Traffix Group

Traffic Engineering Assessment

Alfred Quarter - Master Plan

103-117 Boundary Road & 59-101 Alfred Steet, North Melbourne

Prepared for
Metrics Real Estate Partners

May 2026

G36267R-01G

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Table of Contents

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PLAN

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List of Figures

List of Tables

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List of Appendices

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1. Introduction

1.1. Preamble

Traffix Group has been engaged by Metrics Real Estate Partners to undertake a Traffic Engineering Assessment for the Alfred Quarter - Master Plan at 103-117 Boundary Road & 59-101 Alfred Steet, North Melbourne.

1.2. History of the Site

Two planning permits, issued in 2021 at the direction of VCAT, apply to the site, allowing for multi-storey developments across two stages:

- Stage 1 (PLN No. PA1900619) – includes the properties at 103-109 and 115-117 Boundary Road, (the permit excludes the property at 111-113 Boundary Road) and consists of two separate multi-storey commercial buildings (Buildings A and B), incorporating office, retail and apartments, with a shared basement.
- Stage 2 (PLN No. PA1900705) – incorporates the remainder of the site to the west, and proposed a number of mixed use buildings with privately owned laneways providing direct access. The approved development included residential apartments, a hotel, office, retail premises, a retirement village, place of assembly (theatre), a minor sports and recreation facility (rooftop skate park), and food and drink premises.

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These permits remain valid, however since the issue of the permits, the Applicant has purchased the additional site at No 111-113 Boundary Road, allowing for a more 'complete' development proposal.

Since the issue of the permits, Council has also progressed an updated draft Structure Plan and Development Contributions Plan that applies to the precinct (including the subject land). The draft Structure Plan is progressing to a Standing Advisory Panel in the first half of 2026.

1.3. This Application

This application relates to a Master Plan that has been prepared that reenvisages the redevelopment of the site, now also including the site at 111-113 Boundary Road. The Master Plan contemplates a three-stage development that generally delivers a subdivision and development outcome that, from a traffic and access perspective, considers the existing permit requirements as well considers the new draft Structure Plan.

This report provides a detailed traffic engineering assessment of the parking and traffic issues associated with the proposed development having regard to the existing permit and the draft Structure Plan.

In the course of preparing this assessment, we inspected the subject site, reviewed development plans and background material, and assessed the car parking and traffic impacts of the proposal.

This report responds to preliminary advice provided by Council and Head, Transport for Victoria.

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2. Existing Conditions

2.1. Subject Site & Use

The subject land, addressed as 103-117 Boundary Road & 59-101 Alfred Steet, North Melbourne, is located at the south-west corner of the intersection between Alfred Road and Boundary Road.

The site is rectangular in shape, and it is bound by Boundary Road at the east, Alfred Road at the north and Citylink and Moonee Ponds Creek to the west. There are existing commercial developments located to the south, including several heritage warehouse buildings.

The land at 103-113 Boundary Road includes 4 existing commercial buildings, which take access from Boundary Road via individual crossovers, and also have access to a shared rear Right of Way/Laneway that includes an easement.

The land at 59-101 Alfred Road is vacant, having been relatively recently cleared of the previous improvements.

An existing heritage building, located at No. 83 Alfred Road, remains fronting Alfred Street.

A locality plan and aerial photograph are provided at Figure 1 and Figure 2, respectively.

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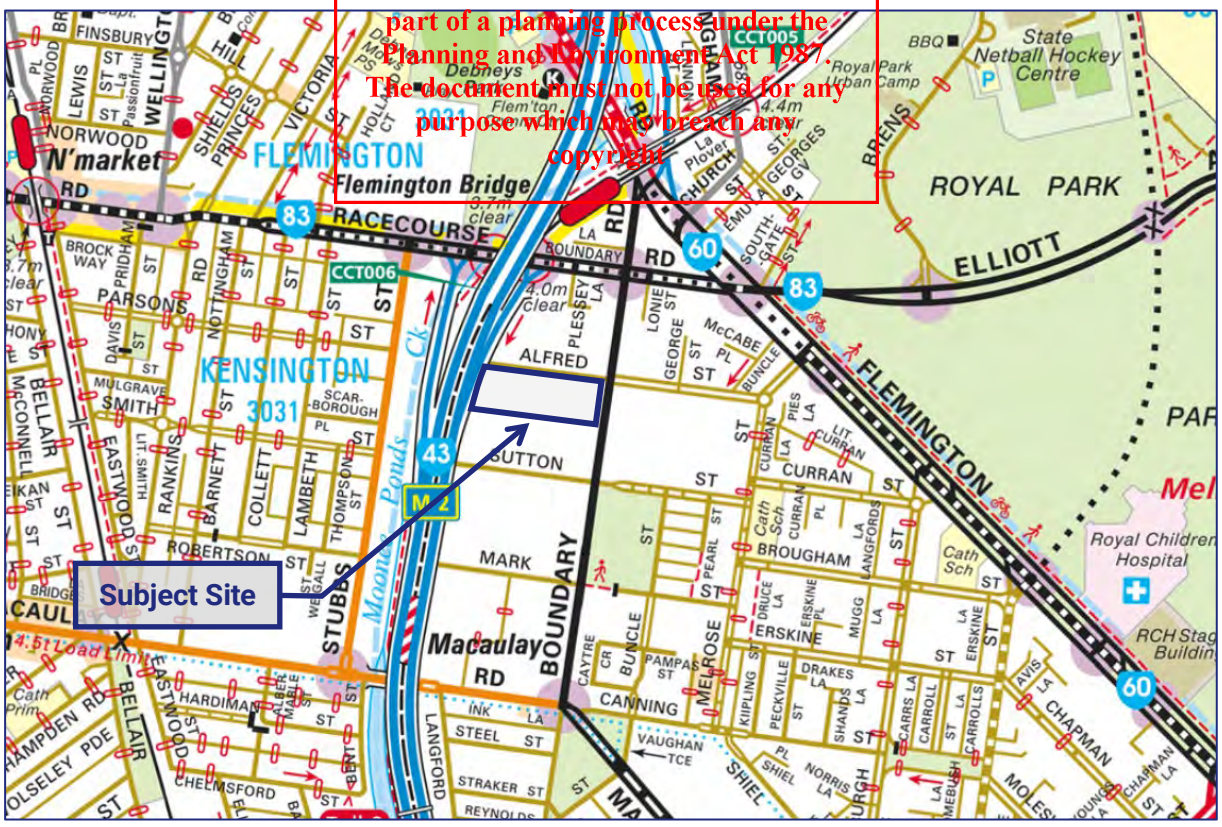

Source: Melway Online

Figure 1: Locality Map

Figure 2: Aerial Photograph *Source: Nearmap*

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2.2. Planning Scheme Context

2.2.1. Planning Zones & Surrounding Uses

The subject site is zoned as a Mixed-Use Zone (MUZ) under the Melbourne Planning Scheme. A planning zone map is provided at Figure 3:

Other relevant zones that apply to site include:

- Development Contributions Plan Overlay (SCPO2),
- Design and Development Overlays (DDO26), (DDO63-A7), (DDO66),

Notable nearby land uses include:

- North Melbourne Community Centre, approximate 400 metre walk southeast,
- Flemington Bridge Station, approximate 550 metre walk north, and
- Arden Gardens Shopping Centre, approximate 700 metre walk southeast.

The site is within the Macaulay Urban Renewal Precinct, and a Draft Structure Plan has been prepared for the precinct which is discussed in later sections of this report.

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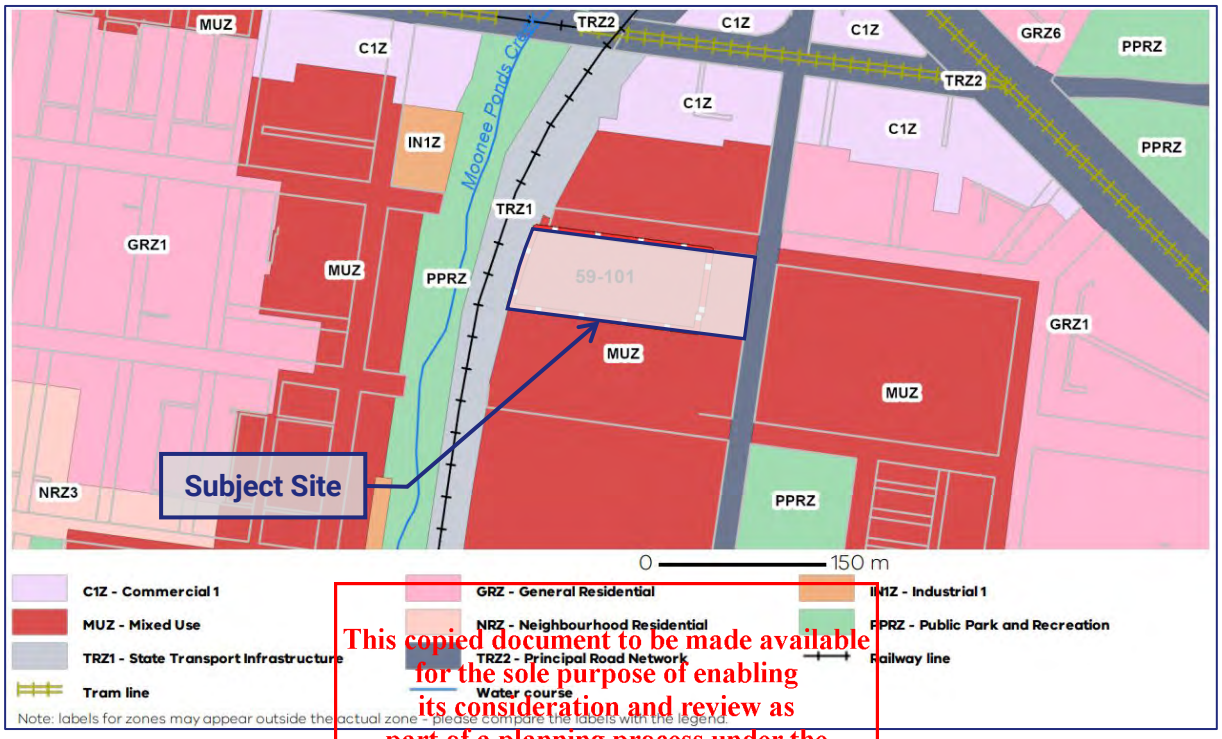

Figure 3: Planning Zone Map – Melbourne *Source: Vicplan*

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2.3. Existing Road Network

Boundary Road is Department of Transport (DoT) declared primary arterial road and is classified as a Transport Zone 2 (TRZ2) under the Planning Scheme. Boundary Road runs in a north-south direction between Flemington Road to the north and Gracie Street to the south.

Boundary Road accommodates a lane of traffic in both directions and kerbside parking on both sides with a central turning lane. Kerbside parking is generally unrestricted.

Boundary Road has a posted speed limit of 60km/h within the vicinity of the subject site.

Alfred Street is a Council Local Road, aligned in an east-west direction spanning between Melrose Street to the east and City Link to the west.

West of Boundary Road, Alfred Street has a carriageway width of approximately 14 metres which accommodates a lane of traffic, kerbside parking on both sides. Kerbside parking on the southern side is provided as a mixture of parallel and 45 degree angled parking. Kerbside parking on the north side is provided as parallel.

Alfred Street has a default speed limit of 50km/h within the vicinity of the subject site.

The intersection of Boundary Road and Alfred Street is stop sign controlled, with priority afforded to Boundary Road. The intersection includes right turn lanes at the northern and southern legs. Left turn bans into Alfred Street apply for vehicles approaching from the north between 7-9am Monday to Friday.

Figure 4 and Figure 5 provide views of the surrounding road network.

Figure 4: Boundary Road – View to Alfred Road intersection

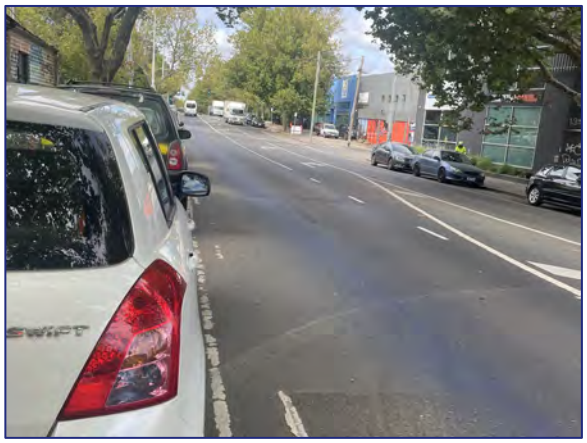

Figure 5: Boundary Road – View South

2.4. Sustainable Modes of Transport

The site has excellent access to sustainable transport modes and is well located with regard to public transport and bicycle routes as detailed below.

2.4.1. Walking

The site is well located to promote walking to everyday services.

The subject site scores 82 out of a possible 100 using the 'Walk Score', which is a measure of how easy it is to access everyday services by walking. This score classifies the site as 'Very Walkable' and that most errands can be accomplished on foot.

2.4.2. Public Transport Accessibility

The site is well serviced by public transport. A tram stop (Route 57) is located approximately 200m to the north on Racecourse Road. Flemington Bridge Station is located an approximate 550 metre walk north which provides train services between Melbourne CBD and Upfield.

Table 1 summarises the available services, whilst Figure 6 illustrates the nearby routes.

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Table 1: Public Transport Services in the Vicinity of the Subject Site

Service	Route	Route Description	Distance to Node
Train Services	Flemington Bridge Station – City to Upfield		~550m north
	Macaulay Station – City to Upfield		~700m south-west
Tram Services	Route 57	West Maribyrnong - Flinders Street Station & City	~200m north
	Route 59	59 Airport West - Flinders Street Station & City	~450m north
Bus Services	Route 402	Footscray Station - East Melbourne via North Melbourne	~650m south-east

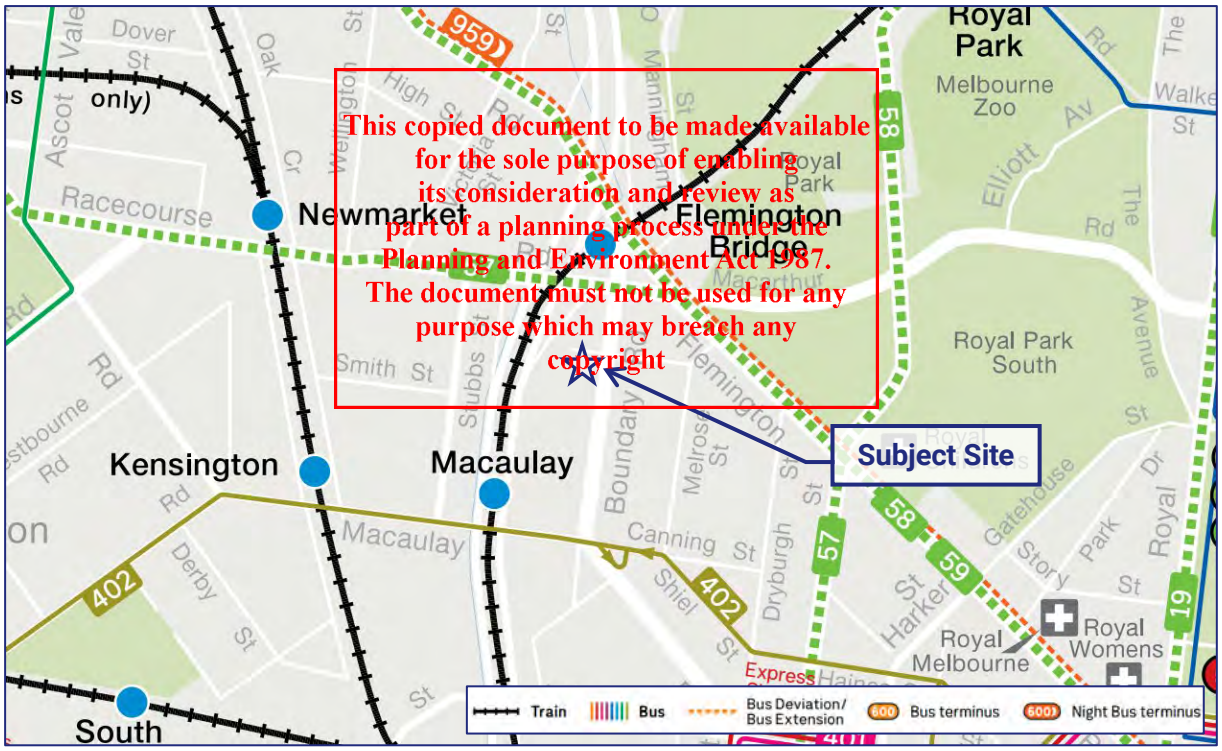

Figure 6: PTV Public Transport Map – Melbourne

Source: Public Transport Victoria

2.4.3. Bicycle Accessibility

The site has access to bicycle facilities and is located proximate to the Principal Bicycle Network (PBN). The PBN connects on-road and off-road bicycle paths between municipalities.

In the vicinity of the site, bicycle lanes are provided along Racecourse Road, Melrose Street and Flemington Road, as illustrated within the excerpt of Transport Victoria Bicycle Infrastructure Network map at Figure 7.

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Capital City Trail is accessible approximately a 400-metre bicycle ride to the north-west of the subject site which provides a connection to the city.

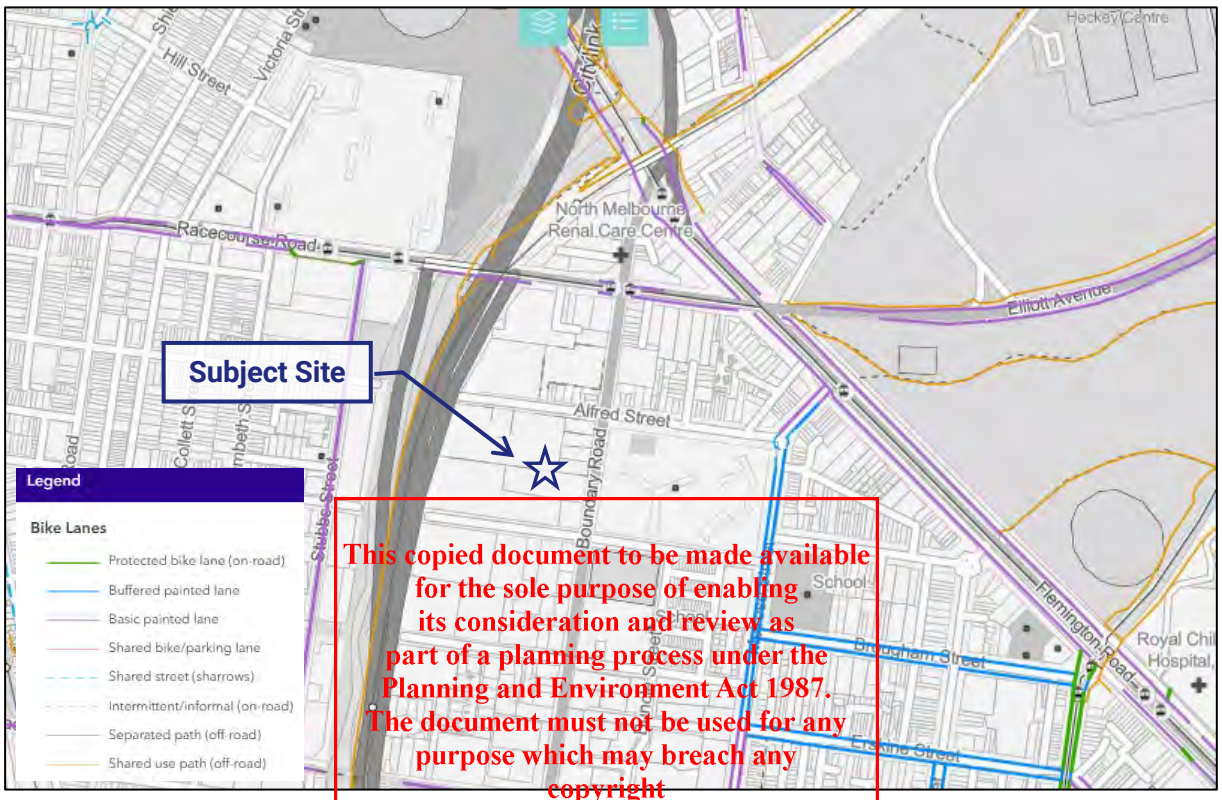

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Figure 7: Transport Victoria - Bicycle Network map

2.4.4. Car Share

Car sharing schemes have been operating in Melbourne since 2003 with a number of inner metropolitan Councils actively supporting their use by allocating public spaces throughout their municipalities for the purposes of accommodating 'car share' cars[1].

City of Melbourne supports 'car sharing' schemes by allocating spaces within private developments and Council operated off-street car parks for the purposes of accommodating 'car share' cars operated by Flexicar, Go Get and GreenShareCar.

The car share scheme provides an alternative to private vehicles and encourages the use of sustainable modes of transport for the majority of trips. Car share facilities offer personal and commercial or business memberships, and can be more convenient for short trips as payment is generally on a per hour basis.

Commercially operated car share cars currently available proximate to the subject site, include:

- Alfred Street near Melrose Street (GoGet) (1 car), approximately 220 metres walking distance.

[1] The three main schemes supported by these Councils are Flexicar (www.flexicar.com.au), Go Get Car Share (www.goget.com.au) and Green Share Car (www.greensharecar.com.au).

- Brougham Street near Melrose Street (GoGet) (1 car), approximately 500 metres walking distance.

The nearest existing car share pods (spaces) are shown in Figure 8.

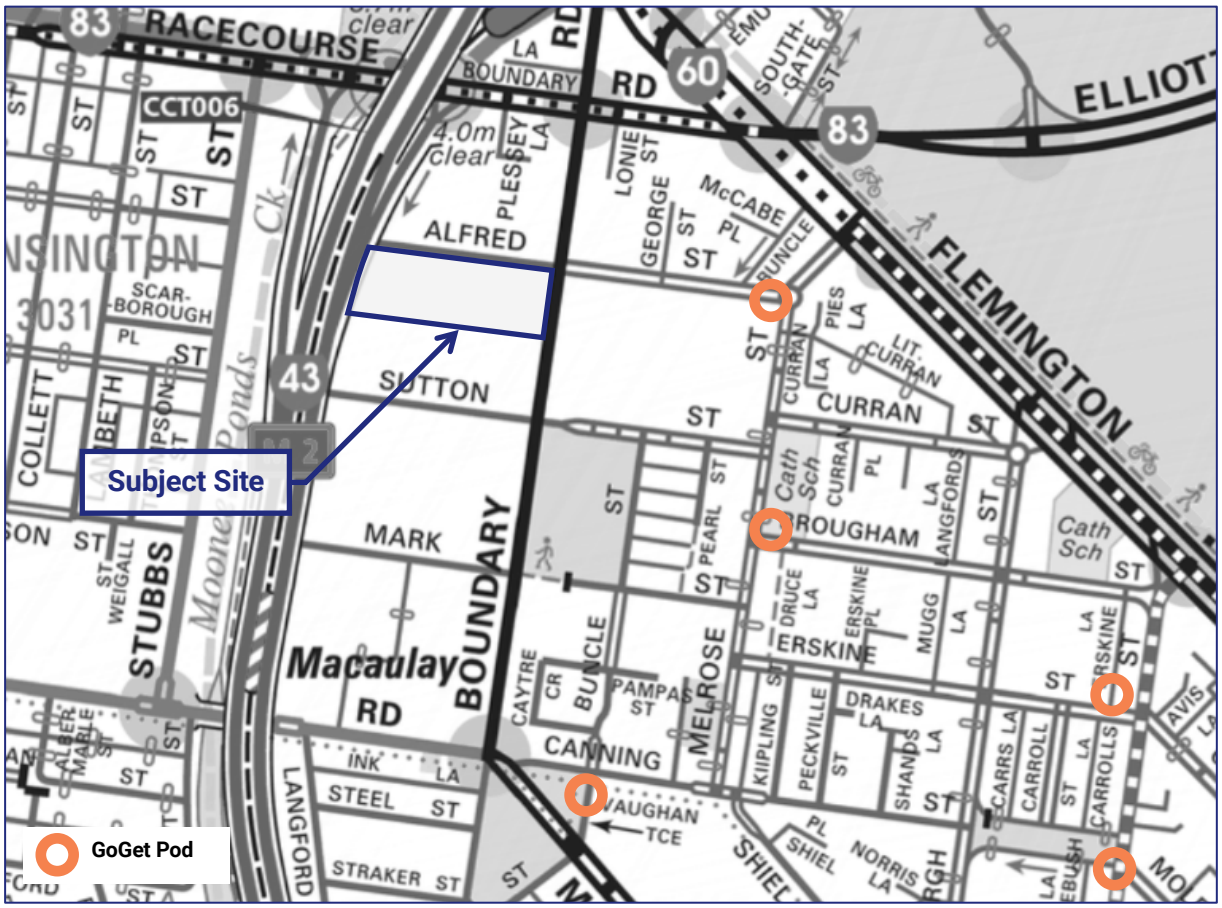

Figure 8: Proximate Car Share Pods

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2.5. Existing Approval

2.5.1. General

Two planning permits, issued in 2021 at the direction of VCAT, apply to the site, allowing for multi-storey developments across two stages:

- Stage 1 (PLN No. PA1900619) – includes the properties at 103-109 and 115-117 Boundary Road, (the permit excludes the property at 111-113 Boundary Road) and consists of two separate multi-storey commercial buildings (Buildings A and B), incorporating office, retail and apartments, with a shared basement.
- Stage 2 (PLN No. PA1900705) – incorporates the remainder of the site to the west, and proposed a number of mixed use buildings with privately owned laneways providing direct access. The approved developments included residential apartments, a hotel, office, retail premises, a retirement village, place of assembly (theatre), a minor sports and recreation facility (rooftop skate park), and food and drink premises.

