

# Appendix F

## Traffic Technical Note

Parking analysis contained in this document not part of this approval.

# Technical Memorandum

<b>Title</b>	<b>Carseldine Village</b> <b>Stage 4A Traffic Assessment</b>		
<b>Client</b>	SEQ Development, Economic Development Queensland	<b>Project No</b>	CEB06857
<b>Date</b>	05 October 2021	<b>Status</b>	Final
<b>Author</b>	Bradley Fuller	<b>Discipline</b>	Traffic and Transport
<b>Reviewer</b>	Andy Johnston (RPEQ: 24764)	<b>Office</b>	Brisbane

**AMENDED IN RED**

By: Leila Torrens

Date: 21 December 2021



**PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL**

Approval no: DEV2021/1228

Date: 21 December 2021



## 1 Introduction

Cardno has been commissioned by SEQ Development, by Economic Development Queensland (EDQ) – Urban Development to provide traffic and transportation advice in relation to the proposed Carseldine Village (CV) development, which falls within Precinct 1 of the Fitzgibbon Priority Development Area (PDA).

The Queensland Government has prepared a development scheme for the Fitzgibbon PDA detailing the proposed land uses, yields and internal road network for the CV. The land uses include special purpose, mixed use centre, residential, civic and open space and bushland and open space. The mixed use areas comprise of residential, commercial and retail uses.

This traffic statement has been prepared to support the DA for Stage 4A of the CV, and includes:

- > Appendix A—Proposed development plans
- > Appendix B—Garage swept paths
- > Appendix C—Approved masterplan road cross sections
- > Appendix D—Overall Car Parking Analysis
- > Appendix E—Refuse collection vehicle and fire truck swept paths

### 1.1 Background

On 18<sup>th</sup> December 2018, the Minister for Economic Development Queensland (MEDQ) granted a change to the CV masterplan approval (DEV2018/932). This approval was supported by the Cardno Traffic Impact Assessment (TIA) dated 1<sup>st</sup> May 2018, however the TIA did not form an approved document.

Since the time of the changed approval, SEQ Development, EDQ has proposed additional changes to the CV masterplan, including adjustments to the staging boundaries. A second change to the CV masterplan approval has been approved the MEDQ. The second change approval is supported by the amended Cardno TIA dated 2 August 2019. In this TIA, Cardno highlighted the external roadworks required in accordance with the traffic impacts.

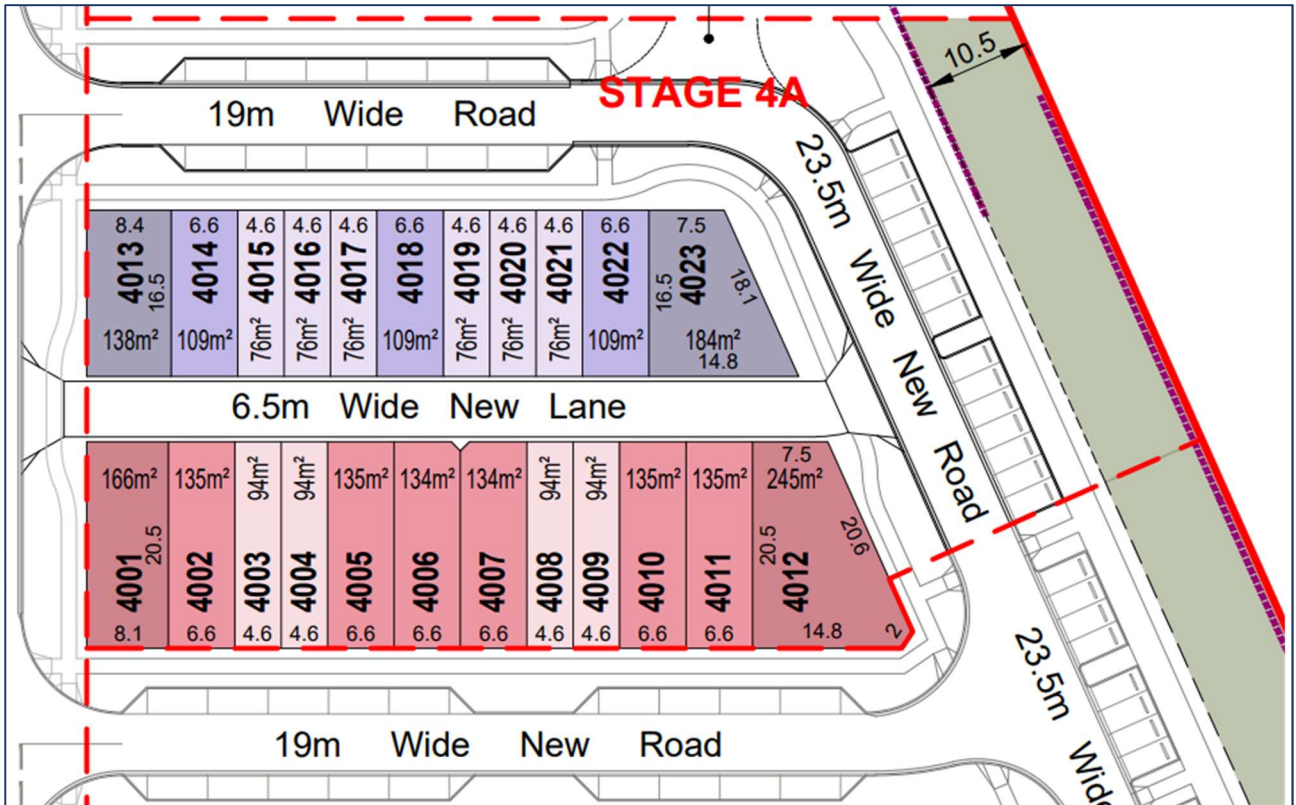
A number of the external roadworks outlined by the development scheme are triggered by Stage 1 of Precinct 1. As a result, Stage 4A of Precinct 1 does not trigger any external roadworks and the relevant works to the external road network have now been completed as part of Stage 1.

## 2 Development Proposal

### 2.1 Overview

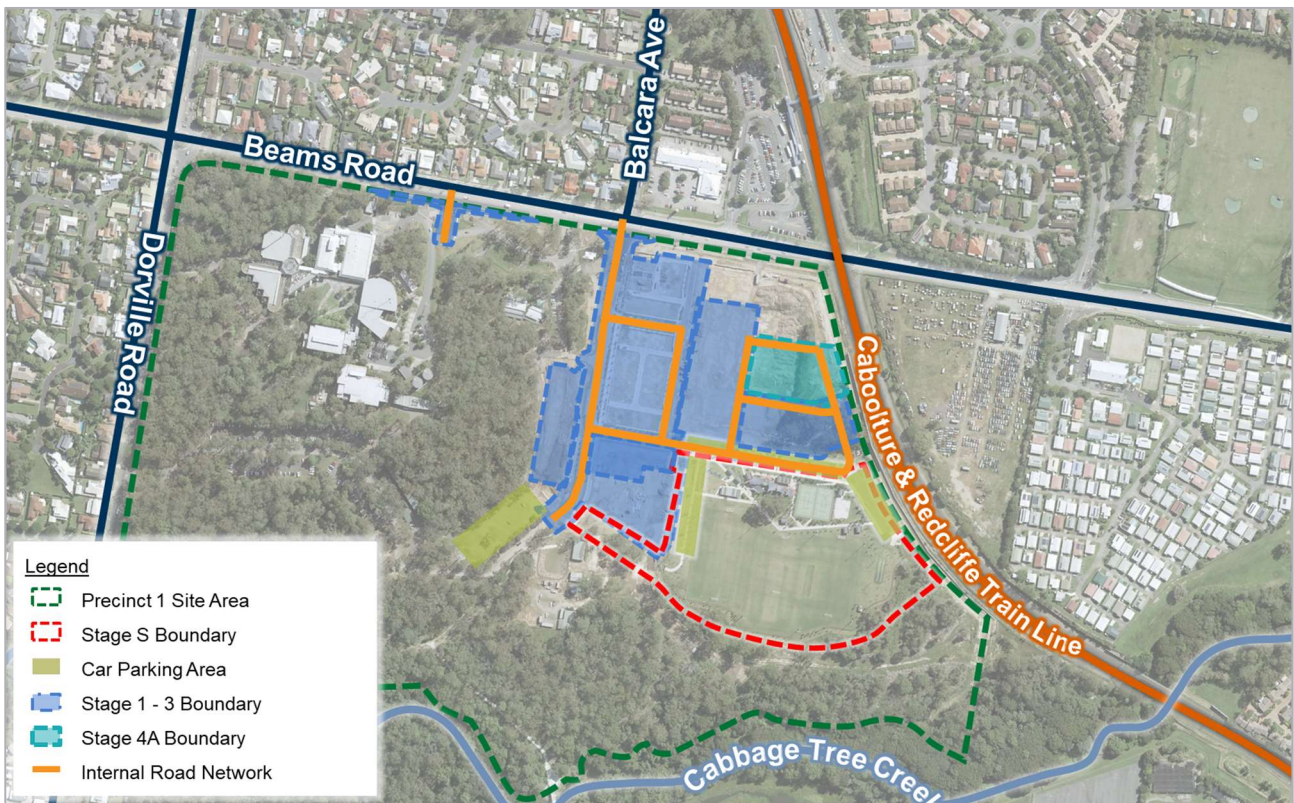
The Stage 4A plans are illustrated in Figure 2-1. As indicated on Figure 2-2, Stage 4A is located towards the eastern edge of the precinct.

Figure 2-1 CV Stage 4A Plans



Source: RPS

Figure 2-2 Precinct 1 – CV Stage 4A



Source: Metromap

## 2.2 Development Yields

### 2.2.1 Original Stage 4A Yields

At the time of preparing the original TIA dated 1<sup>st</sup> May 2018 for the CV masterplan approval, the yields proposed for the Stage 4A area currently being developed were proposed to be as follows:

- > Stage 4A (eastern parcel): up to 80 dwelling terraces

The yields for the Stage 4A area relate to a larger parcel than is currently being applied for. A previous application for Stage 3A (33 lots) comprised the balance of that area. With the conjunction of both of these areas, the 80 dwellings yield represents an upper limit.

### 2.2.2 Proposed Stage 4A Yields

Development plans for Stage 4A indicate that some changes have been introduced which deviate from the originally proposed yields. The proposed Stage 4A site is set to incorporate the following land uses:

- > 23 terrace dwellings

A comparison of the approved and proposed yields across Stages 1 to 4A is outlined in Table 2-1.

Table 2-1 Comparison of Yields – Stages 1 to 4A

	Land Use	Stage 1	Stage 2	Stage 3	Stage 4A	Stages 1-4A Total
Approved Masterplan	Terraces	110	43		80*	<b>233</b>
	Retirement / aged care units	150	-	-	-	<b>150</b>
Proposed Development	Terraces	53	48	33	23	<b>157</b>
	Retirement / aged care units	150**	-	-	-	<b>150</b>
<b>Difference</b>	Terraces	<b>-57</b>	<b>+5</b>		<b>-24</b>	<b>-76</b>
	Retirement / aged care units	<b>0</b>	-	-	-	<b>0</b>

\* 80 dwelling yield relates to a larger parcel of land than is currently being applied for, encompassing both Stage 3 and 4A

\*\* Delivered as part of a separate application

As shown, the combination of Stages 1 to 4A result in 76 less terrace dwellings than originally proposed.

For Stage 4A in particular, the proposed development will deliver up to 24 less terrace dwellings. The original TIA for the CV masterplan approval indicated the north-eastern corner of Stage 4B would consist of 24 dwellings, where the Car Parking Analysis Plan Stage 4 (RPS drawing 128180-133) indicates this corner will now consist of 50 dwellings. As such, it has been assumed the 24 fewer terrace dwellings in Stage 4A will be delivered as part of Stage 4B.

Therefore, the development yield is lower than what has been approved for the masterplan and considered to be appropriate.

## 2.3 Access

### 2.3.1 External Access

Access for Stage 4A will be via an upgraded form of the Beams Road / Balcara Avenue intersection provided as part of the Stage 1 development. This intersection upgrade has been discussed and approved with Council and is now constructed and operational.

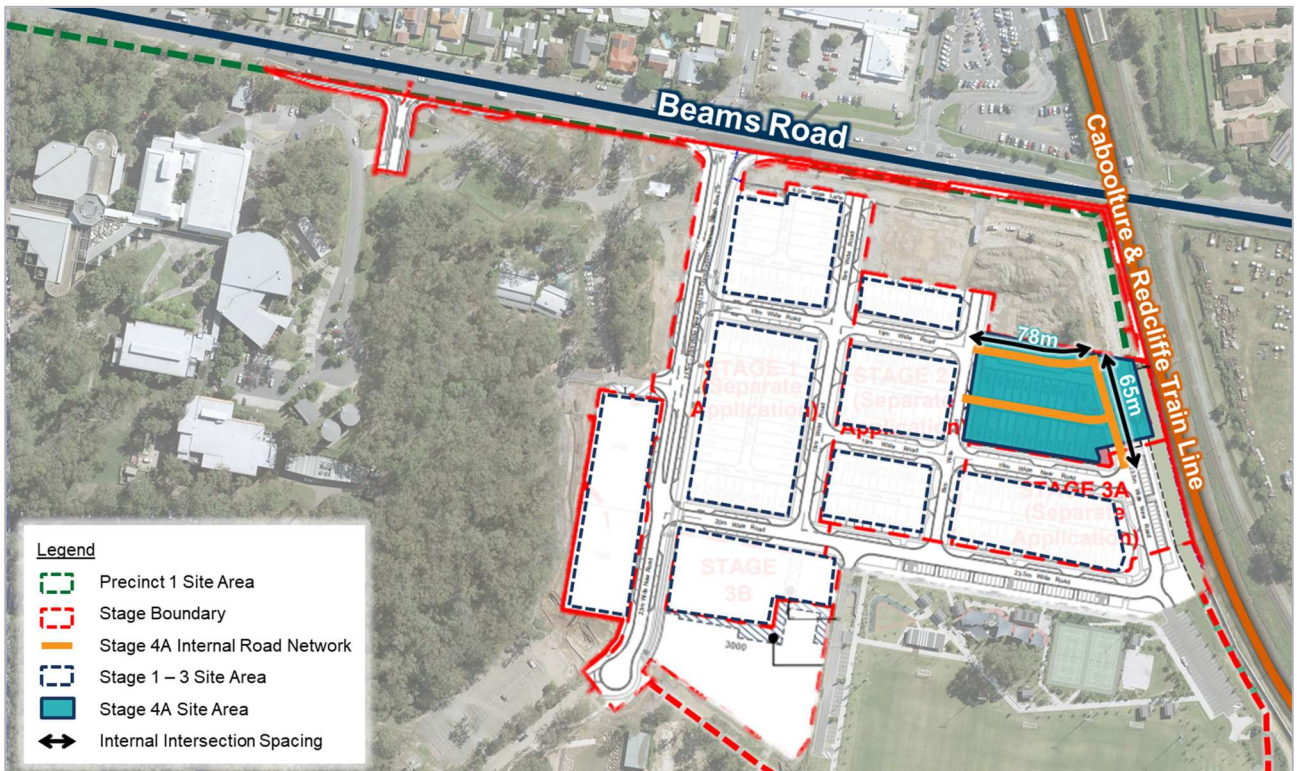
### 2.3.2 Internal Road Network

In accordance with Queensland Streets, the desirable minimum intersection spacing for Local Roads / Access Streets should be 60m on the same side and 40m on opposite sides.

A review of the internal layout of the proposed development (Appendix A) has been undertaken, and the intersection spacing across the Stage 4A internal road network with all internal intersections spaced at least 60m apart. This is demonstrated on Figure 2-2.

The internal road at the north-eastern corner of the stage boundary will have priority along the west-south approaches. The northern approach is the minor road, which will provide access to future stages. The radius of the internal road is in excess of the minimum standards for minor roads, as set out in the BCC Infrastructure Design planning scheme policy.

Figure 2-3 Development Access Internal Intersection Spacing



Source: Metromap, RPS

## 2.4 Laneway Design

The laneways have been designed with 6.5m width, comprising 5.5m wide pavement and 0.5m wide verges. These provide access for resident garages and carports and refuse collection.

In terms of design standards, the laneway width complies with the EDQ Practice Note 12: Rear Lanes which outlines that 6.5m wide laneways are permitted. There are no Council standards for laneways however it is noted that BSD 1021 outlines that road widths for local roads are 5.5m wide, although the verge width is noted as 4.25m. This is applicable for public roads, rather than laneways, and as such the full verge width is not considered to be required in this scenario. The design has been able to accommodate services (stormwater, sewer and water) within the laneway, making the design fit for purpose.

### 2.4.1 Laneway Accessibility

The laneway is intended to service movements by residents accessing garages and servicing vehicles only. Residents would be entering the laneway to access their garages. The swept path assessments at Appendix B demonstrate that a B99 vehicle is able to suitably access the garages. It is noted that a B99 vehicle represents the largest design vehicle for access into the garages, though it is anticipated that resident's vehicles will more commonly be a smaller B85 vehicle.

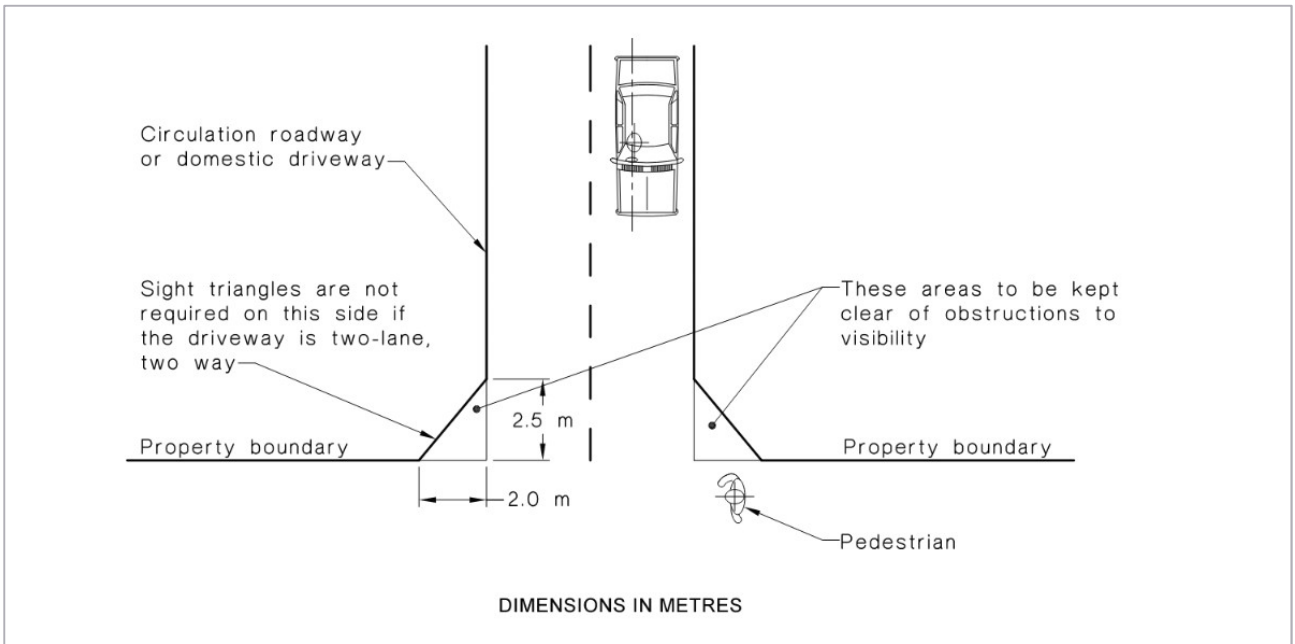
There would be almost no need for residents to turn around within the lane as both ends of the laneway are accessible, however if there was a desire to, this could be undertaken with the use of the vacant garage space.

