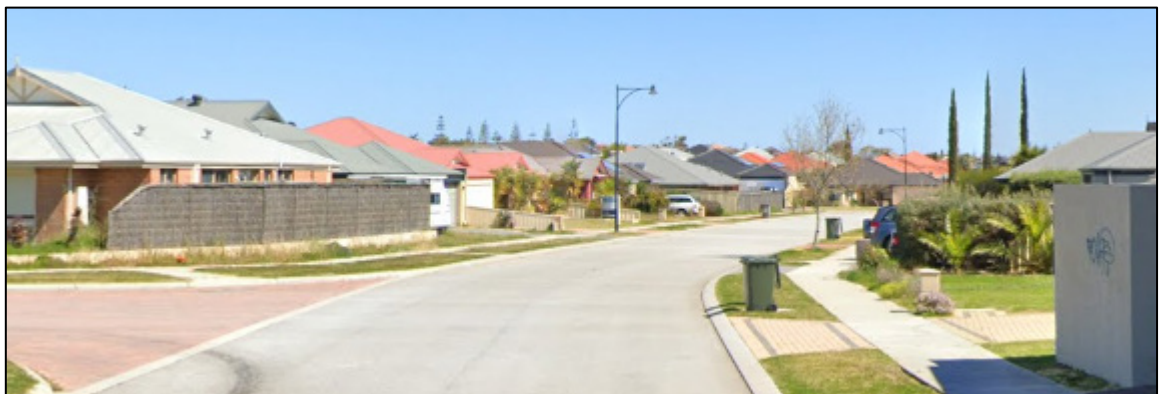


Figure 6: Westbound view of Woodstock Way

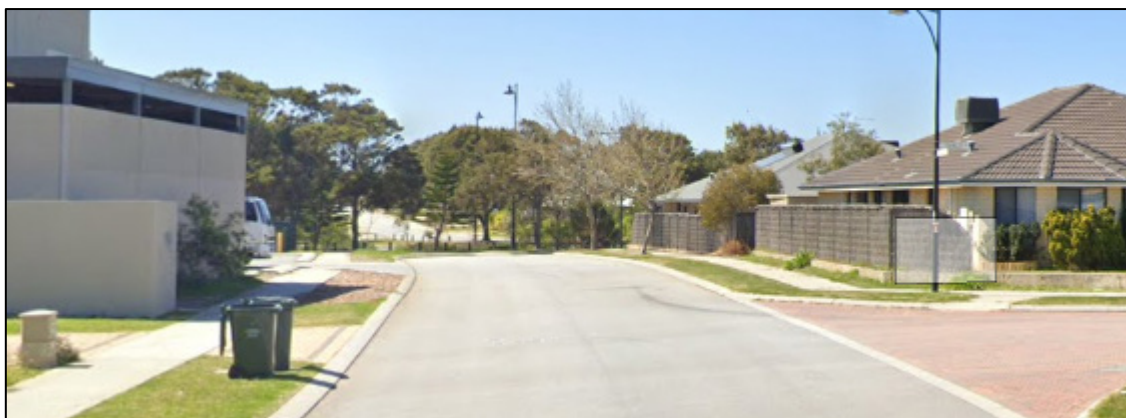


Figure 7: Eastbound view of Woodstock Way

9 Public Transport Access

Nearby public transport services are shown in **Figure 8**. The subject site has access to bus service 483 which runs along Kingsbridge Boulevard. This bus route operates Monday to Sunday including public holidays and provides the service between Clarkson Station and Alkimos via Merriwa and Butler Station. The nearest bus stop is located on both sides of Kingsbridge Boulevard approximately 500m walking distance from the subject site.

