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Watson Young

# **Emmanuel College, St Paul's Campus Master Plan & Stage 1**

**TRAFFIC IMPACT ASSESMENT**

WGA222361

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23 June 2023



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## Revision History

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# 1 DEVELOPMENT PROPOSAL

## 1.1 Engagement

WGA has been engaged by Watson Young Architects to prepare a Traffic Impact Assessment (TIA) report to accompany a town planning application for the proposed Master Plan and Stage 1 development encompassing the new Marianist Building located at Emmanuel College, St Paul's Campus in Altona North, VIC.

## 1.2 Proposed Land Use

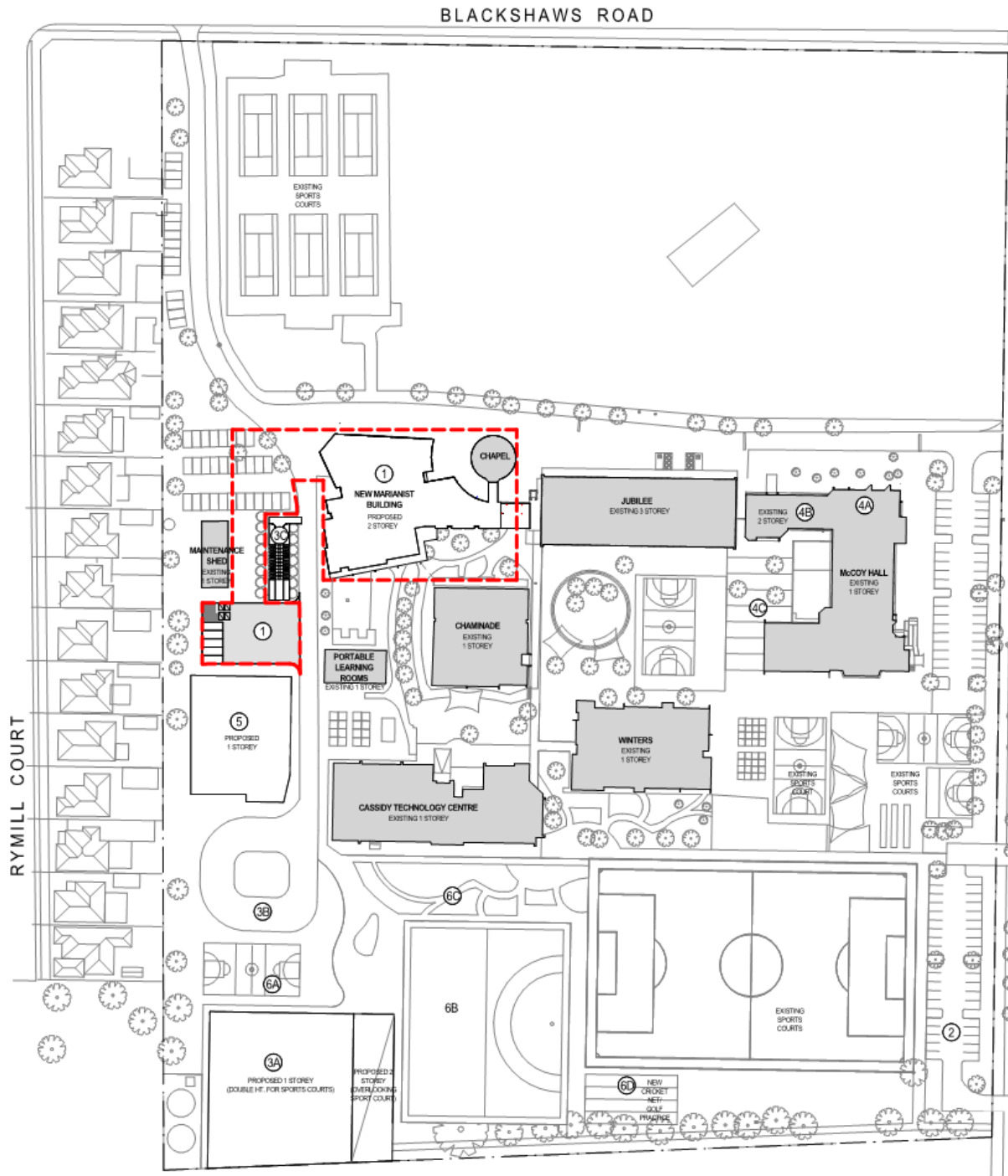
### 1.2.1 Master Plan

The Master Plan for the school is proposed to be delivered in six (6) stages across the school site. The six (6) stages and the associated proposed infrastructure is as follows:

1. **New Marianist Precinct (2023-24)**
  - Demolition of the existing McClusky Music Centre, existing Marianist building, performing arts and physical education (PE) storage sheds for a new two-storey building with improved existing bus parking, waste collection and PE storage.
2. **Chambers Road Car Park (2026)**
  - New car park located along Chambers Road in the south-east corner of the school site to address future car parking requirements.
3. **Sports Centre (2025-26)**
  - a. New sports centre located at the south-western corner of the school site.
  - b. Extension of the existing north-south road to form a pick-up and drop-off loop to the north of the new sports centre.
  - c. Demotion of existing storage shed immediately west of the New Marianist Precinct to accommodate new bicycle parking infrastructure.
4. **McCoy Hall Internal Refurbishments (2025)**
  - a. Addition of new reception and waiting area to the north of McCoy Hall.
  - b. Demolition of internal administration offices and staff areas to provide a study hall.
  - c. Extension of existing canteen to add food tech learning spaces.
5. **Vocational Education & Training (VET) Centre (2026-27)**
  - New building providing learning spaces for students across all Emmanuel College campuses for VET subjects including hair and makeup, fashion and dance.
  - VET warehousing, being an external offering in conjunction with external businesses, where students may spend up to three (3) days on campus, one (1) day at TAFE and one (1) day at placement.
6. **Sports Precinct (2027-28)**
  - a. New basketball court between the proposed pick-up and drop-off loop road and Sports Centre.
  - b. New hockey half-court immediately east of the Sports Centre.
  - c. New landscaping area south of the Cassidy Technology Centre to integrate pedestrian movements between school uses and within the existing framework.
  - d. New netball and golf nets south of the existing soccer pitch.

The proposed Master Plan and Stage 1 development extent are shown in Figure 1.1.

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**Figure 1.1: Extract: Master Plan (Watson Young Architects)**

## 1.2.2 Stage 1 Development

As part of the Master Plan town planning application, the Stage 1 development will be included for town planning approval. The proposed Stage 1 development is shown in Figure 1.2.

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Stage 1 proposes to demolish a number of existing buildings on-site and central to the school grounds to construct a new Marianist Precinct consisting of a two-storey multipurpose facility that will connect the existing Jubilee Building and Chapel to the east. The Marianist Precinct will provide a number of different types of facilities for the existing student and staff population, including specialist music learning spaces, tutorial rooms and staff and administration facilities.

Stage 1 also includes an extension to the existing maintenance and storage area located immediately west of the Marianist Building, which will provide an extended pavement area to improve bus access and turnaround in addition to the relocation of all waste bins to this area to facilitate improved waste collection vehicle access and loading. New PE storage sheds and four (4) car parking spaces in two (2) sets of tandems will also be constructed in this area.

Emmanuel College St Paul's Campus projects the campus to have an increase of 56 students on-site at any given time through to 2041. In line with the student growth, the school anticipates that no more than an additional five (5) FTE staff members will be required.

Access to the school will be maintained via an existing two-way vehicular crossovers to Blackshaws Road in the north and an existing two-way crossover to Chambers Road in the east. The Marianist Building does not provide any changes to the existing vehicular access besides minor kerb modifications to facilitate 12.5m bus turn around and swept paths as shown in Appendix A.