Furthermore, visitor parking is adequately provided on the road network along the lot frontages and therefore, visitors would not be travelling into the laneways.

### 2.4.2 Pedestrian Sightlines

Australian Standard 2890.1 (AS2890.1) outlines standards for pedestrian sightlines at accesses. With reference to Figure 3.3, the pedestrian sight splays should measure 2.5m long and 2.0m wide from the property boundary. A copy of this figure is shown on Figure 2-3.

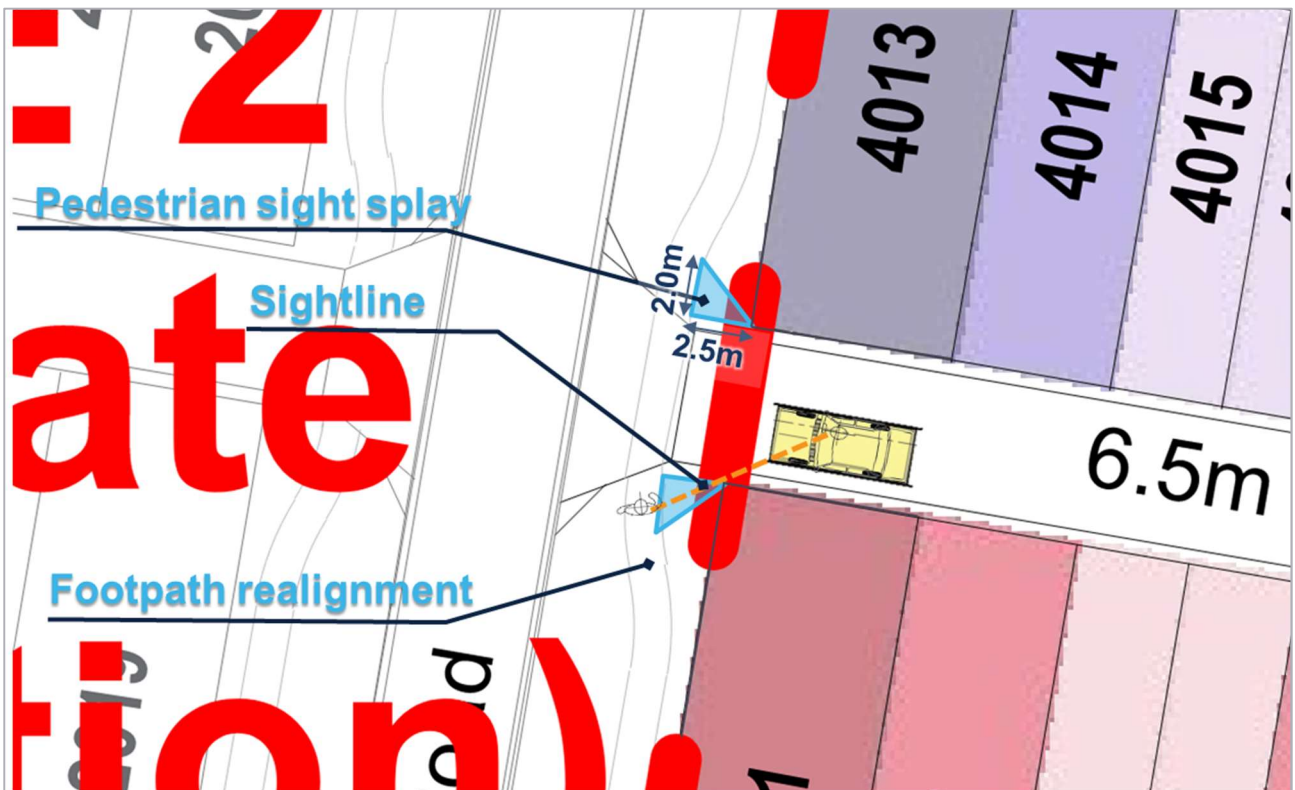
Figure 2-4 AS2890.1 Pedestrian Sight Splays



Source: AS2890.1 Figure 3.3

The laneways at Stage 4A have been designed to meet this requirement, with footpaths aligned away from laneway entrances to increase the distance between vehicles and pedestrian paths, as outlined in Figure 2-4. The footpath alignments have been designed such that sight splays are achieved.

Figure 2-5 Pedestrian Risk Mitigation Option



Source: RPS

### 2.4.3 Garage Design

Stage 4A plans to develop a mixture of 1 car and 2 car garages for lot access. To ensure the design is suitable for residents, a swept path assessment has been completed of a B99 entering and leaving the proposed garages attached in Appendix B. The assessment indicates that a B99 vehicle is able to safely and efficiently access the proposed garages. It is noted that a B99 vehicle represents the largest design vehicle for access into the garages, though it is anticipated that resident's vehicles will more commonly be a smaller B85 vehicle.

With regards to potential conflicts between vehicles reversing out of garages and refuse collection vehicles servicing the laneways, Cardno does not believe this to be of major concern. Apart from being a common arrangement within residential areas, the low number of trips from residential garages coupled with the once (or at most twice) weekly servicing route outside of peak periods would mean that the likelihood of potential coinciding vehicles is low.

Furthermore, any risks that may arise are reasoned to be tempered when considering the following factors:

- > Laneways have been designed with narrowed widths to encourage slow speeds. Any vehicle movements occurring within the lane, and especially when reversing out of garages, will be appropriately slow enough to minimise the likelihood of conflicts occurring
- > Refuse collection vehicles are constantly stopping when servicing residential lots and therefore will be travelling at very slow speeds
- > The noise generated by a refuse collection vehicle will serve as a clear indicator to drivers that a vehicle is in the lane, and will proceed cautiously

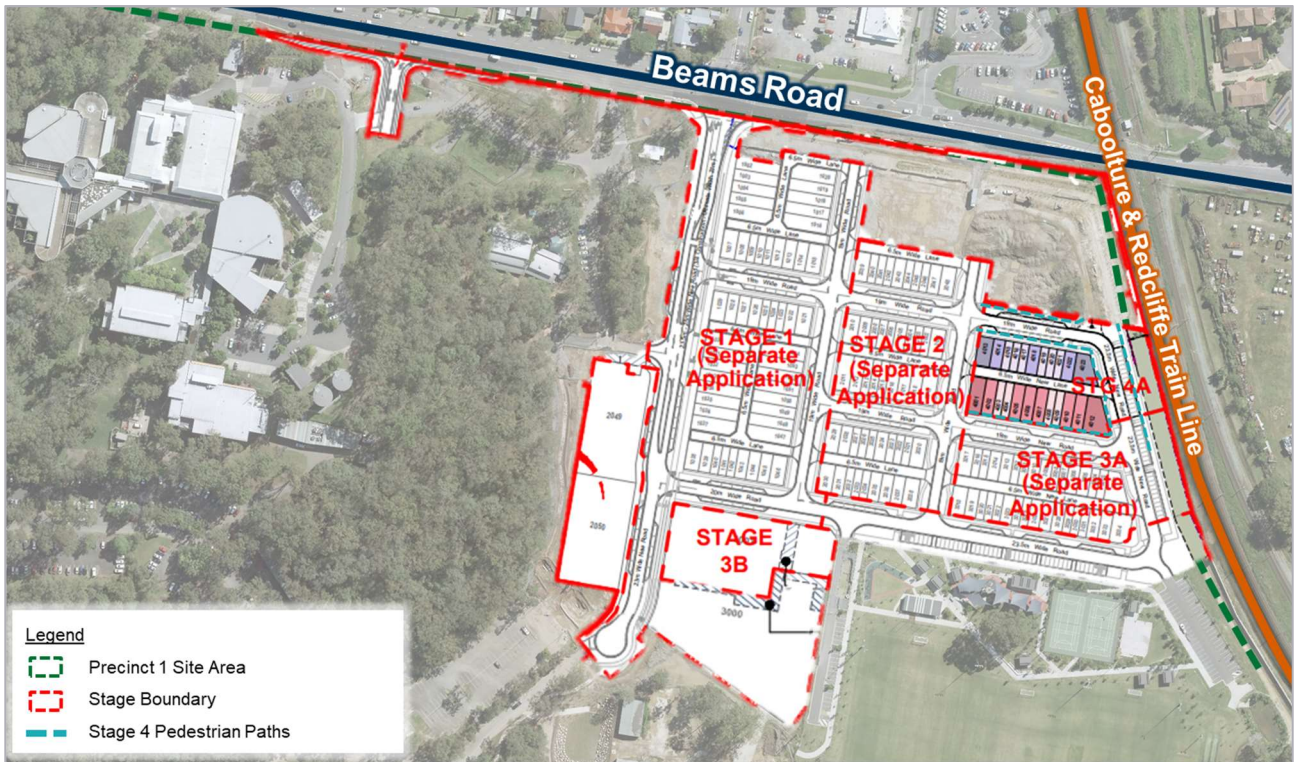
The consideration of all of these factors in combination mean that the risks associated with vehicles reversing from garages is low. Furthermore, EDQ Practice Note 12 Rear Lanes identifies that 0m setback from the laneway is acceptable for garages. The Stage 4A Plan of Development (POD) outlines the requirement for all garages to be setback 1.5m from the laneway, which ensures an even safer design outcome.

## 2.5 Active Transport Facilities

Pedestrian facilities will be provided for throughout Stage 4A. New pedestrian paths are proposed to connect the uses in Stage 4A to the sporting facilities constructed as part of Stage S and the broader CV precinct.



Figure 2-6 Stage 4A Active Transport Facilities



Source: Metromap, RPS

For the Residential Park Esplanade at the eastern border of Stage 4A, a 3m wide shared path and a footpath of a minimum 1.5m width will be provided. With regards to Access places, footpaths will be provided with a minimum width of 1.5m. Refer to Appendix C for cross sections approved as part of the CV masterplan.

### 3 Traffic Impact

The peak traffic generated by the Stage 4A development was assessed as part of the original CV masterplan TIA produced by Cardno on the 1<sup>st</sup> May 2018 which indicated that external works were required. Since that assessment, development yields for Stage 4A have changed to reduce the number of dwellings proposed.

The trip generation for both approved and proposed yields are shown in Table 3-1.

Table 3-1 Proposed Yields and Trip Generation

Land Use	Yield		Peak Trip Generation Rate	Peak Trip Generation	
	Original	Proposed		Original	Proposed
Terrace	23 dwellings <sup>#</sup>	23 dwellings	0.575 vph/dwelling	13 vph	13 vph
<b>Total</b>				<b>13 vph</b>	<b>13 vph</b>
<b>Difference</b>				<b>0 vph</b>	

*# 23 dwellings remain of the approved 80 dwelling yield for the area, of which 33 dwellings are assessed as part of Stage 3A and 34 dwellings are proposed as part of Stage 4B*

As shown, the proposed yields result in the same peak trip generation compared to the original assessment.

Therefore, considering the peak trips generated by the site in Stage 4A on the surrounding road network is consistent original assessment, the findings from the masterplan traffic assessment will stand.

## 4 Parking

### 4.1 Car Parking Provision

The development falls within the Fitzgibbon Priority Development Area and as such, the Fitzgibbon Development Scheme is referred to in order to determine the appropriate parking rates required for the development. Application of the parking rates for Stage 4A are summarised in Table 4-1.

Table 4-1 Minimum Parking Requirement – Stage 4A

Land Use	Yield	Parking Rate	Parking Requirement	Parking Provision
Terrace (house)	23 dwellings	On site: 1 spaces / dwelling unit On street: 0.75 spaces / dwelling unit*	On site: 23 spaces# On street: 18 spaces	36 (on site) + 27 (on street)

Note # Terrace dwellings classed as a house and as the site is within 400m of a railway station, the reduced rate of 1 space per dwelling applies to the site;

\* Although not specified in the Fitzgibbon PDA Development Scheme, recommended on street parking rate is outlined in EDQ's PDA Guideline 5: Neighbourhood Planning and Design

Stage 4A proposes to provide 63 car parking spaces combined across on street spaces and on site spaces as part of the terrace dwellings. On site spaces are indicated on the Plan of Development (RPS drawing 128180-132).

In accordance with Fitzgibbon PDA Development Scheme and the PDA Guideline 5: Neighbourhood Planning and Design, the minimum parking required is 23 on site spaces and 18 on street spaces, based on the proposed land uses. The development proposes 36 spaces for residents through on site terrace spaces and 27 on street spaces for visitors. Of the on-street parking, the surplus 9 spaces are reserved as parking for the balance stages in the precinct. These spaces are generally indicated on the Car Parking Analysis Plan Stage 4 (RPS drawing 128180-132).

Therefore, the development site provides sufficient parking for the proposed uses.

#### 4.1.2 Whole of Site Parking Provision

An overall precinct parking analysis has been prepared by RPS, plan 128180-134 (enclosed at Appendix D), which provides an overview of the on-street parking provision with respect to the on-street parking rates. This takes account of all terrace dwellings within the precinct (Stages 1 to 4) as well as the Stage S sport and recreation uses. Table 4-2 summarises the parking requirements compared to the on street provision.

Table 4-2 On-Street Parking Analysis – CV Precinct

Land Use	Yield	On-Street Parking Rate	Parking Requirement	Parking Provision
Terrace (house)	168 dwellings	On street: 0.75 spaces / dwelling unit*	126 spaces	332 spaces
Sport and Recreation	-	-	202 spaces#	
<b>Total</b>			<b>328 spaces</b>	<b>332 spaces</b>
<b>Surplus</b>			<b>+4 spaces</b>	

Note # Refer to Stage S Amendment Traffic Statement, Cardno 20 April 2021

As shown, a surplus of 4 on street parking spaces is provided by the whole precinct. Therefore, the development precinct provides sufficient parking for the proposed uses.

## 4.2 Car Parking Design

Table 4-3 outlines the compliance with TAPS parking design standards and Australian Standards for parking facilities (AS2890.1 Off-Street Parking and AS2890.5 On-Street Parking).

Table 4-3 Parking Design Compliance

Design Criteria	TAPS Standard Requirement	AS2890 Requirement	Proposed Design	TAPS PSP Compliance	AS2890 Compliance
Bay length – Parallel (enclosed end)	6.3m	6.3m	6.0m	✗	✗
Bay length – Parallel (intermediate)	6.0m	6.0m	6.0m	✓	✓
Bay width – Parallel	2.4m	2.3m	2.5m	✓	✓
Bay length – 90 degree	5.4m	5.4m	5.4m	✓	✓
Bay width – 90 degree	2.6m	2.5m	2.5m	✗	✓
Aisle width – 90 degree	6.2m	5.8m	6.4m	✓	✓

As indicated the proposed design of the parking areas are in compliance with TAPS and AS2890, with the exception of the length of the end bays and 90 degree bay widths.

While the development plans indicate for parallel bays that the end parking bays are 6.0m long, a 45 degree taper is provided adjacent to the end bays to facilitate easier manoeuvring into and out of these bays. Therefore, the proposed design is considered to be suitable. Each parallel parking space is to be a minimum of 2.4m wide to comply with TAPS.

With respect to the 90 degree bay widths, the design provides 2.5m wide bays, which is less than the TAPS standard of 2.6m wide requirement for visitors. It is noted that the design is compliant with AS2890 standards for medium turn over spaces. Nevertheless, TAPS indicates that parking bay widths and aisle widths may be adjusted inversely, that is for a 0.1m wide increase in bay width a corresponding 0.4m reduction of the aisle is suitable. In this case, given a 0.4m wide increase in aisle width, a 0.1m wide reduction in visitor parking bay widths is considered appropriate. Given the parking aisle width is 6.3m wide, being wider than the standard requirement, the 2.5m wide bays for use by visitors is considered to be suitable.

## 4.3 Servicing Design

Additionally, design service vehicle requirements are defined in TAPS Table 3. Although terraces (classed as houses) are proposed for the development, TAPS does not specify a design service vehicle for houses and as such, Cardno has assumed a refuse collection vehicle (RCV) will be required for the development.

### 4.3.1 Refuse Collection

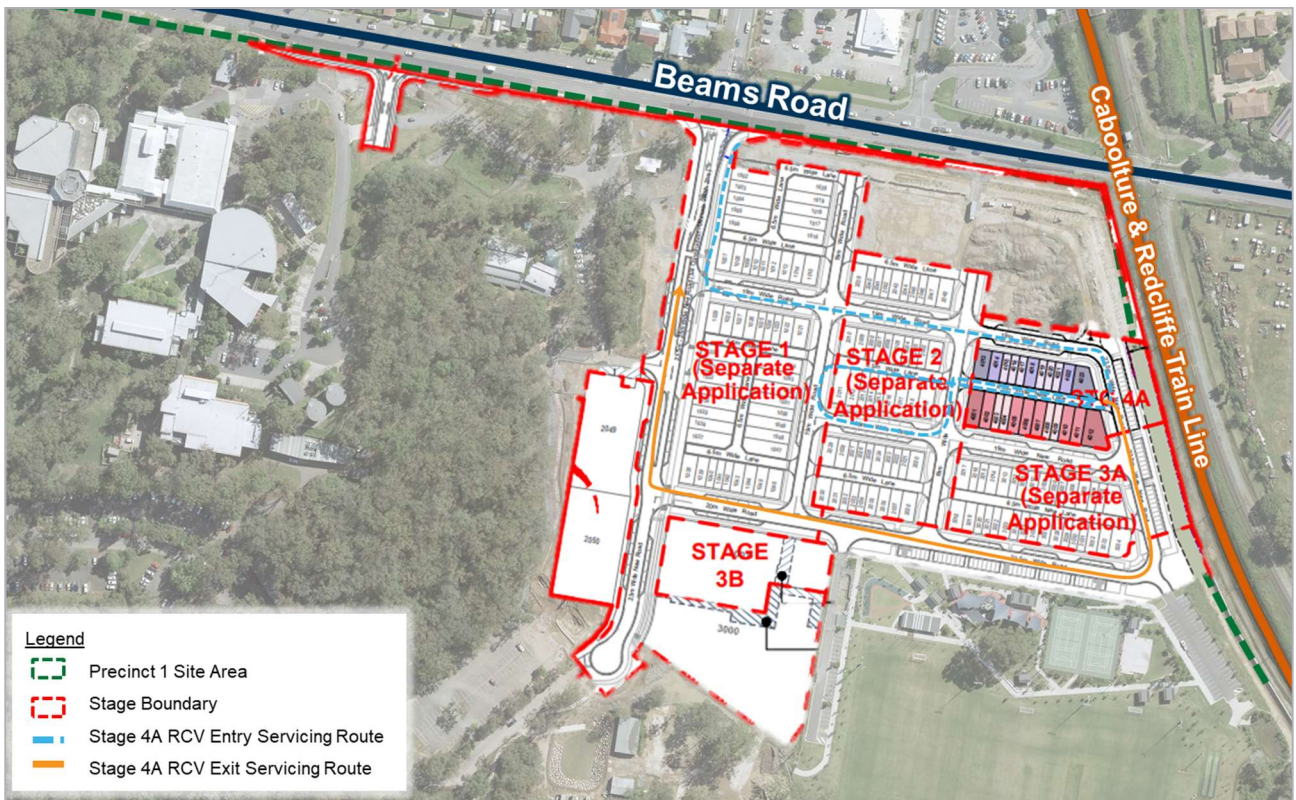
A swept path assessment has been completed for a BCC standard RCV, which demonstrates that the service vehicle can enter / exit in a forward motion, and manoeuvre safely and efficiently through the site. Refer to drawings CEB06857-SK106-107 attached at Appendix E.

