

INROADS:GROUP

Affordable Housing Development (Boarding House) 77 – 79 Waldron Road, Chester Hill

Traffic Report

Revision 4

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InRoads Group

www.inroadsgroup.com.au

PO Box 596 | Potts Point NSW 1335

02 8035 3417

ABN: 25 608 559 897

ACN: 608 559 897



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InRoads Group has prepared this report solely for the benefit and use of its client. This report takes into account the particular instructions and requirements of the client. In preparing this report it has been assumed that all information and documents provided by the client or its consultants were complete, accurate and current. InRoads Group will not be liable for any conclusion drawn resulting from omission or lack of full disclosure by the client or its consultants.

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1.0 Introduction

InRoads Group was engaged to undertake a Traffic Impact Assessment of a proposed Affordable Housing Development (Boarding House) comprising 52 rooms and two (2) ground floor retail tenancies, to be located on the site at 77 – 79 Waldron Road, Chester Hill.

The site is located in the City of Canterbury Bankstown Local Government Area, and the proposal has been assessed considering the relevant controls.

This report provides relevant site context, describes the proposal, and documents the results and findings of our investigations addressing the following key traffic design elements and issues:

- Vehicular site access arrangements;
- On-site car and motorcycle parking provision;
- Car park layout and design;
- Bicycle parking provisions;
- Vehicle servicing and refuse collection arrangements; and
- The traffic impacts anticipated as a result of the proposal.

2.0 Context

2.1 Subject Site

The subject site is located at 77 – 79 Waldron Road, Chester Hill, on the southern side of Waldron Road and immediately to the north of the T3 Bankstown rail line, approximately 100m to the west of Hector Street. It comprises two (2) titles including Lot 62 on DP23866 (77 Waldron Road) and Lot 63 on DP23866 (79 Waldron Road), and is approximately 1,269m² in area.

The site is currently occupied by two dwelling houses (one on each lot), each of which is accessed via a driveway adjacent to the respective eastern site boundaries.

Figure 2.1a and **Figure 2.1b** below show the location of the subject site, and the site itself.

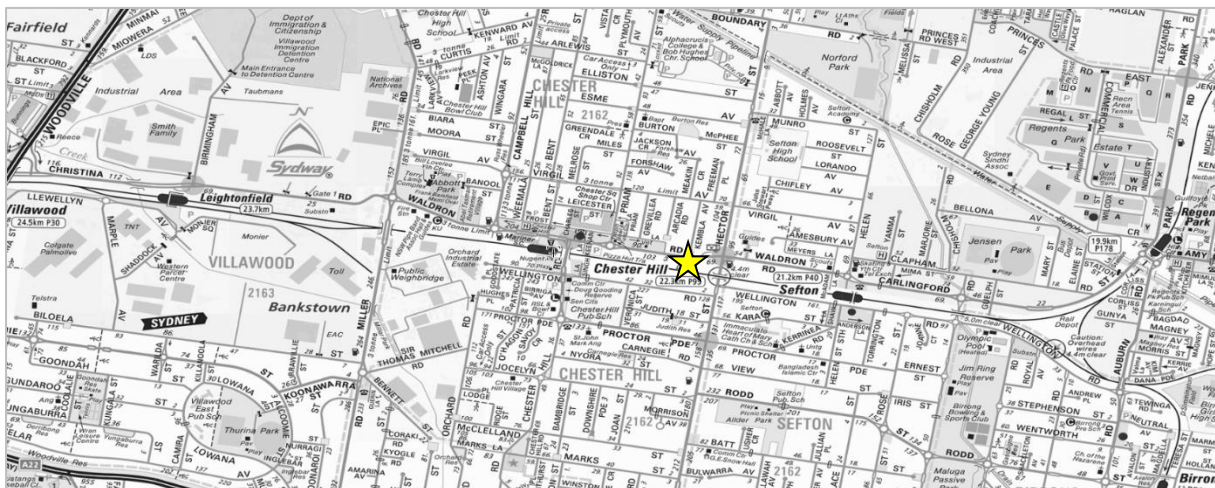


Figure 2.1a: Site Location



Figure 2.1b: Subject Site

2.2 Adjacent Road Network

The subject site has frontage to Waldron Road to the north. Waldron Road is a Collector Road which runs in an east-west direction through Chester Hill Village Centre and connecting to Sefton Small Village Centre to the east.

Waldron Road has a two-lane, two-way undivided cross-section (see **Figure 2a** and **Figure 2b** below), with a pavement width of approximately 12.5m. Pedestrian footpaths are provided along both sides of the road, and Waldron Road has a posted speed limit of 50km/hr along the frontage of the site.