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## 1.4 Car Parking

### 1.4.1 Stage 1

The extended pavement area south of the maintenance and storage area is proposed to accommodate the following vehicle related movements and parking arrangements:

- Turn around movements up to a 12.5m bus.
- Turn around movements, student drop-off and 90-degree parking for two (2) 8.8m long buses (assessed as Medium Rigid Vehicles (MRVs) for swept path assessments in Appendix A).
- Waste collection loading and access with a vehicle up to a 10.59m Bucher Front Loader.

To facilitate these movements, four (4) existing parallel parking spaces and one (1) existing parking spaces in the north-west car park will be replaced by six (6) car parking spaces in tandem arrangements on the proposed paved area as well as minor kerb modifications. The two (2) 8.8m buses are proposed to be stored parallel and adjacent to these new tandem parking spaces. These modifications and parking arrangements are shown in Appendix A.

### 1.4.2 Master Plan

The Master Plan includes expansion of the existing internal road network and car parking. Primarily, the remaining six (6) parallel car parking spaces located on the north-south road will be removed for access to the formal pick-up and drop-off loop road during Stage 3 works.

The proposed Chambers Road car park is expected to provide an additional 38 car parking spaces.

### 1.4.3 School Site

The existing provision of car parking is located immediately west and north-west to the proposed building site, comprising 52 spaces, as well as 41 car parking spaces located to the north and east of the Jubilee Building, totalling to 103 existing formal car parking spaces on site, inclusive of two (2) accessible parking spaces at the completion of Stage 1 works.

### 1.4.4 Summary

Table 1.1 sets out the existing provision and locations of on-site car parking at the school, including the additional car parking spaces for Stage 1 works and the Master Plan as a whole.

**Table 1.1: Existing, Proposed Stage 1 & Proposed Master Plan Car Parking Provision**

LOCATION	EXISTING	STAGE 1		MASTER PLAN	
		PROPOSED	CHANGE	PROPOSED	CHANGE
North-West Car Park	50 spaces	49 spaces	-1 spaces	49 spaces	-1 spaces
Marianist Building	2 spaces	-	-	-	-
North-South Internal Road	10 spaces	6 spaces	-4 spaces	0 spaces	-10 spaces
Jubilee	3 spaces	-	-	-	-
McCoy Hall	38 spaces	-	-	-	-
Maintenance & Storage Area	-	6 spaces	+6 spaces	6 spaces	+6 spaces
Chambers Road Car Park	-	-	-	38 spaces	+38 spaces
<b>TOTAL</b>	<b>103 spaces</b>	<b>104 spaces</b>	<b>+1 space</b>	<b>136 spaces</b>	<b>+33 spaces</b>

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## 1.5 Pedestrian Facilities

Existing formal pedestrian access points will be maintained and are provided adjacent the Blackshaws Road and Chambers Road vehicular crossovers. A formal pedestrian footpath extends south of the main internal access road from Chambers Road to the Jubilee building, and a wide gravel path is provided immediately adjacent the northern kerbside of the main internal access road that extends the full length from Blackshaws Road to Chambers Road.

It is understood that the on-site pedestrian footpath network will be formalised and extended to incorporate the Master Plan framework. The proposed pedestrian access network shown in the Master Plan is currently indicative only and is subject to change through design development.

## 1.6 Bicycle Facilities

A dedicated bicycle parking area is provided south of the storage and maintenance building that is located immediately west of the proposed Marianist Building. A total of 20 bicycle parking spaces are provided via at-grade bicycle parking rails.

This existing provision, plus 20 additional bicycle parking spaces for a total of 40 spaces, are proposed to be incorporated into a new bicycle storage area as part of Stage 3C of the Master Plan.

## 1.7 Loading & Waste Collection

Loading activities are currently undertaken west of the existing Marianist Building. It is expected that smaller deliveries can be undertaken within the existing car park and that larger deliveries are undertaken outside school operational hours.

Waste collection is undertaken during school operational hours via a 28 tonne front loading truck at the existing McClusky Music Centre, where the waste bins are currently stored. For the purposes of our assessments, the front loading vehicle is assumed to be a 10.59m Bucher Front Loader vehicle.

The proposed Stage 1 works will formalise a waste storage and collection area between the existing maintenance and storage sheds and the new PE storage area. Additionally, it is expected that the proposed paved area will facilitate all large loading activities for the school to be completed outside of operational hours.

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# 2 SITE CONTEXT

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### 2.1 Subject Site

Emmanuel College, St Paul's Campus is located at 423 Blackshaws Road, Altona North. The school is located within a General Residential Zone 3 (GRZ3) and is generally neighboured by other residential zones in addition to some industrial zones to the south and east.

The school is bounded by Blackshaws Road to the north, Chambers Road to the east, an industrial estate to the south and residential properties to the west.

The location of the subject site and the surrounding environs are shown in Figure 2.1.

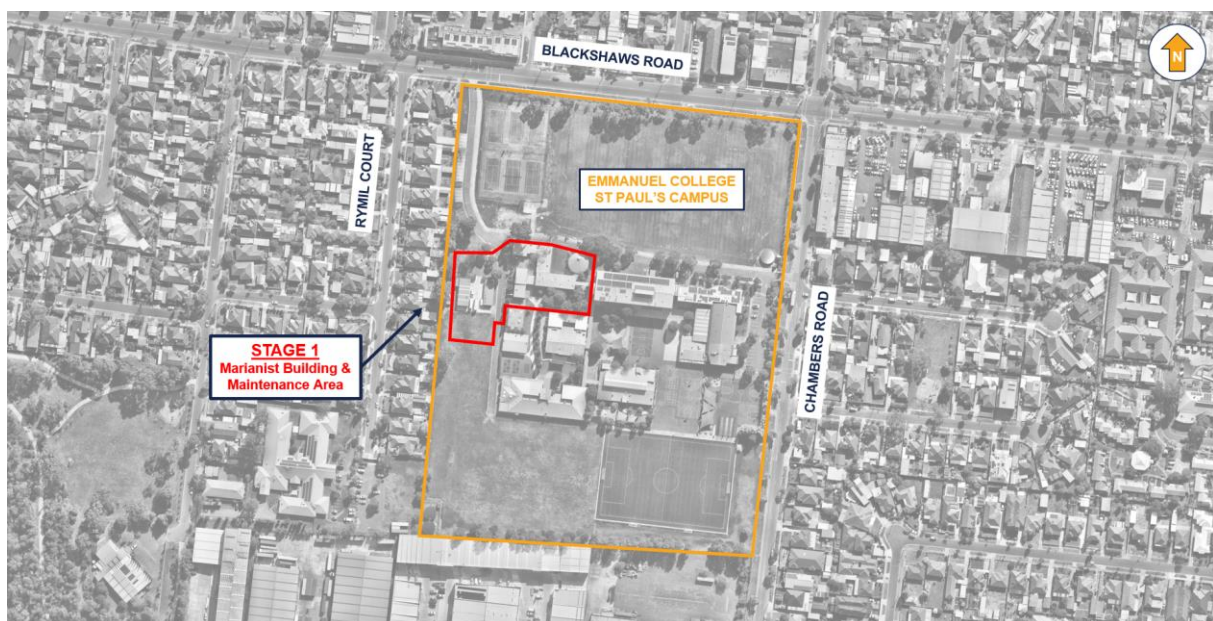


Figure 2.1: Surrounding Road Network & Environs

### 2.2 Road Network

#### 2.2.1 Blackshaws Road

Blackshaws Road is a declared arterial road managed by the Department of Transport & Planning (DTP) which runs from Melbourne Road, Newport in the east to Grieve Parade in the west. Blackshaws Road provides fully-directional access to the school with an adjacent unsignalised pedestrian crossing operated and attended to by a traffic controller during peak school hours.