Furthermore, to ensure a refuse collection vehicle is able to service Stage 4A, an indicative servicing route has been prepared and is illustrated in Figure 4-1. This assumes a standard side loading RCV servicing from the left side of the truck.

Bins are proposed to be presented on the laneway at the lot frontage within the 1.5m setback of the laneway verge. The swept paths illustrate that the refuse collection vehicle will be able to manoeuvre through Stage 4A while keeping the vehicle body outside the verge, demonstrating that servicing will be able to occur without manual handling.

Servicing for the master allotments will be assessed in detail as part of the ROL application for these lots.

Figure 4-1 Servicing Route



Source: Metromap, RPS

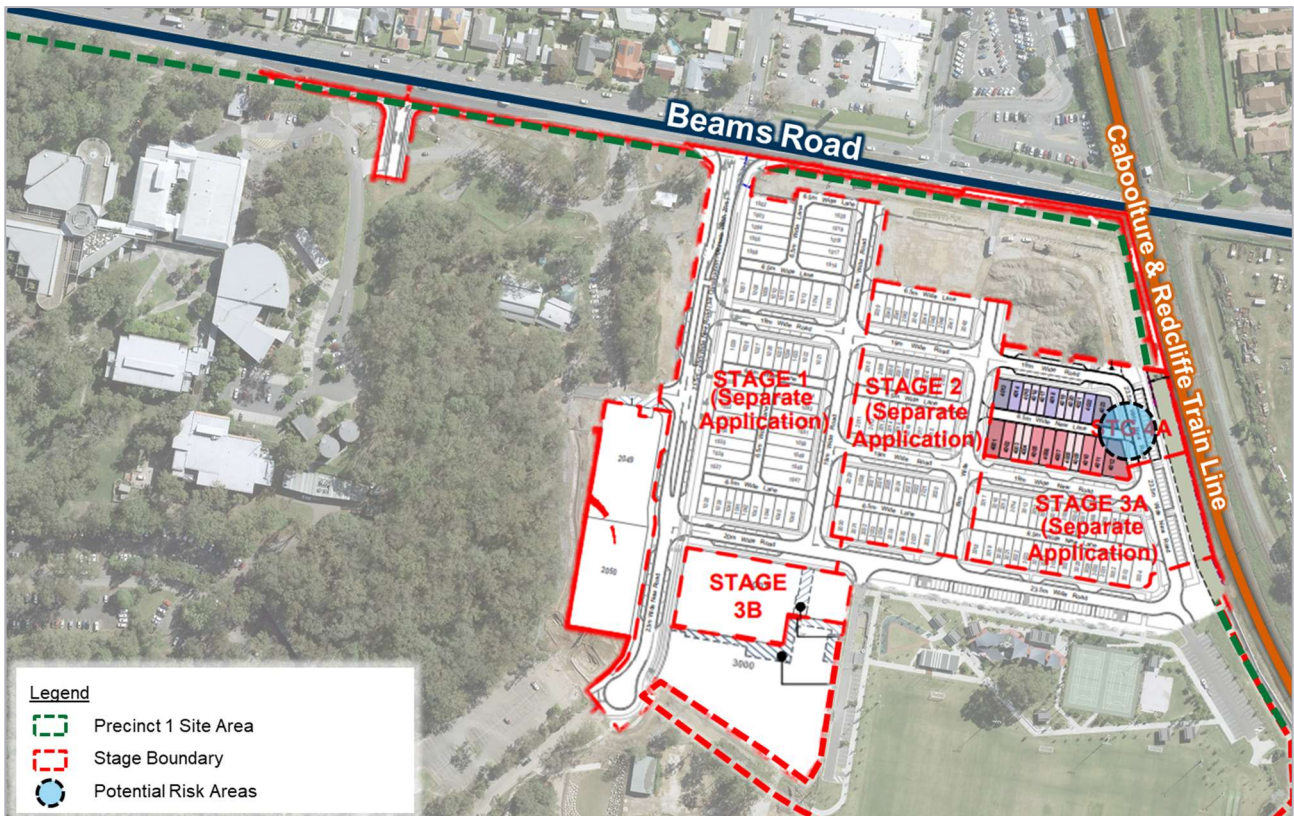
### 4.3.2 Emergency Vehicles

In addition to refuse collection, emergency vehicle access with a fire truck has been reviewed with a swept path assessment. Refer to drawings CEB06857-SK108-109 attached at Appendix E. This assessment demonstrates that the Stage 4A laneway designs are suitable for accommodating fire trucks in the case of an emergency.

## 5 Safety Review

A safety assessment has been completed to identify the potential risks associated with the proposed Stage 4A development arrangement. One potential risk area has been identified for further review. This is indicated on Figure 5-1.

Figure 5-1 Potential Risk Areas



Source: Metromap, RPS

The risk area has been highlighted due to the potential conflicting movements between vehicles using the on-street parking and other vehicles on the road. The area at Stage 4A relates to the 90 degree parking along the eastern boundary of the site, particularly at the internal intersection.

### 5.1 Stage 4A Safety Overview

The internal intersection within Stage 4A will operate as a priority controlled intersection, with the north-south local access road as the major approach and the east-west local access roads as the minor approach.

The design is considered to be safe due to the following factors:

- > Clear priority of movements
- > Low traffic volumes
- > Low speeds through the intersection
- > Clear sight lines

#### 5.1.1 Priority Movements

As described above, the intersection is proposed to allow priority to the north-south traffic with the western approach giving way. The parking spaces are located on the north-south road which gives the vehicles undertaking parking manoeuvres on the carriageway clear priority over the traffic entering from the west.

This means that any vehicles entering the intersection would know that they need to give way to the vehicles manoeuvring in and out of parking spaces, allowing these manoeuvres to be undertaken safely.

This will also be reinforced by the fact that residents will be familiar with the road conditions as they will be regularly driving through these streets and will be able aware of potential traffic movements.

### 5.1.2 Low Traffic Volumes

The intersection serves a portion of the residential catchment to the north however will not function as a critical route for residents as the parallel north-south routes provide more convenient access in and out of the precinct.

Furthermore, it should be noted that the on-street parking is associated with overflow parking for the sports fields it is unlikely to be at its highest use at the peak hours so the likelihood of opposing vehicles meeting will be low.

### 5.1.3 Low Speeds

All approaches to the intersection are expected to have a low speed environment of 50km/h, given the function of the roads serving a local catchment. Drivers travelling along the north-south road are anticipated to naturally reduce their speed due to the friction accorded with 90 degree on-street parking (as well as sports field patrons trying to navigate to on-street parking spaces). It is also noted during sporting events, residents will be aware of the typical traffic conditions and will drive cautiously. Furthermore, the vehicles approaching from the west will be slowing to navigate the intersection, as they will need to give way to other vehicles.

### 5.1.4 Clear Sight Lines

Drivers traversing the north-south road have unobstructed sightlines and thus clear visibility of upcoming traffic conditions such as vehicles parking. Drivers on the western approach also have clear sightlines to the north-south road approaches and to the parking spaces directly opposite, and can easily determine safe times to travel through the intersection. Furthermore, the drivers exiting the parking spaces will have direct line of sight up the minor road when reversing out or driving forward out of the spaces, allowing drivers to clearly see opposing traffic.

## 5.2 Safety Risk Assessment

A risk assessment has been prepared for the identified risks. This has been based on the Department of Transport and Main Roads (TMR) Guide to Traffic Impact Assessments (GTIA) safety risk score matrix (Figure 9.3.2(a)), a copy of which is shown below on Figure 5-2.

Figure 5-2 Safety Risk Score Matrix

		Potential consequence				
		Property only (1)	Minor injury (2)	Medical treatment (3)	Hospitalisation (4)	Fatality (5)
Potential likelihood	Almost certain (5)	M	M	H	H	H
	Likely (4)	M	M	M	H	H
	Moderate (3)	L	M	M	M	H
	Unlikely (2)	L	L	M	M	M
	Rare (1)	L	L	L	M	M

L: Low risk  
M: Medium risk  
H: High risk

Source: TMR GTIA Figure 9.3.2(a)

The rating descriptors are defined as the following in Table 5-1.

Table 5-1 Risk Rating Descriptors

Rating Measure		Descriptor		
<b>Potential Likelihood of Incident Occurring</b>				
Almost Certain (5)	Very likely. The event is expected to occur in most circumstances			
Likely (4)	There is a strong possibility the event will occur			
Moderate (3)	The event might occur at some time			
Unlikely (2)	Not expected, but there's a slight possibility it may occur at some time			
Rare (1)	Highly unlikely, but it may occur in exceptional circumstances. It could happen, but probably never will.			
<b>Potential Consequence of Incident Occurring</b>				
Property Only (1)	Minor Injury (2)	Medical Treatment (3)	Hospitalisation (4)	Fatality (5)
<b>Potential Risk of Incident Occurring</b>				
High	Should be corrected or the risk significantly reduced, even if the treatment costs is high			
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high.			
Low	Should be corrected or the risk reduced, if the treatment cost is low			

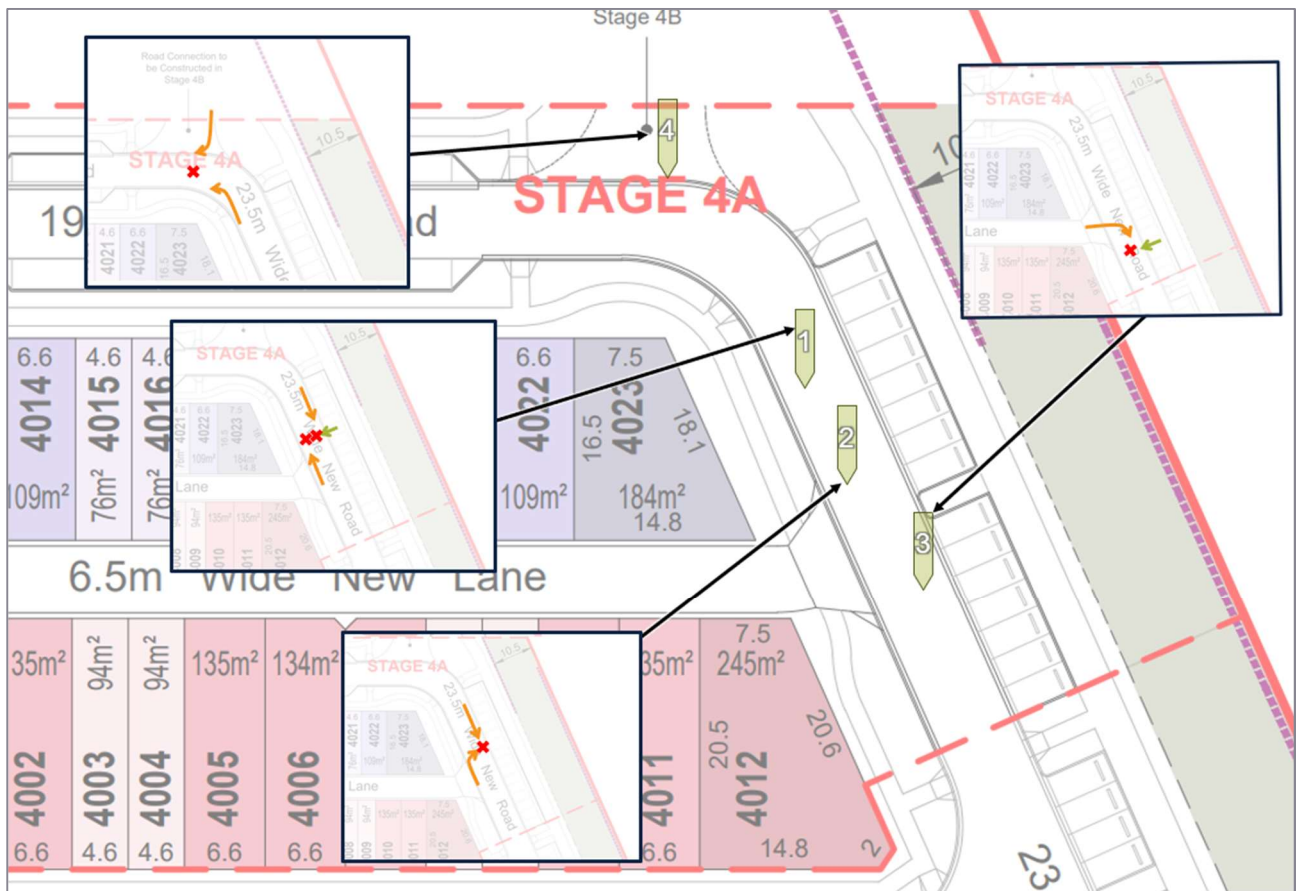
Table 5-2 outlines the risk assessment for the proposed arrangement of 90 degree on-street parking spaces located on the eastern border of Stage 4A (adjacent lot 3001, as indicated on Figure 5-3). The assessment identifies potential risks with the proposed arrangement and assigns the likelihood and consequence of each issue.

Table 5-2 Risk Assessment

Risk	Description	Risk Level		
		Likelihood	Consequence	Risk
1	Reversing vehicle colliding with through vehicle	2	2	LOW
2	Vehicle entering parking space colliding with through movement	2	2	LOW
3	Reversing vehicle colliding with vehicle undertaking a right turn manoeuvre	2	2	LOW
4	New road alignment incorporates new intersection form which could result in vehicle conflicts with turning vehicles	1	2	LOW



Figure 5-3 Stage 4A Identified Risks with Proposed Arrangement



Source: Nearthmap, RPS

Four (4) types of risks have been identified with the proposed arrangement in Table 5-2 with each of the risks identified considered low level risks. The likelihood of any of the conflicts occurring is unlikely due to the lower speed environment, low traffic volumes, clear sight lines and relatively flat grades. The consequence of the risks occurring is considered to result in minor injury, due to the low speed of manoeuvres.

Therefore, it is considered that the proposed arrangement will operate with a reasonable level of safety.

## 6 Summary

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Following the approval of the CV masterplan (DEV2018/932), a development application for Stage 4A has been prepared to demonstrate compliance with the approved masterplan and provide further detailed information. This traffic report outlines the transport related aspects of the stage. The key outcomes of this assessment are as follows:

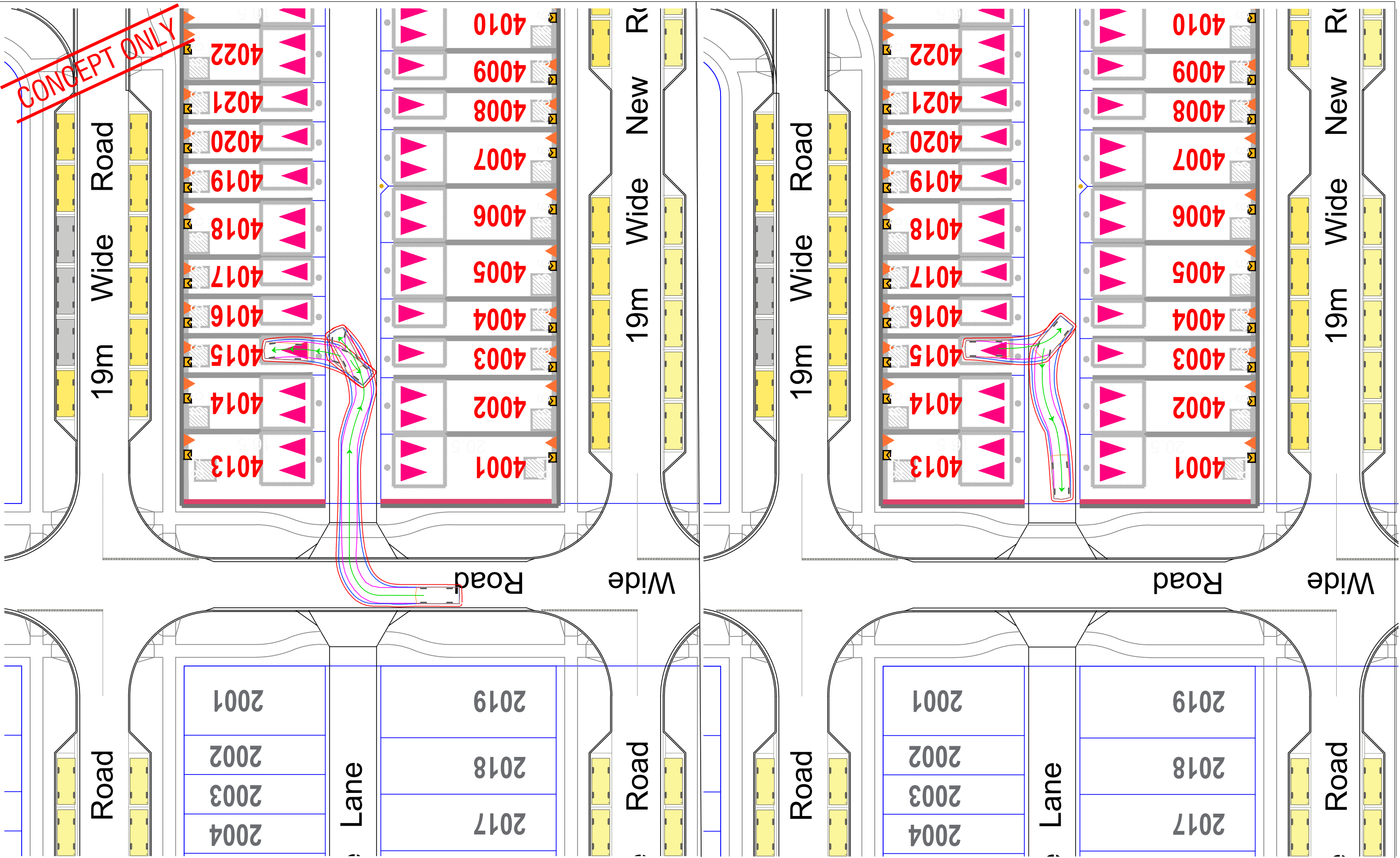
- > Access has been confirmed to be consistent with the masterplan arrangement, with external access being provided via an upgraded Beams Road / Balcara Avenue intersection, and a left in / left out intersection on Beams Road
- > Active transport facilities are in accordance with the masterplan providing for footpaths on access streets, a shared path along the recreational park esplanade and a separated cycleway along the Village Main Street
- > The traffic impact for Stage 4A has been determined to be within the traffic carrying capacity of the external and internal intersections, given the traffic generation is consistent with the original assessment and the intersections have been designed for the ultimate CV yields
- > Parking provision has been determined to be suitable in terms of the requirements as set out in the Fitzgibbon Development Scheme
- > The design of on-street parking has been determined to be largely compliant with relevant standards and where not compliant, deemed to be fit or purpose.
- > Refuse collection through the site has been demonstrated to be suitable with swept paths (refer to Appendix E)
- > Fire truck access through the site has been demonstrated to be suitable with swept paths (refer to Appendix E)
- > A safety assessment of the internal arrangements has been prepared and indicates that the design presents a low risk for road users.