Kerbside parking is permitted on Waldron Road clear of intersections and property access driveways in accordance with New South Wales Road Rules. This parking is time-restricted to the west of the site closer to the commercial properties within the Chester Hill Village Centre, however is generally unrestricted in proximity to the subject site.



Figure 2.2a: Waldron Road, looking eastbound



Figure 2.2b: Waldron Road, looking westbound

2.3 Public Transport

The proposed development on the subject site will benefit from extremely convenient access to existing public transport services. It is located approximately midway between Chester Hill rail station (which is to the west of the site) and Sefton Rail Station (which is to the east of the site), and is a convenient 6 – 8 minute (i.e. approximately 500m - 600m) walk to each of these stations, which are on the T3 Bankstown rail line and are serviced by frequent train services connecting from Liverpool to Central Station, and the City Circle route.

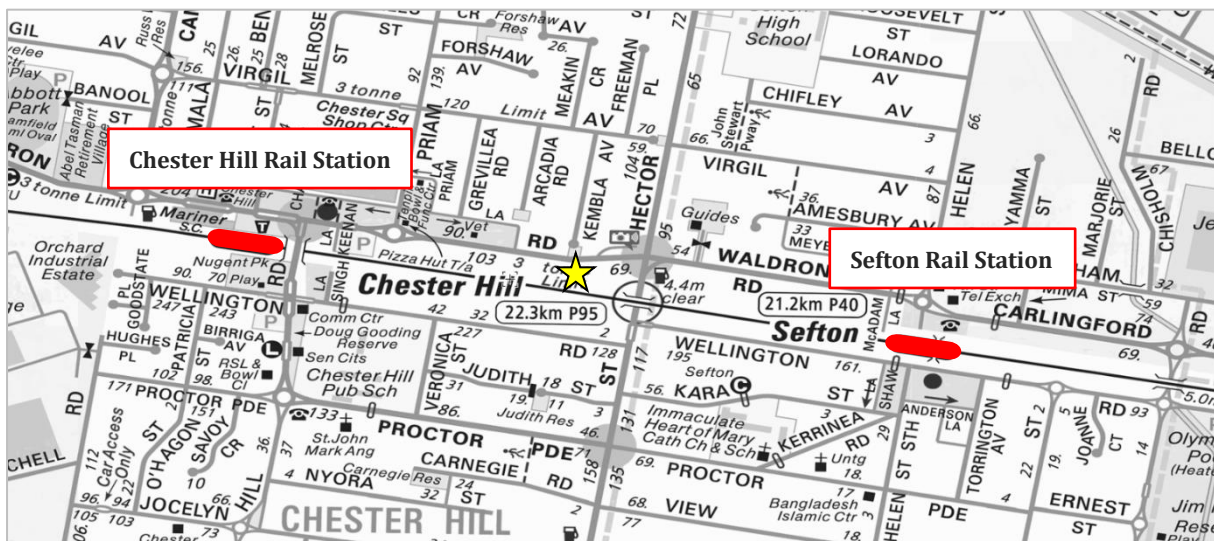


Figure 2.3a: Proximity to Rail Stations

In addition to being in extremely close and convenient proximity to rail services, the site is located within proximity to existing bus stops on Waldron Road, Hector Street, and Priam Street, which are serviced by a number of bus services as shown in **Figure 2.3b** below.