In the vicinity of the site, Blackshaws Road operates as a two-way, two-lane road across an approximate 12-metre-wide carriageway. There is unrestricted kerbside parallel parking available on both sides of the carriageway outside of the 'No Stopping' zones adjacent the pedestrian crossing from 8:00am – 4:00pm on school days. Blackshaws Road operates with a posted speed limit of 60km/h that is reduced to 40km/h during the hours of 8:00am – 9:30am and 2:30pm – 4:00pm on school days.

Views of Blackshaws Road facing east and west adjacent the school access are shown in Figure 2.2 and Figure 2.3.

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**Figure 2.2: Blackshaws Road (facing east adjacent the School)**



**Figure 2.3: Blackshaws Road (facing west adjacent the School)**

## 2.2.2 Chambers Road

Chambers Road is a local access road managed by Hobsons Bay Council (Council) which runs from its continuation as Paringa Road in the north to its continuation as Butler Road in the south. Chambers Road provides fully-directional access to the school as well as an egress-only crossover with an adjacent pedestrian crossing operating during school hours.

In the vicinity of the site, Chambers Road operates as a two-way, two-lane road across an approximate 9.5-metre-wide carriageway. There is generally unrestricted kerbside parallel parking, however during school hours the majority of the school's frontage to Chambers Road is 'No Stopping' during peak pick-up and drop-off hours. Adjacent the soccer pitch and adjacent the south-eastern portion of the school's property boundary there is an 80m length of parallel parking that allows 10-minute pick-up and drop-off parking from 8:00am – 9:30am and 2:30pm – 4:00pm on school days. Chambers Road operates with a posted speed limit of 40km/h.

Views of Chambers Road facing north and south adjacent the school access are shown in Figure 2.4 and Figure 2.5.



**Figure 2.4: Chambers Road (facing north adjacent the School)**



**Figure 2.5: Chambers Road (facing south adjacent the School)**

## 2.3 Sustainable Transport

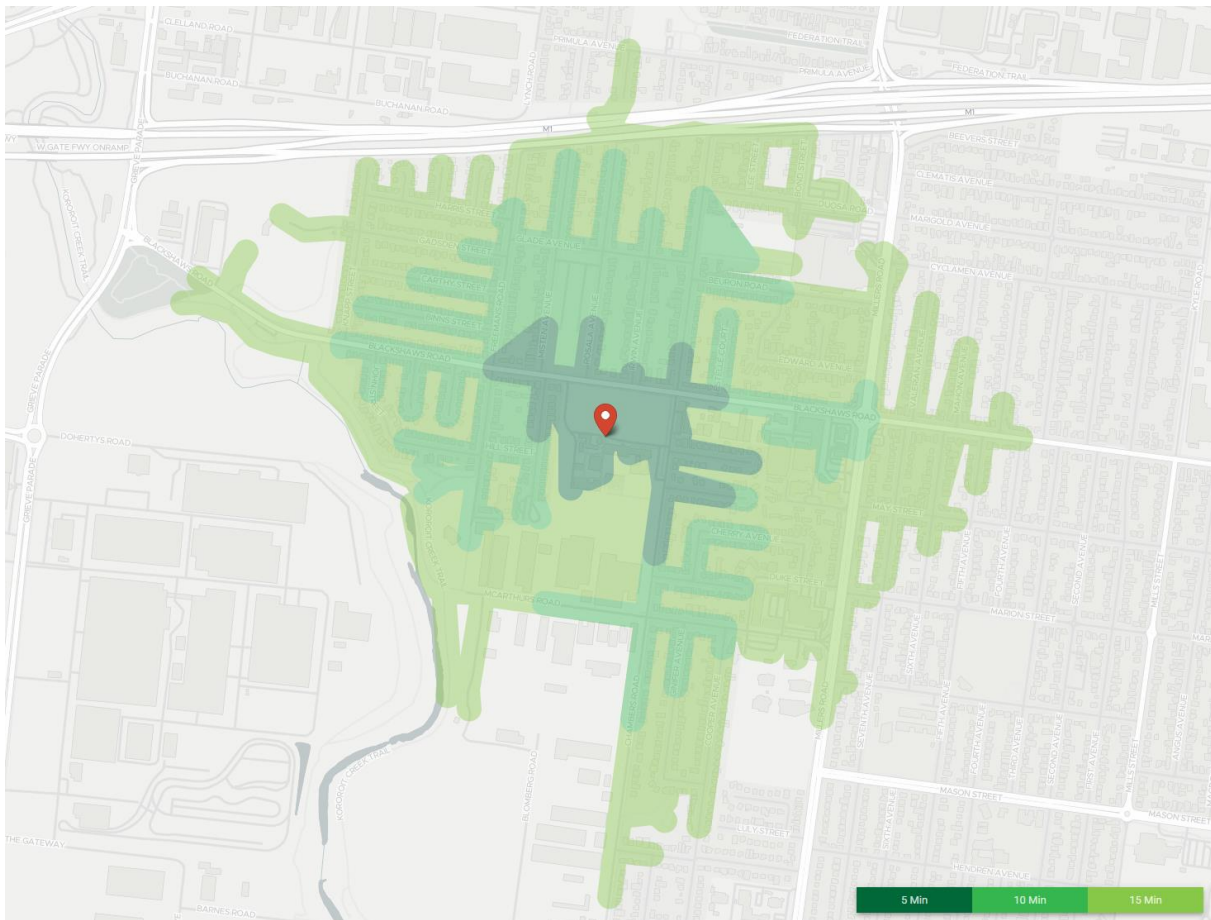
### 2.3.1 Walking

To contextualise the pedestrian accessibility of the site, guidance has been sought from Walk Score (www.walkscore.com). This application provides walkability and transit accessibility metrics for cities across Australia.



Walk Score measures the walkability of any address using a patented system. For each address, Walk Score analyses hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities. Amenities within a 5-minute walk (400m) are given maximum points. A decay function is used to give points to more distant amenities, with no points beyond a 30-minute walk. Walk Score also measures pedestrian friendliness by analysing population density and road metrics such as block length and intersection density.

Walk Score indicates the site has a walk score of 63 out of 100, which is defined as “most errands can be accomplished on foot”. In this instance of the school, it is anticipated that a large portion of school families have their place of residence within walking distance of the school, particularly given the location of the school central to the nearby residential areas. The areas available to the subject site within a 15-minute walk are shown in Figure 2.6.



**Figure 2.6: Walkability Map**

## 2.3.2 Bicycles

Bicycles are an excellent form of transport. They have almost no impact on the environment, produce no greenhouse gases, make no noise and consume no fossil fuels. Cycling is also good for people's health and fitness and is an enjoyable pastime.

As such, cycling is an important component of a sustainable and integrated transport system, and they are a practical alternative to motor travel for many trips.