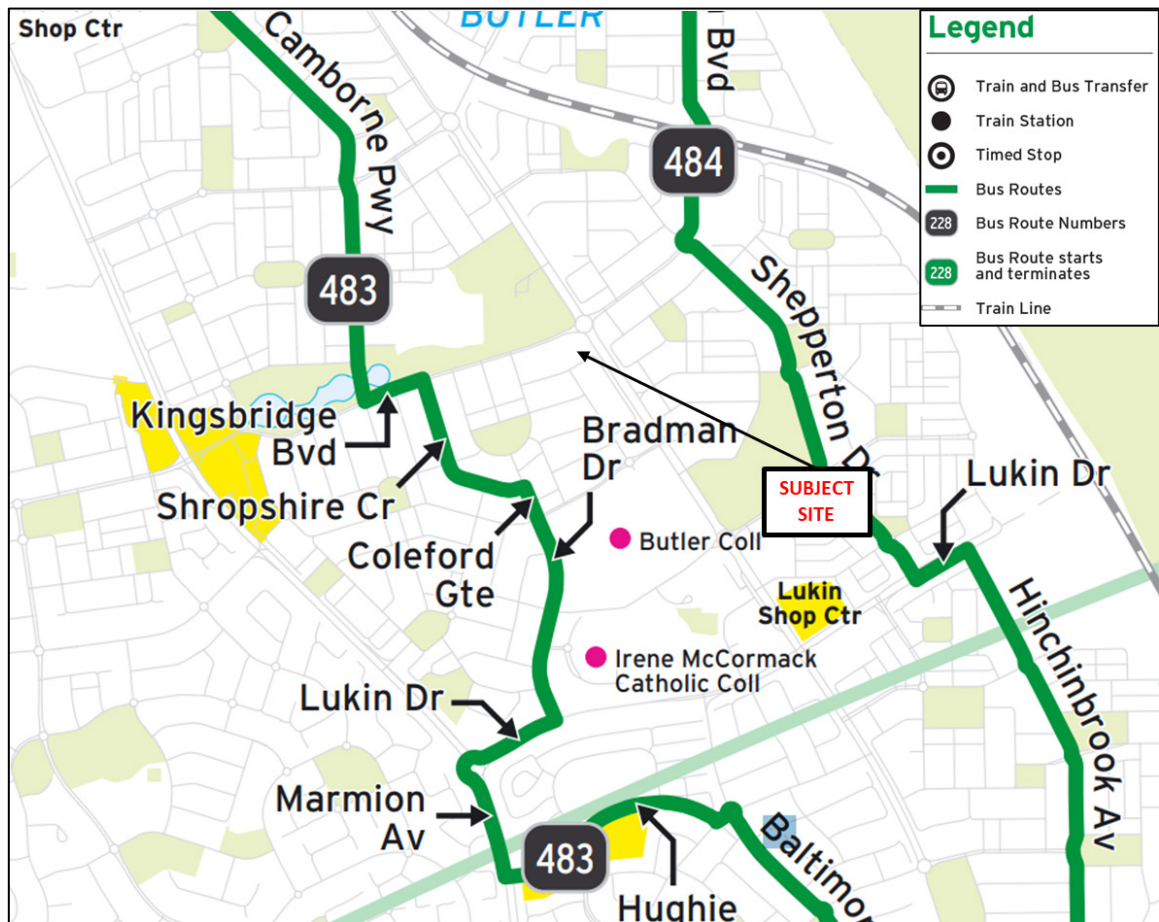


Figure 8: Public transport services (Transperth Maps)

10 Pedestrian Access

Pedestrian access to the subject site is available directly from the existing footpath network on the western side of Connolly Drive and both sides of Kingsbridge Boulevard and Woodstock Way.

11 Cycle Access

The Perth Bicycle Network Map illustrated in **Figure 9** shows the existing cyclist connectivity to the subject site. Connolly Drive and Kingsbridge Boulevard fronting the subject site are shown to have bicycle lanes or sealed shoulders on either side and a high-quality shared path and are referred to as a “Good Road Riding Environment”. This provides further links to the network of other cycle facilities in the surrounding area.

