rytenskild
Traffic Engineering

TRANSPORT ASSESSMENT

PROPOSED WAREHOUSE DEVELOPMENT

PROPOSED LOT 105 FLAGSTONE LOGISTICS ESTATE, NORTH MACLEAN (LOT 1 ON SP352820)

Prepared for

CH HYDRANGEA PTY LTD

12 MAY 2026

DOCUMENT REGISTER

RTE Reference 26030

Document History

Version	Version date	Details	Reviewed and Authorised	
			Name / Position	Signature
1	12 MAY 2026	DA SUBMISSION	Luke Rytenskild Director RPEQ 6293	

COPYRIGHT NOTICE

COMPANY INFORMATION

CRG Traffic Pty Ltd as trustee for the Rytenskild CRG Trust trading as Rytenskild Traffic Engineering
ABN 24 401 134 418
ACN 151 846 847
Director: Luke Rytenskild RPEQ 6293

GOLD COAST
Office 2
6 Northview Street
Mermaid Beach QLD 4218

BRISBANE
Suite 52
149 Wickham Tce
Spring Hill QLD 4000

SYDNEY
Level 26
44 Market Street
Sydney NSW 2000

Phone: 1300 220 020
Facsimile: 1300 087 177
Email: info@rytenskildtraffic.com
Web: www.rytenskildtraffic.com

TABLE OF CONTENTS

1.0 INTRODUCTION

This Transport Impact Assessment has been prepared on behalf of CH Hydrangea Pty Ltd (Applicant) in support of a development application over land at Enterprise Drive, North Maclean QLD 4280 and described Lot 1 on SP352820 (site). This PDA Development Application seeks approval for the following aspects of development:

- Development Permit for Reconfiguring a lot – 1 into 2 lots, plus access easement
- Development Permit for a Material Change of Use for a Warehouse, Low impact industry, and Medium impact industry.

The proposed development seeks to facilitate the establishment of a speculative warehouse and/or industrial facility that will operate 24 hours a day, 7 days a week, and will be located on Proposed Lot 105.

The following issues have been addressed as part of the report:

- Car parking supply and design;
- Vehicle access arrangements;
- Provision for pedestrians and cyclists;
- Heavy vehicle access and on-site circulation.

It is noted that external road network impacts (i.e. outside of the estate) have been addressed in a Traffic Impact Assessment prepared by Bitzios Consulting for the overall estate.

2.0 SUBJECT SITE

As shown in Figure 2.1, the subject site is located within the Flagstone Logistics Estate, on the northern side of Enterprise Drive. The site is identified as Proposed Lot 105 and has a total site area of 32,559m^2.

The site is located within the Greater Flagstone Priority Development Area, and currently vacant.

FIGURE 2.1 – LOCATION OF SUBJECT SITE

3.0 DEVELOPMENT PROPOSAL

The proposed development seeks to facilitate the establishment of a speculative warehouse and/or industrial facility, with no known tenant at this stage. The PDA development application has therefore been prepared on this basis. The proposal comprises two tenancies (Tenancy A and Tenancy B) with a combined Gross Floor Area (GFA) of approximately 17,047m^2.

Based on trip generation rates in the approved Traffic Impact Assessment in the overarching PDA Development Approval for the Flagstone Logistics Estate (EDQ Ref: DEV2018/961/18) it is anticipated the proposed development will have around 68 people on site at any one time (employees and visitors).

The proposal provides a total of 122 car parking spaces, comprising 75 spaces for Tenancy A and 47 spaces for Tenancy B.

Vehicular access to the site is proposed via three crossovers, comprising the following:

- Northern Crossover: Heavy vehicle access servicing loading docks for both tenancies;
- Central Crossover: Light vehicle access to Tenancy A car parking;
- Southern Crossover: Light vehicle access to Tenancy B car parking. It is noted that this crossover will also provide light and heavy vehicle access to the northeastern portion of Proposed Lot 110, with future use of this area to be the subject of a separate PDA development application. An access easement is proposed along the eastern boundary to facilitate this future connectivity.

The proposed site plan is shown in Figure 3.1.

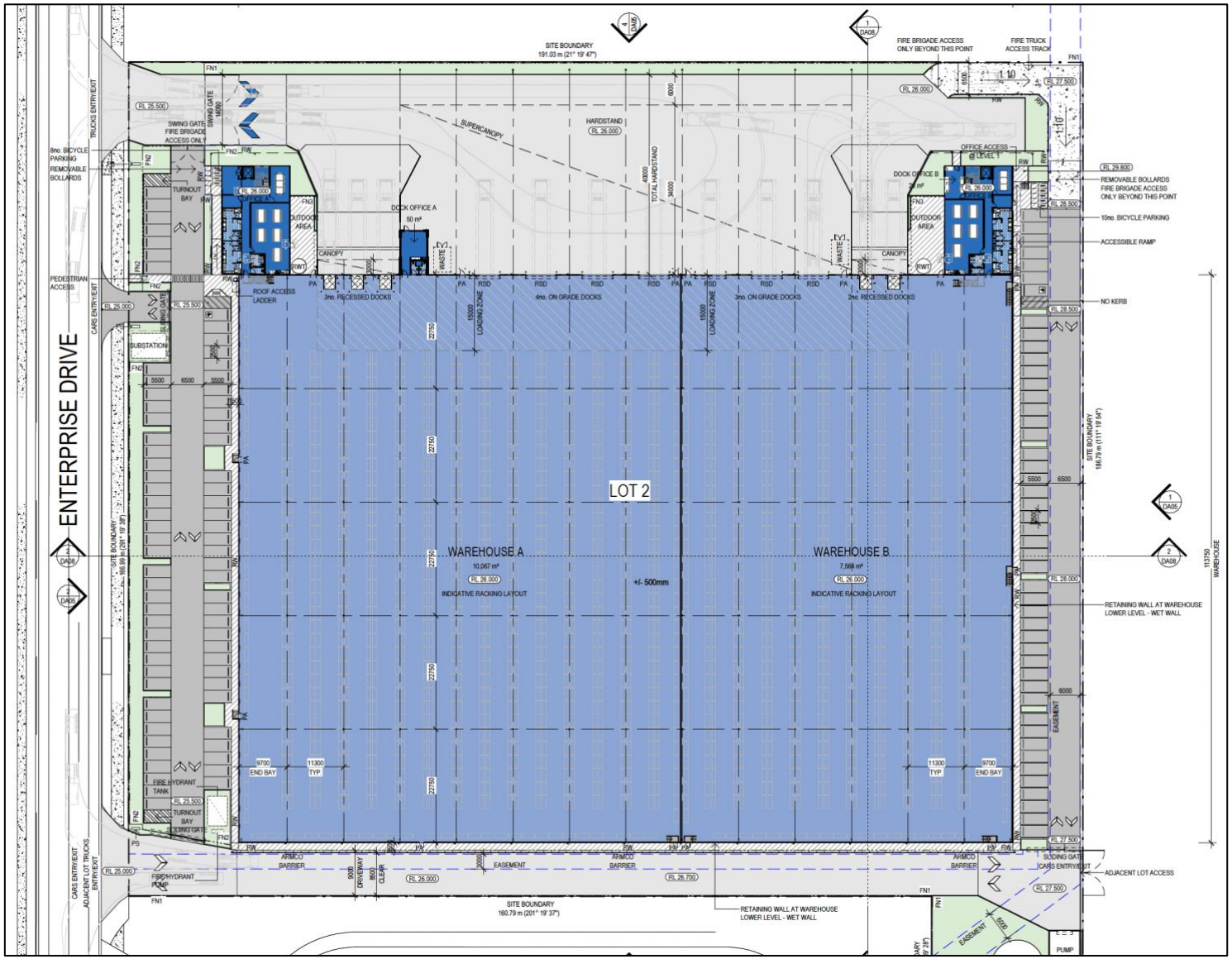

FIGURE 3.1 – PROPOSED SITE PLAN

4.0 CAR PARKING

4.1 Car Parking Supply

In accordance with the Logan Planning Scheme, the following car parking rates are applicable to the proposed development:

Warehouse:
1 space per 100m^2 GFA

Low Impact Industry:
1 space per 50m² of GFA up to 500m²; plus 1 space per 100m² GFA thereafter

Medium Impact Industry:
1 space per 80m² of GFA up to 500m²; plus 1 space per 100m² GFA thereafter

Application of the above rate results in the following requirements for car parking:

Table 4.1: Acceptable Outcome for car parking

Use	Minimum Car Parking Spaces Required
Warehouse (17,047m^2)	171 spaces
Low Impact Industry (17,047m^2)	10 + 166 (176) spaces
Medium Impact Industry (17,047m^2)	7 + 166 (173) spaces

The proposal provides a total of 122 car parking spaces, including 75 spaces for Tenancy A and 47 spaces for Tenancy B, and is therefore below the Acceptable Outcome for the applicable land uses.

4.2 Adequacy of Proposed Car Parking Provisions

As the specific tenant is not yet confirmed, the proposal accommodates potential uses including warehouse, low impact industry, and medium impact industry, each with differing parking rates under the Logan Planning Scheme. Low and medium impact industries typically require higher rates than warehousing.

Although applying these rates individually results in a shortfall relative to Acceptable Outcomes, such demands are often overestimated when applied across the entire site. Final parking demand will depend on tenant mix and operational characteristics, with shift patterns and workforce sizes potentially reducing peak demand below scheme assumptions.

Based on trip generation rates in the approved Traffic Impact Assessment in the overarching PDA Development Approval for the Flagstone Logistics Estate (EDQ Ref: DEV2018/961/18) it is anticipated the proposed development will have around 68 people on site at any one time (employees and visitors).

The proposed provision of 122 car parking spaces will comfortably accommodate the expected staffing levels, and results in a car parking supply rate of 0.72 spaces per 100m^2 GFA. This approach is consistent with recent approvals, such as DEV2023/1466, where a warehouse (distribution centre) with a GFA of 40,939m^2 was approved with a total of 140 car parking spaces. This equates to a rate of 0.34 spaces per 100m^2 GFA. Additionally, for application MCUI/24/2022/A, a warehouse with a GFA of 21,055m^2 was approved with 100 car parking spaces, resulting in a rate of 0.47 spaces per 100m^2 GFA. These examples demonstrate that EDQ and LCC have supported similar uses with comparable or lower parking provisions.

As depicted in Figures 4.1 – 4.3, a review of car parking utilisation has been carried out using Nearmap aerial imagery. As shown, the surveyed sites indicate low car parking utilisation, with car parking rates as low as 1 space per 600m^2 GFA. For the above reasons, the proposed provision of 122 car parking spaces will adequately service the proposed building without causing an overflow of parking demand into the public street system.

As depicted in Figures 4.1 – 4.3, a review of car parking utilisation has been carried out using Nearmap aerial imagery. The results of the review are summarised in Table 4.2, with the car parking relationships detailed in Table 4.3.

As shown in Table 4.3, the surveyed sites indicate low car parking utilisation, with car parking rates as low as 0.17 spaces per 100m^2 GFA. RTE has been involved in many large warehouse unit developments and find that the rates shown below are typical of user requirements.

Table 4.2 – Aerial Imagery Survey Results

	Number of Car Parking Spaces Occupied		
Location	Tuesday 11th April 23	Wednesday 2nd Nov 22	Tuesday 16th August 22
Bluestone Place, Yatala	20 spaces	28 spaces	31 spaces
Arthur Dixon Crt, Yatala	14 spaces	22 spaces	23 spaces
Thomas Hanlon Crt, Yatala	9 spaces	7 spaces	8 spaces

Table 4.3 – Average Car Parking Rates

Location	Approx. Area	Avg. Spaces Occupied	Car Parking Rate
Bluestone Place, Yatala	9,000m^2	15 spaces	0.17 spaces per 100m^2
Arthur Dixon Crt, Yatala	8,500m^2	19 spaces	0.23 spaces per 100m^2
Thomas Hanlon Crt, Yatala	2,500m^2	21 spaces	0.84 spaces per 100m^2

Given the above data, the provided car parking rate of 0.72 spaces per 100m^2 is considered to be satisfactory, and should adequately meet future car parking demands.

FIGURE 4.1 – CAR PARKING DEMANDS AT 1 BLUESTONE PLACE, YATALA (GFA APPROX: 9,000M²)

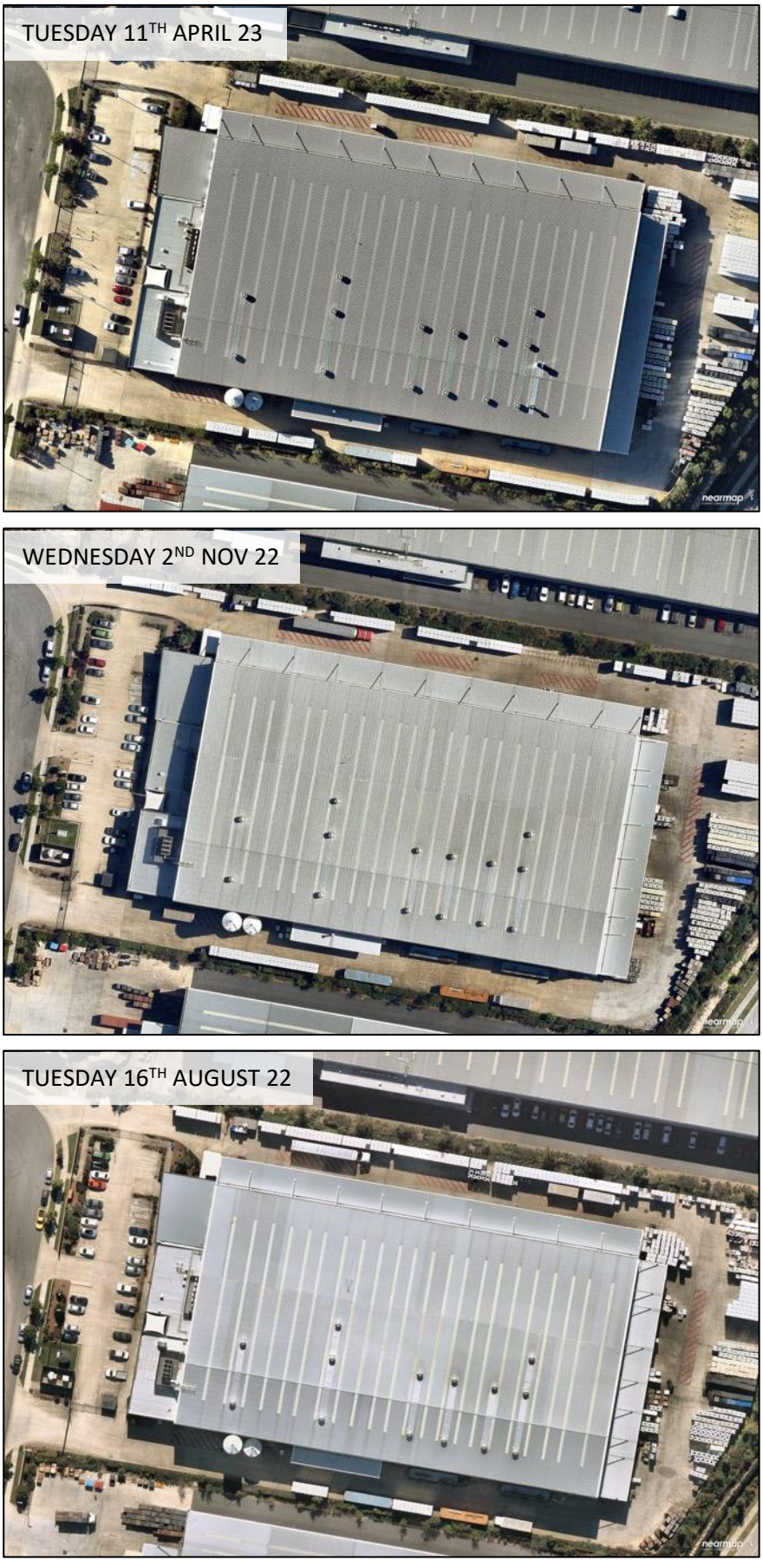

FIGURE 4.2 – CAR PARKING DEMANDS AT 23 ARTHUR DIXON COURT, YATALA (GFA APPROX: 8,000M²)