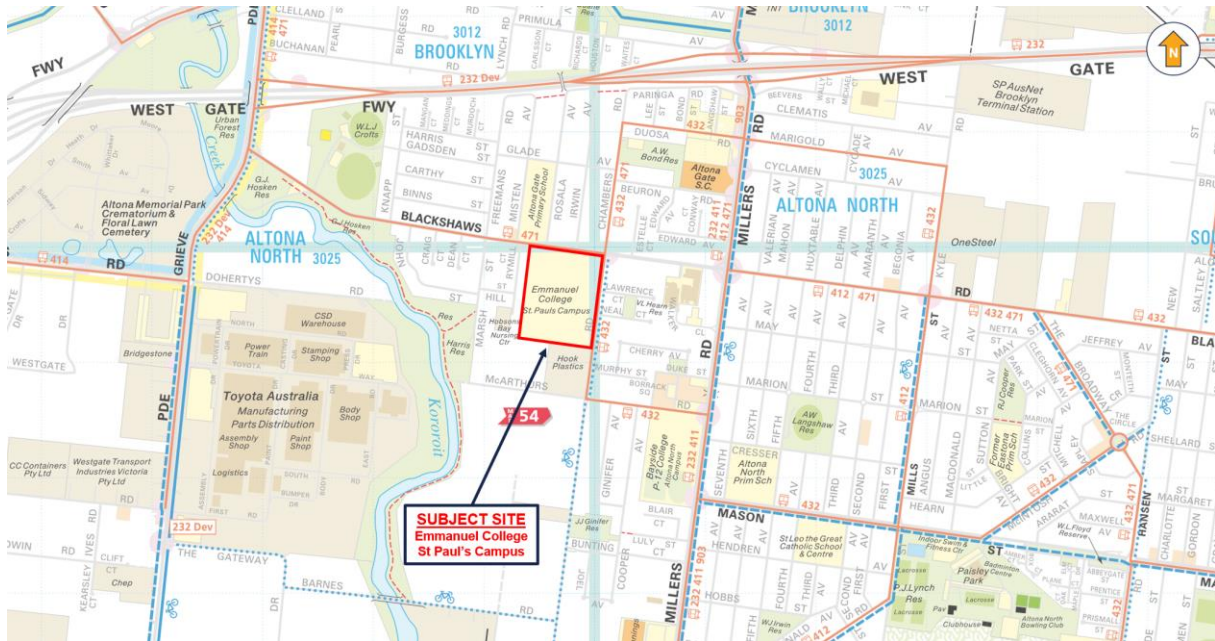
The school has direct access to Chambers Road which is designated as an informal on-street bicycle route. This route connects to McArthur's Road in the south which then provides a direct connection into the Kororoit Creek Trail shared path. The Kororoit Creek Trail also provides connections to Blackshaws Road which, whilst not a formal bicycle route, provides quick access to the school.

The surrounding bicycle network in the context of the school is shown in Figure 2.7.

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**Figure 2.7: Extract: Hobsons Bay Travel Smart Map**

## 2.3.3 Public Transport

The school is directly serviced by bus routes 432 north-south along Chambers Road and 471 east-west along Blackshaws Road. These services both operate through Newport Station and service the neighbouring suburbs including Sunshine, Newport, Williamston, South Kingsville and Yarraville.

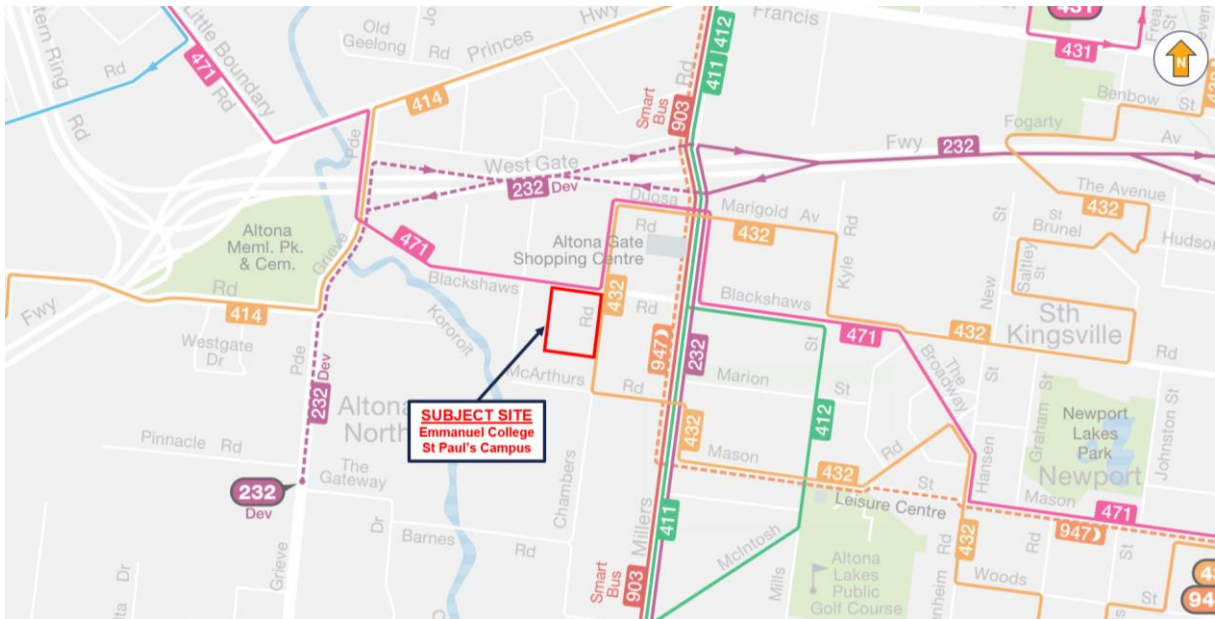
The public transport services operating within the vicinity of the school are shown in Table 2.1 and Figure 2.8.

**Table 2.1: Available Public Transport Services**

SERVICE	ROUTE NO.	ROUTE	NEAREST STOP
Bus	232	Altona North – City (Queen Victoria Market)	Blackshaws Rd / Millers Rd
	411	Laverton Station – Footscray via Altona Meadows & Altona & Millers Road	
	412	Laverton Station – Footscray via Altona Meadows & Altona & Mills St	Seventh Ave / Blackshaws Rd
	432	Newport – Yarraville via Altona Gate Shopping Centre	Lawrence Ct / Chambers Rd
	471	Williamstown – Sunshine Station via Newport & Altona Gate SC	Irwin Ave / Blackshaws Rd
	903	Altona – Mordialloc (SMARTBUS Service)	Blackshaws Rd / Millers Rd
	947	Sunshine Station – Footscray via Ballarat Road	