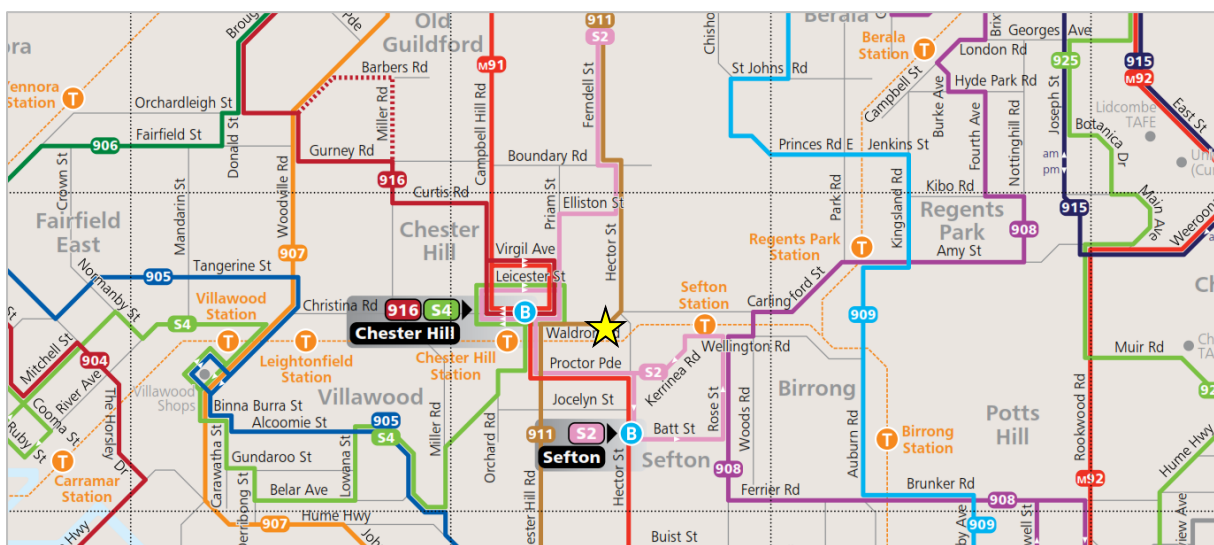


Figure 2.3b: Bus Routes in Proximity to Site

(Source: Transport for NSW)

The bus routes which travel in proximity to the site include:

- Route 911 (Bankstown to Auburn via Bass Hill Plaza and Chester Hill), which travels along Waldron Road directly past the subject site, stopping on Hector Street (near Waldron Road) and at the Chester Hill Rail Station to the west of the site;
- Route 916 (Chester Hill to Guildford via Old Guildford), which stops on Priam Street near Waldron Road and at Chester Hill Rail Station;
- Route S2 (Sefton to Granville via Chester Hill and South Granville), which stops on Priam Street near Waldron Road and at Chester Hill Rail Station;
- Route S4 (Chester Hill to Fairfield - via Villawood), which stops at Chester Hill Rail Station; and
- Route M91 (Hurstville to Parramatta METROBUS via Padstow, Bankstown and Chester Hill, which stops on Priam Street near Waldron Road and at Chester Hill Rail Station; and
- N50 (Liverpool to City Town Hall), which stops at Chester Hill Rail Station.

Overall, the proposed development will therefore benefit from extremely convenient access to existing public transport services, and is within walking distance of several key destinations and services.

3.0 Proposal

This development application seeks approval for a four-storey Affordable Rental Housing development comprising a total of 52 boarding rooms, and two (2) ground floor retail tenancies of 51m² and 74m² GFA.

Architectural plans of the proposed development are included as **Appendix A**, with an extract of the ground floor plan provided for reference as **Figure 3** below.

At-grade parking for 17 cars and eight (8) motorcycles is proposed, and these parking spaces will be accessed via an entry driveway on Waldron Road adjacent to the eastern site boundary, and an exit driveway on Waldron Road adjacent to the western site boundary.

The key traffic elements as shown in the architectural plans have been developed based upon the requirements and recommendations outlined in the relevant standards, policies, and guidelines, including:

- The State Environmental Planning Policy (Affordable Rental Housing) 2009;
- Australian Standard AS2890.1:2004 - Parking facilities Part 1: Off-street car parking
- Australian Standard AS2890.6:2009 - Parking facilities Part 6: Off-street parking for people with disabilities; and
- The Bankstown Development Control Plan (DCP) 2015.

The relevant provisions of the above documents are discussed in the following sections.



Figure 3: Extract from Ground Floor Plan

3.1 Vehicular Site Access

As shown in the site plan included in **Appendix A** and the extract provided as **Figure 3.1** below, access to/from the parking area on the site is proposed via an entry driveway on Waldron Road adjacent to the eastern site boundary, and an exit driveway on Waldron Road adjacent to the western site boundary.

The proposed entry and exit driveways are approximately 3.3m wide (plus 300mm clearance on either side to vertical obstructions), exceeding the minimum clearance requirement stipulated in Clause 4.4 of Council's DCP (Part B5 – Parking) as well as AS2890.1, which is 3.0m.

In accordance with Clause 4.10 of Council's DCP (Part B5 – Parking), the design of the crossovers is to be in accordance the Bankstown Development Engineering Standards. It is anticipated that this could reasonably be addressed in response to a suitable condition of the consent, at detailed design stage.