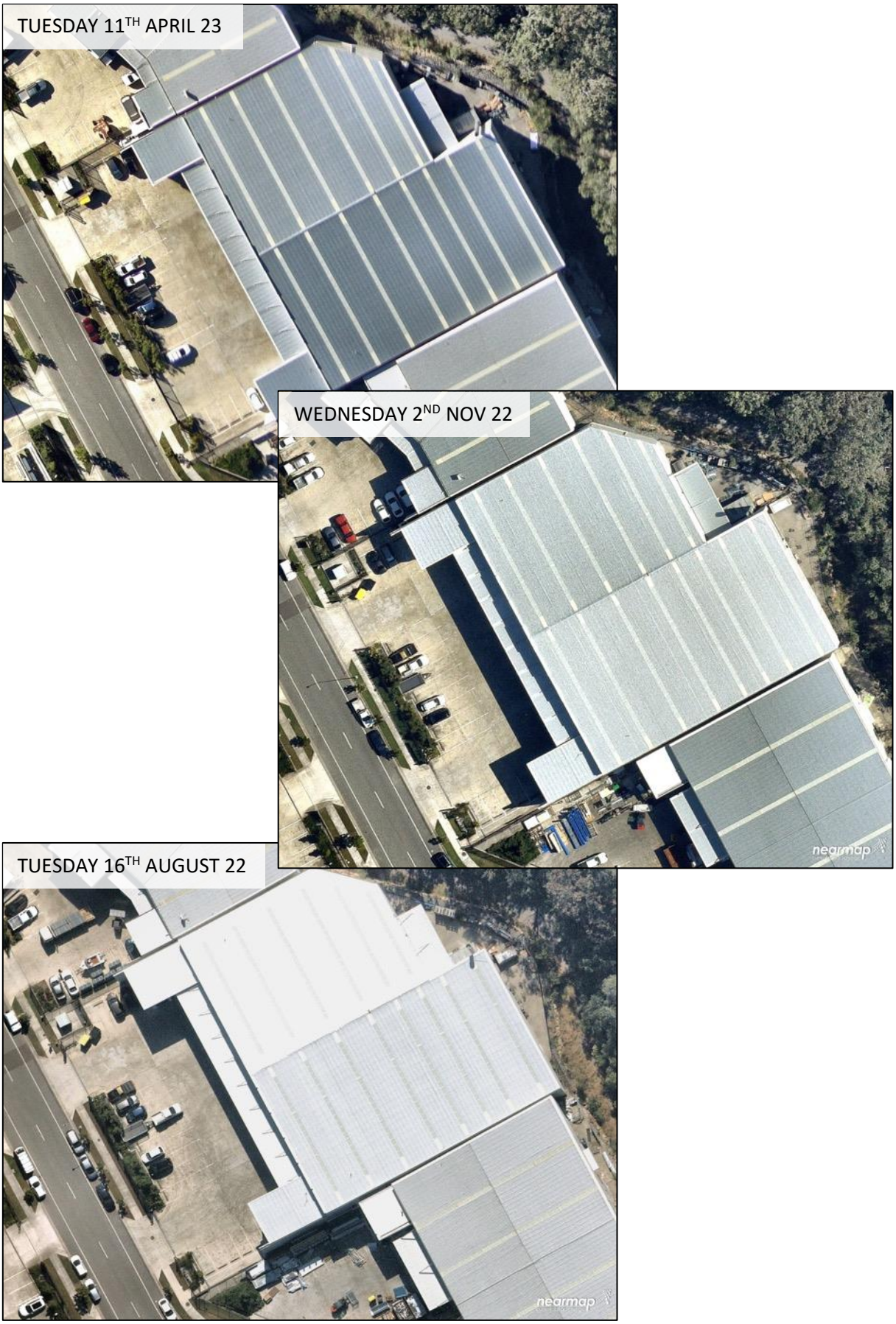

FIGURE 4.3 – CAR PARKING DEMANDS AT 14 THOMAS HANLON COURT, YATALA (GFA APPROX: 2,500M^2)

4.3 Car Parking Design

The geometric layout of the proposed parking facilities has been designed to comply with the relevant requirements specified in the Planning Scheme and AS2890.1: 2004.

The proposed car parking layout has the following dimensions:

Car parking aisle - 6.5 metres (min)
Car parking spaces - 2.5m x 5.4m
PWD spaces - 2.4m x 5.4m, plus 2.4m wide shared zone

The layout and dimensions are shown in Figures 4.4 – 4.7. Swept path diagrams for B85 and B99 design vehicles are shown in Figures 4.8 – 4.11.