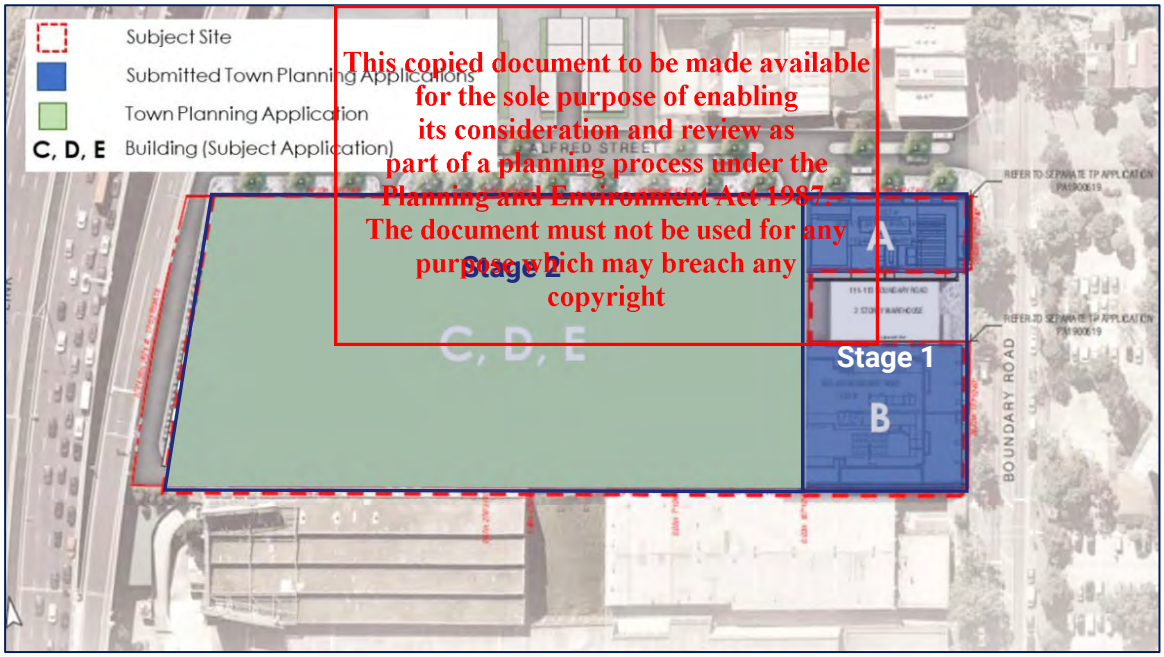

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Figure 9: Current Permit Staging Plan and Site (GTA Consultants Report)

2.5.2. Approved Yields and Parking Provisions

Reference is made to the GTA Consultants (now Stantec) Traffic Impact Assessment report dated April 2021, which was endorsed by the Minister for Planning on 23 June 2022 under the Stage 1 permit and included Buildings A and B.

Additionally, GTA Consultants prepared a Transport Impact Assessment report on 22 November 2019 for Stage 2, which includes Buildings C to E.

The development summary outlined in these two reports is summarised in Table 2.

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In summary, the approved developments considered by VCAT allowed for some 411 dwellings, 165 retirement living units, 100 hotel rooms, 12,441 m^2 of office and retail space, a theatre and a school. In total there were 174 car parking spaces approved in Stage 1 for Buildings A and B. There were 375 parking spaces approved for Buildings C, D and E in Stage 2.

Table 2: Approved Development Schedule and Parking Provisions

Stage	Building	Proposed use	No/Area
Stage 1[2]	A, B	Residential	160 dwellings
		Retail	913 sqm
		Office	880 sqm
		Car Parking	174 spaces
Stage 2[3]	C, D, E	Residential (Dwellings)	251 dwellings
		Residential (Retirement Living)	165 dwellings
		Retail (Shop)	2,609 sqm
		Office	8,039 sqm
		Hotel	100 rooms
		Theatre	2,507 sqm (250 seats)
		School	5,424 sqm (504 students and 26 staff)
		Car Parking	375 spaces
Combined		**Residential (Dwellings)**	**411 dwellings**
		Residential (Retirement Living)	**165 dwellings**
		Office/Retail	**12,441 m^2**
		Hotel	**100 rooms**
		Theatre	**250 seats**
		School	**504 students/26 staff**
		Car Parking	**549 spaces**

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[2] Development Summary and Parking Provision for Stage 1 was retrieved from GTA Transport Impact Assessment (16/04/2021) endorsed by the Minister for Planning on 23 June 2022.
[3] Development Summary and Parking Provision for Stage 2 was retrieved from GTA Transport Impact Assessment (22/11/2019).

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2.5.3. Approved Access & External Works

Permits PLN No. PA1900619 and PLN No. PA1900705 require a suite of mitigating works to support the development of the site on Alfred Street and at the intersection of Boundary Road.

These works provided access to the internal site access provisions, which included a series of laneways, drop off pick up areas, and internal parking ramps and loading arrangements to service the future development.

An excerpt of the access to the site outlined in the GTA report (dated 22/11/2019) outlines the permitted access to the site as shown in Figure 10 which show:

- Primary access to the site approved via the future signalised intersection at Boundary Road and Alfred Street. These works were required to be delivered as part of the Stage 1 permit.
- Upgrades to Alfred Street, including the introduction of a central median, with on-street parallel parking on both sides, and extensions of the kerbing on both sides of the road to facilitate improved pedestrian and urban realm outcomes. At the western end, Alfred Street was to facilitate turning for a service vehicle.
- Two north-to-south internal roads/laneways were to run through the site—one along the western boundary and the other more central to the site, both operating one-way and linking to an east-west internal road/laneway running along the southern boundary of the site.

Of note, the permit specified and allowed for the signal works and also the works to Alfred Street to be assessed and offset as works-in-kind against the Development Contribution requirements associated with the development.

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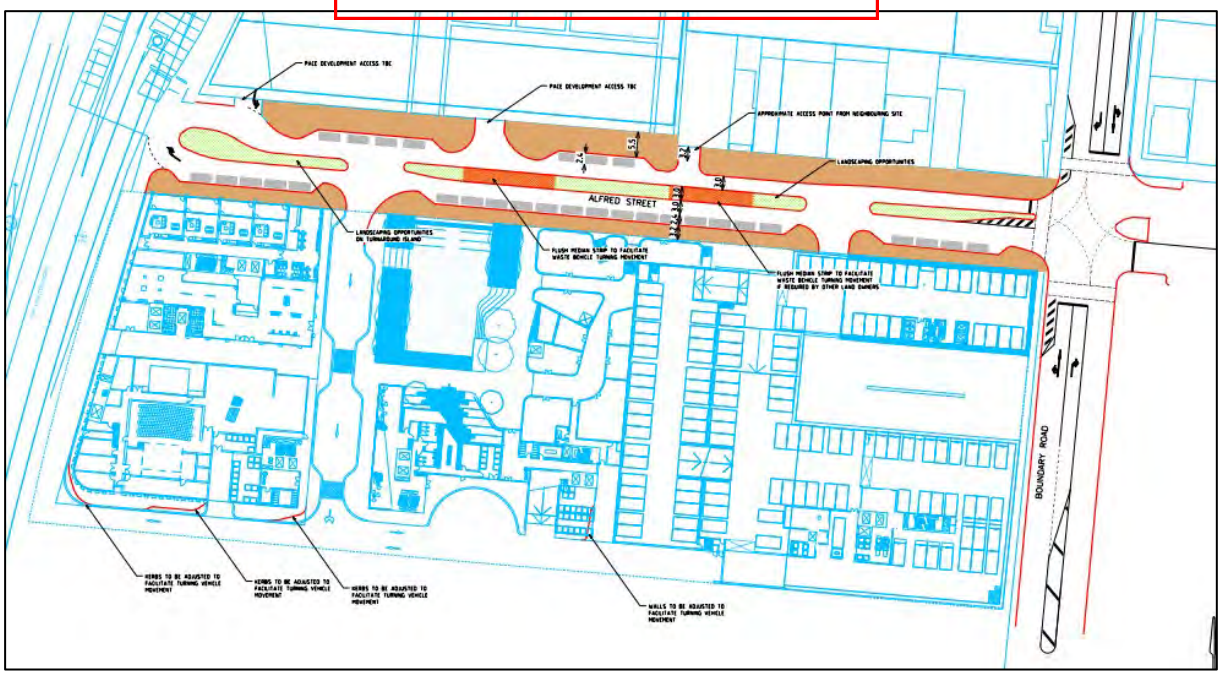

Figure 10: Approved plan of access to site – GTA Report (22/11/2019)

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2.6. Proposed Amendment C417: Macaulay Urban Renewal Precinct

2.6.1. General

Since the original permit approvals, Council has sought to prepare an updated Macaulay Urban Renewal Precinct Structure Plan.

Proposed Amendment C417 to the Melbourne Planning Scheme seeks to implement the Macaulay Structure Plan 2021 and proposes to change the policies, zoning and overlay controls to provide new guidance and rules for how land can be used and developed, including building design and parking requirements.

The Amendment also includes an updated Development Contributions Plan and series of works, road and open space upgrades and associated costings.

It is noted that the amendment is yet to be independently reviewed and has not yet progressed past the initial consultation phase.

2.6.2. Site Context and Roadway Requirements

The Macaulay – Stubbs and Boundary Precinct proposed streets is shown in Figure 11.

In the context of the site, the map illustrates an outcome that differs from the current Structure Plan requirements and the existing permits.

The key traffic and access components which are contemplated within the draft map are:

- 2 x 12m-wide north-south Streets which run essentially as one at the rear of the existing buildings that front Boundary Road, and a second toward the western boundary. These locations of the laneways are generally consistent with the existing permitted locations, however the existing permit includes a third north-south laneway allow for circulation along the western boundary.
- South of the site, these laneways transition into the southern adjacent land as a 6m-wide laneway (eastern road) and a 4m arcade (western road). Both the 9m and 6m laneway sections are designated for pedestrian and cyclist use only.
- A site setback is now shown on the western boundary of the site. This space essentially replaces what is currently permitted as a western north-south roadway (running parallel to the CityLink/creek reserve).
- A 12m east-west laneway is shown along the southern boundary of the site, running between the western north-south laneway, and connecting to Boundary Road. West of the western north-south laneway, this transitions to a 9m laneway running into the open space. Notably the vehicular connection to Boundary Road is a variation from the existing permit, which does not include vehicular access to Boundary Road.
- Alfred Street terminates as a road to the east of the western north-south street, transitioning into an area designated as active 'New Open Space'. Our interpretation is that this western laneway should in fact connect to Alfred Street, with the open space beginning slightly further west.

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Figure 11: Draft Map of New and Widened Streets – Macaulay – Stubbs and Boundary Precincts

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The cross-sections for each of the relevant roads nominated in the draft structure plan are shown in Figure 12, Figure 13 and Figure 14.

It is important to note that in relation to the 12m laneways, the roads show only a 5m vehicle carriageway for the 12m laneways.

The other laneways are nominated as non-vehicular lanes, and essentially only provide for cyclist and shared pedestrian access.

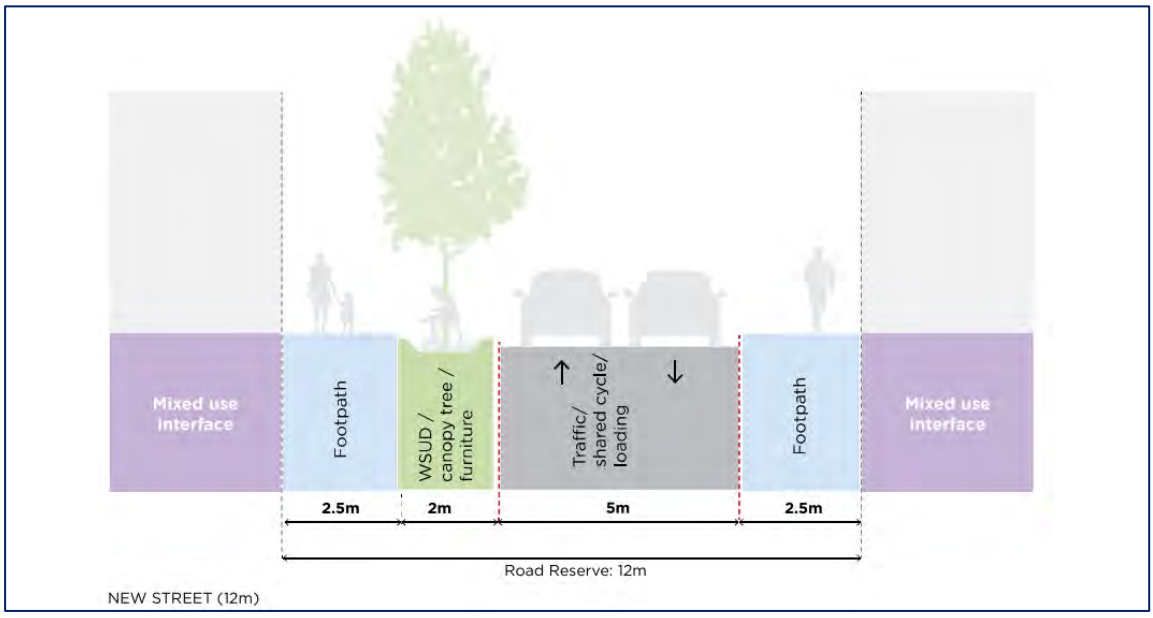

Figure 12: Proposed 12m Cross Section - Macaulay – Stubbs and Boundary Precincts

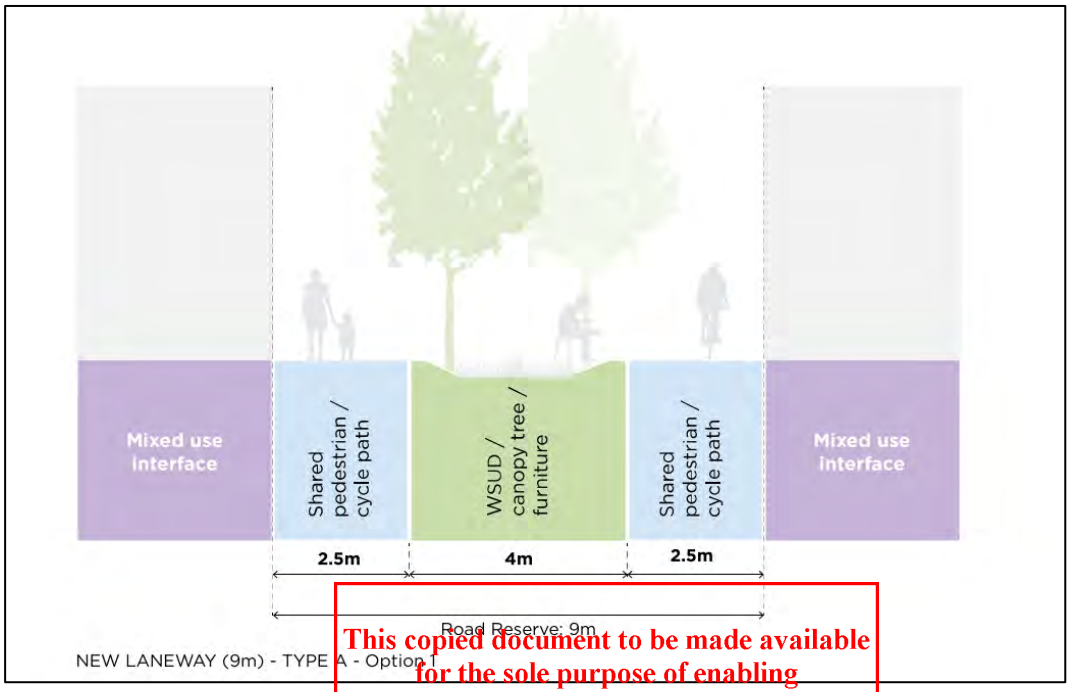

Figure 13: Proposed 9m Cross Section - (western extent of east-west laneway)

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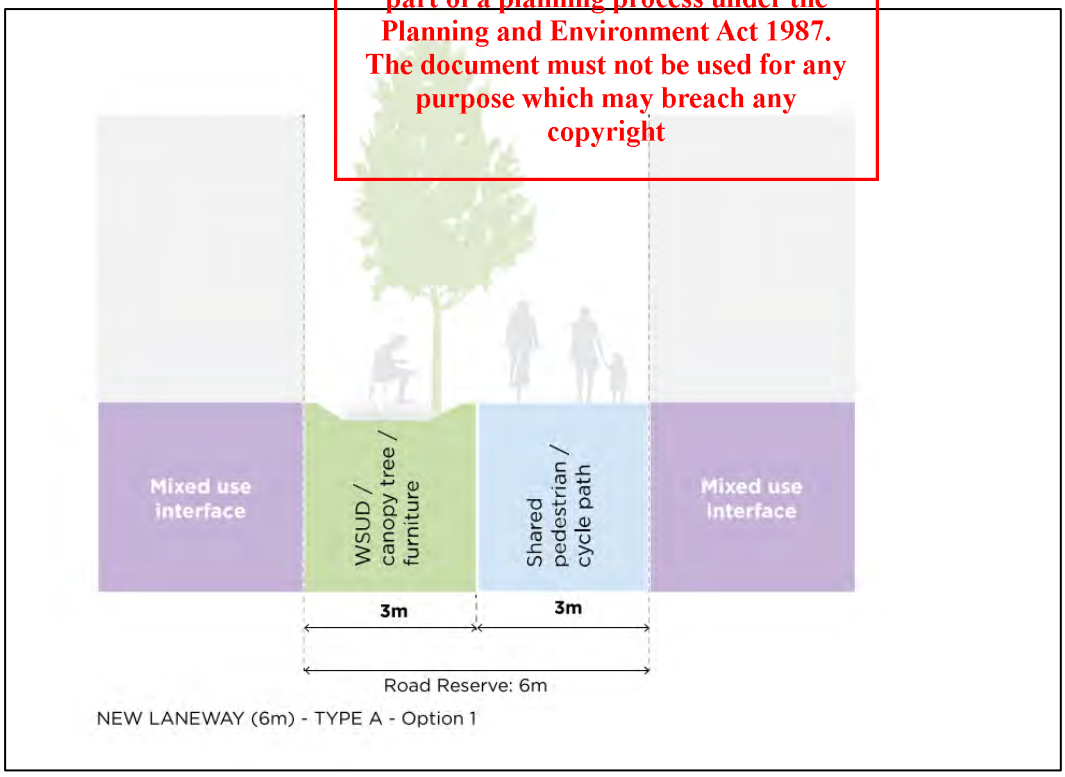

Figure 14: Proposed 6m Laneway Cross Section (southern extension of eastern laneway into land to the south)

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2.6.3. Development Contribution Plan - Intersection and Road Works

In relation to the Development Contributions Plan and the works proposed along Boundary Road and Alfred Road, some excerpts of the proposed works relevant to the subject site are provided in Figure 15 and Figure 16.

The key outcomes proposed as part of these works, from a traffic/transport perspective are understood to be:

- Boundary Road is proposed to be narrowed to a single traffic lane in each direction with parking on one side of the road (western side) and one way cycle paths/lane on either side of the road.
- Alfred Street is proposed to be narrowed to allow for significant new open space offerings. At the approach to the Boundary Road intersection, the carriageway appears to be approximately 7m, allowing for two-way passing. Further away from the intersection, it transitions to a 4m carriageway which is intended to be a single shared lane street. It is understood that this would operate one-way, with passing bays and waiting zones.
- East of Boundary Road, Alfred Street will sit on the northern side of the existing road reserve (aligning with the existing eastbound carriageway). The western section of Alfred Street (west of Boundary Road) is shown offset from the eastern side approximately 8m centreline to centreline.
- The intersection of Boundary Road/Alfred Street remains shown as signalised and has been provided as a raised intersection. Short turn lanes are provided on Boundary Road to turn into and out of the Alfred Street legs.

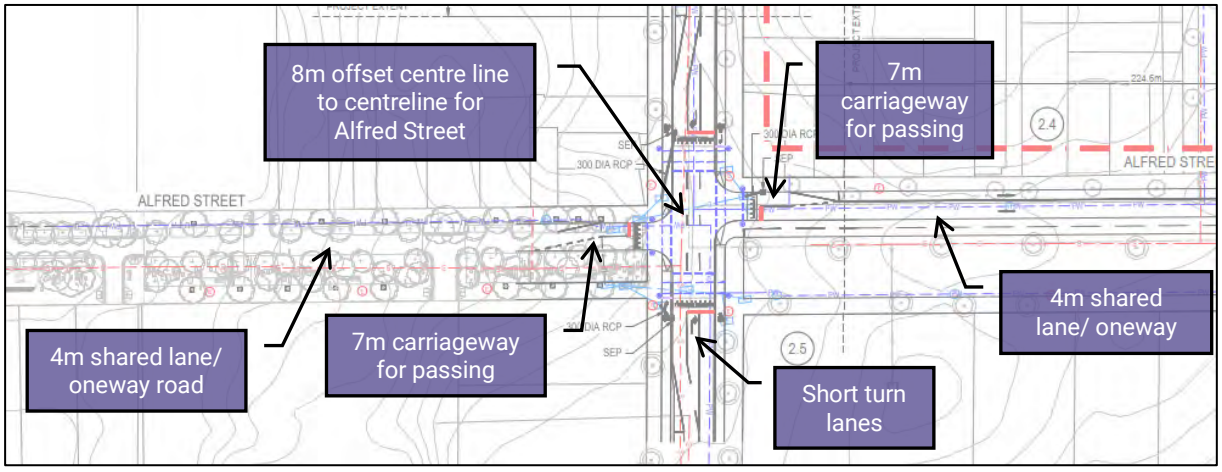

Figure 15: Excerpt of Intersection Works from Macaulay draft DCP – Boundary Road/Alfred Street

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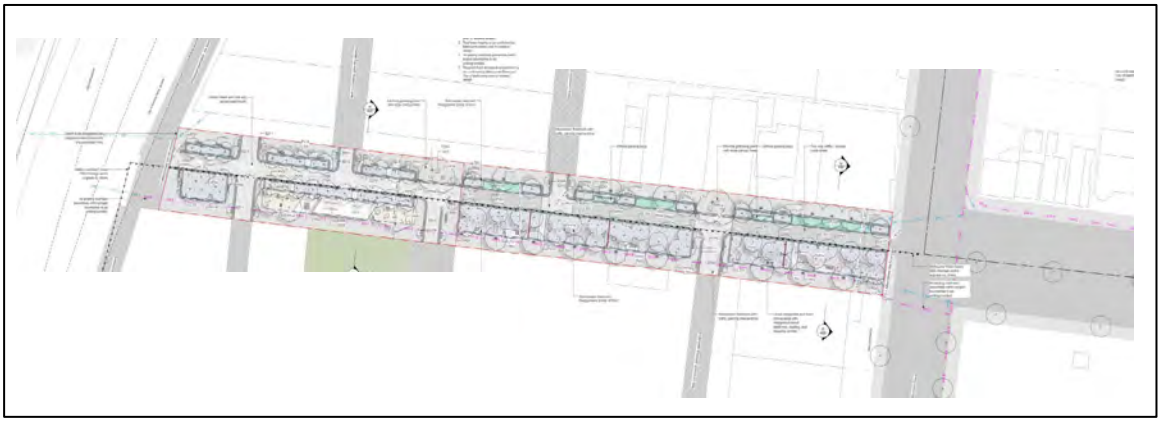

Figure 16: Excerpt of Open Space Design from Macaulay draft DCP - Alfred Street

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3. Proposal

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3.1. General

A Master Plan has been prepared that reenvisages the redevelopment of the site, now also including the site at 111-113 Boundary Road. The Master Plan contemplates a three-stage development that generally delivers a subdivision and development outcome that considers the existing permit requirements as well as the new draft Structure Plan.

In terms of land uses, the revised Master Plan includes a mixture of uses, but focusses on the delivery of residential apartments with mixed commercial space across 3 stages:

- **Stage 1**, located in the eastern portion of the site, and fronting Boundary Road, includes the development of circa 303 apartments (Build to Sell), along with a supermarket and some 714m^2 retail tenancies. Stage 1 will also include the public open space between Stages 1 and 2, and the café proposed within the extension of the exiting Heritage building fronting Alfred Street.
- **Stage 2**, the central building consists of the development of circa 336 apartments (Build to Rent) with some gymnasium, café and separate leasable and co-working office spaces.
- **Stage 3,** involves the construction of circa 300 apartments (mixed Build to Rent and Affordable/Social).

A summary of the proposed development yield is provided at Table 3.

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Table 3: Proposed Development Yield

Proposed Use		Stage 1	Stage 2	Stage 3	Overall
Residential (Dwellings)	Studio	42 no.	101 no.	48 no.	**191 no.**
	1-bed	130 no.	110 no.	150 no.	**390 no.**
	2-bed	107 no.	100 no.	91 no.	**298 no.**
	3-bed	24 no.	25 no.	11 no.	**60 no.**
	Total	***303 no.***	***336 no.***	***300 no.***	***939 no.***
Retail		714 m^2	-	-	**714 m^2**
Café		-	134 m^2	-	**134 m^2**
Gymnasium		-	451 m^2	-	**451 m^2**
Co-working		-	335 m^2	-	**335 m^2**
Supermarket (inc. BOH, exc. Loading dock)		1558 m^2	-	-	**1558 m^2**
Community Space (Other)		-	-	97 m^2	**97 m^2**

We are advised that the community space in Stage 3 is intended to be flexible and could potentially house a number of different functions/uses and would be available to the public.

3.2. Access

The intention is to ultimately subdivide the land (albeit not as part of this application) and stage the development.

Three separately titled lots are proposed to be provided, separated by Council owned/managed laneways, generally in accordance with the draft Structure Plan cross-sections, albeit with some variations to accommodate the site-specific access requirements.

The key laneway provisions are described as follows:

- The eastern north-south 12m laneway/road shown in the draft Structure Plan is proposed to be reoriented to be diagonal to allow for a greater open space offering as part of Stage 1. This laneway provides for access to the land to the south of the site and is proposed to operate two-way.
- The western north-south 12m laneway/road is provided as generally contemplated in the draft Structure Plan and will be delivered as part of Stage 2. This laneway is proposed to operate two-way.
- The southern east-west laneway under the draft Structure Plan is proposed to be provided as a 9m laneway, but with vehicular access. The reduced width provides for one-way traffic in a westbound direction and will also be delivered in Stage 2.
- The proposal omits a through vehicular laneway connection between Boundary Road and the southern east-west laneway, but maintains a through cycle and pedestrian connection along this boundary, provided as part of Stage 1.
- The south-western cyclist shared laneway will be delivered as part of Stage 3.

Traffix Group has prepared a Concept Plan showing the future works which are contemplated to be required to support the redevelopment of the precinct and the development. These works are considered to be an adjustment of the previous permit works to reflect a scenario that seeks to achieve some of the outcomes sought by the draft Structure Plan, whilst still maintaining the required network capacity to manage traffic generated by the precinct.

This Concept Plan is provided in Appendix A. Ultimately these works re subject to agreement with DTP and Council.