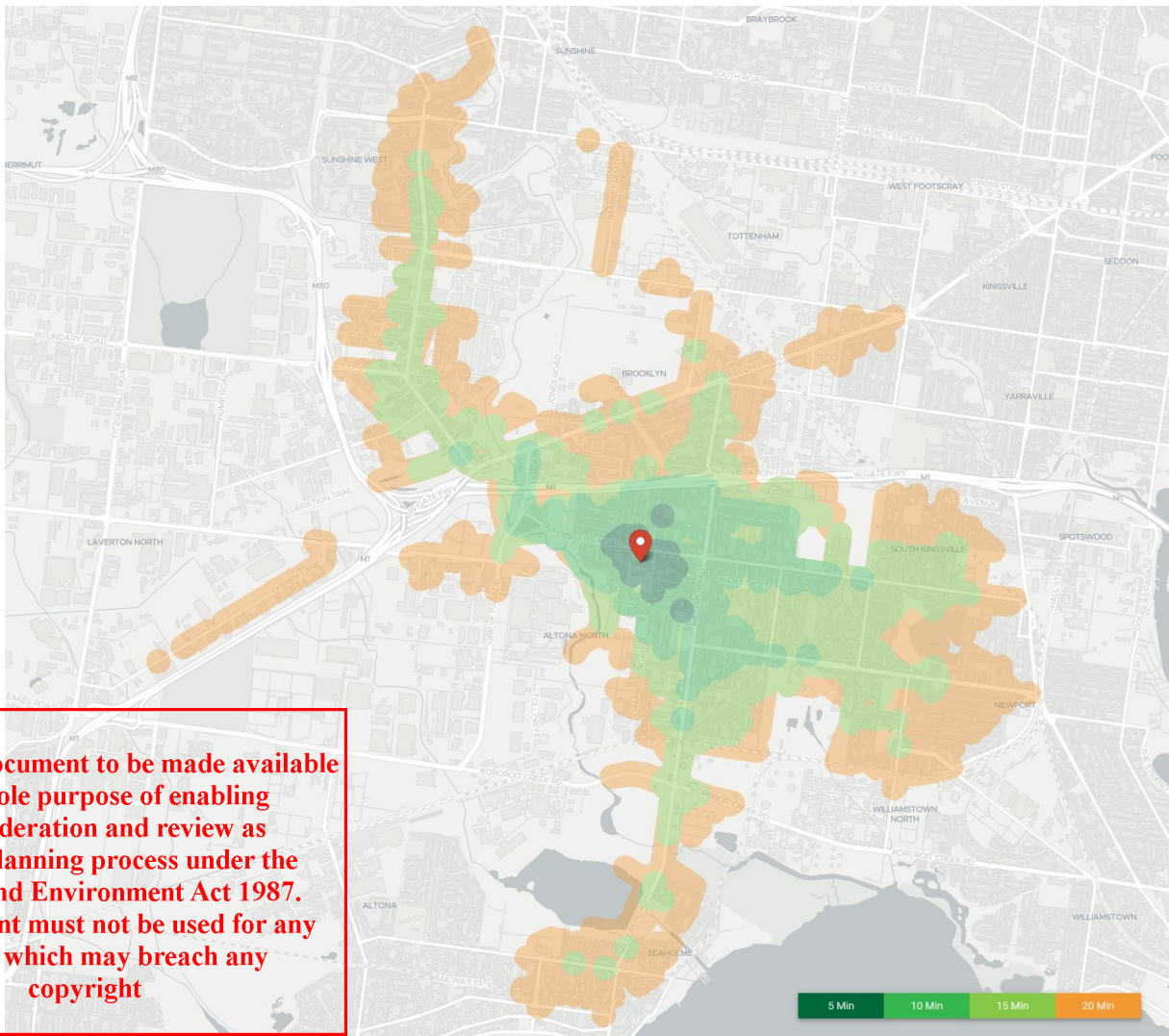
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In addition to public transport opportunities, Emmanuel College St Paul's Campus operates five (5) separate private charter buses that collect students from different residential areas within Point Cook, Seadbrook and Altona Meadows. These charter bus all arrive and depart via the Princes Freeway.



**Figure 2.8: Public Transport Network Map**

The areas available to the school within a 20-minute ride of sustainable transport are shown in Figure 2.9.



**Figure 2.9: Public Transport Permeability Map**

# 3 CAR PARKING CONSIDERATIONS

## 3.1 Introduction

The new school facilities proposed as part of Stage 1 will operate ancillary to the existing school facilities and absorb any existing on-site uses. In this regard, no increase in student or staff population will be attributable to this stage of the Master Plan. Regardless, one (1) additional car parking space is afforded with the relocation of spaces required for bus and heavy vehicle movements to the new paved area as part of this stage.

As the Master Plan incorporates all proposed development catering for the maximum increase in student and staff population forecasted, the statutory car parking considerations are applicable only to the Master Plan and the associated intensification of the school use as detailed in Section 1.2.3.

## 3.2 Statutory Car Parking Requirements

Emmanuel College St Paul's Campus is defined as a 'secondary school' land use and is located outside of the Principal Public Transport Network (PPTN) 'catchment'. Therefore, the statutory requirements for the provision of car parking are set out in Column A of Table 1 to Clause 52.06-5 of the Planning Scheme, with the requirements applicable to the Master Plan.

As an existing land use, the statutory requirements relates to the increase in intensity of use of the school associated with the proposed Master Plan. In this regard, the maximum increase in the order of five (5) FTE staff members is considered for this application as detailed in Section 1.2.3.

**Table 3.1: Statutory Car Parking Requirements**

USE	SIZE / NO.	STATUTORY PARKING RATE (COLUMN A)	STATUTORY PARKING REQUIREMENT
Secondary School	5 FTE staff	1.2 spaces to each employee that is part of the maximum number of employees on the site at any time	6 spaces

As shown, the proposed Master Plan has a statutory requirement to provide six (6) on-site car parking spaces. As the school will provide an additional 33 spaces upon completion of the Master Plan, this provision of parking exceeds the statutory requirement by 27 car parking spaces and is considered acceptable.

## 3.3 Clause 52.06 Design Standard Assessment

The proposed car park and access layouts and changes relating to Stage 1 development only have been assessed in accordance with the design standards outlined within Clause 52.06-9 of the Planning Scheme.

It is expected that the design standard assessment will be completed as required for the remaining Master Plan development stages. The assessment of Stage 1 is outlined in the following sections. Swept path assessments of the proposed car park changes are provided in Appendix A.

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### 3.3.1 Design Standard 1: Accessways

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**Table 3.2: Clause 52.06-9 - Design Standard 1 (Accessways)**

DESIGN CRITERIA - ACCESSWAYS	ASSESSMENT
Be at least 3 metres wide.	Satisfied.
Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide.	Satisfied.
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre.	Not applicable – no dead-end aisles proposed.
Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheelbase of 2.8 metres.	Not applicable.
If the accessway serves four or more car spaces or connects to a road in a Road Zone, the accessway must be designed so that cars can exit the site in a forward direction.	Satisfied.
Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves ten or more car parking spaces and is either more than 50 metres long or connects to a road in a Road Zone.	Not applicable – two-way simultaneous movements achieved.
Have a corner splay or area at least 50 per cent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.	Satisfied.
If an accessway to four or more car parking spaces is from land in a Road Zone, the access to the car spaces must be at least 6 metres from the road carriageway.	Not applicable.

### 3.3.2 Design Standard 2: Car Parking Spaces

**Table 3.3: Clause 52.06-9 - Design Standard 2 (Car Parking Spaces)**

DESIGN CRITERIA – CAR PARKING SPACES	ASSESSMENT
Car parking spaces and accessways must have the minimum dimensions as outlined in Table 2 of Clause 52.06-9 of the Planning Scheme.	Satisfied.
Clearance is provided to car parking spaces in accordance with Diagram 1 of Clause 52.06-9 of the Planning Scheme.	Satisfied.
Garages/Carports: Spaces must be at least 6m long and 3.5m wide for a single space and 5.5m wide for a double space (measured inside the garage/carport).	Not applicable.
Tandem Parking: An additional 0.5m to be provided between each tandem parking space.	Satisfied.
Where two or more car parking spaces are provided for a dwelling, at least one space must be undercover.	Not applicable.
Accessible car parking spaces to be in accordance with AS 2890.6-2009 and the BCA. Accessible car parking spaces may encroach into an accessway width specified within Table 2 of Clause 52.06-9 of the Planning Scheme by 0.5m	Not applicable.

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**3.3.3 Design Standard 3: Gradients**

There are no gradients incorporated in to the proposed car parking design of the Master Plan.

**3.3.4 Design Standard 4: Mechanical Parking**

There is no mechanical parking provided as part of the proposed development.

**3.3.5 Design Standard 5: Urban Design**

Urban design is outside the scope of this report.

**3.3.6 Design Standard 6: Safety**

Lighting and signage have not been shown but should be incorporated as part of detailed design.

**3.3.7 Design Standard 7: Landscaping**

Landscaping is outside the scope of this report.

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## **4** TRAFFIC CONSIDERATIONS

### **4.1 Traffic Generation**

As part of the Master Plan, the school is expected to cater for a maximum addition of 56 students and five (5) FTE staff through to 2041 and the completion of the associated school developments.