Therefore, it is considered that the traffic impact, car parking, access, and servicing aspects of the proposed Stage 4A of the Carseldine Urban Village development meet the appropriate standards and will not compromise the safety or efficiency of the existing transport network.

Carseldine Village

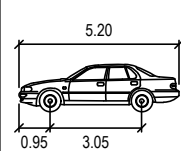
# APPENDIX B

## GARAGE SWEEP PATHS

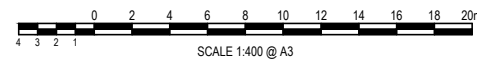


**SWEPT PATH LEGEND**

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



B99		Meters
Width	: 1.94	
Track	: 1.84	
Lock to Lock Time	: 6.0	
Steering Angle	: 40.0	

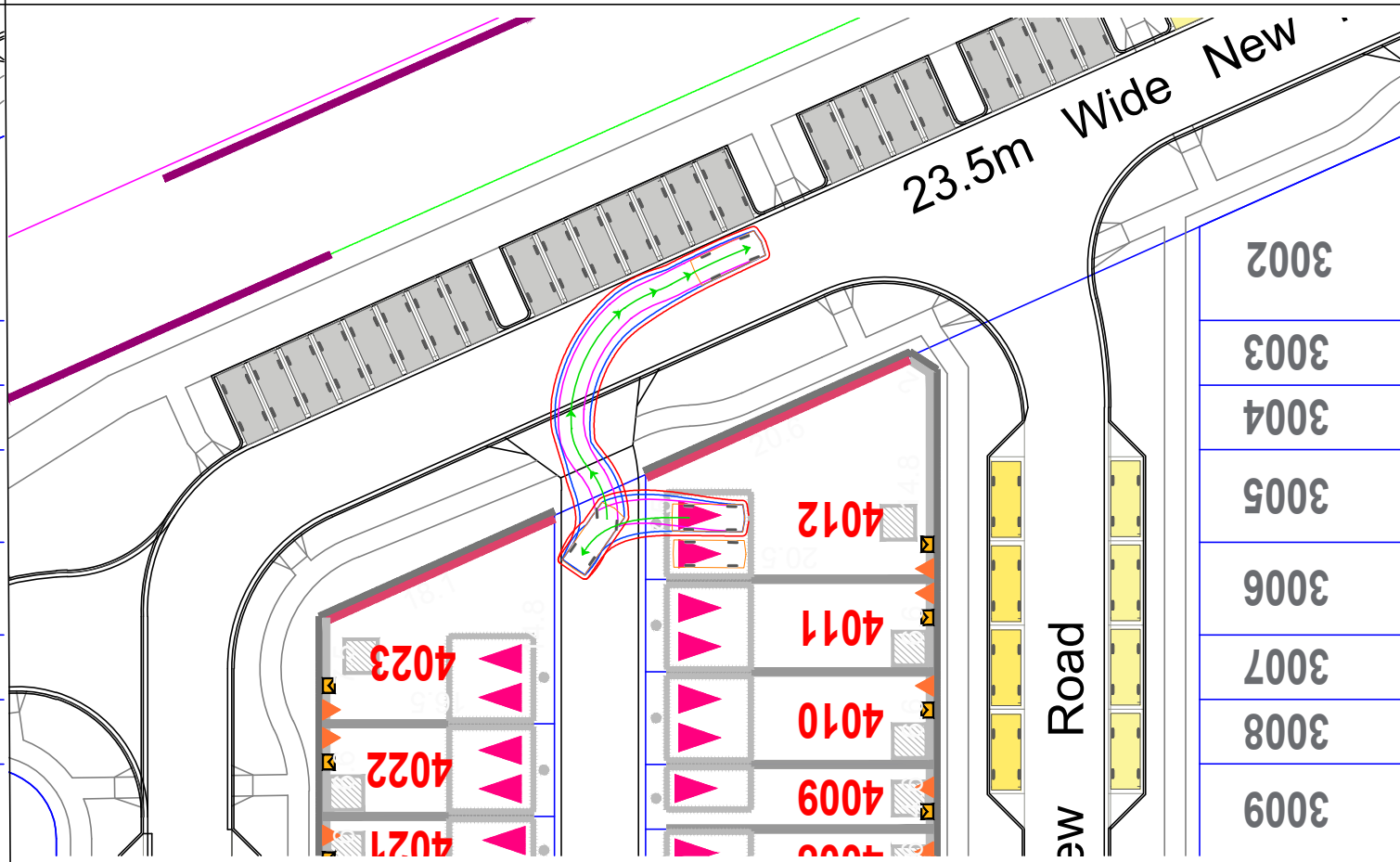
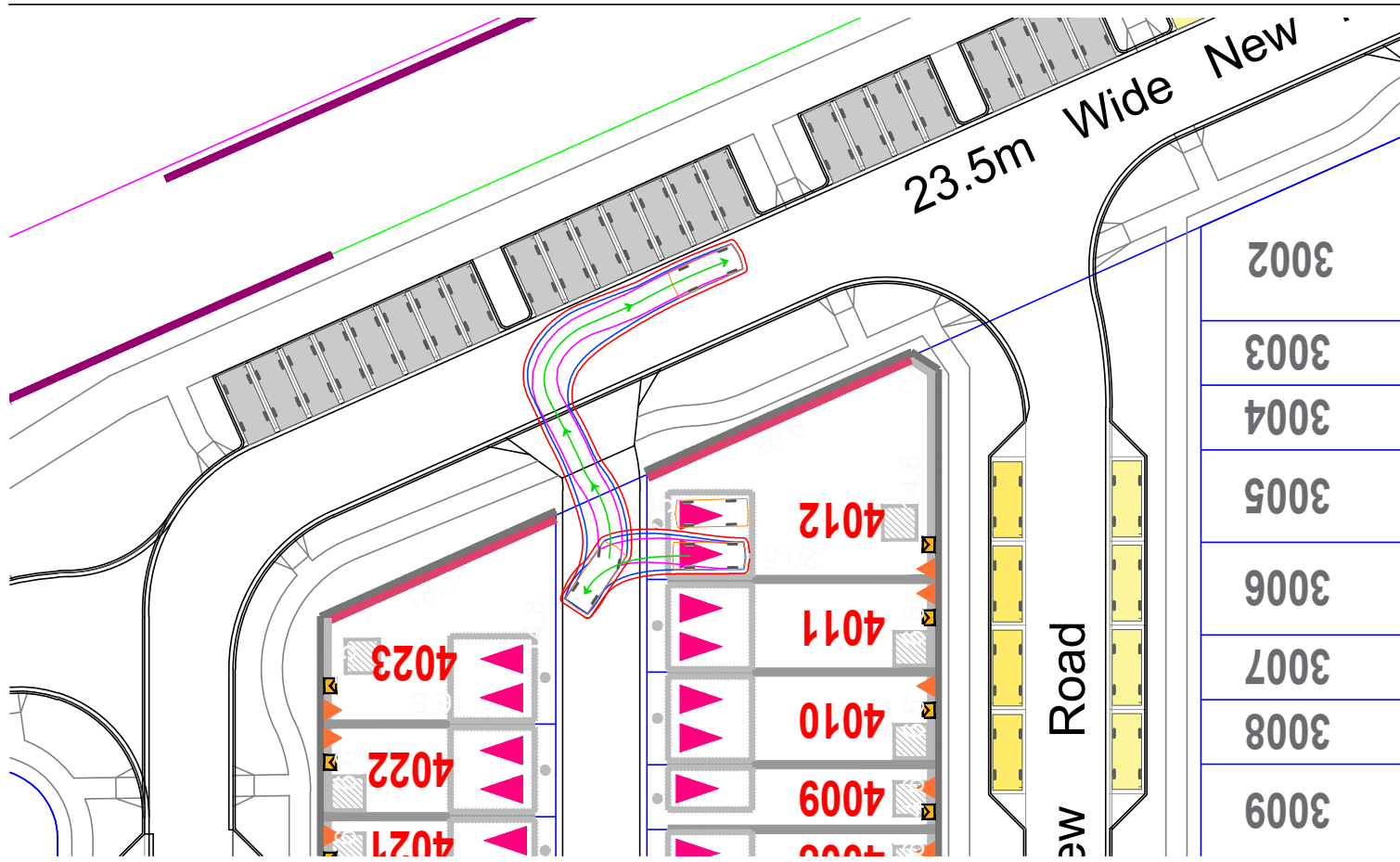
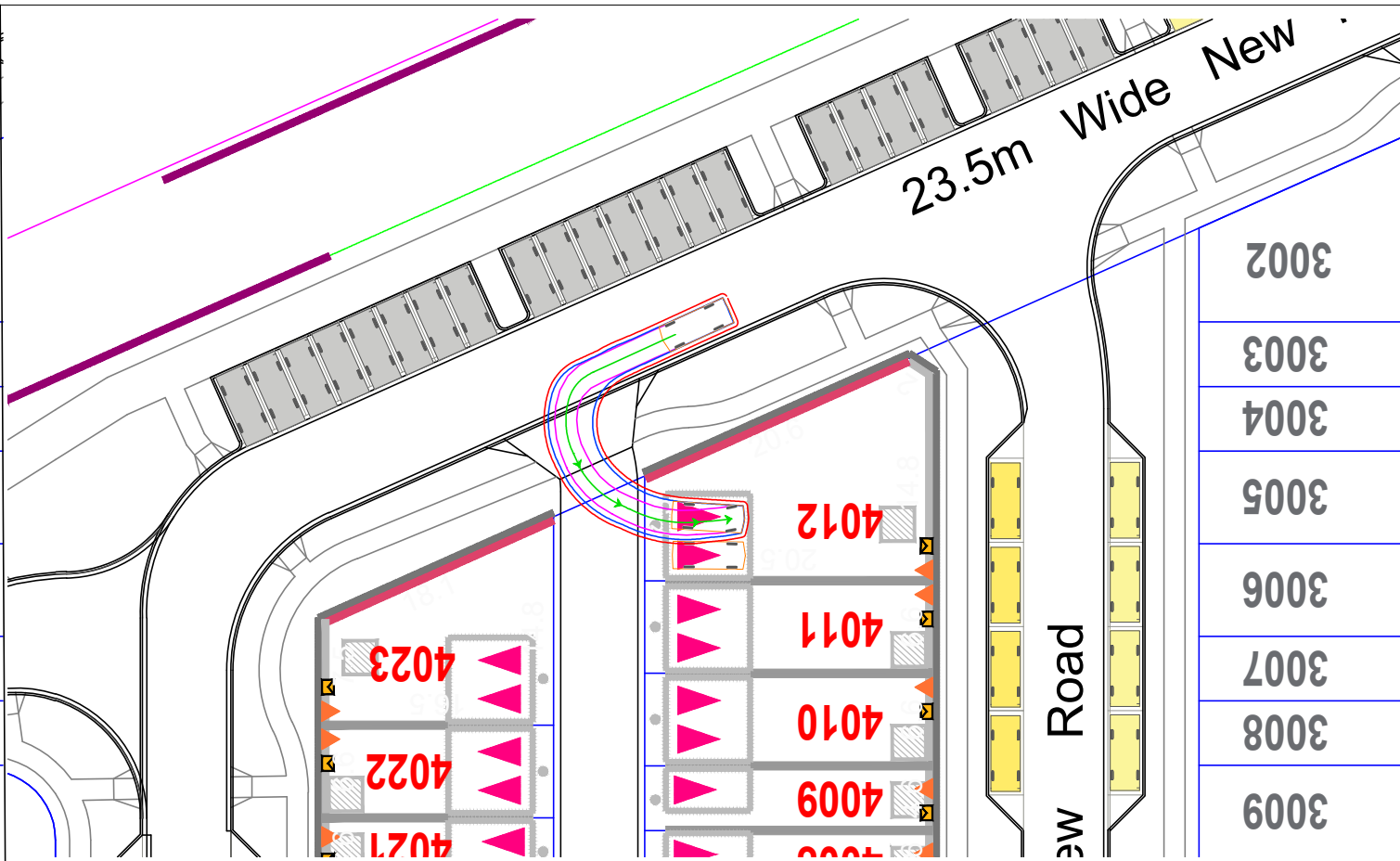
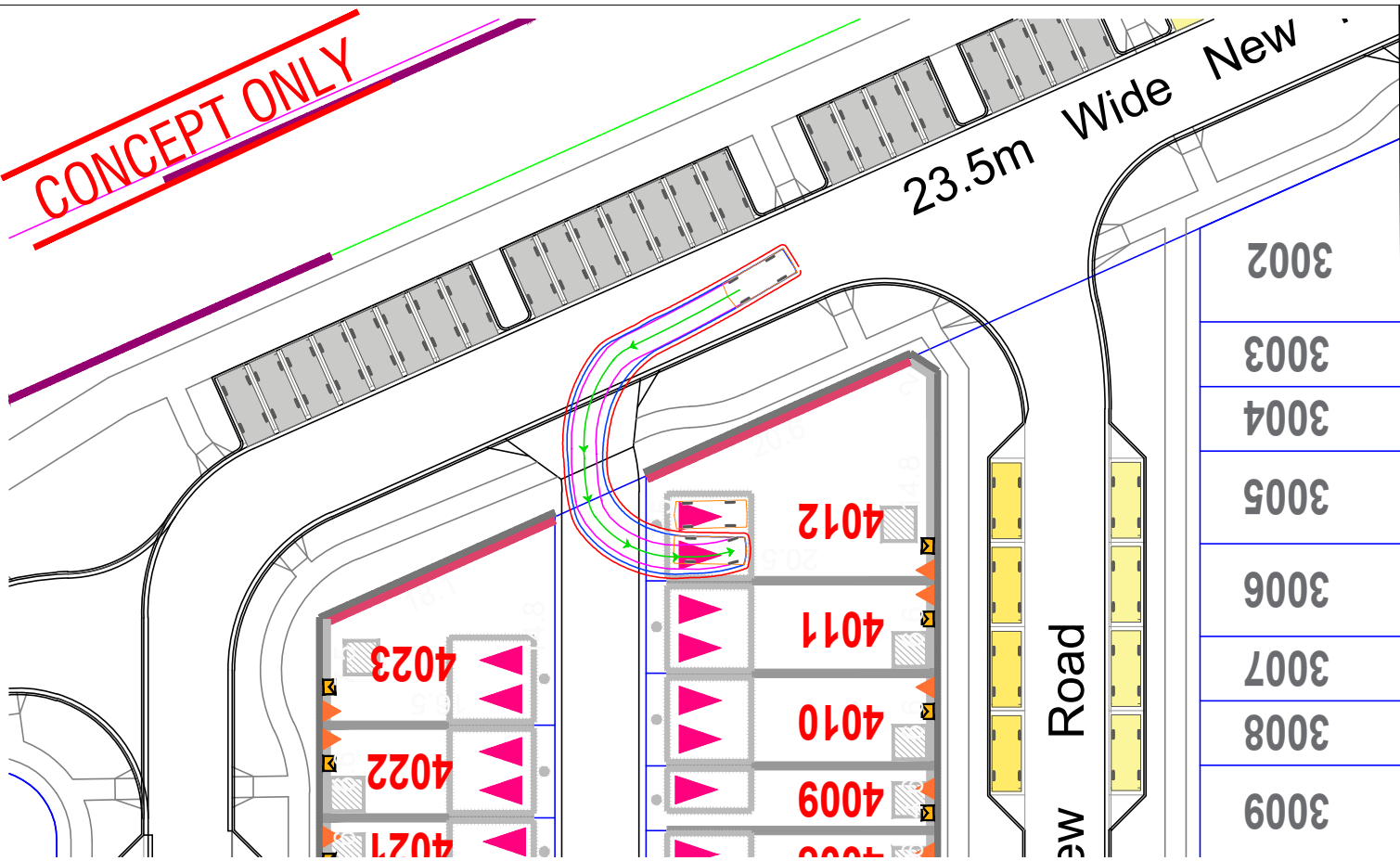


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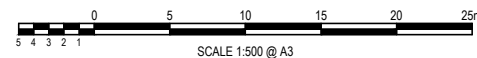
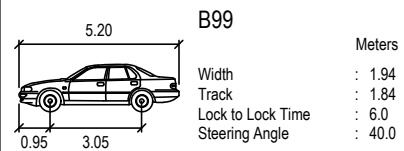
Carseldine Urban Village			
Stage 4A Access Review			
Swept Path Assessment B99			
Drawn	Date	Scale	Size
B.Fuller	01/10/2021	1:400	A3
Drawing Number			Revision
CEB06857 - SK110			B