It is proposed that the signalised intersection and eastern section of Alfred Street would be delivered prior to Stage 1 occupation. The western extent of Alfred Street could be delivered in later stages, as the remainder of the development requires access to these areas.The staging of the external works is shown in the Interim Concept Plans in Appendix A.

The proposed roadways and precinct plan are shown in Figure 17.

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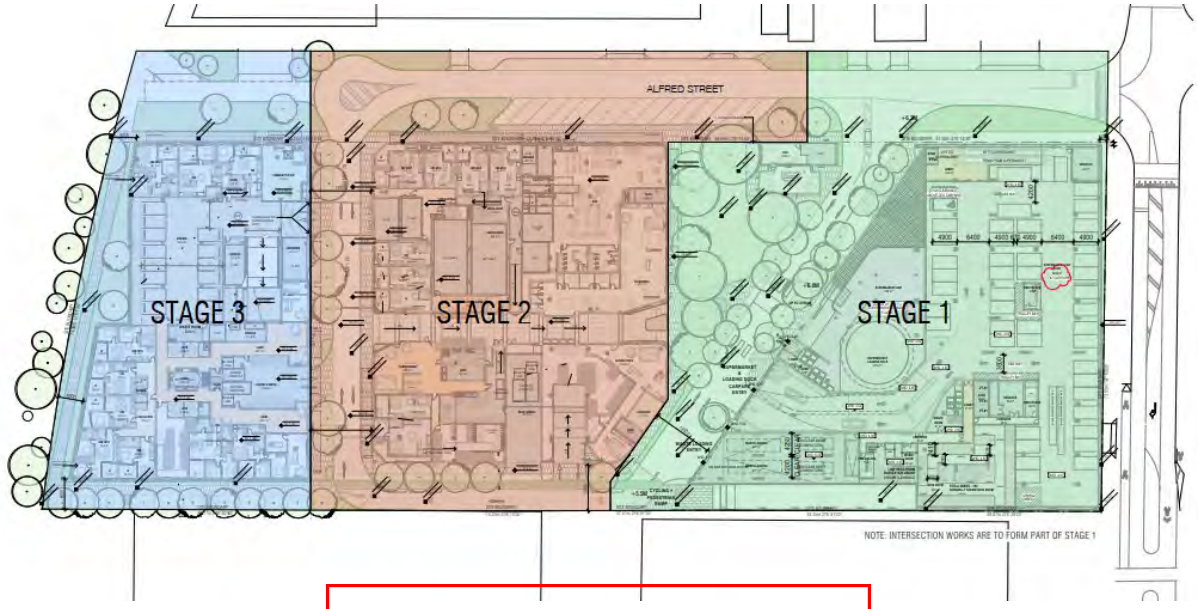

Figure 17: Proposed Staging Plan

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3.3. Site & Stage Specific Access, Parking & Loading Considerations

Vehicular access to each of the stages is described as follows:

- **Stage 1,** which includes circa 303 apartments, a supermarket, and some 714m^2 retail tenancies is proposed to take access as follows:
  - The supermarket tenant will require a separate loading dock, able to service a 12.5m heavy rigid or articulated vehicle. Due to the levels across the site, and adjacencies required to service the supermarket use, the loading dock is proposed to be accessed from the eastern laneway, via the shared car parking access to a lower ground car park. An enclosed turntable will allow trucks to enter and exit the site in a forward direction to/from the eastern laneway.
  - The lower ground public access car parking area (shared with the supermarket loading) is proposed to take access from the eastern laneway. This car park and access will serve the precinct as well as the supermarket use.
  - Shared residential loading and waste is proposed to be undertaken from the eastern laneway, toward the southern extent of the Stage 1 building located immediately south-west of the public car park entrance. The loading dock has been designed to allow Council garbage compactor trucks to access the site.
  - A new vehicle access is proposed to Boundary Road, toward the south-eastern corner of the site, seeks to take advantage of the level differences across the site, and will provide for access to podium up to level 5 residential parking.
- **Stage 2**, which consist of the development of circa 336 apartments with some gymnasium, café, and leasable and co-working office spaces, is proposed to take vehicle access as follows:

- Two-way car park access is proposed from the southern east-west laneway, which will serve upper ground parking levels. Due to the one-way nature of the southern laneway, this access will operate right in / right out.
- Shared residential loading and waste is proposed to be undertaken from the southern east-west laneway also, immediately west of the two-way carpark entry. The loading dock has been designed to allow Council garbage compactor trucks to access the site. As with the two-way carpark access, the access to this loading bay is restricted to right in /right out movements due to the one-way nature of the laneway.

- **Stage 3** involves the construction of circa 300 apartments and includes a:
  - Two-way car park access is proposed from the western laneway, which will serve ground and podium parking levels.
  - Shared residential loading and waste is proposed to be undertaken from the western laneway, toward the southern extent of the Stage 3 building. The loading dock has been designed to allow Council garbage compactor trucks to access the site.

The access provisions and internal circulation are shown in Figure 18 to Figure 20.

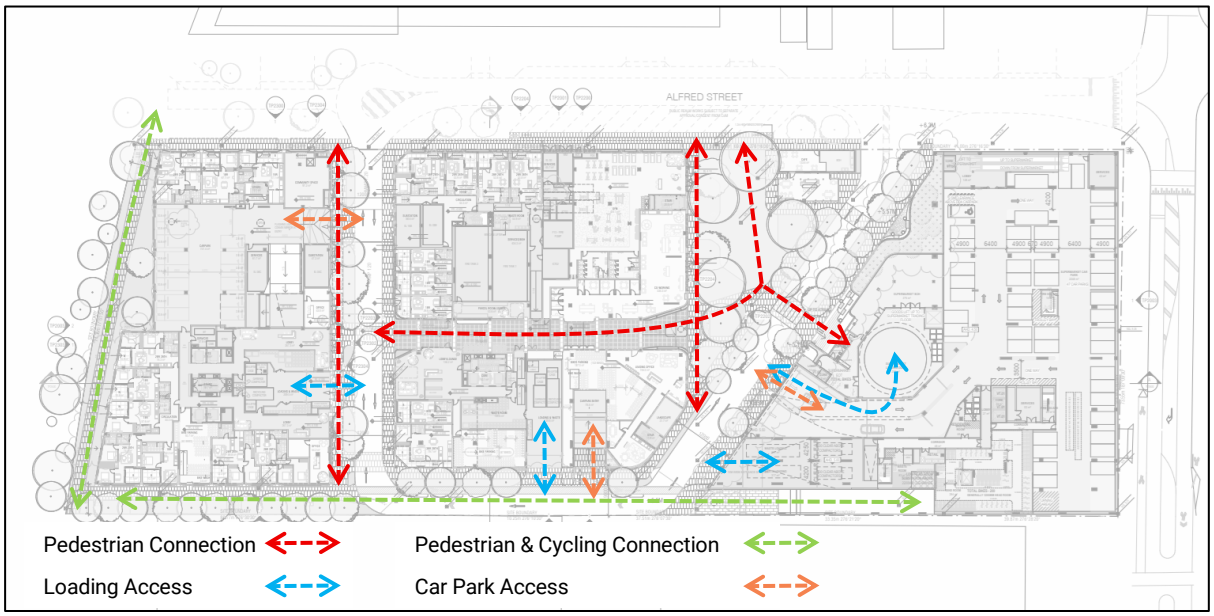

Figure 18: Proposed Site-Specific Vehicular Access Arrangements – Lower Ground

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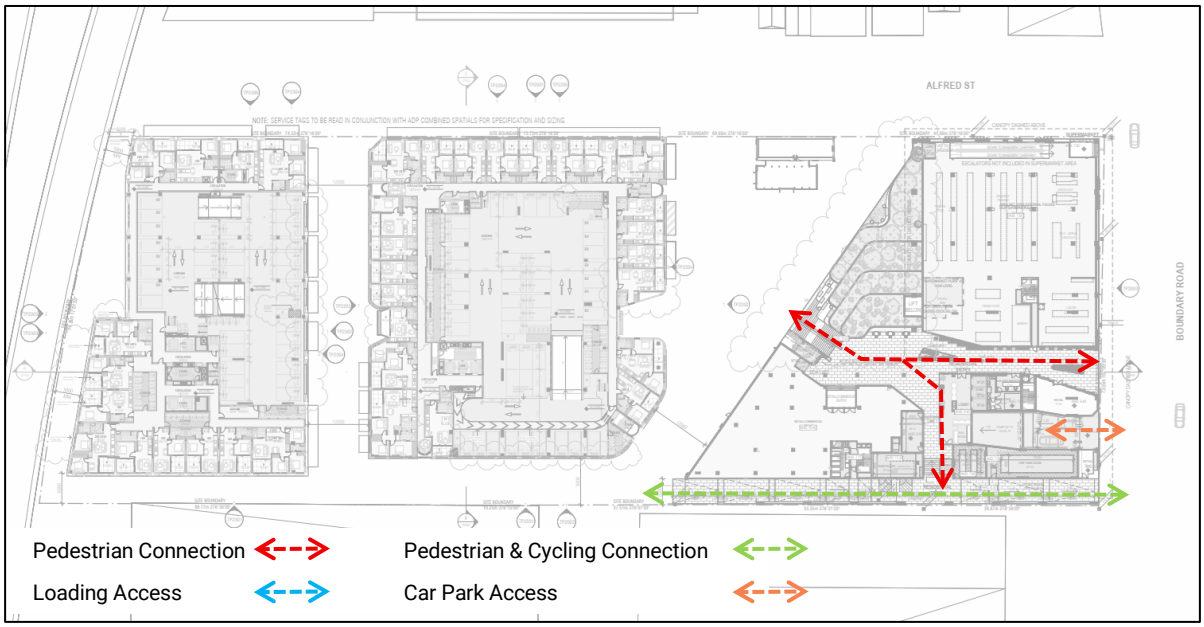

Figure 19: Proposed Site-Specific Vehicular Access Arrangements – Upper Ground

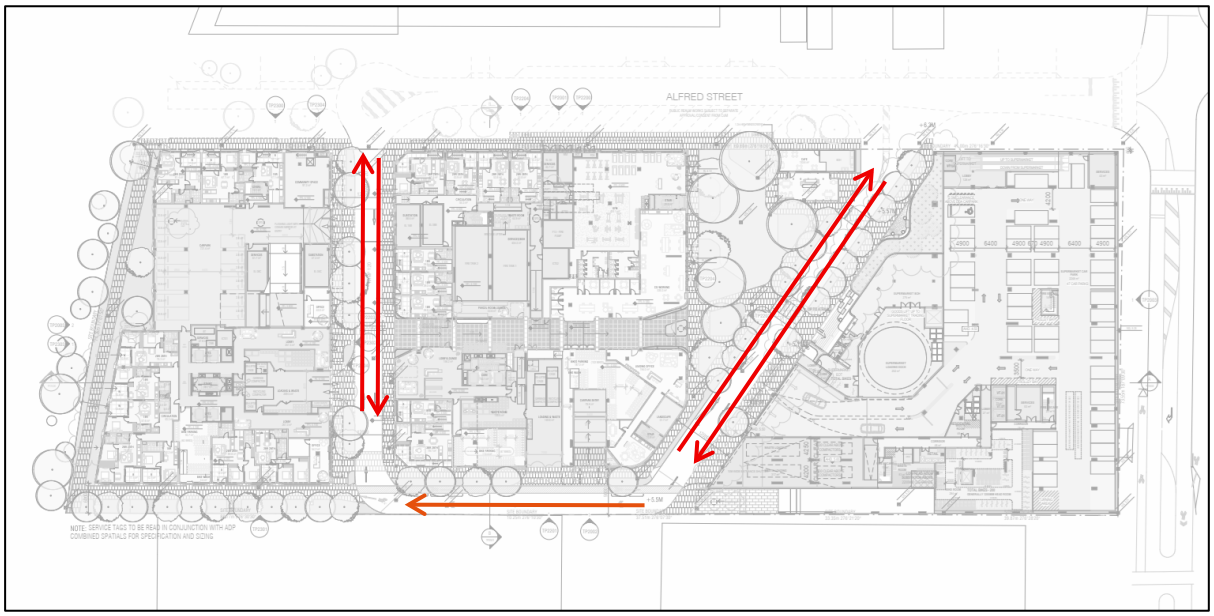

Figure 20: Proposed Internal Road - Circulation

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3.4. Parking Provisions

3.4.1. Car Parking Provisions

The Master Plan contemplates the provision of 550 car spaces across all stages, including the following stage specific allocations/provisions:

- Stage 1 residential car parking will include approximately 235 spaces, with an average rate of less than one space per apartment, around 0.78 spaces per apartment.
- Stage 1 will include a public access supermarket car park with approximately 47 spaces. This provision equates to a rate of around 3.0 spaces per 100m^2 of supermarket area.
- Stage 2 will provide residential parking only, yielding 137 car spaces, equating to a rate of approximately 0.41 spaces per apartment.
- Stage 3 will also provide residential parking only, yielding in the order of 131 car spaces, targeting a rate of around 0.44 spaces per apartment.
- Overall, the car parking rate for the proposed development will equate to approximately 0.53 spaces per apartment, identifying that almost 50% of future residents will not be provided with a car space.

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Electric Car Charging is proposed on site to meet the minimum BCA requirements, being 5% of spaces charge ready on day 1, and provisioning for 100% of residential spaces to be provisioned for future charging.

Stage 2 is proposed to include 7 EV charging spaces in the residential carpark and stage 3 is proposed to include 7 EV charging spaces as well.

It is likely that there will be a level of car share parking that is provided either on-site, or within the on-street parking within the precinct.

3.4.2. Bicycle Parking

In relation to bike parking, overall, it is estimated that there will be in the order of 613 bikes, comprising:

- Stage 1 – 208 bike spaces
- Stage 2 – 217 bike spaces
- Stage 3 – 188 bike spaces

On-site bike parking is to be provided based on the following allocations:

- 472 spaces for residents at a rate of approximately 1 space per 2 dwellings
- 118 spaces for residential visitors at a rate of approximately 1 space per 8 dwellings
- 16 spaces for commercial/retail staff at a rate of approximately 1 space per 200 m^2
- 7 spaces for commercial/retail visitors at a rate of approximately 1 space per 500m^2

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3.4.3. Motorcycle Parking

A total of 12 motorcycle parking and electric scooter parking spaces are to be provided at a general rate of 1 space per 50 car spaces consistent with Council standard requirements.

3.4.4. Summary

A summary of the proposed parking provisions is provided in Table 4.

Due to the staged development of the site, it is suggested that parking provisions could be addressed through a Parking Management Plan for each stage as the site develops and demands are better known and able to be quantified.

The Parking Management Plan can include setting out allocations for car share, electric charging, bike parking, motorcycle parking etc.

Table 4: Proposed Development Contemplated Parking Provisions

Proposed use		Stage 1	Stage 2	Stage 3	Proposed
Car Parking	Public/Supermarket	47	-	-	47
	Private Residential	235	137	131	503
	On-Site	***282***	***137***	***131***	***550***
Bike Parking	Resident	154	168	150	472
	Staff	11	5	1	16
	Residential Visitors	38	42	38	118
	Commercial Visitors	5	2	0	7
Motorcycle Parking		6	3	3	12

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3.5. Comparison to Approved Development

When comparing the current proposal to the existing permits, the proposed Master Plan contemplates a significant increase in apartments across the site but reduces the overall commercial floor area and other contemplated uses.

In relation to car parking, Stage 1 provides more parking than previously permitted in Stage 1, however the Stage 1 land area is larger and includes the key supermarket and public parking offering, which was provided in the later stages of the previously approved development.

Overall, the amended scheme provides a total of 550 parking spaces across all three stages, which is comparable to that approved by the current permits.

A comparison between the overall development yields and car parking provisions of the Master Plan versus the approved permits is provided in Table 5.

Table 5: Comparison and Approved and Amended Scheme

Proposed use	Approved	Proposed	Change
Residential (Dwellings)	411 dwellings	939 dwellings	+ 528 dwellings
Residential (Retirement Living)	165 dwellings	0 dwellings	- 165 dwellings
Office/Retail/Gym	12,441 m^2	1,634m^2	- 10,807 m^2
Supermarket	-	1,558 m^2	+ 1,558 m^2
Community Space	-	97 m^2	+ 97 m^2
Hotel	100 rooms	Nil	- 100 rooms
Theatre	250 seats	Nil	- 250 seats
School	504 students / 26 staff	Nil	- 504 students / 26 staff
Car Parking	549 spaces	550 spaces	+1 space

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4. Parking Considerations

4.1. Car Parking Assessment

4.1.1. Clause 52.06 – Car Parking

The car parking requirements for the proposed development are currently outlined under Clause 52.06 of the Victoria Planning Provisions.

Clause 52.06-5 states that:

> *"Table 1 of this clause sets out the minimum and maximum car parking requirements that apply to a use specified in the table based on the land category identified in the Car Parking Requirement Maps (Department of Transport and Planning, 2025) (CPR maps)."*

The land category of the surrounding area of the proposed site is show in Figure 21.

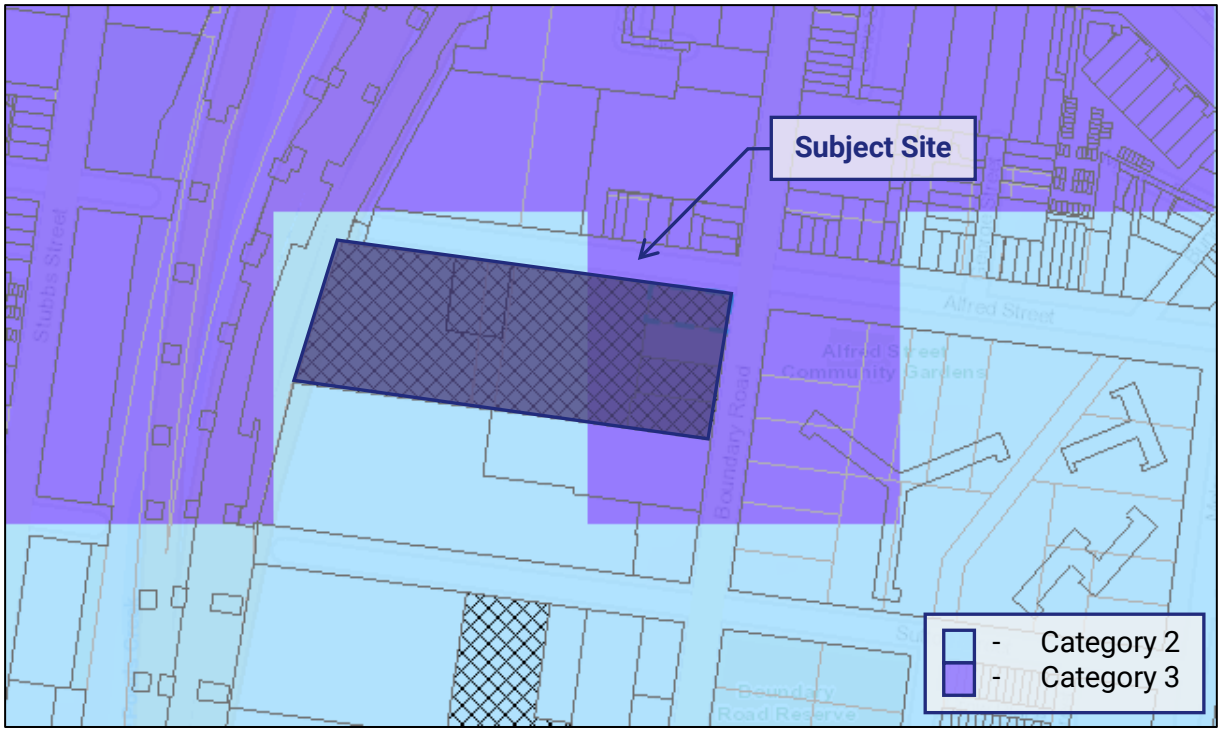

Figure 21: Excerpt of Car Parking Requirement Map *Source: Vicplan*

The subject site is located in both category 2 and 3 and clause 52.06-5 states:

> *"If the land is shown in two or more categories on the CPR maps, the car parking requirements for the higher category applies to all of the land."*

The rates at Category 3 therefore apply.

A statutory assessment of the proposal under Clause 52.06 is provided at Table 6 and Table 7.

Table 6: Statutory Car Parking Requirements (Clause 52.06) – Category 3

Use	Measure	Category 3 - Statutory Requirement	
Dwelling	To each dwelling	Minimum – 0	Maximum – 2
Retail (Shop)	To each 100 square metres of leasable floor area	Minimum – 0	Maximum – 2
Café (Food and drink premises)	To each 100 square metres of net floor area	Minimum – 0	Maximum – 2
Office (co-working)	To each 100 square metres of leasable floor area	Minimum – 0	Maximum – 0.9
Supermarket	To each 100 square metres of leasable floor area	Minimum – 0	Maximum – 2.5
Place of Assembly (Community Space)	To each patron	Minimum – 0	Maximum –0.15
Restricted Recreation Facility (Gymnasium)	No car parking rate specified. Parking to be provided to the satisfaction of the R.A. (as per clause 52.06-6)		
Place of Assembly (Community Space)	No car parking rate specified. Parking to be provided to the satisfaction of the R.A. (as per clause 52.06-6)		

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Table 7: Statutory Car Parking Requirements for proposal – Per Stage

Use	Stage 1		Stage 2		Stage 3		Total (Minimum – Maximum)
	Number / Area	Minimum – Maximum Requirement	Number / Area	Minimum – Maximum Requirement	Number / Area	Minimum – Maximum Requirement	
Dwelling	303	0 – 606	336	0 – 672	300	0 – 600	0 – 1,878
Retail (Shop)	714 m²	0 – 14	-	-	-	-	0 – 14
Café (Food and drink premises)	-	-	134 m²	0 – 2	-	-	0 – 2
Office	-	-	335 m²	0 – 3	-	-	0 – 3
Supermarket	1,558 m²	0 – 38	-	-	-	-	0 – 38
Restricted Recreation Facility (Gymnasium)	-	To the satisfaction of R.A	-	-	-	-	To the satisfaction of R.A
Community Space	97m² Assume 40 patrons	0 - 6	-	-	-	-	0 - 6
Total Statutory Requirement	**0 – 664**		**0 – 677**		**0 – 600**		**0 – 1,941**
Proposed Parking Provision	***282***		***137***		***131***		***550***

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Based on the above, the proposal is statutorily required to provide between 0 and 1,941 car spaces. In addition, car parking must be provided to the satisfaction of the responsible authority for the gymnasium.

The application proposes the provision of 550 car spaces which is on the lower end of the range but still above the minimum and below the maximum.

Further commentary of the appropriateness of the car parking provisions for the gymnasium, community space and co-working uses is set out in the following section.

In particular, this assessment considers the existing permitted parking rates and approvals, the draft Parking Overlay that is intended to apply to the site and introduce maximums, and likely demands and the appropriateness of the proposed parking allocations.

4.1.2. Car Parking Demand Assessment

Community Space

The proposed community space is intended to be flexible to allow a range of different uses by the community and future residents of the site.

This use is likely to contribute to the centre as a whole and service the needs of proximate residents, employees and customer/visitors.

It is therefore our expectation that these spaces would not generate a significant car parking demand in their own right that isn't already accounted for in the overall commercial/retail floor areas.

Any parking demands (if any) associated with the proposed community space can be appropriately accommodated within the supermarket car park and also the on-street parking along the subject site frontages.

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Gymnasium

Parking for the gymnasium is to be provided to the satisfaction of the responsible authority.

We refer to the RTA Guide to Traffic Generating Developments (Version 2.2, October, 2002) suggests a car parking provision of 3 spaces per 100 square metres for gymnasiums located within metropolitan regional centres, if they are located in close proximity to rail/bus services.

With consideration of the site's location and accessibility to public transport, the RTA rate is considered appropriate for the proposed gymnasium at this site. In particular, gym patrons are likely to live within the development itself or nearby, and would walk, run or cycle to/from the gymnasium. Furthermore, the development is to provide a generous external bike parking provision for patrons and secure staff bike spaces and end-of-trip facilities for staff to further encourage cycling to/from the site.

Applying the above rates to the 451 square metre gymnasium equates to a car parking demand of 15 spaces.

It is expected that the proposed range of uses will experience a variation in peak car parking demands on different days of the week and throughout the day. More specifically, a gym will typically generate peak parking demands at the start of the week (Monday – Wednesday) right before and just after business hours. In contrast, a supermarket will typically generate peak parking demands on a Friday or Saturday between 5-7pm.

Accordingly, parking demands associated with the proposed gymnasium use can be appropriately accommodated within the supermarket car park and also the on-street parking along the subject site frontages.

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Residential Travel Characteristics

The subject site has excellent accessibility to public transport and is highly walkable, and includes a significant offering of local amenity, daily services, employment opportunities on the site which will contribute to reduced car usage.

A review of ABS car ownership data for North Melbourne suggests the following average car ownership rates for all apartment types as summarised in Table 8.

This data includes social and community housing, but clearly shows that whilst there are very low car ownership rates (compared to other parts of the State) there remains demands for cars to be provided and available for individual dwellings, particularly for medium and larger apartments.

Table 8: 2021 ABS Car Ownership Data - Total Flats, Units or Apartments in North Melbourne

Dwelling Size	Average Car Ownership	% no cars	% 1 or less car
Studio	0.2	78%	100%
1-bed	0.5	54%	96%
2-bed	0.8	34%	87%
3-bed	1.2	19%	60%
Total	**0.7**	**39%**	**89%**

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In relation to potential future Build to Rent and Social/Affordable dwellings, it is typical that these types of dwellings attract lesser car parking demands when compared with Build to Sell dwellings.

This is reflected in the parking allocations across each of the stages, with lesser allocations contemplated in the later stages of the proposal.

On this basis, we are comfortable that the proposed parking allocations and provisions strike a balance between being ambitious in targeting reduced reliance on car usage, and providing a market led approach that will facilitate development in the precinct.

Supermarket/Retail/Coworking

Supermarkets can generate car parking demands at varying scales based on their size, their catchment, their branding and the surrounding uses.

Case study data held by Traffix Group and other traffic engineering firms suggests that parking demands can range between in the order of 1.3-5 car spaces per 100m^2 where the higher end of the range is experienced in outer suburban and rural areas where the supermarket catchment is extensive and there are limited other shopping alternatives in the immediate vicinity.

The proposed co-working facility and the smaller café and retail tenancies are likely to service the dwellings and surrounding development, rather than be parking generators and key attractors in their own right.