Approximately 6.8m vehicle queue storage is proposed at the entry driveway, between the property boundary and the security gate. This exceeds the minimum requirement stipulated in Clause 4.6 of Council's DCP (Part B5 – Parking), which is 6.0m (to accommodate a single passenger vehicle). The proposed queuing area between the vehicular control point and the property boundary will therefore be sufficient to allow a free influx of traffic which will not adversely affect traffic or pedestrian flow in the frontage road, in accordance with Clause 4.7 of Council's DCP (Part B5 – Parking).

Given the horizontal and vertical alignment of Waldron Road in proximity to the site, sight distances from the exit driveway towards opposing traffic would be essentially unrestricted, and therefore meet the requirements of AS2890.1.

The design of the development makes provision for pedestrian sight splays at the exit driveway, to provide visibility between pedestrians approaching the driveway on the Waldron Road footpath, and vehicles exiting the site. Compliance with the AS2890.1 (Figure 3.3) requirements in this regard is subject to ensuring that landscaping used on either side of the exit driveway is low, which it is anticipated could reasonably be addressed in response to a suitable condition of the consent.

Overall, the proposed vehicular access arrangements are considered to be acceptable and appropriate given the scale and nature of the proposed development, and generally in accordance with the relevant standard and guidelines, subject to refinement at detailed design stage.

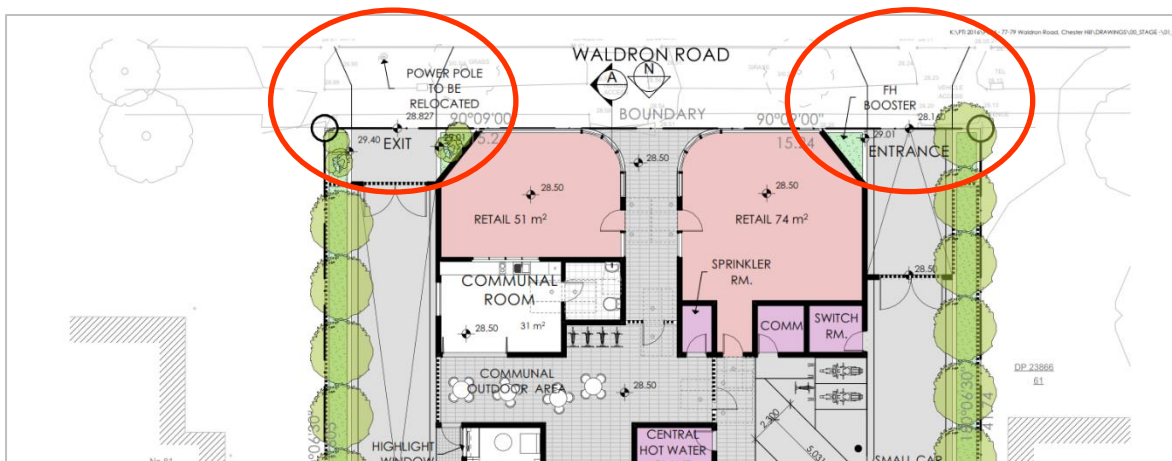


Figure 3.1: Extract from Ground Floor Plan – Vehicular Access Arrangements

3.2 Car Parking Provision

The State Environmental Planning Policy (Affordable Rental Housing) 2009 stipulates the following provision for Boarding Houses:

(2) A consent authority must not refuse consent to development to which this Division applies on any of the following grounds:

....

(e) parking

if:

(i) in the case of development in an accessible area—at least 0.2 parking spaces are provided for each boarding room, and

(ii) in the case of development not in an accessible area—at least 0.4 parking spaces are provided for each boarding room, and

(iii) in the case of any development—not more than 1 parking space is provided for each person employed in connection with the development and who is resident on site,

The State Environmental Planning Policy (Affordable Rental Housing) 2009 defines an accessible area as land that is within:

(a) 800 metres walking distance of a public entrance to a railway station or a wharf from which a Sydney Ferries ferry service operates, or

(b) 400 metres walking distance of a public entrance to a light rail station or, in the case of a light rail station with no entrance, 400 metres walking distance of a platform of the light rail station, or

(c) 400 metres walking distance of a bus stop used by a regular bus service (within the meaning of the Passenger Transport Act 1990) that has at least one bus per hour servicing the bus stop between 06.00 and 21.00 each day from Monday to Friday (both days inclusive) and between 08.00 and 18.00 on each Saturday and Sunday.

As discussed in Section 2.3, the subject site is located approximately midway between Chester Hill rail station (which is to the west of the site) and Sefton Rail Station (which is to the east of the site), and is a convenient 6 – 8 minute (i.e. approximately 500m - 600m) walk to each of these stations. As such, the site is within an accessible area as defined in the State Environmental Planning Policy (Affordable Rental Housing) 2009, and the applicable parking rates are therefore as follows:

- a minimum of 0.2 parking spaces for each boarding room, plus
- not more than 1 parking space for each person employed in connection with the development and who is resident on site.