**CONCEPT ONLY**



**SWEPT PATH LEGEND**

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



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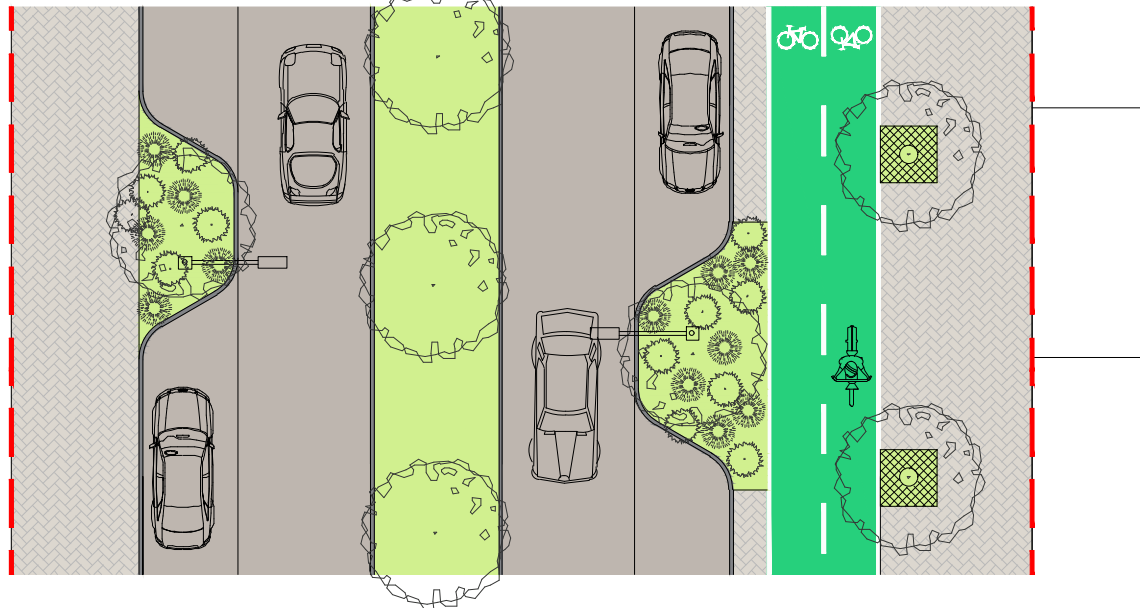
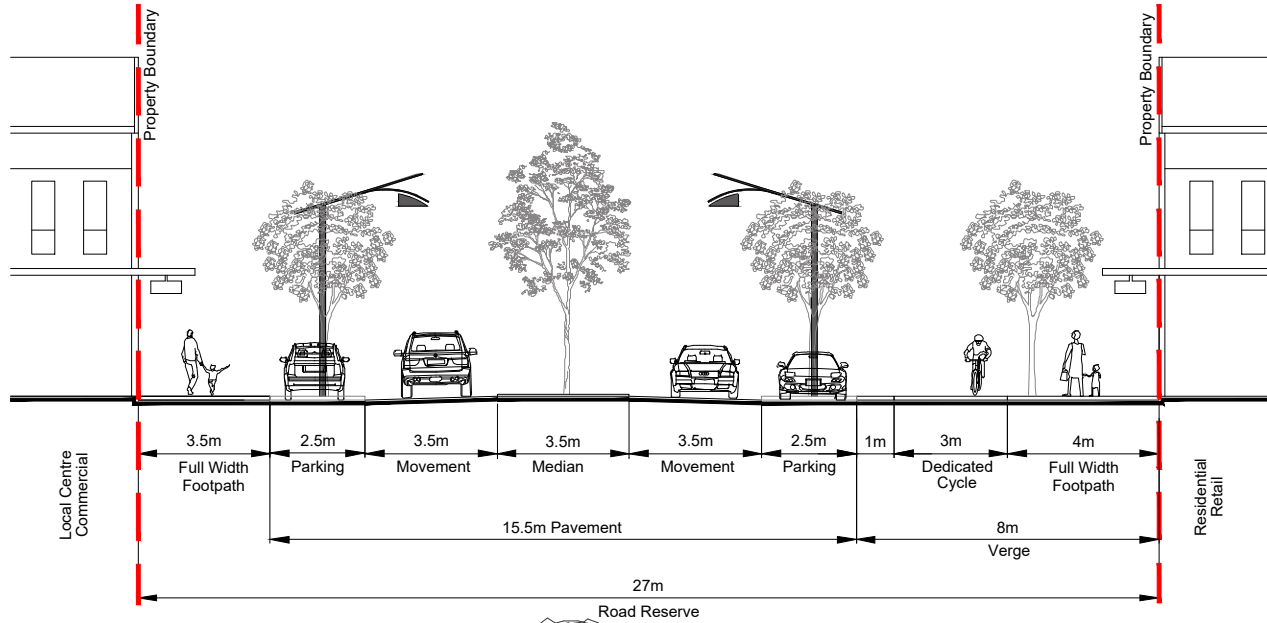
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Carseldine Urban Village			
Stage 4A Access Review			
Swept Path Assessment B99			
Drawn	Date	Scale	Size
B.Fuller	01/10/2021	1:500	A3
Drawing Number			Revision
CEB06857 - SK111			B

Carseldine Village

**APPENDIX C**  
APPROVED MASTERPLAN ROAD  
CROSS SECTIONS

# Village Main Street - 27m Wide Road Reserve



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## CARSELDINE URBAN VILLAGE VILLAGE MAIN STREET 27m WIDE

PLAN REF: **128180 – 39D**  
 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
 CHECKED BY: MD / DG

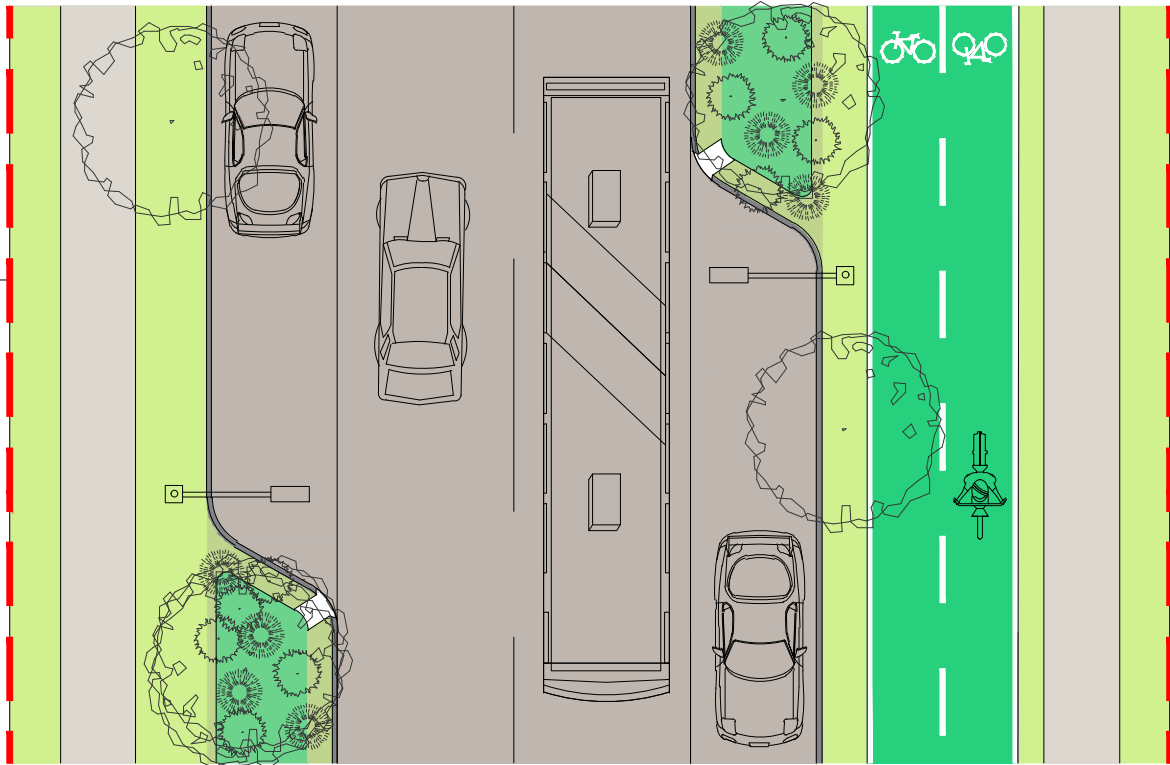
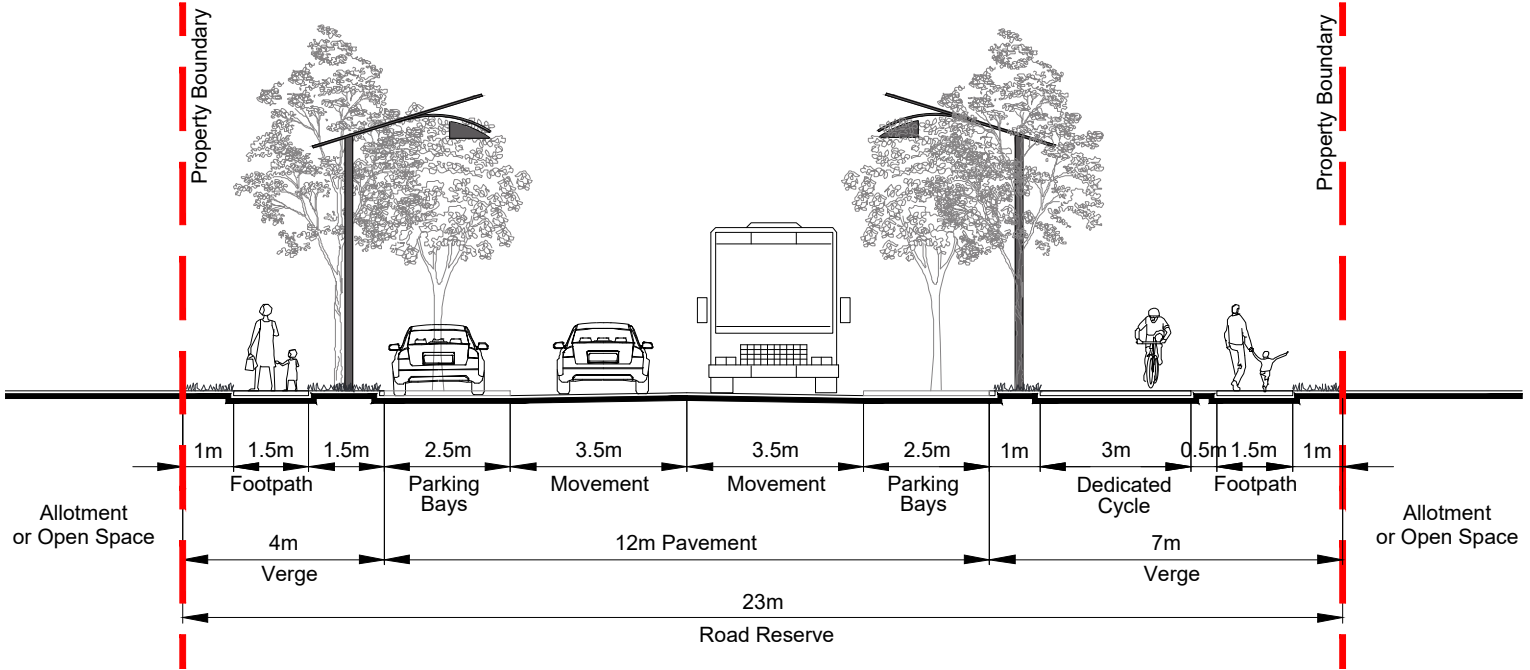
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 W rpsgroup.com



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0 2 4 6 8 10 1:200 @ A4

# Western Access Road / Shared Busway - 23m



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PLAN REF: **128180 - 39D**  
 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
 CHECKED BY: MD / DG

## CARSELDINE URBAN VILLAGE WESTERN ACCESS ROAD / SHARED BUSWAY - 23m WIDE

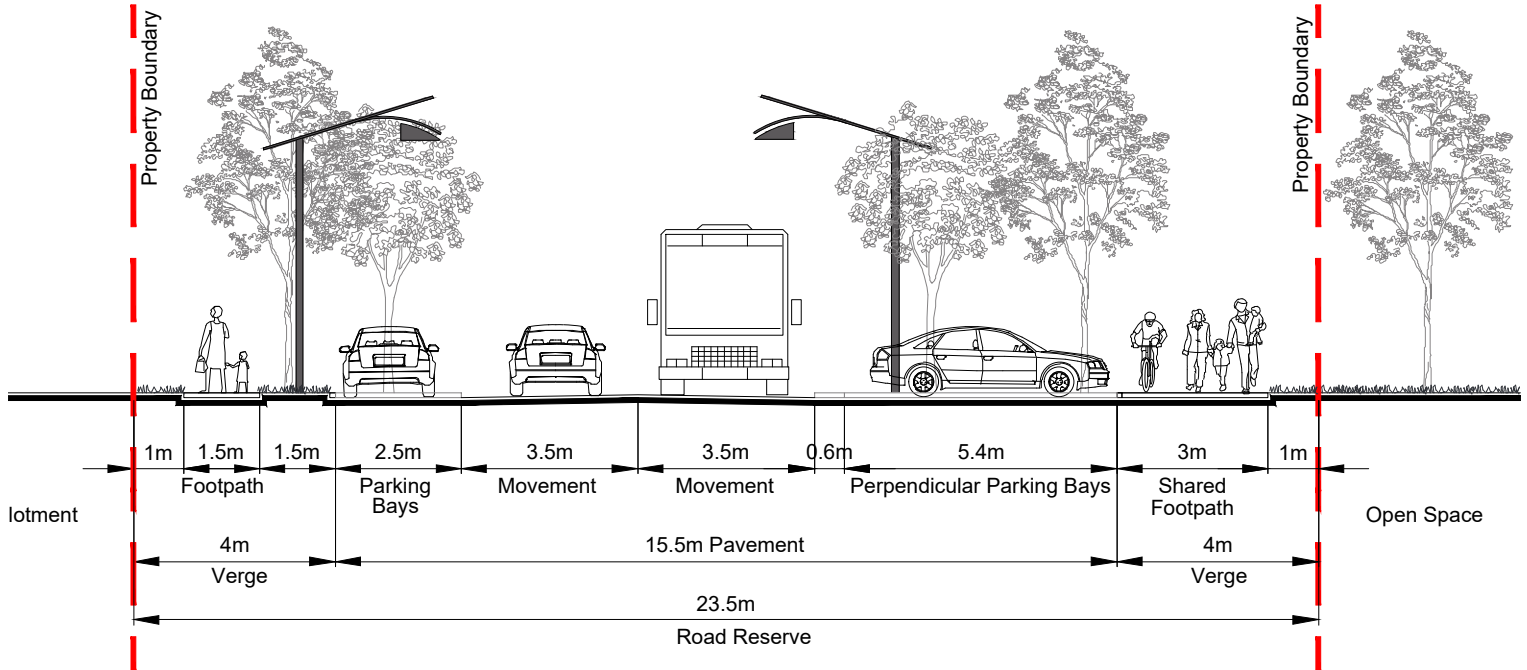
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# Residential Park Esplanade - 23.5m



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 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
 CHECKED BY: MD / DG

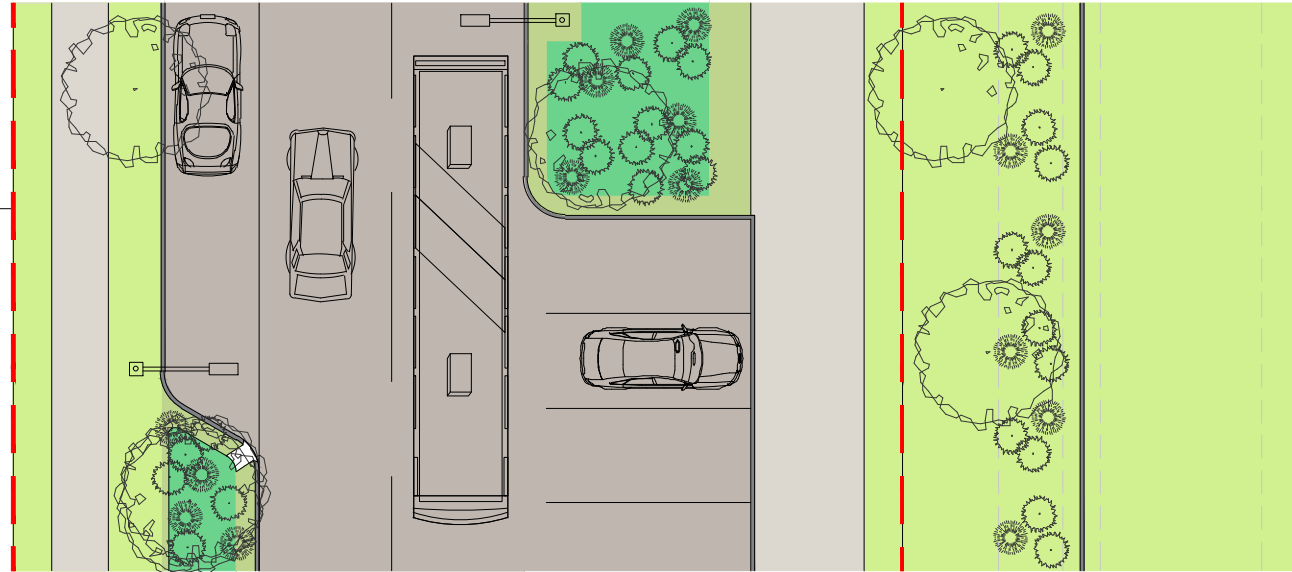
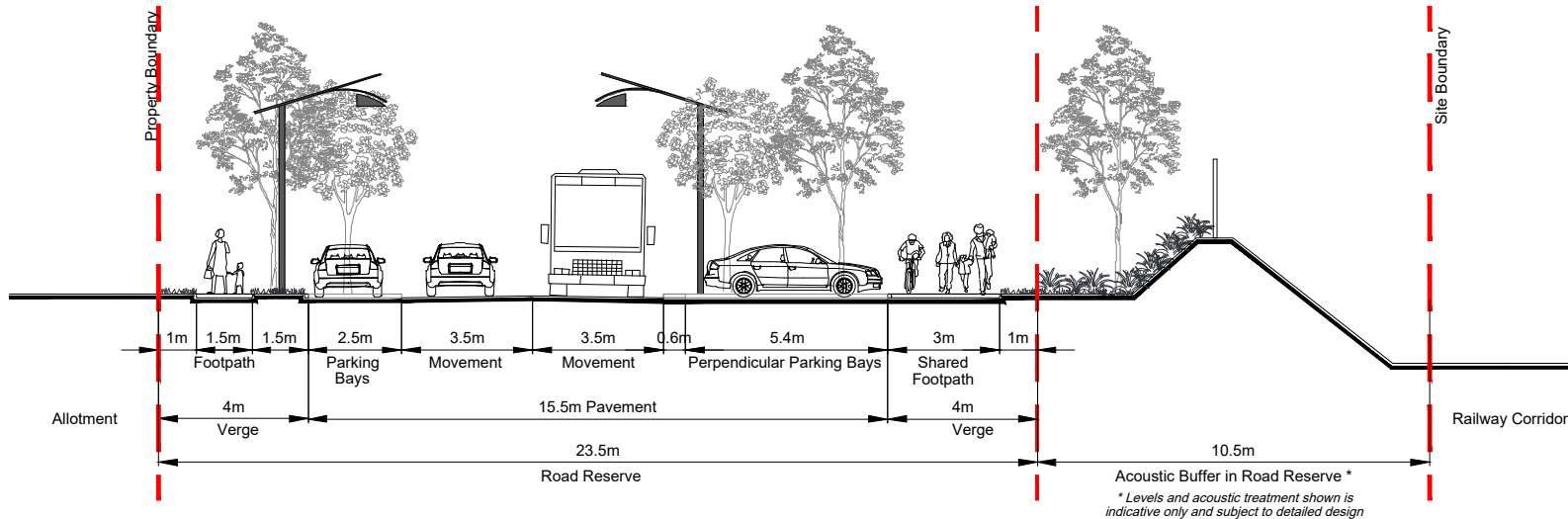
**CARSELDINE URBAN VILLAGE  
 RESIDENTIAL PARK ESPLANADE  
 23.5m WIDE**

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# Railway Esplanade - 23.5m + 10.5m Buffer



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PLAN REF: **128180 – 39D**  
 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
 CHECKED BY: MD / DG