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When combined with specialty retail uses in a neighbourhood activity centre which includes mixture of uses and amenities, the overall rate for parking demands applicable to the activity centre precinct reduces due to a mixture of demands, variable and temporal demands, and shared trips.

The proposal includes the provision of 47 car parking spaces. At full development, this will be a supply for approximately 3,000 m^2 of commercial use, and also facilitate visitor parking for the development and surrounding precinct.

This rate (approximately 1.5 spaces per 100m^2) is within the range of expected demand provisions, and in our view provides for a positive contribution to the precinct and area, allowing for a mixture of use by the customers of the supermarket/retail use as well as visitors to other parts of the precinct.

The car park will be managed to ensure that parking turns over and long term non-residential parking is discouraged.

Parking Management Plan

As noted previously, as the development is to be staged, a Parking Management Plan should be prepared for each Stage of development, that identifies the likely demands at the time of the development's commencement such that if there is an opportunity to further reduce the parking allocations for later stages, this can easily be addressed.

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The Parking Management Plan should also detail how on-site parking could be repurposed or reallocated for other uses, should there be a decreased demand after the development matures.

The Parking Management Plan should include setting out allocations for car share, electric charging, bike parking, motorcycle parking etc.

4.1.3. Other Relevant Considerations

Existing Approval

The existing approval for the subject land contemplates a total parking provision of some 540-550 car parking spaces. Based on the previous traffic reports, we understand that the proposal was to include the following general allocations:

- Approximately 450 resident spaces, equal to an average parking rate of 1.1 spaces per dwelling
- Approximately 100 retail/office staff spaces, equal to a rate of approximately 0.8 spaces per 100 m^2.

A level of visitor parking and other key development staff parking was proposed within precinct parking areas.

Compared with the previous approval, the proposed development seeks to be more ambitious in reducing private car ownership by allocating residential parking at a lower rate than that previously approved.

Whilst the whole number provision of car parking is similar, Overall, the car parking rate for the proposed development will equate to approximately 0.53 spaces per apartment, identifying that almost 50% of future residents will not own a vehicle.

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The provision of 47 car spaces for the supermarket use, but provided as a precinct car park, is considered to be of benefit and consistent with the previous permit.

Assessment under proposed Parking Overlay (Amendment C17) rates

Proposed Amendment C17 seeks to introduce a Parking Overlay to set out maximum parking provisions for the land and seeks to strongly limit car parking provisions in the precinct.

It also seeks to provide for car parking as a consolidated title, held in single ownership.

It sets ambitiously low maximum rates for a number of uses, as noted below:

- 0.3 spaces per 1-bed
- 0.45 spaces per 2-bed
- 0.6 spaces per 3-bed
- 0.5 spaces per 100sqm for all other uses.

An assessment of the proposal based on the draft Parking Overlay rates is at Table 9.

Table 9: Assessment of maximum parking requirements – Proposed Parking Overlay rates

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Proposed use		Stage 1	Stage 2	Stage 3	Total
Residential (Dwellings)	Studio	12	30	14	59
	1-bed	39	33	45	114
	2-bed	48	45	40	134
	3-bed	14	15	6	35
	Total	***113***	***123***	***105***	***341***
Retail		3	-	-	3
Office / Co-working		-	2	-	2
Supermarket (inc. BOH, exc. Loading dock)		6	-	-	6
Total		**122**	**125**	**105**	**352**

It is clear from the above that the proposed car parking provisions would generally exceed those listed above, particularly for the Stage 1 development. However, we are of the view that this approach is acceptable on the following bases:

- Stage 1 is intended to be Build to Sell development. To ensure the commercial viability of the first stage, parking will be provided at a rate higher than the draft Parking Overlay, however it will remain at a rate of less than one space per apartment.

  The plans indicate an average provision of approximately 0.78 spaces per apartment. The parking is intended to be titled for each dwelling. This approach, whilst not in accordance with the draft Overlay, is consistent with the existing approach in the Central CBD and, in our view, an appropriate approach for a transitionary precinct where demands in the early stages of development may remain at the higher end of the range.

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- The Stage 1 retail parking is to be provided as a publicly accessible car park (but managed and controlled to prevent long term parking) that will operate as a 'precinct' car park and allow for a multitude of users in the precinct to access parking, should they need it. This approach is supported by the draft overlay.
- Stage 2 and 3 will have reduced parking provisions which are more likely to not exceed the maximum rates specified in the draft overlay, and this will offset and 'average out' the higher provisions in Stage 1. Parking in Stages 2 and 3 is likely to be able to be held in a consolidated title due to the nature of the residential development.
- Bike parking provisions across all stages will be provided at higher than average ABS rates and will encourage uptake of bike use. Therefore, even if residents in Stage 1 do own a car, they will still be encouraged to use sustainable transport in the precinct.

As noted previously, overall, the car parking rate for the proposed development will equate to approximately 0.53 spaces per apartment, identifying that almost 50% of future residents will not own a vehicle which is a significant target in car ownership reduction.

Plan for Victoria

Plan for Victoria was released in March 2025. This document will replace Plan Melbourne (although it is not in the Planning Scheme at present) and includes new directives in relation to transport and land use planning.

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The People's Panel vision for Victoria is the following:

> *By 2050, Victoria will be a vibrant, accessible and connected community, valued for its diverse cultures, sustainable environmental practices and respect for the First Peoples of Victoria.*
>
> *Building a state that provides choices and opportunities for current and future generations of Victorians in quality housing, transport, employment, environment and connectivity will require input from the community, government, local businesses and industry alike.*
>
> *We will create a society that caters to the unique needs of all Victorians, nurturing individual health through physical and cultural recreation.*

The focus of transport planning is on sustainable modes – public transport, walking and cycling – not private car use.

The plan is structured around five key pillars as follows:

1. Housing for all Victorians – delivering sufficient affordable homes for all Victorians
2. Accessible jobs and services – making sure you have good access to facilities and good jobs
3. Great places, suburbs and towns – creating thriving places that are attractive, safe and welcoming for everyone
4. Sustainable environments – preserving the natural values of Victoria and addressing climate change
5. Self-determination and caring for Country – underpinning and informing the other pillars

The plan also outlines a number of actions, which will help deliver the goals of Plan for Victoria. The actions most relevant to this application from a transport perspective are reviewed in the table below.

Table 10: Review of Plan for Victoria

Action		Summary	Response from this Development
2	*Implement new planning controls to streamline planning in activity centres*	Provide more employment and housing choice in Activity Centres and locations with great access to public transport	The development provides dwellings and employment floor space close to public transport.
5	*Match car and bike parking requirements and bike facilities with demand*	Reduce the number of car parks required for development in locations well-serviced by public transport, which will reduce cost of housing and traffic congestion Increase bicycle parking requirements to support sustainable transport choice	The reduction in car parking sought by this application accords with the objectives of providing dwellings and employment in a location well serviced by alternative transport modes. The development provides a high level of bicycle parking, in excess of the minimum statutory requirements.
7	*Improve transport network planning policy*	Provide a clear network of high-capacity public transport routes	The site is well placed to take advantage of any upgrades to nearby public transport services.
17	*Encourage walking and cycling*	Develop an active transport strategy to encourage and support more Victorians to walk, cycle and scoot more often. This can be achieved by providing residential and commercial developments close to good public transport infrastructure.	The development provides dwellings and employment opportunities in an area well served by public transport. Additionally, the site is located within a highly walkable area. Lastly, the site provides a high level of bicycle parking, which is in excess of the minimum statutory requirements.

4.1.4. Summary

Based on the preceding, we are of the view that the proposed parking provisions are appropriate and consider the locational attributes of the site, the historical approval on the site, the ambitious proposal to limit car ownership and usage in the precinct, and also the likely and potential demands of each use.

There is strong policy support for the proposed parking reduction and provisions.

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4.2. Bicycle Considerations

4.2.1. Clause 52.34 Assessment

Clause 52.34 of the Planning Scheme specifies the bicycle parking requirement for new developments.

The proposed office and place of assembly uses are not large enough to trigger a requirement to provide bike parking under Clause 52.34.

The relevant requirements are summarised in Table 11 and assessed at Table 12.

Table 11: Statutory Bike Parking Requirements (Clause 52.34) - Rates

Use	Statutory Requirement
Residential Apartments	1 space per 5 dwellings for residents
	1 space per 10 dwellings for visitors
Retail (Shop, supermarket)	1 space per 600 square metres for staff
	1 space per 500 square metres for customers
Retail (Retail other than listed)	1 space per 300 square metres for staff
	1 space per 500 square metres for customers
Gymnasium (Minor sports and recreation facility)	1 space per 4 staff
	1 space per 200 square metres for patrons

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Table 12: Minimum Statutory Bike Parking Requirements for Proposal – Per Stage

Proposed Use		Stage 1	Stage 2	Stage 3	Total
Residential (Dwellings)	Resident	61	67	60	188
	Visitor	30	34	30	94
Retail (Shop, supermarket)	Staff	3	0	0	3
	Visitor	3	0	0	3
Retail (Retail, other than listed)	Staff	2	0	0	2
	Visitor	1	0	0	1
Gymnasium (Minor sports and recreation facility) – ***Assumed 8 employees***	Staff	0	2	0	2
	Visitor	0	2	0	2
	Total	**100**	**105**	**90**	**295**

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Based on the above assessment, the development is required to provide a total of 295 bicycle spaces, comprising 100 spaces for Stage 1, 105 spaces for Stage 2 and 90 spaces for Stage 3.

4.2.2. Proposed Provisions

In relation to bike parking, overall, it is estimated that there will be in the order of 613 bikes, comprising:

- Stage 1 – 208 bike spaces
- Stage 2 – 217 bike spaces
- Stage 3 – 188 bike spaces

On-site bike parking is to be provided based on the following allocations:

- 472 spaces for residents at a rate of 1 space per 2 dwellings
- 118 spaces for residential visitors at a rate of approximately 1 space per 8 dwellings
- 16 spaces for commercial/retail staff at a rate of approximately 1 spaces per 200m^2
- 7 spaces for commercial/retail visitors at a rate of approximately 1 space per 500m^2

These provisions exceed the minimum requirements under Clause 52.34 of the scheme.

The requirement for 8 staff spaces in Stage 1 triggers a requirement for End of Trip Facilities at a rate of 1 shower/changeroom for the first 5 bicycle spaces and 1 space for each 10 bicycle spaces thereafter.

End of Trip facilities inclusive of at least 1 shower and changeroom should be provided and this could be accommodated within the supermarket tenancy or a shared area if desired.

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4.2.3. Bike Parking Requirement Case Study Assessment

We acknowledge that City of Melbourne is targeting higher bike parking provisions for new developments and seeks higher rates than those under Clause 52.34.

This proposal seeks to encourage more bicycle use, and hence is providing parking for residents at higher rates than those under Clause 52.34

To provide support to the proposal's provisions, we reference surveys undertaken by Stantec at a number of Home apartment complexes. These surveys sought to identify typical usage of bicycle parking in inner city apartment developments. Surveys were conducted in Category 3 & Category 4 regions, including:

- Home Richmond – 246 Church Street, Richmond (Category 4 zone)
- Home Southbank – 260 City Road, Southbank (Category 3 zone)

These surveys were completed on Thursday 14th of March and Saturday 16th of March 2024.

The dwelling yield and bicycle parking provision for the two existing developments are outlined below in Table 13.

Table 13: Existing Development Residential Bike Parking Provisions

Provision	Home Richmond	Home Southbank
No. of Dwellings	368 dwellings	403 dwellings
Resident Bicycle Parking	100 spaces	356 spaces
Resident Visitor Bicycle Parking	50 spaces	137 spaces

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The bicycle parking occupancy survey results for Richmond and Southbank for both Thursday and Saturday periods are presented below at Table 14.

Based on the surveys, the following peak occupancies are observed:

- Home Southbank
  - Residential parking is moderately utilised, with a peak occupancy of 51%
  - Residential visitor parking is similarly utilised, with a peak occupancy of 56%
- Home Richmond (Category 4)
  - Residential parking is poorly utilised, with a peak occupancy of 24%

Based on the number of apartments to each development, the surveys for Southbank and Richmond present a peak adjusted occupancy rate of 0.13 and 0.23 bicycle spaces per dwelling, respectively.

Based on the location and size of the proposed development, we expect that bicycle parking utilisation will behave in a similar way to these Home developments which revealed a maximum occupancy of 1 space per 4 dwellings.

On this basis, the provision of 1 bicycle space per 2 dwellings will comfortably accommodate the maximum expected demand for bicycle parking.

Table 14: Bicycle Parking Occupancy Surveys

Time Period	Residential Bicycle Parking			Visitor Bicycle Parking		
	Supply	Occupancy (Unadjusted for dwelling occupancy)	Occupancy (Adjusted for dwelling occupancy)	Supply	Occupancy (Unadjusted for dwelling occupancy)	Occupancy Adjusted for dwelling occupancy)
Home Southbank						
Thursday 7:00 AM	100 bicycle spaces	43%	51%	50 bicycle spaces	40%	47%
Thursday 1:00 PM		42%	49%		36%	42%
Thursday 7:00 PM		41%	48%		40%	47%
Saturday 7:00 AM		41%	48%		40%	47%
Saturday 1:00 PM		39%	46%		40%	47%
Saturday 7:00 PM		42%	49%		48%	56%
Home Richmond						
Thursday 7:00 AM	356 bicycle spaces	21%	23%	137 bicycles spaces	Not Surveyed	
Thursday 1:00 PM		21%	22%			
Thursday 7:00 PM		22%	23%			
Saturday 7:00 AM		22%	23%			
Saturday 1:00 PM		22%	24%			
Saturday 7:00 PM		22%	24%			

4.3. Motorcycle Parking

Motorcycle parking and electric scooter parking will be provided within each Stage at a general rate of 1 space per 50 car spaces consistent with Council standard requirements.

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5. Traffic Considerations

5.1. General

From a traffic generation and distribution/impact perspective, the overall car parking provisions on the site are commensurate with that already approved.

Traffic generation of a precinct such as this is strongly linked and variable based on car parking provisions.

On this basis, we are comfortable that the overall traffic generation/impacts of the proposed Master Plan would be commensurate with, and importantly not worse than, those already approved by the permits.

It is also noted that the signalisation of the intersection of Alfred Road/Boundary Road has been contemplated through a number of historical planning documents, including the existing 2 permits for the subject site, but also within the Macaulay Precinct Structure Plan and Development Contributions Plan, and also the more recent updates to those documents.

The following sections are set out to demonstrate the likely traffic impacts, and confirm that the proposed mitigating works are suitable to support the development and the precinct.

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5.2. Mitigating and External Road Works

The Master Plan continues to contemplate the delivery of signals at Alfred Street/ Boundary Road and upgrades to Alfred Road.

It should be acknowledged that the draft Structure Plan and Open Space and Intersection/Road Works Plans included in the draft Development Contributions Plan substantially reduce the capacity and function of the roads serving the subject land compared to the permitted works and previously contemplated Alfred Street design.

Discussions with Department of Transport have identified that whilst they have not provided formal comment on the draft DCP drawings, they also have some concerns in relation to the designs as represented under the DCP.

Traffix Group has prepared a Concept Plan showing the future works which are contemplated to be required to support the redevelopment of the precinct and the development. These works are considered to be an adjustment of the previous permit works to reflect a scenario that seeks to achieve some of the outcomes sought by the draft Structure Plan, whilst still maintaining the required network capacity to manage traffic generated by the precinct.

This Concept Plan is provided in Appendix A. Ultimately these works re subject to agreement with DTP and Council.

It is proposed that the signalised intersection and eastern section of Alfred Street would be delivered prior to Stage 1 occupation. The western extent of Alfred Street could be delivered in later stages, as the remainder of the development requires access to these areas.

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5.3. Traffic Generation and Distribution Analysis

5.3.1. Existing Traffic Volumes

The GTA Consultants (now Stantec) report that assessed the previously approved development included traffic volumes recorded on Wednesday 22 August 2018.

The AM and PM peak hours occurred at 7:30-8:30am and 5-6pm, respectively.

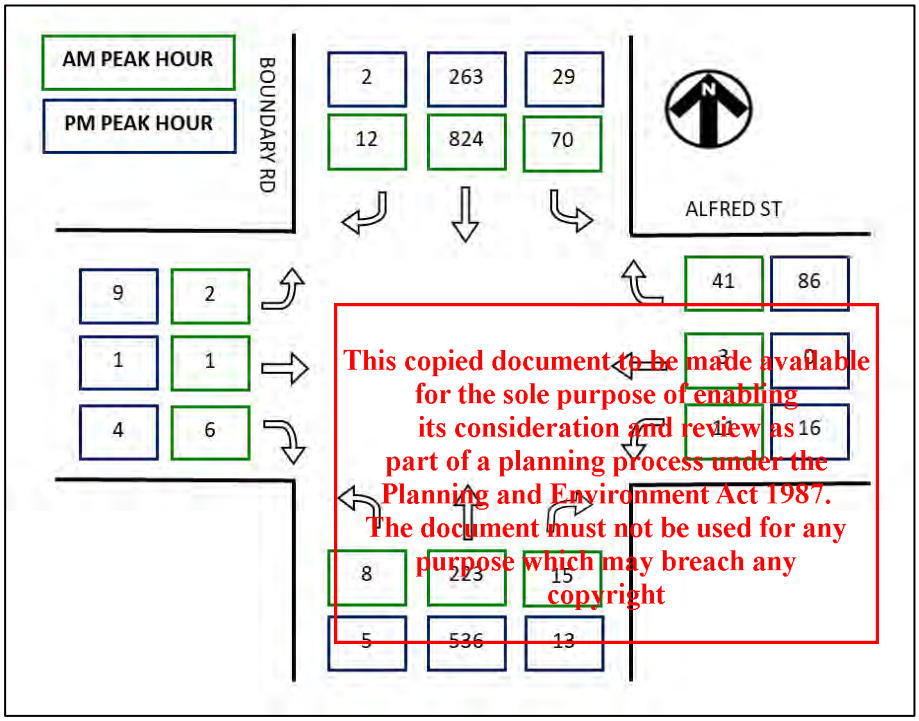

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Figure 22: Existing Traffic Volumes

There has been a significant amount of work in Boundary Road, associated with the development of the land to the north of Alfred Street, which has resulted in potentially reduced volumes on Alfred Street.

There may have also been an impact to Boundary Road traffic.

To benchmark the 2018 data, Department of Transport SCATS data has been obtained for Wednesday 19 February 2025. The data is from the pedestrian operated signals located between Alfred Street and Sutton Street.

The volumes show a marginal increase in volumes on Boundary Road in the peak hours.

To this end, we will adopt the original GTA turning volumes, but increase the through volumes on Boundary Road, to match those from the pedestrian operated signals located between Alfred Street and Sutton Street, allow for a conservative assessment.

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5.3.2. Base Case Traffic Volumes

We note that the land to the north of Alfred Street was recently completed. It will take access via Alfred Street and future analysis of the intersection should consider this development.

To establish a base case, we will superimpose the approved PACE Development traffic generation, as noted within the GTA traffic report, to the existing volumes.

The GTA report contemplated that the PACE development would generate 169 movements during the AM and PM peak hours. It is likely that this is an overly conservative estimation given the passage of time since the GTA report preparation, and more recent case study data for similar uses. In any case, and in the absence of any additional information, we have adopted this as the base line.

We have assumed the following direction distribution:

- 70% of traffic to be generated to/from the north, and
- 30% of traffic to be generated to/from the south.

In addition, we have assumed arrivals and departures will be split evenly.

The projected PACE Development traffic generation is provided Figure 23.

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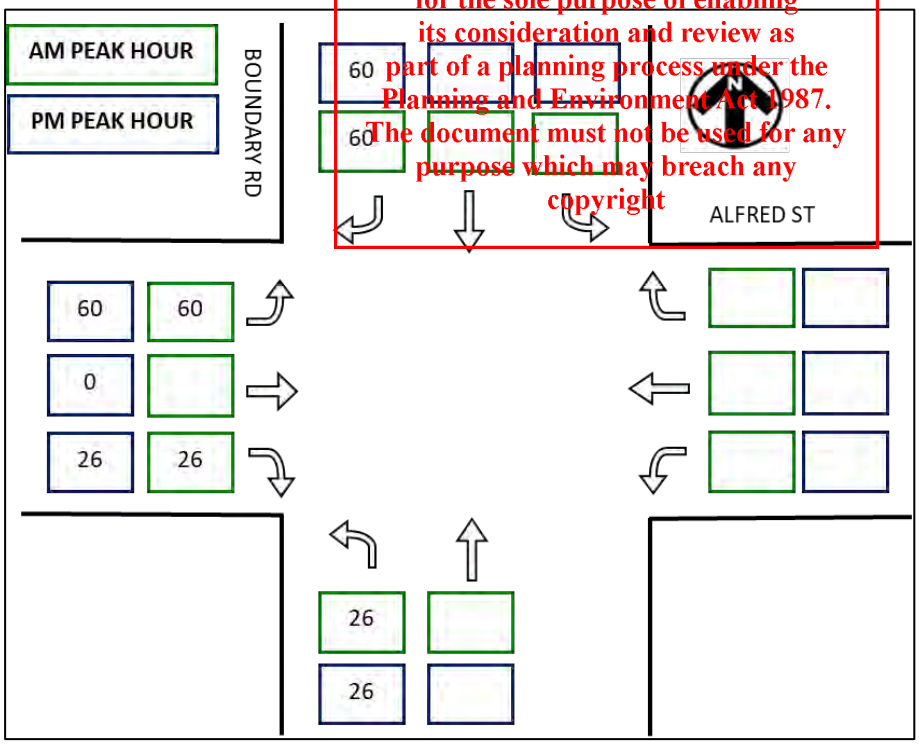

Figure 23: Pace Development - Traffic Generation

It is also noted that the proposed intersection works contemplate the banning of the right turn from Boundary Road south into Alfred Street. This is due to the reduced width of Alfred Street and offset of the east and western legs of Alfred Street making it unsafe to have right these right turn movements operate against each other.

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A review of the road network to the north and south and east of this intersection suggests that the immediate road network is not extensive and has multiple opportunities for right turns from the south to access the eastern precinct.

Indeed, the existing traffic volumes suggest that there is less than 15 vehicles undertaking the right turn in the peak hours.

That is, the right turn at this location is not considered essential from a road network perspective, and diversion of some right turns to the intersections to the south would not have a significant impact.

The PACE development volumes have been superimposed onto the existing volumes to establish base case traffic volumes, as presented at Figure 24, which includes the right turn ban.

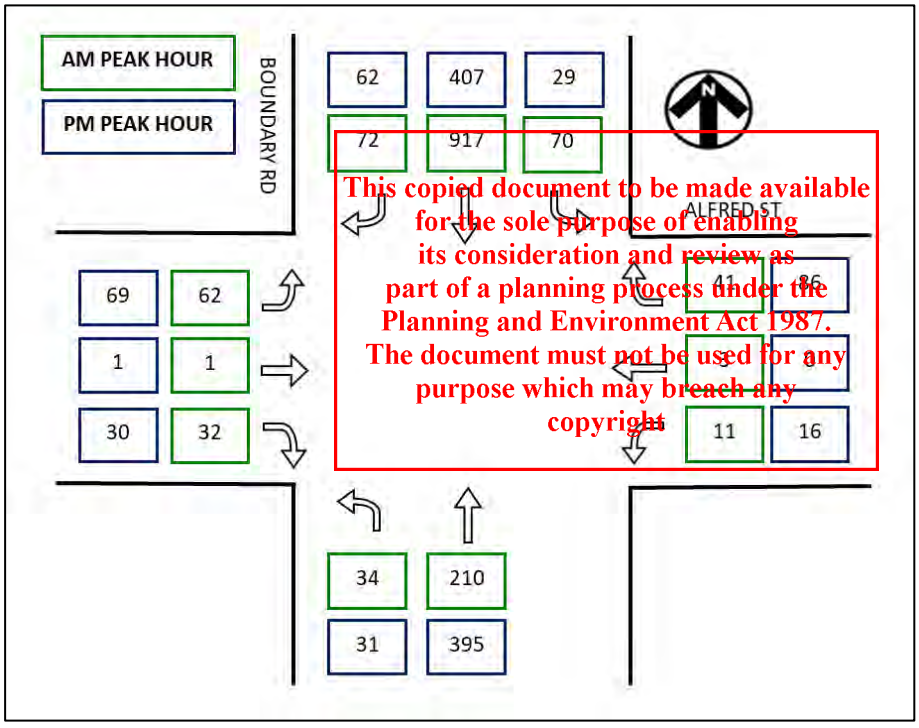

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Figure 24: Base Case – Traffic Volumes

5.3.3. Traffic Generation

Residential Development

Based on the location of the site, and the parking provisions and access to alternative transport modes, we will adopt an average rate of 0.3 vehicle movements per dwelling with a car space for the proposed development.

It is typical to adopt a residential distribution comprising 20% arrivals and 80% departures in the weekday morning peak hour and 60% arrivals and 40% departures during the weekday afternoon peak hour.

The proposal includes a number of tandem parking spaces. We will presume that there will be 500 apartments allocated a car space across the development.

Application of the above rates to the proposed allocation of 503 dwellings with a car space equates to the following peak hour traffic generation:

- AM PEAK: 30 arrivals and 121 departures
- PM PEAK: 91 arrivals and 60 departures

Retail Traffic Generation

Supermarket traffic generation typically varies based on catchment, proximity to public transport and the supply of parking. In this instance, the supermarket is likely to be the key generator from a retail/public parking perspective. The co-working, gymnasium and smaller retail tenancies will service the precinct and essentially operate as supportive uses that will generate limited, if any, individual traffic movements in their own right.

Based on case study data held by Traffix Group and a range of other firms, and allowing for the mixture of uses on the site, we will adopt the following in relation to likely traffic generation for the proposed use:

- Weekday AM Peak - 2 vehicle movements per 100m^2
- Weekday PM Peak – 6 vehicle movements per 100m^2

We have applied these rates to the proposed 1,558 square metres of supermarket use and have also conservatively applied this to the remaining 1,049 square metres of commercial uses (co-working and retail) equating to:

- a weekday morning peak hour traffic generation of 52 vehicle movements, and
- a weekday afternoon peak hour traffic generation of 156 vehicle movements.

It is assumed that the above traffic will be split evenly between in and outbound movements during each peak hour.

Gymnasium & Community Spaces

It is our expectation that the Gymnasium and Community Space uses will not generate any additional material traffic movements, that isn't already accounted for in the overall commercial/retail floor areas, as it is likely they will be from the development itself or the nearby area and they will likely to live within the development itself or nearby, and would walk, run or cycle to/from these spaces.