As previously discussed, the proposed development comprises 52 studio apartments (boarding rooms), and will have an on-site building manager. The minimum parking requirement for the Boarding House component of the development is therefore 12 spaces.

In regards to the retail component of the development (two (2) tenancies with a total GFA of 125m²), it is understood that these tenancies are defined as “Neighbourhood shops”. Noting that the development is within the Chester Hill Village Centre, Council’s DCP suggests a parking rate of 1 car space per 40m² of gross floor area for Shops (Development of less than 4,000m² gross floor area).

The parking requirement for the retail component of the development is therefore four (4) spaces.

In summary, the overall parking requirements are therefore as follows:

- 11 parking spaces for the boarding rooms (minimum)
- 1 parking space for the building manager
- 4 parking spaces for the retail component
- **16 parking spaces total (minimum)**

As shown in the ground floor plan included in **Appendix A**, the proposed development provides a total of 17 car parking spaces, including two (2) small car bays, and one (1) accessible parking space. The proposed level of car parking provision therefore meets the recommendations made in the State Environmental Planning Policy (Affordable Rental Housing) 2009 for the boarding house component, and those made in Council’s DCP for the retail component of the development.

3.3 Motorcycle Parking

Clause 30 in the State Environmental Planning Policy (Affordable Rental Housing) 2009 recommends that at least one motorcycle parking space be provided for every 5 boarding rooms. Applying this rate to the 52 rooms proposed suggests that 10 motorcycle parking spaces be provided.

As shown in the ground floor plan included in **Appendix A**, eight (8) motorcycle parking spaces are proposed. Whilst this represents a marginal shortfall of two (2) motorcycle spaces against the recommendations made in Council’s DCP, it is considered to be an adequate level of motorcycle parking provision on the following grounds:

- Motorcycles represent less than 6% of the registered small vehicle fleet in New South Wales (based upon 2016 ABS Census Data, considering passenger vehicles and motorcycles only). The eight (8) motorcycle bays proposed to service the subject development represents over 30% of the total on-site vehicle parking provision (cars and motorcycles), and is therefore considered to be more than adequate based upon the existing vehicle fleet mix and the proportion of motorcycles on the broader road network;
- Motorcycles are capable of parking in standard or small car parking bays, of which 16 are proposed as part of the proposed development (excluding the parking space for people with disabilities); and
- The proposed development will be located within extremely convenient proximity of existing public transport services (as discussed in Section 2.3), as well as local services. As such, the expected reliance of residents of the development upon private vehicle is expected to be low.

On the basis of the above considerations, the proposed level of on-site parking provision for motorcycles is considered to be appropriate given the scale and nature of the proposed development.

3.4 Bicycle Parking

Clause 30 in the State Environmental Planning Policy (Affordable Rental Housing) 2009 recommends that at least one bicycle parking space be provided for every 5 boarding rooms. Applying this rate to the 52 rooms proposed suggests that 10 bicycle parking spaces be provided.

As shown in the ground floor plan included in **Appendix A**, a total of eight (8) bicycle parking spaces are currently shown. If necessary, it is considered that two (2) additional bicycle parking spaces could be provided for at detailed design stage in response to a suitable condition of the consent, in order to achieve the 10 bicycle parking spaces recommended in the SEPP.

3.5 Parking Layout and Geometric Design

The site layout as shown in the site plans included in **Appendix A** has been designed in accordance with the requirements of the relevant Australian Standards (AS2890.1 and AS2890.6) and Council's DCP, as summarised following:

- As previously discussed, access to/from the parking area on the site is proposed via an entry driveway on Waldron Road adjacent to the eastern site boundary, and an exit driveway on Waldron Road adjacent to the western site boundary. The proposed entry and exit driveways are approximately 3.3m wide (plus 300mm clearance on either side to vertical obstructions), exceeding the minimum clearance requirement stipulated in Clause 4.4 of Council's DCP (Part B5 – Parking), as well as AS2890.1, which is 3.0m.
- Approximately 6.8m vehicle queue storage is proposed at the entry driveway, between the property boundary and the security gate. This exceeds the minimum requirement stipulated in Clause 4.6 of Council's DCP (Part B5 – Parking), which is 6.0m (to accommodate a single passenger vehicle). The proposed queuing area between the vehicular control point and the property boundary will therefore be sufficient to allow a free influx of traffic which will not adversely affect traffic or pedestrian flow in the frontage road, in accordance with Clause 4.7 of Council's DCP (Part B5 – Parking).
- The standard parking spaces on the site are 2.4m wide and 5.4m long with a 5.8m wide parking aisle, as required under the provisions of AS2890.1 for User Class 1 (low turnover) car parking. As permitted under Clause 2.4.1(a)(i) of AS2890.1, provision is made for 600mm parking overhang into the landscaped area along the southern site boundary.
- The small car parking spaces are 2.3m wide and 5.0m long in accordance with Clause 2.4.1(a)(iii) of AS2890.1, and the aisle width providing access to these angled bays is adequate to accommodate the necessary manoeuvres to/from these parking spaces, as shown in the vehicle tracking diagram included as **Appendix B** (subject to the trees along the boundaries being clear trunk trees).
- An efficient and legible one-way circulation arrangement is proposed, and the aisle widths are adequate to accommodate the turning manoeuvres of a B85 passenger vehicle as shown in the tracking diagram included as **Appendix C** (subject to the trees along the boundaries being clear trunk trees).
- Motorcycle parking spaces are 1.2m wide and 2.5m long, as required under Clause 2.4.7 of AS2890.1.
- The parking space for people with disabilities is 2.4m wide and 5.4m long with a 2.4m wide adjacent shared area, as required under the provisions of AS2890.6. Reference should be made to the Access Report for further information in relation to the suitability of the parking arrangements for people with disabilities.

- Columns adjacent to parking spaces are positioned in accordance with the requirements of AS2890.1 and Council's DCP (Part B5 – Parking, Appendix 6) to accommodate the necessary manoeuvres to/from the parking spaces, as well as pedestrian access to/from vehicles.

Overall, the car parking layout is efficient and legible, and designed generally in accordance with the requirements of the relevant Australian Standards and/or Council's DCP. Any minor amendments considered to be necessary could reasonably be addressed at detailed design stage, in response to a suitable condition of the consent.

3.6 Servicing and Refuse Collection

Given the nature of the proposed development, the demand for service vehicles would be limited. With the exception of the occasional delivery vehicle or tradesperson (who could park on-street, consistent with the arrangements at most smaller residential / mixed-use developments), the only servicing requirement would be regular refuse collection.

Kerbside bin collection is proposed for both the residential and retail components of the development, with bins being transferred to Waldron Road from the proposed bin store area at collection time.

It is noted that Clause 5.3 in Council's DCP (Part B5 – Parking) suggests that off-street provision for delivery/service vehicles is only required where the commercial/retail gross floor area of a building is greater than 500m². Given the retail GFA proposed is only 125m², it is understood that no off-street provision for delivery/service vehicles is required.

Overall, the proposed servicing / refuse collection arrangements are considered to be appropriate given the nature and scale of the development, and in accordance with the recommendations made in Council's DCP.

4.0 Traffic Impact Assessment

The RMS Technical Direction TDT 2013/04a (Guide to Traffic Generating Developments, Updated traffic surveys) provides traffic generation rates for various land uses, including residential developments. The rates suggested for high density residential flat dwellings are:

- AM peak (1 hour): 0.15 vehicle trips per car space
- PM peak (1 hour): 0.12 vehicle trips per car space

Applying the above trip generation rates to the proposed on-site car parking yield of 17 spaces suggests a site traffic generation of 2 – 3 vehicle trips, or one (1) vehicle trip per 20 – 30 minutes in the critical peak hours. This level of traffic generation is clearly extremely low, and would be well within the range of typical fluctuations in traffic volumes on the surrounding road network.

Furthermore, considering the existing dwellings on the subject site (which are likely to generate 1 - 2 vehicle trips in the peak hours), the net impact of the proposal would be negligible.

In light of the above, the proposed development will be more than adequately catered for on the surrounding road network from a capacity perspective, with no impact upon traffic operations in the area. No external roadworks are required to support the proposed development, and any impacts (however minor) would be mitigated by way of infrastructure charges payable as part of the development of the site.

5.0 Recommendation

In light of the information contained within this report, it is considered that the proposal is satisfactory from a traffic operations perspective, and it is recommended that the development application be approved from a traffic engineering perspective.