Based on case study data it is expected that in the order of 40 – 50% of students will be dropped off or picked up by car. Given the location of the site and the surrounding residential catchment as well as public transport facilities and school bus accessibility, it is anticipated in the order of 50% of new students will be dropped off and picked up to and from school in a private vehicle.

In this regard, an additional 28 vehicle trips (28 inbound movements and 28 outbound movements) in both the AM and PM school peak periods are anticipated on the surrounding road network. It is assumed that all staff movements occur outside of the AM and PM school peak periods.

### **4.2 Traffic Impact**

Over the course of the next 5 years, until the student population is estimated to reach a maximum in 2028, it is expected that additional traffic generation in the order of approximately six (6) vehicle trips a year will have negligible effects year on year.

As the traffic generation is anticipated to be evenly split across the two (2) separate school access points from Blackshaws Road and Chambers Road, in addition to the anticipated distribution of approaches and departures through the local road network and the on-street car parking areas available, the anticipated increase in traffic is considered to be negligible and will have a low impact on the operation of the surrounding road network.

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# 5 OTHER CONSIDERATIONS

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## 5.1 Statutory Bicycle Parking Requirements

### 5.1.1 Introduction

The new school facilities proposed as part of Stage 1 will operate ancillary to the existing school facilities and absorb any existing on-site uses. In this regard, no increase in student or staff population will be attributable to this stage of the Master Plan.

As the Master Plan incorporates all proposed development catering for the maximum increase in student and staff population forecasted, the statutory bicycle parking considerations are applicable only to the Master Plan and the associated intensification of the school use as detailed in Section 1.2.3.

### 5.1.2 Statutory Assessment

Clause 52.34-3 of the Planning Scheme sets out the statutory requirements for bicycle parking for a number of land uses. The statutory bicycle parking requirements for the proposed development are set out in Table 5.1.

**Table 5.1: Statutory Bicycle Parking Requirements**

USE	NO. / SIZE	STATUTORY PARKING RATE		STATUTORY PARKING REQUIREMENT	
		EMPLOYEE / RESIDENT	VISITOR / SHOPPER / STUDENT	EMPLOYEE / RESIDENT	VISITOR / SHOPPER / STUDENT
Secondary School	56 students 5 FTE staff	1 to each 20 employees	1 to each 5 pupils	0 spaces	11 spaces
TOTAL				11 spaces	

As shown, the proposed Master Plan attracts a statutory requirement for an additional 11 on-site student bicycle parking spaces. As the school will provide an additional 20 bicycle parking spaces as part of Stage 3C works, the school exceeds the statutory requirements by nine (9) bicycle parking spaces. It is expected that as the student population grows, the school will provide these additional 20 spaces on an as needs basis until completion of Stage 3C.

No end of trip facilities are required as part of the Master Plan as zero (0) employee bicycle spaces are required.

## 5.2 Loading & Waste Collection Requirements

Relevant to loading activity, Clause 65.01 of the Planning scheme states “before deciding on an application or approval of a plan, the responsible authority must consider as appropriate...the adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts”.

In response to the above, the following is noted:

It is assumed that smaller deliveries will continue to be undertaken throughout the existing car park areas and internal road network.

Stage 1 development will formalise additional pavement area to the south of the existing maintenance and storage sheds to cater for waste storage and waste collection up to a 10.59m Bucher Front Loader vehicle and facilitating turn around movements up to a 12.5m bus before the implementation of the loop road in Stage 3B.

- Swept path assessments confirm that waste collection with a 10.59m Bucher Front Loader can be undertaken within the proposed pavement area, inclusive of ingress and egress movements via the north-south internal road, which can continue being undertaken after Stage 3C works.
- Swept path assessments indicate that the loading activities in the paved area and the maintenance and storage area can accommodate up to a 12.5m HRV in size (the same size as a 12.5m Bus), which are expected to be accommodated both prior to and after Stage 3C works.
- Swept path assessments confirm that suitable access is accommodated for two (2) 8.8m long buses to turn around, park and drop-off students in the maintenance and storage shed areas, before reversing into allocated parking areas adjacent the tandem parking spaces.

All swept path assessments completed for the detailed loading and waste collection activities are provided in Appendix A.

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# 6 CONCLUSIONS

## ADVERTISED PLAN

Emmanuel College St Paul's Campus is proposing a Master Plan for the school site which will incorporate a number of new education and sporting facilities associated with the expected growth of the school up to 2041. The school is forecasted to grow by 56 students and expects five (5) FTE staff to be employed to cater for this growth.

Specifically, Stage 1 of the proposed Master Plan includes the demolition of existing buildings to construct a new Marianist Precinct providing new administration and learning facilities. Additionally, the school's existing maintenance and storage area will be expanded to include PE storage sheds, relocated tandem car parking spaces, a new waste collection area and turn around area for buses, waste and loading vehicles. Minor modifications to the existing north-west car park are proposed to improve vehicle accessibility.

The forecasted growth for the school based on an additional 56 students and five (5) FTE staff triggers statutory requirements to provide an additional six (6) car parking spaces and 11 student bicycle parking spaces. Upon completion of all developments identified in the Master Plan, the school will have provided an additional 33 car parking spaces and 20 bicycle parking spaces, exceeding the statutory requirements for car and bicycle parking.

The anticipated traffic generation of 28 additional vehicle trips in the AM and PM school peak periods is considered to be negligible and have a low impact on the operation of the surrounding road network given the following considerations:

- Student population will increase by 56 students over the next five (5) school years.
- Traffic is expected to be evenly distributed across the road network.
- The distribution of on-site and on-street car parking within and adjacent school grounds.

Loading and waste collection activities are expected to be satisfactorily accommodated in the existing maintenance and storage area and the extended pavement area. Swept path assessments attached in Appendix A confirm suitable access arrangements for a 12.5m Bus and a 10.59m Bucher Front Loader in addition to parking and unloading arrangements for two (2) 8.8m long buses.

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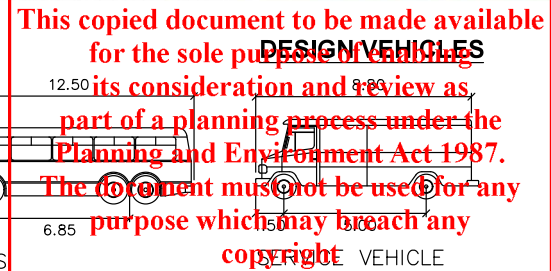
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# APPENDIX A SWEPT PATH ASSESSMENTS

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Vehicle	Width (meters)	Length (meters)
BUS	2.20	12.50
TRUCK	2.50	8.80
B85	0.92	4.91

When sheet printed full size, the scale bar is 50mm.

4x PARKING SPACES TO BE REPLACED BY TANDEM SPACES TO THE WEST.

STATIONARY 8.8m SERVICE  
VEHICLE (TYP.)