Summary of Traffic Generation

Based on the preceding, the development is expected to generate some 203 vehicle movements in the AM peak hour and 307 in the PM peak hour as summarised at Table 15.

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Table 15: Projected Traffic Generation to/from the Site – Current Development

Use	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Residential	30	121	151	91	60	151
Commercial	26	26	52	78	78	156
Total	**56**	**147**	**203**	**169**	**138**	**307**

It is important to investigate the characteristics of trips generated by the supermarket/shops as there are different types of trips which may occur. These different trip types correspond to:

- 'Primary Trips'
- 'Link-diverted Trips'
- 'Non-link-diverted Trips'.

Primary trips and link-diverted trips involve a vehicle either making a special trip or a modification of the route to an existing trip (i.e. new trips). Non-link-diverted trips correspond to those trips which do not involve a diversion from the route that would otherwise have been taken, or in other words are trips generated by passing traffic.

The important distinction here is that it is only primary trips and link-diverted trips which impact upon the external road network. Non-link-diverted trips are already present on the adjacent road network, and although these trips need to be considered in the design of access driveways, turning lanes and so on, they do not generate additional traffic to the network, rather they redistribute existing movements to/from the site.

Notwithstanding the above, for the purposes of this assessment, we will not include any discount to traffic movements as a result of passing trade.

5.3.4. Traffic Distributions & Projected Volumes

The following direction distribution has been adopted for our traffic analysis:

- 70% of traffic to be generated to/from the north, and
- 30% of traffic to be generated to/from the south.

The projected traffic generation of the proposal is shown at Figure 25.

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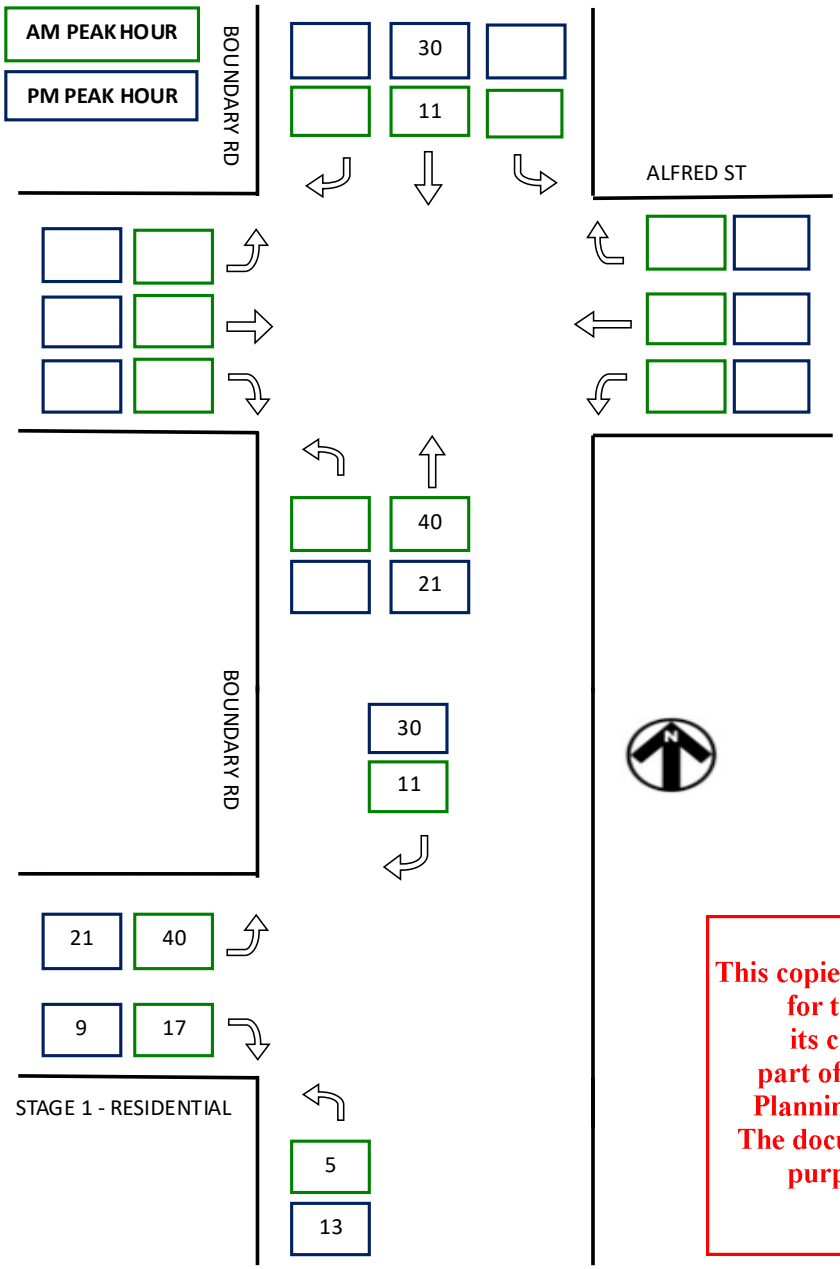

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Figure 25: Projected Development Traffic Generation

These volumes have been superimposed over the base case volumes to calculate future post development volumes as shown at Figure 26.

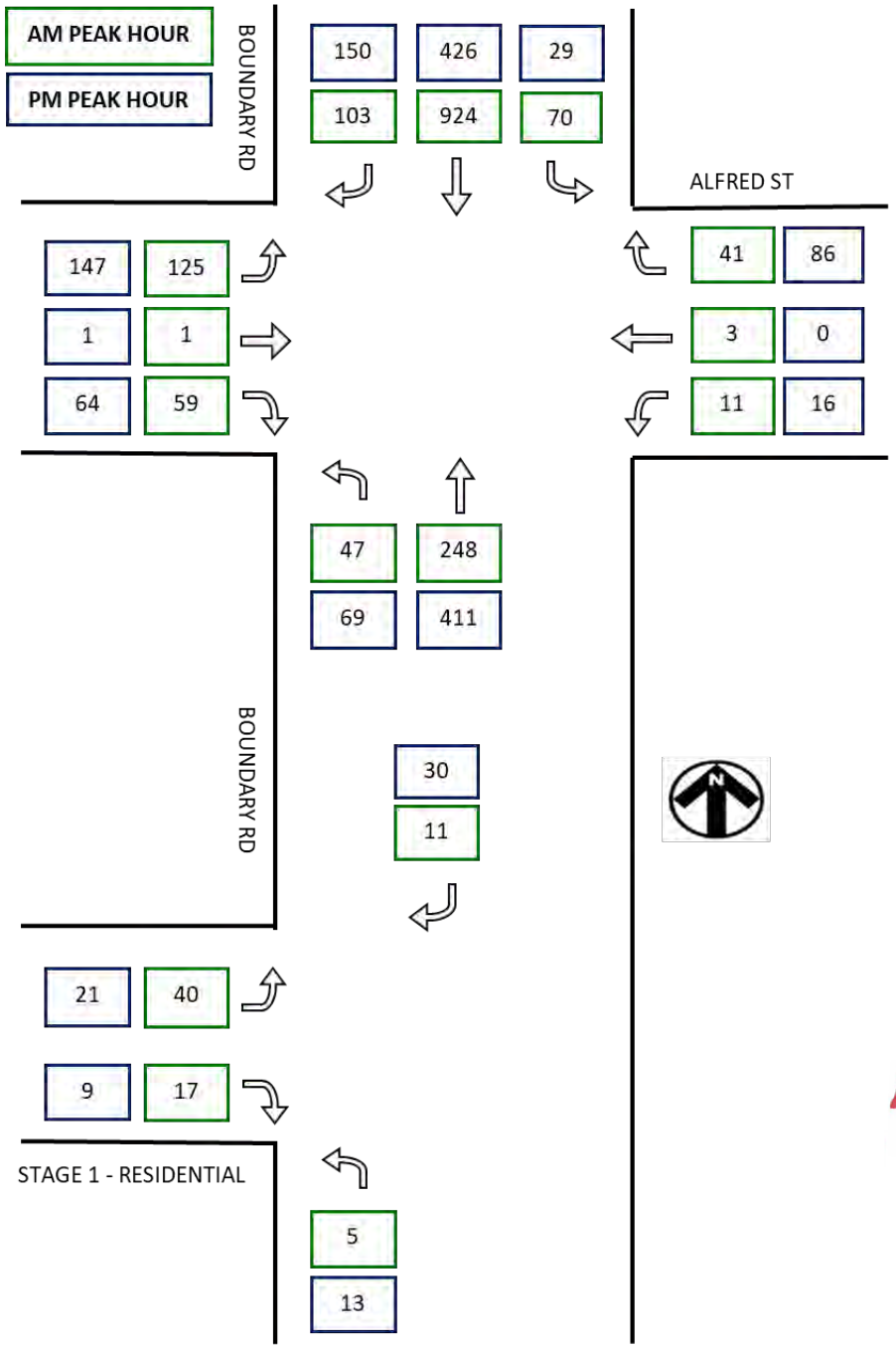

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Figure 26: Future Post-Development Volumes

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5.3.5. Intersection Analysis

We have used SIDRA Intersection 9 to undertake an assessment of the performance of the proposed intersection of Boundary Road and Alfred Street under both base case and post-development conditions.

As agreed with DTP, we have created a Network model with the proposed site access, and calibrated the model to reflect observations of signal phasing of the intersection at Boundary Road, and queues and platoons on Boundary Road.

SIDRA is a computer program originally developed by the Australian Road Research Board, which can be used to analyse the operation of intersections. SIDRA provides information about the capacity of an intersection in terms of a range of parameters, as described below:

Degree of Saturation (D.O.S.) *is the ratio of the volume of traffic observed making a particular movement compared to the maximum capacity for that movement. Various values of degree of saturation and their rating are shown below.*

Level of Service		Intersection Degree of Saturation	
		Unsignalised Intersection	Signalised Intersection
A	Excellent	≤ 0.60	≤ 0.60
B	Very Good	0.60 – 0.70	0.60 – 0.70
C	Good	0.70 – 0.80	0.70 – 0.90
D	Acceptable	0.80 – 0.90	0.90 – 0.95
E	Poor	0.90 – 1.00	0.95 – 1.00
F	Very Poor	≥ 1.0	≥ 1.0

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*The **95th Percentile** Queue represents the maximum queue length, in metres, that can be expected in 95% of observed queue lengths in the peak hour.*

Average Delay *(seconds) is the average delay time that can be expected for all vehicles making a particular movement in the peak hour.*

We have assumed a 5% heavy vehicle volume for through traffic movements only along Boundary Road.

The following additional on-site observations, surveys and analysis were undertaken to calibrate the model:

- Northbound queueing in the AM and PM peak hour as recorded, and specifically noted how far the queue on Boundary Road extended, and if it extended past the subject intersection.
- We observed Signal Phasing operations at the Boundary Road / Racecourse Road in both the AM and PM peak hour to understand current phasing and remodel the Alfred/Boundary Road intersection with phase times that reflect the northern primary

intersection to show that it can be linked (and suggest how phasing and other signal linking arrangements can be implemented).

- We observed southbound movements and platooning past the subject site in the AM and PM peak hour and calibrate the model to also reflect this.

A Network Model has been created to include the proposed site access to Boundary Road, located approximately 50 metres south of the Alfred Street intersection. We have modelled this as fully directional.

Phasing for the proposed Alfred Street intersection has been adjusted to reflect the intersection being linked to the existing Racecourse Road intersection to the north. We have done this by adjusting the phase times and allocations, to have this intersection work in the shadow of the Racecourse Road intersection to the north (ie and also try and coordinate through volumes on Boundary Road to be able to 'catch-the-green' in both directions).

To limit the queues for the northern right turn, we have introduced leading and lagging right turn phasing. The phasing arrangements at the Racecourse Road intersection to the north will permit this to be possible, without impacting on the ability of through movements on Boundary Road to be coordinated.

We have included a "Bunching Factor" for the southbound movements on Racecourse Road of 40% to reflect the significant proportion of time recorded during the survey periods showing bunching. We expect this remains conservative (in terms of gap capacity for right turn exit movements).

To partially model the extended queue in the northbound direction in the PM peak hour, we have reduced the "Effective Capacity" by 50% for northbound movements. This does not completely replicate the on-site conditions, as it does not necessarily reduce the ability for vehicles exiting Alfred Street. We expect that with signal coordination (and potentially early cut offs) the signals at Alfred Street could be managed to allow for some small amount of capacity for vehicles exiting Alfred Street in a northerly direction.

Network Summary Diagrams of the network are provided in Table 16.

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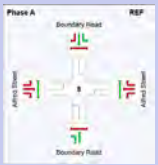
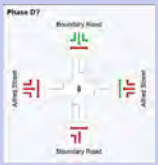
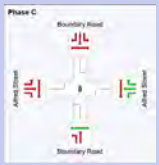
Table 16: Post Development Network Model Degree of Saturation (by Lane)

AM	PM
	

The adopted phasing for the intersection is shown in Table 17.

Table 17: Recorded Average Phase Times

Phase					
Key Movement	Boundary Road Thrus	Northern Boundary Thru/Right (Lagging)	Alfred Western	Alfred Eastern	Northern Boundary Thru/Right (Leading)
AM (120 s cycle)	63 seconds	12 seconds	21seconds	12 seconds[4]	12 seconds
PM (120 s cycle)	59 seconds	12 seconds	25 seconds	12 seconds	12 seconds

[4] It is noted that the time for the eastern leg is likely to be insufficient for pedestrians to cross on the southern side of the road, and this presumes that the eastern leg (and pedestrian crossing movement) might operate in every 2nd or 3rd cycle.

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The results of the SIDRA Model are summarised in Table 18.

Table 18: SIDRA Summary for Network Model AM & PM

Intersection	Leg	Mov.	AM		PM	
			DoS	95th % queue (m)	DoS	95th % queue (m)
Boundary / Alfred	Boundary (S)	L	0.35	82	1.23[2]	82[5]
		T	0.35	82	1.23[2]	82
	Alfred (E)	L	0.52	25	0.96	57
		T	0.52	25	0.96	57
		R	0.52	25	0.96	57
	Boundary (N)	L	0.90	414	0.47	102
		T	0.90	414	0.47	102
		R	0.59	30	0.86	48
	Alfred (W)	L	0.99	110	0.87	103
		T	0.99	110	0.87	103
		R	0.59	110	0.87	103
Boundary / Site Access	Boundary (S)	L	0.16	1	0.27[2]	392
		T	0.16	1	0.27[2]	392
	Boundary (N)	T	0.54	0	0.27	0
		R	0.01	0	0.01	0
	Site Access (W)	L	0.22	4	0.09	17
		R	0.22	4	0.09	17

Based on the above, we note the following:

- Queueing from the north is of some concern in the AM peak hour as the queue extends for some 414m, which would mean that the queue continues north of the intersection at Boundary Road. It is noted that the high through volumes on Boundary Road, and split phasing of the side legs impacts on the ability to manage this queue any further.
- Access into and out of the site via the southern unsignalised intersection operates under excellent conditions and due to southbound platoons and the signal linking and phasing of

[5] The modelling for the northbound movement on Boundary Road at both intersections is not truly reflective of the operation, and this is due to the extended queue from the intersection to the north.

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the signals to the north, there is sufficient capacity to allow vehicles to enter and exit the site with minimal queue.

- The exit from the side roads (Alfred Street) operate under conditions which are reaching capacity. Whilst this is not ideal from an operational perspective, due to high volumes on Boundary Road, allocating additional time to Alfred Street is difficult.

To reduce the southbound queues, we have investigated an additional Scenario which removes the eastern approach of Alfred Street. Vehicles can continue to enter Alfred Street from the north (left in), however by removing the ability for vehicles to exit to Boundary Road, it would provide more green time for through movements on Boundary Road and also for Alfred Street west.

We note that from a network perspective, the exiting volumes from Alfred Street are relatively low, and there are opportunities for vehicles to exit through to other parts of the network (ie Flemington Road or Boundary Road to the south).

Network Summary Diagrams of the alternative network are provided in Table 19.

Table 19: Post Development Network Model Degree of Saturation (by Lane) – No Alfred Exit

AM	PM
	

The adopted phasing for alternative intersection scenario is shown in Table 17.

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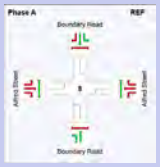
Table 20: Recorded Average Phase Times

Phase				
Key Movement	Boundary Road Thrus	Northern Boundary Thru/Right (Lagging)	Alfred Western	Northern Boundary Thru/Right (Leading)
AM (120 s cycle)	75 seconds	12 seconds	21 seconds	12 seconds
PM (120 s cycle)	60 seconds	15 seconds	30 seconds	15 seconds

The results of the alternative SIDRA Model are summarised in Table 21.

The results show that there are fundamental improvements to the operation of the signals and Boundary Road with the removal of the eastern Alfred Street approach phase.

In the AM peak hour, the southbound queue for Boundary Road is reduced significantly to less than 300 metres by providing additional time for through movements, and less extended red time for those movements.

In the PM peak hour, there are also improvements to the overall operation of the intersection.

We note that in the PM peak, the long standing queue on Boundary Road, for northbound movements, may limit exiting movements from the subject site (turning left). In this instance, we have demonstrated that there is capacity and possibility for vehicles to safely exit the site and turn south at both Alfred Street (via the signals) or from the site access (as the southbound platooning is such that significant gaps are created).

Whilst not strictly a way of managing these issues, subject to DTP acceptance, it may be possible to introduce Keep Clear linemarking at the proposed car park access such that vehicles in the extended northbound queue do not block the entry / exit from the proposed car park.

This will assist in making it possible for site traffic to depart south if there is an extended queue, and divert through the rest of the network, relieving some pressure on capacity in the northbound direction.

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Table 21: SIDRA Summary for Network Model AM & PM – Alternative Scheme (No Alfred East Approach)

Intersection	Leg	Movement	AM		PM	
			DoS	95th % queue (m)	DoS	95th % queue (m)
Boundary / Alfred	Boundary (S)	L	0.29	66	1.20[6]	82[6]
		T	0.29	66	1.20[6]	82
	Boundary (N)	L	0.78	248	0.41	84
		T	0.78	248	0.41	84
		R	0.59	35	0.58	42
	Alfred (W)	L	0.99	110	0.67	88
		T	0.99	110	0.67	88
		R	0.99	110	0.67	88
Boundary / Site Access	Boundary (S)	L	0.24	0	0.27[2]	377
		T	0.24	0	0.27[2]	377
	Boundary (N)	T	0.54	0	0.27	0
		R	0.01	0	0.03	1
	Site Access (W)	L	0.19	4	0.09	17
		R	0.19	4	0.09	17

We've also reviewed the potential signal linking possibilities for the Racecourse Road and Alfred Street intersections, to confirm that through movements on Boundary Road can be managed and will not be adversely impacted by the proposed signal phasing.

[6] The modelling for the northbound movement on Boundary Road at both intersections is not truly reflective of the operation, and this is due to the extended queue from the intersection to the north.

Essentially the limiting factor to coordinating the two intersections is the Racecourse Road phasing, which uses the majority of the signal timing at the intersection.

At this time, we presume that the side road (Alfred Street West) and northern right turn and through (lagging) phases would operate, allowing southbound through movements to be captured.

When the northern Boundary Road phase (at Racecourse Road) is running, there is potential that the primary north-south Boundary Road phase would run at the Alfred Street signals. This phase would also continue running to capture the primary north-south Boundary Road phase at the Racecourse Road intersection.

The AM and PM phase times and allocations are not significantly dissimilar, and so the linking would be comparable.

On this basis, we are comfortable that there is sufficient opportunity to link the through movements on Boundary Road, and still allow for side road movements on Alfred Street.

The analysis in the Appendix also confirms that linking of the subject signals is possible to assist in the operation and management of traffic on Boundary Road.

5.3.6. Summary and Conclusions

Based on the preceding, we are of the view that the proposed access arrangements and mitigating works are appropriate and acceptable to manage the proposed development traffic.

It is noted that the signalisation of Alfred Street and Boundary Road has been contemplated as part of the previous permits for the site, and also through the Council's currently proposed draft Structure Plan Amendment.

Whilst there are existing constraints in relation to capacity on the network, and particularly on Boundary Road, this would be present in either of these other scenarios, and this proposal is not resulting in any significant change to the outcomes on Boundary Road.

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6. Design Considerations

6.1. Car Parking Layout & Access Arrangements

The car park layout and access arrangements have been developed with design advice provided to the project architects (Cera Stribley and FK) and is considered to principally meet the relevant requirements of the Melbourne Planning Scheme and where applicable, the Australian Standard for Off-Street Parking (AS2890.1:2004).

A review of the car park layout reveals:

General Car Parking Layout

- Car spaces have generally been designated with minimum dimensions of 2.6 metres width and 4.9 metres length, accessible from 6.4 metre-wide aisles, meeting the Planning Scheme requirements.
- Car spaces in a tandem arrangements are provided with an additional 500mm in length between each space, meeting the Planning Scheme requirements.
- Car spaces adjacent to walls have been widened to provide appropriate clearances to allow for satisfactory car door opening, including to 2.7 metres for residents and staff and 2.9 metres for public parking as per AS2890.1:2004.
- Columns are generally sited within 0.25-1.25 metres from the aisle end of car spaces in accordance with the Planning Scheme car parking envelope to allow for access into and out of spaces. It is noted that some variation to column setbacks is provided, but this is overcome by providing wider spaces (to allow for door opening).
- A minimum head clearance of 2.2 metres is to be provided within all trafficable areas of the car parking area.
- DDA parking bay has been provided where required in accordance with the requirements of AS2890.6:2009. A dedicated bay and shared area have been dimensioned at a minimum width of 2.4 metres, minimum length of 5.4 metres and provided with a minimum headroom clearance of 2.5 metres.

Access & Ramps

- The access arrangements to each car park is summarised as follows:
  - Stage 1:
    - Resident car park takes access via a new crossover to Boundary Road, located near the south-eastern boundary.
    - Supermarket car park – via a new crossover to the eastern internal road.
  - Stage 2 – via a new crossover to the southern internal road.
  - Stage 3 – via a new crossover to the western internal road.
- Vehicle accesses are provided with dimensions that meet or exceed the requirements of AS2890.1:2004, including:
  - Single entry lanes with a minimum 3.6 metres width between walls,

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- Separate entry and exit lanes, with a minimum width of 3.6 metres between walls per lane,
- Dual lane accessways (two-way), with a minimum 6.1 metres width, and
- Internal car park access controls that allow for B99 vehicle swept paths and turning.

- Vehicle circulation through the internal loop road has been checked and is considered satisfactory, accommodating a 8.8 metre long Medium Rigid Vehicle (design vehicle) and a 12.5 metre long Heavy Rigid Vehicle (check vehicle). Relevant swept paths diagrams are attached at Appendix C which demonstrate satisfactory circulation
- The first 5 metres of all driveways of each car park, is predominantly flat, with the grades not exceeding 1 in 10 satisfying the requirements of the Planning Scheme.
- The plans illustrate a maximum grade of 1 in 5 with transitions not exceeding 1 in 8 for not less than 2.0 metres, satisfying the requirements of the Planning Scheme.
- A minimum head clearance of 2.2 metres is provided within all trafficable areas of the car parking area.
- Sight triangles, measuring 2m along the building frontage by 2.5m along the exit lane, can be accommodated on the exit side of each car park access, in accordance with Clause 52.06. The sight triangles are to be at least 50% clear of visual obstructions and any landscaping is to be less than 900mm in height.

In this regard, the above access arrangements, grades, transitions and clearances have been assessed and, in our view, meet the intent of the relevant standards.

Based on the foregoing, the car park layout and access is considered satisfactory.

6.2. Bike Parking & Access

Bicycle parking is provided within bike stores at the lower ground floor of each building.

Internal corridors are provided with a minimum width of 1.5 metres, as required under Clause 52.34.

A shared pedestrian and cycling path is provided along the southern abuttal of Stage 1, providing a link between Boundary Road and the proposed internal road.

In addition, the southern section of the internal road, will include:

- Eastbound: Dedicated bike lane, and
- Westbound: Shared lane for cyclist and motorists (sharrow linemarking).

Bicycle parking spaces has been provided in accordance with AS2890.3-2015 with a mix of vertical and horizontal rails as follows:

- Two-tier horizontal rails are provided with dimensions of 2.0 metre length and spaced at 0.5 metre centres, accessible from a 2.0 metre aisle.; and
- Horizontal rails are provided with dimensions of 1.8 metre length and spaced at 1.0 metre centres, accessible from a 1.5 metre aisle.

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- Vertical rails are provided with dimensions of 1.2 metres depth and spaced at 500mm centres, accessible from a 1.5 metre aisle.

On the basis of the above, the bike parking arrangements are considered appropriate.

6.3. Loading & Waste Considerations

Clause 65.01 of the Planning Scheme states that the responsible authority must consider a number of matters as appropriate including:

- *The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.*

A discussion of the relevant components is provided as follows.

- Stage 1:
  - The supermarket tenant will include a separate loading dock, able to service a 12.5 metre long heavy rigid vehicle (HRV). Due to the levels across the site, and adjacencies required to service the supermarket use, the loading dock is proposed to be accessed from the eastern laneway. An enclosed turntable will allow trucks to enter and exit the site in a forward direction to/from the eastern laneway.
  - Shared residential loading and waste is proposed to be undertaken from the eastern laneway, toward the southern extent of the Stage 1 building. The loading dock has been designed to allow Council garbage compactor trucks (9.8 metre long) to access the site. We note that the architectural plans show some roller door structure in the loading bay area, which must be removed to facilitate the waste vehicle egress swept paths.
- Stage 2:
  - Shared residential loading and waste is proposed to be undertaken from the western laneway, toward the southern extent of the Stage 2 building. The loading dock has been designed to allow Council garbage compactor trucks to access the site.
- Stage 3:
  - Shared residential loading and waste is proposed to be undertaken from the western laneway, toward the southern extent of the Stage 3 building. The loading dock has been designed to allow Council garbage compactor trucks to access the site.

Swept path diagrams that demonstrate satisfactory loading wand waste vehicle movements are attached at Appendix C.

We are comfortable that the on-site loading dock has been appropriate designed and will adequately cater for the needs of the development.

Based on the above, we consider the loading and waste arrangements for the proposal to be appropriate.