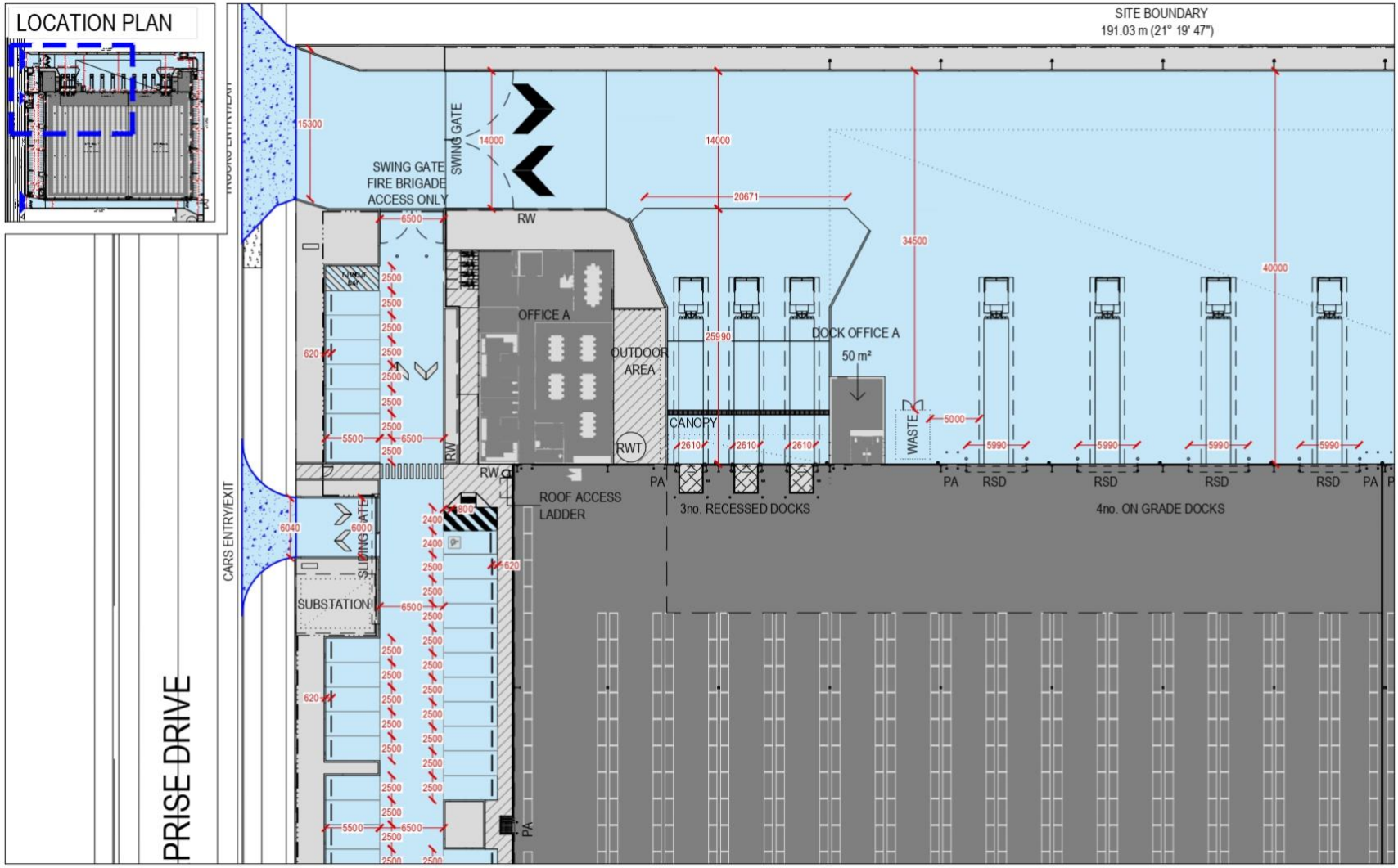

FIGURE 4.4 – PROPOSED CAR PARKING LAYOUT AND DIMENSIONS

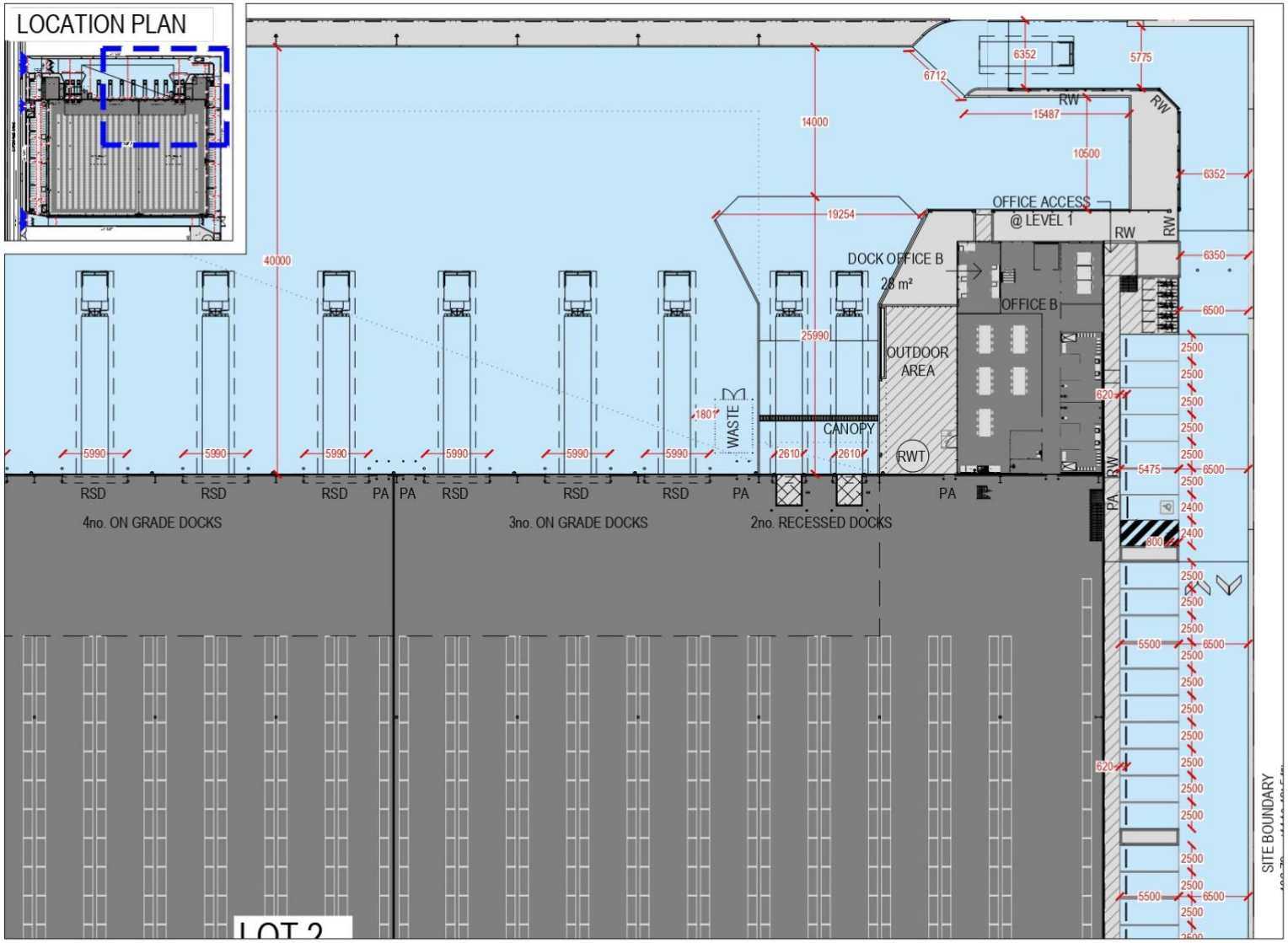

FIGURE 4.5 – PROPOSED CAR PARKING LAYOUT AND DIMENSIONS

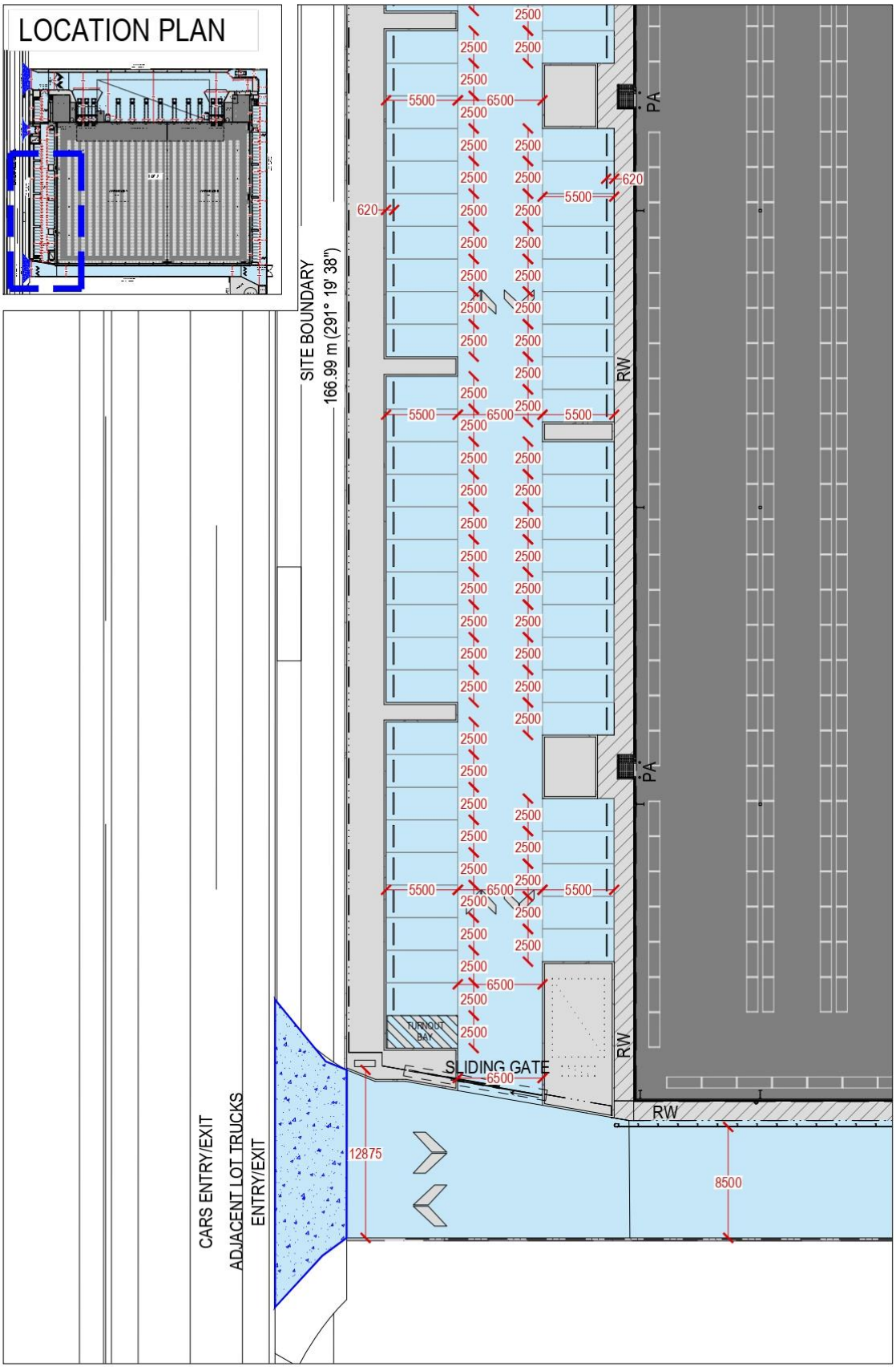

FIGURE 4.6 – PROPOSED CAR PARKING LAYOUT AND DIMENSIONS

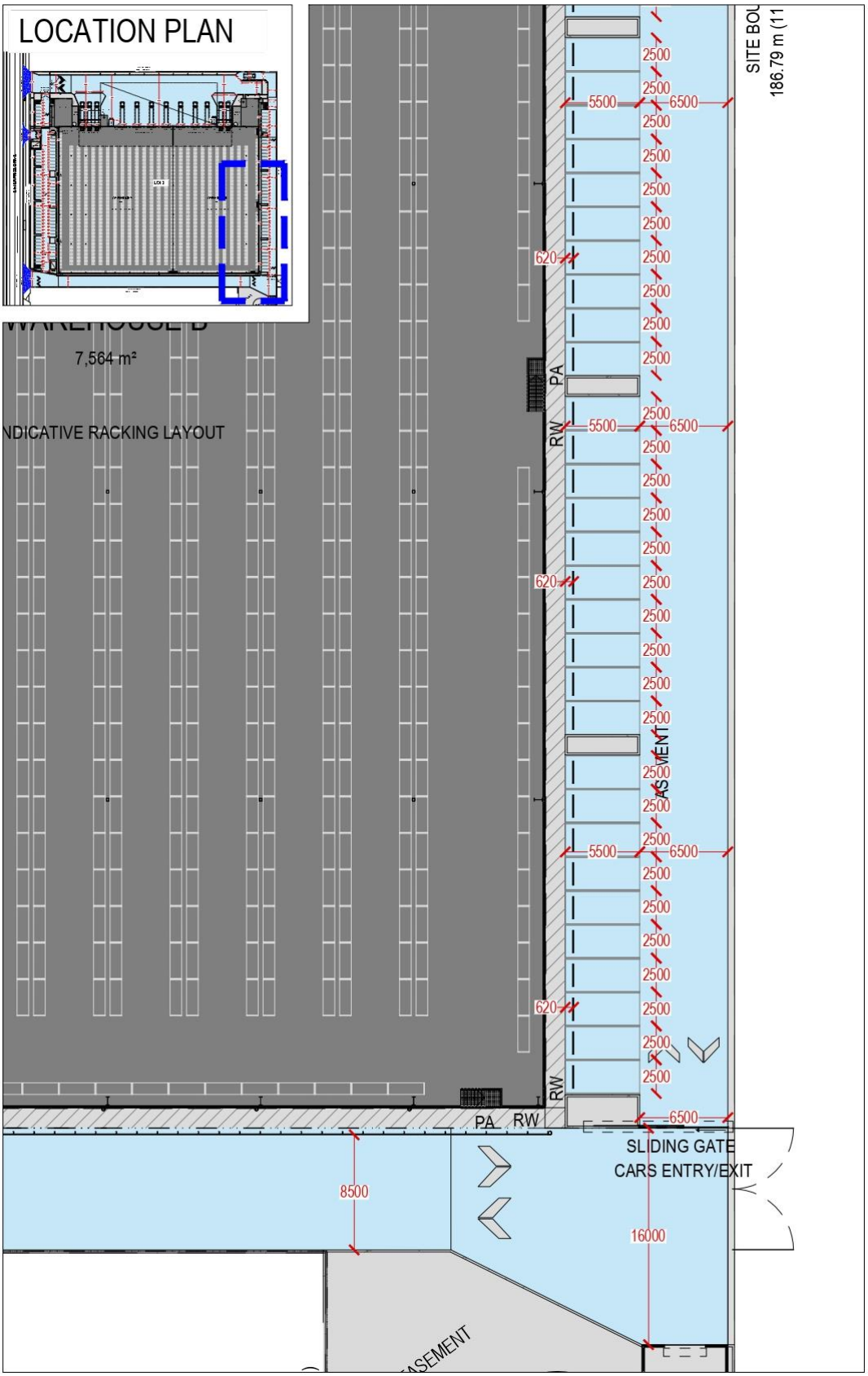

FIGURE 4.7 – PROPOSED CAR PARKING LAYOUT AND DIMENSIONS

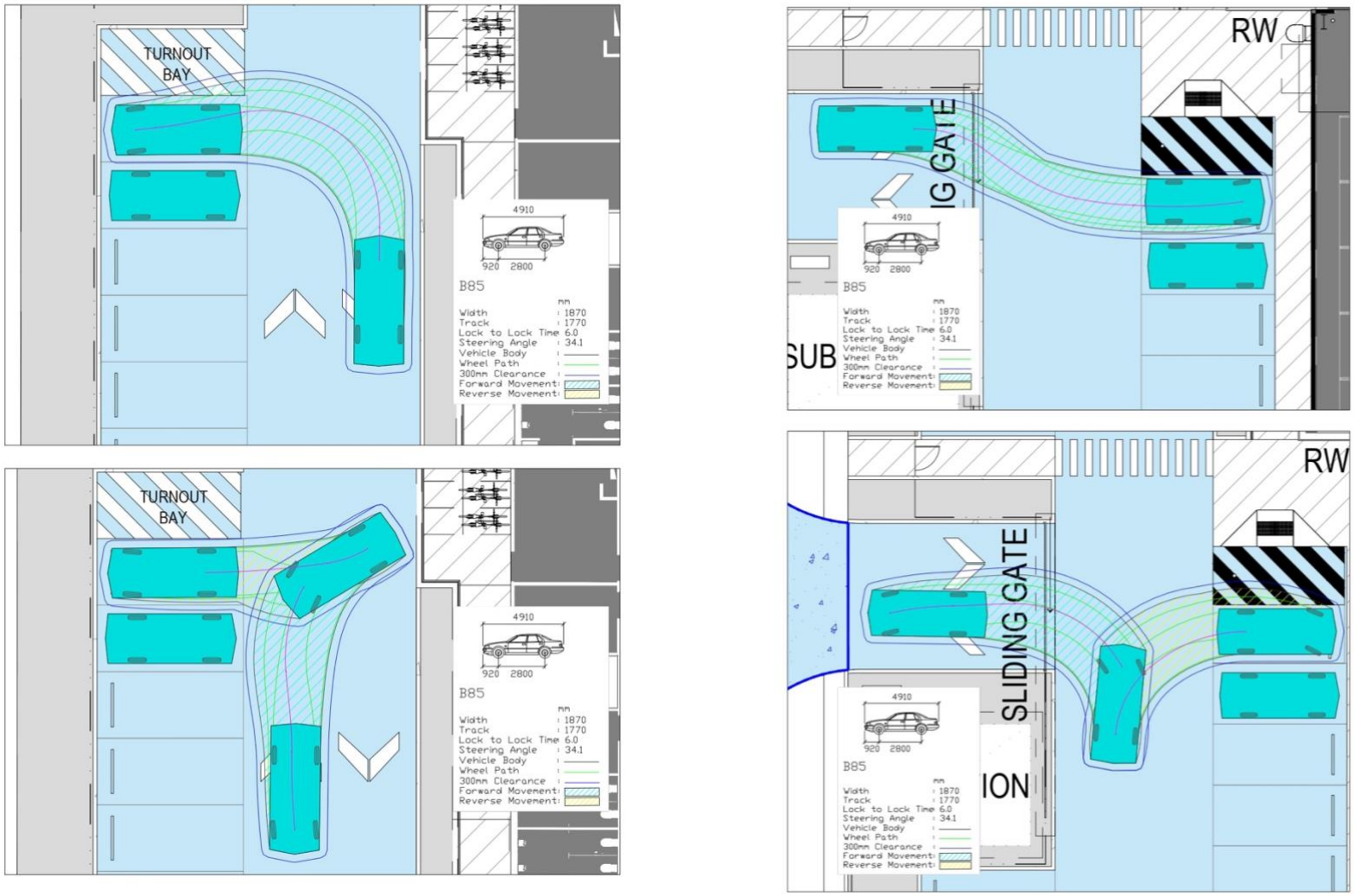

FIGURE 4.8 – SWEPT PATH OF B85 VEHICLES (MANOEUVRING)

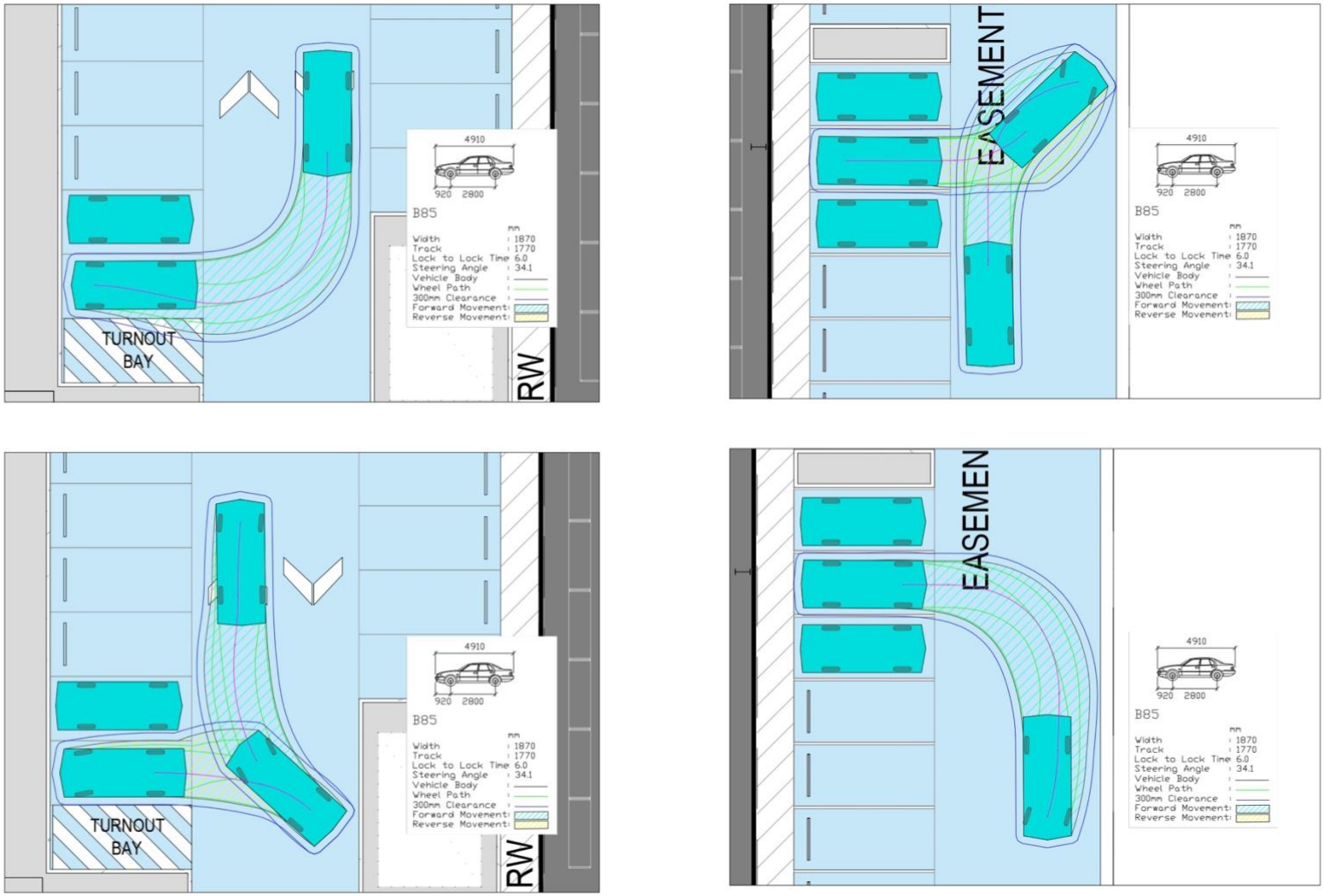

FIGURE 4.9– SWEPT PATH OF B85 VEHICLES (MANOEUVRING)