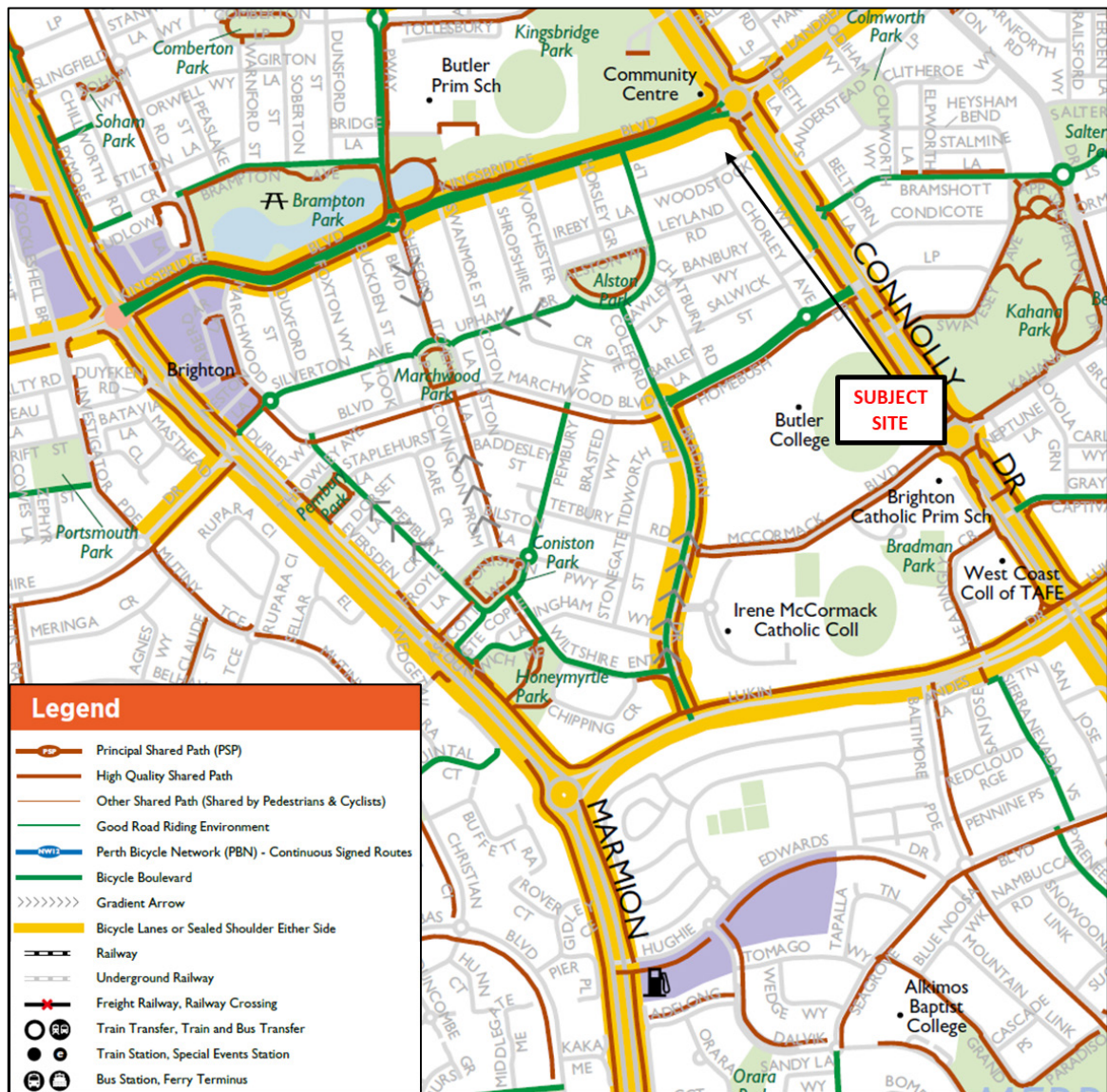


Figure 9: Extract from Perth Bicycle Network (Department of Transport)

12 Site Specific Issues

As a result of the proposed development and based on the City's DPS2, the resulting shortfall of the proposed development is less than the currently existing/approved parking shortfall.