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7. Conclusions

Having undertaken a detailed traffic engineering assessment of the Alfred Quarter - Master Plan at 103-117 Boundary Road & 59-101 Alfred Steet, North Melbourne, we are of the opinion that:

a. In relation to car parking:
   i) The proposal does not exceed the maximum parking requirements under Clause 52.06 and the allocations are appropriate.
   ii) The draft Parking Overlays seek to significantly reduce the car parking provisions for new developments by introducing maximum rates.
   iii) The existing permits already allow a reduction in car parking, and whilst the proposal will provide parking in excess of the draft Parking Overlay rates, the allocations are considered to be an ambitious and appropriate step to balancing the need to reduce car ownership, and still meet likely demands.
   iv) The provision of the retail precinct car park will also support parking in the precinct.
b. Bicycle and motorcycle parking is provided in excess of the requirements set out within the relevant parts of the Planning Scheme.
c. The proposal contemplates a suite of mitigating works at Boundary Road/Alfred Road to facilitate the development that will ultimately be agreed with DTP and Council. The works are considered to be generally in accordance with the objectives sought by the draft Structure Plan.
d. The mitigating works can support the expected traffic generation of the proposal.
e. The design of the site is considered acceptable, including the proposed car and bicycle parking layouts, access arrangements and loading provisions. The designs are considered to accord with the relevant requirements of the Planning Scheme, AS2890 (where relevant) and current practice.
f. There are no traffic engineering reasons why a planning permit for the Alfred Quarter - Master Plan at 103-117 Boundary Road & 59-101 Alfred Steet, North Melbourne, should not be issued, subject to appropriate conditions.

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Appendix A
Concept Plan

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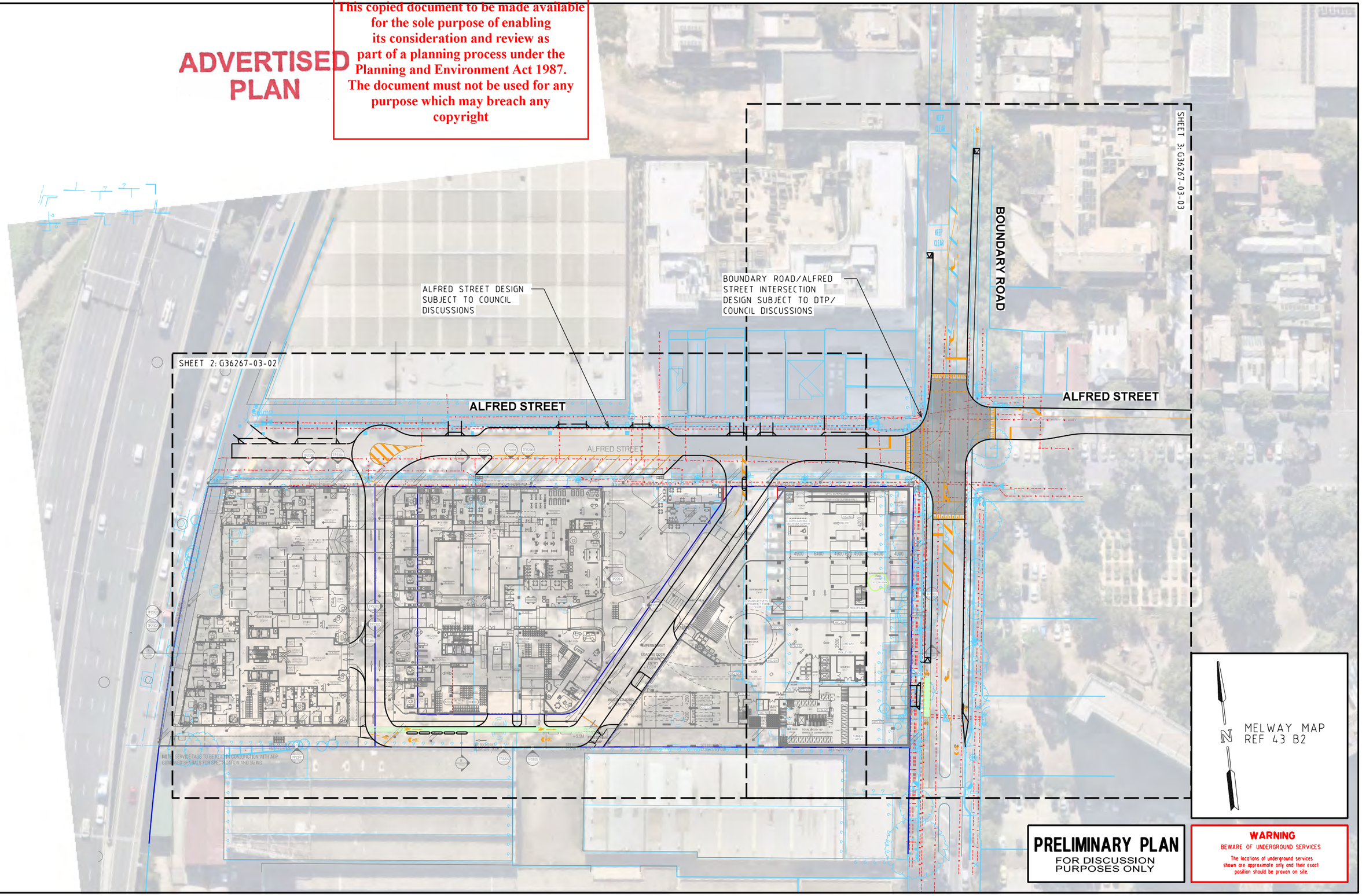

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ALFRED ST / BOUNDARY ROAD
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SITE OVERVIEW

SCALE 1:1000 (A3) 0 5 10 15 20 | SHEET No. 1/8 | DWG No. G36267-03-01

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ALFRED STREET DESIGN SUBJECT TO COUNCIL DISCUSSIONS

ALFRED STREET

ALFRED STREET

SITE BOUNDARY 74.32m 276°16'30"

SITE BOUNDARY 43.22m 276°16'30"

SITE BOUNDARY 69.65m 276°16'30"

SITE BOUNDARY 41.00m 276°16'30"

SITE BOUNDARY 44.36m 170°15'0"

SITE BOUNDARY 88.77m 276°30'30"

SITE BOUNDARY 10.25m 276°10'30"

SITE BOUNDARY 37.51m 276°07'30"

SITE BOUNDARY 33.35m 276°21'00"

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REFER TO SHEET 3 FOR CONTINUATION

MELWAY MAP REF 43 B2

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CONCEPT LAYOUT PLAN

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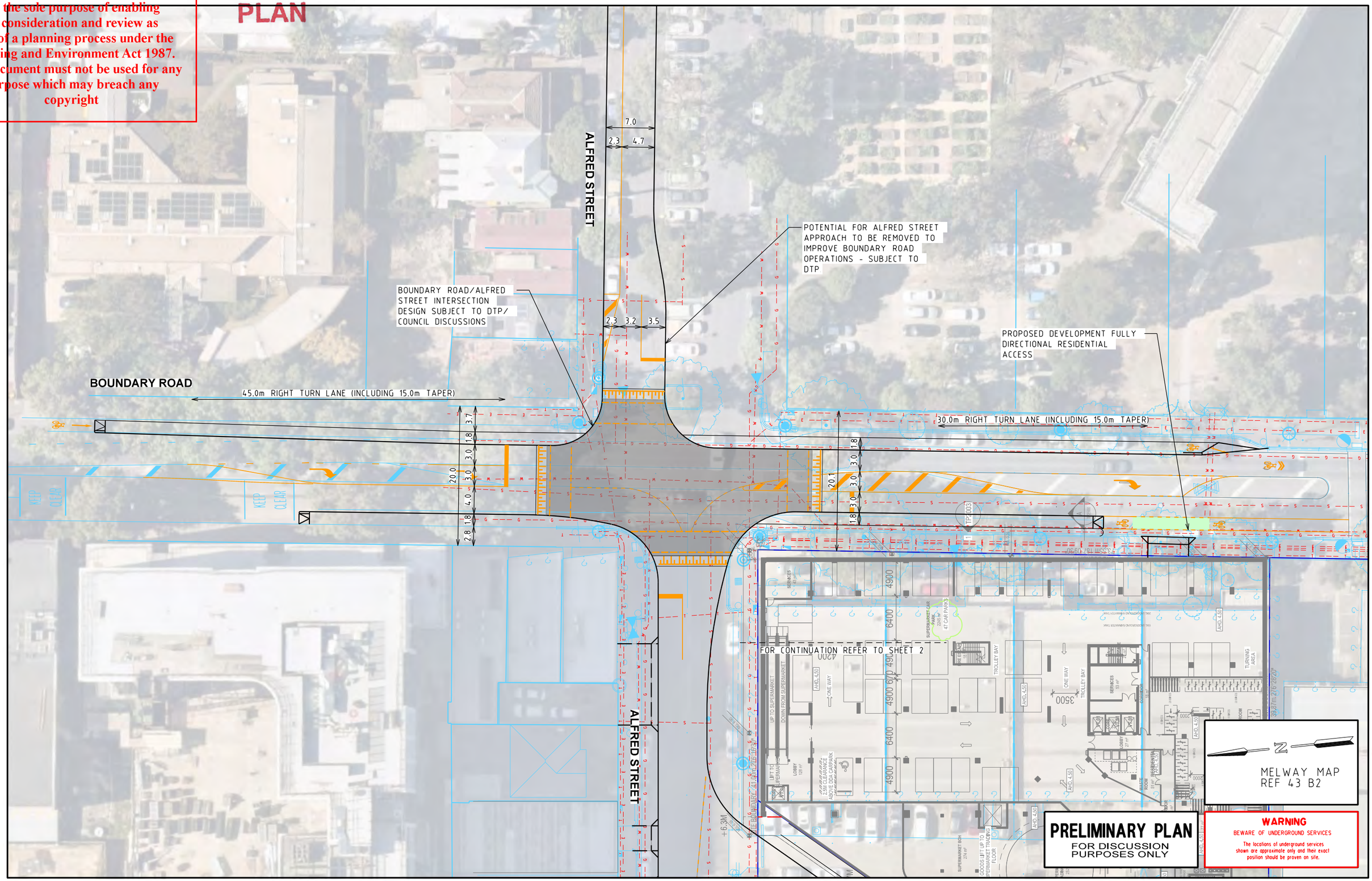

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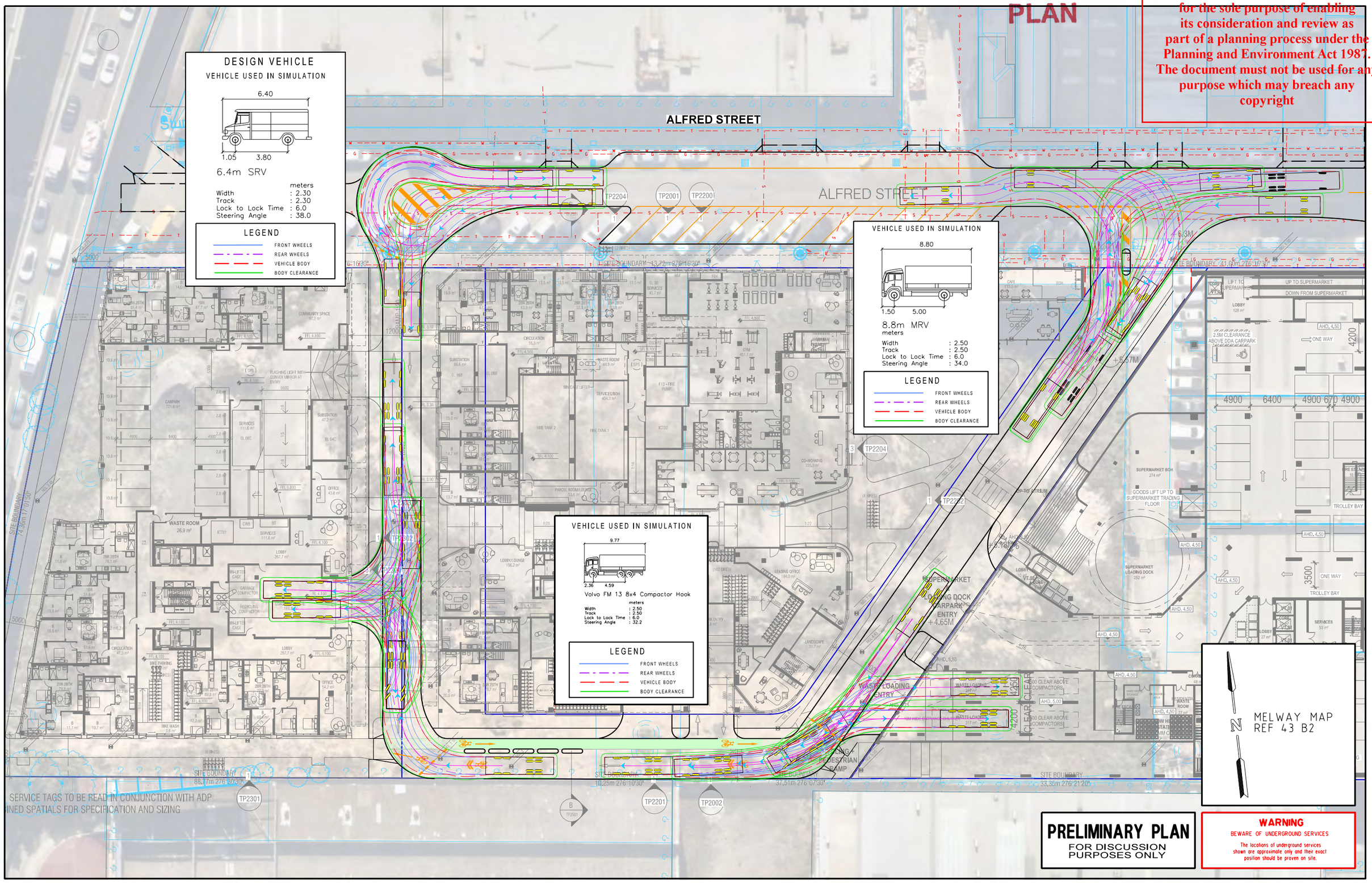

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DESIGN VEHICLE SWEPT PATHS

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ALFRED STREET

ALFRED STREET

CHECK VEHICLE
VEHICLE USED IN SIMULATION

12.50

2.40 6.60

12.5m HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

LEGEND
- FRONT WHEELS
- REAR WHEELS
- VEHICLE BODY
- BODY CLEARANCE

VEHICLE USED IN SIMULATION

9.77

2.36 4.59

Volvo FM 13 8x4 Compactor Hook

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 32.2

LEGEND
- FRONT WHEELS
- REAR WHEELS
- VEHICLE BODY
- BODY CLEARANCE

CHECK VEHICLE
VEHICLE USED IN SIMULATION

12.50

2.40 6.60

12.5m HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

LEGEND
- FRONT WHEELS
- REAR WHEELS
- VEHICLE BODY
- BODY CLEARANCE

CHECK VEHICLE
VEHICLE USED IN SIMULATION

12.50

2.40 6.60

12.5m HRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.2

LEGEND
- FRONT WHEELS
- REAR WHEELS
- VEHICLE BODY
- BODY CLEARANCE

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MELWAY MAP
REF 43 B2

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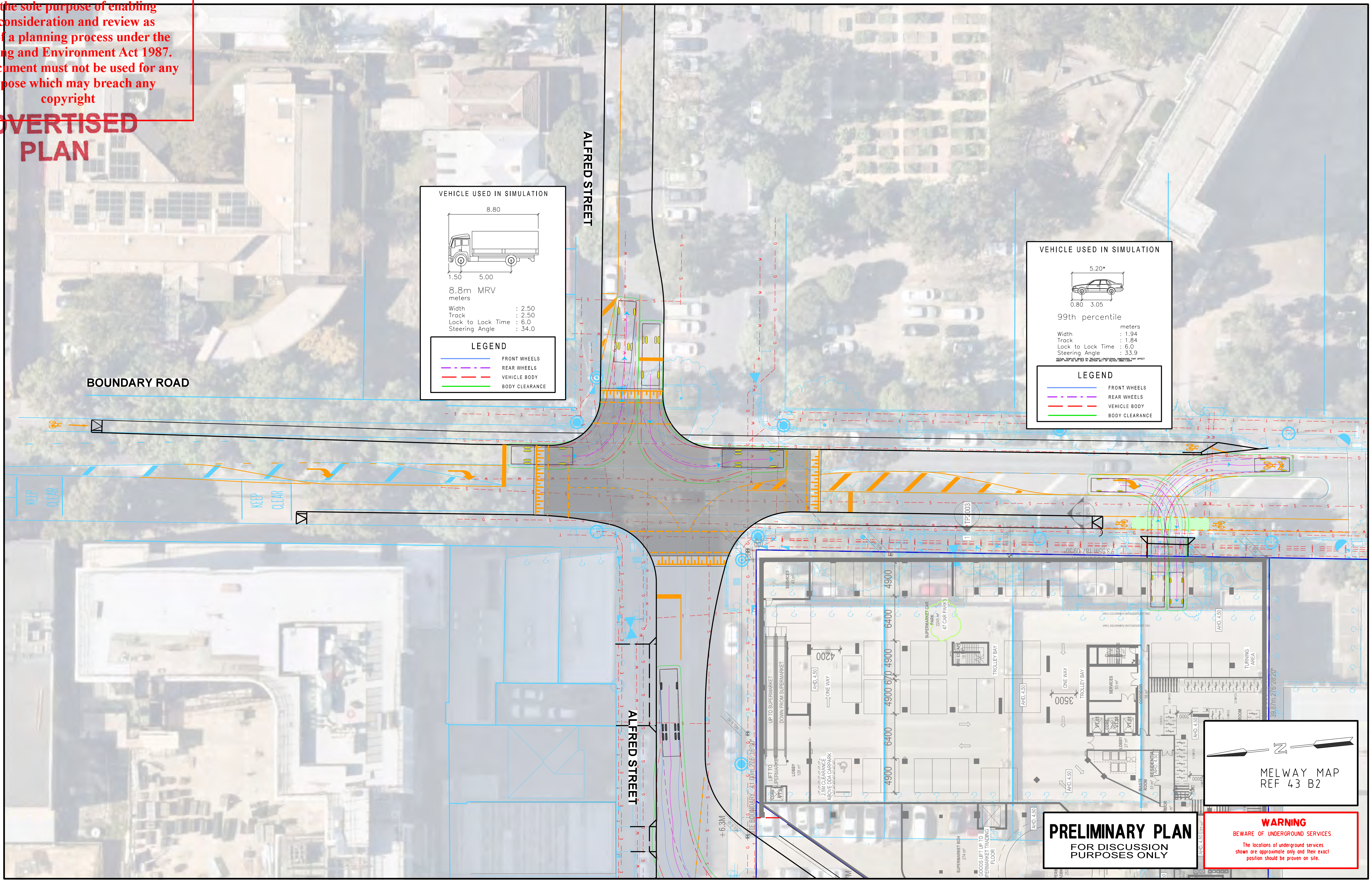

ISSUE	ISSUE DESCRIPTION	DESIGNER	CHECKED/APPROVED	ISSUE DATE
A	INITIAL ISSUE	T. HO	C.M (RPE7781)	10 SEP 2025
B	UPDATED BASE FILE	D.M.	C.M (RPE7781)	11 FEB 2026

GENERAL NOTES
1 BASE INFORMATION FROM FEATURE SURVEY (22698-0-RFL-C dwg DWG) / AERIAL PHOTOGRAPH (SOURCE NEARMAP SEP 2023)
2 ALL DIMENSIONS ARE TO FACE OF KERB & CHANNEL
3 BOUNDARY ROAD (SPEED ZONE 60km/h) ALFRED STREET (SPEED ZONE 50km/h)
4 ALL PROPOSED FOOTPATHS AND PRAM CROSSINGS ARE TO BE CONSTRUCTED WITH TACTILE GROUND SURFACE INDICATORS TO DDA COMPLIANCE GUIDELINES REFER TO AS 1428.4 2009

DESIGNED: T. HO
CHECKED/APPROVED: C. MORELLO
FILE NAME: G36267-03-00.dgn

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ALFRED ST / BOUNDARY ROAD
NORTH MELBOURNE
MELBOURNE CITY COUNCIL
DESIGN VEHICLE SWEPT PATHS

SCALE 1:500 (A3) 0 2.5 5 7.5 10 | SHEET No. 6/8 | DWG No. G36267-03-06

DATE: 11/02/2026
MODEL: G36267-03-06
FILE: \\tfxsrv02\Group\Synergy\Projects\GRP3\GRP36267\03-Drawings\G36267-03-00.dgn

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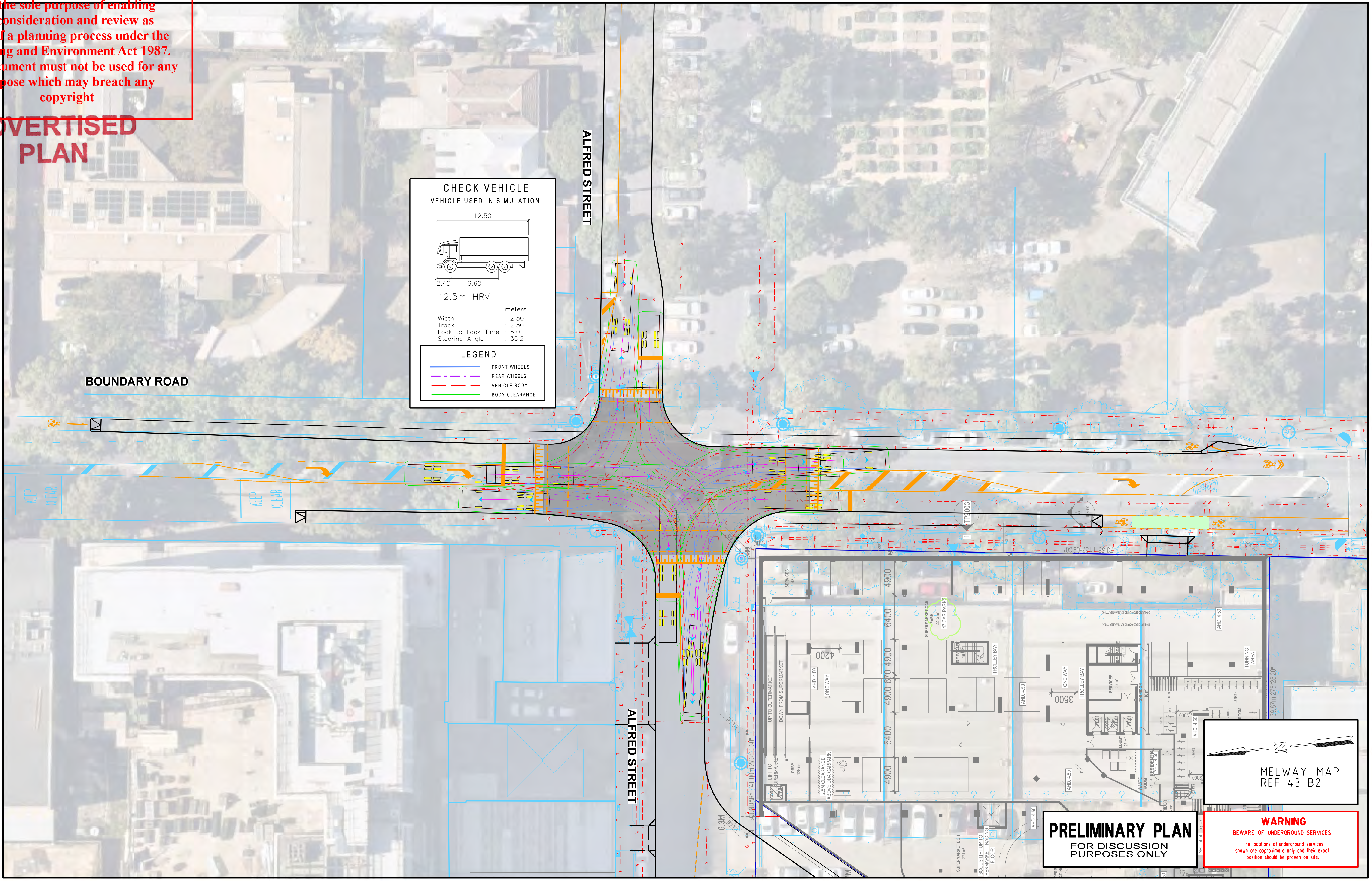

ISSUE	ISSUE DESCRIPTION	DESIGNER	CHECKED/APPROVED	ISSUE DATE
A	INITIAL ISSUE	T. HO	C.M (RPE7781)	10 SEP 2025
B	UPDATED BASE FILE	D.M.	C.M (RPE7781)	11 FEB 2026

GENERAL NOTES
1 BASE INFORMATION FROM FEATURE SURVEY (22698-0-RFL-C dwg DWG) / AERIAL PHOTOGRAPH (SOURCE NEARMAP SEP 2023)
2 ALL DIMENSIONS ARE TO FACE OF KERB & CHANNEL
3 BOUNDARY ROAD (SPEED ZONE 60km/h) ALFRED STREET (SPEED ZONE 50km/h)
4 ALL PROPOSED FOOTPATHS AND PRAM CROSSINGS ARE TO BE CONSTRUCTED WITH TACTILE GROUND SURFACE INDICATORS TO DDA COMPLIANCE GUIDELINES REFER TO AS 1428.4 2009