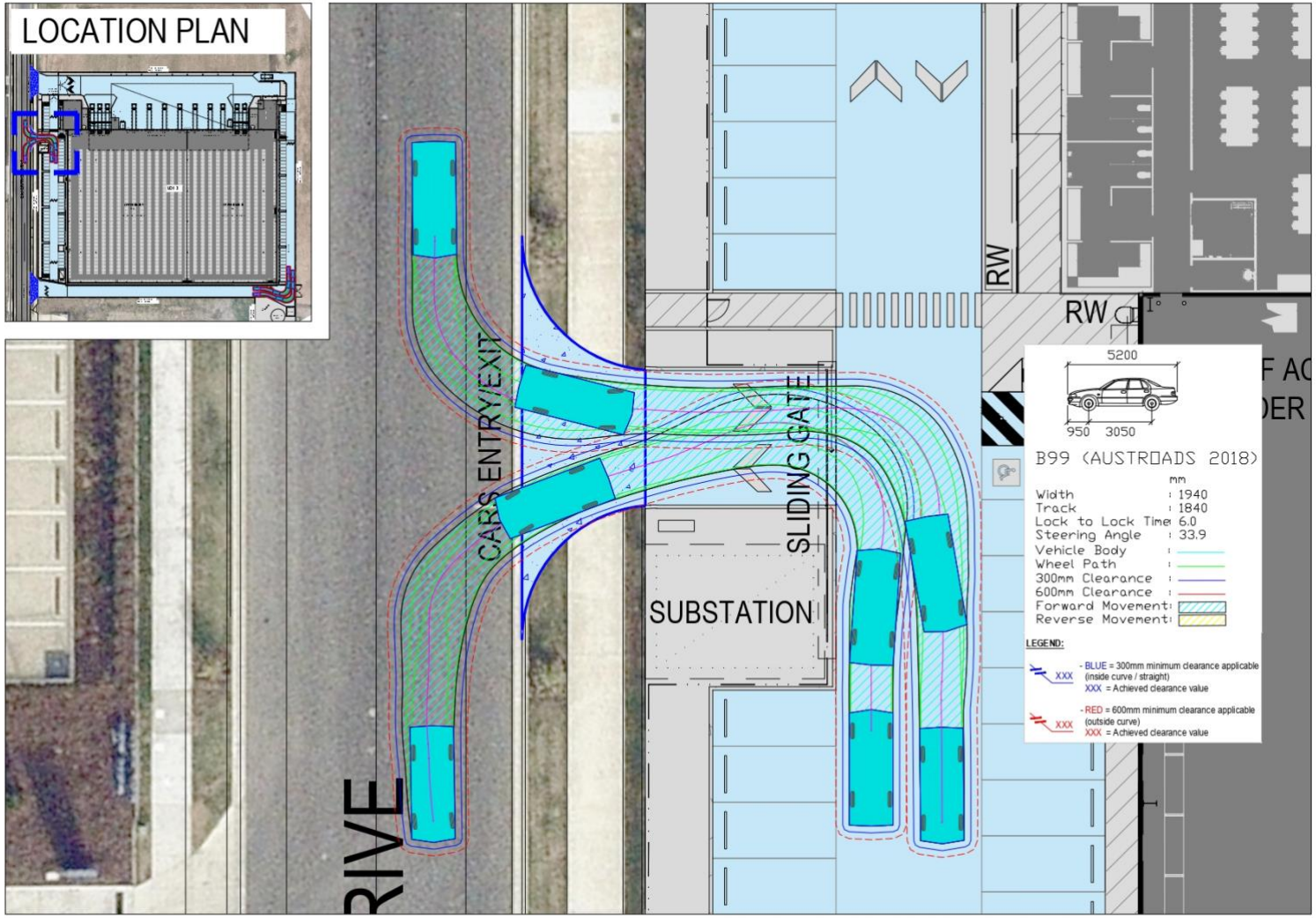

FIGURE 4.10 – SWEPT PATH OF B99 VEHICLES (MANOEUVRING)

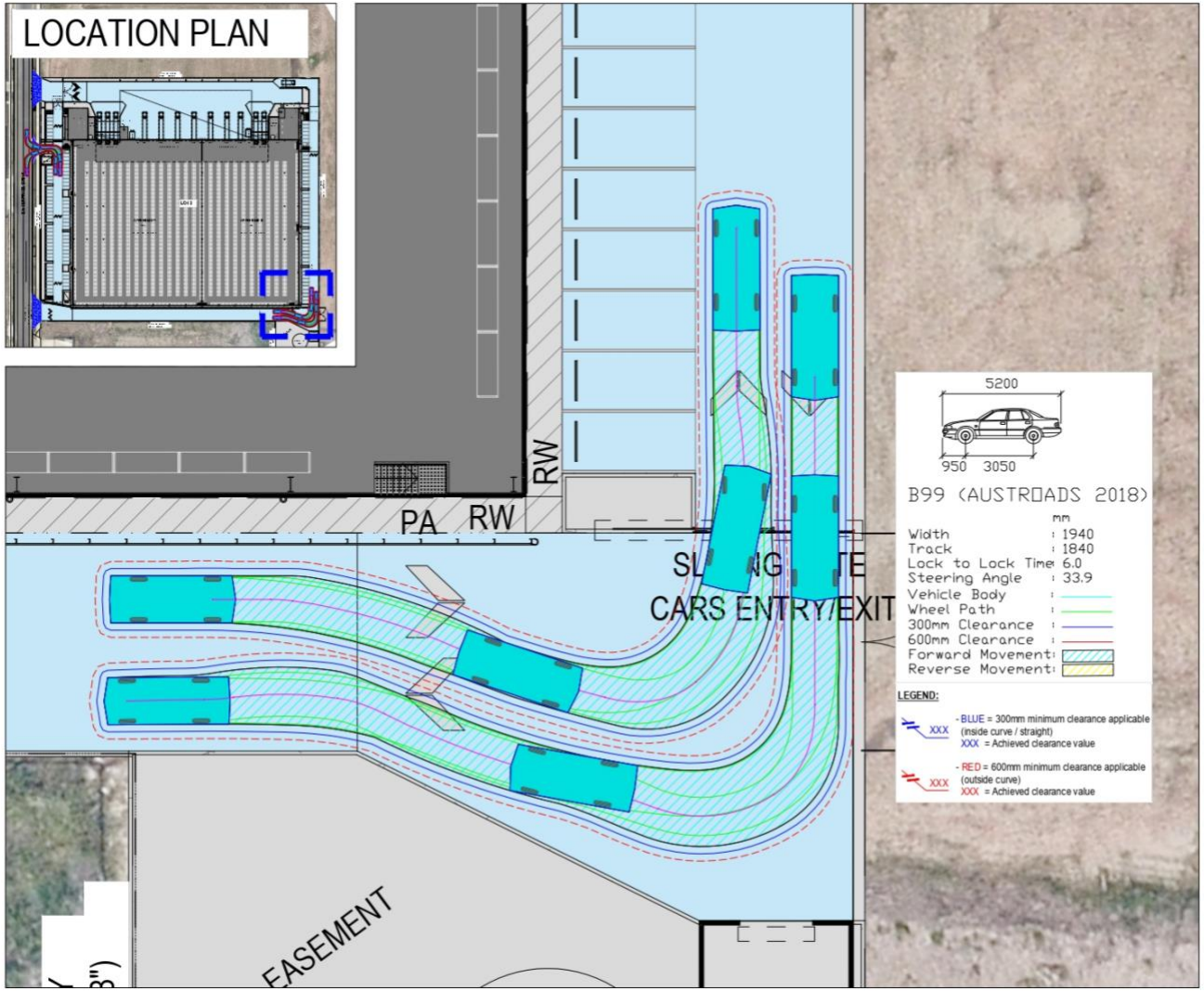

FIGURE 4.11 – SWEPT PATH OF B99 VEHICLES (MANOEUVRING)

5.0 ACCESS ARRANGEMENTS

The proposed access crossovers have been designed in accordance with IPWEA Standard Drawing RS-051.

The proposed layout and dimensions of each crossover are shown in Figures 5.1 – 5.3.

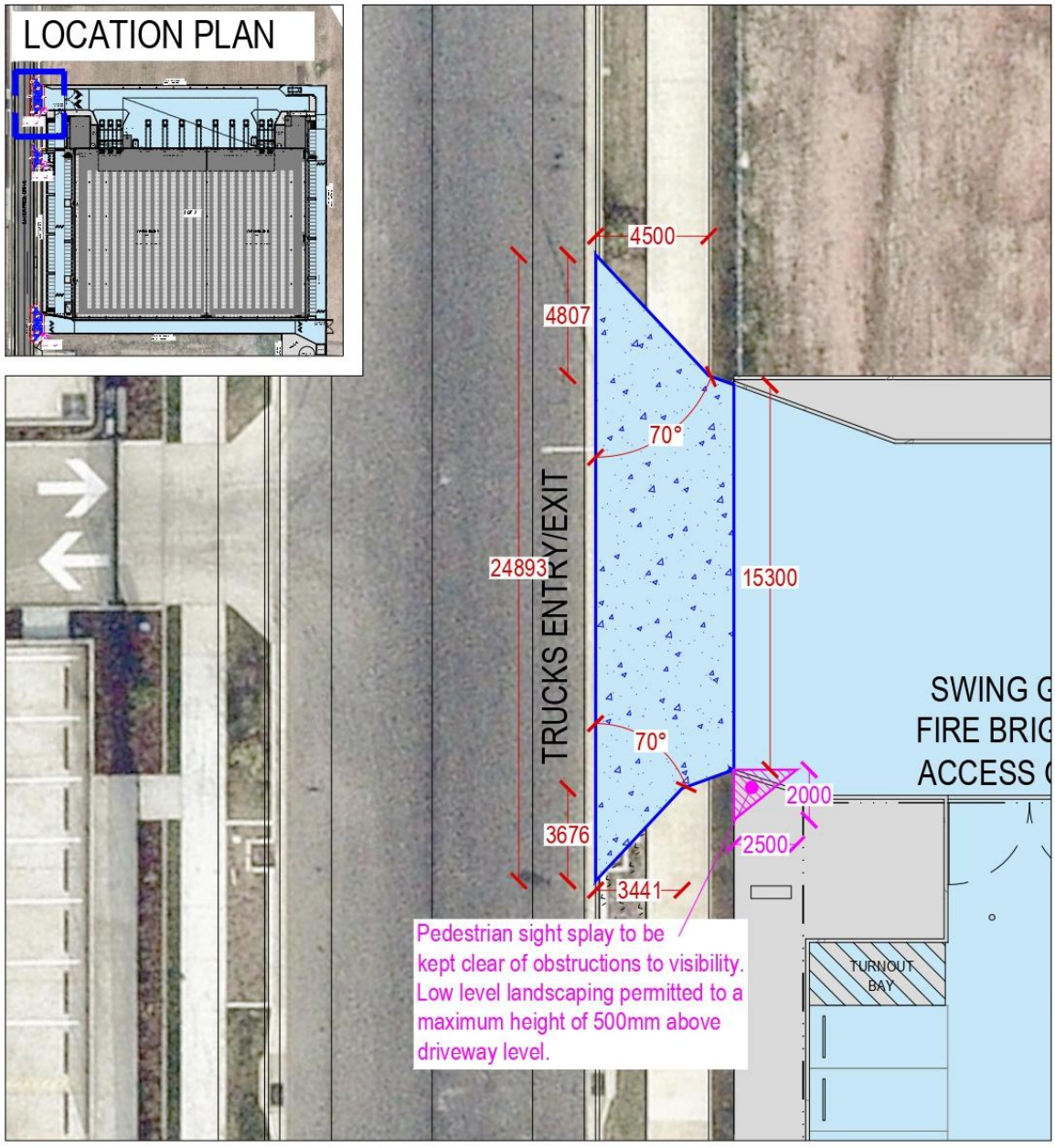

FIGURE 5.1 – PROPOSED ACCESS ARRANGEMENTS
(NORTHERN CROSSOVER – HEAVY VEHICLE ACCESS TO BOTH TENANCIES)

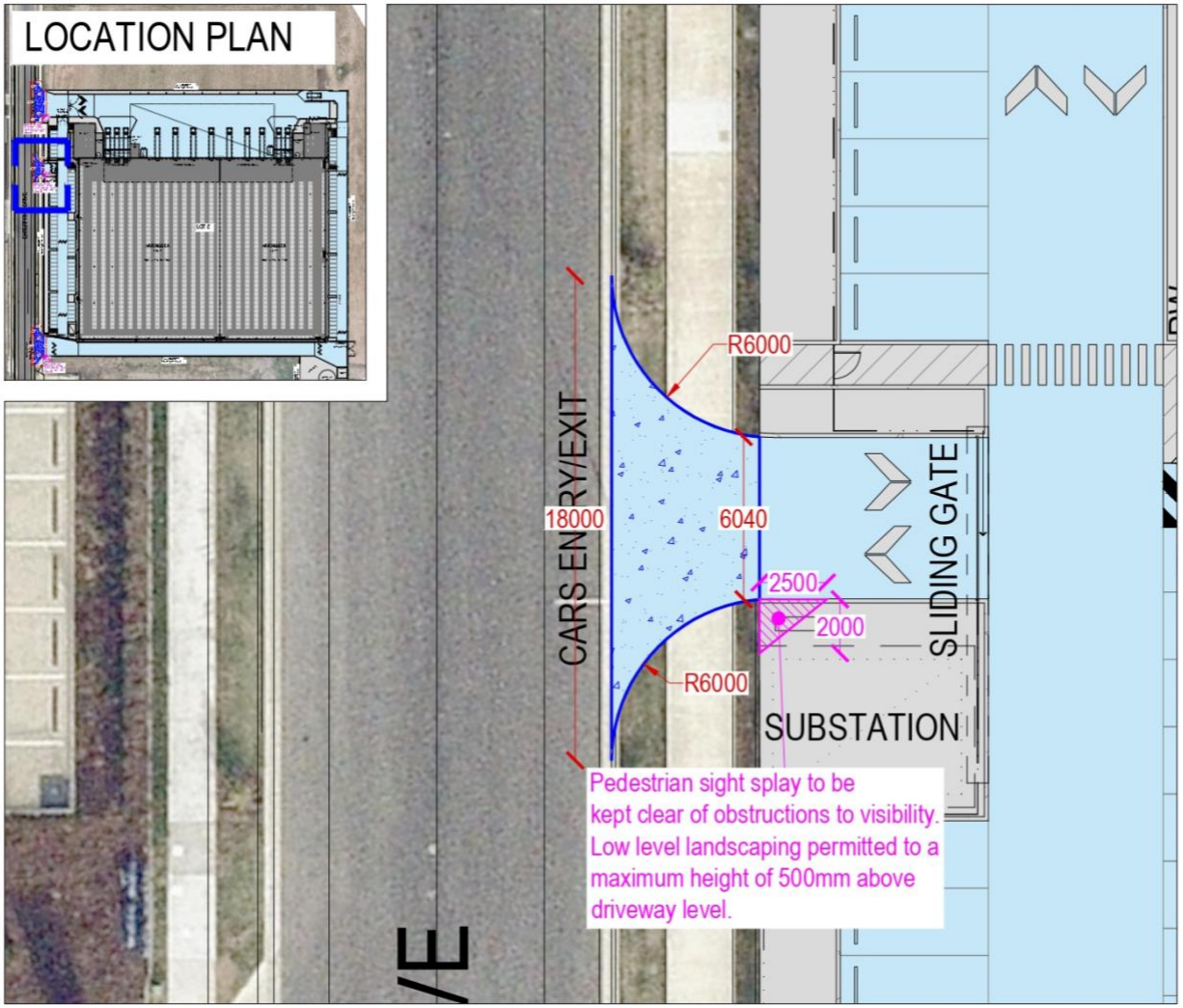

FIGURE 5.2 – PROPOSED ACCESS ARRANGEMENTS (CENTRAL CROSSOVER – LIGHT VEHICLE ACCESS TO TENANCY A)