The peak periods for childcare centre parking and retail parking will not coincide but, assuming that the peaks overlap, the proposed childcare centre and the existing shop area would require a total of 43 parking bays to accommodate that combined peak parking demand. The subject site provides a total of 43 bays, after the construction of the proposed childcare centre, which satisfies that combined peak parking demand.

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

13 Safety Issues

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

14 Conclusions

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Butler Early Learning Pty Ltd. The subject of this report is the proposed childcare centre to be located at Lot 9031 (104) Kingsbridge Boulevard, Butler in the City of Wanneroo.

The subject site is presently occupied by a shopping centre containing multiple retail activities (i.e. supermarket, liquor store, specialty tenancies, etc.).

The proposal entails the partial change of use of the existing building into a childcare centre with the balance to remain as the existing/approved shop area. The proposed development of the childcare centre in the existing building will result in the reduction of parking bays and the removal of the existing crossover on Woodstock Way to accommodate the outdoor play area of the childcare centre.

As a result of the proposed development and based on the City's DPS2, the resulting shortfall of the proposed development is less than the currently existing/approved parking shortfall. However, the peak periods for childcare centre parking and retail parking will not coincide but, assuming that the peaks overlap, the proposed childcare centre and the existing shop area would require a total of 43 parking bays to accommodate that combined peak parking demand. The net resulting 43 parking bays on site after the implementation of the proposed development will match the calculated actual combined peak parking demand.

Traffic analysis undertaken in this report shows a net increase of 70 vehicles per hour (vph) during the AM peak hour and 20vph during the PM peak hour and a net decrease of 87 vehicles per day for the daily trips due to the proposed development. This net change in traffic generation is low and as such would have an insignificant impact on the surrounding road network.

The turn path analysis undertaken for the service vehicle shows satisfactory access, egress and circulation.

The site features good connectivity with the existing road, cyclist network and public transport coverage through the existing bus service operating in the proximity of the site.