DESIGNED: T. HO
CHECKED/APPROVED: C. MORELLO
FILE NAME: G36267-03-00.dgn

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MELBOURNE CITY COUNCIL
CHECK VEHICLE SWEPT PATHS

SCALE 1:500 (A3) 0 2.5 5 7.5 10 | SHEET No. 7/8 | DWG No. G36267-03-07

DATE: 11/02/2026
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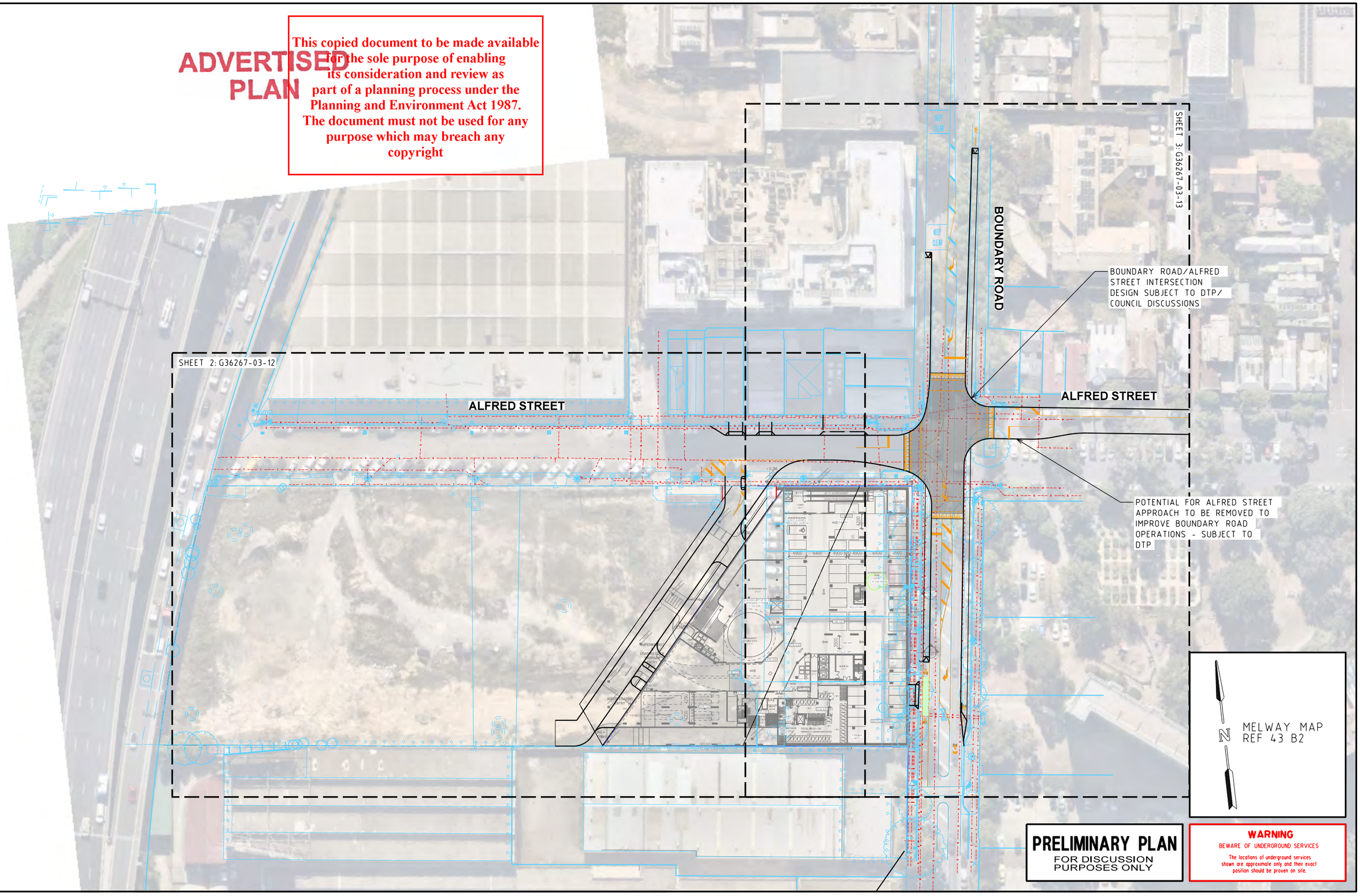

ISSUE	ISSUE DESCRIPTION	DESIGNER	CHECKED/APPROVED	ISSUE DATE
A	INITIAL ISSUE	T. HO	C.M (RPE7781)	10 SEP 2025
B	UPDATED BASE FILE	D.M.	C.M (RPE7781)	11 FEB 2026

GENERAL NOTES
1 BASE INFORMATION FROM FEATURE SURVEY (22698-0-RFL-C dwg DWG) / AERIAL PHOTOGRAPH (SOURCE: NEARMAP SEP 2023)
2 ALL DIMENSIONS ARE TO FACE OF KERB & CHANNEL
3 BOUNDARY ROAD (SPEED ZONE 60km/h)
ALFRED STREET (SPEED ZONE 50km/h)
4 ALL PROPOSED FOOTPATHS AND PRAM CROSSINGS ARE TO BE CONSTRUCTED WITH TACTILE GROUND SURFACE INDICATORS TO DDA COMPLIANCE GUIDELINES REFER TO AS 1428.4:2009

DESIGNED: T. HO
CHECKED/APPROVED: C. MORELLO
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NORTH MELBOURNE
MELBOURNE CITY COUNCIL
SITE OVERVIEW - INTERIM

SCALE 1:1000 (A3) 0 5 10 15 20 | SHEET No. 8/8 | DWG No. G36267-03-11

DATE: 11/02/2026
MODEL: G36267-03-11
FILE: \\tasvol2\Group\Synergy\Projects\GRP3\GRP36267\03-Drawings\G36267-03-00.dgn

Appendix B
Swept Paths

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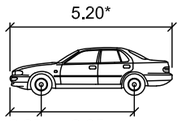
PLAN

VEHICLE PROFILE

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



99th percentile
(AS/NZS 2890.1:2004)

Width	:	1.94m
Track	:	1.84m
Kerb to Kerb Radius	:	6.3m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

LEGEND

REAR WHEELS — VEHICLE BODY
FRONT WHEELS — BODY CLEARANCE

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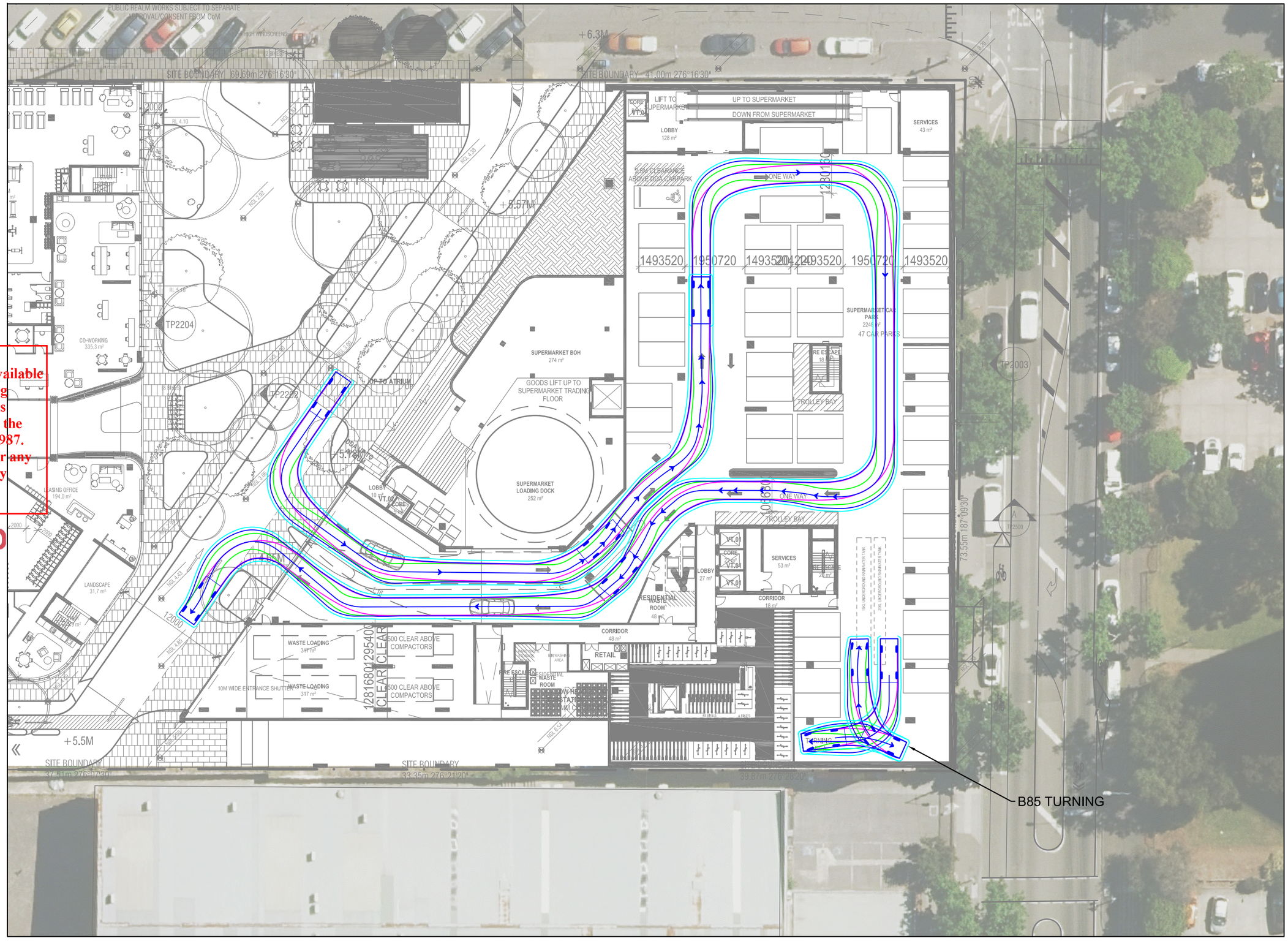
ADVERTISED PLAN

LOWER GROUND - B99 CIRCULATION



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	10/09/2025	TOWN PLANNING	N. MCCAFFREY	C. MORELLO (RPE7781)
B	10/02/2026	RFI COMMENTS	J. LEWIS	C. MORELLO (RPE7781)

103-105 BOUNDARY ROAD, NORTH MELBOURNE

PROPOSED MIXED USE DEVELOPMENT

PRECINCT 1

GENERAL NOTES:

BASE PLANS BY FENDER KATSALIDIS DATED FEBRUARY 2026

FILE NAME: 36267-01

SHEET NO.: 01

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SCALE: 1:400 (A3)

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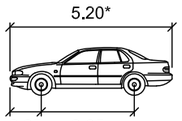
VEHICLE PROFILE

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



99th percentile
(AS/NZS 2890.1:2004)

Width	:	1.94m
Track	:	1.84m
Kerb to Kerb Radius	:	6.3m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

LEGEND

REAR WHEELS — VEHICLE BODY
FRONT WHEELS — BODY CLEARANCE

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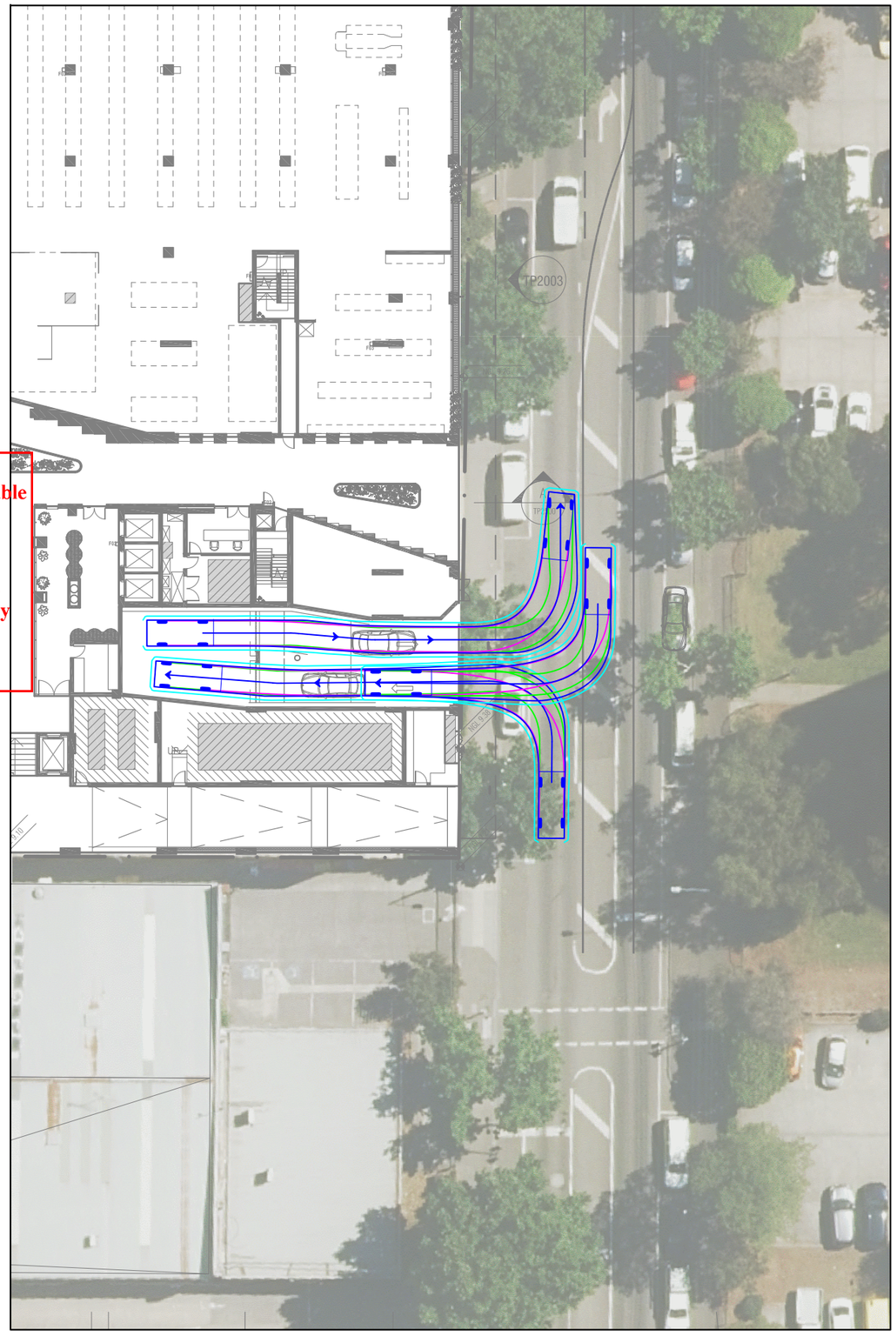
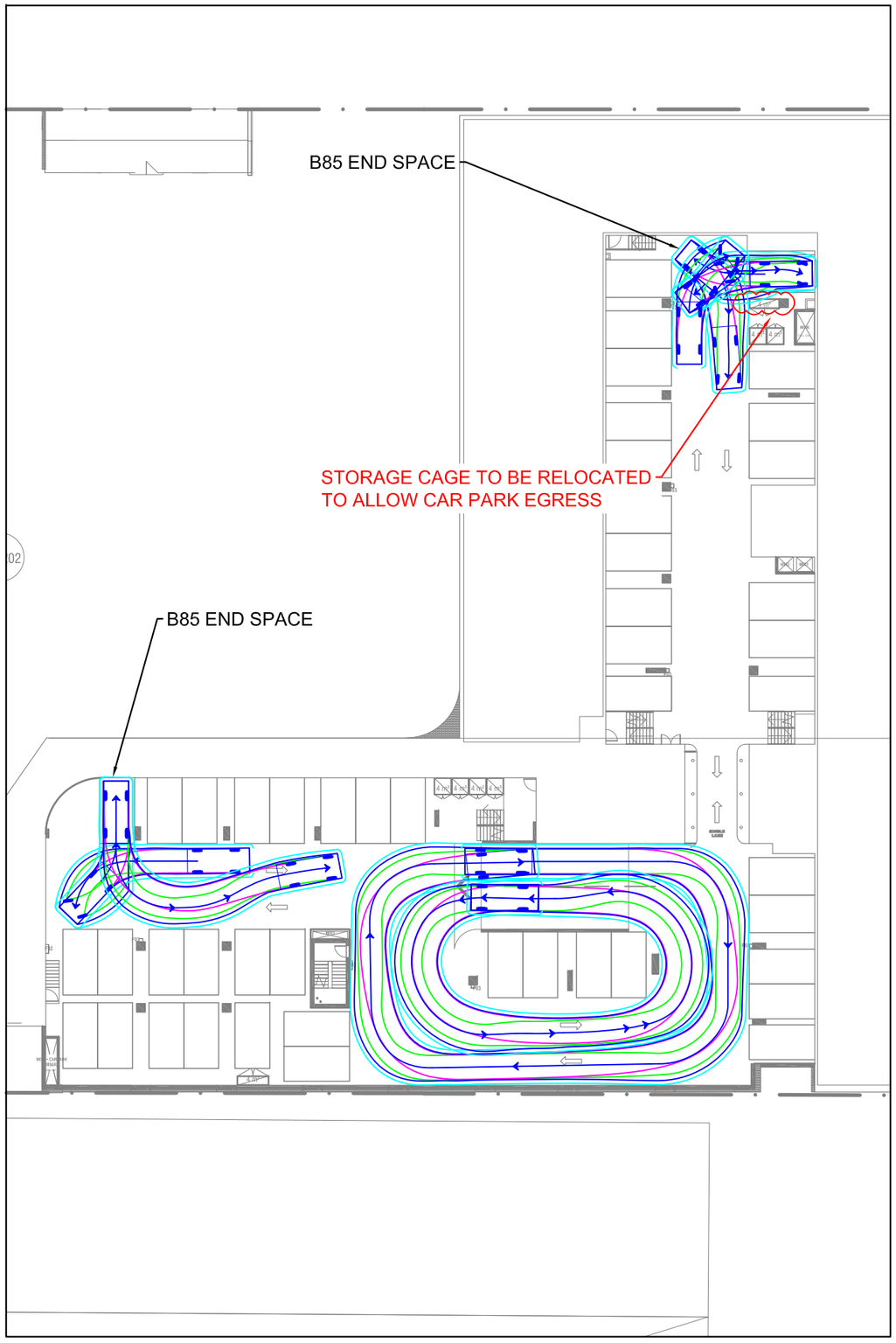
ADVERTISED PLAN

UPPER GROUND - B99 - BOUNDARY ROAD ACCESS



MEZZANINE - B99 - CIRCULATION



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	10/09/2025	TOWN PLANNING	N. MCCAFFREY	C. MORELLO (RPE7781)
B	10/02/2026	RFI COMMENTS	J. LEWIS	C. MORELLO (RPE7781)

103-105 BOUNDARY ROAD, NORTH MELBOURNE
PROPOSED MIXED USE DEVELOPMENT

PRECINCT 1

GENERAL NOTES:

BASE PLANS BY FENDER KATSALIDIS DATED FEBRUARY 2026

FILE NAME: 36267-01
SHEET NO.: 02

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SCALE: 1:400 (A3)
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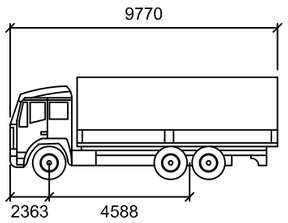
VEHICLE PROFILE



Volvo FM 13 8x4 Compactor Hook

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 32.2

LEGEND

REAR WHEELS — VEHICLE BODY
FRONT WHEELS — BODY CLEARANCE

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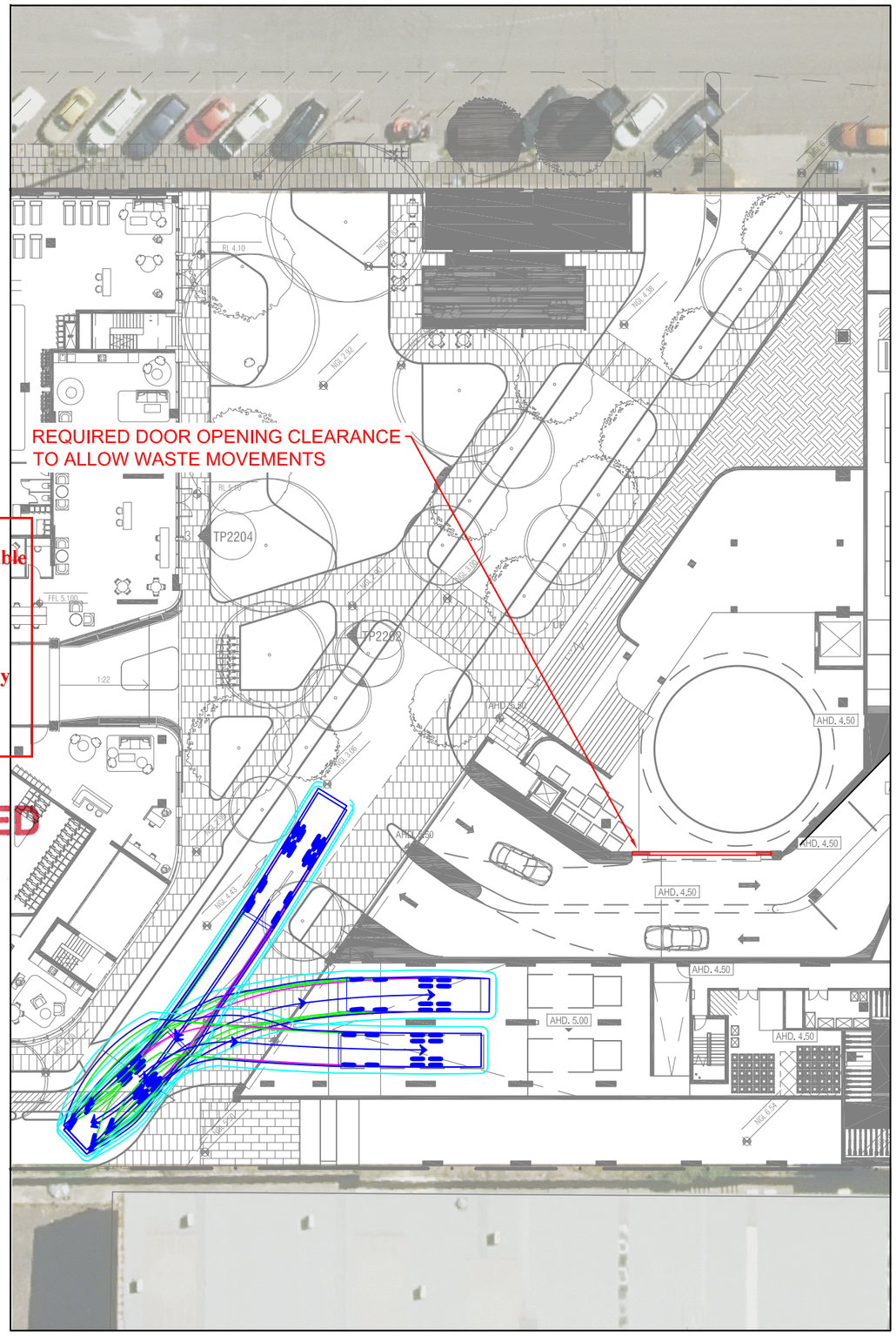
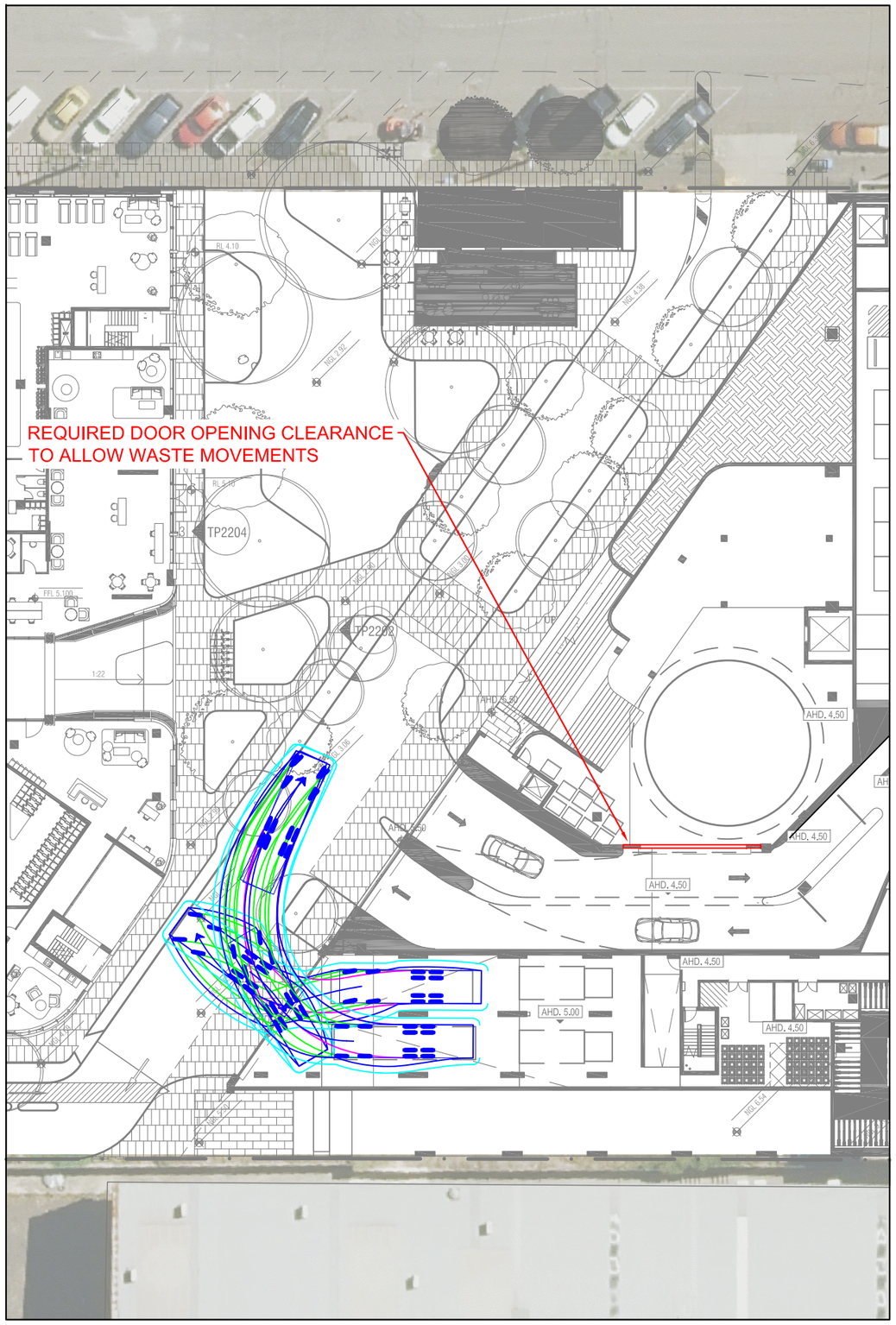
ADVERTISED PLAN

LOWER GROUND - WASTE COLLECTION INGRESS



LOWER GROUND - WASTE COLLECTION EGRESS



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	10/09/2025	TOWN PLANNING	N. MCCAFFREY	C. MORELLO (RPE7781)
B	10/02/2026	RFI COMMENTS	J. LEWIS	C. MORELLO (RPE7781)

103-105 BOUNDARY ROAD, NORTH MELBOURNE
PROPOSED MIXED USE DEVELOPMENT

PRECINCT 1

GENERAL NOTES:

BASE PLANS BY FENDER KATSALIDIS DATED FEBRUARY 2026

FILE NAME: 36267-01
SHEET NO.: 03

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SCALE: 1:400 (A3)
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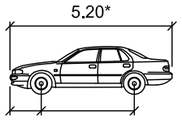
VEHICLE PROFILE

VEHICLE USED IN SIMULATION

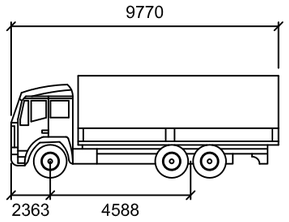
(VEHICLE SPEED - 5KM/H)



99th percentile
(AS/NZS 2890.1:2004)

Width	:	1.94m
Track	:	1.84m
Kerb to Kerb Radius	:	6.3m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004



Volvo FM 13 8x4 Compactor Hook

		mm
Width	:	2500
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	32.2

LEGEND

REAR WHEELS — VEHICLE BODY

FRONT WHEELS — BODY CLEARANCE

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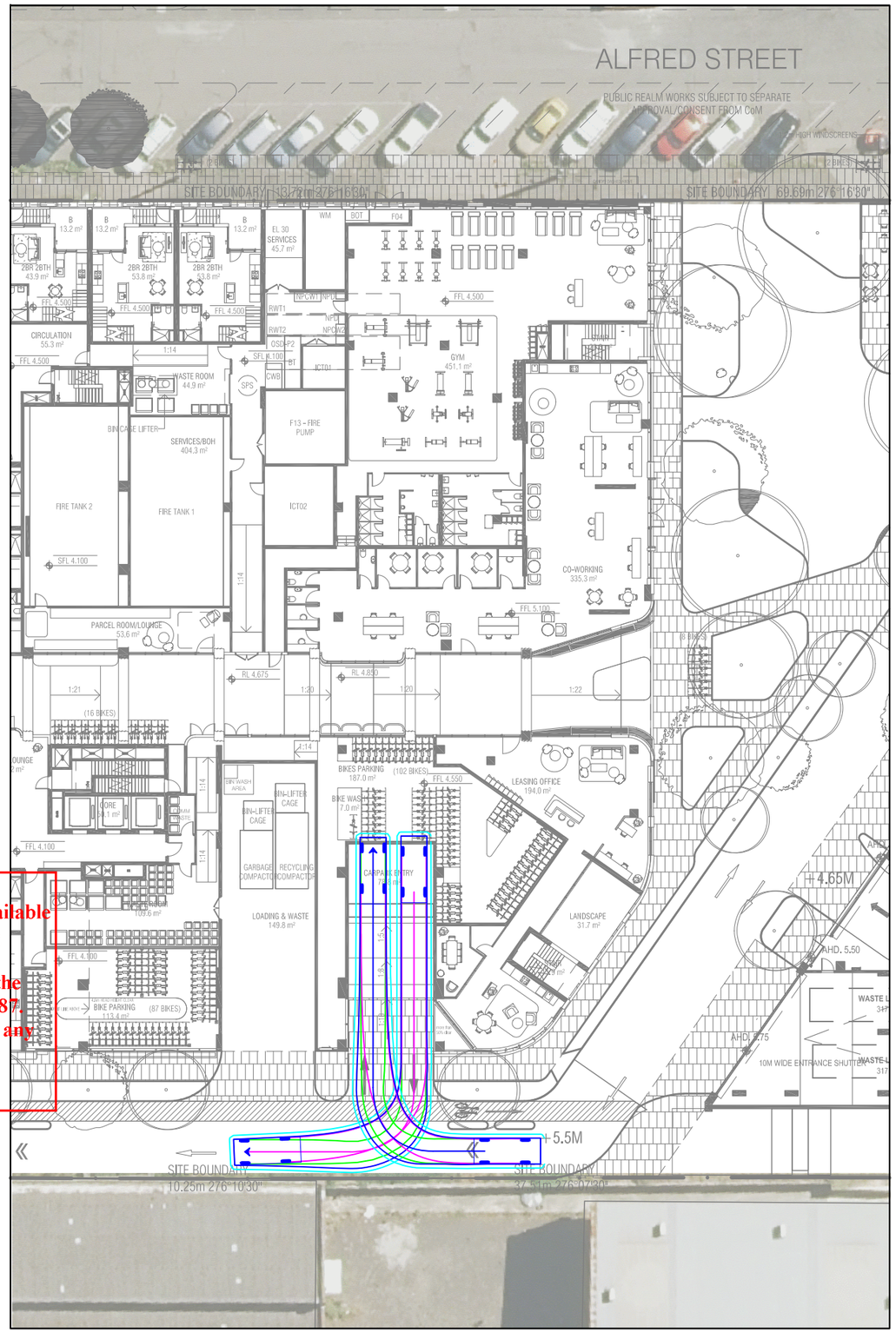
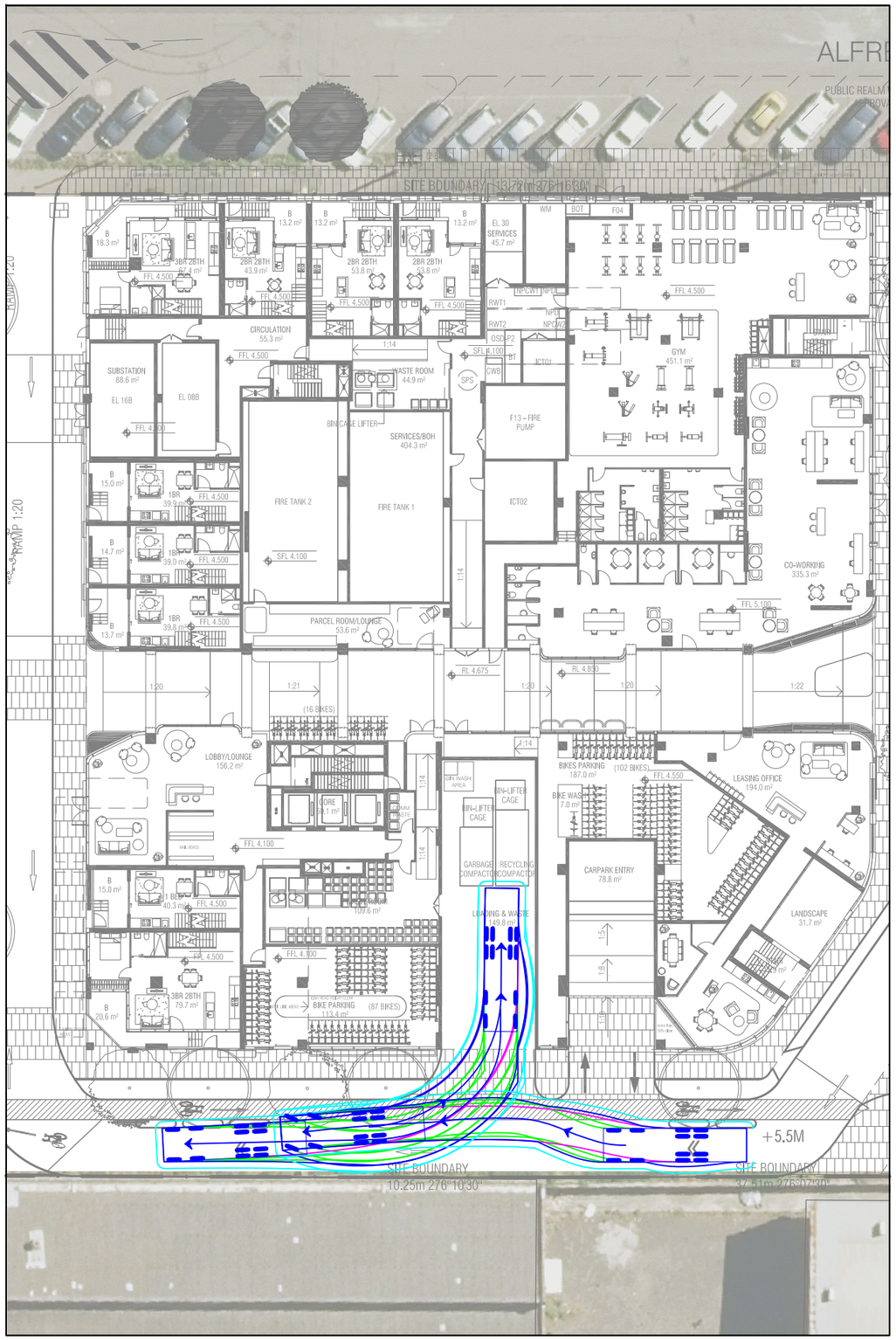
GROUND FLOOR - B99 ACCESS



GROUND FLOOR - WASTE COLLECTION



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	10/09/2025	TOWN PLANNING	N. MCCAFFREY	C. MORELLO (RPE7781)
B	10/02/2026	RFI COMMENTS	J. LEWIS	C. MORELLO (RPE7781)

103-105 BOUNDARY ROAD, NORTH MELBOURNE

PROPOSED MIXED USE DEVELOPMENT

PRECINCT 2

GENERAL NOTES:

BASE PLANS BY FENDER KATSALIDIS DATED FEBRUARY 2026

FILE NAME: 36267-01

SHEET NO.: 04

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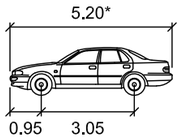
VEHICLE PROFILE

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



99th percentile
(AS/NZS 2890.1:2004)

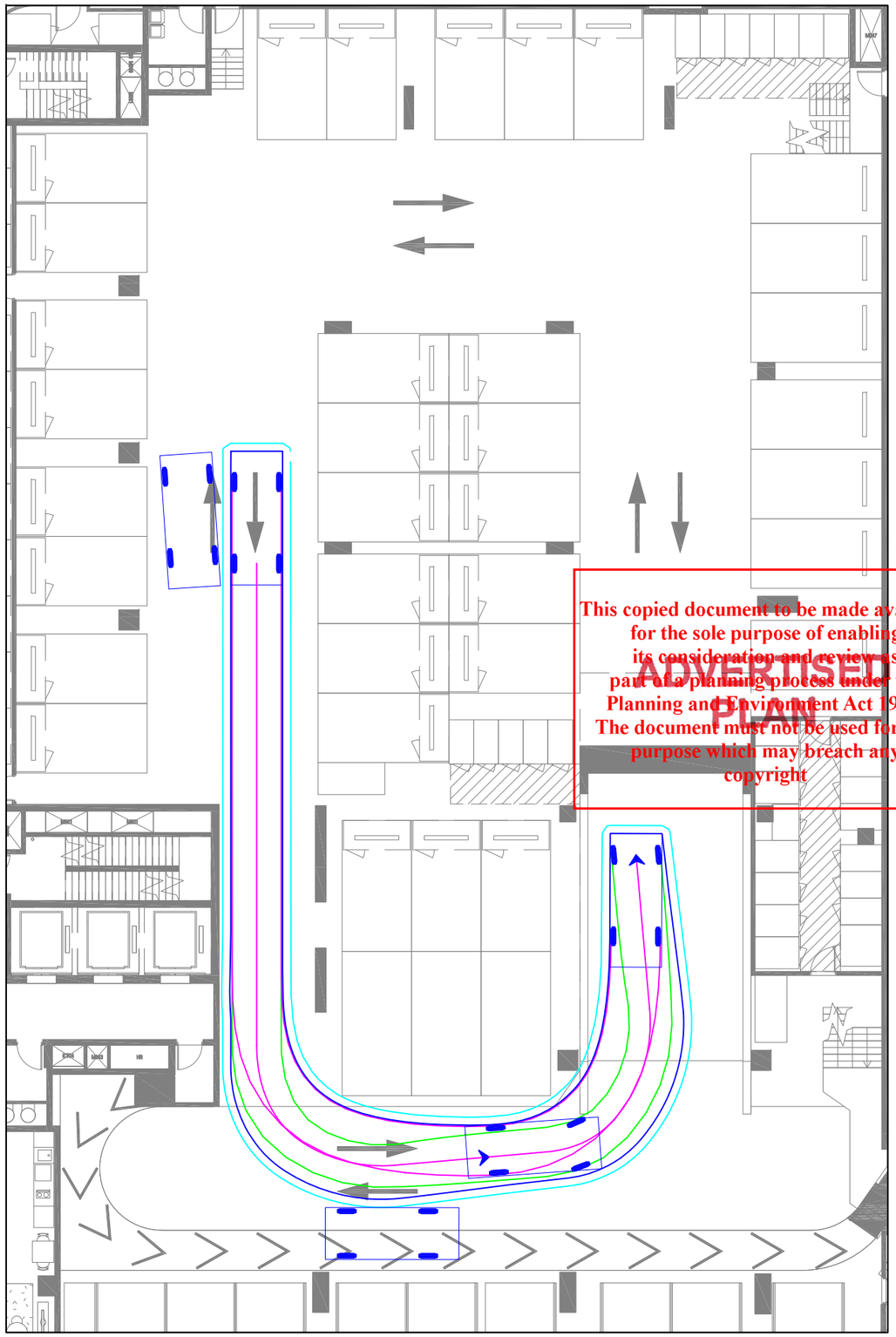
Width	:	1.94m
Track	:	1.84m
Kerb to Kerb Radius	:	6.3m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

LEGEND

REAR WHEELS — VEHICLE BODY
FRONT WHEELS — BODY CLEARANCE

LEVEL 1 - B99 CIRCULATON



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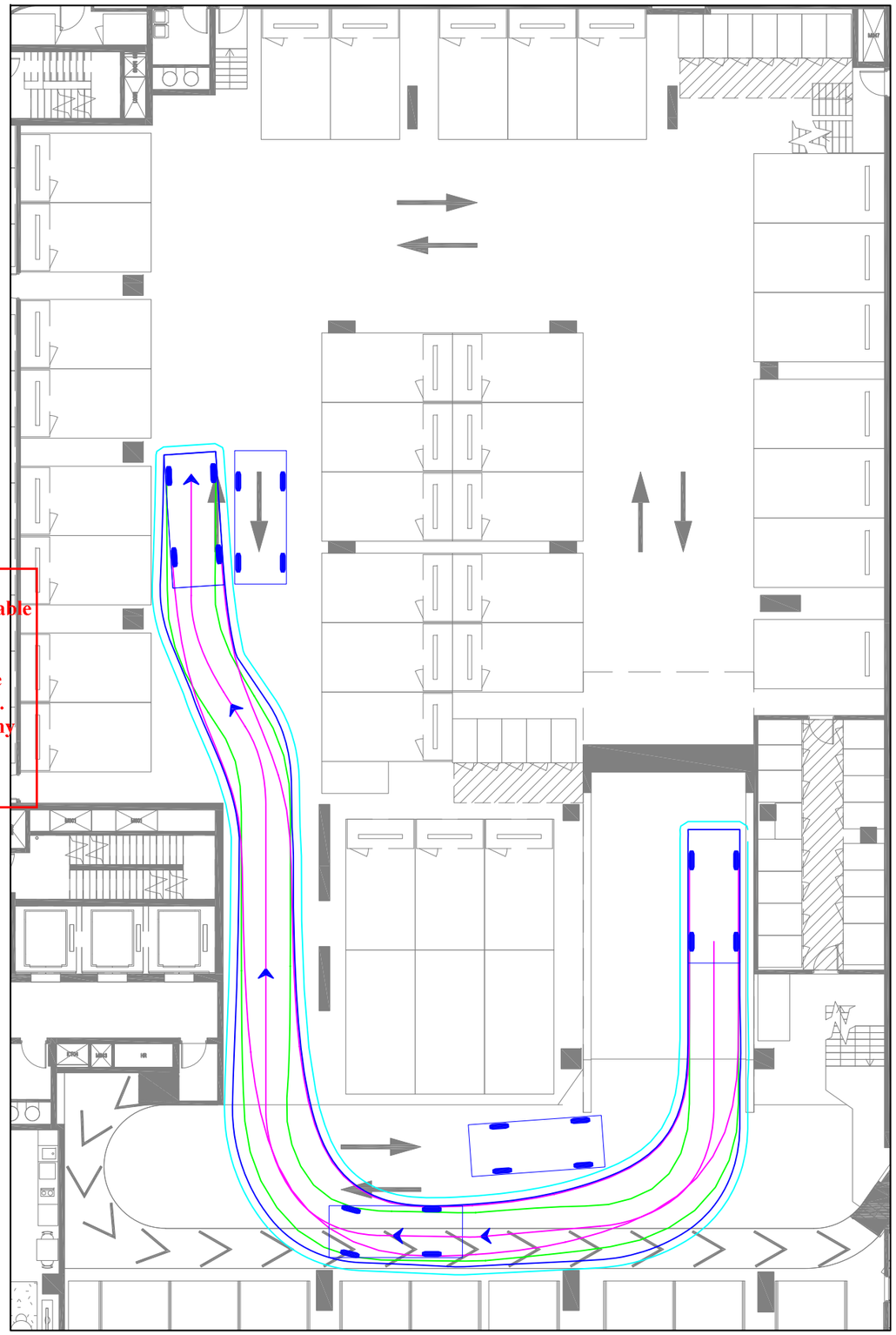
ADVERTISED PLAN

LEVEL 1 - B99 CIRCULATON



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	10/09/2025	TOWN PLANNING	N. MCCAFFREY	C. MORELLO (RPE7781)
B	10/02/2026	RFI COMMENTS	J. LEWIS	C. MORELLO (RPE7781)

103-105 BOUNDARY ROAD, NORTH MELBOURNE
PROPOSED MIXED USE DEVELOPMENT

PRECINCT 2

GENERAL NOTES:

BASE PLANS BY FENDER KATSALIDIS DATED FEBRUARY 2026

FILE NAME: 36267-01
SHEET NO.: 05

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SCALE: 1:200 (A3)
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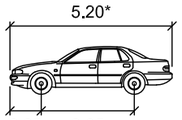
VEHICLE PROFILE

VEHICLE USED IN SIMULATION

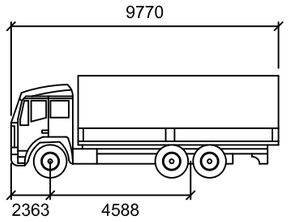
(VEHICLE SPEED - 5KM/H)



99th percentile
(AS/NZS 2890.1:2004)

Width	:	1.94m
Track	:	1.84m
Kerb to Kerb Radius	:	6.3m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004



Volvo FM 13 8x4 Compactor Hook

		mm
Width	:	2500
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	32.2

LEGEND

REAR WHEELS — VEHICLE BODY

FRONT WHEELS — BODY CLEARANCE

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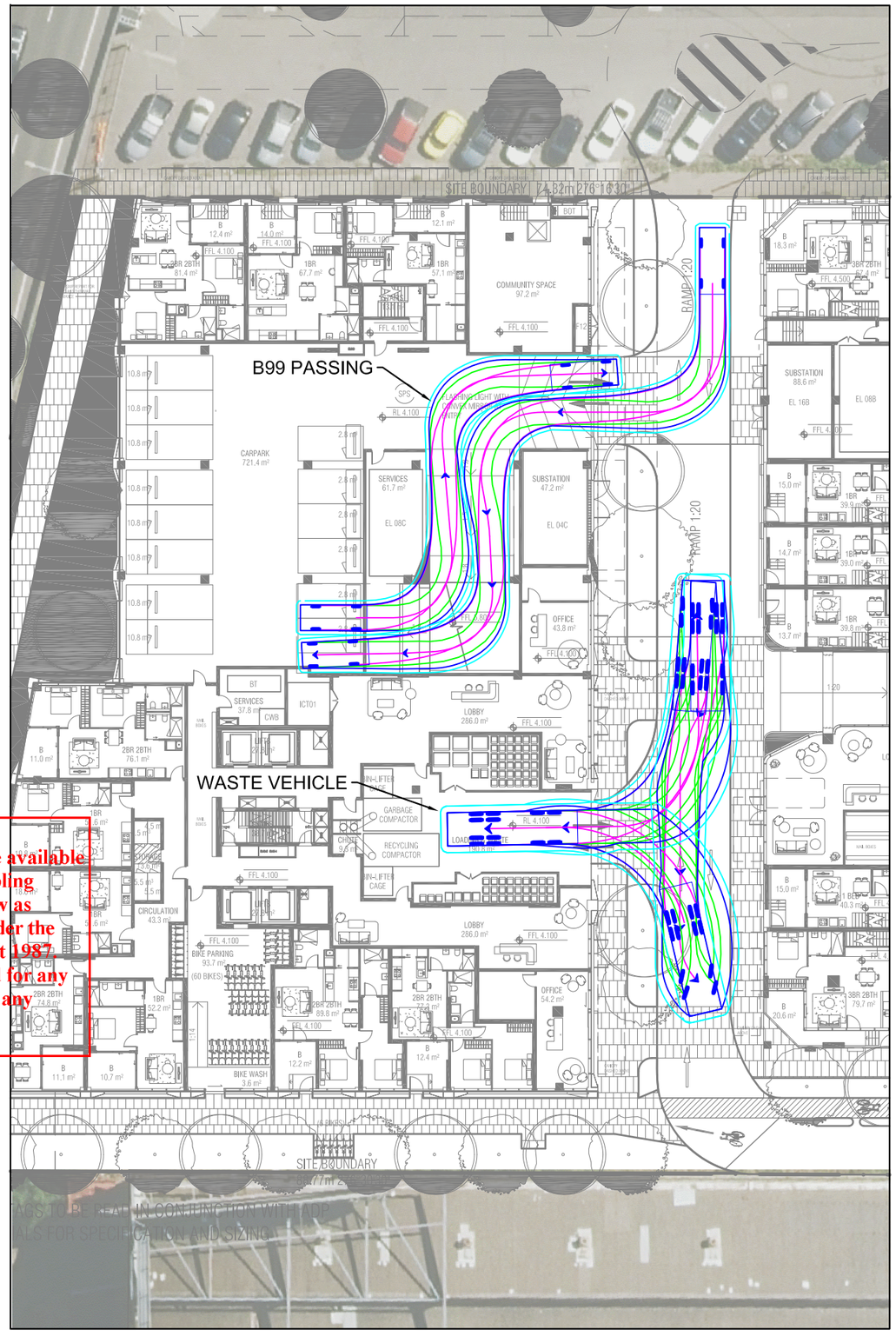
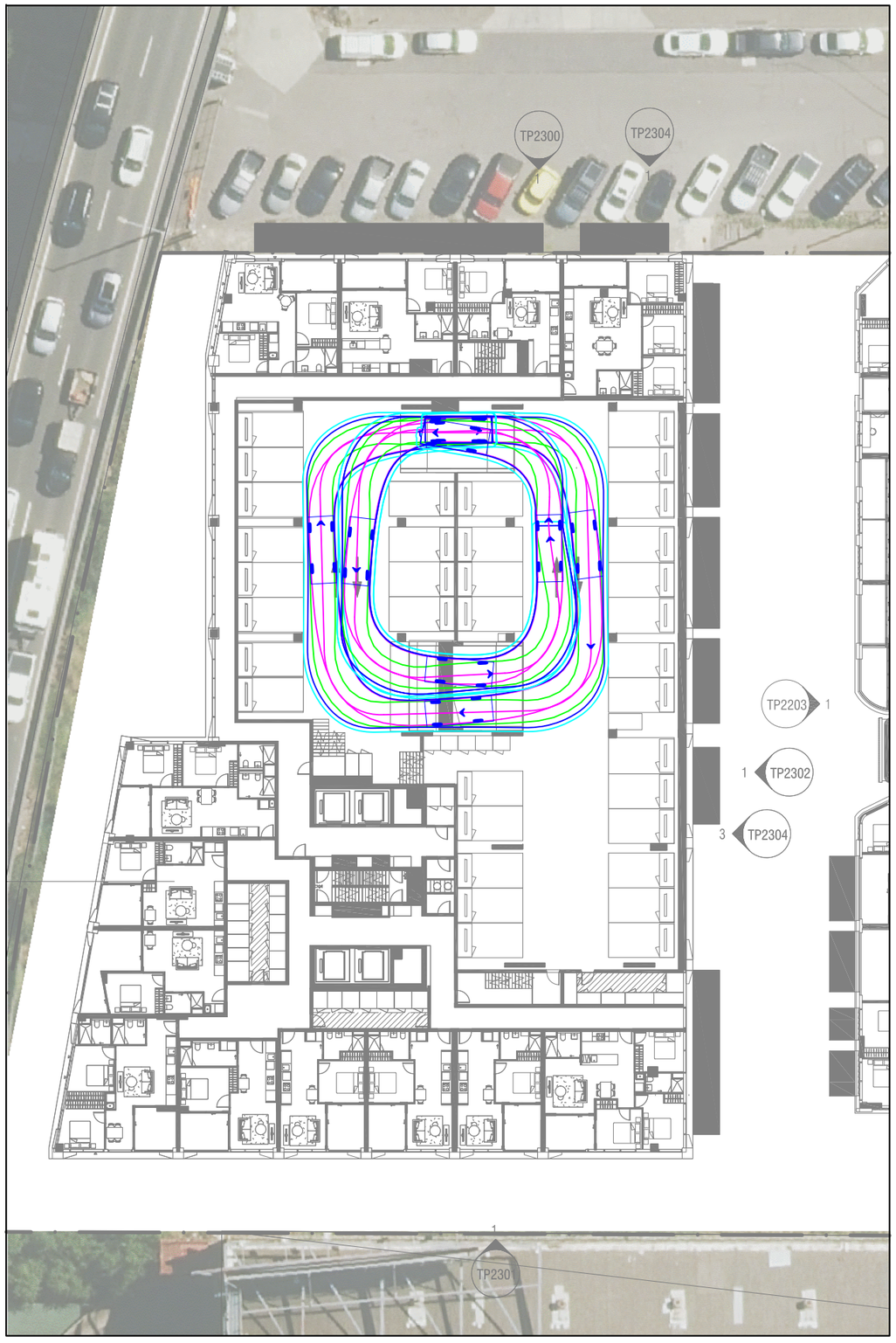
ADVERTISED PLAN

GROUND FLOOR - B99 ACCESS AND WASTE COLLECTION



LEVEL 1 - B99 - CIRCULATION



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	10/05/2025	TOWN PLANNING	N. MCCAFFREY	C. MORELLO (RPE7781)
B	10/02/2026	RFI COMMENTS	J. LEWIS	C. MORELLO (RPE7781)

103-105 BOUNDARY ROAD, NORTH MELBOURNE

PROPOSED MIXED USE DEVELOPMENT

PRECINCT 3

GENERAL NOTES:

BASE PLANS BY FENDER KATSALIDIS DATED FEBRUARY 2026

FILE NAME: 36267-01

SHEET NO.: 06

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