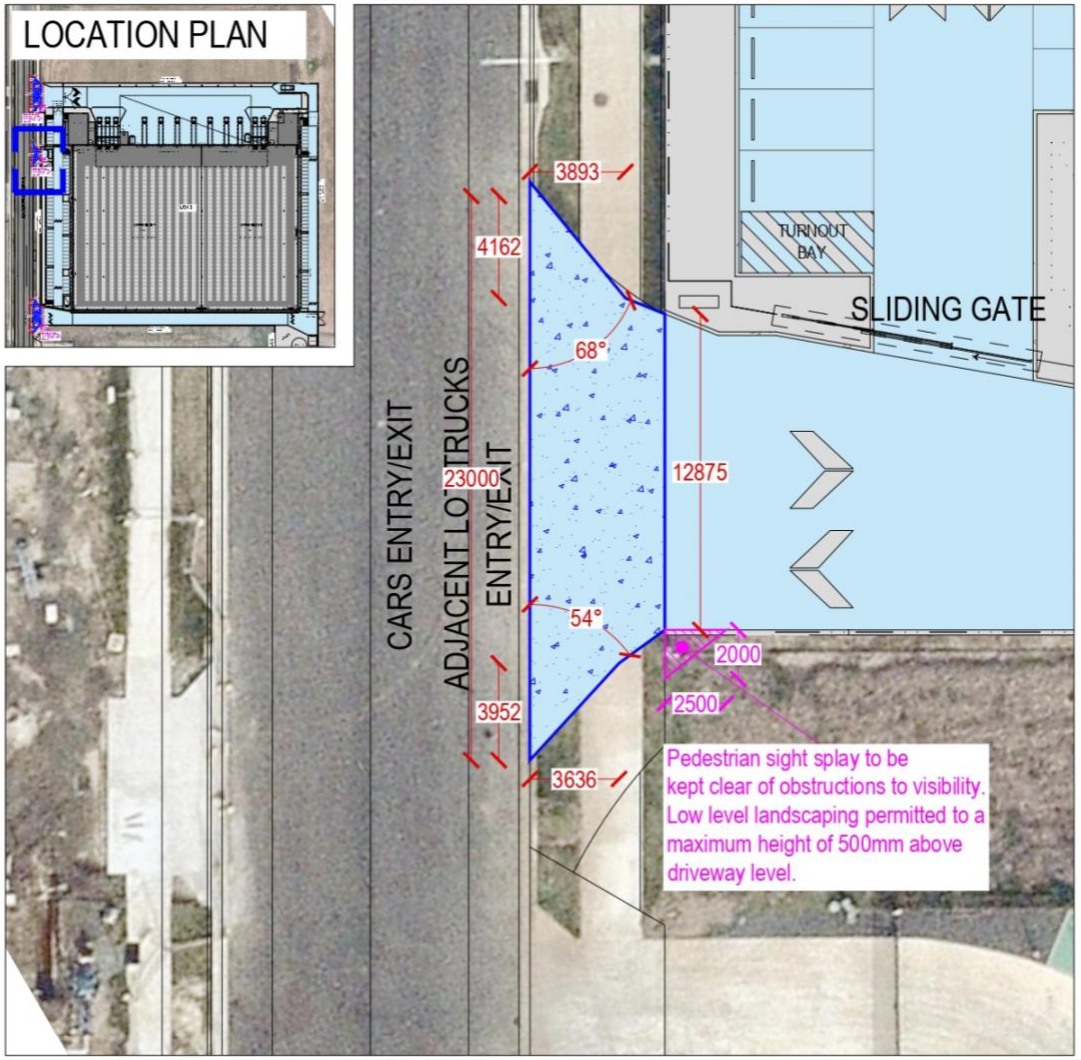

FIGURE 5.3 – PROPOSED ACCESS ARRANGEMENTS (SOUTHERN CROSSOVER – LIGHT VEHICLE ACCESS TO TENANCY B)

6.0 PROVISION FOR HEAVY VEHICLES

6.1 Acceptable Outcome

In accordance with Table 9.4.13-9 of the Logan Planning Scheme, the following service vehicle provisions is required to meet the Acceptable Outcome:

Warehouse: Articulated Vehicle (AV)

6.2 Proposed Outcome

The proposal allows for vehicles up to an Articulated Vehicle (AV) to circulate and manoeuvre within the site satisfactorily.

Swept path diagrams are provided in Figures 6.1 – 6.6.

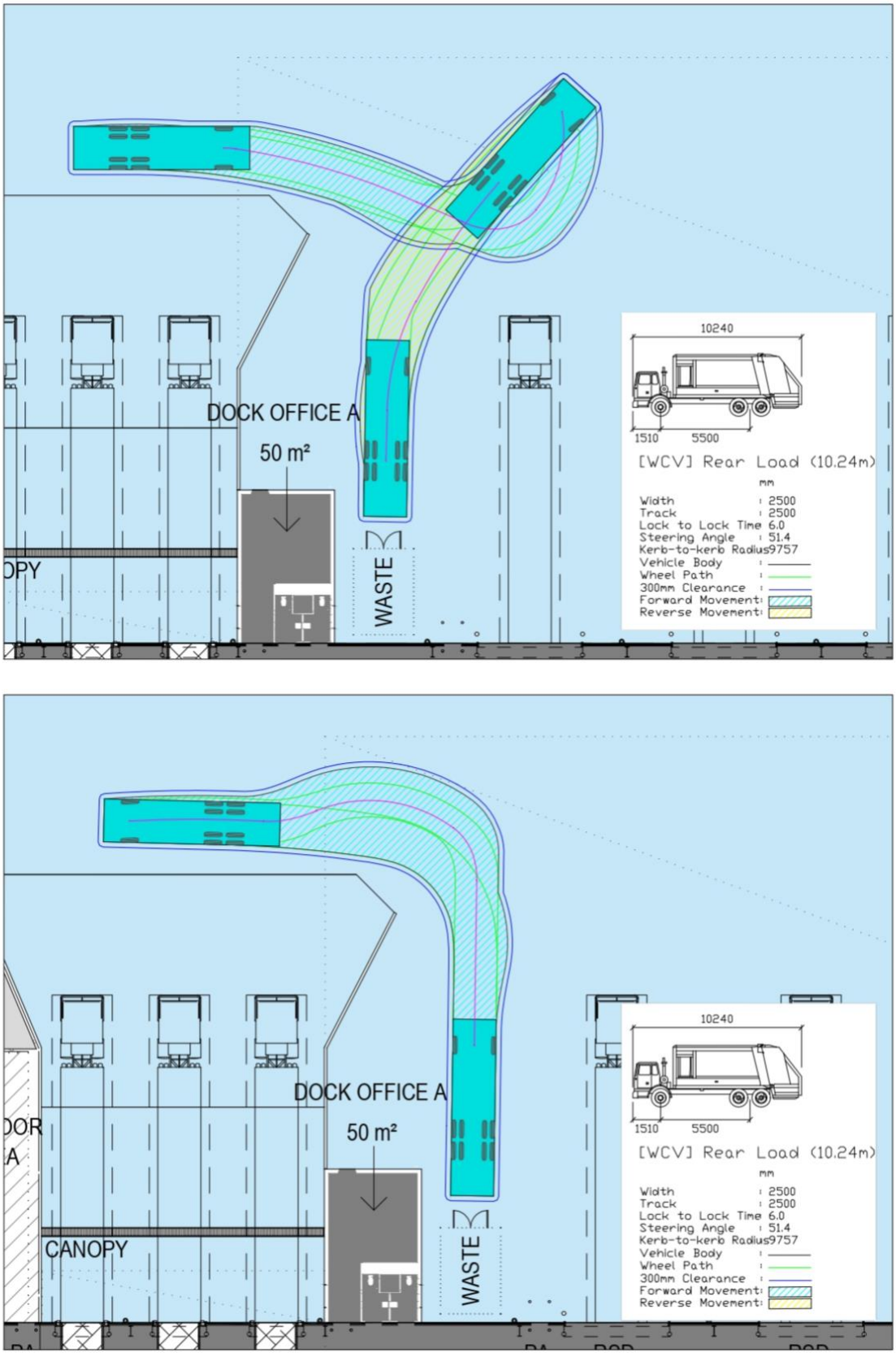

FIGURE 6.1 –SWEPT PATHS FOR WASTE COLLECTION VEHICLE (WCV)

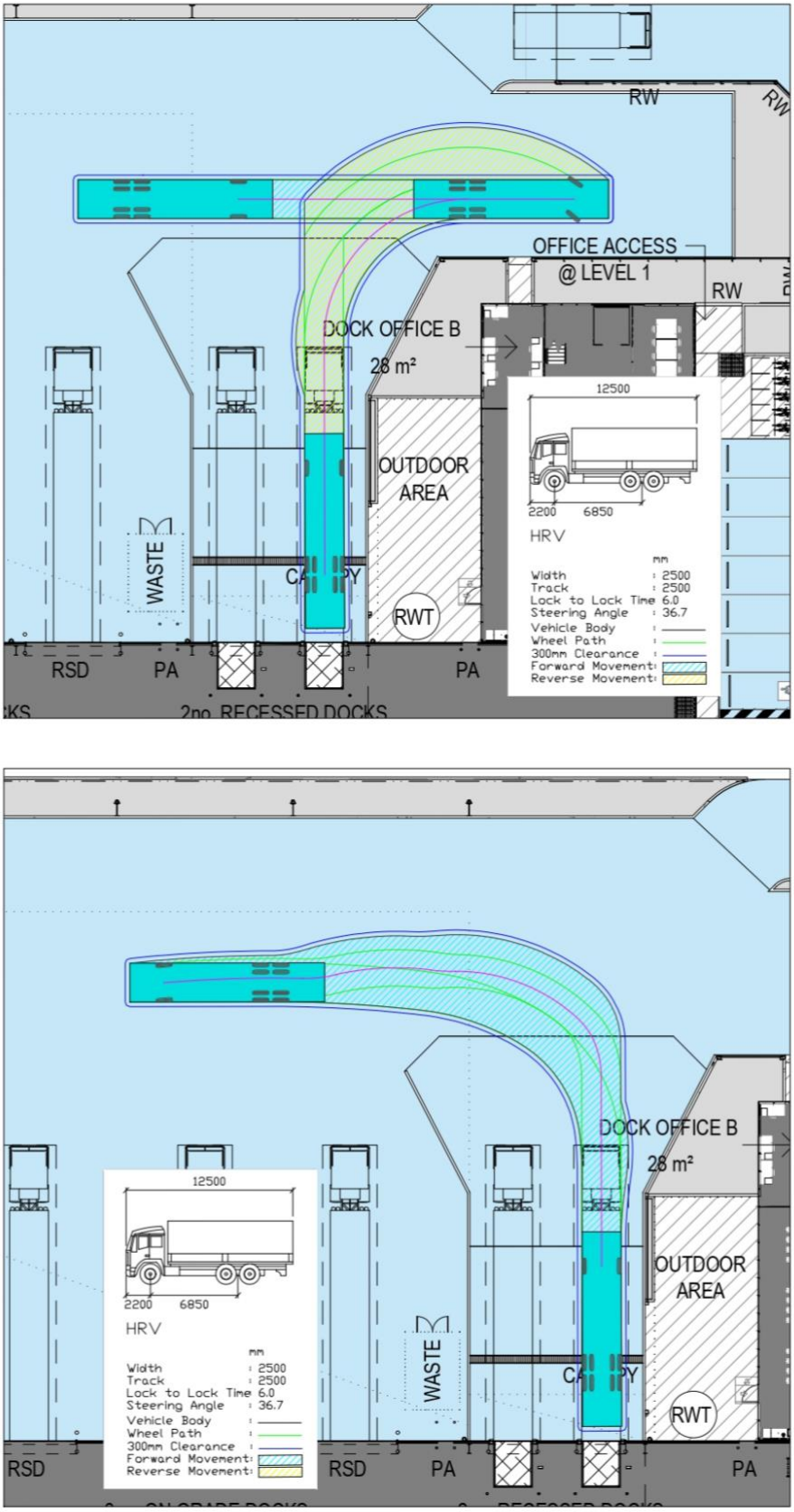

FIGURE 6.2 –SWEPT PATHS FOR HEAVY RIGID VEHICLE (HRV)