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

Appendix A

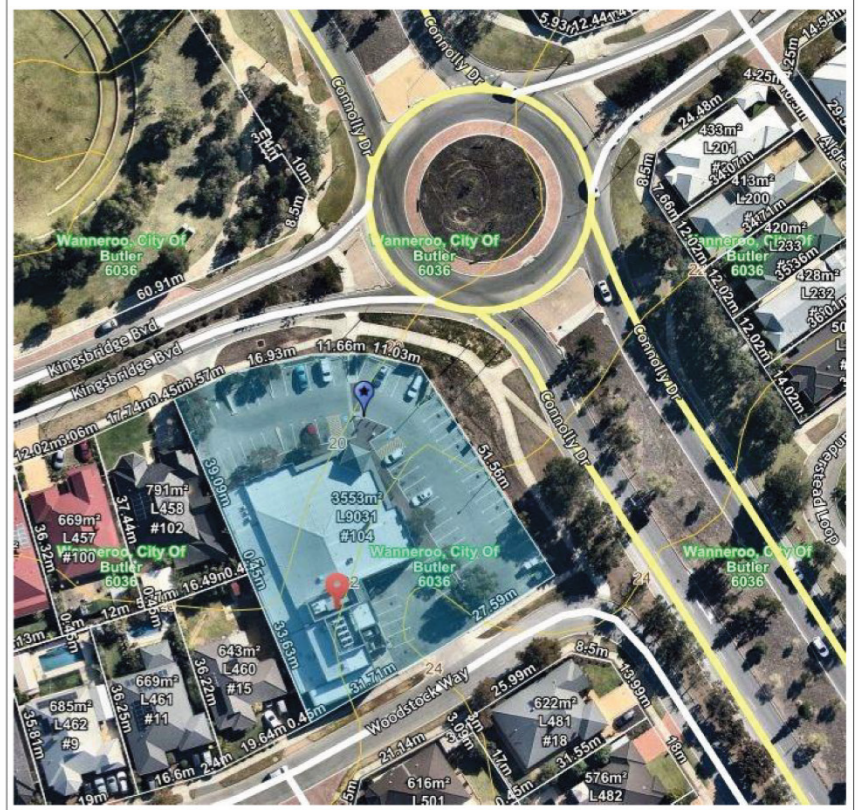
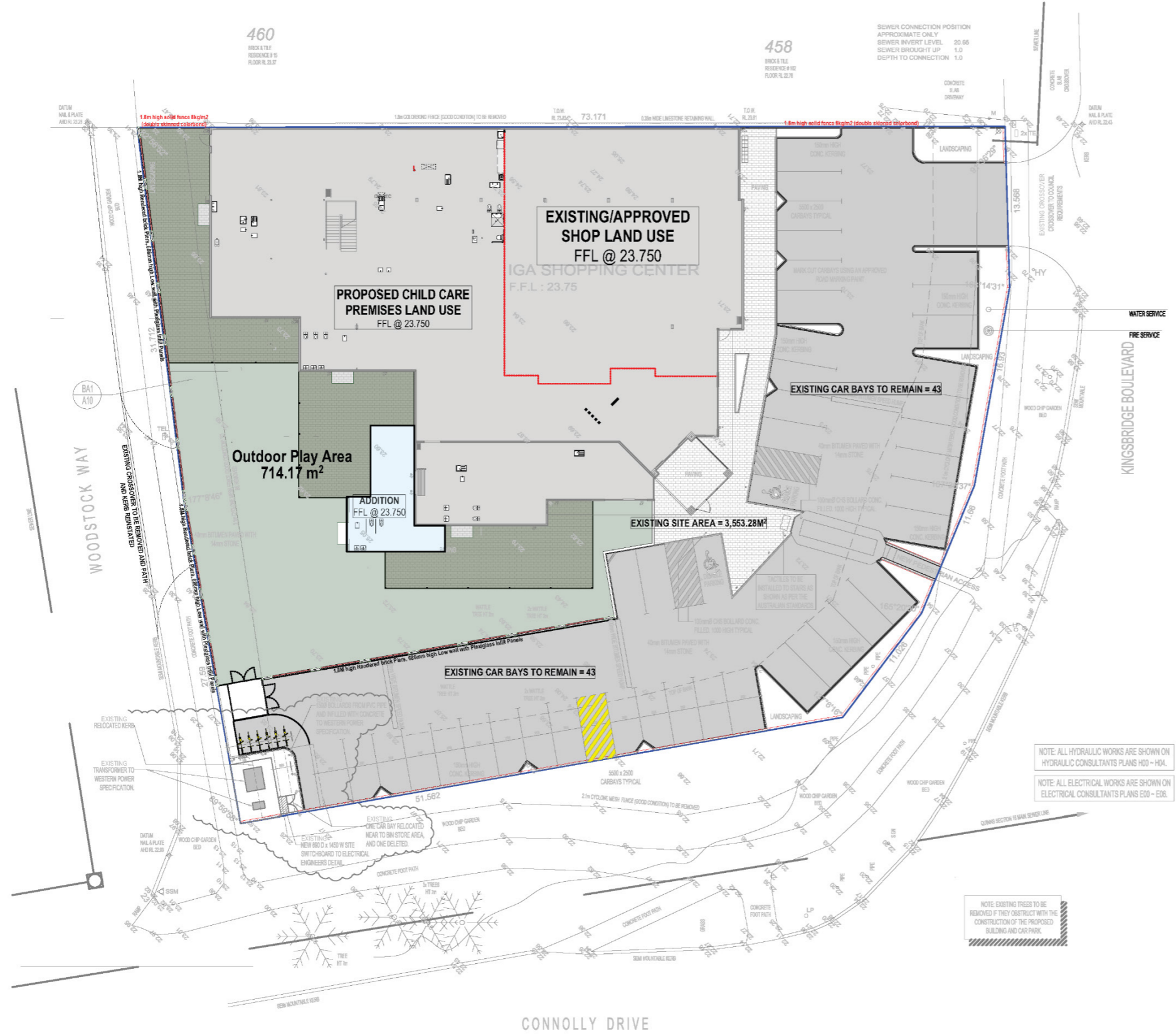
PROPOSED DEVELOPMENT PLANS