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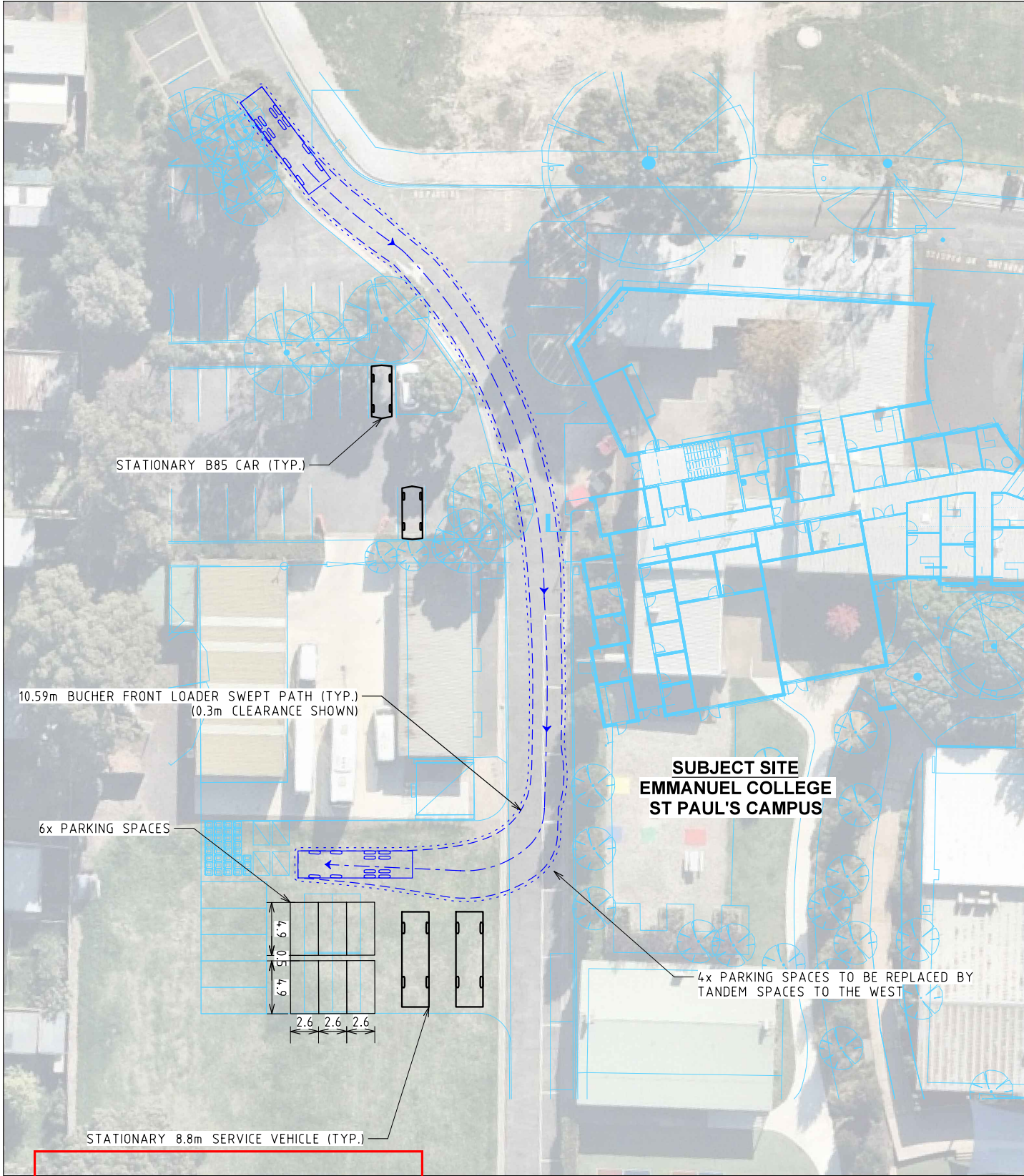
EMMANUEL COLLEGE ST PAUL'S CAMPUS  
423 BLACKSHAW'S ROAD, ALTONA NORTH  
SWEPT PATH ASSESSMENT  
12.5m BUS

DOCUMENT NUMBER  
Job Number

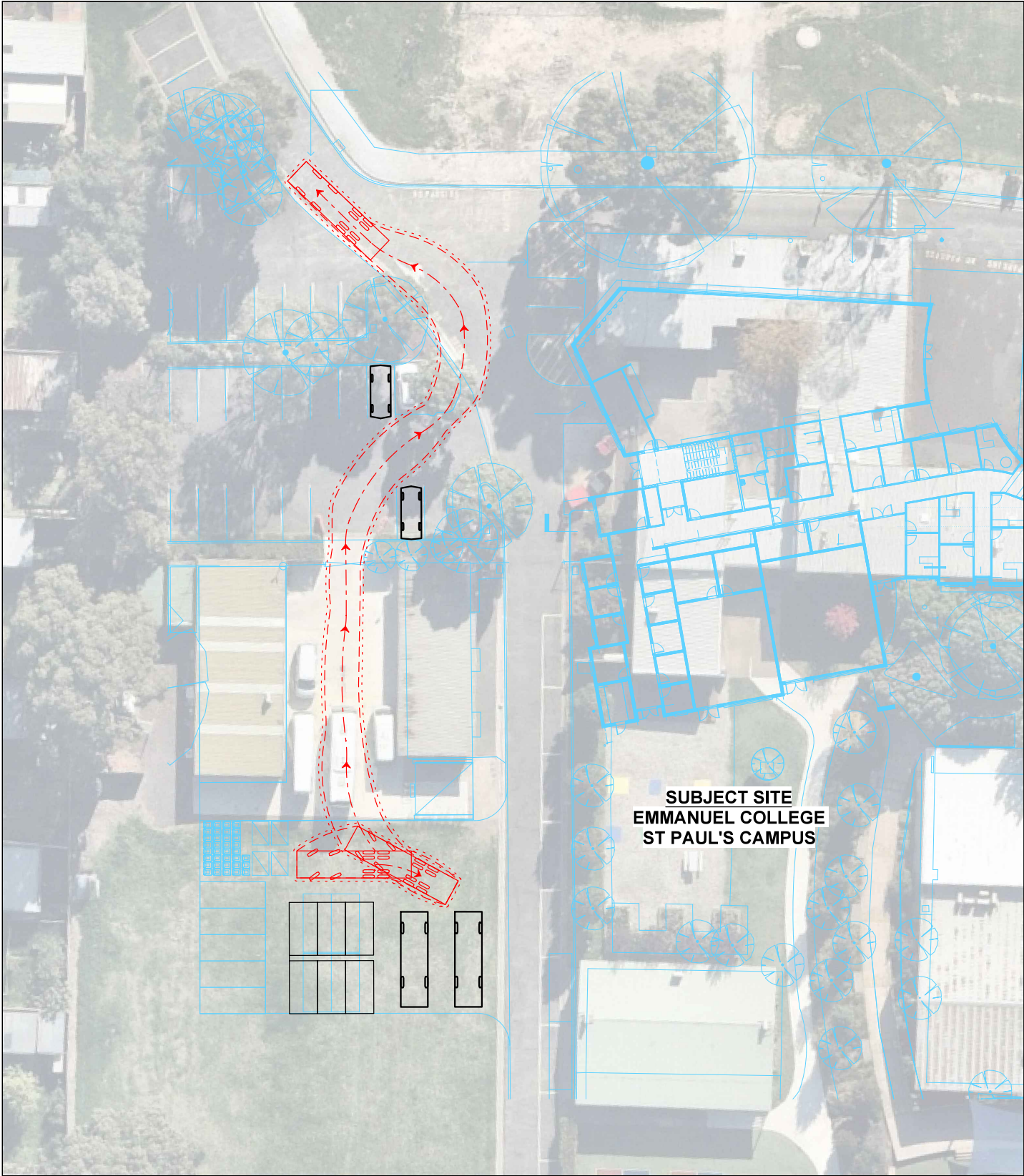
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INGRESS MOVEMENT