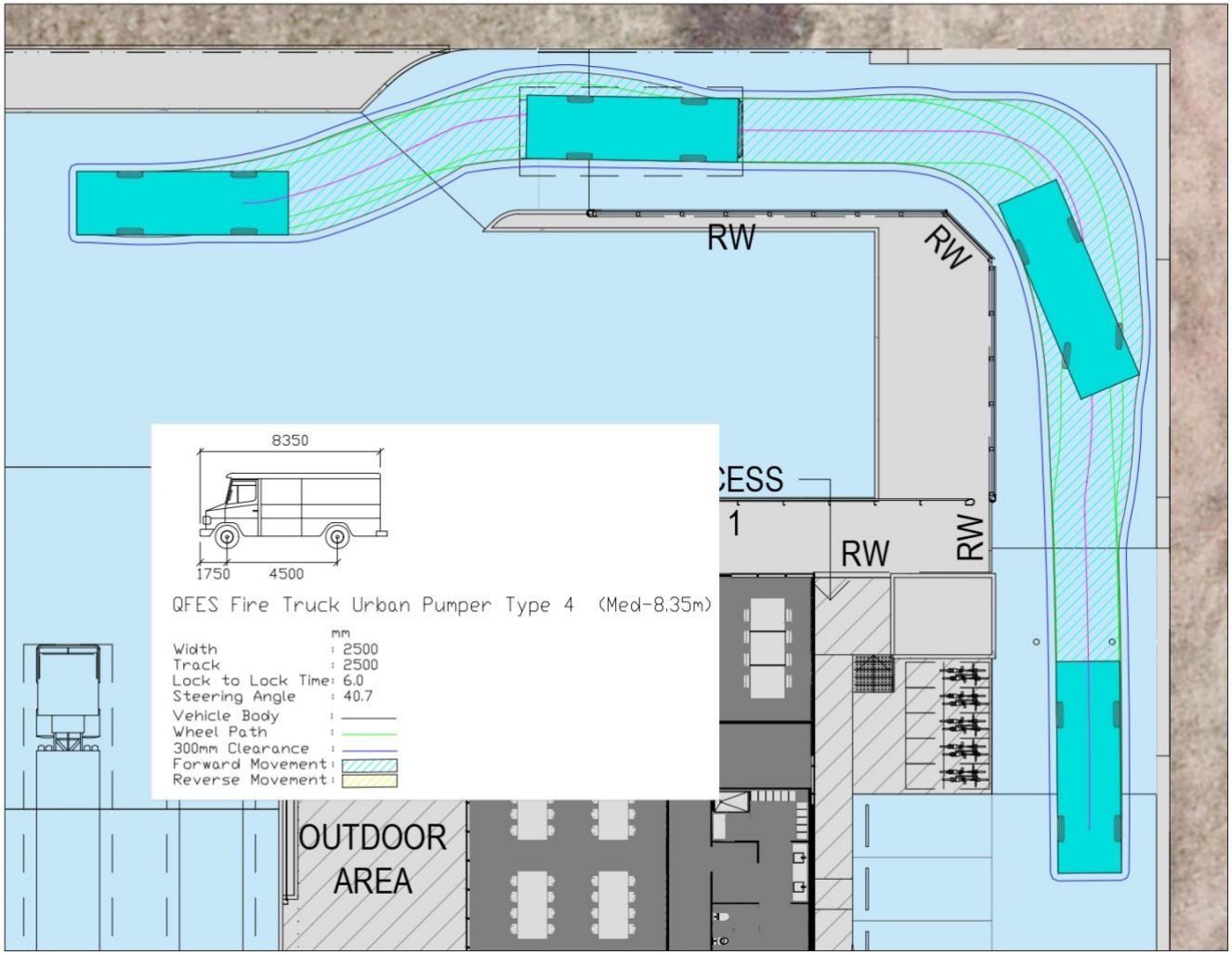

FIGURE 6.3 – FIRE TRUCK SWEPT PATHS

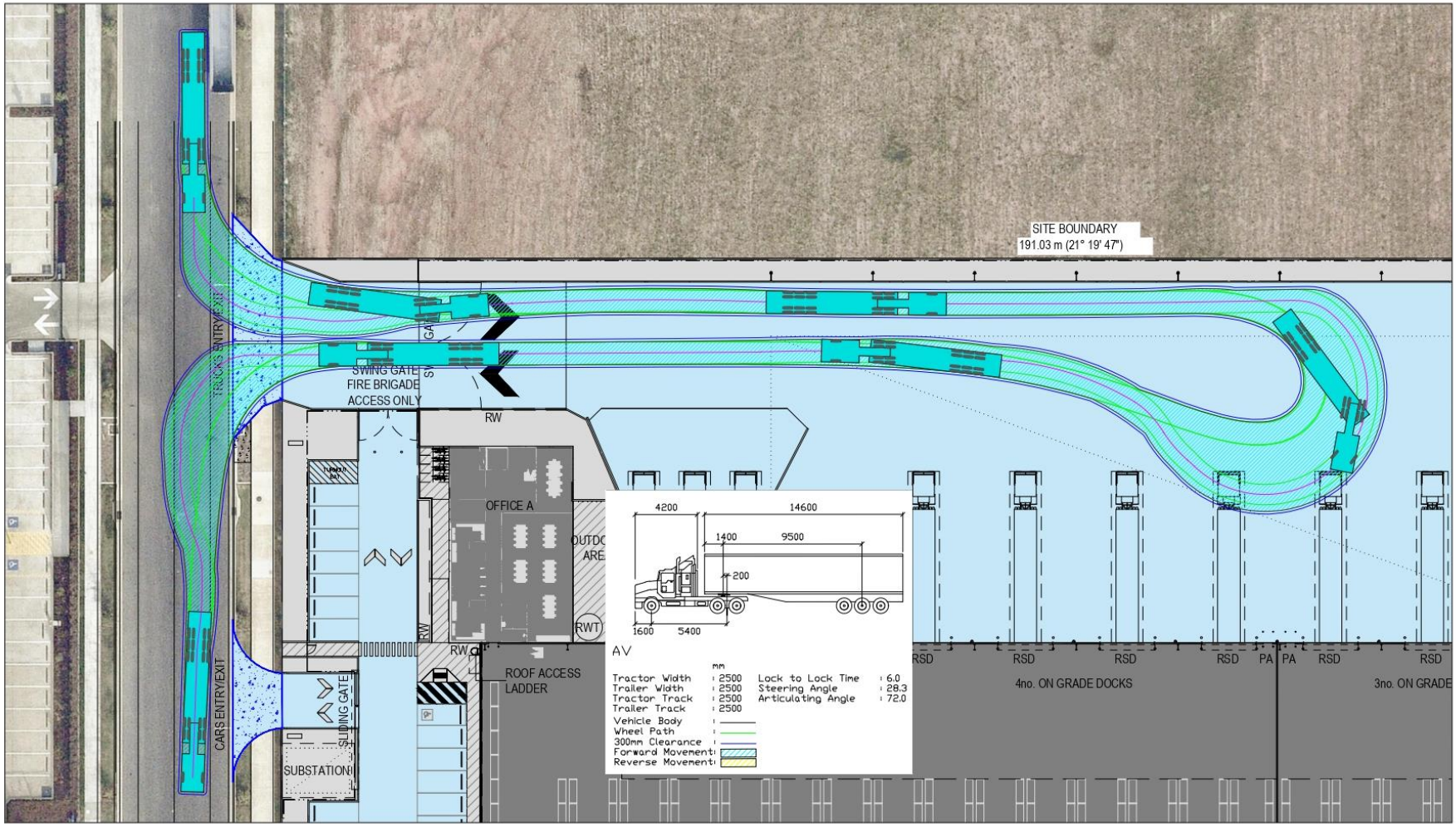

FIGURE 6.4 – VEHICLE SWEPT PATHS (ARTICULATED VEHICLE)

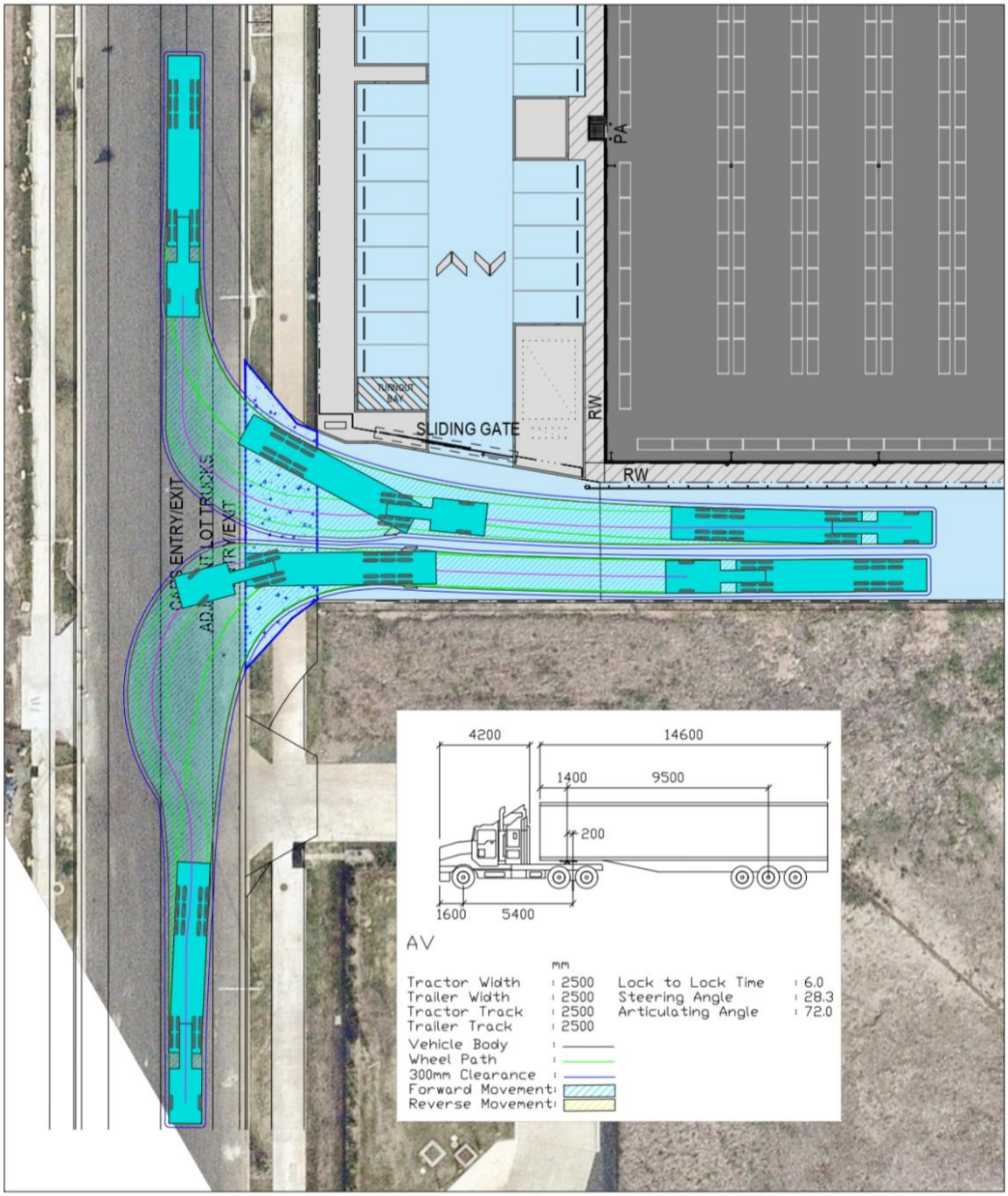

FIGURE 6.5 – VEHICLE SWEPT PATHS (ARTICULATED VEHICLE)

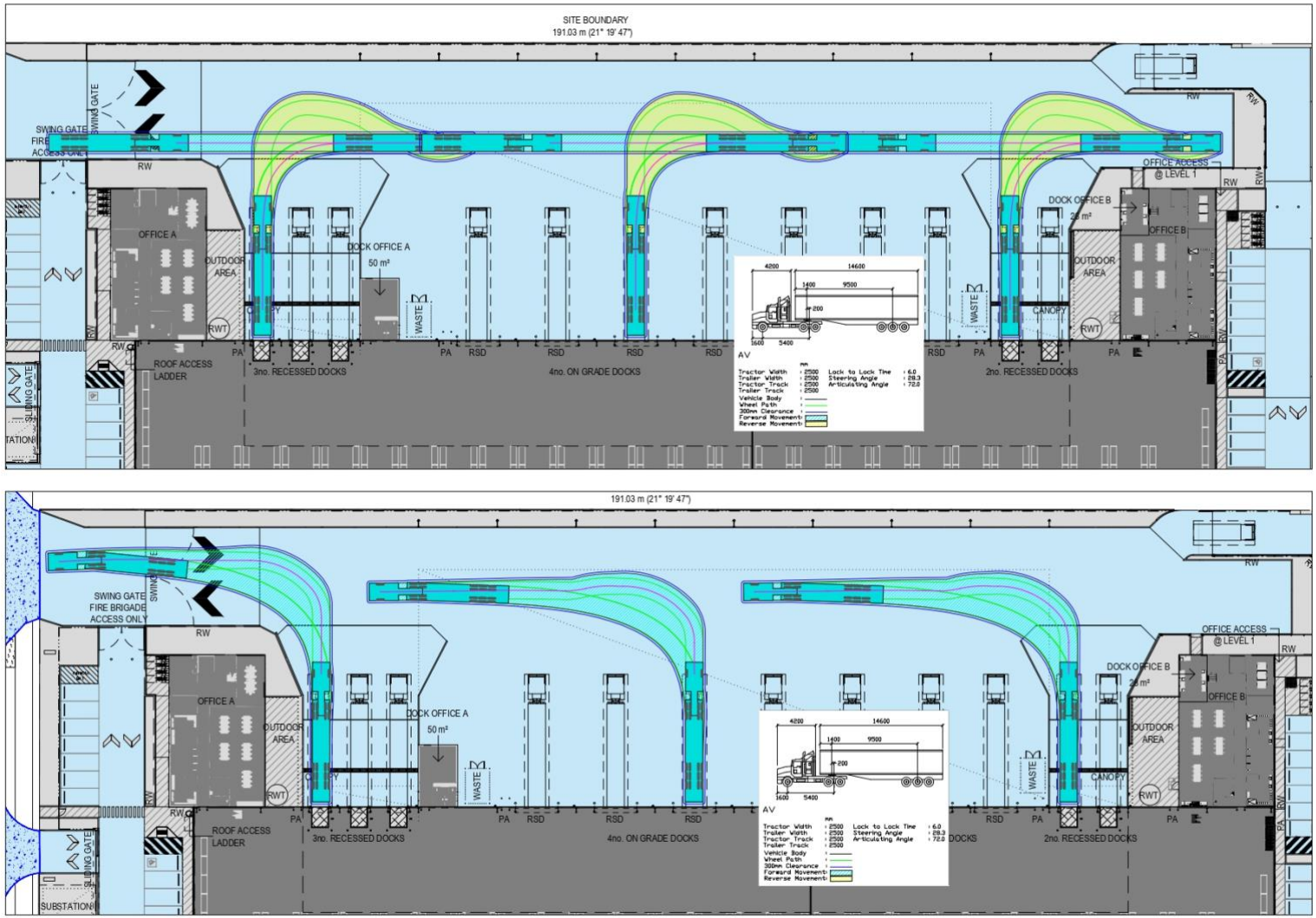

FIGURE 6.6 – VEHICLE SWEPT PATHS (ARTICULATED VEHICLE

7.0 PROVISION FOR PEDESTRIANS AND CYCLISTS

Bicycle parking is not required under the Servicing, Access, and Parking Code of the Logan Planning Scheme for the proposed uses; however, the proposal includes bicycle parking adjacent to the office entry. End of trip facilities (showers / change room) have been provided within the premises for workers who choose to cycle to work.

A pedestrian pathway has been provided between the car parking area and the building entrance for safe access.

8.0 ROAD NETWORK IMPACT

The proposed use and its potential traffic generation is consistent with that adopted in the Traffic Impact Assessment for the overall estate, prepared by Bitzios Consulting for the overall estate. As such, there is no need to consider the potential impact of development traffic upon the surrounding road network.

9.0 SUMMARY OF CONCLUSIONS & RECOMMENDATIONS

- The proposal is for a speculative dual-tenancy warehouse and industrial facility with a combined Gross Floor Area (GFA) of approximately 17,047m^2, accommodating potential warehouse, low impact industry and medium impact industry uses.

- Based on trip generation rates in the approved Traffic Impact Assessment for the overarching PDA Development Approval for the Flagstone Logistics Estate (EDQ Ref: DEV2018/961/18), it is anticipated the proposed development will generate approximately 68 persons on site at any one time (employees and visitors).

- The proposed development provides a total of 122 car parking spaces. While this is below the Acceptable Outcomes of the Logan Planning Scheme when assessed against the full range of potential uses, these rates are considered conservative and do not reflect the operational characteristics of speculative industrial developments, including shift-based operations, shared tenancy use and variable staffing levels.

- The proposed car parking provision is considered appropriate having regard to the anticipated on-site staffing levels and typical operational demands of comparable industrial and warehouse facilities. The provision equates to a practical supply that is consistent with observed demand patterns in similar developments.