5.1 Qualifications

This report has been prepared by:

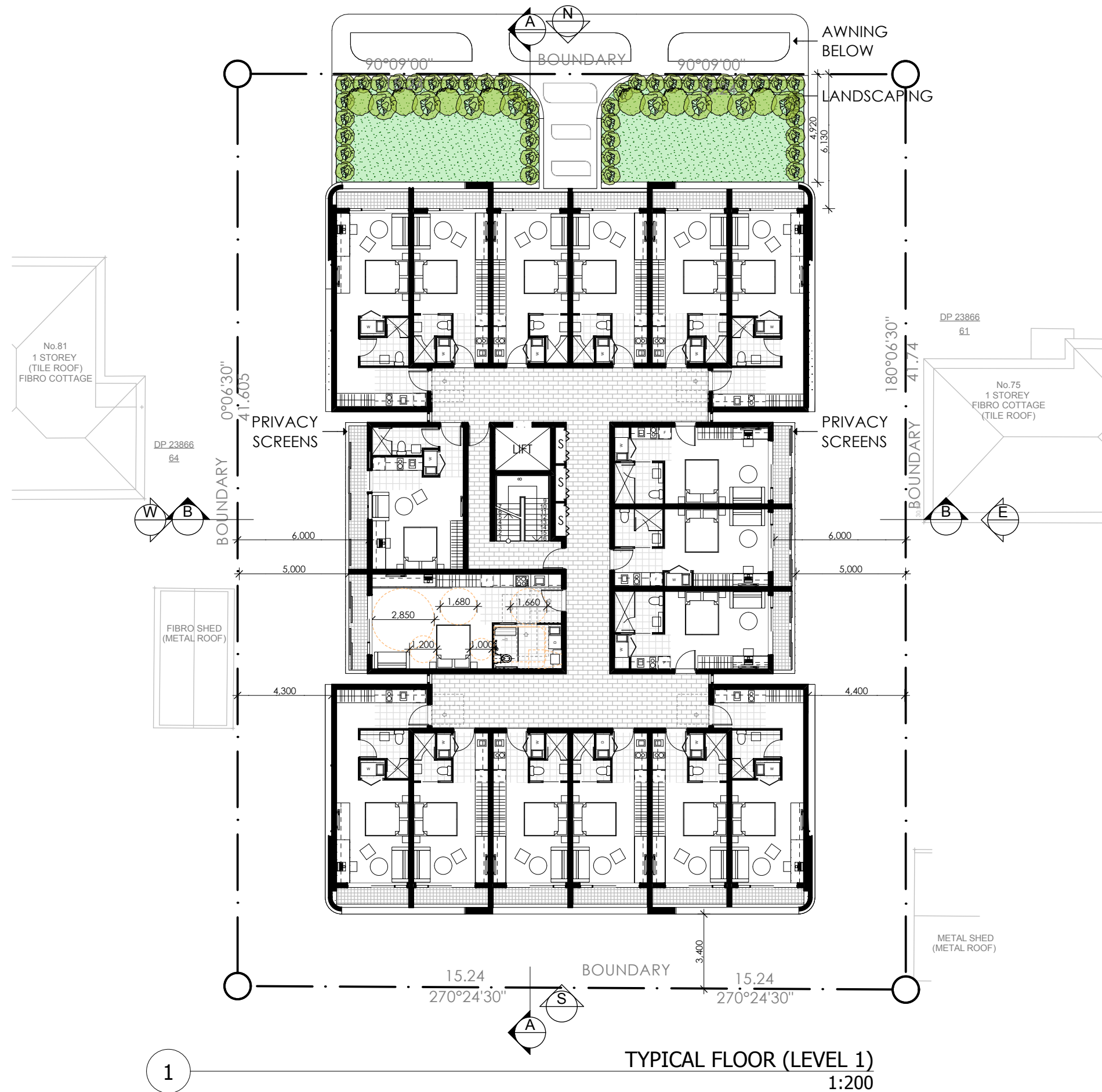
A handwritten signature in blue ink, appearing to read 'Anne', followed by a horizontal line.