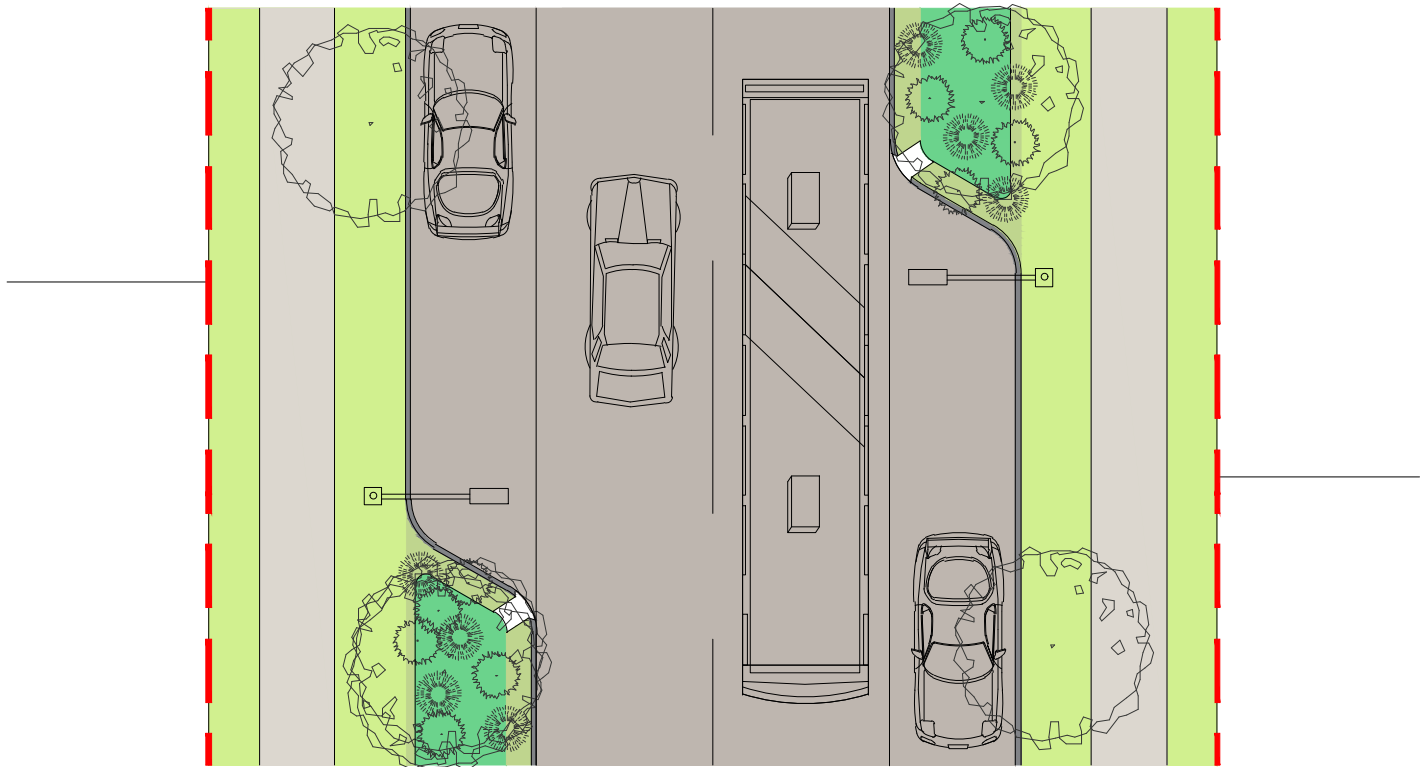
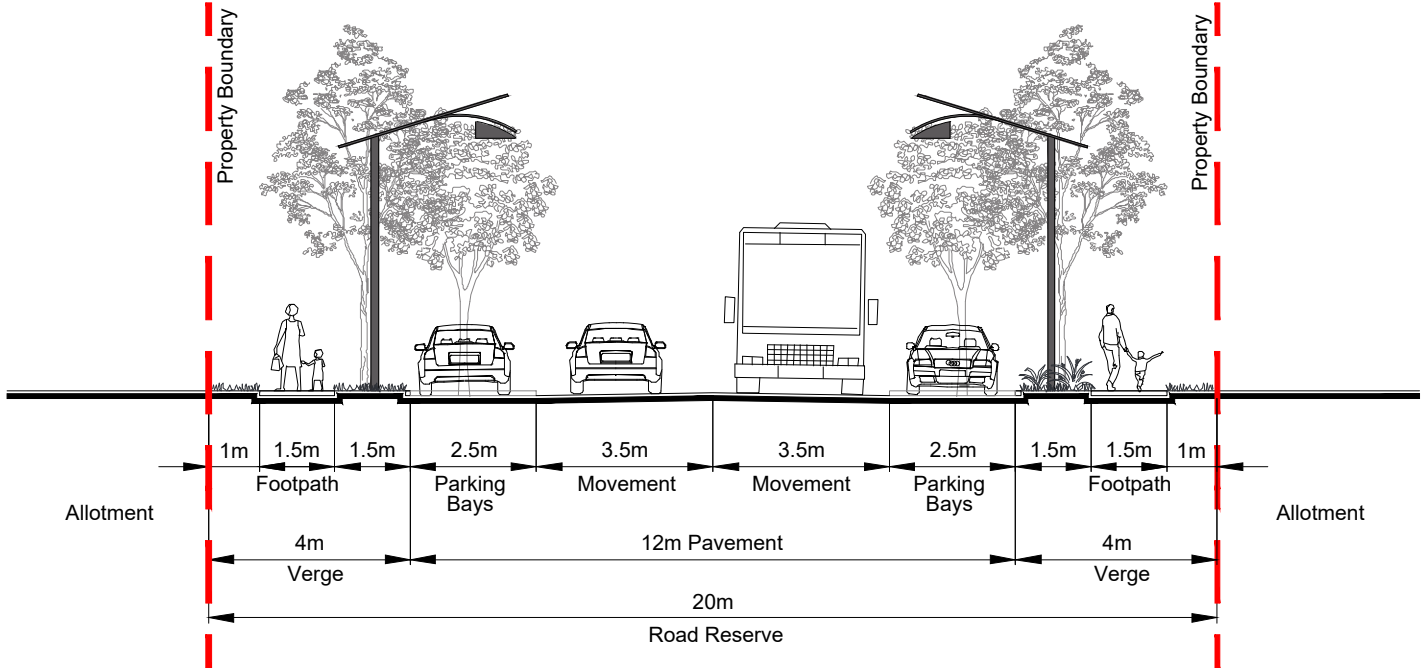
## CARSELDINE URBAN VILLAGE RAILWAY ESPLANADE 23.5m WIDE + 10.5m BUFFER

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# Loop Road - 20m



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 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
 CHECKED BY: MD / DG

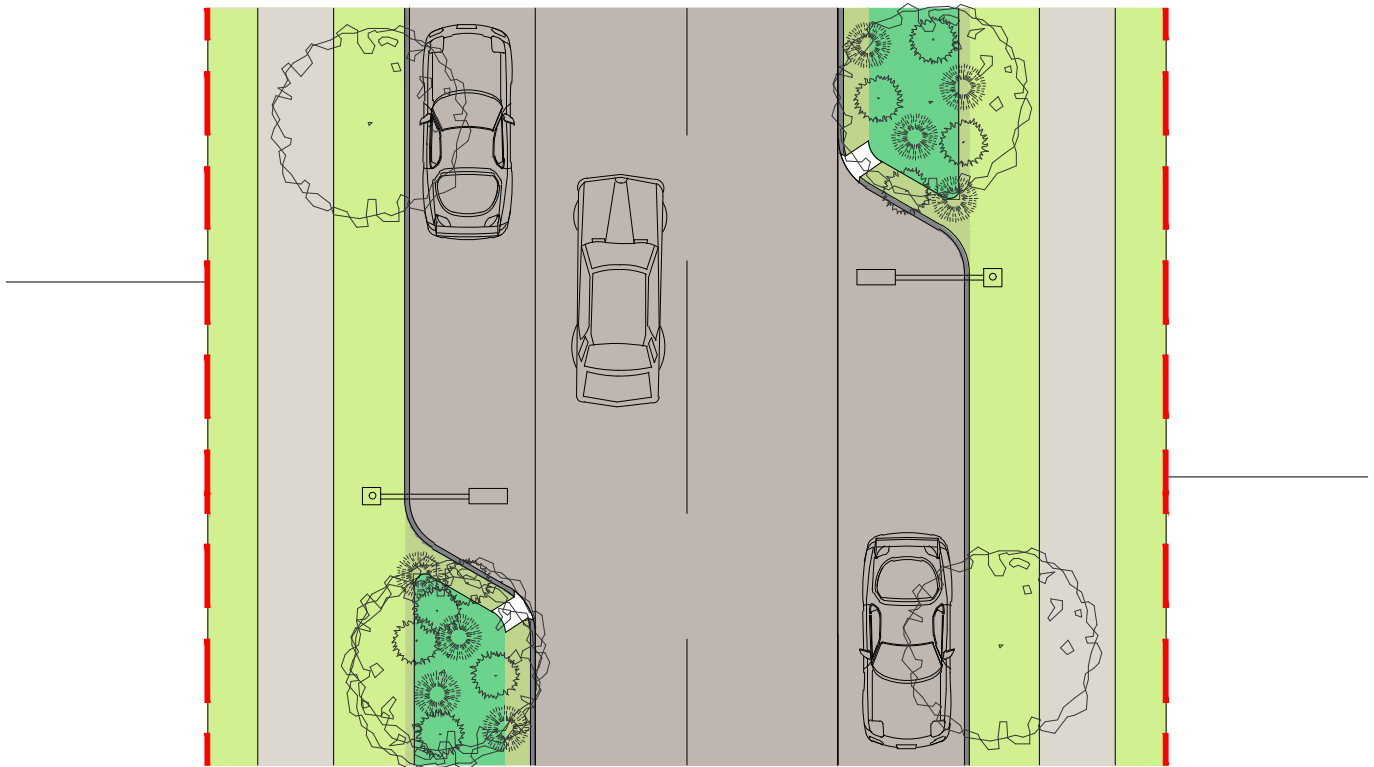
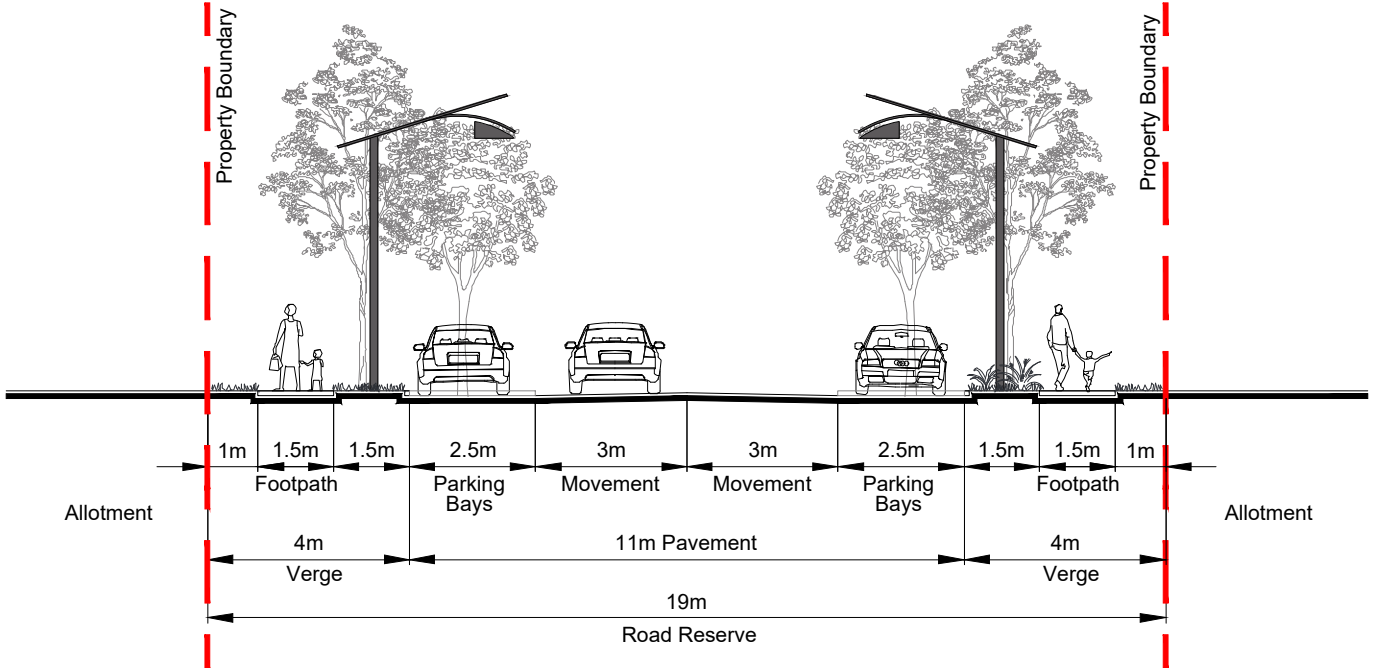
**CARSELDINE URBAN VILLAGE**  
**LOOP ROAD**  
**20m WIDE**

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# Access Place - 19m



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 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
 CHECKED BY: MD / DG

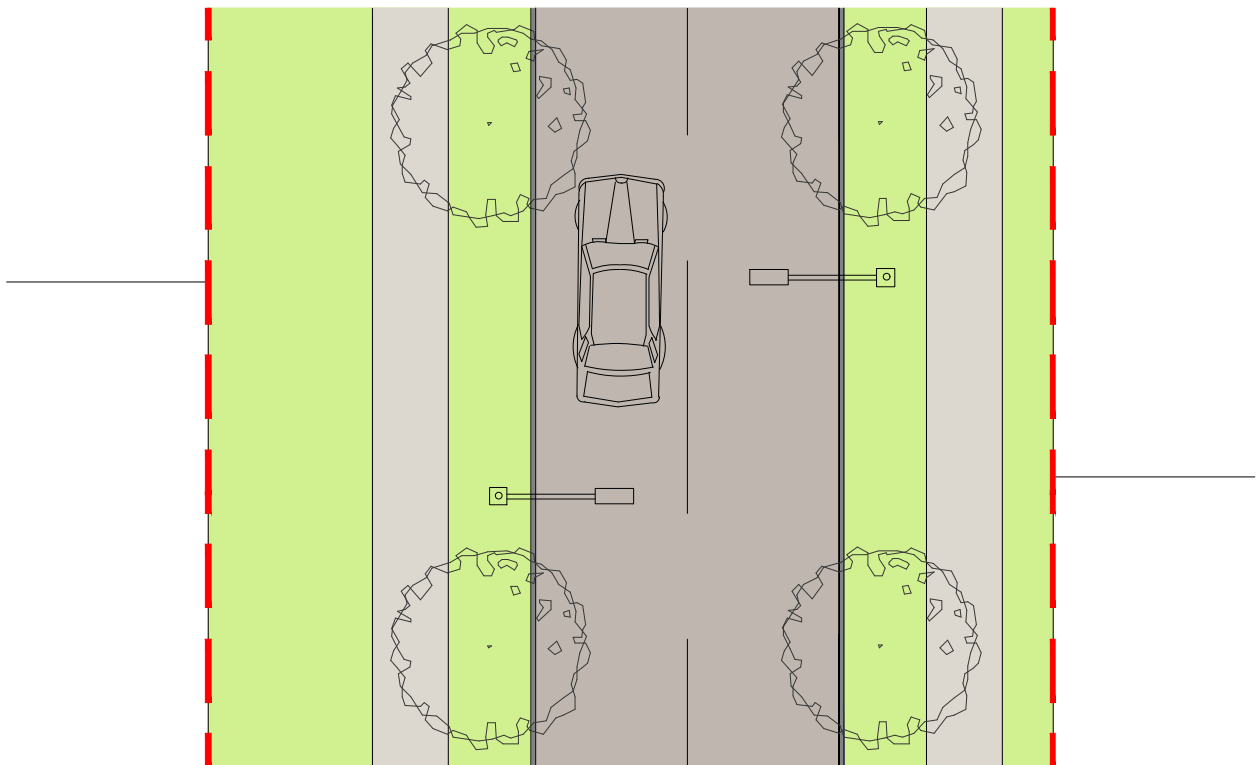
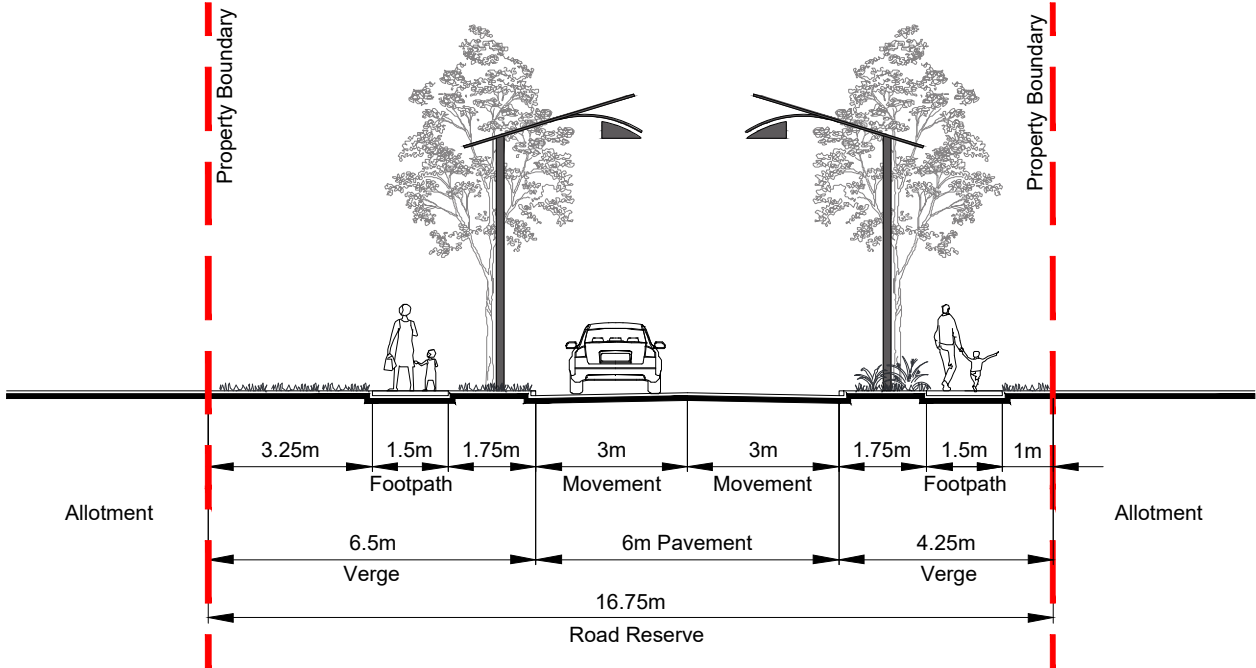
## CARSELDINE URBAN VILLAGE ACCESS PLACE 19m WIDE

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# Access Place (No Parking) - 16.75m



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PLAN REF: **128180 – 39D**  
 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
 CHECKED BY: MD / DG