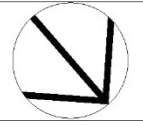
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Drawing No	Description	Child / Room Calculations				
SK01	Context Plan	Room	Age (Yrs)	Quant	Size	Staff
	Cover Sheet	Toddlers	2-3	20	72.82m ²	2
		Pre-Kindy	3+	20	72.98m ²	2
		Kindy + Dining	2-3	30	98.81m ²	6
		Activity 4	1-2	16	52.57m ²	4
		Activity 5	0-1	16	54.05m ²	4
Total Internal = (Min 3.25m ² per child)			102	450.14m ²	(Min 331.50m ² req)	
Total External Play Area = (Min 7m ² per child)			102	714.17m ²	(Min 714m ² req)	

Building Areas	
Existing Building	1,158.12
New Building	53.40
Total	1,211.52 m²



SCALE 1:200



Client: Macri Builders
 Project Name: Childcare Centre
 Project Address: 104 Kingsbridge Blvd BUTLER

Drawing Title: Site Plan
 Scale: as noted Sheet Size: A1
 Project No: 23040 Drawing No: PDO3 of 08

Issue: Development Approval
 Rev: Description Drawn: Date
 006 Council Comments 13/07/23
 005 Planning Drawings 29/04/23
 002 Design Changes 26/05/23
 001 Design 19/05/23

Revision	Description	Date
006	Council Comments	13/07/23
005	Planning Drawings	29/04/23
002	Design Changes	26/05/23
001	Design	19/05/23



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Child / Room Calculations

Room	Age (Yrs)	Quant	Size	Staff
Toddlers	2-3	20	72.92m ²	2
Pre-Kindy	3+	20	72.98m ²	2
Kindy + Dining	2-3	30	98.81m ²	6
Activity 4	1-2	16	52.57m ²	4
Activity 5	0-1	16	54.05m ²	4

Total Internal = 102 450.14m²
(Min 3.25m² per child)
(Min 331.50m² req)

Total External Play Area = 102 714.17m²
(Min 7m² per child)
(Min 714m² req)