- The geometric layout of the proposed parking facilities has generally been designed to comply with the relevant requirements of the Logan Planning Scheme and AS2890.1:2004.

- The proposed access arrangements, comprising three site crossovers, have been designed in accordance with IPWEA Standard Drawing RS-051 and provide appropriate separation of heavy and light vehicle movements.

- The development has been designed to accommodate articulated vehicle (AV) access and internal manoeuvring in a safe and functional manner.

- The proposed use and its associated traffic generation are consistent with the assumptions adopted in the Traffic Impact Assessment prepared for the broader Flagstone Logistics Estate (EDQ Ref: DEV2018/961/18). Accordingly, no separate assessment of external road network impacts is required.

APPENDIX

APPENDIX A – RESPONSE TO SERVICING, ACCESS, AND PARKING CODE
APPENDIX B – RESPONSE TO STATE CODE 1

APPENDIX A – RESPONSE TO SERVICING, ACCESS AND PARKING CODE

Part 9 - Development codes

9.4 – Other development codes

9.4.7 – Servicing, access and parking code

9.4.7.1 Application

1. This code applies to:
   (a) material change of use:
      (i) that is self-assessable or code assessable and for which the Servicing, access and parking code is identified in the assessment criteria column in a table of assessment in section 5.5–Levels of assessment-Material change of use in Part 5–Tables of assessment;
      (ii) that is made impact assessable in a table of assessment in section 5.5–Levels of assessment-Material change of use or Section 5.9–Levels of assessment–Local plans in Part 5–Tables of assessment;
   (b) reconfiguring a lot:
      (i) that is code assessable and for which the Servicing, access and parking code is identified in the assessment criteria column in Table 5.6.1–Reconfiguring a lot in Part 5–Tables of assessment;
      (ii) made impact assessable in Table 5.6.1–Reconfiguring a lot in Part 5–Tables of assessment;
   (c) operational work being a driveway crossover or infrastructure work that is constructing a car park area that is self-assessable or code assessable and for which the Servicing, access and parking code is identified in the assessment criteria column Table 5.8.1–Operational work in Part 5–Tables of assessment.
2. When using this code, reference should be made to section 5.3.2–Determining the level of assessment and, where applicable, section 5.3.3–Determining the assessment criteria located in Part 5–Tables of assessment.

9.4.7.2 Purpose

1. The purpose of the code is to ensure that development satisfies the demand for parking and provides safe, functional and legible parking, access and servicing.
2. The purpose of the code will be achieved through the following overall outcomes:
   (a) parking, access and servicing areas:
      (i) satisfy the expected demand for the number and type of vehicles, motorcycles and bicycles;
      (ii) are safe and functional and have easy way finding;
      (iii) protect the movement network

9.4.7.3 Criteria for assessment

Part A–Criteria for self-assessable and assessable development

Table Error! No text of specified style in document.**1–Service, access and parking code: self-assessable and assessable development**

Performance outcomes	Acceptable outcomes	Comments
For self-assessable and assessable development		
Provision of parking spaces for vehicles		
PO1 Vehicle parking, loading and servicing and pick up/set down areas are provided that satisfy the expected demand for the number and type of vehicles likely to be generated by a use having regard to: (a) the particular circumstances of the premises including the: (i) nature, intensity and hours of operation of the use; (ii) desirability of providing a car park and attracting vehicles to the premises; (iii) maximum number of employees and customers to be on the premises at any one time; (iv) size, levels and dimensions of the premises; (b) the proximity of the premises to an existing or future Parking station, other available car park or public transport facility.	**AO1** Vehicle parking, vehicle washing, loading and servicing and pick up/set down areas are provided: (a) for a use listed in to comply with columns 2 to 5 of (b) for a use not listed in accordance with a car parking assessment report to be provided to the local government and prepared in accordance with Part 2 of planning scheme policy 5–Infrastructure. Editor's note—For building work, Car parking for people with a disability is to be provided in accordance with Table D3.5–Carparking spaces for people with a disability in the Building Code of Australia.	PERFORMANCE OUTCOME – THE PROPOSAL COMFORTABLY MEETS THE OPERATIONAL REQUIREMENTS OF THE INTENDED USER.
PO2 Development with a security gate provides accessible visitor vehicle parking in front of the security gate.	**AO2** Development with a security gate provides visitor vehicle parking that complies	N/A

Performance outcomes	Acceptable outcomes	Comments
PO3 A car park not being a Parking station provides free and unobstructed access for the use by employees and visitors during the normal hours of operation of the use.	**AO3** A use, other than a Residential activity or a Parking station, provides vehicle parking that: (a) is kept, used and maintained exclusively for car parking; (b) is accessible to all employees and visitors during the normal hours of operation of the use with no encumbrance, fee or charge; (c) does not have a gate, door or similar device that restricts vehicular access by employees or visitors.	THE PROPOSAL MEETS THE AO
Provision of motorcycle parking		
PO4 Motorcycle parking is provided that is safe and functional.	**AO4** Motorcycle parking is provided to comply with section 2.4.7 of AS2890.1:2004–Parking facilities–Off street car parking.	N/A
Provision of bicycle parking		
PO5 Bicycle parking facilities are provided that: (a) satisfy the likely demand for bicycle parking; (b) are functional; (c) are located close to a pedestrian entry to a building.	**AO5** Bicycle parking facilities comply with: (a) the rate specified in column 7 of AS2890.3–1993–Bicycle parking facilities.	N/A – NOT REQUIRED. HOWEVER, BICYCLE PARKING HAS BEEN PROVIDED ADJACENT TO THE OFFICE ENTRANCE.
Provision of vehicle manoeuvring area		
PO6 Development provides a safe and functional vehicle manoeuvring area.	**AO6** Development provides a vehicle manoeuvring area that: (a) accommodates the design vehicle specified in complies with section 3.4.4.10–Manoeuvring areas of planning scheme policy 5–Infrastructure.	THE PROPOSAL MEETS THE AO – THE PROPOSAL ALLOWS FOR AV ACCESS AND CIRCULATION. B-DOUBLE ACCESS IS ALSO FACILITATED.

Performance outcomes	Acceptable outcomes	Comments
Vehicle washing bay		
PO7 A vehicle washing bay does not cause environmental harm.	**AO7** A vehicle washing bay provides that run off is discharged to: (a) a grassed area or permeable landscape area; or (b) the sewerage system.	N/A
Car park access		
PO8 Vehicular access to a car parking area has sufficient queuing space to ensure a vehicle does not queue on a road, cycleway or footpath.	**AO8** Vehicular queuing space to a car parking area: (a) does not provide a turning movement, intersecting aisle or a speed hump in a queuing area; (b) complies with: (i) column 6 of (ii)	THE PROPOSAL MEETS THE AO – THE PROPOSAL PROVIDES QUEUING FOR AT LEAST TWO CARS WHICH IS IN ACCORDANCE WITH AS2890.
Driveway crossover		
PO9 A driveway crossover is safe, functional and does not adversely affect infrastructure.	**AO9** A driveway crossover is designed and constructed to comply with section 3.4.5–Design standards for access and driveways of planning scheme policy 5–Infrastructure.	THE PROPOSAL MEETS THE AO
Design and construction of a car parking area		
PO10 A car parking area is designed to: (a) provide easy way finding for pedestrians, cyclists and motorists; (b) provide appropriately sized and line marked spaces in accordance with relevant Australian standards; (c) provide a convenient and safe pedestrian network;	**AO10** A car parking area is designed and constructed in accordance with section 3.4.6–Design standards for car parking of planning scheme policy 5–Infrastructure.	THE PROPOSAL MEETS THE AO

Performance outcomes	Acceptable outcomes	Comments
(d) provide safe and efficient vehicle circulation; (e) provide a progressive reduction in the speed environment in moving between the road and a parking space; (f) provide a safe sight distance at a potential conflict point; (g) provide for efficient and simple parking space search patterns; (h) provide for uncongested public transport and service vehicle movements through the premises; (i) keeps a heavy vehicle out of a parking aisle; (j) ensure no heavy vehicle reverses across a pathway; (k) prevent parking off a circulation road; (l) prevent an adverse impact on the safety and efficiency of the existing or planned movement network; (m) prevent a motorist from reversing on a road; (n) prevent an unnecessary space that encourages illegal parking; (o) address safety of users through appropriate lighting; (p) be appropriately landscaped; (q) be surfaced so as to be useable in all weather conditions; (r) manage stormwater flows.		

APPENDIX B – RESPONSE TO STATE CODE 1

State code 1: Development in a state-controlled road environment

State Development Assessment Provisions guideline - State Code 1: Development in a state-controlled road environment. This guideline provides direction on how to address State Code 1.

Table 1.1 Development in general

Performance outcomes	Acceptable outcomes	Response
Buildings, structures, infrastructure, services and utilities		
PO1 The location of the development does not create a safety hazard for users of the **state-controlled road.**	**AO1.1** Development is not located in a **state-controlled road**. AND **AO1.2** Development can be maintained without requiring access to a **state-controlled road**.	**Complies with AO1.1** The proposed development is not located in a state-controlled road. **Complies with AO1.2** The proposed development can be maintained without requiring access to a state-controlled road.
PO2 The design and construction of the development does not adversely impact the **structural integrity** or physical condition of the **state-controlled road** or **road transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO2** The proposed development does not adversely impact the structural integrity of physical condition of the state-controlled road or road transport infrastructure.
PO3 The location of the development does not obstruct **road transport infrastructure** or adversely impact the operating performance of the **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO3** The proposed development does not obstruct road transport infrastructure or adversely impact the operating performance of the state-controlled road.
PO4 The location, placement, design and operation of advertising devices, visible from the **state-controlled road**, do not create a	No acceptable outcome is prescribed.	**Not Applicable** The proposed development does not involve advertising devices visible from the State controlled road network.

Performance outcomes	Acceptable outcomes	Response
safety hazard for users of the **state-controlled road**.		
PO5 The design and construction of buildings and **structures** does not create a safety hazard by distracting users of the **state-controlled road**.	**AO5.1** Facades of buildings and **structures** fronting the **state-controlled road** are made of non-reflective materials. AND **AO5.2** Facades of buildings and **structures** do not direct or reflect point light sources into the face of oncoming traffic on the **state-controlled road**. AND **AO5.3** External lighting of buildings and **structures** is not directed into the face of oncoming traffic on the **state-controlled road**. AND **AO5.4** External lighting of buildings and **structures** does not involve flashing or laser lights.	**Not Applicable** The proposed development does not include buildings that front the state-controlled road.
PO6 Road, pedestrian and bikeway bridges over a **state-controlled road** are designed and constructed to prevent projectiles from being thrown onto the **state-controlled road**.	**AO6.1** Road, pedestrian and bikeway bridges over the **state-controlled road** include throw protection screens in accordance with section 4.11 of the Design Criteria for Bridges and Other Structures Manual, Department of Transport and Main Roads, 2020.	**Not Applicable** The proposed development does not involve road, pedestrian and bikeway bridges over a state-controlled road.
Landscaping		
PO7 The location of landscaping does not create a safety hazard for users of the **state-controlled road**.	**AO7.1** Landscaping is not located in a **state-controlled road**. AND **AO7.2** Landscaping can be maintained without requiring access to a **state-controlled road**.	**Complies with AO7.1** The proposed development does not provide landscaping in a state-controlled road. **Complies with AO7.2**

Performance outcomes	Acceptable outcomes	Response
	AND **AO7.3** Landscaping does not block or obscure the sight lines for vehicular access to a **state-controlled road**.	The proposed landscaping will be contained within approved Lot 105. It can be maintained without requiring access to a state-controlled road. **Complies with AO7.3** The proposed landscaping will be contained within approved Lot 105. It does not block or obscure sight lined for vehicular access to a state-controlled road.
Stormwater and overland flow		
PO8 Stormwater run-off or overland flow from the development site does not create or exacerbate a safety hazard for users of the **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO8** The proposed stormwater run-off will be discharged in accordance with the approved overarching Stormwater Management Plan.
PO9 Stormwater run-off or overland flow from the development site does not result in a material worsening of the operating performance of the **state-controlled road** or **road transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO9** The proposed stormwater run-off will be discharged in accordance with the approved overarching Stormwater Management Plan.
PO10 Stormwater run-off or overland flow from the development site does not adversely impact the **structural integrity** or physical condition of the **state-controlled road** or **road transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO10** The proposed stormwater run-off will be discharged in accordance with the approved overarching Stormwater Management Plan.
PO11 Development ensures that stormwater is lawfully discharged.	**AO11.1** Development does not create any new points of discharge to a **state-controlled road.** AND **AO11.2** Development does not concentrate flows to a **state-controlled road**. AND **AO11.3** Stormwater run-off is discharged to a **lawful point of discharge**. AND	**Complies with AO11.1 – AO11.4** The proposed stormwater run-off will be discharged in accordance with the approved overarching Stormwater Management Plan.

Performance outcomes	Acceptable outcomes	Response
	AO11.4 Development does not worsen the condition of an existing **lawful point of discharge** to the **state-controlled road**.	
Flooding		
PO12 Development does not result in a material worsening of flooding impacts within a **state-controlled road**.	**AO12.1** For all flood events up to 1% **annual exceedance probability**, development results in negligible impacts (within +/- 10mm) to existing flood levels within a **state-controlled road**. AND **AO12.2** For all flood events up to 1% **annual exceedance probability**, development results in negligible impacts (up to a 10% increase) to existing peak velocities within a **state-controlled road**. AND **AO12.3** For all flood events up to 1% **annual exceedance probability**, development results in negligible impacts (up to a 10% increase) to existing time of submergence of a **state-controlled road**.	**Complies with AO12.1 - AO12.3** The proposed development will not result in a material worsening of flooding impacts within a state-controlled road.
Drainage Infrastructure		
PO13 Drainage infrastructure does not create a safety hazard for users in the **state-controlled road**.	**AO13.1** Drainage infrastructure is wholly contained within the development site, except at the **lawful point of discharge**. AND **AO13.2** Drainage infrastructure can be maintained without requiring access to a **state-controlled road**.	**Complies with AO13.1 – AO13.2** The proposed drainage infrastructure will be designed in accordance with the approved overarching Stormwater Management Plan.

Performance outcomes	Acceptable outcomes	Response
PO14 Drainage infrastructure associated with, or within, a **state-controlled road** is constructed, and designed to ensure the **structural integrity** and physical condition of existing drainage infrastructure and the surrounding drainage network.	No acceptable outcome is prescribed.	**Complies with PO14** The proposed drainage infrastructure will be designed in accordance with the approved overarching Stormwater Management Plan.