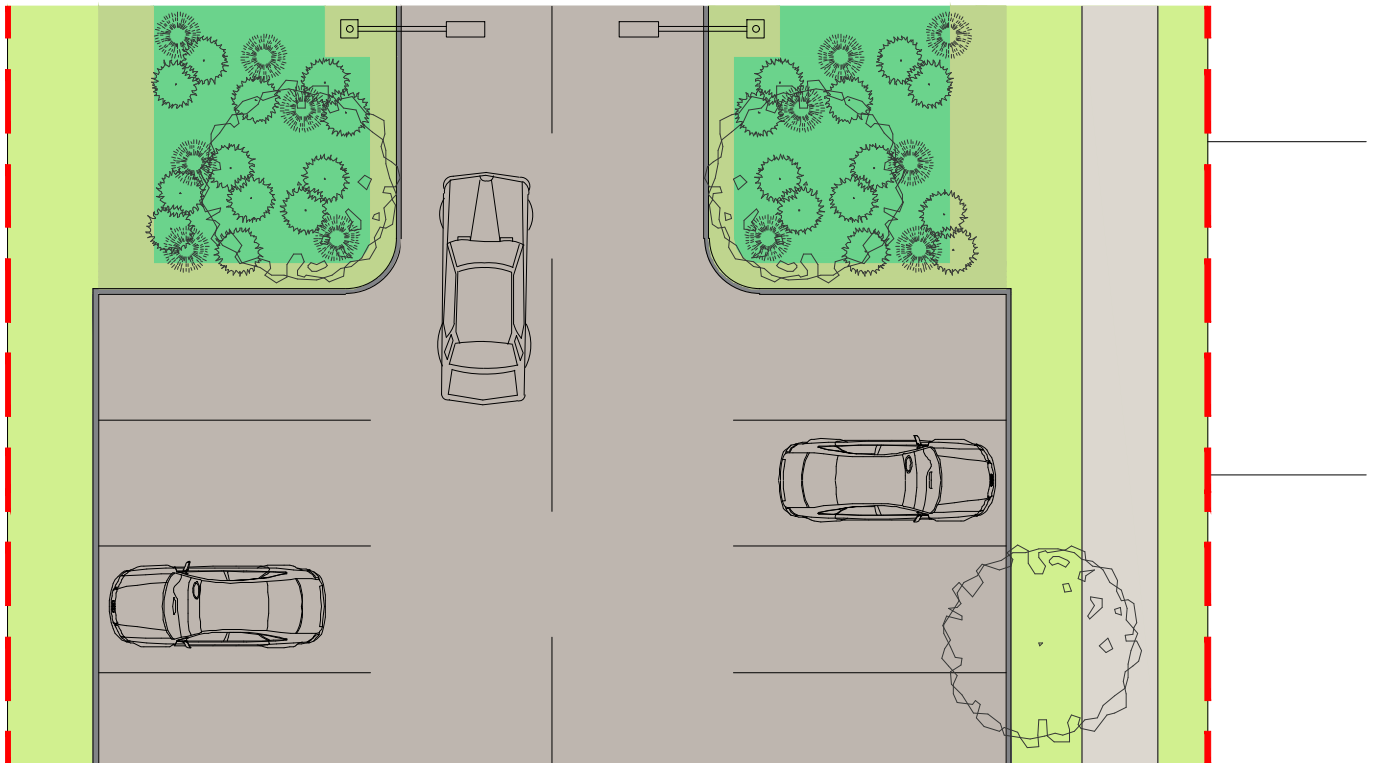
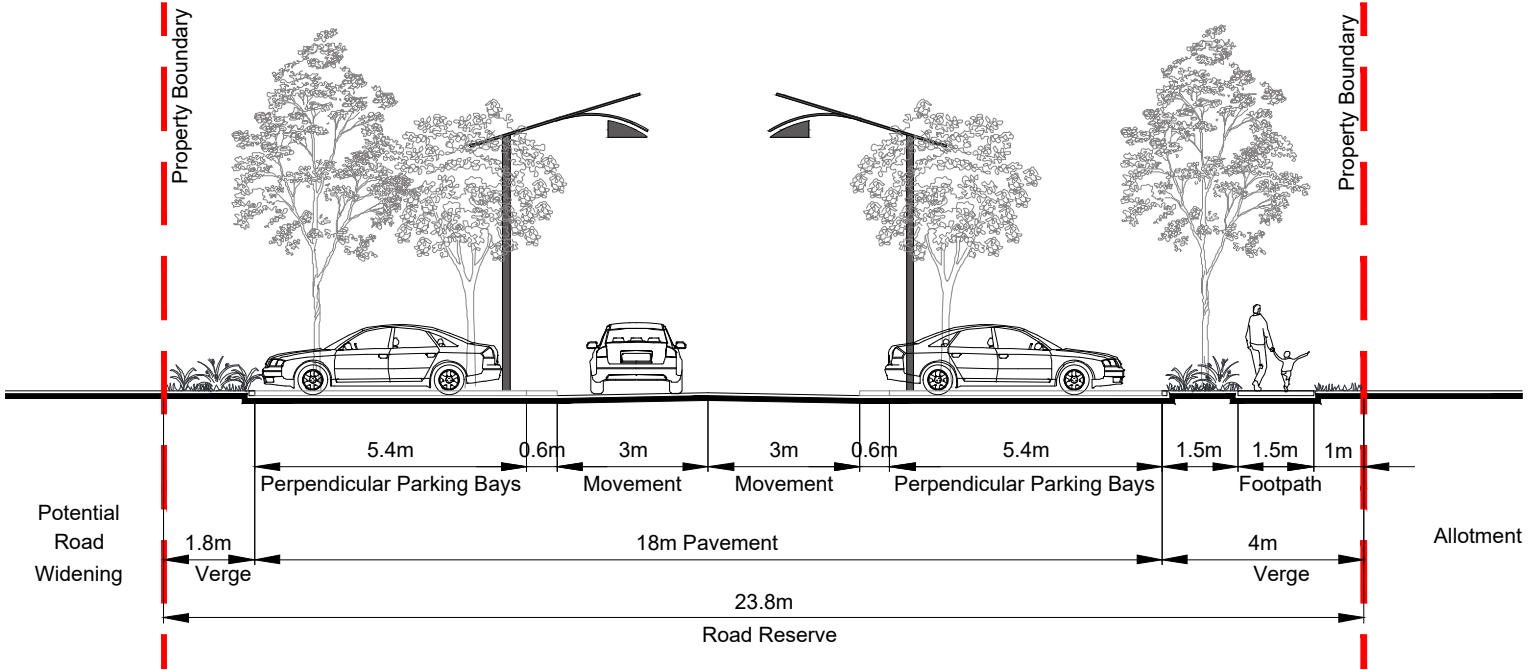
## CARSELDINE URBAN VILLAGE ACCESS PLACE (NO PARKING) 16.75m WIDE

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# Access Place (Parking) - 23.8m



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 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
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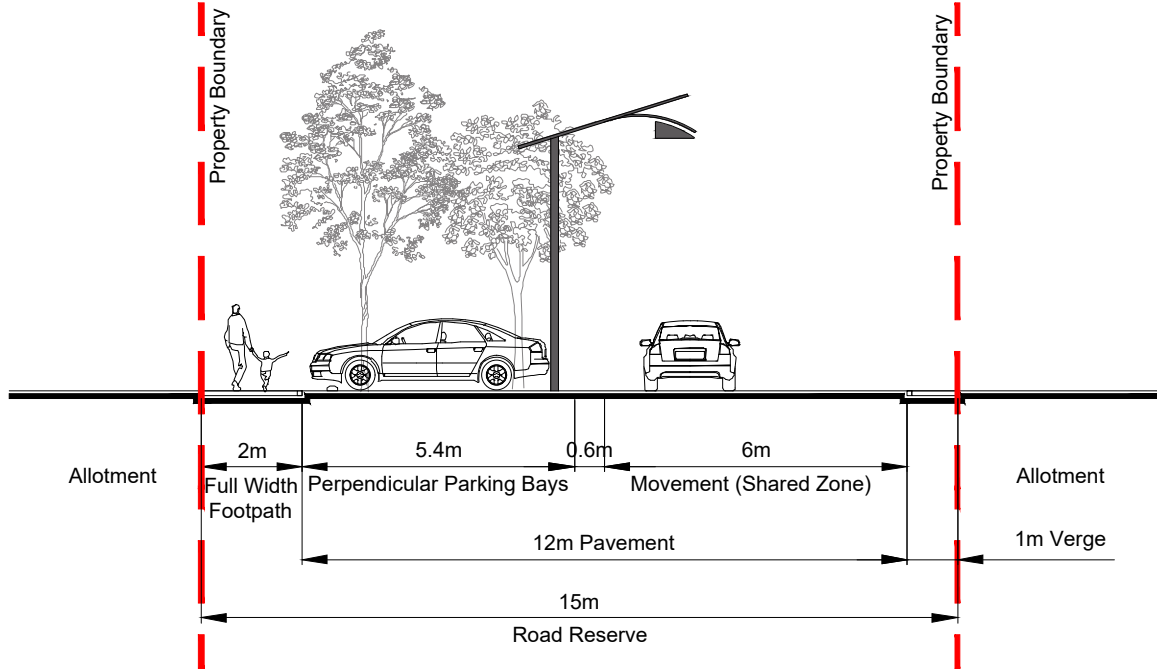
**CARSELDINE URBAN VILLAGE**  
**ACCESS PLACE (PARKING)**  
**23.8m WIDE**

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Shared Access Lane (Parking One Side) - 15m



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PLAN REF: **128180 – 39D**  
 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
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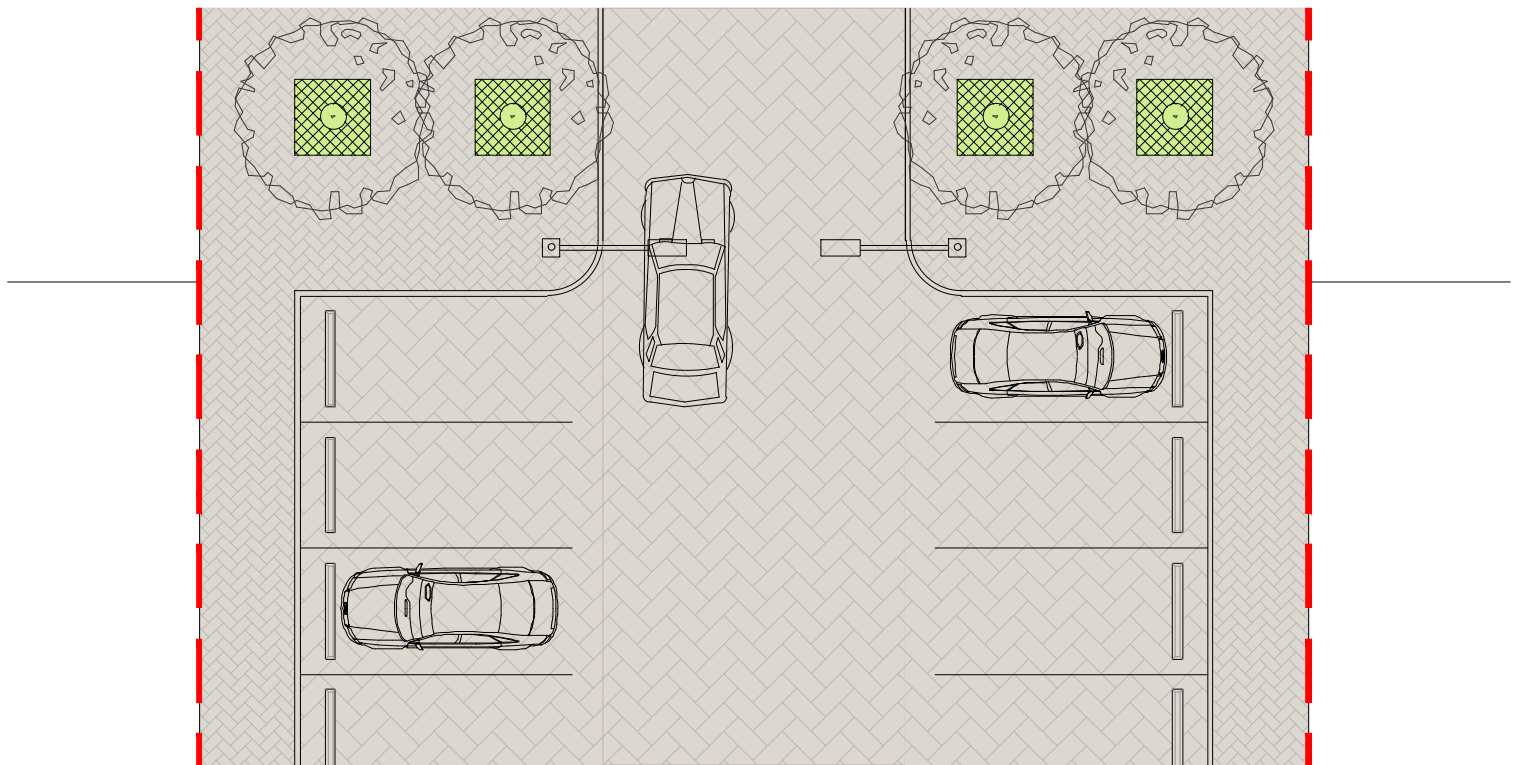
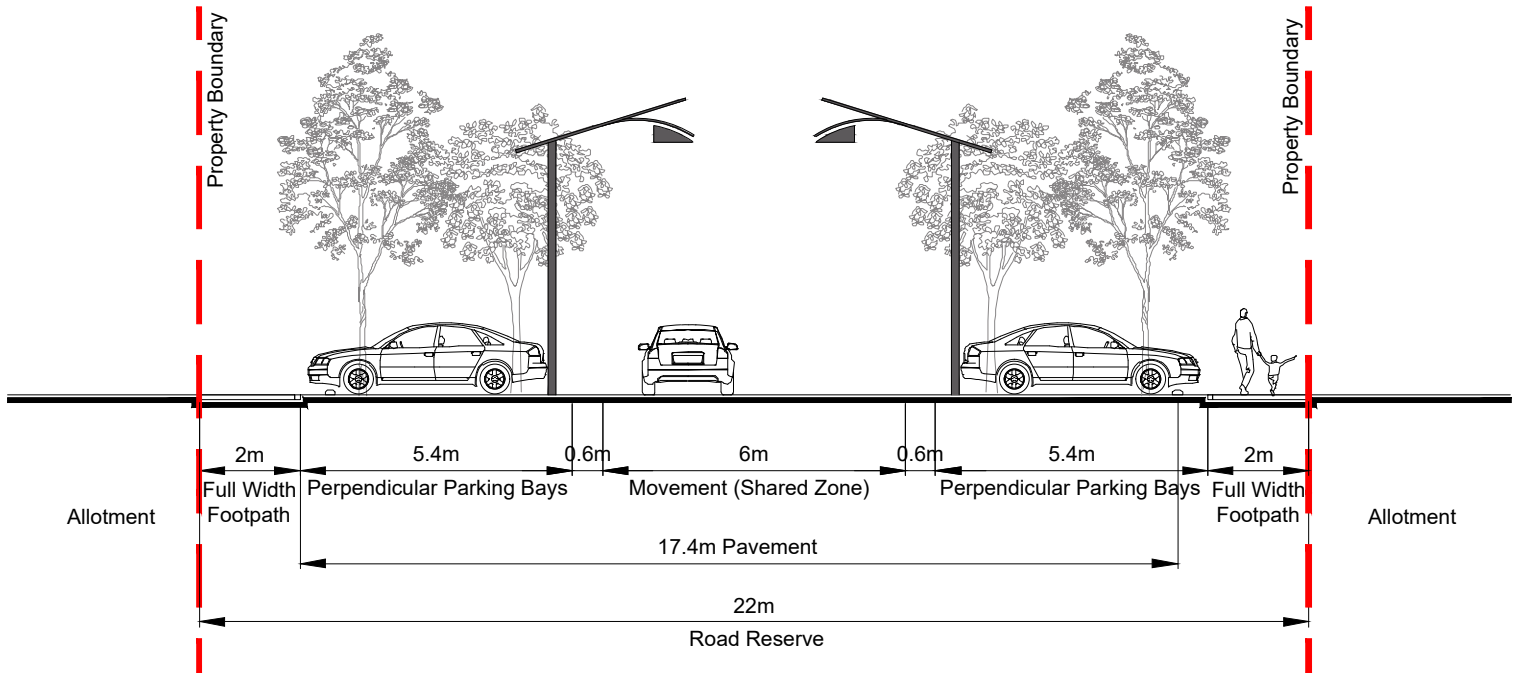
**CARSELDINE URBAN VILLAGE  
 SHARED ACCESS LANE  
 (PARKING ONE SIDE) - 15m WIDE**

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# Shared Access Lane (Parking Two Sides) - 22m



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 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
 DRAWN BY: MD  
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## CARSELDINE URBAN VILLAGE SHARED ACCESS LANE (PARKING TWO SIDES) - 22m WIDE

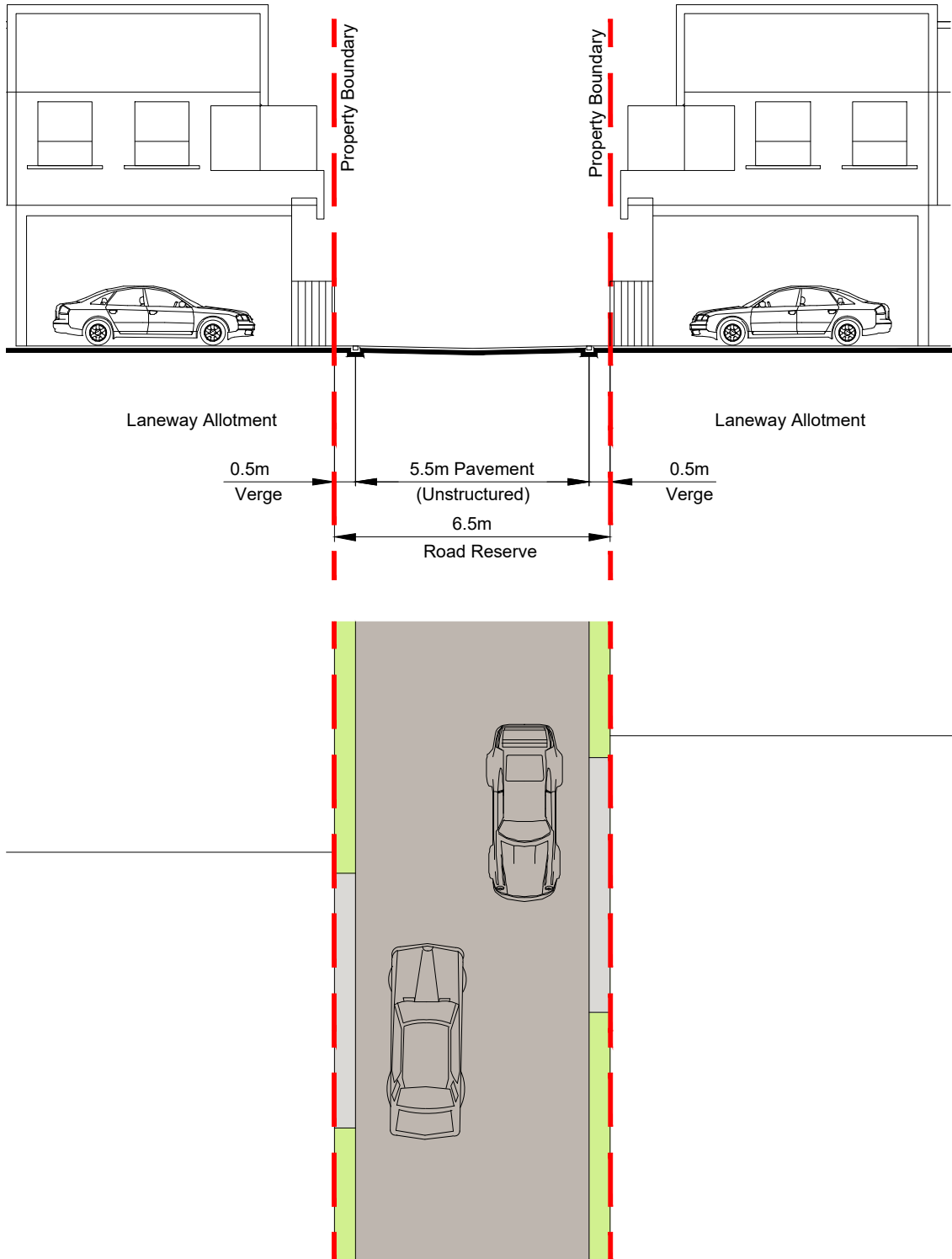
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■■■■■■ Access Lane - 6.5m