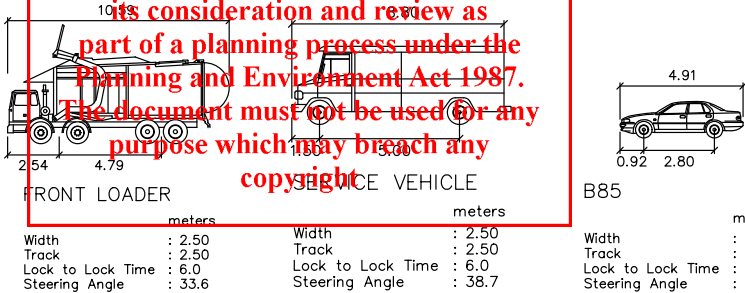


EGRESS MOVEMENT



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EMMANUEL COLLEGE ST PAUL'S CAMPUS  
423 BLACKSHAW ROAD, ALTONA NORTH  
SWEEP PATH ASSESSMENT  
10.59m BUCHER FRONT LOADER

DOCUMENT NUMBER

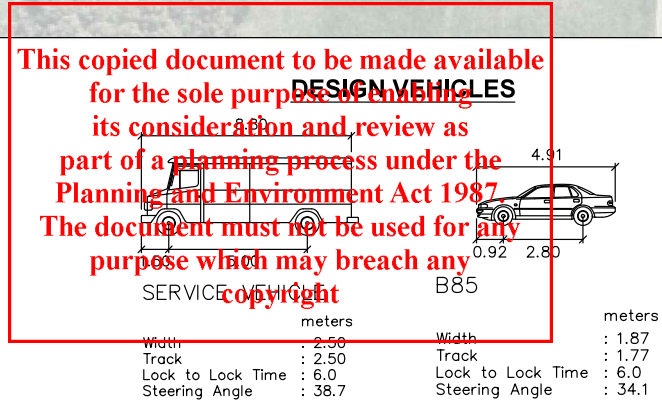
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REV.	DATE	DESCRIPTION	DRAFT	ENG.	CHKD
A	09.06.23	ISSUED FOR INFORMATION	J.A	J.A	L.S
B	14.06.23	UPDATED BASE	E.D	E.D	L.S



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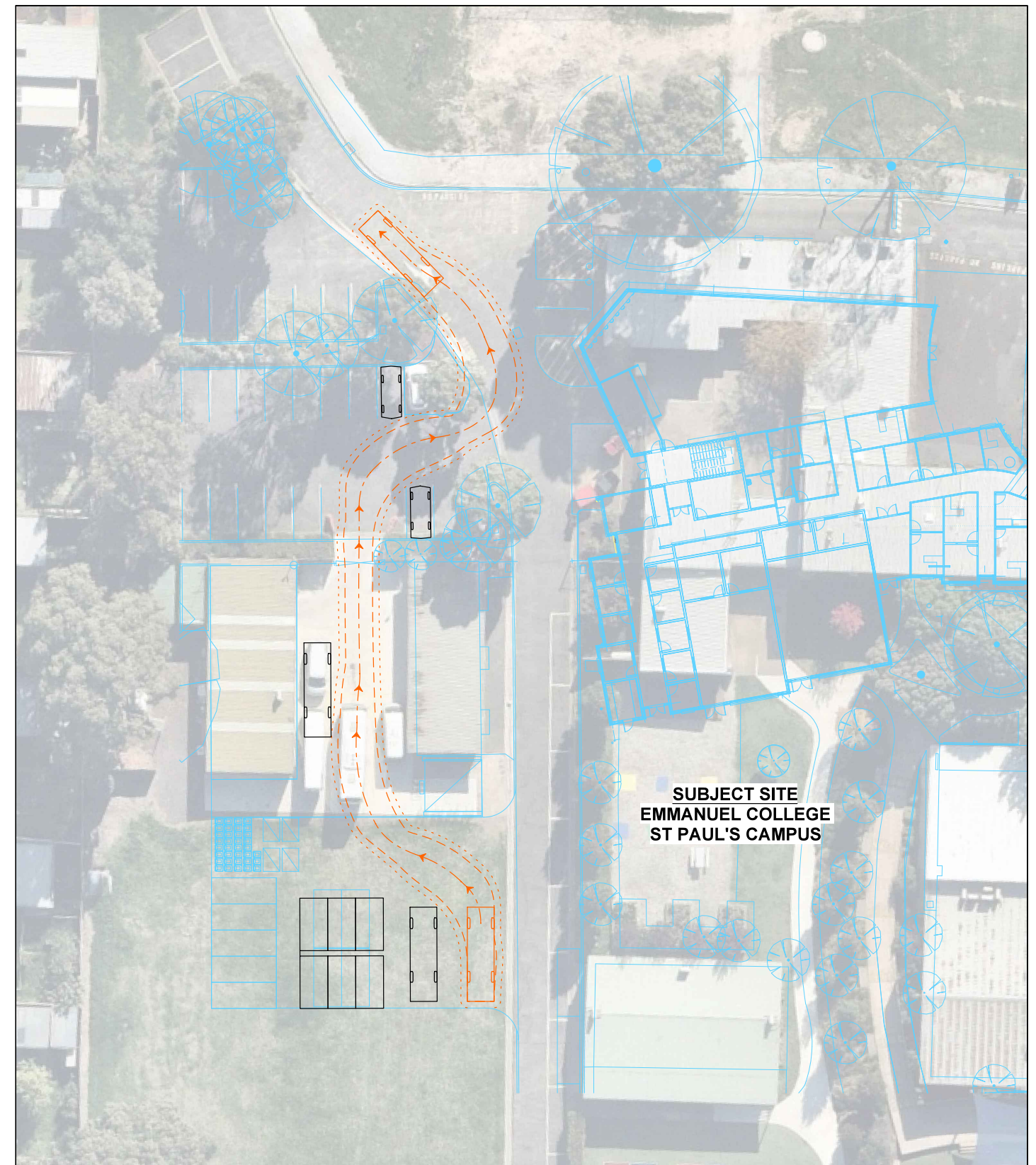
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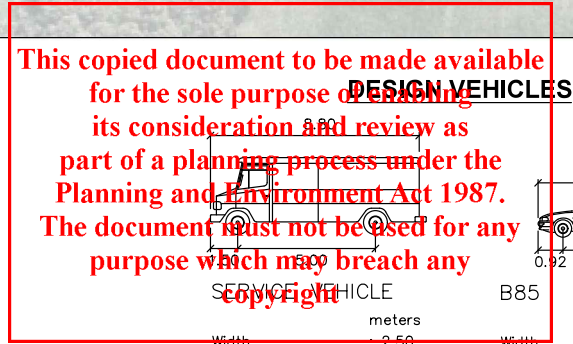
EMMANUEL COLLEGE ST PAUL'S CAMPUS  
423 BLACKSHAW ROAD, ALTONA NORTH  
SWEPT PATH ASSESSMENT  
8.8m SERVICE VEHICLE

DOCUMENT NUMBER

Design	Drawn	Job Number	Sheet No.	Rev.
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SERVICE VEHICLE		B85	
	meters		meter
Width	: 2.50	Width	: 1.87
Track	: 2.50	Track	: 1.77
Lock to Lock Time	: 6.0	Lock to Lock Time	: 6.0
Steering Angle	: 38.7	Steering Angle	: 34.1

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**SUBJECT SITE**  
**EMMANUEL COLLEGE**  
**ST PAUL'S CAMPUS**

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REV.	DATE	DESCRIPTION	DRAFT	ENG.	CHK.
A	14.06.23	ISSUED FOR INFORMATION	E.D	E.D	L.D

EMMANUEL COLLEGE ST PAUL'S CAMPUS  
423 BLACKSHAW ROAD, ALTONA NORTH  
SWEPT PATH ASSESSMENT  
8.8m SERVICE VEHICLE

DOCUMENT NUMBER

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Fannie Bay NT 0820

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Whyalla SA 5600

559 Hunter Street  
Newcastle West NSW 2302

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