Anne Coutts

Director, InRoads Group
BE Civil, MIEAust, MAITPM

APPENDIX A

Architectural Plans

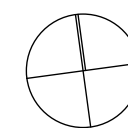




GF AREA DIAGRAMS
1:200



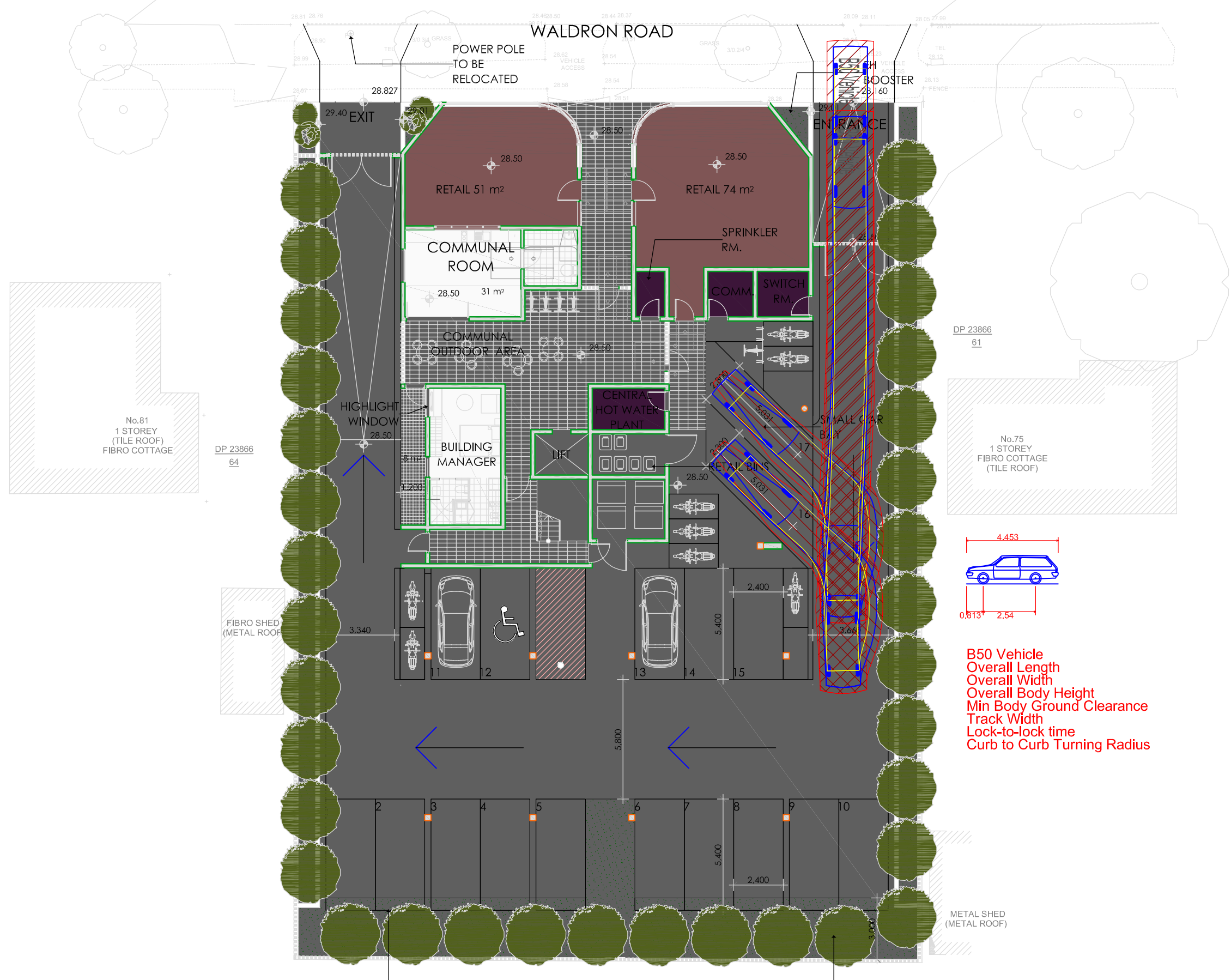
TYPICAL LEVEL - AREA DIAGRAMS
1:200



APPENDIX B

Vehicle Tracking Diagram

B50 Passenger Vehicle (Small Car)



B50 Vehicle
Overall Length 4.453m
Overall Width 1.660m
Overall Body Height 1.382m
Min Body Ground Clearance 0.223m
Track Width 1.560m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 5.100m

INROADS:GROUP

drawing prepared by

InRoads Group

PO Box 596
Potts Point NSW 1335
ABN: 25 608 559 897

project		77 - 79 Waldron Road, Chester Hill			
drawing title		Vehicle Tracking Analyses - B50 Vehicle			
project no.	drawing no.	revision	date	scale	
16-054	DWG01	A	20/07/2017	1:200 @ A3	

FOR INFORMATION ONLY - NOT FOR CONSTRUCTION

InRoads Group is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1-2004 Parking facilities - Off-street car parking, and/or AS 2890.2-2002 Parking facilities - Off-street commercial vehicle facilities). These standards make allowance for a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

APPENDIX C

Vehicle Tracking Diagram
B85 Passenger Vehicle