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 DATE: 09 SEPTEMBER 2019  
 CLIENT: EDQ  
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**CARSELDINE URBAN VILLAGE  
 ACCESS LANE  
 6.5m WIDE**

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Carseldine Village

# APPENDIX D

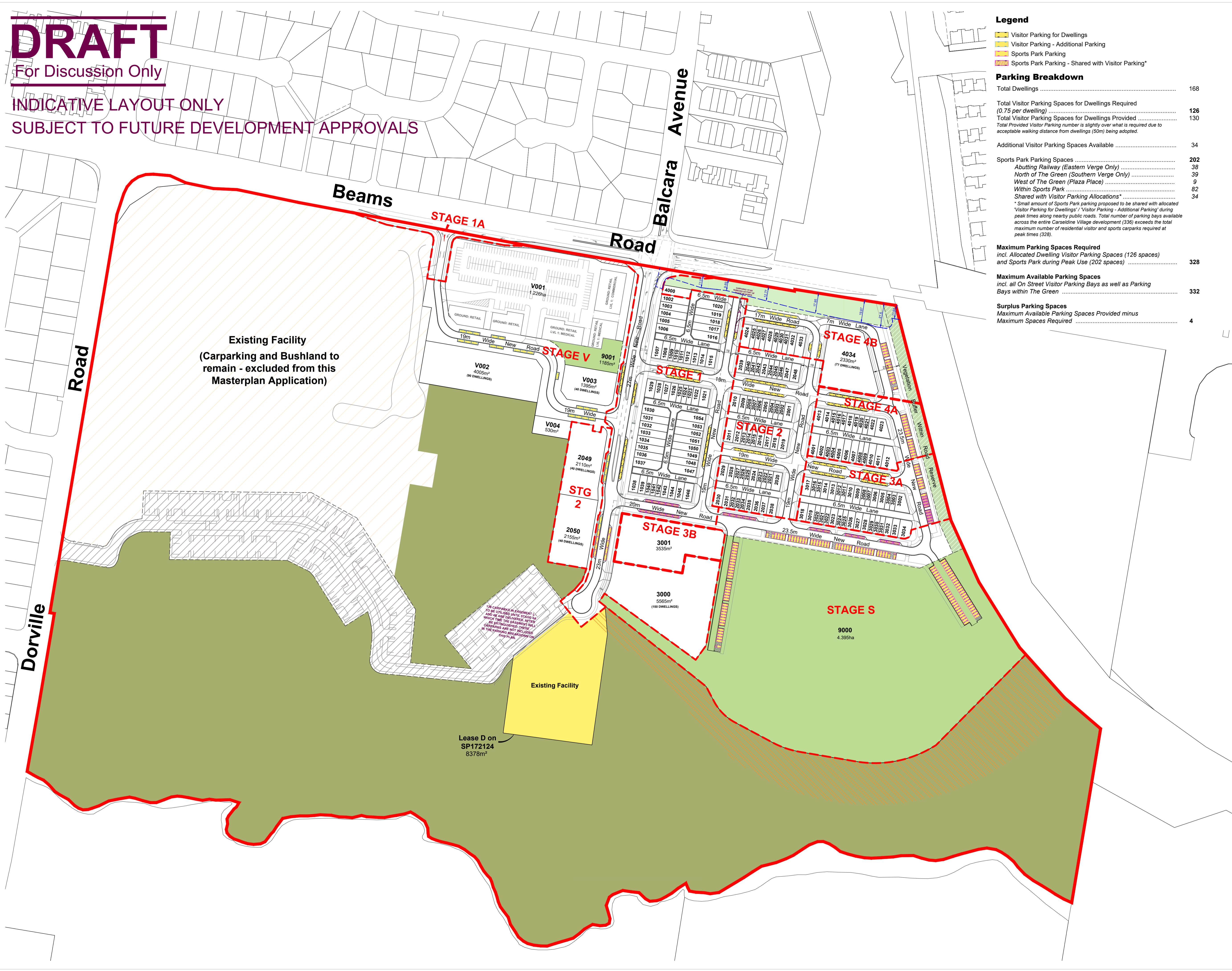
## OVERALL CAR PARKING ANALYSIS

# DRAFT

For Discussion Only

INDICATIVE LAYOUT ONLY

SUBJECT TO FUTURE DEVELOPMENT APPROVALS



### Legend

- Visitor Parking for Dwellings
- Visitor Parking - Additional Parking
- Sports Park Parking
- Sports Park Parking - Shared with Visitor Parking\*

### Parking Breakdown

Total Dwellings .....	168
Total Visitor Parking Spaces for Dwellings Required (0.75 per dwelling) .....	126
Total Visitor Parking Spaces for Dwellings Provided .....	130
<small>Total Provided Visitor Parking number is slightly over what is required due to acceptable walking distance from dwellings (50m) being adopted.</small>	
Additional Visitor Parking Spaces Available .....	34
Sports Park Parking Spaces .....	202
Abutting Railway (Eastern Verge Only) .....	38
North of The Green (Southern Verge Only) .....	39
West of The Green (Plaza Place) .....	9
Within Sports Park .....	82
Shared with Visitor Parking Allocations* .....	34
<small>* Small amount of Sports Park parking proposed to be shared with allocated Visitor Parking for Dwellings / Visitor Parking - Additional Parking during peak times along nearby public roads. Total number of parking bays available across the entire Carseldine Village development (336) exceeds the total maximum number of residential visitor and sports carparks required at peak times (328).</small>	
<b>Maximum Parking Spaces Required</b> incl. Allocated Dwelling Visitor Parking Spaces (126 spaces) and Sports Park during Peak Use (202 spaces) .....	<b>328</b>
<b>Maximum Available Parking Spaces</b> incl. all On Street Visitor Parking Bays as well as Parking Bays within The Green .....	<b>332</b>
<b>Surplus Parking Spaces</b> Maximum Available Parking Spaces Provided minus Maximum Spaces Required .....	<b>4</b>

0 10 20 30 40 50 1:1,500 @ A1

## CARSELDINE URBAN VILLAGE OVERALL FUTURE SUBDIVISION CARPARK ANALYSIS (WORST CASE)

PLAN REF: **128180 - 134**  
 DATE: 01 OCTOBER 2021  
 CLIENT: EDQ  
 DRAWN BY: MD / JC  
 CHECKED BY: MD / DG

**Note:**  
 All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.  
 Dimensions have been rounded to the nearest 0.1 metres.  
 Areas have been rounded down to the nearest 5m<sup>2</sup>.  
 The boundaries shown on this plan should not be used for final detailed engineers design.

**Source Information:**  
 Site boundaries: Registered Survey Plans.  
 Adjoining information: DCDB.  
 Contours: QUT.

### Legend

- Site Boundary
- Proposed Stage Boundary
- Special Purpose
- Civic and Open Space
- Bushland and Open Space
- Vegetation Within Road Reserve
- Future Busway Corridor
- Existing Driveway and Carpark (Retention)
- Proposed Overpass Extent

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Carseldine Village

# APPENDIX E

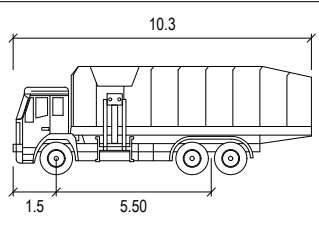
REFUSE COLLECTION VEHICLE AND  
FIRE TRUCK SWEEP PATH

~~CONCEPT ONLY~~



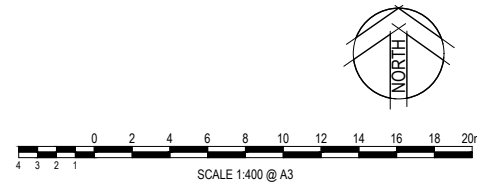
**SWEPT PATH LEGEND**

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (500mm)
- VEHICLE



**TAPS Code Side Loader**

Meters	
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 39.9
Travel Height	: 4.0
Operating Height	: 4.50



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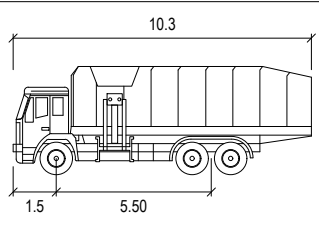
<b>Carseldine Urban Village</b>			
Stage 4 Access Review			
Swept Path Assessment - 10.3m Side Load RCV			
Drawn	Date	Scale	Size
B.Fuller	01/10/2021	1:400	A3
Drawing Number			Revision
CEB06857 - SK106			C

**CONCEPT ONLY**



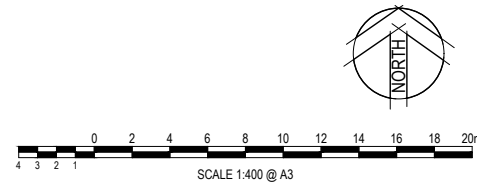
**SWEPT PATH LEGEND**

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (500mm)
- VEHICLE



**TAPS Code Side Loader**

Meters	
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 39.9
Travel Height	: 4.0
Operating Height	: 4.50

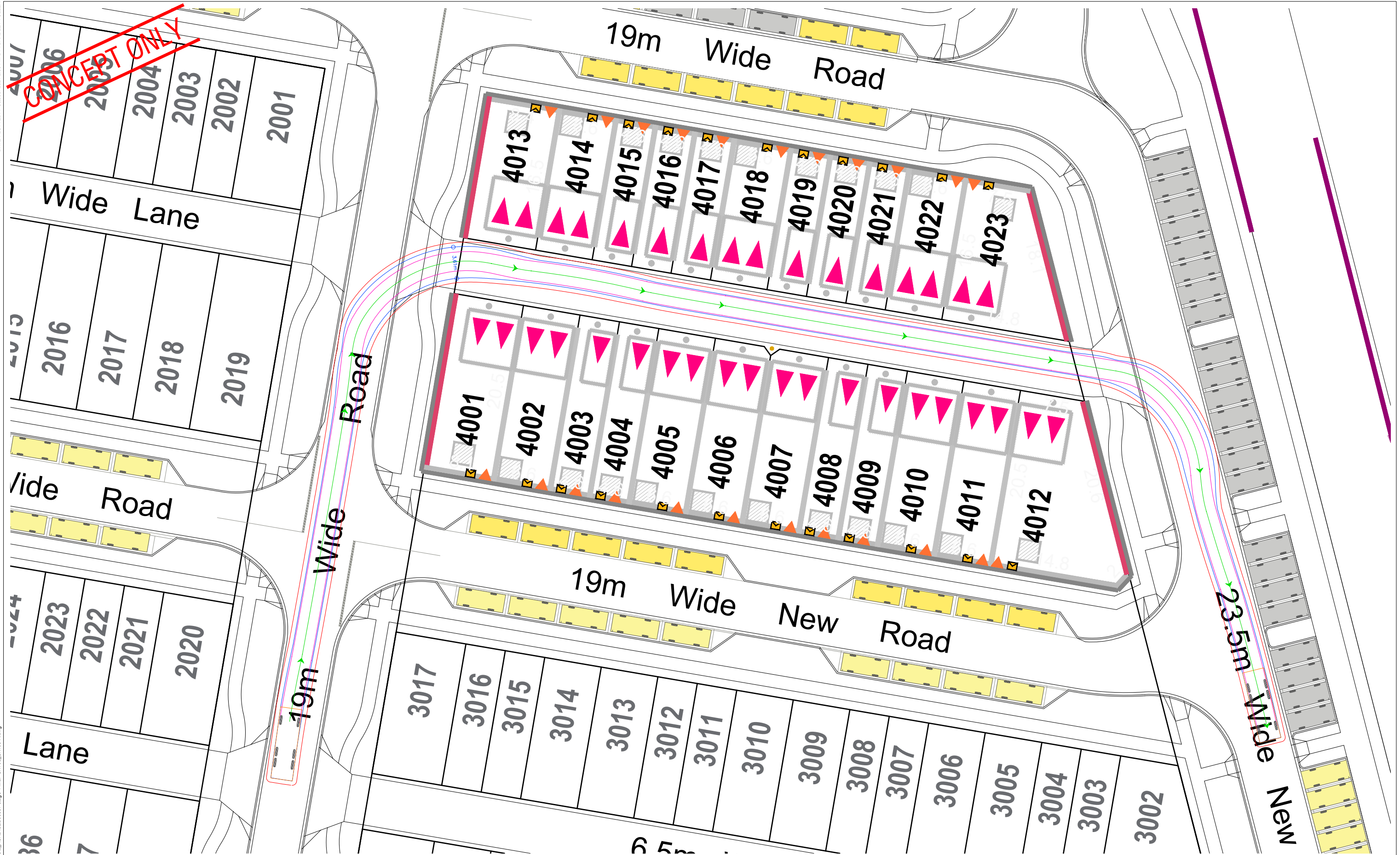


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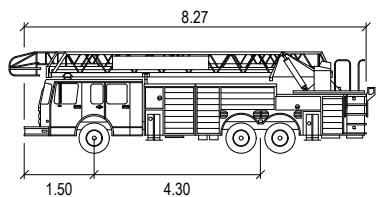
<b>Carseldine Urban Village</b>			
Stage 4 Access Review			
Swept Path Assessment - 10.3m Side Load RCV			
Drawn	Date	Scale	Size
B.Fuller	01/10/2021	1:400	A3
Drawing Number			Revision
CEB06857 - SK107			C

~~CONCEPT ONLY~~



SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (500mm)
- VEHICLE



**Fire Truck**

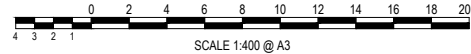
Meters

Width : 2.50

Track : 2.28

Lock to Lock Time : 6.0

Steering Angle : 17.7



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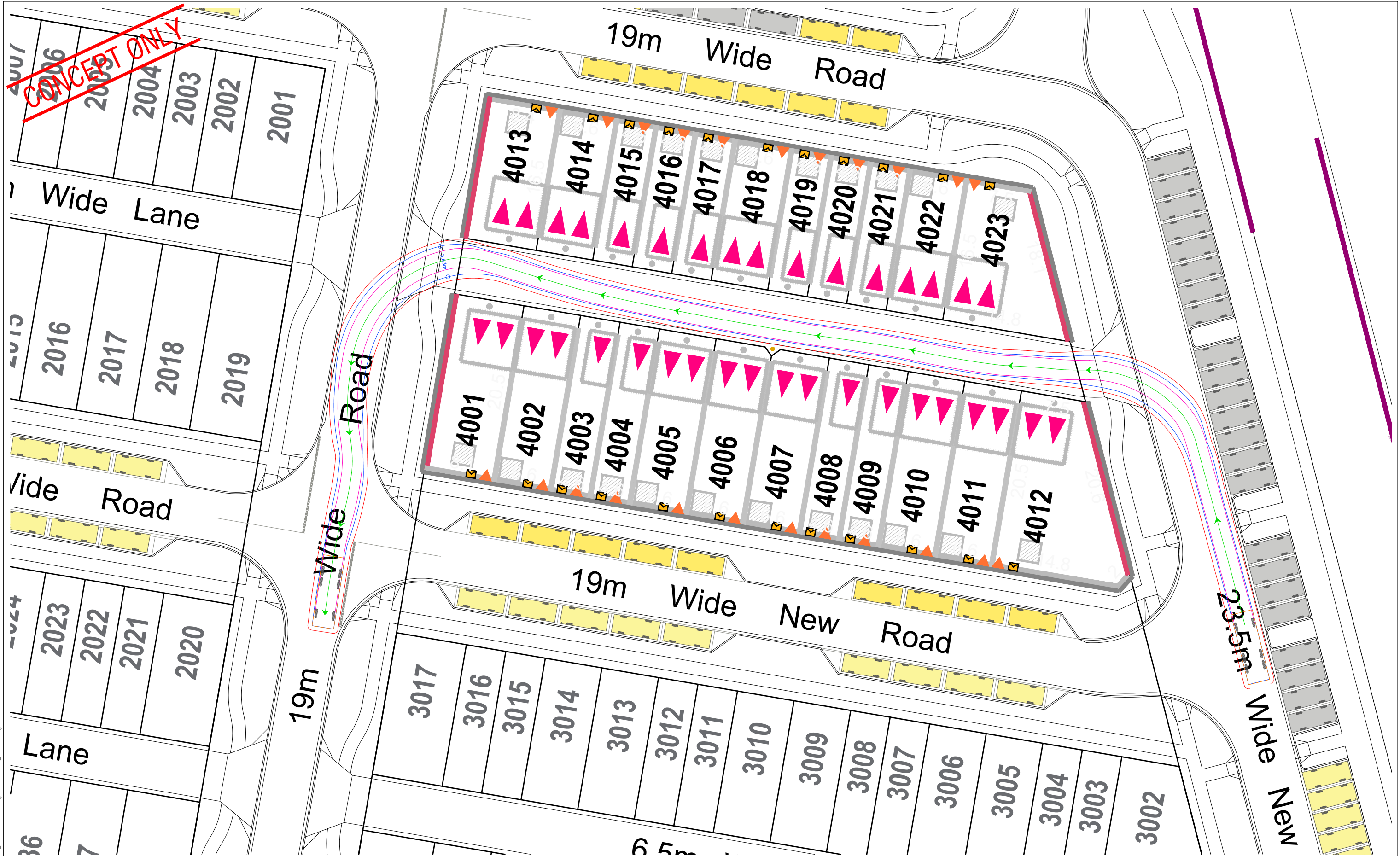
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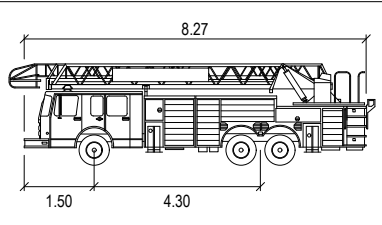
Carseldine Urban Village  
Stage 4 Access Review  
Swept Path Assessment - Fire Truck

Drawn B.Fuller	Date 01/10/2021	Scale 1:400	Size A3
Drawing Number CEB06857 - SK108			Revision C

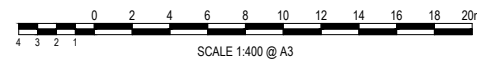


**SWEPT PATH LEGEND**

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (500mm)
- VEHICLE



Fire Truck		Meters
Width	:	2.50
Track	:	2.28
Lock to Lock Time	:	6.0
Steering Angle	:	17.7



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Carseldine Urban Village				
Stage 4 Access Review				
Swept Path Assessment - Fire Truck				
Drawn	Date	Scale	Size	
B.Fuller	01/10/2021	1:400	A3	
Drawing Number				Revision
CEB06857 - SK109				C