Building Areas

Existing Building	1,158.12
New Building	53.40
Total	1,211.52 m²



SCALE 1:100

Client Macri Builders Project Name Childcare Centre Project Address 104 Kingsbridge Bvd BUTLER	Drawing Title: Proposed Floor Plan Scale: as noted Sheet Size: A1 Project No: 23040 Drawing No: PDO6 of 08	Issue: Development Approval Rev: Description 006 Council Comments 006 Council Comments 006 Council Comments Date: 13.07.2023	Revision 006 Council Comments 005 Planning Drawings 002 Design Changes 001 Design	Date 13.07.23 29.04.23 24.05.23 19.05.23
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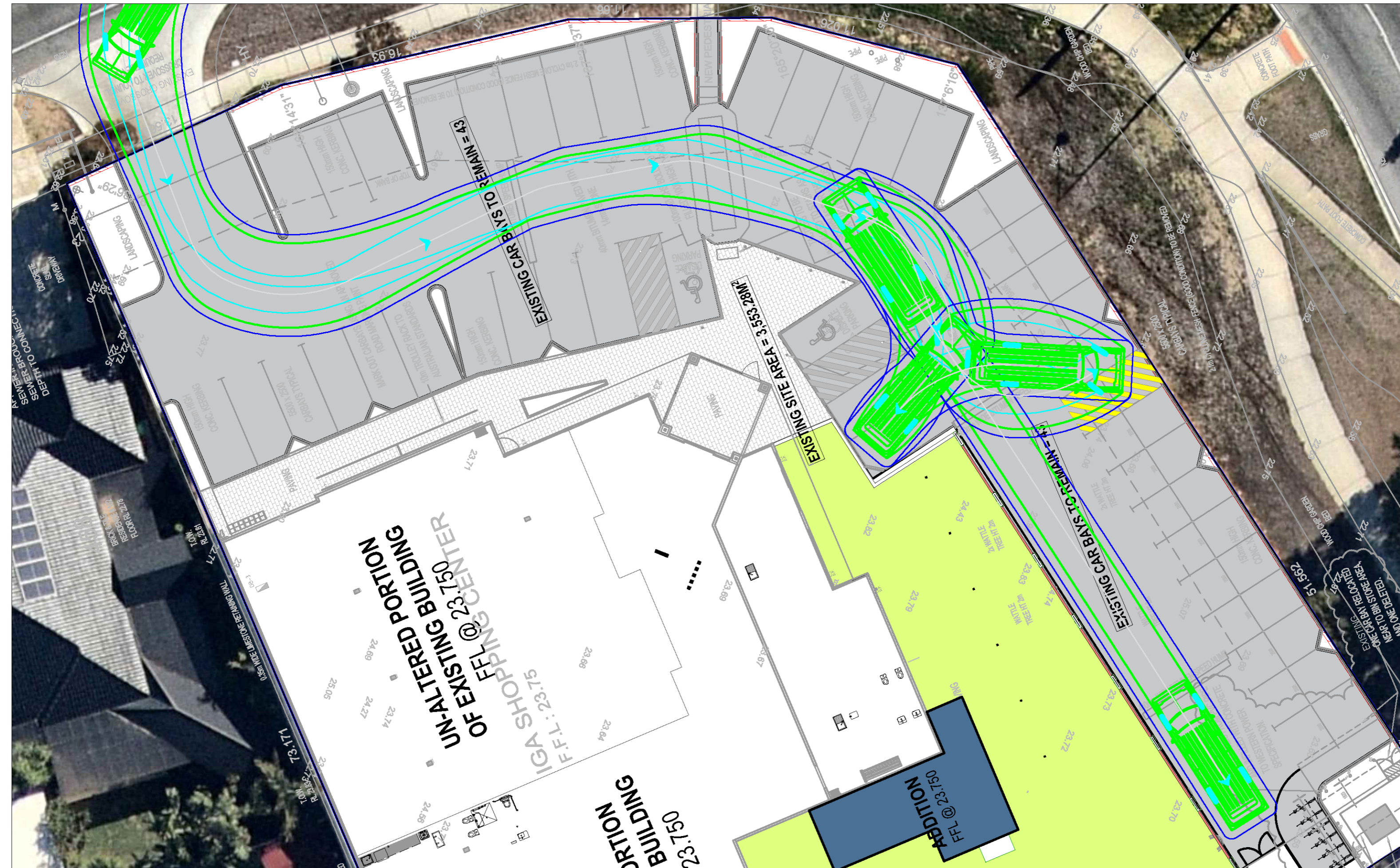
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Appendix B