Table 1.2 Vehicular access, road layout and local roads

Performance outcomes	Acceptable outcomes	Response
Vehicular access to a state-controlled road or within 100 metres of a state-controlled road intersection		
PO15 The location, design and operation of a **new or changed access** to a **state-controlled road** does not compromise the safety of users of the **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO15** The proposed development does not result in changed access to a state-controlled road.
PO16 The location, design and operation of a **new or changed access** does not adversely impact the **functional requirements** of the **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO16** The proposed development does not result in changed access to a state-controlled road.
PO17 The location, design and operation of a **new or changed access** is consistent with the **future intent** of the **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO17** The proposed development does not result in changed access to a state-controlled road.
PO18 New or changed access is consistent with the access for the relevant **limited access road policy**: 1. **LAR 1** where direct access is prohibited; or 2. **LAR 2** where access may be permitted, subject to assessment.	No acceptable outcome is prescribed.	**Complies with PO18** The proposed development does not result in changed access to a state-controlled road.
PO19 New or changed access to a **local road** within 100 metres of an intersection with a **state-controlled road** does not compromise the safety of users of the **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO19** The proposed development does not result in changed access to a state-controlled road.
PO20 New or changed access to a **local road** within 100 metres of an intersection with a **state-controlled road** does not adversely impact on the operating performance of the intersection.	No acceptable outcome is prescribed.	
Public passenger transport and active transport		

Performance outcomes	Acceptable outcomes	Response
PO21 Development does not compromise the safety of users of **public passenger transport infrastructure**, **public passenger services** and **active transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO21** The proposed development does not compromise the safety of users of public passenger transport infrastructure, public passenger services and active transport infrastructure.
PO22 Development maintains the ability for people to access **public passenger transport infrastructure, public passenger services** and **active transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO22** The proposed development maintains the ability for people to access public passenger transport infrastructure, public passenger services and active transport infrastructure.
PO23 Development does not adversely impact the operating performance of **public passenger transport infrastructure, public passenger services** and **active transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO23** The proposed development does not adversely impact the operating performance of public passenger transport infrastructure, public passenger services and active transport infrastructure.
PO24 Development does not adversely impact the **structural integrity** or physical condition of **public passenger transport infrastructure** and **active transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO24** The proposed development does not adversely impact the structural integrity or physical condition of public passenger transport infrastructure and active transport infrastructure.

Table 1.3 Network impacts

Performance outcomes	Acceptable outcomes	Response
PO25 Development does not compromise the safety of users of the **state-controlled road** network.	No acceptable outcome is prescribed.	**Complies with PO25** The proposed development does not compromise the safety of users of the state-controlled road.
PO26 Development ensures **no net worsening** of the operating performance of the **state-controlled road** network.	No acceptable outcome is prescribed.	**Complies with PO26** The proposed development ensures no net worsening of the operating performance of the state-controlled road network.
PO27 Traffic movements are not directed onto a **state-controlled road** where they can be accommodated on the **local road** network.	No acceptable outcome is prescribed.	**Complies with PO27** The proposed development is made in accordance with the Traffic Impact Assessment of

Performance outcomes	Acceptable outcomes	Response
		the overarching PDA approval (Ref: DEV2018/961).
PO28 Development involving haulage exceeding 10,000 tonnes per year does not adversely impact the pavement of a **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO28** The proposed development is made in accordance with the Traffic Impact Assessment of the overarching PDA approval (Ref: DEV2018/961).
PO29 Development does not impede delivery of **planned upgrades** of **state-controlled roads**.	No acceptable outcome is prescribed.	**Complies with PO29** The proposed development does not impede delivery of planned upgrades of state-controlled roads.
PO30 Development does not impede delivery of **corridor improvements** located entirely within the **state-controlled road corridor**.	No acceptable outcome is prescribed.	**Complies with PO30** The proposed development does not impede delivery of corridor improvements located entirely within the state-controlled road corridor.

Table 1.4 Filling, excavation, building foundations and retaining structures

Performance outcomes	Acceptable outcomes	Response
PO31 Development does not create a safety hazard for users of the **state-controlled road** or **road transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO31** The proposed development does not create a safety hazard for users of the state-controlled road or road transport infrastructure.
PO32 Development does not adversely impact the operating performance of the **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO32** The proposed development does not adversely impact the operating performance of the state-controlled road.
PO33 Development does not undermine, damage or cause subsidence of a **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO33** The proposed development does not undermine, damage or cause subsidence of a state-controlled road. The proposed development is made in accordance with the overarching PDA approval (Ref: DEV2018/961).
PO34 Development does not cause ground water disturbance in a **state-controlled road**.	No acceptable outcome is prescribed.	**Complies with PO34** The proposed development is made in accordance with the overarching PDA approval (Ref: DEV2018/961).
PO35 Excavation, boring, piling, blasting and fill compaction do not adversely impact the physical condition or **structural integrity** of a **state-controlled road** or **road transport infrastructure**.	No acceptable outcome is prescribed.	**Complies with PO35** The proposed development is made in accordance with the overarching PDA approval (Ref: DEV2018/961).
PO36 Filling and excavation associated with the construction of **new or changed access** do not compromise the operation or capacity of existing drainage infrastructure for a **state-controlled road.**	No acceptable outcome is prescribed.	**Not Applicable** The proposed development does not involve new or changed access.

Table 1.5 Environmental emissions

Statutory note: Where a **state-controlled road** is co-located in the same transport corridor as a railway, the development should instead comply with Environmental emissions in State code 2: Development in a railway environment.

Performance outcomes	Acceptable outcomes	Response
Reconfiguring a lot		
Involving the creation of 5 or fewer new residential lots adjacent to a state-controlled road or type 1 multi-modal corridor		
PO37 Development minimises free field noise intrusion from a **state-controlsabella10lled road.**	**AO37.1** Development provides a noise barrier or earth mound which is designed, sited and constructed: 1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.1); 2. in accordance with: a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR **AO37.2** Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by **alternative noise attenuation measures** where it is not practical to provide a noise barrier or earth mound. OR **AO37.3** Development provides a **solid gap-free fence** or other **solid gap-free structure** along the full extent of the boundary closest to the **state-controlled road**.	**Not Applicable** The proposed development does not involve the creation of residential lots.
Involving the creation of 6 or more new residential lots adjacent to a state-controlled road or type 1 multi-modal corridor		

Performance outcomes	Acceptable outcomes	Response
PO38 Reconfiguring a lot minimises free field noise intrusion from a **state-controlled road.**	**AO38.1** Development provides noise barrier or earth mound which is designed, sited and constructed: 1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.1); 2. in accordance with: a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR **AO38.2** Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by **alternative noise attenuation measures** where it is not practical to provide a noise barrier or earth mound.	**Not Applicable** The proposed development does not involve the creation of residential lots.
Material change of use (accommodation activity)		
Ground floor level requirements adjacent to a state-controlled road or type 1 multi-modal corridor		
PO39 Development minimises noise intrusion from a **state-controlled road** in **private open space**.	**AO39.1** Development provides a noise barrier or earth mound which is designed, sited and constructed: 1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.2) for **private open space** at the ground floor level; 2. in accordance with: a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic	**Not Applicable** The proposed development does not involve an accommodation activity.

Performance outcomes	Acceptable outcomes	Response
	Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR **AO39.2** Development achieves the maximum free field acoustic level in reference table 2 (item 2.2) for **private open space** by **alternative noise attenuation measures** where it is not practical to provide a noise barrier or earth mound.	
PO40 Development (excluding a **relevant residential building** or **relocated building)** minimises noise intrusion from a **state-controlled road** in **habitable rooms** at the facade.	**AO40.1** Development (excluding a **relevant residential building** or **relocated building**) provides a noise barrier or earth mound which is designed, sited and constructed: 1. to achieve the maximum building façade acoustic level in reference table 1 (item 1.1) for **habitable rooms**; 2. in accordance with: a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020. OR	**Not Applicable** The proposed development does not involve an accommodation activity.

Performance outcomes	Acceptable outcomes	Response
	AO40.2 Development (excluding a **relevant residential building** or **relocated building**) achieves the maximum building façade acoustic level in reference table 1 (item 1.1) for **habitable rooms** by **alternative noise attenuation measures** where it is not practical to provide a noise barrier or earth mound.	
PO41 Habitable rooms (excluding a **relevant residential building** or **relocated building**) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is provided.	**Not Applicable** The proposed development does not involve an accommodation activity.
Above ground floor level requirements (accommodation activity) adjacent to a state-controlled road or type 1 multi-modal corridor		
PO42 Balconies, podiums, and roof decks include: 1. a continuous **solid gap-free structure** or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia); 2. highly acoustically absorbent material treatment for the total area of the soffit above balconies, podiums, and roof decks.	No acceptable outcome is provided.	**Not Applicable** The proposed development does not involve an accommodation activity.
PO43 Habitable rooms (excluding a **relevant residential building** or **relocated building**) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is provided.	**Not Applicable** The proposed development does not involve an accommodation activity.
Material change of use (other uses)		
Ground floor level requirements (childcare centre, educational establishment, hospital) adjacent to a state-controlled road or type 1 multi-modal corridor		
PO44 Development: 1. provides a noise barrier or earth mound that is designed, sited and constructed: a. to achieve the maximum free field acoustic level in reference table 2 (item 2.3) for all **outdoor education areas** and **outdoor play areas**; b. in accordance with:	No acceptable outcome is provided.	**Not Applicable** The proposed development does not involve a childcare centre, educational establishment or hospital.

Performance outcomes	Acceptable outcomes	Response
i. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; ii. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; iii. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020; or 2. achieves the maximum free field acoustic level in reference table 2 (item 2.3) for all **outdoor education areas** and **outdoor play areas** by **alternative noise attenuation measures** where it is not practical to provide a noise barrier or earth mound.		
PO45 Development involving a **childcare centre** or **educational establishment**: 1. provides a noise barrier or earth mound that is designed, sited and constructed: 2. to achieve the maximum building facade acoustic level in reference table 1 (item 1.2); 3. in accordance with: a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020; or	No acceptable outcome is provided.	**Not Applicable** The proposed development does not involve a childcare centre, educational establishment or hospital.

Performance outcomes	Acceptable outcomes	Response
4. achieves the maximum building facade acoustic level in reference table 1 (item 1.2) by **alternative noise attenuation measures** where it is not practical to provide a noise barrier or earth mound.		
PO46 Development involving: 1. **indoor education areas** and **indoor play areas**; or 2. sleeping rooms in a **childcare centre**; or 3. **patient care areas** in a **hospital** achieves the maximum internal acoustic level in reference table 3 (items 3.2-3.4).	No acceptable outcome is provided.	**Not Applicable** The proposed development does not involve a childcare centre, educational establishment or hospital.
Above ground floor level requirements (childcare centre, educational establishment, hospital) adjacent to a state-controlled road or type 1 multi-modal corridor		
PO47 Development involving a **childcare centre** or **educational establishment** which have balconies, podiums or elevated **outdoor play areas** predicted to exceed the maximum free field acoustic level in reference table 2 (item 2.3) due to noise from a **state-controlled road** are provided with: 1. a continuous **solid gap-free structure** or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia); 2. highly acoustically absorbent material treatment for the total area of the soffit above balconies or elevated **outdoor play areas**.	No acceptable outcome is provided.	**Not Applicable** The proposed development does not involve a childcare centre, educational establishment or hospital.
PO48 Development including: 1. **indoor education areas** and **indoor play areas** in a **childcare centre** or **educational establishment**; or 2. sleeping rooms in a **childcare centre**; or 3. **patient care areas** in a **hospital** located above ground level, is designed and constructed to achieve the maximum internal acoustic level in reference table 3 (items 3.2-3.4).	No acceptable outcome is provided.	**Not Applicable** The proposed development does not involve a childcare centre, educational establishment or hospital.

Performance outcomes	Acceptable outcomes	Response
Air, light and vibration		
PO49 Private open space, **outdoor education areas** and **outdoor play areas** are protected from air quality impacts from a **state-controlled road**.	**AO49.1** Each dwelling or unit has access to a **private open space** which is shielded from a **state-controlled road** by a building, **solid gap-free fence**, or other **solid gap-free structure**. OR **AO49.2** Each **outdoor education area** and **outdoor play area** is shielded from a **state-controlled road** by a building, **solid gap-free fence,** or other **solid gap-free structure**.	**Not Applicable** The proposed development does not involve a childcare centre, educational establishment or hospital.
PO50 Patient care areas within **hospitals** are protected from vibration impacts from a **state-controlled road** or **type 1 multi-modal corridor**.	**AO50.1 Hospitals** are designed and constructed to ensure vibration in the patient treatment area does not exceed a vibration dose value of $0.1m/s^{1.75}$. AND **AO50.2 Hospitals** are designed and constructed to ensure vibration in the ward of a **patient care area** does not exceed a vibration dose value of $0.4m/s^{1.75}$.	**Not Applicable** The proposed development does not involve a childcare centre, educational establishment or hospital.
PO51 Development is designed and sited to ensure light from infrastructure within, and from users of, a **state-controlled road** or **type 1 multi-modal corridor**, does not: 1. intrude into buildings during night hours (10pm to 6am); 2. create unreasonable disturbance during evening hours (6pm to 10pm).	No acceptable outcomes are prescribed.	**Not Applicable** The proposed development does not involve a childcare centre, educational establishment or hospital.

Table 1.6: Development in a future state-controlled road environment

Performance outcomes	Acceptable outcomes	Response
PO52 Development does not impede delivery of a **future state-controlled road**.	**AO52.1** Development is not located in a **future state-controlled road**. OR ALL OF THE FOLLOWING APPLY: **AO52.2** Development does not involve filling and excavation of, or material changes to, a **future state-controlled road**. AND **AO52.3** The intensification of lots does not occur within a **future state-controlled road**. AND **AO52.4** Development does not result in the landlocking of parcels once a **future state-controlled road** is delivered.	**Not Applicable** The proposed development is not located in a future state-controlled road environment.
PO53 The location and design of **new or changed access** does not create a safety hazard for users of a **future state-controlled road**.	**AO53.1** Development does not include **new or changed access** to a **future state-controlled road**.	**Not Applicable** The proposed development is not located in a future state-controlled road environment.
PO54 Filling, excavation, building foundations and **retaining structures** do not undermine, damage or cause subsidence of a **future state-controlled road**.	No acceptable outcome is prescribed.	**Not Applicable** The proposed development is not located in a future state-controlled road environment.
PO55 Development does not result in a material worsening of stormwater, flooding, overland flow or drainage impacts in a **future state-controlled road** or **road transport infrastructure**.	No acceptable outcome is prescribed.	**Not Applicable** The proposed development is not located in a future state-controlled road environment.
PO56 Development ensures that stormwater is lawfully discharged.	**AO56.1** Development does not create any new points of discharge to a **future state-controlled road**. AND	**Not Applicable** The proposed development is not located in a future state-controlled road environment.

Performance outcomes	Acceptable outcomes	Response
	AO56.2 Development does not concentrate flows to a **future state-controlled road**. AND **AO56.3** Stormwater run-off is discharged to a **lawful point of discharge**. AND **AO56.4** Development does not worsen the condition of an existing **lawful point of discharge** to the **future state-controlled road**.	