TURN PATH ANALYSIS

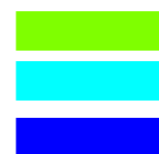


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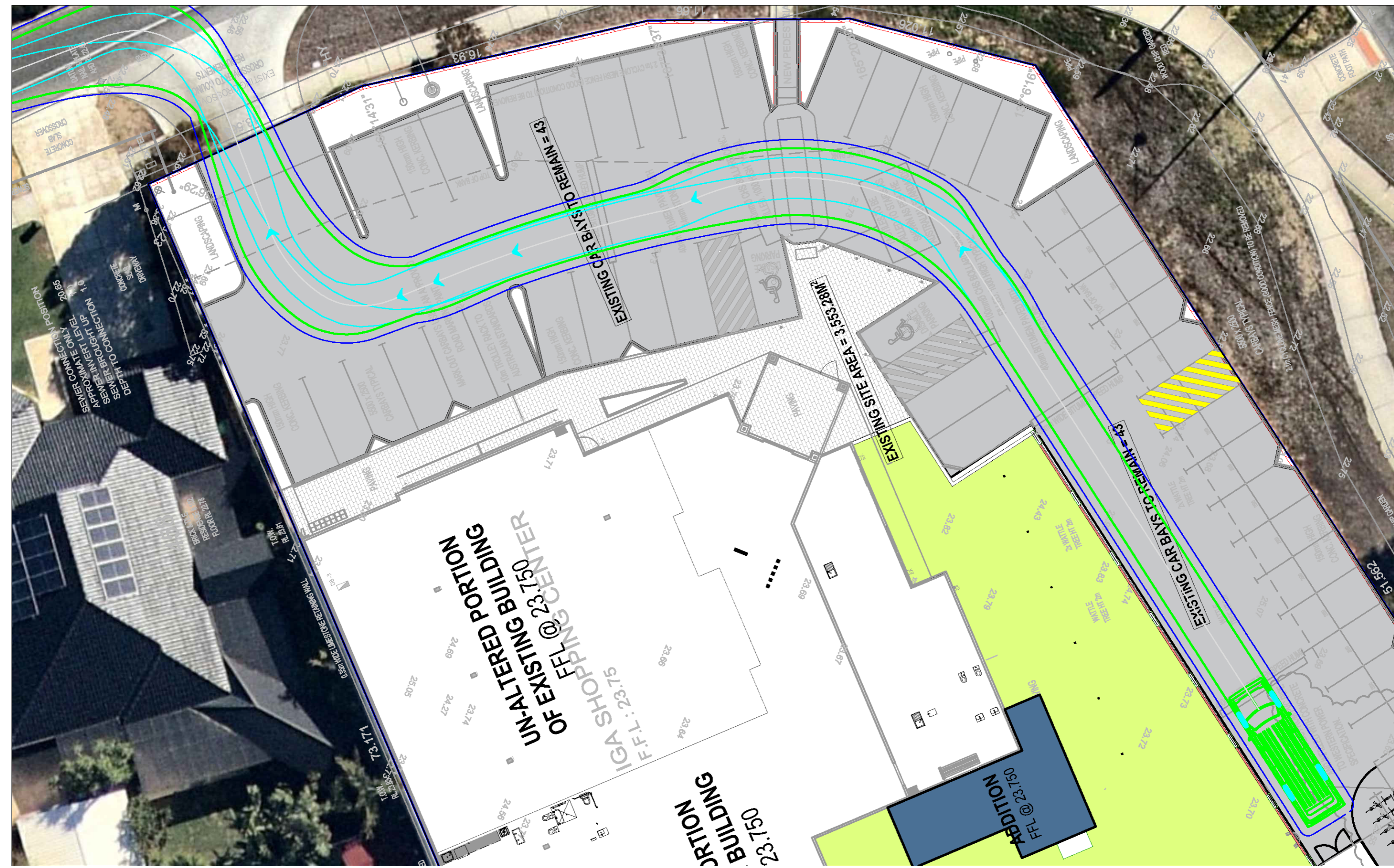
Lot 9031 (104) Kingsbridge Boulevard, Butler
 Austroads 2013: 8.8m Service Vehicle
 Service vehicle entry

LEGEND
 Vehicle Body
 Wheel Path
 500mm Clearance



t23.119.sk01
 12/07/2023
 Scale: 1:200 @ A3

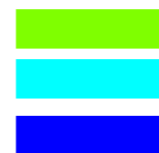




Lot 9031 (104) Kingsbridge Boulevard, Butler
 Austroads 2013: 8.8m Service Vehicle
 Service vehicle egress

LEGEND

Vehicle Body
 Wheel Path
 500mm Clearance



t23.119.sk02

12/07/2023

Scale: 1:200 @ A3

